

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

v.

MARVELL TECHNOLOGY GROUP, LTD.,  
and MARVELL SEMICONDUCTOR, INC.,

Defendants.

Civil Action No. 2:09-cv-00290-NBF

Hon. Nora B. Fischer

**MARVELL'S OPPOSITION TO CMU'S MOTION FOR PERMANENT INJUNCTION,  
POST-JUDGMENT ROYALTIES, AND SUPPLEMENTAL DAMAGES**

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Defendants Marvell Technology Group, Ltd. and Marvell Semiconductor, Inc. (collectively, “Marvell”) hereby respectfully oppose Plaintiff Carnegie Mellon University’s (“CMU”) motion for permanent injunction, post-judgment royalties, and supplemental damages.

For a permanent injunction to issue, CMU “must demonstrate that: (1) it has suffered an irreparable injury; (2) legal remedies, such as money damages, are inadequate compensation; (3) the balance of hardships warrants an injunction; and (4) the public interest would not be disserved by an injunction.” *ActiveVideo Networks, Inc. v. Verizon Commn’cs., Inc.*, 694 F.3d 1312, 1337 (Fed. Cir. 2012) (citing *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391 (2006)).

CMU’s case for an injunction fails independently on each of those factors. *First*, CMU will suffer no irreparable injury absent an injunction. CMU does not make its own product or compete for market share with Marvell and the accused technology is only one feature of many innovative technologies found in the accused chips, a factor that counsels against enjoining sales of the entire chips. *Second*, far from warranting injunctive relief, CMU’s claimed injury is readily and classically compensable. A reasonable royalty promises to afford CMU complete and adequate relief for any injury resulting from infringement, CMU has long stood eager to license its patents for an appropriate fee, and Marvell is well positioned to pay whatever damages might ultimately be awarded. *Third*, the balance of hardships tips clearly in favor of Marvell, whose business and customers would suffer in the event of an injunction, while CMU would be made whole without one. *Fourth*, an injunction would harm the public interest by depriving consumers of a product containing multiple, non-accused technologies to no good end.

In the seven years since the Supreme Court’s landmark *eBay* decision, not a single permanent injunction has been granted and affirmed by the Federal Circuit in favor of a non-

practicing entity like CMU that has a history of willingness to license its patents against a multi-feature product of which the accused technology is but one feature. This Court should not be the first to grant the extraordinary remedy of a permanent injunction under such circumstances.

## **ARGUMENT**

### **I. THE COURT SHOULD NOT ISSUE A PERMANENT INJUNCTION**

#### **A. CMU Fails To Demonstrate Any Irreparable Harm**

As CMU admits (Brief at 5 (citing *eBay*)), irreparable harm may not be presumed based on an infringement finding. Instead, CMU “‘must make a clear showing that it is at risk of irreparable harm, which entails showing a likelihood of substantial and immediate irreparable injury.’” *Apple Inc. v. Samsung Elecs. Co.*, 695 F.3d 1370, 1374 (Fed. Cir. 2012) (“*Apple II*”) (quoting *Apple Inc. v. Samsung Elecs. Co.*, 678 F.3d 1314, 1325 (Fed. Cir. 2012) (internal citations omitted) (“*Apple I*”). Here, CMU has failed to make any such showing. CMU has no commercial concern of its own, does not compete with Marvell, and will suffer no irreparable injury from infringement absent an injunction, especially as it has failed to show that its feature drives consumer demand for the chips at issue.

#### **1. CMU Faces No Irreparable Commercial Harm As It Does Not Compete With Marvell**

“The best case for obtaining a permanent injunction often occurs when the plaintiff and defendant are competing in the same market” and there is a showing of harm to a “patentee’s market share, revenues, and brand recognition.” *LaserDynamics, Inc. v. Quanta Computer, Inc.*, No. 2:06-cv-348, 2010 WL 2574059, at \*2 (E.D. Tex. June 22, 2010). This is not such a case, for CMU neither practices the patents nor competes with Marvell for sales. Because CMU and Marvell are not competitors, and CMU has no product or market share in the industry but is merely a non-practicing entity that seeks licensing revenue, CMU is unable to show any loss of



market share, brand recognition, goodwill, or price erosion as a result of Marvell's sales that might support any finding of irreparable harm.

Nor does CMU's status as a research university change the analysis, contrary to CMU's overreading (Brief at 6) of a passage from *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 393 (2006). While *eBay* noted that there is no categorical bar *against* university researchers satisfying the traditional four-part test for injunctive relief, it nowhere suggested that non-practicing university researchers categorically *qualify* for injunctive relief. Moreover, the district court cases CMU cites (Brief at 6-7) are inapposite. *Commonwealth Sci. & Indus. Research Org. v. Buffalo Tech. Inc.*, 492 F. Supp. 2d 600, 604-06 (E.D. Tex. 2007), *remanded on other grounds*, 542 F.3d 1363, 1385-86 (Fed. Cir. 2008), involved ongoing reputational harm, while here, by contrast, the Court has already rejected CMU's claims of "reputational harm," ruling that "there is no evidence in the record supporting the contention that CMU's reputation has been diminished in any way" (Dkt. 608 at 7.)<sup>1</sup> *Joyal Prods., Inc. v. Johnson Elec. N. Am., Inc.*, CIV. A. 04-5172 JAP, 2009 WL 512156, at \*11 (D.N.J. Feb. 27, 2009), is similarly off point, as it involved defunct patentees that sought to keep their patents unlicensed to facilitate sale.

## **2. CMU Has Not Shown That Its Patents Drive Consumer Demand**

Nor can CMU show the "causal nexus" between its patented feature and consumer demand for the accused chips that is necessary to show irreparable harm from infringement. *See Apple II*, 695 F.3d at 1374-75; *Apple I*, 678 F.3d at 1323-24. "[W]here the accused product includes many features of which only one (or a small minority) infringe," as is the case here, a patentee must show "that a sufficiently strong causal nexus relates the alleged harm to the

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<sup>1</sup> Notably, the Federal Circuit never reached the question whether the entry of a permanent injunction constituted an abuse of discretion, because it remanded the case for further proceedings on the issue of obviousness. *Id.* at 1385-86. Thereafter, the parties settled the dispute via a license.

alleged infringement,” *Apple II*, 695 F.3d at 1374, meaning that “the infringing feature drives consumer demand for the accused product,” *id.* at 1375. Without a showing of such causal nexus, issuance of an injunction would enable a patentee “to leverage its patent for competitive gain beyond that which the inventive contribution and value of the patent warrant.” *Id.*

CMU does not even attempt to establish such a causal nexus between Marvell’s infringement and the alleged harm to CMU, nor could it do so on this record. *First*, CMU has admitted that the accused Marvell’s chips include many features, of which only one (the MNP or NLD) infringes. (11/29/12 Tr. (Moura) at 139:14-20; 12/4/12 Tr. (Bajorek) at 184:11-18, 186:14-16). *Second*, CMU presented no evidence that its patented methods drive consumer demand for the accused Marvell chips, and has admitted that customers buy Marvell’s chips for their other technologies and features. (12/4/12 Tr. (Bajorek) at 178:20-24, 179:7-180:15; 12/5/12 Tr. at 271:20-272:15). As Marvell’s witness Dr. Wu testified, among the considerations that are important for Marvell’s chips are speed, power, cost, and signal-to-noise ratio (SNR). (12/11/12 Tr. (Wu) at 229:24-231:3). Dr. Wu also explained many of the features that contributed to the improvement in the performance of Marvell’s chips, as measured by SNR. These features contribute to the performance of Marvell’s chips completely independently from CMU’s patents and include sync mark, programmable target, 10-bit ECC, permuted RLL and ECC, 3-interleaved ECC, among others. (*Id.* at 253:3-281:6). In fact, based on the figures from Dr. Wu, these features contribute the large majority of the SNR gain; the accused features, MNP, EMNP and NLD contribute at most only a few percent. (*Id.* at 280:9-281:5). Indeed, the evidence showed that Marvell’s largest customer, Western Digital, bought Marvell’s chips *despite*, not because of, the accused feature. (12/13/12 Tr. (Baqai) at 156:1-21, 156:25-157:14, 159:3-8). Even if some consumers were attracted to Marvell’s chips for whatever signal-to-noise

ratio gain they purport to yield as a result of CMU's patented methods, "that an application may sell in part because it incorporates a feature does not necessarily mean that the feature would drive sales if sold by itself." *Apple II*, 695 F.3d at 1376. CMU has thus failed to show that that any infringement has a causal nexus to irreparable harm warranting an injunction.

**B. CMU Has Not Demonstrated That Monetary Compensation Is Inadequate**

CMU also bears the burden of providing "specific reasons" why Marvell's alleged infringement cannot be compensated monetarily. *Praxair, Inc. v. ATMI, Inc.*, 479 F. Supp. 2d 440, 444 (D. Del. 2007). It has failed to do so. To the contrary, CMU has consistently been willing to forgo its exclusive rights in exchange for compensation, and "[m]oney damages are rarely inadequate in these circumstances." *Advanced Cardiovascular Sys. Inc. v. Medtronic Vascular, Inc.*, 579 F. Supp. 2d 554, 560 (D. Del. 2008) (denying motion for permanent injunction); *Voda v. Cordis Corp.*, No. CIV-03-1512, 2006 WL 2570614, at \*6 (W.D. Okla. Sept. 5, 2006), *aff'd in relevant part*, 536 F.3d 1311, 1329 (Fed. Cir. 2008) (denying permanent injunction where plaintiff was a willing licensor). Nor do CMU's concerns about Marvell's non-payment of royalties have any factual basis.

**1. CMU Has Demonstrated Its Willingness To License The Patents**

Where a patentee engages in "extensive licensing, licensing efforts, [and] solicitation of the defendant over a long period of time preceding and during litigation," money damages are generally deemed adequate to compensate any infringement, *ActiveVideo*, 694 F.3d at 1340, for it shows that the patentee "is willing to forgo its patent rights for compensation." *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1557 (Fed. Cir. 1995); *see Cordance Corp. v. Amazon.com, Inc.*, 730 F. Supp. 2d 333, 341 (D. Del. 2010) ("Cordance's pre-lawsuit licensing activity suggests that money damages will be adequate compensation"); *Adams Arms, Inc. v. Sig Sauer, Inc.*, No. 8:10-CV-146-T-27TGW, 2010 WL 3119777, at \*17 (M.D. Fla.

Aug. 2, 2010) (“a pattern of granting licenses suggests that any injury to the patentee during the pendency of the litigation is compensable in damages”); *Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 592 F. Supp. 2d 727, 748 (D. Del. 2009) (plaintiff’s “willingness to forego its patent rights for compensation, while not dispositive, is one factor [weighing in favor of defendant] for the court to consider in its irreparable harm analysis”), *aff’d in relevant part*, 612 F.3d 1365, 1379 (Fed. Cir. 2010) .

Here, CMU’s willingness to forgo its exclusive rights in exchange for monetary compensation is well documented in the record. Specifically, there is evidence of CMU:

- Granting non-exclusive licenses to Seagate, IBM, 3M, and Hitachi for \$250k yearly membership payment to the DSSC (DX-17, DX-39, DX-40; 12/5/12 Tr. (Wooldridge) at 122:16-123:20; 12/10/12 Tr. (Lawton) at 187:13-188:6, 188:24-189:4.)
- Granting Intel the option to license the patents for \$200k per patent (DX-255, DX-262, DX-263, DX-264; 12/5/12 Tr. (Wooldridge) at 180:10-17, 183:16-184:9, 204:2-6; 12/10/12 Tr. (Lawton) at 180:3-13, 181:13-19.)
- Sending letters to the hard disk drive industry to solicit interest in licensing the patents (P-422, P-431, DX-224, DX-225, DX-226, DX-227, DX-229, DX-230, DX-231, DX-232, DX-234, DX-1573; 12/5/12 Tr. (Wooldridge) at 143:12-15, 148:20-24, 149:10-16; 12/10/12 Tr. (Lawton) at 191:6-16.)
- Estimating annual royalties (of \$2M) that it might be able to obtain from Marvell (DX-272, DX-299; 12/5/12 Tr. (Wooldridge) at 212:12-25.)

In this case, therefore, an injunction should be off the table because monetary relief can clearly make CMU whole. *See LaserDynamics*, 2010 WL 2574059, at \*2 (“Future damages in lieu of an injunction will compensate LaserDynamics for any future loss, making legal remedies adequate in this case.”).

## **2. CMU’s Concern About “Risk Of Non-Payment” Is Baseless**

CMU acknowledges (Brief at 5, 16) that there is no question that “ongoing royalties can be managed by Marvell in the normal course of its business,” but nonetheless engages in

unfounded speculation that “CMU will not be able to collect monetary damages awarded against Marvell, and therefore CMU will be denied any remedy whatsoever for Marvell’s future (and even its past) infringement.” (Brief at 2.) CMU cites to no instance where Marvell has ever sought to evade a judgment in the U.S. or anywhere else, or tried to claim that its foreign assets were not available to satisfy a judgment. Although Marvell respectfully maintains that the verdict should not withstand the Court’s post-trial scrutiny or appellate review, Marvell will if necessary post a bond to stay enforcement of the judgment on appeal and stands committed to pay any final damages award that survives appeal. (Affidavit of Sutardja at ¶ 5). Given Marvell’s sound financial condition and track record, CMU’s concern about possible non-payment falls flat.

CMU’s sole basis for its supposed concern about Marvell paying the *retrospective* award, based on *prior* infringement, is Marvell’s status as a Bermuda corporation and a snippet from one of Marvell’s U.S. SEC filings noting that such judgments are not “automatically” enforceable in Bermuda. (Brief at 8.<sup>2</sup>) While it is true that judgments are not “automatically” enforceable by any treaty, a final judgment in this case (if entered and affirmed on appeal) may be secured under Bermuda common law. *See also* C. Foley, M. Chudleigh, N. Miles, *Enforcement of Foreign Judgments 2012: Bermuda* (Law Business Research, 2011) (“enforcement [of foreign judgments] may be secured under Bermuda’s common law rules”).<sup>3</sup> (Milowic Decl. Ex. B). CMU’s motion lacks any analysis of Bermuda law on this issue.

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<sup>2</sup> The quoted passage from Marvell’s 10-Q dated 11/29/2012 specifically refers to the fact that “it may not be possible for *our shareholders to enforce civil liability provisions of the securities laws of the United States.*” (emphasis added). (Milowic Decl. Ex. A, Marvell Technology Group Ltd. Form 10-Q, dated Nov. 29, 2012).

<sup>3</sup> Marvell’s S-1 Registration Statement explains in more detail the impact of Bermuda law, recognizing that “a final and conclusive judgment obtained in a state court or federal court of the United States based upon a contractual obligation under which a sum of money is payable

CMU's suggestion (Brief at 8-9) that Marvell's stock repurchase authorizations and dividends have been furthering some scheme to avoid paying a judgment is equally unfounded and unwarranted. In fact, Marvell's stock repurchases and dividends serve legitimate interests far removed from this case. Stock repurchase authorizations are often used when a company has more cash reserves than necessary, is confident regarding its growth, and is investing in itself rather than in other securities or investments. *See, e.g.*, RightLine Staff Writers, *Stock Buybacks*, <http://www.rightline.net/education/buybacks.html> (last visited Mar. 24, 2013) (Milowic Decl. Ex. D); Zacks, *Education: Value Investing*, <http://www.zacks.com/education/articles.php?id=33> (last visited Mar. 24, 2013) (Milowic Decl. Ex. E); Jeff Reeves, *Navellier: Surge in Stock Buybacks a Big Opportunity for Investors*, <http://slant.investorplace.com/2013/02/stock-buybacks-share-repurchase/> (last visited Mar. 24, 2013) (Milowic Decl. Ex. F); Cory Janssen, *A Breakdown of Stock Buybacks*, <http://www.investopedia.com/articles/02/041702.asp> (last visited Mar. 24, 2013) (Milowic Decl. Ex. G). Share repurchases also boost the value and earnings per share so as to benefit investors. *See id.* And stock repurchase plans can serve to acquire shares for employee incentive plans—a sign of financial growth. *See id.* Similarly, companies frequently issue dividends when their financial condition is strong or they are holding too much in the way of cash reserves. Dividends can stabilize a company's stock price, which makes the company more attractive to investors. *See, e.g.*, Investopedia Staff, *How and Why Do Companies Pay Dividends?*, <http://www.investopedia.com/articles/03/011703.asp> (last visited Mar. 24, 2013) (Milowic Decl. Ex. H); Matt Alden S., *8 Reasons To Go With Dividends*, <http://dividendmonk.com/8-reasons-to-go-with-dividends/> (last visited Mar. 24, 2013) (Milowic

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*could be enforced* by an action in the Supreme Court of Bermuda, without reexamination of the merits, under the common law doctrine of obligation.” (Milowic Decl. Ex. C, Marvell Technology Group Ltd. Form S-1 Registration Statement, dated 3/23/2000 at 69).

Decl. Ex. I). They can also increase investor confidence and show that the company has faith in its future profitability. *See id.*

Finally, contrary to CMU's claim (Brief at 9), there is nothing "problematic" about Marvell's decision not to earmark reserves towards payment of a judgment at this point. Marvell is entitled to await the outcome of the pending post-trial motions and appeal process before reserving, especially as its assets are more than sufficient to pay the final judgment and a billion-dollar patent verdict has *never* been upheld through post-trial motions and appeal.

CMU cites no cases finding an injunction appropriate simply because a company is incorporated in Bermuda, authorizes stock repurchases, issues dividends, or anything like. To the contrary, the cases CMU cites (Brief at 7) all involved particular and concrete payment risks. In *Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142, 1154-55 (Fed. Cir. 2011), the defendants were at an undisputed risk of "severe financial stress," including bankruptcy. In *Retractable Techs, Inc. v. Occupational & Med. Innovations, Ltd.*, 6:08 CV 120, 2010 WL 3199624, at \*5 (E.D. Tex. Aug. 11, 2010), the defendants had declared bankruptcy two weeks after the jury verdict. And in *Custom Designs of Nashville, Inc. v. Alsa Corp.*, 727 F. Supp. 2d 719, 727 (M.D. Tenn. 2010), the defendants were so deficient in assets they could not afford to hire an attorney. None of these circumstances has any relevance here.

### **C. The Balance Of Hardships Weighs Against An Injunction**

"An injunction that imposes greater costs on the defendant than it confers benefits on the plaintiff reduces net social welfare. That is the insight behind the 'balance of hardships' component of the *eBay* standard for injunctive relief in patent cases." *Apple Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 922 (N.D. Ill. 2012) (Posner, J.).

Here, any injunction will impose greater costs on Marvell than it confers benefit on CMU. Were Marvell required to disable the accused features in chips currently sold to its hard-

disk drive maker customers, those Marvell customers (and potentially their own customers, computer manufacturers) would have to alter the design of their own products that have already been designed and tested to work with Marvell's chips that incorporate the accused features. (Affidavit of Wu at ¶ 9). Such disruption in the supply chain causes harm to Marvell's reputation. *See Paice LLC v. Toyota Motor Corp.*, No. 2:04-CV-211-DF, 2006 WL 2385139, at \*6 (E.D. Tex. Aug. 16, 2006) ("Paice I"), ("enjoining [Defendants'] sales will likely interrupt not only Defendants' business but that of related businesses, such as dealers and suppliers . . . [and] will damage their reputation"), *aff'd in relevant part*, 504 F.3d 1293, 1316 (Fed. Cir. 2007) ("Paice II"); *LaserDynamics*, 2010 WL 2574059, at \*3 ("an injunction would not only interrupt QCI's business but also that of related businesses, including supplies and customers of QCI").

By contrast, CMU will suffer no irreparable harm if an injunction does not issue. As detailed above, any injury to CMU is compensable in monetary terms. Moreover, contrary to CMU's assertion that Marvell "desire[s] to continue...willful infringement" (Brief at 10), in deference to the jury's verdict, Marvell has directed its engineers to permanently and irreversibly disable the NLD feature in Marvell's next generation C11000 chips. (Affidavit of Sutardja at ¶ 6; Affidavit of Wu at ¶ 11). Accordingly, the balance of hardships tips in favor of Marvell.

#### **D. An Injunction Would Be Contrary To The Public Interest**

"For a permanent injunction to issue, the party requesting an injunction must demonstrate that . . . the public interest would not be disserved by an injunction." *ActiveVideo*, 694 F.3d at 1337. The only public interest cited by CMU—preserving rights of patent holders—cannot alone justify injunctive relief because such interests are always present in a patent case. *See Belden Techs. Inc. v. Superior Essex Commc'ns. LP*, 802 F. Supp. 2d 555, 579 (D. Del. 2011); *ActiveVideo*, 694 F.3d at 1341 ("If the general public interest in upholding patent rights alone was sufficient to mandate injunctive relief when none of the other three factors support



injunctive relief, then we would be back to the general rule that a patentee should always receive an injunction against infringement,” a rule the Supreme Court rejected in *eBay*).

By contrast, the public interest will be disserved by issuance of an injunction. Contrary to CMU’s suggestion (Brief at 11), public-interest considerations are not limited to “public health or safety.” Both “the harm that an injunction might cause to consumers who can no longer buy preferred products because their sales have been enjoined, and the cost to the judiciary as well as to the parties of administering an injunction” should be considered. *Motorola*, 869 F. Supp. 2d at 921.

Here, such harms to consumers counsel against an injunction. Where, as here, the patents at issue are but “small component[s] of the product,” an injunction would have a significant impact on innovative non-accused technologies that have nothing to do with CMU’s patents, and thus would effectively limit the choices available to customers. *Motorola*, 869 F. Supp. 2d at 918. For example, if Marvell were enjoined from selling its chips including the NLD circuitry, the public and the industry would be deprived of not only of infringing features but also of non-infringing components such as programmable target, sync mark improvement, high rate RLL code, 3-interleaved ECC, 10-bit ECC, and permuted RLL and ECC, all of which are the fruit of Marvell’s labors. (12/11/12 Tr. (Wu) at 253:3-281:6). As one of only two major suppliers of read channel chips, the disruption caused by an injunction would have a significant impact across all industries using hard drives, including not only desktop and mobile industries, but also enterprises and data-intensive institutions like banks in which Marvell’s products are used. (*See* Dkt. 789-1 at 39, 55-56; Dkt. 787-1 at 27, 29.) Marvell’s customers have already designed these chips into their hard disk drives. (Affidavit of Wu at ¶ 9) Once a customer designs and optimizes their hard disk drives for a specific Marvell chip, that chip becomes part of the design

of the disk drive. (*Id.*). Were Marvell required to disable the accused features in chips currently sold to its hard-disk drive customers, those Marvell customers (and potentially their own customers, computer manufacturers) would have to alter the design of their own products that have already been designed and tested to work with Marvell's chips that incorporate the accused features. (*Id.*). Those customers would then have to re-qualify the hard disk drives for use in the products of their own customers (computer manufacturers). (*Id.*). Similarly, if Marvell were required to disable the accused features in its C10010 chips, which it has already shipped to customers, the customers would be required to alter their designs for products that are to incorporate these chips and qualify these products with their customers. (*Id.* at ¶ 10).

**E. CMU's Proposed Injunction Is Vague, Overbroad And Fails to Include A Transition Period**

Even if the Court decides that an injunction should issue, it should reject CMU's proposed injunction. Federal Rule 65(d) requires that an injunction "(A) state the reasons why it issued; (B) state its terms *specifically*; and (C) describe in *reasonable detail*—and not by referring to the complaint or other document—the act or acts restrained or required." Fed. R. Civ. P. 65(d)(1) (emphasis added); *Schmidt v. Lessard*, 414 U.S. 473, 476 (1974). An injunction may not vaguely prohibit a defendant from "infringing." See *Int'l. Rectifier Corp. v. IXYS Corp.*, 383 F.3d 1312, 1315-18 (Fed. Cir. 2004). The language of CMU's proposed injunction violates these principles by employing broad and vague language that will require this Court to resolve future disputes regarding the scope of its terms.

CMU's injunction would enjoin Marvell from infringing the patents-in-suit generally. Dkt. No. 786-1 at 3. The Federal Circuit has repeatedly held that an injunction against generally infringing a patent is impermissibly vague. *Fuji Photo Film Co. v. Jazz Photo Corp.*, 394 F.3d

1368, 1380-81 (Fed. Cir. 2005); *Int'l. Rectifier*, 383 F.3d at 1316-17 (Fed. Cir. 2004); *Additive Controls & Measurement Sys., Inc. v. Flowdata, Inc.*, 986 F.2d 476, 479-80 (Fed. Cir. 1993).

The injunction also adopts language relating to the customers' "'sales cycle' activities" that was hotly disputed by the parties during trial, but never defined or adjudicated. (Dkt. 786-1 at ¶1(E)). The parties will presumably continue to disagree about what falls within the purview of the "sales cycle," engendering disputes that will bring the parties back to this Court.

Moreover, Marvell respectfully requests that any such injunction not take effect for a period of two years, thereby allowing Marvell and its customers to implement Marvell's next-generation design without the accused NLD component. (Affidavit of Wu at ¶¶ 12-13). Considering that CMU delayed for well over two years before bringing suit (*see* 11/29/12 Tr. (Moura) at 96:14-97:12; Plaintiff's Objections and Responses to Defendants' First Set of Interrogatories at 13 ("By July 2004, CMU had been advised that Marvell had used a subroutine named 'kavic.c' and that Marvell advertised to OEMs that a new Marvell chip (with an ID composed of several numbers and ending with 7500 and letter) incorporate new technology to combat media noise.")), the balance of equities would commend such a modest buffer before any injunction takes effect.

**F. CMU Should Post Security to Protect Marvell From A Wrongful Injunction**

In the event that the Court concludes that injunctive relief is warranted or necessary, Marvell respectfully requests that CMU be required to post a bond to protect Marvell's interests if any injunction is overturned on appeal. An injunction bond is necessary to protect Marvell from the financial consequences of CMU's sweeping proposed injunction, should Marvell be wrongfully enjoined. If a bond does not issue now, then Marvell may have no recourse later for the damages it sustains from a wrongful injunction. *W.R. Grace & Co. v. Local Union 759 et al.*,

461 U.S. 757, 770 n.14 (1983); *Sprint Commc'ns. Co. L.P. v. CAT Commc'ns. Int'l, Inc.*, 335 F.3d 235, 240 (3d. Cir. 2003) (“[C]ourts and commentators have also explained that the injunction bond serves not only to compensate a wrongfully enjoined party, but generally to limit the applicant’s liability and inform the applicant of the price of a wrongful injunction.”)

When setting the amount of an injunction bond, district courts should err on the high side. *Mead Johnson & Co. v. Abbott Labs.*, 201 F.3d 883, 888 (7th Cir. 2000). Courts may consider (1) lost profits, (2) out-of pocket expenses related to promotion of the defendant’s infringing products; (3) damage to the defendant’s reputation; and (4) expenses associated with the recall and/or reengineering of the infringing products. *Cybermedia, Inc. v. Symantec Corp.*, 19 F. Supp. 2d 1070, 1079-80 (N.D. Cal. 1998). Marvell is prepared to submit documentation of these costs for the Court’s consideration.

**II. THIS COURT SHOULD DEFER CONSIDERATION OF AN ONGOING ROYALTY UNTIL MARVELL’S MOTIONS FOR JUDGMENT ARE RESOLVED AND AN EVIDENTIARY HEARING IS HELD**

CMU’s request that this Court determine a “post-judgment ongoing royalty rate” (Brief at 12-17) is premature. Even if resolution of Marvell’s motions for judgment as a matter of law (Dkt. 802, 805, 807) do not moot CMU’s request for an ongoing royalty, resolution of Marvell’s Motion for Judgment as a Matter of Law, New Trial, and/or Remittitur with Respect to Damages (Dkt. 807) may have an impact on the analysis of the rate at which such a royalty should be set. CMU itself contends that the royalty rate for past infringement is one factor (among others) that may be taken into account in setting an ongoing royalty rate. Brief at 13. Moreover, if this Court determines that the appropriate measure of damages for Marvell’s alleged past infringement is a lump sum (for a paid-up license), then there would be no need to determine an ongoing royalty at all. Accordingly, until the issue of past royalties is resolved, the issue of ongoing royalties should not be considered.

Once all post-trial motions are resolved, the parties should have the opportunity to negotiate a license; as Marvell conveyed to CMU, conducting any such negotiation while Marvell's motions for judgment as a matter of law remain pending would make little sense. (Milowic Decl. Ex. J (Email from Marvell counsel E. DeFranco to CMU counsel P. McElhinny *RE: CMU v. Marvell – Ongoing Royalty*, dated Feb. 19, 2013).) If it becomes necessary for the Court to resolve the matter, an evidentiary hearing should be held because the issue of an ongoing royalty involves the determination of factual issues that – by definition – were not addressed at trial. As CMU itself explains (Brief at 13), the rate of any ongoing royalty must be informed by a *Georgia-Pacific* analysis conducted with reference to “a new hypothetical negotiation” assumed to take place on the date of entry of judgment. *See, e.g., Paice LLC v. Toyota Motor Corp.*, 609 F. Supp. 2d 620, 625 (E.D. Tex. 2009) (“Paice III”). This analysis is typically the subject of an evidentiary hearing regarding the “changed circumstances” that would impact the new hypothetical negotiation and thus the determination of an ongoing royalty. *Id.* at 626 (citing *Paice II*, 504 F.3d at 1315); *see also Paice II*, 504 F.3d at 1316 (noting that the parties should have a “meaningful chance to present evidence to the district court on an appropriate royalty rate to compensate [the patent holder] for [adjudicated infringer’s] *future* acts of infringement”) (Rader, J., concurring); *Fresenius USA, Inc. v. Baxter Int’l., Inc.*, No. C 03-1431, 2012 WL 761712, at \*5 (N.D. Cal. Mar. 8, 2012) (holding evidentiary hearing and considering parties’ proposed findings of fact and conclusions of law regarding ongoing royalty).

Here, the circumstances affecting the outcome of a **2012** hypothetical negotiation between Marvell and CMU regarding an ongoing royalty are different from the circumstances surrounding the **2001** hypothetical negotiation considered by the jury. (*See infra*, Part

III). Thus, any determination of an ongoing royalty rate in this case should be deferred until Marvell has been afforded an opportunity to present evidence regarding those changed circumstances. *See, e.g., Paice III*, 609 F. Supp. 2d at 625-26; *Fresenius*, 2012 WL 761712, at \*5.

**III. IN LIGHT OF CHANGED ECONOMIC CIRCUMSTANCES, ANY ONGOING ROYALTY SHOULD BE SET WELL BELOW THE \$0.50 RATE AWARDED FOR PAST INFRINGEMENT**

If the Court reaches the issue of an ongoing royalty for use of CMU's technology, the "Court is not bound by the royalty rate that the jury determined was appropriate for prejudgment infringement because of the possible changed bargaining positions of the parties." *Univ. of Pittsburgh v. Varian Med. Sys., Inc.*, No. 08 cv 1307, 2012 WL 1436569, at \*11 (W.D. Pa. Apr. 25, 2012). Instead, the Court must account for "changed circumstances" by conducting a new *Georgia-Pacific* analysis and then exercising its discretion to set an ongoing royalty sufficient to compensate the patent holder for future infringement. *See, e.g., Paice III*, 609 F. Supp. 2d at 626; *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1362 n.2 (Fed. Cir. 2008); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 628 (Fed. Cir. 1985); *Boston Scientific Corp. v. Cordis Corp.*, 838 F. Supp. 2d 259, 275-76 (D. Del. 2012). Here, any such royalty should be lower than the rate set by the jury, for a hypothetical negotiation over a license for the accused technology in 2001 would bear no resemblance to such a negotiation in 2012.

**A. CMU Does Not Compete Commercially And Has Failed To License the Patents-in-Suit**

A royalty based on a 2012 hypothetical negotiation would be reduced by the fact that CMU has no alternative for generating any revenue from the patents-in-suit: CMU does not commercialize any products, does not compete with Marvell, and would not generate any sales revenue as a result of Marvell's removal of the NLD circuit from its chips. *See Univ. of*

*Pittsburgh*, 2012 WL 1436569, at \*12 (noting, in setting a royalty rate, that the patentee and infringer were not “direct competitors” and thus that the patentee “would be harmed if [the infringer] stopped selling the infringing products”). Moreover, although CMU offers the patented technology on a royalty-free basis to members of the DSSC, CMU has been unable to get *anyone* to pay for or use the technology during the more than eleven years that has elapsed since the date of the hypothetical negotiation considered by the jury. *See Mondis Tech. Ltd. v. Chimei Innolux Corp.*, 822 F. Supp. 2d 639, 648 (E.D. Tex. 2011) (taking patent holder’s “success in licensing” during the period between hypothetical negotiations into account when setting an ongoing royalty rate). Under these circumstances, if Marvell discontinued use of the NLD circuit, CMU would lose the *only* revenue it could possibly generate from the patents-in-suit going forward. A hypothetical negotiation under these circumstances would result in a reduced ongoing royalty rate.

**B. Marvell’s Profit Margins Provide No Basis For An Ongoing Royalty**

CMU argues that any ongoing royalty should be at least \$0.50 because “Marvell’s profit margins on read channel and SoC products containing CMU’s patented technology have increased over time.” (Brief at 15). In fact, according to CMU’s own expert, both prices and margins have *decreased* in the years leading up to any hypothetical 2012 negotiation at issue here. (P-Demo 16, at 6 (showing decreasing prices and direct margins for read channels and SoCs from 2010 Q3 to 2013 Q2).) *See Paice*, 609 F. Supp. 2d at 630 (lowering ongoing royalty rate because of decreasing profits). Moreover, CMU’s argument fails to address the fact that Marvell is continuously adding features to its chips. Thus, Marvell’s decreasing margins are generated by an increasing number of features (related to SNR as well as other chip attributes)—and thus each feature must necessarily be responsible for a smaller portion of that margin over time. *See Fresenius*, 2012 WL 76712, at \*14 (noting that an ongoing royalty “must be calculated

based on apportionment of value *between patented and unpatented features* of the whole machine” and lowering the ongoing royalty rate based on that consideration) (emphasis added). Accordingly, both the decreasing margins on the accused chips (as determined by CMU’s expert) and the increasing number of features that contribute to those margins demonstrate that the value the NLD contributes to Marvell’s chips has *declined* from 2001 to 2012. This too suggests that any ongoing royalty must be less than any royalty awarded for past infringement.

**C. Marvell’s Non-Infringing Alternatives Counsel In Favor of a Reduced Royalty**

Another significant changed circumstance for the 2012 hypothetical negotiation is Marvell’s plan to remove the accused NLD feature from its newest generation of chips. (Affidavit of Sutardja at ¶ 6; Affidavit of Wu at ¶ 11). For the 2001 hypothetical negotiation, CMU contended that Marvell had no choice but to include the patented technology in all of its read channel chips. At the 2012 hypothetical negotiation, the parties would recognize Marvell had the option to remove the accused NLD feature from future products, which would support a lower royalty rate. Thus, any ongoing royalty rate should be reduced to account for the availability of non-infringing alternatives.

**D. There Is No Basis For A Ongoing Royalty Greater Than \$0.50**

Contrary to CMU’s assertions, there is no basis for an ongoing royalty greater than \$0.50. (Brief at 16). CMU’s own expert testified that any royalty higher than \$0.42 would render Marvell’s profit margins insufficient to continue operating its business. (12/10/12 Tr. (Lawton) at 259:12-24). Assuming *arguendo* the correctness of CMU’s expert’s computations, according to its own logic, CMU is requesting that Marvell be put out of business. That result is inconsistent with the law and would, of course, yield \$0 in royalties for CMU. *See, e.g., Paice*



*III*, 609 F. Supp. at 631 (noting that ongoing royalty should permit infringer “to make a reasonable profit”); *Univ. of Pittsburgh*, 2012 WL 1436569, at \*12 (setting ongoing royalty so as to “leav[e] [infringer] with a substantial profit margin”).

Moreover, CMU is likewise incorrect to suggest (Brief at 16) that the Court should “enhance” any ongoing royalty rate as punishment for Marvell’s future “willful” infringement. *See, e.g., Shatterproof Glass*, 758 F.2d at 628 (upholding ongoing royalty rate equal to royalty rate for past infringement); *Univ. of Pittsburgh*, 2012 WL 1436569, at \*13 (setting ongoing royalty rate equal to royalty rate for past infringement); *Boston Scientific*, 838 F. Supp. 2d at 276 (same).<sup>4</sup> As the Federal Circuit has made clear, willfulness is not the inquiry in the context of a Court ordered ongoing royalty—rather, the rate is informed by the circumstances at the time of the judgment (including a defendant’s likelihood of success on appeal). *Amado*, 517 F.3d at 1362 (“But willfulness, as such, is not the inquiry when the infringement is permitted by a court-ordered stay. Moreover, the district court, by trebling the amount the jury found to be a reasonable royalty, began with a faulty premise, because as we have noted, that damages award was based on pre-verdict infringement.”)

Should this Court order an ongoing royalty, Marvell respectfully requests that the Court require the payments of the royalty to be escrowed until there is a final and non-appealable judgment in this case. *See, e.g., Fed. R. Civ. P. 62(d); Fresenius*, 2012 WL 761712, at \*3.

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<sup>4</sup> CMU cites *Boston Scientific* as a case in which an ongoing royalty rate was set higher than the rate for past infringement, contending that the court in that case “set[] a 32% ongoing royalty when the jury’s verdict was based on a 2.95% royalty rate.” (Brief at 13 n.8.) In fact, the court in *Boston Scientific* set the ongoing rate *equal to* the rate for past infringement. 838 F. Supp. 2d at 276 (noting that the ongoing royalty rate was equivalent to the effective rate derived from the jury’s damages award).

**IV. THE COURT SHOULD DEFER CMU'S REQUEST FOR AN ACCOUNTING AND SUPPLEMENTAL DAMAGES**

CMU's request for an accounting and supplemental damages for Marvell's sales from July 29, 2012 to January 14, 2013 (Brief at 17-18) is premature, and even if not, supplemental damages should be rejected in the Court's discretion as excessive. As an initial matter, the need for an accounting may be mooted by Marvell's motions for judgment as a matter of law (Dkt. 802, 805, 807) or by Marvell's Motion for Judgment as a Matter of Law, New Trial, and/or Remittitur with Respect to Damages (Dkt. 806). Moreover, there may be no need for an accounting if, for example, this Court determines that the appropriate measure of damages for Marvell's alleged past infringement is a lump sum (for a paid-up license). Accordingly, although Marvell stands ready to provide whatever additional sales information the Court deems appropriate, Marvell respectfully believes that supplemental damages are improper given the present dimension of the damages award and that an accounting is premature and may ultimately be unnecessary.

**CONCLUSION**

For the foregoing reasons, Marvell respectfully requests that the Court deny CMU's motion for permanent injunction, post-judgment royalties, and supplemental damages.

Dated: March 25, 2013

Respectfully submitted,

/s/ John E. Hall

/s/ Edward J. DeFranco

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**CERTIFICATE OF SERVICE**

I hereby certify that on March 25, 2013, the foregoing was filed electronically on ECF. I also hereby certify that on March 25, 2013, this filing will also be served on counsel for CMU by electronic mail.

/s/ John E. Hall

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**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

CARNEGIE MELLON UNIVERSITY, )  
)  
Plaintiff, )  
v. ) Civil Action No. 2:09-cv-00290-NBF  
)  
MARVELL TECHNOLOGY GROUP, LTD., ) Hon. Nora B. Fischer  
and MARVELL SEMICONDUCTOR, INC., )  
)  
Defendants. )

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**DECLARATION OF JOSEPH MILOWIC III**

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I, Joseph Milowic III, declare as follows:

1. I am a partner at the law firm of Quinn Emanuel Urquhart & Sullivan, LLP, counsel of record for Marvell Technology Group, Ltd., and Marvell Semiconductor, Inc. (collectively, "Marvell") in the above-captioned case. I submit this Declaration in support of Marvell's Memorandum in Response to CMU's Motion for Permanent Injunction, Post-Judgment Royalties, and Supplemental Damages.

2. Attached to this Declaration are true and correct copies of the documents cited in Marvell's Memorandum in Response to CMU's Motion for Permanent Injunction, Post-Judgment Royalties, and Supplemental Damages, as follows:

Exhibit A	Marvell Technology Group Ltd. Form 10-Q, dated Nov. 29, 2012.
Exhibit B	C. Foley, M. Chudleigh, N. Miles, <i>Enforcement of Foreign Judgments 2012: Bermuda</i> (Law Business Research, 2011).
Exhibit C	Marvell Technology Group Ltd. Form S-1 Registration Statement, dated Mar. 23, 2000.
Exhibit D	Webpage: RightLine Staff Writers, <i>Stock Buybacks</i> , <a href="http://www.rightline.net/education/buybacks.html">http://www.rightline.net/education/buybacks.html</a> (last visited Mar. 24, 2013).

Exhibit E	Webpage: Zacks, <i>Education: Value Investing</i> , <a href="http://www.zacks.com/education/articles.php?id=33">http://www.zacks.com/education/articles.php?id=33</a> (last visited Mar. 24, 2013).
Exhibit F	Webpage: Jeff Reeves, <i>Navellier: Surge in Stock Buybacks a Big Opportunity for Investors</i> , <a href="http://slant.investorplace.com/2013/02/stock-buybacks-share-repurchase/">http://slant.investorplace.com/2013/02/stock-buybacks-share-repurchase/</a> (last visited Mar. 24, 2013).
Exhibit G	Webpage: Cory Janssen, <i>A Breakdown of Stock Buybacks</i> , <a href="http://www.investopedia.com/articles/02/041702.asp">http://www.investopedia.com/articles/02/041702.asp</a> (last visited Mar. 24, 2013).
Exhibit H	Webpage: Investopedia Staff, <i>How and Why Do Companies Pay Dividends?</i> , <a href="http://www.investopedia.com/articles/03/011703.asp">http://www.investopedia.com/articles/03/011703.asp</a> (last visited Mar. 24, 2013).
Exhibit I	Webpage: Matt Alden S., <i>8 Reasons To Go With Dividends</i> , <a href="http://dividendmonk.com/8-reasons-to-go-with-dividends/">http://dividendmonk.com/8-reasons-to-go-with-dividends/</a> (last visited Mar. 24, 2013).
Exhibit J	Email from Marvell counsel E. DeFranco to CMU counsel P. McElhinny <i>RE: CMU v. Marvell – Ongoing Royalty</i> , dated Feb. 19, 2013.

I declare under the penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: March 25, 2013

Respectfully submitted,

By:           /s/ Joseph Milowic III          

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**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

v.

MARVELL TECHNOLOGY GROUP, LTD.  
and MARVELL SEMICONDUCTOR, INC.,

Defendants.

Civil Action No. 2:09-cv-00290-NBF

Hon. Nora B. Fischer

**AFFIDAVIT OF ZINING WU IN SUPPORT OF MARVELL'S  
OPPOSITION TO CMU'S MOTION FOR PERMANENT INJUNCTION, POST-  
JUDGMENT ROYALTIES, AND SUPPLEMENTAL DAMAGES**

I, Zining Wu, declare as follows:

1. I am the Vice President of Data Storage Technology at Marvell Semiconductor, Inc. I submit this affidavit in support of Marvell Technology Group, Ltd. and Marvell Semiconductor, Inc.'s ("Marvell's") Opposition to CMU's Motion for Permanent Injunction, Post-Judgment Royalties, and Supplemental Damages. I have personal knowledge of the facts set forth in this affidavit and, if called as a witness, could and would competently testify to them.

2. I received a bachelor's degree in electrical engineering from Tsinghua University in Beijing, China in 1994. After receiving my bachelor's degree, I decided to come to the United States for my graduate studies because of the wide variety of quality programs available in electrical engineering. I received my Ph.D. in Electrical Engineering from Stanford University in 1999. I specialized in signal processing, digital communication technology, coding and detection for read channels. My Ph.D. thesis was on coding and iterative detection for magnetic recording channels.

**Background at Marvell**

3. After being awarded my Ph.D., I started working at Marvell in 1999 as a Staff Design Engineer. As a Staff Design Engineer, I worked on signal processing and coding for magnetic disk drive read channels.

4. In late 2002, I was promoted to Manager at Marvell. As a manager, I continued engineering work on signal processing and coding for magnetic disk drive read channels and also managed other engineers in the read channel architecture group.

5. I continued to receive promotions approximately every two years at Marvell. I was promoted to Senior Manager, then Director, and then Senior Director. In 2008, I was promoted to my current role as Vice President of Data Storage Technology at Marvell.

6. In my role as Vice President of Data Storage Technology, I have, among other functions, worked directly on the development of read channel chips and SoCs (system on a chip) containing read channels. I have also worked directly with Marvell's customers and have personal knowledge of the development, optimization, and qualification processes for hard disk drives.

**Marvell's Accused Chips**

7. CMU has identified by model number the Marvell chips which it seeks to enjoin or for which it seeks ongoing royalties. CMU classifies these chips as either MNP-type or NLD-type chips.

8. I can confirm that the only MNP-type chip that Marvell continues to sell is model 88i6314. Marvell no longer sells any of the other MNP-type chips that are accused of infringement.

9. I can also confirm that Marvell is no longer selling the majority of the chips identified as NLD-type chips, with the exception of the following 24 chips: 88i8062,



88i8832, 88i9105, 88i9117, 88i9146, 88i1067, 88i9305, 88i9312, 88i9317, 88i9322, 88i9335, 88i9346, 88i9348, 88i9422, 88i9010, 88i9017, 88i9045, 88i9205, 88i1062, 88i9119, 88i9137, 88i9446, 88i1064, and 88i1248. Once a customer designs and optimizes their hard disk drives for a specific Marvell chip, that chip becomes part of the design of the disk drive. Were Marvell required to disable the accused features in chips currently sold to its hard-disk drive makers customers, those Marvell customers (and potentially their own customers, computer manufacturers) would have to alter the design of their own products that have already been designed and tested to work with Marvell's chips that incorporate the accused features. Those customers would then have to re-qualify the hard disk drives for use in the products of their own customers (computer manufacturers).

10. In addition to these NLD-type chips that Marvell is currently selling, Marvell has already shipped samples of its next generation chips, the "C10010" read channel chips, which are numbered i1005, i1038, i1047, i1022, i1069 and i1065. Customers have already designed these chips into their hard disk drives. Marvell has slated the C10010 chips for large volume production in the fourth quarter of this year. As discussed above in paragraph 9, if Marvell were required to disable the accused features in the new C10010 chips, customers would be required to alter their designs for products that are to incorporate these chips and qualify these products with their customers.

#### **Designing Next Generation Chips Without NLD Functionality**


11. At Marvell, we are currently taking steps to remove the NLD features from our newest generation of chips that is currently under design (the design process began last year). That generation is using a "C11000" (and/or C11010) read channel, and chips having that read channel are numbered i1146, i1148, i1160, i1161 and i1068. Marvell is altering the

design of the C11000 read channel to have the NLD circuitry permanently and irreversibly disabled.

12. We estimate that it will take approximately six months and eight Marvell designers working full time to re-design the C11000 chips. The C11000 chips without the NLD functionality are scheduled to be taped-out (fabrication of the actual semiconductor chips) in October of this year and are slated for volume production toward the end of 2014. Prior to volume production, Marvell will work with its customers to test and incorporate the chips into their hard disk drives.

13. Because the newest generation C11000 chips have not yet been taped-out, samples have not yet been shipped to customers. Also, our customers have not yet designed and optimized any hard disk drives that will use the C11000 chips.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed this 24th day of March, 2013, in Santa Clara, California.

  
\_\_\_\_\_  
Dr. Zining Wu

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

CARNEGIE MELLON UNIVERSITY,

Plaintiff,

v.

MARVELL TECHNOLOGY GROUP, LTD.  
and MARVELL SEMICONDUCTOR, INC.,

Defendants.

Civil Action No. 2:09-cv-00290-NBF

Hon. Nora B. Fischer

**AFFIDAVIT OF SEHAT SUTARDJA IN SUPPORT OF MARVELL'S  
OPPOSITION TO CMU'S MOTION FOR PERMANENT INJUNCTION, POST-  
JUDGMENT ROYALTIES, AND SUPPLEMENTAL DAMAGES**

I, Sehat Sutardja, declare as follows:

1. I am a Co-Founder of Marvell Technology Group, Ltd. ("MTGL") and have served as the President and Chief Executive Officer since its inception in 1995. I also served as Co-Chairman of the Board of Directors from 1995 to 2003, when I became Chairman of the Board. In addition, I serve as the President, as the Chief Executive Officer, and as a Director of Marvell's U.S. operating subsidiary, Marvell Semiconductor, Inc. ("MSI"). I submit this affidavit in support of Marvell Technology Group, Ltd. and Marvell Semiconductor, Inc.'s Opposition to CMU's Motion for Permanent Injunction, Post-Judgment Royalties, and Supplemental Damages. I have personal knowledge of the facts set forth in this affidavit and, if called as a witness, could and would competently testify to them.

2. I understand CMU has sought a permanent injunction against MTGL and MSI (collectively, "Marvell") because it believes Marvell is a collection risk and will attempt to evade paying a judgment against it. As Marvell's CEO, I submit this declaration to assure the Court that Marvell is not a collection risk and will not attempt to evade paying a judgment against it.

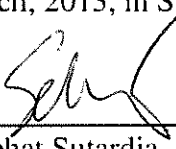
3. CMU gives three reasons for its concerns. The first reason CMU gives is that Marvell has organized its business to evade payment of judgments entered by U.S. courts. As Marvell's CEO, I can assure the Court that this is not the case. Marvell, like many other companies, organized its business in the way it did for a variety of reasons, none of which includes the idea of being able to evade the payment of judgments entered by U.S. courts.

4. The next reason it gives is that MTGL recently authorized stock repurchases and dividends, which CMU says shows that MTGL plans to dissipate its assets to avoid paying a judgment. I can assure the Court that Marvell has no intention of attempting to dissipate its assets to avoid paying a judgment. MTGL has been authorizing stock repurchases for years. The stock repurchase authorizations and dividends are for the benefit of MTGL's shareholders and have nothing to do with this case and certainly are not part of some plan to avoid paying a judgment.

5. The last reason CMU gives is its concern that MTGL has not set aside reserves to pay the judgment in this case. As I understand, if the Court rules against Marvell on its post-trial motions, the Court may order Marvell to post a bond to stay the judgment pending an appeal. Marvell is willing to post such a bond if the Court determines one is necessary. I can assure the Court that if the Court were to rule against Marvell, after exhausting its appellate rights, Marvell could and would pay the significant monetary judgment in this case.

6. With respect to the accused NLD feature in Marvell's products, I have directed our engineers to permanently and irreversibly disable the NLD feature in Marvell's next generation C11000 chips. I have instructed Zining Wu to supervise and implement this change, and in his own declaration Dr. Wu describes the status and timing for this change to the C11000 chips.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed this 22<sup>nd</sup> day of March, 2013, in Santa Clara, California.

  
\_\_\_\_\_  
Sehat Sutardja

# **EXHIBIT A**

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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM 10-Q**

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(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended October 27, 2012

or

**TRANSITION REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number: 000-30877

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**Marvell Technology Group Ltd.**

(Exact name of registrant as specified in its charter)

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**Bermuda**  
(State or other jurisdiction of  
incorporation or organization)

**77-0481679**  
(I.R.S. Employer  
Identification No.)

**Canon's Court, 22 Victoria Street, Hamilton HM 12, Bermuda**  
**(441) 296-6395**

(Address, including Zip Code, of principal executive offices and  
registrant's telephone number, including area code)

---

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.  Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).  Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large

Large accelerated filer  Accelerated filer   
 Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).  Yes  No

The number of common shares of the registrant outstanding as of November 21, 2012 was 535.0 million shares.

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## Item 1. Financial Statements

**MARVELL TECHNOLOGY GROUP LTD.**  
**UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS**  
(In thousands)

	October 27, 2012	January 28, 2012
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 668,184	\$ 784,902
Short-term investments	1,348,615	1,461,596
Accounts receivable, net	374,770	407,263
Inventories	323,997	354,119
Prepaid expenses and other current assets	52,055	60,412
Deferred income taxes	10,209	10,669
Total current assets	<u>2,777,830</u>	<u>3,078,961</u>
Property and equipment, net	376,437	383,801
Long-term investments	18,103	23,215
Goodwill	2,032,138	2,031,991
Acquired intangible assets, net	101,923	141,505
Other non-current assets	119,523	108,146
Total assets	<u>\$ 5,425,954</u>	<u>\$ 5,767,619</u>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities:		
Accounts payable	\$ 291,366	\$ 304,695
Accrued liabilities	107,572	87,655
Accrued employee compensation	142,073	137,245
Deferred income	59,458	59,959
Total current liabilities	<u>600,469</u>	<u>589,554</u>
Non-current income taxes payable	121,721	131,579
Other long-term liabilities	27,470	32,468
Total liabilities	<u>749,660</u>	<u>753,601</u>
Commitments and contingencies (Note 9)		
Shareholders' equity:		
Common shares, \$0.002 par value	1,073	1,167
Additional paid-in capital	3,153,463	3,683,112
Accumulated other comprehensive income	3,375	776
Retained earnings	1,518,383	1,328,963
Total shareholders' equity	<u>4,676,294</u>	<u>5,014,018</u>
Total liabilities and shareholders' equity	<u>\$ 5,425,954</u>	<u>\$ 5,767,619</u>

See accompanying notes to unaudited condensed consolidated financial statements.

**MARVELL TECHNOLOGY GROUP LTD.**  
**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS**  
(In thousands, except per share amounts)

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Net revenue	\$ 780,881	\$ 950,417	\$ 2,393,336	\$ 2,650,339
Operating costs and expenses:				
Cost of goods sold	374,503	412,100	1,122,664	1,124,692
Research and development	263,615	266,255	783,760	758,396
Selling and marketing	38,398	40,500	119,498	119,042
General and administrative	24,514	29,021	75,937	77,436
Amortization and write-off of acquired intangible assets	13,054	11,155	40,432	36,634
Total operating costs and expenses	<u>714,084</u>	<u>759,031</u>	<u>2,142,291</u>	<u>2,116,200</u>
Operating income	66,797	191,386	251,045	534,139
Interest and other income, net	2,387	7,729	9,308	9,575
Income before income taxes	69,184	199,115	260,353	543,714
Provision for income taxes	368	3,994	3,920	9,340
Net income	<u>\$ 68,816</u>	<u>\$ 195,121</u>	<u>\$ 256,433</u>	<u>\$ 534,374</u>
Net income per share:				
Basic	<u>\$ 0.12</u>	<u>\$ 0.32</u>	<u>\$ 0.45</u>	<u>\$ 0.87</u>
Diluted	<u>\$ 0.12</u>	<u>\$ 0.32</u>	<u>\$ 0.45</u>	<u>\$ 0.85</u>
Weighted average shares:				
Basic	<u>553,049</u>	<u>600,504</u>	<u>565,145</u>	<u>615,987</u>
Diluted	<u>559,348</u>	<u>613,499</u>	<u>574,804</u>	<u>631,257</u>
Cash dividend declared per share:	<u>\$ 0.06</u>	<u>\$ —</u>	<u>\$ 0.12</u>	<u>\$ —</u>

See accompanying notes to unaudited condensed consolidated financial statements.

**MARVELL TECHNOLOGY GROUP LTD.**  
**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**  
(In thousands)

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Net income	\$ 68,816	\$ 195,121	\$ 256,433	\$ 534,374
Other comprehensive income (loss), net of tax:				
Available-for-sale securities:				
Change in unrealized gain (loss) on marketable securities	453	(2,892)	2,097	264

Less: Reclassification adjustments for net realized gains on marketable securities included in net income	(932)	(623)	(1,703)	(1,783)
Change in unrealized loss on auction rate securities	—	248	(112)	292
<b>Derivative financial instruments:</b>				
Change in unrealized gain (loss) on cash flow hedges	1,301	(1,745)	(530)	2,065
Less: Reclassification adjustments for net realized loss (gain) on cash flow hedges included in net income	1,175	(1,150)	2,847	(2,225)
Other:	—	115	—	—
Other comprehensive income (loss), net	1,997	(6,047)	2,599	(1,387)
Comprehensive income	<u>\$ 70,813</u>	<u>\$ 189,074</u>	<u>\$ 259,032</u>	<u>\$ 532,987</u>

See accompanying notes to unaudited condensed consolidated financial statements.

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**MARVELL TECHNOLOGY GROUP LTD.**  
**UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(In thousands)

	Nine Months Ended	
	October 27, 2012	October 29, 2011
<b>Cash flows from operating activities:</b>		
Net income	\$ 256,433	\$ 534,374
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	64,801	66,653
Stock-based compensation	90,794	88,446
Amortization and write-off of acquired intangible assets	40,432	36,634
Other expense, net	6,435	11,411
Excess tax benefits from stock-based compensation	(49)	(99)
Changes in assets and liabilities:		
Accounts receivable	32,493	8,298
Inventories	29,634	(63,967)
Prepaid expenses and other assets	15,993	34,229
Accounts payable	(27,137)	4,193
Accrued liabilities and other	10,286	(18,030)
Accrued employee compensation	4,828	6,924
Deferred income	(501)	(6,917)
Net cash provided by operating activities	<u>524,442</u>	<u>702,149</u>
<b>Cash flows from investing activities:</b>		
Purchases of marketable securities	(1,205,364)	(1,582,892)
Purchases of strategic investments	(5,750)	(3,503)
Sales and maturities of investments	1,317,744	1,083,214
Cash paid for acquisition, net	(1,000)	(18,760)
Purchases of technology licenses	(10,687)	(9,593)
Purchases of property and equipment	(49,090)	(62,330)
Net cash provided by (used in) investing activities	<u>45,853</u>	<u>(593,864)</u>

Repurchase of common shares	(676,471)	(1,154,396)
Proceeds from employee stock plans	66,244	55,565
Minimum tax withholding paid on behalf of employees for net share settlement	(9,822)	(5,172)
Dividend payments to shareholders	(67,013)	—
Principal payments on capital lease obligations	—	(511)
Excess tax benefits from stock-based compensation	49	99
Net cash used in financing activities	<u>(687,013)</u>	<u>(1,104,415)</u>
Net decrease in cash and cash equivalents	(116,718)	(996,130)
Cash and cash equivalents at beginning of period	784,902	1,847,074
Cash and cash equivalents at end of period	<u>\$ 668,184</u>	<u>\$ 850,944</u>

See accompanying notes to unaudited condensed consolidated financial statements.

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**MARVELL TECHNOLOGY GROUP LTD.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

**Note 1. The Company and Basis of Presentation**

***The Company***

Marvell Technology Group Ltd., a Bermuda company (the “Company”), is a leading global semiconductor provider of high performance application specific standard products. The Company’s core strength of expertise is the development of complex System-on-a-Chip devices leveraging its extensive technology portfolio of intellectual property in the areas of analog, mixed-signal, digital signal processing and embedded ARM-based microprocessor integrated circuits. The Company also develops platforms that it defines as integrated hardware and software that incorporate digital computing technologies designed and configured to provide an optimal computing solution compared to individual components. The Company’s broad product portfolio includes devices for data storage, enterprise-class Ethernet data switching, Ethernet physical-layer transceivers, handheld cellular, Ethernet-based wireless networking, personal area networking, Ethernet-based PC connectivity, control plane communications controllers, video-image processing and power management solutions.

***Reclassification***

Certain amounts in the unaudited condensed consolidated financial statements and notes to the unaudited condensed consolidated financial statements for prior years have been reclassified to conform to the fiscal 2013 presentation. Net operating results have not been affected by these reclassifications.

***Basis of Presentation***

The Company’s fiscal year is the 52- or 53-week period ending on the Saturday closest to January 31. In a 52-week year, each fiscal quarter consists of 13 weeks. The additional week in a 53-week year is added to the fourth quarter, making such quarter consist of 14 weeks. Fiscal 2013 has a 53-week period and therefore, the fourth quarter which ends on February 2, 2013 includes 14 weeks. Fiscal 2012 had a 52-week period.

The unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (“GAAP”) for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and notes required by GAAP for annual financial statements. In the opinion of management, all adjustments consisting of normal and recurring entries considered necessary for a fair statement of the results for the interim periods have been included in the Company’s balance sheet as of October 27, 2012, the results of its operations for the three and nine months ended October 27, 2012 and October 29, 2011, and its cash flows for the nine months ended October 27, 2012 and October 29, 2011. The January 28, 2012 condensed consolidated balance sheet data was derived from the audited consolidated financial statements included in the Company’s Annual Report on Form 10-K for the fiscal year ended January 28, 2012 but does not include all disclosures required for annual periods.

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These condensed consolidated financial statements and related notes are unaudited and should be read in conjunction with the Company's audited financial statements and related notes included in the Company's Annual Report on Form 10-K for the fiscal year ended January 28, 2012 as filed on March 27, 2012 with the Securities and Exchange Commission. The results of operations for the three and nine months ended October 27, 2012 are not necessarily indicative of the results that may be expected for any other interim period or for the full fiscal year.

### *Use of Estimates*

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, including those related to performance-based compensation, revenue recognition, provisions for sales returns and allowances, inventory excess and obsolescence, investment fair values, goodwill and other intangible assets, income taxes, litigation and other contingencies. In addition, the Company uses assumptions when employing the Monte Carlo simulation and Black-Scholes valuation models to calculate the fair value of share-based awards that are granted. When carrying values of certain assets and liabilities are not readily available from other sources, their carrying values are estimated based on historical experience and on various other assumptions that are believed to be reasonable under the circumstances. Actual results could differ from these estimates, and such differences could affect the results of operations reported in future periods.

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### **MARVELL TECHNOLOGY GROUP LTD. NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

#### *Principles of Consolidation*

The unaudited condensed consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated. The functional currency of the Company and its subsidiaries is the United States dollar.

#### **Note 2. Recent Accounting Pronouncements**

##### *Accounting Pronouncements Recently Adopted*

The Company adopted the new accounting standard that provides additional guidance on fair value measurements and related disclosures at the beginning of fiscal 2013. This guidance clarifies the application of existing guidance on fair value measurement for non-financial assets and requires the disclosure of quantitative information about the unobservable inputs used in a fair value measurement. The adoption of this guidance had no impact on the Company's financial statements.

The Company also adopted the new accounting standard that permits an entity the option to present the total of comprehensive income, the components of net income and the components of other comprehensive income either in a single continuous statement of comprehensive income or in two separate but consecutive statements at the beginning of fiscal 2013. This amended guidance eliminates the option to present the components of other comprehensive income as part of the statement of changes in shareholders' equity. As a result, the Company has separately presented the Statements of Comprehensive Income as part of its unaudited condensed consolidated financial statements.

The Company also adopted the new accounting standard that amends the previous guidance regarding the testing of goodwill for impairment at the beginning of fiscal 2013. This amended guidance allows an entity to first assess qualitative factors to determine whether it is necessary to perform the two-step quantitative goodwill impairment test. An entity no longer is required to calculate the fair value of a reporting unit unless the entity determines, based on a qualitative assessment, that it is more likely than not that its fair value is less than its carrying amount. The adoption of this guidance had no impact on the Company's financial statements.

##### *Accounting Pronouncements Not Yet Effective*

In July 2012, the Financial Accounting Standards Board issued an amendment to its guidance regarding the testing of indefinite-lived intangible assets for impairment. This amended guidance allows an entity first to assess qualitative factors to determine whether it is more likely than not that an indefinite-lived intangible asset is impaired as a basis for determining whether it is necessary to perform the quantitative impairment test in accordance with the guidance on the impairment of intangible assets other than goodwill. This amended guidance is effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012. The adoption of this guidance is not expected to have an impact on the Company's financial statements.

The following tables summarize the Company's investments (in thousands):

	As of October 27, 2012			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
<b>Short-term investments:</b>				
Available-for-sale:				
Corporate debt securities	\$ 664,560	\$ 3,850	\$ (279)	\$ 668,131
Foreign government	2,022	8	—	2,030
U.S. federal and state debt securities	489,937	535	(18)	490,454
Time deposits	188,000	—	—	188,000
Total short-term investments	\$1,344,519	\$ 4,393	\$ (297)	\$1,348,615
<b>Long-term investments:</b>				
Available-for-sale:				
Auction rate securities	\$ 19,500	\$ —	\$ (1,397)	\$ 18,103
Total long-term investments	\$ 19,500	\$ —	\$ (1,397)	\$ 18,103
Total investments	\$1,364,019	\$ 4,393	\$ (1,694)	\$1,366,718

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	As of January 28, 2012			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
<b>Short-term investments:</b>				
Available-for-sale:				
Corporate debt securities	\$ 685,563	\$ 3,081	\$ (799)	\$ 687,845
Foreign government	2,033	3	—	2,036
U.S. federal and state debt securities	770,298	1,437	(20)	771,715
Total short-term investments	\$1,457,894	\$ 4,521	\$ (819)	\$1,461,596
<b>Long-term investments:</b>				
Available-for-sale:				
Auction rate securities	\$ 24,500	\$ —	\$ (1,285)	\$ 23,215
Total long-term investments	\$ 24,500	\$ —	\$ (1,285)	\$ 23,215
Total investments	\$1,482,394	\$ 4,521	\$ (2,104)	\$1,484,811

As of October 27, 2012, the Company's investment portfolio included auction rate securities with an aggregate par value of \$19.5 million. To estimate the fair value of the auction rate securities, the Company uses a discounted cash flow model based on estimated timing and amount of future interest and principal payments. In developing the cash flow model, the Company considers the credit quality and liquidity of the underlying securities and related issuer, the collateralization of underlying security investments and other considerations. The fair value of the auction rate securities as of October 27, 2012 was \$1.4 million less than the par value and was recorded in long-term investments. Based on the Company's balance of approximately \$2.0 billion in cash, cash equivalents and short-term investments, and the fact that the Company continues to generate positive cash flow from operations on a quarterly basis, the Company does

not anticipate having to sell these securities below par value and does not have the intent to sell these auction rate securities until recovery. Since the Company considers the impairment to be temporary, the Company recorded the unrealized loss to accumulated other comprehensive income, a component of shareholders' equity.

The contractual maturities of available-for-sale securities are presented in the following table (in thousands):

	October 27, 2012		January 28, 2012	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Due in one year or less	\$ 593,854	\$ 594,485	\$ 641,433	\$ 642,317
Due between one and five years	729,015	732,498	816,461	819,279
Due over five years	41,150	39,735	24,500	23,215
	<u>\$ 1,364,019</u>	<u>\$ 1,366,718</u>	<u>\$ 1,482,394</u>	<u>\$ 1,484,811</u>

For individual securities that have been in a continuous unrealized loss position, the fair value and gross unrealized loss for these securities aggregated by investment category and length of time in an unrealized position are presented in the following tables (in thousands):

	October 27, 2012					
	Less than 12 months		12 months or more		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Corporate debt securities	\$ 157,147	\$ (279)	\$ —	\$ —	\$ 157,147	\$ (279)
U.S. federal and state debt securities	57,731	(18)	—	—	57,731	(18)
Auction rate securities	—	—	18,103	(1,397)	18,103	(1,397)
Total securities	<u>\$ 214,878</u>	<u>\$ (297)</u>	<u>\$ 18,103</u>	<u>\$ (1,397)</u>	<u>\$ 232,981</u>	<u>\$ (1,694)</u>

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**MARVELL TECHNOLOGY GROUP LTD.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	January 28, 2012					
	Less than 12 months		12 months or more		Total	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Corporate debt securities	\$ 146,963	\$ (799)	\$ —	\$ —	\$ 146,963	\$ (799)
U.S. federal and state debt securities	107,603	(20)	—	—	107,603	(20)
Auction rate securities	—	—	23,215	(1,285)	23,215	(1,285)
Total securities	<u>\$ 254,566</u>	<u>\$ (819)</u>	<u>\$ 23,215</u>	<u>\$ (1,285)</u>	<u>\$ 277,781</u>	<u>\$ (2,104)</u>

**Note 4. Supplemental Financial Information (in thousands)**

	October 27, 2012	January 28, 2012
<b>Inventories:</b>		
Work-in-process	\$ 181,822	\$ 190,779
Finished goods	142,175	163,340
Inventories	<u>\$ 323,997</u>	<u>\$ 354,119</u>

	October 27, 2012	January 28, 2012
<b>Property and equipment, net:</b>		
Machinery and equipment	\$ 516,276	\$ 489,481
Buildings	144,320	144,320
Computer software	87,758	81,852
Land	69,246	69,246
Building improvements	42,354	42,083
Leasehold improvements	41,108	37,237
Furniture and fixtures	24,614	24,726
Construction in progress	9,341	9,846
	<u>935,017</u>	<u>898,791</u>
Less: Accumulated depreciation and amortization	(558,580)	(514,990)
Property and equipment, net	<u>\$ 376,437</u>	<u>\$ 383,801</u>
	<b>October 27, 2012</b>	<b>January 28, 2012</b>
<b>Other non-current assets:</b>		
Technology and other licenses	\$ 58,077	\$ 50,212
Deferred tax assets	31,020	31,064
Deposits	11,956	11,532
Investments in privately held companies	11,429	6,309
Deferred compensation	3,598	5,419
Other	3,443	3,610
Other non-current assets	<u>\$ 119,523</u>	<u>\$ 108,146</u>

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	October 27, 2012	January 28, 2012
<b>Accrued liabilities:</b>		
Accrued rebates	\$ 47,455	\$ 24,420
Accrued legal expense	15,567	13,999
Accrued royalties	15,530	16,896
Technology license obligations	2,646	5,250
Other	26,374	27,090
Accrued liabilities	<u>\$ 107,572</u>	<u>\$ 87,655</u>
	<b>October 27, 2012</b>	<b>January 28, 2012</b>
<b>Other long-term liabilities:</b>		
Long-term accrued employee compensation	\$ 9,172	\$ 10,059
Technology license obligations	8,566	11,255
Other	9,732	11,154



	October 27, 2012	January 28, 2012
<b>Accumulated other comprehensive income:</b>		
Unrealized gain on marketable securities	\$ 4,096	\$ 3,702
Unrealized loss on auction rate securities	(1,397)	(1,285)
Unrealized gain (loss) on cash flow hedges	676	(1,641)
Accumulated other comprehensive income	<u>\$ 3,375</u>	<u>\$ 776</u>

**Net income per share:**

The Company reports both basic net income per share, which is based on the weighted average number of common shares outstanding, and diluted net income per share, which is based on the weighted average number of common shares outstanding and potentially dilutive common shares. The computations of basic and diluted net income per share are presented in the following table (in thousands, except per share amounts):

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Numerator:				
Net income	<u>\$ 68,816</u>	<u>\$ 195,121</u>	<u>\$ 256,433</u>	<u>\$ 534,374</u>
Denominator:				
Weighted average common shares outstanding	553,049	600,504	565,145	615,987
Effect of dilutive securities:				
Common share-based awards	6,299	12,995	9,659	15,270
Weighted average shares — diluted	<u>559,348</u>	<u>613,499</u>	<u>574,804</u>	<u>631,257</u>
Net income per share:				
Basic	<u>\$ 0.12</u>	<u>\$ 0.32</u>	<u>\$ 0.45</u>	<u>\$ 0.87</u>
Diluted	<u>\$ 0.12</u>	<u>\$ 0.32</u>	<u>\$ 0.45</u>	<u>\$ 0.85</u>

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Anti-dilutive potential common shares:				
Weighted average shares outstanding from stock options	<u>42,149</u>	<u>23,768</u>	<u>27,560</u>	<u>20,388</u>
Weighted-average exercise price:	<u>\$ 15.43</u>	<u>\$ 18.26</u>	<u>\$ 17.67</u>	<u>\$ 18.92</u>

Anti-dilutive potential common shares for stock options are excluded from the calculation of diluted earnings per share for the periods reported above because their exercise price exceeded the average market price during the period. The anti-dilutive shares reported above also include shares from stock options that contain market conditions for vesting since the market value of the Company's stock as of October 27, 2012 and October 29, 2011 was lower than the required market condition. For the three and nine months ended October 27, 2012, there were 3.0 million and 3.1 million anti-dilutive shares, respectively, from stock options that contain market conditions. For the corresponding three and nine months ended October 29, 2011, there were 3.1 million and 2.1 million anti-dilutive shares, respectively, from stock options that contain market conditions. See Note 11 – "Share-Based Compensation" for additional details.

**Note 5. Derivative Financial Instruments**

The Company manages some of its foreign currency exchange rate risk through the purchase of foreign currency exchange contracts that hedge against the short-term effect of currency fluctuations. The Company's policy is to enter into foreign currency forward contracts with maturities generally less than 12 months that mitigate the effect of rate fluctuations on certain local currency denominated operating expenses. All derivative instruments are recorded at fair value in either prepaid expenses and other current assets or accrued liabilities. The Company reports cash flows from derivative instruments in cash flows from operating activities. The Company uses quoted prices to value its derivative instruments.

The notional amounts of outstanding forward contracts were as follows (in thousands):

	Buy Contracts	
	October 27, 2012	January 28, 2012
Israeli shekel	\$ 26,349	\$ 42,637

*Cash Flow Hedges.* The Company designates and documents its foreign currency forward exchange contracts as cash flow hedges for certain operating expenses denominated in Israeli shekels. The Company evaluates and calculates the effectiveness of each hedge at least quarterly. The effective change is recorded in accumulated other comprehensive income and is subsequently reclassified to operating expense when the hedged expense is recognized. Ineffectiveness is recorded in interest and other income, net.

*Other Foreign Currency Forward Contracts.* The Company enters into foreign currency forward exchange contracts to hedge certain assets and liabilities denominated in various foreign currencies that it does not designate as hedges for accounting purposes. The maturities of these contracts are generally less than 12 months. Gains or losses arising from the remeasurement of these contracts to fair value each period are recorded in interest and other income, net.

The fair value of foreign currency exchange contracts was not significant as of any period presented.

**Note 6. Fair Value Measurements**

Fair value is an exit price representing the amount that would be received in the sale of an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value:

- Level 1—Observable inputs that reflect quoted prices for identical assets or liabilities in active markets.
- Level 2—Include other inputs that are directly or indirectly observable in the marketplace.
- Level 3—Unobservable inputs that are supported by little or no market activity.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

The Company's Level 1 assets include its institutional money-market funds that are classified as cash equivalents and marketable investments in U.S. federal and state debt securities, which are valued primarily using quoted market prices. The Company's Level 2 assets and liabilities include its marketable investments in corporate debt securities as the market inputs to value these instruments consist of market yields, reported trades and broker/dealer quotes, which are corroborated with observable market data. In addition, foreign currency exchange contracts are classified within Level 2 as the valuation inputs are based on quoted prices and market observable data of similar instruments. The Company's Level 3 assets include its investments in auction rate securities, which are classified within Level 3 because there are currently no active markets for the auction rate securities and consequently the Company is unable to obtain independent valuations from market sources. Therefore, the auction rate securities are valued using a discounted cash flow model. Some of the inputs to the cash flow model are unobservable in the market. The total amount of assets measured using Level 3 valuation methodologies represented 0.3% of total assets as of October 27, 2012.

	Level 1	Level 2	Level 3	Portion of Carrying Value Measured at Fair Value at October 27, 2012
<b>Items measured at fair value on a recurring basis:</b>				
Assets				
Cash equivalents:				
Money market funds	\$ 5,603	\$ —	\$ —	\$ 5,603
U.S. federal and state debt securities	40,992	—	—	40,992
Corporate debt securities	—	16,494	—	16,494
Time deposits	—	134,484	—	134,484
Short-term investments:				
U.S. federal and state debt securities	490,454	—	—	490,454
Corporate debt securities	—	668,131	—	668,131
Foreign government	—	2,030	—	2,030
Time deposits	—	188,000	—	188,000
Prepaid expenses and other current assets:				
Forward contracts	—	726	—	726
Long-term investments:				
Auction rate securities	—	—	18,103	18,103
Other non-current assets:				
Severance pay fund	—	1,837	—	1,837
<b>Total assets</b>	<b><u>\$537,049</u></b>	<b><u>\$1,011,702</u></b>	<b><u>\$18,103</u></b>	<b><u>\$ 1,566,854</u></b>

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	Level 1	Level 2	Level 3	Portion of Carrying Value Measured at Fair Value at January 28, 2012
<b>Items measured at fair value on a recurring basis:</b>				
Assets				
Cash equivalents:				
Money market funds	\$ 64,247	\$ —	\$ —	\$ 64,247
Corporate debt securities	—	12,500	—	12,500
Time deposits	—	205,060	—	205,060
Short-term investments:				
U.S. federal and state debt securities	771,715	—	—	771,715
Corporate debt securities	—	687,845	—	687,845
Foreign government	—	2,036	—	2,036
Long-term investments:				

	23,215	23,215
Auction rate securities		
Other non-current assets:		
Severance pay fund	—	1,734
Total assets	<u>\$835,962</u>	<u>\$909,175</u>
Liabilities		
Accrued liabilities:		
Forward contracts	<u>\$ —</u>	<u>\$ 1,520</u>

The following table summarizes the change in fair value for Level 3 items (in thousands):

	Nine Months Ended	
	October 27, 2012	October 29, 2011
Beginning balance	\$ 23,215	\$ 26,226
Sales and redemption	(5,000)	(3,300)
Unrealized (loss) gain included in accumulated other comprehensive income	(112)	292
Ending balance	<u>\$ 18,103</u>	<u>\$ 23,218</u>

#### Note 7. Goodwill and Acquired Intangible Assets, Net (in thousands)

##### Goodwill

The following table summarizes the activity related to the carrying value of goodwill:

Balance at January 28, 2012	\$ 2,031,991
Additions due to business combinations	147
Balance at October 27, 2012	<u>\$ 2,032,138</u>

Under U. S. GAAP, the Company is required to evaluate goodwill for impairment whenever events or changes in circumstances indicate that the carrying value of the goodwill may not be recoverable. This evaluation requires a comparison of the reporting unit's fair value with its net book value, including goodwill. If this comparison indicates that the fair value is less than the net book value, then the implied fair value of the reporting unit's goodwill is compared with its carrying value to determine whether an impairment loss is required to be recorded. The Company has only one reporting unit and the fair value of the reporting unit is determined by taking the market capitalization of the Company as determined through quoted market prices and adjusted for a control premium and other relevant factors. During the three months ended October 27, 2012, the Company experienced a continued decline in its stock price which caused a substantial reduction in the reporting unit's excess fair value over its net book value. The Company determined its fair value was in excess of its carrying value and therefore no impairment of goodwill was recorded as of October 27, 2012. If the Company's stock price continues to decline and further erode its total market capitalization, the Company may be required to record an impairment charge in the future that could be material to its operating results.

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### MARVELL TECHNOLOGY GROUP LTD. NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

#### Acquired Intangible Assets, Net

Range of Useful Lives	October 27, 2012			January 28, 2012		
	Gross Carrying Amounts	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amounts	Accumulated Amortization	Net Carrying Amount

Purchased technology	2.5 - 7 years	\$ 103,490	\$ (64,335)	\$ 39,155	\$ 103,490	\$ (50,906)	\$ 52,584
Core technology	6 - 8 years	178,850	(158,160)	20,690	178,000	(142,932)	35,068
Trade name	5 years	1,500	(439)	1,061	1,500	(232)	1,268
Customer contracts	5 - 7 years	89,900	(58,583)	31,317	89,900	(47,856)	42,044
In-process research and development	*	9,700	—	9,700	10,541	—	10,541
Total intangible assets, net		<u>\$ 383,440</u>	<u>\$ (281,517)</u>	<u>\$ 101,923</u>	<u>\$ 383,431</u>	<u>\$ (241,926)</u>	<u>\$ 141,505</u>

\* Upon completion of the project, the related in-process research and development (“IPR&D”) assets will be amortized over its estimated useful life. If any of the projects are abandoned or the forecast of the project indicates that the fair value is less than the carrying amount, the Company will be required to write down the related IPR&D asset.

Based on the identified intangible assets recorded at October 27, 2012, the future amortization expense excluding IPR&D for the next five fiscal years is as follows (in thousands):

<u>Fiscal year</u>	
Remainder of fiscal 2013	\$12,269
2014	35,777
2015	14,942
2016	12,203
2017	11,018
Thereafter	6,014
	<u>\$92,223</u>

**Note 8. Income Tax**

The income tax provision for the three and nine months ended October 27, 2012 included the current income tax liability of \$5.9 million and \$14.5 million, respectively, which was primarily offset by net reductions in unrecognized tax benefits of \$5.5 million in the three months ended October 27, 2012 and \$11.5 million in the nine months ended October 27, 2012. These net reductions in unrecognized tax benefits primarily arose from the expiration of statute of limitations and from the settlement of audits in non-U.S. jurisdictions less increases in current unrecognized tax benefit estimates.

The income tax provision for the three and nine months ended October 29, 2011 included the current income tax liability of \$5.9 million and \$14.2 million, respectively, which was partially offset by a net reduction in unrecognized tax benefits of \$2.8 million in the three months ended October 29, 2011 and \$6.2 million in the nine months ended October 29, 2011 primarily due to the expiration of the statute of limitations in non-U.S. jurisdictions less increases in current unrecognized tax benefit estimates.

During the next 12 months, it is reasonably possible that the amount of unrecognized tax benefits could decrease due to a potential settlement with tax authorities and/or the expiration of applicable statutes of limitations. However, the amount cannot be reasonably estimated as the Company will have negotiations with various tax authorities throughout the year.

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**MARVELL TECHNOLOGY GROUP LTD.  
NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

**Note 9. Commitments and Contingencies**

***Purchase Commitments***

Under the Company’s manufacturing relationships with its foundry partners, cancellation of all outstanding purchase orders are allowed but require payment of all costs and expenses incurred through the date of cancellation. As of October 27, 2012, these foundries had incurred approximately \$160.9 million of manufacturing costs and expenses related to the Company’s outstanding purchase orders.

The Company has agreed to indemnify certain customers for claims made against the Company's products, where such claims allege infringement of third party intellectual property rights, including, but not limited to, patents, registered trademarks and/or copyrights. Under the aforementioned indemnification clauses, the Company may be obligated to defend the customer and pay for the damages awarded against the customer under an infringement claim as well as the customer's attorneys' fees and costs. The Company's indemnification obligations generally do not expire after termination or expiration of the agreement containing the indemnification obligation. In certain cases, there are limits on and exceptions to the Company's potential liability for indemnification. Although historically the Company has not made significant payments under these indemnification obligations, the Company cannot estimate the amount of potential future payments, if any, that it might be required to make as a result of these agreements. The maximum potential amount of any future payments that the Company could be required to make under these indemnification obligations could be significant.

### ***Contingencies***

***Carnegie Mellon Litigation.*** On March 6, 2009, Carnegie Mellon University ("CMU") filed a complaint in the United States District Court for the Western District of Pennsylvania naming MSI and the Company as defendants and alleging patent infringement. CMU has asserted U.S. Patent Nos. 6,201,839 and 6,438,180 (collectively, the "CMU patents in suit"), which purportedly relate to read-channel integrated circuit devices and the HDD products incorporating such devices. The complaint seeks unspecified damages and an injunction. On June 1, 2009, MSI and the Company filed their answers and MSI filed counterclaims to the complaint seeking declaratory judgments of non-infringement and invalidity as to both of the asserted patents. The claim construction hearing was held on April 12 and 13, 2010. On April 29, 2010, MSI and the Company filed their amended answers and counterclaims. The Court issued a Markman ruling on October 1, 2010. MSI and the Company filed a motion for partial summary judgment of invalidity on December 22, 2010, which was denied on September 28, 2011. MSI and the Company filed a second motion for partial summary judgment of invalidity on November 2, 2011, which was denied on April 10, 2012. On April 20, 2012, MSI and the Company filed a motion for partial summary judgment of no infringement and no damages with respect to extraterritorial conduct, a summary judgment motion of no infringement and no damages with respect to licensed use and a summary judgment motion of non-infringement regarding certain claims. A hearing on summary judgment motions was held on July 10 and 11, 2012. On August 24, 2012, the Court granted in part and denied in part the motion of no infringement and no damages with respect to extraterritorial conduct; granted in part and denied in part the motion of no infringement and no damages with respect to licensed use; and granted the motion of non-infringement regarding certain claims. A jury trial began on November 26, 2012. In pre-trial proceedings, CMU alleged past damages in the amount of approximately \$1.2 billion through July 2012, and also seeks enhanced damages, ongoing royalties, pre-judgment interest and attorneys' fees. MSI and the Company strongly dispute their liability and the damages claimed by CMU, and further believe that they do not infringe any valid and enforceable claims of the asserted CMU patents in suit and intend to litigate this action vigorously (including any potential appeal, as necessary). Based on the nature of the litigation, the Company is currently unable to predict the final outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

***Section 16(b) Litigation.*** On October 9, 2007, a purported shareholder of the Company filed a complaint for violation of Section 16(b) of the Exchange Act, which prohibits short swing trading, against the Company's IPO underwriters. The complaint *Vanessa Simmonds v. The Goldman Sachs Group, et al.*, Case No. C07-1632 filed in District Court for the Western District of Washington, seeks the recovery of short swing profits. The Company is named as a nominal defendant only, and no recovery is sought from the Company. In March 2009, the district court granted a motion to dismiss filed by the underwriter defendants, which caused the case against the Company to be dismissed. The plaintiff appealed to the U.S. Court of Appeals for the Ninth Circuit, and in December 2010, the Ninth Circuit reversed the dismissal and remanded to the district court. On January 25, 2011, the Ninth Circuit entered an order staying the mandate pending the filing of petitions for writ of certiorari in the United States Supreme Court by the underwriter defendants. Both sides have filed petitions for writ of certiorari to the United States Supreme Court. The Supreme Court denied plaintiff's writ, but granted the underwriters' writ, which argued that the case should have been dismissed on statute of limitations grounds. On March 26, 2012, the U.S. Supreme Court issued its opinion in the case. The Court vacated and remanded the Ninth Circuit's decision and held that the two-year statute of limitations for actions under Section 16(b) is not automatically subject to equitable tolling pending the filing of the public disclosure statement required by Section 16(a) of the Act. On May 15, 2012, the Ninth Circuit entered an order remanding the cases of the non-moving issuer defendants (including the Company) to the District Court for proceedings consistent with the opinion of the U.S. Supreme Court and dismissing with prejudice the cases of the moving issuer defendants. On June 11, 2012, the plaintiff filed a Notice of Dismissal in the District Court, dismissing the action against the Company with prejudice as to the adequacy of the pre-suit demand letters in accordance with the Ninth Circuit's opinion and without prejudice as to all other issues.

The case proceeded to trial on September 20, 2010. On November 24, 2010, a Santa Clara County jury returned a verdict in favor of MSI on all claims. On January 7, 2011, the court entered judgment in MSI’s favor. Pursuant to California Civil Procedure provisions, Jasmine filed motions for a new trial and for a judgment notwithstanding the verdict. These motions were heard by the court on February 25, 2011 and denied in written orders. Jasmine has appealed and MSI is contesting the appeal vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*Wage and Hour Class Action.* On October 18, 2006, Dan Holton (“Holton”), a former employee of MSI, filed a civil complaint in Santa Clara County Superior Court. Holton alleges that MSI misclassified him as an exempt employee. Holton claims that due to its misclassification MSI owes him unpaid wages for overtime, penalties for missed meal periods, and various other penalties under the California Labor Code, as well as interest. Holton also pursues a cause of action for unfair business practices under the California Business & Profession Code. Holton brought his complaint as a class action. On July 8, 2009, the court granted certification of the following class: “All Individual Contributor Engineers who held the title of PCB Designer, Associate Engineer, Engineer, Staff Engineer and Senior Engineers, who at any time during the class period while holding these positions did not have a degree above a baccalaureate degree nor a degree above a baccalaureate degree in a field of science related to the work performed, and worked for MSI in California, at any time from October 19, 2002 through the present.” MSI disputed all of plaintiff’s class claims. On November 23, 2011, the parties executed a settlement agreement and plaintiffs filed their motion for preliminary approval of the settlement. The settlement was preliminarily approved by the Court on March 16, 2012. No class members objected to the settlement, and the Court approved the settlement at the final settlement approval hearing on July 6, 2012. The settlement amount, which was recorded in the Company’s financial statements in fiscal 2012, was not material to the Company’s results of operations.

*USEI Litigation.* On October 9, 2009, U.S. Ethernet Innovations, LLC (“USEI”) filed a complaint in the United States District Court for the Eastern District of Texas, in which USEI has accused a number of system manufacturers, including the Company’s customers, of patent infringement (the “USEI litigation”). Specifically, USEI has asserted that these customers infringe U.S. Patent Nos. 5,307,459, 5,434,872, 5,732,094 and 5,299,313 (collectively, the “USEI patents in suit”), which purportedly relate to Ethernet technologies. The complaint seeks unspecified damages and an injunction.

On May 4, 2010, MSI filed a motion to intervene in the USEI litigation, which was granted on May 19, 2010. On July 13, 2010, the court issued an order granting the Defendants’ motion to transfer the action to the Northern District of California; the case was formally transferred on August 23, 2010. On September 14, 2011, USEI withdrew its allegations against MSI for the ‘459 patent. On October 21, 2011, the court conducted a claim construction hearing, and a ruling was issued on January 31, 2012. A supplemental claim construction hearing was held on May 3, 2012, and a ruling was issued on August 29, 2012. MSI believes that it does not infringe any valid and enforceable claim of the USEI patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*Lake Cherokee Patent Litigation.* On June 30, 2010, Lake Cherokee Hard Drive Technologies, L.L.C. filed a complaint in the United States District Court for the Eastern District of Texas. The complaint names MSI and seven other defendants, and alleges infringement of U.S. Patent Nos. 5,844,738 and 5,978,162 (collectively, the “Lake Cherokee patents in suit”). The Lake Cherokee patents in suit purportedly relate to read-channel integrated circuit devices, and allegedly, to certain unspecified HDD products incorporating such devices. The complaint seeks unspecified damages and a permanent injunction. MSI filed its answer and counterclaims to the complaint on September 13, 2010. Defendants filed a motion to transfer on April 1, 2011, which was denied on February 13, 2012. Lake Cherokee filed an amended complaint on April 21, 2011. MSI filed its answer and counterclaims to the amended complaint on May 9, 2011. A claim construction hearing was held on May 14, 2012, and a ruling was issued on August 6, 2012. Trial is set for August 5, 2013. MSI believes that it does not infringe any valid and enforceable claim of the Lake Cherokee patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*APT Patent Litigations.* On January 18, 2011, Advanced Processor Technologies, LLC (“APT”), a subsidiary of Acacia Research Corp., filed a complaint in the United States District Court for the Eastern District of Texas. The complaint names MSI and eight other defendants and alleges infringement of U.S. Patent Nos. 6,047,354 (“‘354 patent”) and 5,796,978 (“‘978 patent”). The asserted patents purportedly relate to microprocessor technologies. The complaint seeks unspecified damages and a permanent injunction. A first amended complaint was filed on January 26, 2011. The first amended complaint continues to assert the ‘354 patent against MSI, but appears to no longer assert the ‘978 patent against MSI. MSI filed its answer and counterclaims on April 15, 2011. A claim construction hearing is scheduled for January 29, 2013, and jury selection is set for July 1, 2013. On March 23, 2012, APT filed a separate complaint in the United

MARVELL TECHNOLOGY GROUP LTD.  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

States District Court for the Eastern District of Texas. The complaint alleges that MSI infringes U.S. Patent Nos. 6,092,172 and 6,629,207. The asserted patents purportedly relate to microprocessor technologies. The complaint seeks unspecified damages and a permanent injunction. MSI filed its answer and counterclaims on May 25, 2012. A claim construction hearing is scheduled for May 14, 2013 and jury selection is set for January 6, 2014. A motion to consolidate the pre-trial schedule of the first case with the second case was filed on November 7, 2012. In both cases, ARM filed a motion to intervene on July 23, 2012 and a motion to transfer on July 27, 2012. MSI believes that it does not infringe any valid and enforceable claim of the APT patents in suit, and intends to litigate these actions vigorously. The Company is currently unable to predict the outcome of these lawsuits and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*MOSAID Litigation.* On March 16, 2011, MOSAID Technologies Inc. filed suit in the United States District for the Eastern District of Texas against MSI and 16 other companies. The complaint alleges that defendants' products, which operate in compliance with the IEEE 802.11a, 802.11b, 802.11g, and 802.11n standards, infringe the six asserted patents (U.S. Patent Nos. 5,131,006; 5,151,920; 5,422,887; 5,706,428; 6,563,768; 6,992,972). MSI filed its answer and counterclaims on June 9, 2011. On March 28, 2012, MSI and other defendants filed a motion to transfer. A claim construction hearing is scheduled for April 16, 2013 and jury selection is set for January 8, 2014. MSI believes that it does not infringe any valid and enforceable claim of the MOSAID patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*Azure Networks Litigation.* On March 22, 2011, Azure Networks, LLC and Tri-County Excelsior Foundation filed suit in the Eastern District of Texas against MSI and eight other companies. The Complaint asserts U.S. Patent No. 7,756,129 against MSI's Bluetooth products. MSI filed its answer and counterclaims on July 20, 2011. On December 9, 2011, defendants filed a motion to dismiss or transfer venue to S.D.N.Y. or, alternatively, to N.D. Cal., which was denied on June 25, 2012. On November 2, 2012, defendants filed a motion for summary judgment of invalidity. A claim construction hearing and hearing on defendants' motion for summary judgment is scheduled for November 29, 2012 and trial is set for November 12, 2013. MSI believes that it does not infringe any valid and enforceable claim of the Azure Networks patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*Power Management Systems Litigation.* On August 22, 2011, Power Management Systems LLC ("PMS"), a subsidiary of Acacia Research Corp., filed a complaint against the Company's subsidiary Marvell Semiconductor, Ltd. ("MSL") and other defendants, in the United States District Court for the District of Delaware. The complaint asserts U.S. Patent No. 5,504,909, which purportedly relates to a power management apparatus, against various products. The complaint seeks unspecified damages. On October 17, 2011, PMS amended its complaint by substituting MSL with MSI. MSI filed its answer and counterclaims on November 4, 2011. A claim construction hearing is scheduled for January 18, 2013 and trial is set for March 3, 2014. MSI believes that it does not infringe any valid and enforceable claim of the PMS' patent in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*HSM/TPL Litigation.* On September 1, 2011, HSM Portfolio, LLC and Technology Properties Limited, LLC filed a complaint against the Company and MSL in the United States District Court for the District of Delaware. The complaint also named numerous other defendants. The complaint asserts U.S. Patent No. 5,030,853, purportedly relating to high speed logic and memory circuitry, against various products. The complaint seeks unspecified damages. On January 9, 2012, HSM/TPL filed an amended complaint adding MSI to the case. On February 15, 2012, the Company and MSL were dismissed from the case. On July 18, 2012, HSM filed a second amended complaint against MSI, and MSI filed its answer and counterclaims on August 13, 2012. MSI believes that it does not infringe any valid and enforceable claim of the HSM/TPL patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*France Telecom Litigation.* On June 26, 2012, France Telecom S.A. ("France Telecom") filed a complaint against MSI in the United States District Court for the Southern District of New York. The complaint asserts U.S. Patent No 5,446,747 (the "'747 patent") against MSI's communications processors and thin modems. The complaint seeks unspecified damages as well as injunctive relief. MSI answered the complaint on July 18, 2012 and August 1, 2012. On July 30, 2012, MSI filed a motion to transfer the lawsuit to the United States District Court for the Northern District of California. On September 17, 2012, the Court granted MSI's motion and transferred the case to the Northern District of California. A case management conference has been set in the Northern District of California for January 24, 2013. No new trial date has been set. MSI believes that it does not infringe any valid and enforceable claim of the '747 patent, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*Freescale Litigation.* On July 6, 2012, Freescale Semiconductor, Inc. ("Freescale") filed a complaint against MSI in the United States District Court for the Western District of Texas. The complaint asserts U.S. Patent Nos. 6,920,316, 5,825,640, 5,943,274, 5,467,455 and



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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

7,927,927 (collectively, the “Freescale patents in suit”) against certain of the Company’s integrated circuits and/or chipsets. The complaint seeks unspecified damages and a permanent injunction. On September 17, 2012, MSI filed a motion to dismiss the complaint for failure to state a claim pursuant to FRCP 12(b)(6) as to direct infringement of U.S. Patent No. 7,927,927, indirect infringement of the Freescale patents in suit, and willful infringement of the Freescale patents in suit. MSI believes that it does not infringe any valid and enforceable claim of the Freescale patents in suit, and intends to litigate this action vigorously. The Company is currently unable to predict the outcome of this lawsuit and therefore cannot determine the likelihood of loss nor estimate a range of possible loss.

*General.* The Company is also party to various other legal proceedings and claims arising in the normal course of business. The legal proceedings and claims described above could result in substantial costs and could divert the attention and resources of the Company’s management. Although the legal responsibility and financial impact with respect to each of these proceedings and claims cannot currently be ascertained, an unfavorable outcome in any of such actions could have a material adverse effect on the Company’s cash flows. As to each of the ongoing legal matters mentioned above, the Company is unable to predict its outcome and therefore cannot determine the likelihood of loss nor estimate a range of possible loss. Litigation is subject to inherent uncertainties and unfavorable rulings could occur. An unfavorable ruling in litigation could require the Company to pay damages or one-time license fees or royalty payments and could prevent the Company from manufacturing or selling some of its products or limit or restrict the type of work that employees involved in such litigation may perform for the Company, any of which could adversely affect financial results in future periods. The Company believes that it competes lawfully and that its marketing, business and intellectual property benefit its customers and shareholders, and it will continue to conduct a vigorous defense in these proceedings. There can be no assurance that these matters will be resolved in a manner that is not adverse to the Company’s business, financial condition, results of operations or cash flows.

***Indemnities, Commitments and Guarantees***

During its normal course of business, the Company has made certain indemnities, commitments and guarantees under which it may be required to make payments in relation to certain transactions. These indemnities include intellectual property indemnities to the Company’s customers in connection with the sales of its products, indemnities for liabilities associated with the infringement of other parties’ technology based upon the Company’s products, indemnities to various lessors in connection with facility leases for certain claims arising from such facility or lease, and indemnities to directors and officers of the Company to the maximum extent permitted under the laws of Bermuda. In addition, the Company has contractual commitments to various customers, which could require the Company to incur costs to repair an epidemic defect with respect to its products outside of the normal warranty period if such defect were to occur. The duration of these indemnities, commitments and guarantees varies, and in certain cases, is indefinite. Some of these indemnities, commitments and guarantees do not provide for any limitation of the maximum potential future payments that the Company could be obligated to make. In general, the Company does not record any liability for these indemnities, commitments and guarantees in the accompanying unaudited condensed consolidated balance sheets as the amounts, if any, cannot be reasonably estimated. The Company does, however, accrue for losses for any known contingent liability, including those that may arise from indemnification provisions, when future payment is probable.

**Note 10. Shareholders’ Equity**

***Stock Plans***

Activity under the Company’s stock option plans for the nine months ended October 27, 2012 is summarized below (in thousands, except per share amounts):

	Time-Based Options		Market-Based Options		Total	
	Number of Shares	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price	Number of Shares	Weighted Average Exercise Price
Balance at January 28, 2012	52,467	\$ 12.53	3,124	\$ 15.43	55,591	\$ 12.70
Granted	6,935	\$ 14.69	—	\$ —	6,935	\$ 14.69
Exercised	(4,714)	\$ 6.67	—	\$ —	(4,714)	\$ 6.67
Canceled/Forfeited	(2,814)	\$ 16.04	(361)	\$ 15.43	(3,175)	\$ 15.97
Balance at October 27, 2012	51,874	\$ 13.16	2,763	\$ 15.43	54,637	\$ 13.28
Vested or expected to vest at October 27, 2012	50,620	\$ 13.13				

For time-based stock options vested and expected to vest at October 27, 2012, the aggregate intrinsic value was \$14.1 million and the weighted average remaining contractual term was 4.5 years. For time-based stock options exercisable at October 27, 2012, the aggregate

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

intrinsic value was \$11.6 million and the weighted average remaining contractual term was 3.5 years. There was no aggregate intrinsic value for market-based stock options at October 27, 2012 and the weighted average remaining contractual term of market-based stock options vested and expected to reach the end of the vesting period at October 27, 2012 was 8.5 years. The Company's closing stock price as reported on the NASDAQ Global Select Market for all in-the-money options as of October 26, 2012 is used to calculate the aggregate intrinsic value.

As of October 27, 2012, the unamortized compensation expense for time-based stock options was \$47.6 million and market-based stock options was \$6.0 million. The unamortized compensation expense for time-based and market-based stock options will be amortized on a straight-line basis and is expected to be recognized over a weighted-average period of 2.5 years and 1.2 years, respectively.

Included in the following table is activity related to the non-vested portion of the restricted stock units for the nine months ended October 27, 2012 (in thousands, except for prices):

	<b>Restricted Stock Units Outstanding</b>	<b>Weighted Average Grant Date Fair Value</b>
Balance at January 28, 2012	9,646	\$ 17.38
Granted	7,113	\$ 14.90
Vested	(2,585)	\$ 17.69
Canceled/Forfeited	(1,266)	\$ 17.36
Balance at October 27, 2012	<u>12,908</u>	<u>\$ 15.96</u>

The fair value of each restricted stock unit is estimated based on the market price of the Company's common shares on the date of grant less the expected dividend yield. As of October 27, 2012, compensation costs related to restricted stock units not yet recognized amounted to \$148.7 million. The unamortized compensation expense for restricted stock units will be amortized on a straight-line basis and is expected to be recognized over a weighted-average period of 1.6 years.

***Employee Stock Purchase Plan***

During the three months ended October 27, 2012 and October 29, 2011, the Company issued no shares under the 2000 Employee Stock Purchase Plan, as amended and restated (the "ESPP"). A total of 3.3 million shares were issued at a weighted-average price of \$10.40 per share in the nine months ended October 27, 2012 and a total of 2.4 million shares were issued at a weighted-average price of \$12.57 in the nine months ended October 29, 2011 under the ESPP. As of October 27, 2012, there was \$46.5 million of unrecognized compensation cost related to the ESPP.

***Share Repurchase Program***

The Company repurchased 22.9 million of its common shares for \$203.0 million in cash during the three months ended October 27, 2012 and 15.0 million of its common shares for \$215.2 million in cash during the three months ended October 29, 2011. The Company repurchased 57.3 million of its common shares for \$676.5 million in cash during the nine months ended October 27, 2012 and 74.3 million of its common shares for \$1.2 billion in cash during the nine months ended October 29, 2011. The repurchased shares were retired immediately after the repurchases were completed. As of October 27, 2012, a total of 150.0 million cumulative shares have been repurchased under the Company's share repurchase program for a total \$2.1 billion in cash and there was \$395.2 million remaining available for future share repurchases.

### Dividend Program

In May 2012, the Company announced the initiation of paying its first quarterly dividend of \$0.06 per share. The Company intends to pay a regular quarterly cash dividend on its common shares subject to, among other things, the best interests of its shareholders, the Company's results of operations, cash balances and future cash requirements, financial condition, statutory requirements of Bermuda law and other factors that the Company's board of directors may deem relevant. As a result, cash dividends of \$0.06 per share were paid for a total of \$33.5 million in the three months ended October 27, 2012 and a total of \$67.0 million in the nine months ended October 27, 2012.

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## MARVELL TECHNOLOGY GROUP LTD. NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)

On November 15, 2012, the Company announced that its board of directors declared a cash dividend of \$0.06 per share to be paid on December 21, 2012 to shareholders of record as of December 13, 2012.

### Note 11. Share-Based Compensation

The following table presents details of share-based compensation expenses by functional line item (in thousands):

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Cost of goods sold	\$ 1,944	\$ 1,940	\$ 5,842	\$ 5,551
Research and development	22,565	21,905	62,152	63,626
Selling and marketing	3,101	3,402	9,595	9,263
General and administrative	2,764	3,364	13,205	10,006
	<u>\$ 30,374</u>	<u>\$ 30,611</u>	<u>\$ 90,794</u>	<u>\$ 88,446</u>

Share-based compensation capitalized in inventory was \$1.6 million at October 27, 2012 and \$2.1 million at January 28, 2012.

### Valuation Assumptions

The following weighted average assumptions were used for each respective period to calculate the fair value of each time-based stock option award on the date of grant using the Black-Scholes valuation model and of each market-based equity award using a Monte Carlo simulation model:

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
<b>Time-based Stock Options:</b>				
Weighted average fair value	\$ 3.27	\$ 5.97	\$ 5.57	\$ 6.08
Expected volatility	46%	49%	44%	43%
Expected term (in years)	4.8	4.8	4.8	4.8
Risk-free interest rate	0.7%	1.0%	0.9%	2.0%
Expected dividend yield	2.3%	—	0 - 2.3%	—

Nine Months Ended

**Market-based Stock Options:**

Weighted average fair value	\$ —	\$ 5.08
Expected volatility	— %	42%
Risk-free interest rate	— %	0.9 - 3.6%

There were no market-based stock options granted during the three and nine months ended October 27, 2012 or during the three months ended October 29, 2011. The above table includes market-based stock options granted during the three months ended April 30, 2011. The fair value of each market-based stock option award is estimated on the date of grant using a Monte Carlo simulation model that uses the assumptions noted in the above table, including the same volatility applied to the Company's time-based options. Because a Monte Carlo simulation model incorporates ranges of assumptions for inputs, those ranges are disclosed where applicable. The Company uses historical data to estimate employee termination within the valuation model. The expected term of 2.66 years for market-based stock options granted during the three months ended April 30, 2011 was derived from the output of the valuation model and represents the period of time that options granted are expected to be outstanding.

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**MARVELL TECHNOLOGY GROUP LTD.**  
**NOTES TO UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS – (Continued)**

	Nine Months Ended	
	October 27, 2012	October 29, 2011
<b>Employee Stock Purchase Plan:</b>		
Estimated fair value	\$ 3.77	\$ 4.09
Volatility	39%	46%
Expected term (in years)	1.3	0.5
Risk-free interest rate	0.2%	0.2%
Dividend yield	2.0%	—

Under the ESPP, there were no stock purchase rights granted in the three months ended October 27, 2012 and October 29, 2011. The expected volatility for awards granted during the nine months ended October 27, 2012 and October 29, 2011 is based on an equally weighted combination of historical stock price volatility and implied volatility derived from traded options on the Company's stock in the marketplace.

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[Table of Contents](#)**Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**

*This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which are subject to the "safe harbor" created by those sections. These statements involve known and unknown risks, uncertainties and other factors, which may cause our actual results to differ materially from those implied by the forward-looking statements. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates," "can," and similar expressions identify such forward-looking statements. We make a number of forward-looking statements that relate to future periods and include statements relating to our anticipation that the rate of new orders and shipments may vary significantly from quarter to quarter; our expectations regarding industry trends; our expectations regarding the impact of the flooding in Thailand; our expectations regarding our inventory levels; our expectations regarding the amount of our future sales in Asia; our expectations regarding competition; our expectations relating to the protection of our intellectual property; our expectations regarding the amount of customer concentration in the future; our plans and expectations regarding our auction rate securities; our expectations regarding acquisitions, investments, strategic alliances and joint ventures; our*

expectations regarding net revenue, cost of goods sold as a percentage of revenue and operating expense; for the fourth quarter ending February 2, 2013 compared with the third quarter ended October 27, 2012; our expectations regarding the growth of solid state drive revenue; our expectations regarding the impact of legal proceedings and claims; our ability to meet our capital needs for at least the next 12 months; our ability to attract and retain highly skilled personnel; our expectations regarding future growth opportunities; our plan regarding forward exchange contracts and the effect of foreign exchange rates; our expectations regarding unrecognized tax benefits; the effect of recent accounting pronouncements and changes in taxation rules; our expectation regarding the effectiveness of our hedges of foreign currency exposures; our expectations that quarterly operating results will fluctuate from quarter to quarter; our expectations regarding the current economic environment; our expectations regarding arrangements with suppliers; our expectations regarding our ability to develop and introduce new products and achieve market acceptance of our products; our expectations regarding pricing; our expectations regarding demand for our products and the impact of seasonality on demand; our expectations regarding defects; our expectations regarding the implementation and improvement of operational and financial systems, as well as the implementation of additional procedures and other internal management systems; our expectations regarding gross margin and the events that may cause gross margin to fluctuate; our expectations to transition our semiconductor products to increasingly smaller line width geometries; our expectations regarding the portion of our operations and sales outside of the United States; our expectations regarding the adequacy of our internal control over financial reporting; our expectations regarding future impairment review of our goodwill and intangible assets; and the anticipated features and benefits of our technology solutions. These forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from those indicated in the forward-looking statements. Factors that could cause actual results to differ materially from those predicted, include but are not limited to, the impact of international conflict and continued economic volatility in either domestic or foreign markets; our dependence upon the hard disk drive and mobile and wireless markets, which are highly cyclical and intensely competitive; our ability to successfully compete in the markets in which we serve; the outcome of pending or future litigation and legal proceedings; our ability to scale our operations in response to changes in demand for existing or new products and services; our maintenance of an effective system of internal controls; our dependence on a small number of customers; our ability and our customers' ability to develop new and enhanced products; our success in integrating businesses we acquire and the impact such acquisitions may have on our operating results; our ability to estimate customer demand and future sales accurately; the success of our strategic relationships; our reliance on independent foundries and subcontractors for the manufacture, assembly and testing of our products; our ability to manage future growth; the development and evolution of markets for our integrated circuits; our ability to protect our intellectual property; the impact of any change in our application of the United States federal income tax laws and the loss of any beneficial tax treatment that we currently enjoy; the impact of changes in international financial and regulatory conditions and the impact of lengthy and expensive product sales cycles. Additional factors which could cause actual results to differ materially include those set forth in the following discussion, as well as the risks discussed in Part II, Item 1A, "Risk Factors," and other sections of this Quarterly Report on Form 10-Q. These forward-looking statements speak only as of the date hereof. Unless required by law, we undertake no obligation to update any forward-looking statements.

## Overview

We are a leading global semiconductor provider of high performance application specific standard products. Our core strength of expertise is the development of complex System-on-a-Chip devices leveraging our extensive portfolio of technology intellectual property in the areas of analog, mixed-signal, digital signal processing and embedded ARM-based microprocessor integrated circuits. We also develop platforms that we define as integrated hardware along with software that incorporates digital computing technologies designed and configured to provide an optimized computing solution compared to individual components. Our broad product portfolio includes devices for data storage, enterprise-class Ethernet data switching, Ethernet physical-layer transceivers, handheld cellular, Ethernet-based wireless networking, personal area networking, Ethernet-based PC connectivity, control plane communications controllers, video-image processing and power management solutions. Our products serve diverse applications used in carrier, metropolitan, enterprise and PC-client data communications and storage systems. Additionally, we serve the consumer electronics market for the convergence of voice, video and data applications. We are a fabless integrated circuit company, which means that we rely on independent, third party contractors to perform manufacturing, assembly and test functions. This approach allows us to focus on designing, developing and marketing our products and significantly reduces the amount of capital we need to invest in manufacturing products.

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A significant number of our products are being incorporated into consumer electronics products, including gaming devices, which are subject to significant seasonality and fluctuations in demand. Holiday and back to school buying trends may at times negatively impact our results in the first and fourth quarters and positively impact our results in the second and third quarters of our fiscal years.

A relatively large portion of our sales have historically been made on the basis of purchase orders rather than long-term agreements. In addition, the sales cycle for our products is long, which may cause us to experience a delay between the time we incur expenses and the time revenue is generated from these expenditures. We anticipate that the rate of new orders may vary significantly from quarter to quarter. Consequently, if anticipated sales and shipments in any quarter do not occur when expected, expenses and inventory levels could be disproportionately high, and our operating results for that quarter and future quarters may be adversely affected.

## Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States (“GAAP”) requires management to make estimates, judgments and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent assets and liabilities. Actual results could differ from these estimates, and such differences could affect the results of operations reported in future periods. For a description of our critical accounting policies and estimates, please refer to the “Critical Accounting Policies and Estimates” section of our Management’s Discussion and Analysis of Financial Condition and Results of Operations contained in our Annual Report on Form 10-K for the year ended January 28, 2012.

## Results of Operations

Our revenue during the third quarter of fiscal 2013 was down by 4% compared to the prior quarter and 18% compared to the third quarter of fiscal 2012. Continued slowdown in the global economy during the third quarter resulted in a weaker PC market than previously anticipated as we experienced lower demand from our hard disk drive (“HDD”) customers. We also experienced lower demand for wireless connectivity products due to an inventory correction at a major customer for wireless access points. We continued to see a decline in revenue for our mobile products as we are in a product transition phase within the TD-SCDMA market in China. Revenue for our solid state drive (“SSD”) products continued to grow as our solutions get adopted in the market.

Despite the lower revenue levels that we have experienced in recent periods, we remain confident in our investments and multiple near-term and long-term growth opportunities such as:

- In the mobile market, we believe we have a very strong roadmap based on our unified platform. We are encouraged by the early design activities from our customers who are building phones for both the TD-SCDMA and WCDMA markets. We believe this unified platform will allow us to effectively address both the top OEMs and the rapidly growing whitebox market. We expect customers to begin to bring their products to market early next year. In addition, we are now accelerating our TD and FDD-LTE roadmap and we expect customers to upgrade to these 4G platform solutions over the course of the next year to 18 months.
- In wireless connectivity, we have historically focused on providing integrated 1x1 combo solutions for the mobile market, which demands the lowest power consumption, and high-performance 4x4 solutions for the enterprise market, which demands the highest possible throughput. In addition to our continued strong presence in the 1x1 and 4x4 markets, we are now expanding our footprint by offering integrated 2x2 combo solutions for the tablet and ultrabook markets.
- In our storage business, despite the overall demand challenges within the PC market, we gained market share within HDDs as we have seen strong growth for our 500 gigabyte per platter products. In addition, we have continued to see strong growth for our SSD products. Although a smaller portion of our overall storage revenue, SSD revenue have continued to grow over the past few quarters, and as this market continues to expand and our customers continue to gain success, we will continue to benefit.
- In the networking market, we have outperformed the market during the past year, growing revenue by introducing products in new growth areas such as in passive optical network and 10 gigabyte switching, as well as the programmable network processors introduced following our acquisition of Xelerated. We believe as networks continue to evolve, we will have even more opportunities.

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Our financial position is strong and we also remain committed to deliver shareholder value through our share repurchase and dividend programs.

- Our cash, cash equivalents and short-term investments were \$2.0 billion at October 27, 2012 and generated cash flow from operations of \$136 million during the third quarter of fiscal 2013.
- We paid a dividend of \$0.06 per share in the third quarter, and recently announced another dividend of \$0.06 per share to be paid during the fourth quarter of fiscal 2013.
- We repurchased an additional 22.9 million of common shares for \$203.0 million in cash during the quarter.

The following table sets forth information derived from our unaudited condensed consolidated statements of operations expressed as a percentage of net revenue:

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
Net revenue	100.0%	100.0%	100.0%	100.0%
Operating costs and expenses:				
Cost of goods sold	48.0	43.4	46.9	42.4
Research and development	33.8	28.0	32.7	28.6
Selling and marketing	4.9	4.3	5.0	4.5
General and administrative	3.1	3.0	3.2	2.9
Amortization and write-off of acquired intangible assets	1.7	1.2	1.7	1.4
Total operating costs and expenses	91.5	79.9	89.5	79.8
Operating income	8.5	20.1	10.5	20.2
Interest and other income (expense), net	0.3	0.9	0.4	0.3
Income before income taxes	8.8	21.0	10.9	20.5
Provision for income taxes	0.0	0.5	0.2	0.3
Net income	8.8%	20.5%	10.7%	20.2%

### Three and Nine Months Ended October 27, 2012 and October 29, 2011

#### Net Revenue

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
Net revenue	\$ 780,881	\$ 950,417	(17.8) %	\$ 2,393,336	\$ 2,650,339	(9.7)%

Net revenue for the three months ended October 27, 2012 declined 17.8% compared to the three months ended October 29, 2011 primarily due to declines in the storage end market. The total available market for the HDD market declined compared to the prior year as the global market for PC's contracted. Slightly offsetting this decline, our sales of SSD products increased significantly in the three months ended October 27, 2012 compared to the year-ago period as our products have begun to gain adoption in the market. Within our mobile and wireless end markets, net revenue from our leading North American handset customer declined compared to the year-ago period due to the continued competitive challenges that they face.

Net revenue for the nine months ended October 27, 2012 compared to the nine months ended October 29, 2011 declined 9.7%. In addition to the impacts of the above factors, the nine months ended October 27, 2012 benefited from the ramp of our TD-SCDMA products during the end of fiscal 2012 and beginning of fiscal 2013.

We currently expect overall net revenue for the three months ending February 2, 2013 to be in the range of \$700 million to \$740 million.

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Historically, a relatively small number of customers have accounted for a significant portion of our net revenue. Net revenue attributable to significant end customers is presented in the following table as a percentage of net revenue:

Customer	Three Months Ended			Nine Months Ended
	October 27, 2012	July 28, 2012	April 28, 2012	October 27, 2012
Western Digital	24%	26%	23%	24%

Customer	Three Months Ended			Nine Months Ended
	October 29, 2011	July 29, 2011	April 29, 2011	October 29, 2011
Western Digital	26%	27%	25%	26%

\* Less than 10% of net revenue

In May 2012, Western Digital acquired Hitachi's HDD unit. For compatibility purposes, we have presented the percentage of net revenue for Western Digital in the above tables to include the net revenue of the Hitachi HDD unit as if the acquisition had occurred at the beginning of the earliest period presented. In addition to the end customers reported above, one distributor accounted for more than 10% of our net revenue for the three and nine months ended October 27, 2012. For the comparable three and nine months ended October 29, 2011, no single distributor accounted for more than 10% of our net revenue.

Sales to customers located in Asia represented 92% and 90% of our net revenue for the three and nine months ended October 27, 2012, respectively, compared to 90% and 87% of our net revenue for the three and nine months ended October 29, 2011, respectively. A large portion of our OEM partners use contract manufacturing companies in Asia to manufacture their products. These contract manufacturing companies are generally considered our direct customer. Therefore, we expect that a significant portion of our net revenue will continue to come from customers in Asia.

#### Cost of Goods Sold

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Cost of goods sold	\$374,503	\$412,100	(9.1)%	\$1,122,664	\$1,124,692	(0.2)%
% of net revenue	48.0%	43.4%		46.9%	42.4%	

Cost of goods sold as a percentage of net revenue increased for the three and nine months ended October 27, 2012 compared to the three and nine months ended October 29, 2011. This was primarily due to the shift in the mix of our products sold to lower margin products as compared to the corresponding periods of fiscal 2012. In addition, average selling price declines outpaced the cost reductions received from our manufacturing partners. Our cost of goods sold as a percentage of net revenue may fluctuate in future periods due to, among other things, changes in the mix of products sold; the timing of production ramps of new products; increased pricing pressures from our customers and competitors, particularly in the consumer product markets that we are targeting; charges for obsolete or potentially excess inventory; changes in the costs charged by our foundry; assembly and test subcontractors; product warranty costs; changes in commodity prices such as gold; and the margin profiles of our new product introductions.

We currently expect cost of goods sold as a percentage of net revenue for the three months ending February 2, 2013 to be slightly lower compared to the three months ended October 27, 2012, due to a better mix of higher-margin products.

#### Share-Based Compensation Expense

	Three Months Ended		Nine Months Ended	
	October 27, 2012	October 29, 2011	October 27, 2012	October 29, 2011
	(in thousands)			
Cost of goods sold	\$ 1,944	\$ 1,940	\$ 5,842	\$ 5,551
Research and development	22,565	21,905	62,152	63,626
Selling and marketing	3,101	3,402	9,595	9,263
General and administrative	2,764	3,364	13,205	10,006
	<u>\$ 30,374</u>	<u>\$ 30,611</u>	<u>\$ 90,794</u>	<u>\$ 88,446</u>



Share-based compensation expense for the three and nine months ended October 27, 2012 included the recovery of previously recognized expense associated with unvested share-based awards that were cancelled as a result of the resignation in October 2012 of our chief financial officer. However, we recognized higher expenses as a result of higher headcount in fiscal 2013, combined with the impact of an increase in expense related to the employee stock purchase plan. The offering price of the employee stock purchase plan was reset in June 2012 due to the decline in our stock price. As a result, share-base compensation expense during the three months ended October 27, 2012 was essentially flat compared to the three months ended October 29, 2011, while it increased slightly in the nine months ended October 27, 2012 compared to the nine months ended October 29, 2011.

#### *Research and Development*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Research and development	\$ 263,615	\$ 266,255	(1.0)%	\$ 783,760	\$ 758,396	3.3%
% of net revenue	33.8%	28.0%		32.7%	28.6%	

Research and development expense decreased for the three months ended October 27, 2012 by \$2.6 million, primarily related to lower personnel-related expenses as compared to the three months ended October 29, 2011. Since personnel-related expenses in the three months ended October 29, 2011 included \$4.2 million in assessments related to payroll taxes in certain jurisdictions, excluding those amounts, personnel-related expenses in the three months ended October 27, 2012 reflect an increase due to higher costs associated with increased headcount in fiscal 2013 over fiscal 2012.

Research and development expense increased for the nine months ended October 27, 2012 by \$25.4 million, compared to the nine months ended October 29, 2011, primarily attributable to increased headcount to support new designs.

We currently expect that research and development expense for the three months ending February 2, 2013 will be higher than the three months ended October 27, 2012. This is driven primarily by the additional week in our quarter ending February 2, 2013, due to the timing of our fiscal calendar.

#### *Selling and Marketing*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Selling and marketing	\$ 38,398	\$ 40,500	(5.2)%	\$ 119,498	\$ 119,042	0.4%
% of net revenue	4.9%	4.3%		5.0%	4.5%	

Selling and marketing expense decreased for the three months ended October 27, 2012 by \$2.1 million, compared to the three months ended October 29, 2011. The decrease primarily reflects lower expenses for contractor services and other professional services as we continue to tightly manage this spending.

Selling and marketing expense increased for the nine months ended October 27, 2012 by \$0.5 million, compared to the nine months ended October 29, 2011. The increase was primarily attributable to increased trade show and marketing communication activities, which were partially offset by lower expenses for contractor and other professional services.

We currently expect that selling and marketing expense for the three months ending February 2, 2013 will be higher than the level of expense reported for the three months ended October 27, 2012. This is driven primarily by the additional week in our quarter ending February 2, 2013, due to the timing of our fiscal calendar.

#### *General and Administrative*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
General and administrative	\$ 24,514	\$ 29,021	(15.5)%	\$ 75,937	\$ 77,436	(1.9)%

General and administrative expense for the three and nine months ended October 27, 2012 decreased by \$4.5 million and \$1.5 million, respectively, compared to the three and nine months ended October 29, 2011. These decreases were due primarily to lower share-based compensation expense combined with lower legal expenses as legal expenses in the comparable period included certain legal settlements.

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We currently expect that general and administrative expense for the three months ending February 2, 2013 will be higher than the level of expense reported for the three months ended October 27, 2012. This is driven primarily by the additional week in our quarter ending February 2, 2013, due to the timing of our fiscal calendar.

*Amortization and Write-Off of Acquired Intangible Assets*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Amortization and write-off of acquired intangible assets	\$ 13,054	\$ 11,155	17.0%	\$ 40,432	\$ 36,634	10.4%
% of net revenue	1.7%	1.2%		1.7%	1.4%	

Amortization and write-off of acquired intangible assets for the three and nine months ended October 27, 2012 increased by \$1.9 million and \$3.8 million, respectively, as compared to the three and nine months ended October 29, 2011. These increases were primarily due to the intangible assets acquired in the fourth quarter of fiscal 2012 from a small acquisition. Also, amortization and write-off of acquired intangible assets for the nine months ended October 27, 2012 included a \$0.8 million write-off of in-process research and development related to an abandoned project. These increases were partially offset by certain intangible assets acquired in earlier acquisitions that became fully amortized.

*Interest and Other Income, Net*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Interest and other income, net	\$ 2,387	\$ 7,729	(69.1)%	\$ 9,308	\$ 9,575	(2.8)%
% of net revenue	0.3%	0.9%		0.4%	0.3%	

Interest and other income, net, decreased for the three months ended October 27, 2012, compared to the three months ended October 29, 2011 primarily due to the impact of the relative weakening of the U.S. dollar on our foreign currency denominated tax liabilities. This was partially offset by lower interest income in the three and nine months ended October 27, 2012 from lower average cash and investment balances, as well as a lower rate of return.

Interest and other income, net, decreased slightly for the nine months ended October 27, 2012, compared to the nine months ended October 29, 2011 primarily due to lower interest income from lower average cash and investment balances, as well as lower rate of return.

*Provision for Income Taxes*

	Three Months Ended			Nine Months Ended		
	October 27, 2012	October 29, 2011	% Change	October 27, 2012	October 29, 2011	% Change
	(in thousands, except percentage)					
Provision for income taxes	\$ 368	\$ 3,994	(90.8)%	\$ 3,920	\$ 9,340	(58.0)%
% of net revenue	— %	0.5%		0.2%	0.3%	

The income tax provision for the three and nine months ended October 27, 2012 included the current income tax liability of \$5.9 million and \$14.5 million, respectively, which was primarily offset by net reductions in unrecognized tax benefits of \$5.5 million in the three months ended October 27, 2012 and \$11.5 million in the nine months ended October 27, 2012. These net reductions in unrecognized tax benefits primarily arose from the expiration of statute of limitations and from the settlement of audits in non-U.S. jurisdictions less increases in current unrecognized tax benefit estimates.

The income tax provision for the three and nine months ended October 29, 2011 included the current income tax liability of \$5.9 million and \$14.2 million, respectively, which was partially offset by a net reduction in unrecognized tax benefits of \$2.8 million in the three months ended October 29, 2011 and \$6.2 million in the nine months ended October 29, 2011 primarily due to the expiration of the statute of limitations in non-U.S. jurisdictions less increases in current unrecognized tax benefit estimates.

During the next 12 months, it is reasonably possible that the amount of unrecognized tax benefits could decrease due to a potential settlement with tax authorities and/or the expiration of applicable statutes of limitations. However, the amount cannot be reasonably estimated as we will have negotiations with various tax authorities throughout the year.

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### **Liquidity and Capital Resources**

Our principal source of liquidity as of October 27, 2012 consisted of approximately \$2.0 billion of cash, cash equivalents and short-term investments. We believe that our existing cash, cash equivalents and short term investments, together with cash generated from operations and from the issuance of common shares through our employee stock option and purchase plans, will be sufficient to cover our working capital needs, capital expenditures, investment requirements, commitments, repurchases of our common shares and payment of quarterly dividends for at least the next 12 months. To the extent that our existing cash, cash equivalents and short-term investments and cash generated by operations are insufficient to fund our future activities, we may need to raise additional funds through public or private debt or equity financing. We may enter into additional acquisitions of businesses, assets, products, technologies or other strategic arrangements in the future, which could also require us to seek debt or equity financing. If we elect to raise additional funds, we may not be able to obtain such funds on a timely basis or on acceptable terms, if at all. If we raise additional funds by issuing additional equity or convertible debt securities, the ownership percentages of existing shareholders would be reduced. In addition, the equity or debt securities that we issue may have rights, preferences or privileges senior to our common shares.

#### ***Net Cash Provided by Operating Activities***

Net cash provided by operating activities was \$524.4 million for the nine months ended October 27, 2012. The cash inflows from operations for the nine months ended October 27, 2012 were due to \$458.8 million of net income adjusted for non-cash items and positive working capital changes of \$65.6 million. The increase in working capital for the nine months ended October 27, 2012 was primarily driven by a decrease in accounts receivable and inventories due to lower shipments on lower sales combined with a decrease in prepaid expenses and other assets. This positive impact on working capital was partially offset by a decrease in accounts payable caused by lower spending as production activity declined in the latter part of the third quarter of fiscal 2013.

Net cash provided by operating activities was \$702.1 million for the nine months ended October 29, 2011. The cash inflows from operations in the nine months ended October 29, 2011 were primarily due to \$740.6 million of net income adjusted for non-cash items, offset by a negative effect from changes in working capital.

#### ***Net Cash Provided by and (Used in) Investing Activities***

Net cash provided by investing activities was \$45.9 million for the nine months ended October 27, 2012 compared to net cash used in investing activities of \$593.9 million for the nine months ended October 29, 2011. For the nine months ended October 27, 2012, net cash provided by investing activities was primarily generated from the sale and maturities of marketable securities of \$1.3 billion less purchases of marketable securities of \$1.2 billion. The net cash inflow from marketable securities for the nine months ended October 27, 2012 was partially offset by the purchase of \$49.1 million of property and equipment and \$10.7 million of IP licenses.

For the nine months ended October 29, 2011, net cash used in investing activities was primarily due to net purchases of marketable securities of \$499.7 million. In addition, we paid \$62.3 million for the purchase of property and equipment, \$18.8 million for acquisitions and \$9.6 million for technology licenses.

#### ***Net Cash Used in Financing Activities***

Net cash used in financing activities was \$687.0 million for the nine months ended October 27, 2012 compared to net cash used in financing activities of \$1.1 billion for the nine months ended October 29, 2011. For the nine months ended October 27, 2012, net cash used in financing activities was primarily attributable to repurchases under our share repurchase program of 57.3 million of its common shares in the open market for \$676.5 million and the payment of our quarterly dividends of \$67.0 million. The cash outflow was partially offset by net proceeds of \$56.4 million from the issuance of our common shares under our share-based plans less the minimum tax withholding paid on behalf of employees for net share settlements. For the nine months ended October 29, 2011, net cash used in financing activities was primarily attributable to repurchases under our share repurchase program of 74.3 million of its common shares in the open market for \$1.2 billion. The cash outflow was partially offset net proceeds of \$50.4 million from the issuance of common shares under our share-based plans less the minimum tax withholding paid on behalf of employees for net share settlements.

Subsequent to the end of the quarter through November 21, 2012, we repurchased an additional 1.5 million of our common shares for \$11.5 million at an average price per share of \$7.68.

### **Off-Balance Sheet Arrangements**

As of October 27, 2012, we did not have any material off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

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### **Contractual Obligations**

We presented our contractual obligations at January 28, 2012 in our Annual Report on Form 10-K for the fiscal year then ended. There has been no material changes outside the ordinary course of business in those obligations during nine months ended October 27, 2012.

### **Item 3. *Quantitative and Qualitative Disclosures About Market Risk***

*Interest Rate Risk.* Our interest rate risk relates primarily to our fixed income short-term investment portfolio as we did not have any outstanding debt as of October 27, 2012. We maintain an investment policy that requires minimum credit ratings, diversification of credit risk and limits the long-term interest rate risk by requiring maturities of generally less than five years. We invest our excess cash primarily in highly liquid debt instruments of the U.S. government and its agencies, time deposits, money market mutual funds, and corporate debt securities. These investments are classified as available-for-sale and, consequently, are recorded on our balance sheets at fair market value with their related unrealized gain or loss reflected as a component of accumulated other comprehensive income in shareholders' equity. Investments in both fixed rate and floating rate interest earning securities carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely impacted due to a rise in interest rates, while floating rate securities may produce less income than predicted if interest rates fall.

To provide an assessment of the interest rate risk associated with our investment portfolio, we performed a sensitivity analysis to determine the impact that an adverse change in interest rates would have on the value of the investment portfolio. Based on investment positions as of October 27, 2012, a hypothetical 100 basis point increase in interest rates across all maturities would result in a \$14.9 million decline in the fair market value of the portfolio. Due to our positive cash flow from operations, the relatively short-term nature of our investment portfolio and our ability to hold investments to maturity, such change in fair market value would likely not have resulted in any cash flow impact.

As of October 27, 2012, our investment portfolio included \$19.5 million in par value of auction rate securities. Beginning in February 2008, liquidity issues in the global credit markets resulted in a failure of auction rate securities, as the amount of securities submitted for sale in those auctions exceeded the amount of bids. To estimate the fair value of the auction rate securities, we use a discounted cash flow model based on estimated timing and amount of future interest and principal payments. In developing the cash flow model, we consider the credit quality and liquidity of the underlying securities and related issuer, the collateralization of underlying security investments and other considerations. As of October 27, 2012, the fair value of auction rate securities was \$1.4 million less than par value and recorded in long-term investments.

Based on our balance of approximately \$2.0 billion in cash, cash equivalents and short-term investments, and the fact that we continue to generate positive cash flow on a quarterly basis, we do not anticipate having to sell these securities below par value and do not have the intent to sell these auction rate securities until recovery. Since we consider the impairment to be temporary, we recorded the unrealized loss to accumulated other comprehensive income, a component of shareholders' equity.

*Investment Risk.* We invest in equity instruments of privately held companies for strategic purposes. We account for these investments under the cost method when we do not have the ability to exercise significant influence or control over the operations of these companies and under the equity method when we have the ability to exercise significant influence, but do not have

control. Carrying value of these equity investments was \$11.4 million at October 27, 2012, and was included in other non-current assets in our balance sheets. We monitor these investments for impairment and make appropriate reductions in carrying value when an impairment is deemed to be other-than-temporary.

*Commodity Price Risk.* We are subject to risk from fluctuating market prices of certain commodity raw materials, particularly gold, that are incorporated into our end products. Supplies for such commodities may from time-to-time become restricted, or general market factors and conditions may affect the pricing of such commodities. Over the past few years, the price of gold increased significantly and certain of our supply chain partners assessed surcharges to compensate for the rising commodity prices. We are currently restructuring certain manufacturing processes to use copper instead of gold in our products. While we continue to attempt to mitigate the risk of similar increases in commodities-related costs, there can be no assurance that we will be able to successfully safeguard against potential short-term and long-term commodities price fluctuations. We do not enter into formal hedging arrangements to mitigate against commodity risk.

*Foreign Currency Exchange Risk.* Substantially all of our sales and the majority of our expenses are denominated in U.S. dollars. Since we operate in many countries, we pay certain payroll and other operating expenses in local currencies and these expenses may be higher or lower in U.S. dollar terms. Furthermore, our operation in Israel represents a large portion of our total foreign currency exposure. We may also hold certain assets and liabilities, including potential tax liabilities in local currency on our balance sheet. These tax liabilities would be settled in local currency. Therefore, foreign exchange gains and losses from remeasuring the tax liabilities are recorded to interest and other income,

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net. The related effects of foreign exchange fluctuations on local currency expenses are recorded to operating expenses. Significant fluctuations in exchange rates in countries where we incur expenses or record assets or liabilities in local currency could affect our business and operating results in the future. There is also a risk that our customers may be negatively impacted in their ability to purchase our products priced in U.S. dollars when there has been significant volatility in foreign currency exchange rates.

We engage in hedging transactions to help mitigate some of the volatility to forecasted cash flows due to changes in foreign exchange rates, and in particular hedge a portion of the forecasted Israeli shekel expenses. We enter into certain short-term forward exchange contracts, typically less than 12 months in duration, to hedge exposures for expenses and purchases denominated in foreign currencies when the currency exposure is significant and there is a high certainty of the underlying cash flow. We do not enter into derivative financial instruments for trading or speculative purposes. We may choose not to hedge certain foreign exchange exposures due to immateriality, offsetting exposures, prohibitive economic cost of hedging a particular currency, and limited availability of appropriate hedging instruments. To the extent our foreign currency hedges are effective, the results of the hedge activities offset the underlying expense within the operating expense. De-designated hedges or hedges deemed ineffective are recorded in interest and other income, net. We do not hedge our tax liabilities denominated in local currency on our balance sheet as the timing of these tax liabilities becoming cash flows is not deemed to be certain.

To provide an assessment of the foreign currency exchange risk associated with our foreign currency exposures within operating expense, we performed a sensitivity analysis to determine the impact that an adverse change in exchange rates would have on our financial statements. If the U.S. dollar weakened by 10%, our operating expense could increase by 3.4%. We expect our hedges of foreign currency exposures to be highly effective and offset a significant portion of the short-term impact of changes in exchange rates.

## **Item 4. Controls and Procedures**

### **Management's Evaluation of Disclosure Controls and Procedures**

Our management, with the participation of our Chief Executive Officer and our Interim Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Exchange Act). Our disclosure controls and procedures are designed to ensure that information required to be disclosed is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission ("SEC") and that such information is accumulated and communicated to management, including the Chief Executive Officer and Interim Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and Interim Chief Financial Officer concluded that, as of October 27, 2012, our disclosure controls and procedures were effective to provide reasonable assurance.

### **Changes in Internal Control Over Financial Reporting**

There were no changes in our internal control over financial reporting during the three months ended October 27, 2012 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

It should be noted that any system of controls, however well designed and operated, can provide only reasonable, and not absolute, assurance that the objectives of the system are met. The design of any control system is based, in part, upon the benefits of the control system relative to its costs. Control systems can be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the control. In addition, over time, controls may become inadequate because of changes in conditions, or the degree of compliance with the policies and procedures may deteriorate. In addition, the design of any control system is based in part upon certain assumptions about the likelihood of future events.

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## PART II. OTHER INFORMATION

### Item 1. Legal Proceedings

The information under the caption ‘Contingencies’ as set forth in “Note 9 – Commitments and Contingencies” of our notes to unaudited condensed consolidated financial statements, included in Part I, Item 1, is incorporated herein by reference. For additional discussion of certain risks associated with legal proceedings, see Part II, Item 1A, “Risk Factors,” immediately below.

### Item 1A. Risk Factors

*Before deciding to purchase, hold or sell our common shares, you should carefully consider the risks described below in addition to the other cautionary statements and risks described elsewhere and the other information contained in this Quarterly Report on Form 10-Q and in our other filings with the SEC, including our Annual Report on Form 10-K for the year ended January 28, 2012 and subsequent reports on Forms 10-Q and 8-K. Many of these risks and uncertainties are beyond our control, including business cycles and seasonal trends of the computing, semiconductor and related industries.*

***Our financial condition and results of operations may vary from quarter to quarter, which may cause the price of our common shares to decline.***

Our quarterly results of operations have fluctuated in the past and could do so in the future. Because our results of operations are difficult to predict, you should not rely on quarterly comparisons of our results of operations as an indication of our future performance.

Fluctuations in our results of operations may be due to a number of factors, including, but not limited to, those listed below and those identified throughout this “Risk Factors” section:

- changes in general economic and political conditions and specific conditions in the markets we address, including the continuing volatility in the technology sector and semiconductor industry;
- the highly competitive nature of the end markets we serve, and specifically within the semiconductor industry;
- any current and future litigation that could result in substantial costs and a diversion of management’s attention and resources that are needed to successfully maintain and grow our business;
- our dependence on a few customers for a significant portion of our revenue;
- our ability to maintain a competitive cost structure for our manufacturing and assembly and test processes, including the impact of changing commodity prices such as the price of gold;
- failure to qualify our products or our suppliers’ manufacturing lines;
- cancellations, rescheduling or deferrals of significant customer orders or shipments, as well as the ability of our customers to manage inventory;
- our ability to develop and introduce new and enhanced products in a timely and effective manner, as well as our ability to anticipate and adapt to changes in technology;
- gain or loss of a key customer or design win;

- seasonality in sales of consumer devices in which our products are incorporated;
- failure to protect our intellectual property;
- impact of a significant natural disaster, including earthquakes, floods and tsunamis; and
- our ability to attract and retain highly skilled managerial, engineering, sales and marketing personnel.

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Due to fluctuations in our quarterly results of operations and other factors, the price at which our common shares will trade is likely to continue to be highly volatile. Accordingly, you may not be able to resell your common shares at or above the price you paid. In future periods, our stock price could decline if, amongst other factors, our revenues or operating results are below our estimates or the estimates or expectations of public market analysts and investors. As a result of stock price volatility, we may be subject to securities class action litigation. Any litigation could result in substantial costs and a diversion of management's attention and resources that are needed to successfully maintain and grow our business.

### ***We operate in the intensely competitive markets, and our failure to compete effectively would harm our results of operations.***

The semiconductor industry and specifically the mobile and wireless communications markets are extremely competitive, and we expect competition to intensify as current competitors expand their product offerings and new competitors enter the market. We currently compete with a number of large domestic and international companies in the business of designing integrated circuits and related applications, some of which have greater financial, technical and management resources than us. We expect competition to continue to increase as industry standards continue to evolve and become better known, and others realize the market potential of wired and wireless products and services. For example, we expect to continue seeing increased competition in the TD-SCDMA smartphone market in China. As competition in the markets in which we operate continues to increase, our revenues and gross margins may decline. For example, competitors with greater financial resources may be able to offer lower prices than us, or they may offer additional products, services or other incentives that we may not be able to match. In addition, many of our competitors operate and maintain their own fabrication facilities and have longer operating histories, greater name recognition, larger customer bases, and greater sales, marketing and distribution resources than we do. Furthermore, our current and potential competitors in the mobile and wireless markets have established or may establish financial and strategic relationships among themselves or with existing or potential customers or other third parties to increase the ability of their products to address the needs of customers. Accordingly, new competitors or alliances among these competitors may acquire significant market share, which would harm our business. While we continue to pursue similar strategic relationships, and currently have significant financial and technical resources, we cannot assure you that we will be able to continue to compete successfully against existing or new competitors, which would harm our results of operations.

In addition, the semiconductor providers competing in the mobile and wireless communication markets have recently experienced consolidation. For example, Broadcom Corporation acquired NetLogic Microsystems in February 2011 and Texas Instruments Incorporated acquired National Semiconductor in September 2011. Consolidation among our competitors could lead to a changing competitive landscape, capabilities and market share, which could harm our results of operations.

### ***A significant portion of our business is dependent on the HDD industry, which is highly cyclical, experiences rapid technological change, is subject to industry consolidation and is facing increased competition from alternative technologies.***

The HDD industry is intensely competitive, and the technology changes rapidly. This industry has historically been cyclical, with periods of increased demand and rapid growth followed by periods of oversupply and subsequent contraction. These cycles may affect us because some of our customers are participants in this industry.

HDD manufacturers tend to order more components than they may need during growth periods, and sharply reduce orders for components during periods of contraction. Rapid technological changes in the HDD industry often result in shifts in market share among the industry's participants. If the HDD manufacturers using our products do not retain or increase their market share, our sales may decrease.

In addition, the HDD industry has experienced consolidation over the past several years. For example, during fiscal 2010, Toshiba acquired the HDD operations of Fujitsu. In December 2011, Seagate completed the acquisition of Samsung's HDD unit. In March 2012, Western Digital completed the acquisition of Hitachi's HDD unit. Consolidation among our customers could lead to changing demand for our products, replacement of our products by the merged entity with those of our competitors and cancellation of orders, each of which could harm our results of operations. On the other hand, this could lead to increased opportunities for our products within the combined company if we can leverage our technology and customer relationships.

Furthermore, future changes in the nature of information storage products could reduce demand for traditional HDDs. For example, products using alternative technologies, such as solid-state flash drives and other storage technologies could become a source of competition to manufacturers of HDDs. Although we offer SSD controllers, leveraging our technology in hard drives, we cannot ensure we will be able to maintain significant market share if demand for traditional HDDs decreases.

***Our business, financial condition and results of operations may be adversely impacted by global economic conditions, which may cause a decline in the market price of our common shares.***

We operate in the semiconductor industry, which is cyclical and subject to rapid change and evolving industry standards. From time to time, this industry has experienced significant demand downturns. These downturns are characterized by decreases in product demand, excess

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customer inventories and sometimes accelerated erosion of prices, including as a result of volatile global economic conditions. These factors could cause substantial fluctuations in our net revenue, gross margin, cash flows and results of operations. In addition, during these downturns some competitors may become more aggressive in their pricing practices, which would adversely impact our gross margin. Any downturns in the current environment may be severe and prolonged, and any failure of the markets in which we operate to fully recover from downturns could seriously impact our revenue and harm our business, financial condition and results of operations. The semiconductor industry is also subject to periodic increases in demand and supply constraints, which may affect our ability to ship products. Accordingly, our results of operations may vary significantly as a result of the general conditions in the semiconductor industry, which could cause fluctuations in our stock price.

We cannot predict the timing, strength or duration of any economic slowdown or subsequent global economic recovery in the semiconductor industry. If the economy or markets in which we operate deteriorate from current levels, our business, financial condition and results of operations will likely be materially and adversely affected. Additionally, the combination of our lengthy sales cycle coupled with challenging macroeconomic conditions could adversely impact our results of operations.

***We may become involved with costly and lengthy litigation involving our patents and other intellectual property, which could subject us to liability, require us to indemnify our customers, require us to obtain or renew licenses, stop selling our products or force us to redesign our products.***

Litigation involving patents and other intellectual property is widespread in the high-technology industry and is particularly prevalent in the semiconductor industry, where a number of companies and other entities aggressively bring numerous infringement claims to assert their patent portfolios. The amount of damages alleged in intellectual property infringement claims can often be very significant. For example, on November 26, 2012, we went to trial with Carnegie Mellon University (“CMU”) as described in more detail in Note 9 of the notes to our unaudited condensed consolidated financial statements. CMU has alleged past damages in the amount of approximately \$1.2 billion through July 2012. If we receive a significant adverse judgment in any litigation matter, our results of operations and financial position will be adversely affected.

From time to time our subsidiaries and customers receive, and may continue to receive in the future, notices that allege claims of infringement, misappropriation or misuse of the intellectual property rights of third parties. In addition to standards-based infringement claims, infringement claims have also been directed against us and our subsidiaries’ proprietary technologies, particularly those related to storage technology, microprocessors and other circuit components. We have also had certain patent licenses with third parties that have not been renewed, and if we cannot successfully renew these licenses, our subsidiaries and customers could face claims of infringement. These claims could result in litigation and/or claims for indemnification, which, in turn, could subject us to significant liability for damages, attorney’s fees and costs. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, offering for sale, making, having made or exporting products or using technology that contains the allegedly infringing intellectual property;
- limit or restrict the type of work that employees involved in such litigation may perform for us;
- pay substantial damages and/or license fees and/or royalties to the party claiming infringement that could adversely impact our liquidity or operating results;
- attempt to obtain or renew licenses to the relevant intellectual property, which licenses may not be available on reasonable terms or at all; and
- attempt to redesign those products that contain the allegedly infringing intellectual property.



We may also be required to indemnify some customers under our contracts if a third party alleges, or a court finds, that our products have infringed upon the proprietary rights of other parties. From time to time, we have agreed to indemnify select customers for claims made against our products, where such claims allege infringement of third party intellectual property rights, including, but not limited to, patents, registered trademarks and/or copyrights. If we are required to make a significant payment under any of our indemnification obligations, our result of operations may be harmed.

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***We have been named as a party to several lawsuits and we may be named in additional litigation in the future, all of which could result in an unfavorable outcome and have a material adverse effect on our business, financial condition, results of operations, cash flows, and the trading price for our securities.***

We have been named as a party to several lawsuits and we may be named in additional litigation in the future. Please see “Note 9 – Commitments and Contingencies” of our notes to the unaudited condensed consolidated financial statements set forth in Part I, Item 1 of this Quarterly Report on Form 10-Q for a more detailed description of a number of the litigation matters we are currently engaged in. Under certain circumstances, we have contractual and other legal obligations to indemnify and to incur legal expenses on behalf of current and former directors and officers for these lawsuits. In addition, due to the high volatility of our stock price, we may be vulnerable to securities class action litigation. In addition, as a result of a prior SEC settlement, we forfeited for three years our ability to invoke the “safe harbor” for forward-looking statements provided by the Private Securities Litigation Reform Act of 1995. Because we could not benefit from the statutory safe harbor from June 2008 through June 2011, it may be more difficult for us to defend against any future claims based on any forward-looking statements issued during that timeframe.

The ultimate outcome of any litigation could have a material adverse effect on our business and the trading price for our securities. Litigation may be time-consuming, expensive, and disruptive to normal business operations, and the outcome of litigation is difficult to predict. The defense of these lawsuits may result in significant expenditures and the continued diversion of our management’s time and attention from the operation of our business, which could impede our business. In the event we were to receive an unfavorable outcome in any lawsuit, our business, financial condition, results of operations, cash flows and the trading price of our securities may be materially and adversely affected.

***We rely on independent foundries and subcontractors for the manufacture, assembly and testing of our integrated circuit products, and the failure of any of these third party vendors to deliver products or otherwise perform as requested could damage our relationships with our customers, decrease our sales and limit our ability to grow our business.***

We do not have our own manufacturing or assembly facilities and have very limited in-house testing facilities. Therefore, we currently rely on several third party foundries to produce our integrated circuit products. We also currently rely on several third party assembly and test subcontractors to assemble, package and test our products. This exposes us to a variety of risks, including the following:

### *Regional Concentration:*

Substantially all of our products are manufactured by third party foundries located in Taiwan. Our other sources for manufacturing are located in the U.S., China and Singapore. In addition, substantially all of our third party assembly and testing facilities are located in Singapore, Taiwan, Malaysia and the Philippines. Because of the geographic concentration of these third party foundries, as well as our assembly and test subcontractors, we are exposed to the risk that their operations may be disrupted by regional disasters or by political changes. For example, the risk of an earthquake in Taiwan and elsewhere in the Pacific Rim region is significant due to the proximity of major earthquake fault lines to the facilities of our foundries and assembly and test subcontractors. Taiwan has experienced significant earthquakes in the past and may be subject to additional earthquakes that could disrupt manufacturing operations. In the event of a significant natural disaster or a quarantine or closure that affects our manufacturers in the Pacific Rim, our revenues, cost of goods sold and results of operations would be negatively impacted. In addition, if we were unable to quickly identify alternate manufacturing facilities, we could experience significant delays in product shipments, which could harm our results of operations.

### *No Guarantee of Capacity or Supply:*

The ability of each foundry to provide us with semiconductor devices is limited by its available capacity and existing obligations. In addition, when demand is strong, availability of foundry capacity may be constrained, and with limited exceptions, our vendors are not obligated to perform services or supply products to us for any specific period, in any specific quantities, or at any specific price, except as may be provided in a particular purchase order. For example, in recent years, we experienced some supply shortages due to the difficulties encountered by the foundries in rapidly increasing their production capacities after the recovery from the severe economic down turn from fiscal 2009 to fiscal 2012 due to a rapid increase in demand. Although we have entered into contractual commitments to supply specified levels of products to some of our customers, we may not have sufficient levels of production capacity with all of

our foundries. In addition, foundry capacity may not be available when we need it or at reasonable prices. We place our orders on the basis of our customers' purchase orders or our forecast of customer demand, and the foundries can allocate capacity to the production of other companies' products and reduce deliveries to us on short notice. It is possible that foundry customers that are larger and better financed than we are or that have long-term agreements with our main foundries may induce our foundries to reallocate capacity to those customers. This reallocation could impair our ability to secure the supply of components that we need. Moreover, if any of our third party foundry suppliers are unable to secure necessary raw materials from their suppliers, lose benefits under material agreements, experience power outages, lack sufficient capacity to manufacture our products, encounter financial difficulties or suffer any other disruption or reduction in efficiency, we may encounter supply delays or disruptions, which could harm our business or results of operations.

Despite our strategy to move to a dual source, most of our products are not manufactured at more than one foundry at any given time, and our products typically are designed to be manufactured in a specific process at only one of these foundries. Accordingly, if one of our foundries is unable to provide us with components as needed, it may be difficult for us to transition the manufacture of our products to other foundries, and we could experience significant delays in securing sufficient supplies of those components. This could result in a material decline in revenues, net income and cash flow.

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In order to secure sufficient foundry capacity when demand is high and mitigate the risks described in the foregoing paragraph, we may enter into various arrangements with suppliers that could be costly and harm our results of operations, such as non-refundable deposits with or loans to foundries in exchange for capacity commitments, and contracts that commit us to purchase specified quantities of integrated circuits over extended periods. We may not be able to make any such arrangement in a timely fashion or at all, and any arrangements may be costly, reduce our financial flexibility, and not be on terms favorable to us. Moreover, if we are able to secure foundry capacity, we may be obligated to use all of that capacity or incur penalties. These penalties may be expensive and could harm our financial results.

We are also subject to risk from fluctuating market prices of certain commodity raw materials, particularly gold, that are incorporated into our end products or used by our suppliers to manufacture our end products. Supplies for such commodities may from time-to-time become restricted, or general market factors and conditions may affect pricing of such commodities. Over the past few years, the price of gold increased significantly and certain of our supply chain partners assessed surcharges to compensate for the resultant increase in manufacturing costs. As a result, our gross margins have been adversely affected by significant increases in the price of gold. We are currently restructuring certain manufacturing processes to use copper instead of gold in our products. In transitioning from gold to copper, because the capacity of either wafer producers or assemblers can be limited from time to time, we may be unable to satisfy the demand of our customers, or may have to accept price increases or other compensation arrangements that increase our operating expenses and erode our gross margins. Our results may also be materially affected adversely if we fail to execute successfully or if we experience resistance from our customer base in the transition from gold to copper.

### *Uncertain Yields and Quality:*

The fabrication of integrated circuits is a complex and technically demanding process. Our foundries have from time to time experienced manufacturing defects and reduced manufacturing yields. Changes in manufacturing processes or the inadvertent use of defective or contaminated materials by our foundries could result in lower than anticipated manufacturing yields or unacceptable performance. Many of these problems are difficult to detect at an early stage of the manufacturing process and may be time consuming and expensive to correct. Poor yields from our foundries, or defects, integration issues or other performance problems in our products could cause us significant customer relations and business reputation problems, harm our financial results and result in financial or other damages to our customers. Our customers could also seek damages from us for their losses. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend. In addition, defects in our existing or new products could result in significant warranty, support and repair costs, and divert the attention of our engineering personnel from our product development efforts.

To the extent that we rely on outside suppliers to manufacture or assemble and test our products, we may have a reduced ability to control directly product delivery schedules and quality assurance. This lack of control may result in product shortages or quality assurance problems that could delay shipments of products or increase manufacturing, assembly, testing or other costs.

***Our sales are concentrated in a few customers, and if we lose or experience a significant reduction in sales to any of these key customers, or if any of these key customers experience a significant decline in market share, our revenues may decrease substantially.***

We receive a significant amount of our revenues from a limited number of customers. Net revenue from our three largest customers represented 43% of our net revenue in the nine months ended October 27, 2012. Sales to our largest customers have fluctuated significantly from period to period and year to year primarily due to the timing and number of design wins with

each customer, natural disasters that may divert a customer's operations, as well as the continued diversification of our customer base as we expand into new markets, and will likely continue to fluctuate in the future. The loss of any of our large customers or a significant reduction in sales we make to them would likely harm our financial condition and results of operations. Our operating results in the foreseeable future will continue to depend on sales to a relatively small number of customers, as well as the ability of these customers to sell products that incorporate our products. In the future, these customers may decide not to purchase our products at all, purchase fewer products than they did in the past, or alter their purchasing patterns in some other way, particularly because:

- a significant portion of our sales are made on a purchase order basis, which permits our customers to cancel, change or delay product purchase commitments with relatively short notice to us;
- our customers may purchase integrated circuits from our competitors;
- our customers may discontinue sales or lose market share in the markets for which they purchase our products;
- our customers may develop their own solutions; or
- our customers may be subject to severe business disruptions.

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***If we are unable to develop and introduce new and enhanced products that achieve market acceptance in a timely and cost-effective manner, our results of operations and competitive position will be harmed.***

Our future success will depend on our ability, in a timely and cost-effective manner, to develop and introduce new products and enhancements to our existing products. We sell products in markets that are characterized by rapid technological change, evolving industry standards, frequent new product introductions, short product life cycles and increasing demand for higher levels of integration and smaller process geometries. In addition, the development of new silicon devices is highly complex, and due to supply chain cross-dependencies and other issues, we may experience delays in completing the development, production and introduction of our new products. Our past sales and profitability have resulted, to a large extent, from our ability to anticipate changes in technology and industry standards and to develop and introduce new and enhanced products incorporating the new standards and technologies. Our ability to adapt to these changes and to anticipate future standards, and the rate of adoption and acceptance of those standards, will be a significant factor in maintaining or improving our competitive position and prospects for growth. If new industry standards emerge that we do not properly anticipate, our products or our customers' products could become unmarketable or obsolete, and we could lose market share. We may also have to incur substantial unanticipated costs to comply with these new standards. In addition, our target markets continue to undergo rapid growth and consolidation. A significant slowdown in any of these markets could materially and adversely affect our business, financial condition and results of operations. Our success will also depend on the ability of our customers to develop new products and enhance existing products for the markets they serve and to introduce and promote those products successfully. Even if new and enhanced products are introduced to the market, we and our customers may not be able to achieve market acceptance of them in a timely manner.

In addition, our long-standing relationships with some of our larger customers may also deter other potential customers who compete with these customers from buying our products. To attract new customers or retain existing customers, we may offer certain customers certain price concessions, which could cause our average selling prices and gross margins to decline.

***Our gross margin and results of operations may be adversely affected in the future by a number of factors, including decreases in average selling prices of products over time and shifts in our product mix.***

The products we develop and sell are primarily used for high volume applications. As a result, the prices of those products have historically decreased rapidly. In addition, more recently introduced products tend to have higher associated costs because of initial overall development and production ramp. Therefore, over time, we may not be able to maintain or improve our gross margins. Our financial results could suffer if we are unable to offset any reductions in our average selling prices by other cost reductions through efficiencies, introduction of higher margin products and other means.

Moreover, because of the wide price differences across the markets we serve, the mix and types of performance capabilities of our products sold may affect the average selling prices of our products and have a substantial impact on our revenue and gross margin. We may enter new markets in which a significant amount of competition exists, and this may require us to sell our products with lower gross margins than our established businesses. Fluctuations in the mix and types of our products may also affect the extent to which we are able to recover the fixed costs and investments associated with a particular product, and as a result can harm our financial results.

Additionally, because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase, which could also reduce our gross margins. In the past, we have reduced the average selling prices of our products in anticipation of future competitive pricing pressures, new product introductions by us or by our competitors and other factors. We expect that we will continue to have to reduce prices in the future.

***We are subject to order and shipment uncertainties, and if we are unable to accurately predict customer demand, we may hold excess or obsolete inventory, which would reduce our gross margin; conversely, we may have insufficient inventory, which would result in lost revenue opportunities and potentially in loss of market share and damaged customer relationships.***

We typically sell products pursuant to purchase orders rather than long-term purchase commitments. Customers can generally cancel or defer purchase orders on short notice without incurring a significant penalty. Due to their inability to predict demand or other reasons, some of our customers may accumulate excess inventories and, as a consequence, defer purchase of our products. We cannot accurately predict what or how many products our customers will need in the future. Anticipating demand is difficult because our customers face unpredictable demand for their own products and are increasingly focused more on cash preservation and tighter inventory management. In addition, as an increasing number of our chips are being incorporated into consumer products, we anticipate greater fluctuations in demand for our products, which makes it more difficult to forecast customer demand. We place orders with our suppliers based on forecasts of customer demand and, in some instances, may establish buffer inventories to accommodate anticipated demand. Our forecasts are based on multiple assumptions, each of which may introduce error into our estimates. For example, our ability to accurately forecast customer demand may be impaired by the delays inherent in our lengthy sales cycle. The sales cycle for many of our products is long and requires us to invest significant resources

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with each potential customer without any assurance of sales to that customer. Our sales cycle typically begins with an extended evaluation and test period, also known as qualification, during which our products undergo rigorous reliability testing by our customers. Qualification is typically followed by an extended development period by our customers and an additional three to nine month period before a customer commences volume production of equipment incorporating our products. This lengthy sales cycle creates the risk that our customers will decide to cancel or change product plans for products incorporating our integrated circuits prior to completion, which makes it even more difficult to forecast customer demand.

Our products are incorporated into complex devices and systems, which may create supply chain cross-dependencies. For example, in fiscal 2012, many areas of Thailand sustained massive damage from flooding, which disrupted the global supply chain for HDDs. Due to cross dependencies, any supply chain disruptions could negatively impact the demand for our products in the short term. We have a limited ability to predict the timing of a supply chain correction. In addition, the market share of our customers could be adversely impacted on a long-term basis due to any continued supply chain disruption, which could negatively affect our results of operations.

If we overestimate customer demand, our excess or obsolete inventory may increase significantly, which would reduce our gross margin and adversely affect our financial results. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we would miss revenue opportunities and potentially lose market share and damage our customer relationships. In addition, any future significant cancellations or deferrals of product orders or the return of previously sold products could materially and adversely affect our profit margins, increase product obsolescence and restrict our ability to fund our operations.

### ***We are exposed to potential impairment charges on certain assets.***

We had approximately \$2.0 billion of goodwill and \$101.9 million of intangible assets on our balance sheet as of October 27, 2012. Under U.S. GAAP, we are required to review our intangible assets including goodwill for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable. We perform an annual assessment of goodwill at the beginning of our fiscal fourth quarter and we also assess the impairment of goodwill on an interim basis whenever events or changes in circumstances indicate that the carrying value of such assets may not be recoverable. We have only one reporting unit, and the fair value of the reporting unit is determined by taking our market capitalization as determined through quoted market prices and adjusted for a control premium and other relevant factors. If our fair value declines to below our carrying value, we could incur significant goodwill impairment charges.

During the three months ended October 27, 2012, we experienced a continued decline in our stock price which caused a substantial reduction in the reporting unit's excess fair value over its net book value. Although we determined the fair value of our company was in excess of our carrying value, and therefore there was no impairment of goodwill as of October 27, 2012, if our stock price declines further and erodes our total market capitalization, we may be required to record an impairment charge in the future that could be material to our operating results.

In addition, from time to time, we have made investments in private companies. If the companies that we invest in are unable to execute their plans and succeed in their respective

markets, we may not benefit from such investments, and we could potentially lose the amounts we invest. We evaluate our investment portfolio on a regular basis to determine if impairments have occurred. If the operations of any businesses that we have acquired declines significantly, we could incur significant intangible asset impairment charges. Impairment charges could have a material impact on our results of operations in any period.

***If we fail to appropriately scale our operations in response to changes in demand for our existing products or to the demand for new products requested by our customers, our business and profitability could be materially and adversely affected.***

To achieve our business objectives, it may be necessary from time to time for us to expand or contract our operations. In the future, we may not be able to scale our workforce and operations in a sufficiently timely manner to respond effectively to changes in demand for our existing products or to the demand for new products requested by our customers. In that event, we may be unable to meet competitive challenges or exploit potential market opportunities, and our current or future business could be materially and adversely affected. Conversely, if we expand our operations and workforce too rapidly in anticipation of increased demand for our products, and such demand does not materialize at the pace at which we expected, the rate of increase in our costs and operating expenses may exceed the rate of increase in our revenue, which would adversely affect our results of operations. In addition, if such demand does not materialize at the pace which we expect, we may be required to scale down our business through expense and headcount reductions as well as facility consolidations or closures that could result in restructuring charges that would materially and adversely affect our results of operations. For example, in order to reduce expenses in the challenging economic environment that began during the second half of fiscal 2009, in late fiscal 2009 and early in fiscal 2010, we implemented certain cost reduction measures to reduce operating expenses. Since that time we have hired a significant numbers of employees primarily in the research and development area. Because many of our expenses are fixed in the short-term or are incurred in advance of anticipated sales, we may not be able to decrease our expenses in a timely manner to offset any decrease in customer demand. If customer demand does not increase as anticipated, our profitability could be adversely affected due to our higher expense levels.

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Our past growth has placed, and any future long-term growth is expected to continue to place, a significant strain on our management personnel, systems and resources. To implement our current business and product plans, we will need to continue to expand, train, manage and motivate our workforce. All of these endeavors will require substantial management effort. Although we have an enterprise resource planning system to help us improve our planning and management processes, we anticipate that we will also need to continue to implement and improve a variety of new and upgraded operational and financial systems, as well as additional procedures and other internal management systems. These systems can be time consuming and expensive to implement, increase management responsibilities and divert management attention. If we are unable to effectively manage our expanding operations, we may be unable to scale our business quickly enough to meet competitive challenges or exploit potential market opportunities, or conversely, we may scale our business too quickly and the rate of increase in our costs and expenses may exceed the rate of increase in our revenue, either of which would materially and adversely affect our results of operations.

***Costs related to defective products could have a material adverse effect on us.***

We have experienced, from time to time, hardware and software defects and bugs associated with the introduction of our highly complex products. We cannot assure you that, despite our testing procedures, errors will not be found in new products or releases after commencement of commercial shipments in the future, which could result in loss of or delay in market acceptance of our products, material recall and replacement costs, delay in revenue recognition or loss of revenues, writing down the inventory of defective products, the diversion of the attention of our engineering personnel from product development efforts, our having to defend against litigation related to defective products or related property damage or personal injury, and damage to our reputation in the industry that could adversely affect our relationships with our customers. In addition, we may have difficulty identifying the end customers of the defective products in the field. As a result, we could incur substantial costs to implement modifications to correct defects. Any of these problems could materially adversely affect our results of operations.

***We may experience difficulties in transitioning to smaller geometry process technologies or in achieving higher levels of design integration, which may result in reduced manufacturing yields, delays in product deliveries and increased expenses.***

In order to remain competitive, we expect to continue to transition our semiconductor products to increasingly smaller line width geometries. This transition requires us to modify the manufacturing processes for our products and to redesign some products. We periodically evaluate the benefits, on a product-by-product basis, of migrating to smaller geometry process technologies to reduce our costs. In the past, we have experienced some difficulties in shifting to smaller geometry process technologies or new manufacturing processes, which resulted in reduced manufacturing yields, delays in product deliveries and increased expenses. We may face similar difficulties, delays and expenses as we continue to transition our products to smaller geometry processes. We are dependent on our relationships with our foundry subcontractors to transition to smaller geometry processes successfully. We cannot assure you that the foundries

that we use will be able to effectively manage the transition or that we will be able to maintain our existing foundry relationships or develop new ones. If we or any of our foundry subcontractors experience significant delays in this transition or fail to efficiently implement this transition, we could experience reduced manufacturing yields, delays in product deliveries and increased expenses, all of which could harm our relationships with our customers and our results of operations. As smaller geometry processes become more prevalent, we expect to continue to integrate greater levels of functionality, as well as customer and third party intellectual property, into our products. However, we may not be able to achieve higher levels of design integration or deliver new integrated products on a timely basis, if at all. Moreover, even if we are able to achieve higher levels of design integration, such integration may have a short-term adverse impact on our results of operations, as we may reduce our revenue by integrating the functionality of multiple chips into a single chip.

***As a result of our global operations, we face additional risks, which may harm our results of operations, because a majority of our products and our customers' products are manufactured and sold outside of the United States.***

A substantial portion of our business is conducted outside of the United States and, as a result, we are subject to foreign business, political and economic risks. All of our products are manufactured outside of the United States. Our current qualified integrated circuit foundries are located in the same region within Taiwan, and our primary assembly and test subcontractors are located in the Pacific Rim region. In addition, many of our customers are located outside of the United States, primarily in Asia, which further exposes us to foreign risks. Sales to customers located in Asia represented approximately 90% of our net revenue in nine months ended October 27, 2012, 89% of our net revenue in fiscal 2012 and 81% of our net revenue in fiscal 2011.

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We also have substantial operations outside of the U.S. These operations are directly influenced by the political and economic conditions of the region in which they are located, and with respect to Israel, possible military hostilities that could affect our operations there. For example, current hostilities in Israel could cause substantial political unrest in the region, which could lead to a potential economic downturn in Israel. We anticipate that our manufacturing, assembly, testing and sales outside of the United States will continue to account for a substantial portion of our operations and revenue in future periods. Accordingly, we are subject to risks associated with international operations, including:

- political, social and economic instability, including wars, terrorism, political unrest, boycotts, curtailment of trade and other business restrictions;
- compliance with domestic and foreign export and import regulations, and difficulties in obtaining and complying with domestic and foreign export, import and other governmental approvals, permits and licenses;
- local laws and practices that favor local companies, including business practices that we are prohibited from engaging in by the Foreign Corrupt Practices Act and other anti-corruption laws and regulations;
- difficulties in staffing and managing foreign operations;
- natural disasters, including earthquakes, tsunamis and floods;
- trade restrictions or higher tariffs;
- transportation delays;
- difficulties of managing distributors;
- less effective protection of intellectual property than is afforded to us in the United States or other developed countries;
- inadequate local infrastructure; and
- exposure to local banking, currency control and other financial-related risks.

As a result of having global operations, the sudden disruption of the supply chain and/or the manufacture of our customer's products caused by events outside of our control could impact our results of operations by impairing our ability to timely and efficiently deliver our products. During fiscal 2012, the earthquake and tsunami that affected Japan disrupted the global supply chain for certain components important to our products and the flooding in Thailand affected the supply chain and manufacturing of the products for a number of our customers.

Moreover, the international nature of our business subjects us to risk associated with the fluctuation of the U.S. dollar versus foreign currencies. Decreases in the value of the U.S.

dollar versus currencies in jurisdictions where we have large fixed costs or our third party manufacturers have significant cost will increase the cost of such operations, which could harm our results of operations. For example, we have large fixed costs in Israel, which will become greater if the U.S. dollar declines in value versus the Israeli shekel. On the other hand, substantially all of our sales have been denominated in U.S. dollars.

***We depend on key personnel to manage our business, and if we are unable to retain our current personnel and hire additional personnel, our ability to develop and successfully market our products could be harmed.***

We believe our future success will depend in large part upon our ability to attract and retain highly skilled managerial, engineering, sales and marketing personnel. The loss of key employees or the inability to attract qualified personnel, including hardware and software engineers and sales and marketing personnel could delay the development and introduction of and harm our ability to sell our products. We typically do not enter into employment agreements with any of our key technical personnel, and their knowledge of our business and industry would be extremely difficult to replace.

The competition for qualified technical personnel with significant experience in the design, development, manufacturing, marketing and sales of integrated circuits is intense. Our key technical personnel represent a significant asset and serve as the source of our technological and product innovations. We may not be successful in attracting and retaining sufficient numbers of technical personnel to develop new products or enhance existing products in a timely manner.

***We have made and may continue to make acquisitions and investments, which could divert management’s attention, cause ownership dilution to our shareholders, be difficult to integrate and adversely affect our results of operations and share price.***

We expect to continue to make acquisitions of, and investments in, businesses that offer complementary products and technologies, augment our end market coverage, or enhance our technological capabilities. We may also enter into strategic alliances or joint ventures to

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achieve these goals. We cannot assure you that we will be able to identify suitable acquisition, investment, alliance or joint venture opportunities in the future, or that we will be able to consummate any such transactions or relationships on terms and conditions acceptable to us, or that such transactions or relationships will be successful.

Integrating newly acquired businesses or technologies typically entails many risks that could put a strain on our resources, could be costly and time consuming, and might not be successful. In addition, any acquisitions could materially harm our results of operations or liquidity as a result of either the issuance of dilutive equity securities, new debt or contingent liabilities, or payment of cash. Moreover, such acquisitions could divert our management’s attention from other business concerns and also result in customer dissatisfaction. In addition, we might lose key employees of the newly acquired organizations during the acquisition process. The acquisition of another company or its products and technologies may also require us to enter into a geographic or business market in which we have little or no prior experience.

***We rely on third party distributors and manufacturers’ representatives and the failure of these distributors and manufacturers’ representatives to perform as expected could reduce our future sales.***

From time to time, we enter into relationships with distributors and manufacturers’ representatives to sell our products, and we are unable to predict the extent to which these partners will be successful in marketing and selling our products. Moreover, many of our distributors and manufacturers’ representatives also market and sell competing products, and may terminate their relationships with us at any time. Our future performance will also depend, in part, on our ability to attract additional distributors or manufacturers’ representatives that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. If we cannot retain or attract quality distributors or manufacturers’ representatives, our sales and results of operations will be harmed.

***Changes in financial accounting standards or practices or existing taxation rules or practices may adversely affect our financial results.***

Changes in financial accounting standards or practices or changes in existing taxation rules or practices may have a significant effect on our reported results. New accounting pronouncements and taxation rules and varying interpretations of accounting pronouncements and taxation practice have occurred and may occur in the future. For example, the U.S. Congress may consider legislation affecting the taxation of foreign corporations and such legislation if enacted might adversely affect our future tax liabilities and have a material impact on our results of operations. Changes to existing rules or the questioning of current practices by regulators may adversely affect our reported financial results or the way we conduct our business or cause our

***Tax benefits that we receive may be terminated or reduced in the future, which would harm our results of operations and profitability.***

In prior years, we have entered into agreements with the local governments in certain foreign jurisdictions where we have significant operations to provide us with favorable tax rates in those jurisdictions if certain criteria are met.

We have obtained from the Minister of Finance of Bermuda under the Exempt Undertakings Tax Protection Act 1966, as amended, an undertaking that, in the event Bermuda enacts legislation imposing tax computed on profits, income, or capital asset, gain or appreciation, then the imposition of any such taxes will not apply to us until March 31, 2035. We cannot assure that any future elected Government of Bermuda would not amend the Exempted Undertaking Tax Protection Act 1966 such that tax would be imposed in Bermuda.

The Economic Development Board of Singapore (the “EDB”) granted Pioneer Status to our wholly-owned subsidiary in Singapore in July 1999. This tax exemption was to expire after ten years, but the EDB in June 2006 agreed to extend the term to 15 years. As a result, we anticipate that a significant portion of the income we earn in Singapore during this period will be exempt from the Singapore income tax. We are required to meet several requirements as to investment, headcount and activities in Singapore to retain this status.

Under the Israeli Encouragement law of “approved or benefited enterprise,” two branches of Marvell Israel (“MISL”), the GTL branch and the cellular branch (formerly Marvell DSPC), are entitled to a beneficial tax program that includes reduced tax rates and exemption of certain income. The first program was approved for MISL in 1995 and the most recent was approved in 2003. Marvell DSPC has five approved programs, with the first approved in 1990 and the most recent benefited enterprise approved in 2010. The benefit period is generally 10 to 15 years and begins in the first year in which our Israeli divisions earn taxable income from the approved or benefited enterprises, provided the maximum period has not elapsed. Income from the approved or benefited enterprises is subject to reduced tax rates ranging between 0% and 10% or tax exemptions for fiscal 2008 through 2020. A new amendment to the Encouragement law, which was approved by the Israeli government in December 2011, came into effect January 1, 2012. MISL and DSPC will not apply the new amendment to the Encouragement law prior to fiscal 2023.

During fiscal 2007, our Switzerland subsidiary received a ten-year Federal and Cantonal tax holiday on revenues from research and design and wafer supply trading activities that will expire in 2016. In fiscal 2011, we met the requirements of the initial five year period and we will receive the ongoing tax holiday benefits provided that we continue to meet the ongoing requirements.

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If any of our tax agreements in any of these foreign jurisdictions were terminated, our results of our operations and profitability would be harmed.

***We may be unable to protect our intellectual property, which would negatively affect our ability to compete.***

We believe one of our key competitive advantages results from our collection of proprietary technologies that we have developed and acquired since our inception. If we fail to protect these intellectual property rights, competitors could sell products based on technology that we have developed that could harm our competitive position and decrease our revenues. We believe that the protection of our intellectual property rights is and will continue to be important to the success of our business. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods, to protect our proprietary technologies. We also enter into confidentiality or license agreements with our employees, consultants and business partners, and control access to and distribution of our documentation and other proprietary information. We have been issued several U.S. and foreign patents and have a number of pending U.S. and foreign patent applications. However, a patent may not be issued as a result of any applications or, if issued, claims allowed may not be sufficiently broad to protect our technology. In addition, it is possible that existing or future patents may be challenged, invalidated or circumvented. Despite our efforts, unauthorized parties may attempt to copy or otherwise obtain and use our products or proprietary technology. Monitoring unauthorized use of our technology is difficult, and the steps that we have taken may not prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States. If our patents do not adequately protect our technology, our competitors may be able to offer products similar to ours, which would adversely impact our business and results of operations.

Certain of our software (as well as that of our customers) may be derived from so-called “open source” software that is generally made available to the public by its authors and/or other third parties. Open source software is often made available under licenses, which impose certain obligations on us in the event we were to distribute derivative works of the open source software. These obligations may require us to make source code for the derivative works available to the public, and/or license such derivative works under a particular type of license, rather than the forms of license customarily used to protect our intellectual property. While we believe we have complied with our obligations under the various applicable licenses for open source



***We must comply with a variety of existing and future laws and regulations that could impose substantial costs on us and may adversely affect our business.***

We are subject to various state, federal and international laws and regulations governing the environment, including restricting the presence of certain substances in electronic products and making producers of those products financially responsible for the collection, treatment, recycling and disposal of those products. In addition, we are also subject to various industry requirements restricting the presence of certain substances in electronic products. Although our management systems are designed to maintain compliance, we cannot assure you that we have been or will be at all times in complete compliance with such laws and regulations. If we violate or fail to comply with any of them, a range of consequences could result, including fines, import/export restrictions, sales limitations, criminal and civil liabilities or other sanctions.

We and our customers are also subject to various import and export laws and regulations. Government export regulations apply to the encryption or other features contained in some of our products. If we fail to continue to receive licenses or otherwise comply with these regulations, we may be unable to manufacture the affected products at foreign foundries or ship these products to certain customers, or we may incur penalties or fines.

There is also a regulation to improve the transparency and accountability concerning the supply of minerals coming from the conflict zones in and around the Democratic Republic of Congo. New U.S. legislation includes disclosure requirements regarding the use of conflict minerals mined from the Democratic Republic of Congo and adjoining countries and procedures regarding a manufacturer's efforts to prevent the sourcing of such conflict minerals. The implementation of these requirements could affect the sourcing and availability of minerals used in the manufacture of semiconductor devices. As a result, there may only be a limited pool of suppliers who provide conflict-free metals, and we cannot assure you that we will be able to obtain products in sufficient quantities or at competitive prices.

Future regulations may become more stringent or costly and our compliance costs and potential liabilities could increase, which may harm our business.

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***There can be no assurance that we will continue to declare cash dividends at all or in any particular amounts.***

In May 2012, we announced the declaration of our first quarterly cash dividend. Future payment of a regular quarterly cash dividend on our common shares will be subject to, among other things, the best interests of our shareholders, our results of operations, cash balances and future cash requirements, financial condition, statutory requirements of Bermuda law, and other factors that the board of directors may deem relevant. Our dividend payments may change from time to time, and we cannot provide assurance that we will continue to declare dividends at all or in any particular amounts. A reduction in or elimination of our dividend payments could have a negative effect on our share price.

***If our internal control over financial reporting or disclosure controls and procedures are not effective, there may be errors in our financial statements that could require a restatement or our filings may not be filed on a timely basis and investors may lose confidence in our reported financial information, which could lead to a decline in our stock price.***

We believe that effective internal controls are necessary for us to provide reliable financial reports and effectively prevent fraud. Any inability to provide reliable financial reports or prevent fraud could harm our business. The Sarbanes-Oxley Act of 2002 requires management and our auditors to evaluate and assess the effectiveness of our internal control over financial reporting, as of the end of each year. Our management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in each Annual Report on Form 10-K.

Our management, including our Chief Executive Officer and Interim Chief Financial Officer, does not expect that our internal control over financial reporting will prevent all error and all fraud. These inherent limitations include the realities that judgments in decision making can be faulty, breakdowns can occur because of simple errors, and errors discovered by personnel within control systems may not be properly disclosed and addressed. Controls can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. In addition, we are consistently evaluating the design and operating effectiveness of our internal controls, a process which sometimes leads to modifications in such controls. These modifications could affect the overall effectiveness or evaluation of the control system in the future by us or our independent registered public accounting firm. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and we cannot assure you that any design will succeed in achieving its stated goals under all potential future conditions. Over

***Two of our officers and directors own a large percentage of our voting stock, and, together with another employee who is also a significant shareholder, are related by blood or marriage. These factors may allow the officers and directors as a group or the three related employees to influence the election of directors and the approval or disapproval of significant corporate actions.***

Dr. Sehat Sutardja, our President and Chief Executive Officer, and Weili Dai, who serves as the Vice President and General Manager of Communications and Consumer Business of Marvell Semiconductor, Inc, are husband and wife, and Dr. Sehat Sutardja and Dr. Pantas Sutardja, our Vice President, Chief Technology Officer and Chief Research and Development Officer, are brothers. Together, these three individuals held approximately 19% of our outstanding common shares as of October 27, 2012. As a result, if these individuals act together, they may influence the election of our directors and the approval or disapproval of any significant corporate actions that require shareholder approval. This influence over our affairs might be adverse to the interests of other shareholders. For example, the voting power of these individuals could have the effect of delaying or preventing an acquisition of us on terms that other shareholders may desire.

Under Bermuda law, all of our officers, in exercising their powers and discharging their duties, must act honestly and in good faith with a view to our best interests and exercise the care, diligence and skill that a reasonably prudent person would exercise in comparable circumstances. Majority shareholders do not owe fiduciary duties to minority shareholders. As a result, the minority shareholders will not have a direct claim against the majority shareholders in the event the majority shareholders take actions that damage the interests of minority shareholders. Class actions are generally not available to shareholders under the laws of Bermuda. Derivative actions may be available in certain circumstances, which would permit a shareholder to bring an action in our name if the directors or officers are alleged to be acting beyond our corporate power, committing illegal acts or violating our Memorandum of Association or Third Amended and Restated Bye-Laws (“Bye-Laws”). Furthermore, consideration would be given by a Bermuda court to acts that are alleged to constitute a fraud against the minority shareholders or, for example, where an act requiring the approval of a greater percentage of the company’s shareholders than those who actually approved it.

The Companies Act 1981 of Bermuda, as amended, provides that when one or more shareholders believes the affairs of a company are being conducted in a manner which is prejudicial to the interest of some of the shareholders, a Bermuda court, upon petition, may make such order as it sees fit, including an order regulating the conduct of the company’s affairs in the future or ordering the purchase of the shares of any shareholders by other shareholders or by the company, and in the case of a purchase of the shares by the company, for the reduction accordingly of the company’s capital or otherwise.

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***We rely upon the performance of our information technology systems to process, transmit, store and protect electronic information, and the failure of any critical information technology system may result in serious harm to our reputation, business, results of operations and/or financial condition.***

We are heavily dependent on our technology infrastructure and maintain and rely upon certain critical information systems for the effective operation of our business. These information technology systems include telecommunications, the Internet, our corporate intranet, various computer hardware and software applications, network communications and e-mail. These information technology systems are subject to damage or interruption from a number of potential sources including natural disasters, viruses, destructive or inadequate code, malware, power failures, cyber attacks, and other events. To the extent that these information systems are under our control, we have implemented security procedures, such as virus protection software and emergency recovery processes, to address the outlined risks. We may incur significant costs in order to implement, maintain and/or update security systems that we feel are necessary to protect our information systems. A material breach in the security of our information systems could include the theft of our intellectual property or trade secrets, negatively impact our operations, or result in the compromise of personal and confidential information of our employees, customers or suppliers. While we believe that our information technology systems are appropriately controlled and that we have processes in place to adequately mitigate these risks, security procedures for information systems cannot be guaranteed to be failsafe. To the extent that any system failure, accident or security breach results in disruptions or interruptions to our operations or the theft, loss or disclosure of, or damage to our data or confidential information, our reputation, business, results of operations and/or financial condition could be materially adversely affected. In addition, a miscalculation of the level of investment needed to ensure our technology solutions are current and up-to-date as technology advances and evolves could result in disruptions in our business should the software, hardware or maintenance of such items become out-of-date or obsolete. Furthermore, when we implement new systems and/or upgrade existing systems, there is a risk that our business may be temporarily disrupted during the period of implementation.

***We are subject to the risks of owning real property.***

Our buildings in Santa Clara, California; Singapore; Fuzhou, Fujian, China; and Shanghai, China, subject to the risk of owning real property, which include:

- the possibility of environmental contamination and the costs associated with fixing any environmental problems;
- adverse changes in the value of these properties, due to interest rate changes, changes in the neighborhood in which the property is located, or other factors;
- the possible need for structural improvements in order to comply with zoning, seismic and other legal or regulatory requirements;
- the potential disruption of our business and operations arising from or connected with a relocation due to moving to or renovating the facility;
- increased cash commitments for improvements to the buildings or the property or both;
- increased operating expenses for the buildings or the property or both;
- possible disputes with tenants or other third parties related to the buildings or the property or both; and
- the risk of financial loss in excess of amounts covered by insurance, or uninsured risks, such as the loss caused by damage to the buildings as a result of earthquakes, floods and other natural disasters.

***As we carry only limited insurance coverage, any incurred liability resulting from uncovered claims could adversely affect our financial condition and results of operations.***

Our insurance policies may not be adequate to fully offset losses from covered incidents, and we do not have coverage for certain losses. For example, there is very limited coverage available with respect to the services provided by our third party foundries and assembly and test subcontractors. In the event of a natural disaster (such as an earthquake or tsunami), political or military turmoil, widespread health issues or other significant disruptions to their operations, insurance may not adequately protect us from this exposure. We believe our existing insurance coverage is consistent with common practice, economic considerations and availability considerations. If our insurance coverage is insufficient to protect us against unforeseen catastrophic losses, any uncovered losses could adversely affect our financial condition and results of operations.

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## **[Table of Contents](#)**

***We are incorporated in Bermuda, and, as a result, it may not be possible for our shareholders to enforce civil liability provisions of the securities laws of the United States. In addition, our Bye-Laws contain a waiver of claims or rights of action by our shareholders against our officers and directors, which will severely limit our shareholders' right to assert a claim against our officers and directors under Bermuda law.***

We are organized under the laws of Bermuda. As a result, it may not be possible for our shareholders to affect service of process within the United States upon us, or to enforce against us in United States courts judgments based on the civil liability provisions of the securities laws of the United States. There is significant doubt as to whether the courts of Bermuda would recognize or enforce judgments of United States courts obtained against us or our directors or officers based on the civil liability provisions of the securities laws of the United States or any state or hear actions brought in Bermuda against us or those persons based on those laws. The United States and Bermuda do not currently have a treaty providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not based solely on United States federal or state securities laws, would not be automatically enforceable in Bermuda.

Our Bye-Laws contain a broad waiver by our shareholders of any claim or right of action, both individually and on our behalf, against any of our officers and directors. The waiver applies to any action taken by an officer or director, or the failure of an officer or director to take any action, in the performance of his or her duties with or for us, other than with respect to any matter involving any fraud or dishonesty on the part of the officer or director or to any matter arising under U.S. securities laws. This waiver will limit the rights of our shareholders to assert claims against our officers and directors unless the act complained of involves fraud or dishonesty. Therefore, so long as acts of business judgment do not involve fraud or dishonesty, they will not be subject to shareholder claims under Bermuda law. For example, shareholders will not have claims against officers and directors for a breach of trust, unless the breach rises to the level of fraud or dishonesty.

***Our Bye-Laws contain provisions that could delay or prevent a change in corporate control, even if the change in corporate control would benefit our shareholders.***

Our Bye-Laws contain change in corporate control provisions, which include:

- authorizing the issuance of preferred stock without shareholder approval; and

- requiring a vote of two-thirds of votes cast in person or by proxy to approve any change of corporate control in the event the action is not approved by at least 66<sup>2/3</sup>% of the directors holding office at the date of the Board meeting to approve the action.

These change in corporate control provisions could make it more difficult for a third party to acquire us, even if doing so would be a benefit to our shareholders.

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### Item 2. *Unregistered Sales of Equity Securities and Use of Proceeds*

There were no sales of unregistered securities during the three months ended October 27, 2012.

### Issuer Purchases of Equity Securities

The following table presents details of our repurchases during the three months ended October 27, 2012 (in thousands, except per share data):

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Approximated Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (1)
July 29 – August 25, 2012	—	—	—	\$ 598,154
August 26 – September 22, 2012	—	—	—	\$ 598,154
September 23 – October 27, 2012	22,917	\$ 8.86	22,917	\$ 395,168
Total	22,917	\$ 8.86	22,917	\$ 395,168

- (1) In August 2010, our board of directors initially authorized our current share repurchase program to repurchase up to \$500 million of our outstanding common shares. During fiscal 2012, our board of directors authorized an additional \$1.5 billion to be used to repurchase our common shares under the share repurchase program. In May 2012, we announced an additional increase of \$500 million to the share repurchase program. This increases the total available under the repurchase program to \$2.5 billion. We intend to effect the repurchase program in accordance with the conditions of Rule 10b-18 under the Exchange Act. The repurchase program will be subject to market conditions and other factors and does not obligate us to repurchase any dollar amount or number of our common shares. The repurchase program may be extended, modified, suspended or discontinued at any time. We may make repurchases in open market or privately negotiated transactions in order to effect our repurchases.

### Item 6. *Exhibits*

- (a) The following exhibits are filed as part of this report:

31.1	Certification of Principal Executive Officer as required pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Principal Financial Officer as required pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certification of Principal Executive Officer as required pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2*	Certification of Principal Financial Officer as required pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document

\* The certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Form 10-Q and will not be deemed “filed” for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MARVELL TECHNOLOGY GROUP LTD.

November 29, 2012  
Date

By: /s/ Brad D. Feller  
Brad D. Feller  
*Interim Chief Financial Officer*  
(Principal Financial and Accounting Officer)

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101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

\* The certifications furnished in Exhibits 32.1 and 32.2 hereto are deemed to accompany this Form 10-Q and will not be deemed “filed” for purposes of Section 18 of the Exchange Act. Such certifications will not be deemed to be incorporated by reference into any filings under the Securities Act or the Exchange Act, except to the extent that the registrant specifically incorporates it by reference.



# **EXHIBIT B**



# Enforcement of Foreign Judgments

in 28 jurisdictions worldwide

# 2012

Contributing editors: Mark Moedritzer and Kay C Whittaker



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# Bermuda

**Chen Foley, Mark Chudleigh and Nick Miles**

Sedgwick Chudleigh

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## 1 Treaties

Is your country party to any bilateral or multilateral treaties for the reciprocal recognition and enforcement of foreign judgments? What is the country's approach to entering into these treaties and what, if any, amendments or reservations has your country made to such treaties?

Bermuda is not party to any bilateral or multilateral treaties for the reciprocal recognition and enforcement of foreign judgments.

---

## 2 Intra-state variations

Is there uniformity in the law on the enforcement of foreign judgments among different jurisdictions within the country?

A unified body of law applies throughout Bermuda.

---

## 3 Sources of law

What are the sources of law regarding the enforcement of foreign judgments?

An understanding of the sources of law regarding the enforcement of foreign judgments in Bermuda will be assisted by an understanding of the sources of law in Bermuda generally.

Bermuda is a self-governing territory of the United Kingdom. Its parliament is responsible for making laws that govern internal affairs. Statutes passed by the United Kingdom's parliament have no direct effect in Bermuda, although they often form the basis of legislation subsequently enacted in Bermuda. As a common law jurisdiction, the principles of English common law and equity form the foundation of its domestic case law.

There are four tiers of civil courts in Bermuda: the Magistrates' Court, the Supreme Court, the Court of Appeal and the Judicial Committee of the Privy Council. As the final court of appeal for Bermuda, decisions of the Privy Council are binding on Bermuda's courts.

Bermuda's courts are not part of the English judicial hierarchy, and decisions of the English Court of Appeal and the UK Supreme Court (formerly the House of Lords) are not binding in Bermuda. However, UK Court of Appeal decisions are regarded as being very persuasive, and UK Supreme Court decisions are treated as de facto binding and are generally followed, unless there are compelling reasons for not doing so.

A judgment creditor seeking to enforce a foreign judgment in Bermuda cannot do so directly. There are two separate regimes for doing so. The first is governed by the Judgments (Reciprocal Enforcement) Act 1958 (the 1958 Act) while the second is governed by the common law.

The 1958 Act is in great part an amalgam of the United Kingdom Administration of Justice Act 1920, which introduced reciprocal enforcement of judgments within Her Majesty's Dominions, and the United Kingdom Foreign Judgments (Reciprocal Enforcement) Act 1933, which extended the United Kingdom statutory regime to foreign countries for the first time. There are nonetheless crucial differences between the Bermuda and United Kingdom legislation that a judgment creditor must remain mindful of.

The 1958 Act applies to judgments of the superior courts (the term 'superior court' being defined by the 1958 Act) of the United Kingdom, a number of Australian states and territories, the Bahamas, Barbados, British Guyana, Dominica, Gibraltar, Grenada, Hong Kong, the Leeward Islands, St. Lucia, St. Vincent, Jamaica, and Nigeria. Although the 1958 Act has not been expressly extended to the Cayman Islands, it is arguable that it nonetheless applies to judgments emanating from its superior courts, given that Cayman was a dependency of Jamaica at the time the Act was extended to it.

Where the 1958 Act does not apply, enforcement may be secured under Bermuda's common law rules. At common law, regard must be had in the first instance to decisions of the Privy Council, as well as Bermuda's Court of Appeal and Supreme Court. Relevant decisions of the English appellate courts, and to a lesser extent of the English High Court, can also be considered.

---

## 4 Hague Convention requirements

To the extent the enforcing country is a signatory of the Hague Convention on Recognition and Enforcement of Foreign Judgments in Civil and Commercial Matters, will the court require strict compliance with its provisions before recognising a foreign judgment?

Bermuda is not a party to the Hague Convention on Recognition and Enforcement of Foreign Judgments in Civil and Commercial Matters.

---

## 5 Limitation periods

What is the limitation period for enforcement of a foreign judgment? When does it commence to run? In what circumstances would the enforcing court consider the statute of limitations of the foreign jurisdiction?

Under the 1958 Act a judgment creditor has six years from the date of the foreign judgment to register it in Bermuda. Where steps are taken to appeal the foreign judgment, the six-year period will begin to run from the date of the last judgment given in the proceedings.

At common law, the foreign judgment creates a debt capable of enforcement under the law of obligation, and time will begin to run from the date of the foreign judgment. The usual limitation period for actions arising from a simple contract, such as debt, is six years.

The statute of limitations of the foreign jurisdiction is irrelevant to the running of time for enforcement in Bermuda. A foreign judgment given on the basis of a foreign law relating to limitation will be deemed by the Bermuda court to have been determined on its merits.

---

## 6 Types of enforceable order

Which remedies ordered by a foreign court are enforceable in your jurisdiction?

Foreign money judgments are enforceable under the 1958 Act (where applicable) and at common law. The foreign judgment must be for

a specific sum of money, payable for example on account of damages, costs or interest. The sum must not be payable in respect of taxes, fines or other penalties, or in respect of multiple or exemplary damages.

In addition, the judgment must be final and conclusive. The Bermuda Supreme Court will consider a judgment to be final and conclusive provided it is not capable of being varied by the court that made it. In *Young v Hodge and Others* [2001] Bda LR, an applicant seeking registration of a foreign judgment in the Bermuda Supreme Court sought to recover a sum representing the costs associated with obtaining a judgment in England, although not part of the foreign court's order. The court concluded that those costs were not part of the original judgment, and therefore were not finally and conclusively determined.

Both under the 1958 Act and at common law, a judgment is deemed to be final and conclusive even if an appeal is pending against it or if it may become the subject of an appeal. However, the Bermuda court will likely stay recognition and enforcement pending the outcome of the appeal, or may make an enforcement order subject to conditions that preserve the judgment creditor's right of appeal.

If the foreign judgment orders the judgment debtor to do anything other than pay the judgment creditor a sum of money, for example to perform a contract, it will be unenforceable, although it can nonetheless be recognised under the 1958 Act and may be res judicata at common law, thereby creating a cause of action estoppel. Accordingly, a party to foreign proceedings will be prevented from denying any matter of fact or law decided in the foreign proceedings where it is shown the foreign court was competent to act, the judgment is final and conclusive and was made on the merits. For the estoppel to operate, the parties to the proceeding in Bermuda must be the same as the parties to the foreign litigation, and the matters in dispute must also be identical.

Unlike other commonwealth jurisdictions, there are no specific statutory provisions or common law rules in Bermuda enabling the enforcement of interim or permanent injunctions.

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#### 7 Competent courts

Must cases seeking enforcement of foreign judgments be brought in a particular court?

Applications seeking enforcement of a foreign judgment in Bermuda must be brought in the Supreme Court of Bermuda.

---

#### 8 Separation of recognition and enforcement

To what extent is the process for obtaining judicial recognition of a foreign judgment separate from the process for enforcement?

It has been said in the leading English text on the conflict of laws that 'while a court must recognise every foreign judgment it enforces, it need not enforce every judgment it recognises'. That statement of principle holds true in Bermuda.

It is possible for a foreign judgment to be recognised under the 1958 Act or at common law where enforcement is not possible (for example, because it is in respect of something other than a definite sum of money, such as the specific performance of a contract). In such circumstances the foreign judgment can be relied upon by way of a defence or counterclaim in proceedings before the Bermuda court.

---

#### 9 Defences

Can a defendant raise merits-based defences to liability or to the scope of the award entered in the foreign jurisdiction, or is the defendant limited to more narrow grounds for challenging a foreign judgment?

A foreign judgment that is both final and conclusive on the merits cannot be challenged on the basis of an error of fact or law. The Supreme Court will treat the matters adjudicated upon by the foreign

court as having been finally determined, and stands ready to enforce a foreign judgment if it does not fall within one of the excluded categories.

It is therefore not for the Supreme Court to engage in a rehearing or reassessment of the merits of the foreign proceedings on an application for enforcement. Accordingly, the court does not sit as a court of appeal against a judgment pronounced on the merits by a competent foreign court.

A judgment debtor can resist registration of a judgment under the 1958 Act by satisfying the court that:

- the foreign judgment is not a judgment to which the 1958 Act applies, for example because it is not a judgment of a superior court (the term 'superior court' being defined by the Act);
- the foreign court had no jurisdiction;
- it did not receive sufficient notice of the proceedings to enable it to defend the proceedings and did not appear;
- the judgment was obtained by fraud;
- the rights conferred by the judgment are not vested in the person seeking its enforcement; or
- the matter in dispute giving rise to the registered judgment was previously determined and subject to a final and conclusive judgment by a court having jurisdiction over the matter.

There are wider grounds for resisting enforcement at common law. The ones most frequently relied upon are:

- want of jurisdiction by the foreign court, which is determined according to Bermudian law;
- fraud;
- public policy; and
- breach of the rules of natural justice in the proceedings in which the judgment was obtained.

Regardless of whether enforcement is sought under the 1958 Act or at common law, the Protection of Trading Interests Act 1981 makes clear that no judgment in respect of multiple damages (ie, an amount arrived at by doubling, trebling or otherwise multiplying the sum assessed as compensation) is capable of being registered. The 1981 Act also precludes (in certain circumstances) the registration of foreign judgments under foreign laws designed to restrict competition.

It is also a defence to show that the sum sought to be enforced is payable in respect of taxes or similar charges, or a fine or other penalty.

---

#### 10 Basic requirements for recognition

What are the basic mandatory requirements for recognition of a foreign judgment?

Under the 1958 Act a foreign judgment that is final and conclusive between the parties and in respect of a definite sum of money can be registered, and upon registration enforced (or otherwise executed) as if the foreign judgment was originally made in the Bermuda Supreme Court. Registration is mandatory where the requirements of the Act are satisfied.

As with foreign judgments registered under the 1958 Act, foreign judgments enforced at common law must be in respect of a debt or defined sum of money, which includes a final costs order. The judgment must also be final and conclusive.

The test for whether a foreign judgment is final and conclusive is whether it has res judicata between the parties in the court that made it. A judgment will however be treated as final and conclusive notwithstanding that it can be made the subject of an appeal.

Enforcement is subject to the application of the defences outlined in question 9.

**11 Other factors**

May other non-mandatory factors for recognition of a foreign judgment be considered, and if so, what factors?

The 1958 Act may be extended by order of the governor of Bermuda to apply to judgments from countries other than those listed in question 3 where the governor has been satisfied that the legislatures of those countries have put in place reciprocal provisions for the enforcement of Bermudian judgments.

As the Bermudian common law position follows the position in England, enforcement at common law is not dependent on reciprocal treatment of Bermudian judgments in the foreign country, and is described as being 'singularly generous in this regard'.

**12 Procedural equivalence**

Is there a requirement that the judicial proceedings where the judgment was entered correspond to due process in your jurisdiction, and if so, how is that requirement evaluated?

Not under the 1958 Act. At common law, where the foreign proceedings have been taken in a manner that offends domestic notions of natural justice (or substantive justice), the Bermuda court may refuse to either recognise or enforce the judgment.

**13 Personal jurisdiction**

Will the enforcing court examine whether the court where the judgment was entered had personal jurisdiction over the defendant, and if so, how is that requirement met?

Yes. It is a precondition to enforcement under both the 1958 Act and the common law that the judgment debtor was subject to the personal jurisdiction of the foreign court. Under the 1958 Act the foreign court will be deemed to have jurisdiction where:

- the judgment debtor voluntarily appeared in the foreign proceedings;
- the judgment debtor was a plaintiff or counterclaimed in the proceedings;
- the judgment debtor agreed to submit to the jurisdiction of the court giving such judgment or specifically to the court of the foreign jurisdiction;
- the judgment debtor was resident in, or being a corporate body had its principal place of business in, the foreign jurisdiction; or
- the judgment debtor had an office or place of business in the foreign jurisdiction and the proceedings relate to a transaction effected through or at that office or place.

The position at common law is similar to that under the 1958 Act, and the foreign court is regarded as having jurisdiction where:

- the judgment debtor is present in the foreign country at the time proceedings were instituted, or if the judgment debtor is a corporation it carried on business in the jurisdiction at a definite and fixed place, or its representative carried on business in or from some fixed place, within the jurisdiction;
- the judgment debtor was the plaintiff, or counterclaimed in the foreign proceedings;
- the judgment debtor is named as a defendant and voluntarily appears in the proceedings, again on account of the fact that the act of appearing in proceedings amounts to a submission to jurisdiction; or
- the judgment debtor agreed to submit the subject matter of the foreign proceedings to that court in the event of a dispute.

While the rules set out under the 1958 Act are exhaustive, the position at common law is arguably capable of judicial expansion in the future.

**14 Subject-matter jurisdiction**

Will the enforcing court examine whether the court where the judgment was entered had subject-matter jurisdiction over the controversy, and if so, how is that requirement met?

There are no express provisions or prescribed rules regarding the enforcement of judgments made by a foreign court lacking subject-matter jurisdiction. In such an instant, the general rule is that an extant judgment is to be regarded as final and conclusive.

**15 Service**

Must the defendant have been technically or formally served with notice of the original action in the foreign jurisdiction, or is actual notice sufficient? How much notice is usually considered sufficient?

Under the 1958 Act, registration of a foreign judgment will be set aside if the judgment debtor did not receive notice of the foreign proceedings in sufficient time to enable him or her to defend the proceedings and did not appear in them, regardless of whether process was duly served in accordance with the foreign law. No exact time limit is prescribed by the Act.

**16 Fairness of foreign jurisdiction**

Will the court consider the relative inconvenience of the foreign jurisdiction to the defendant as a basis for declining to enforce a foreign judgment?

Foreign procedure that offends Bermudian notions of substantial justice will form a basis for the Bermuda court's refusal to enforce a foreign judgment at common law. In *Muhl, as Liquidator of Nassau Insurance Company v Ardra Insurance Company Ltd* [1997] Bda LR 36, a litigant was effectively prevented from defending itself in proceedings in New York because of its inability to pay security. Judgment in default was entered against it, and the judgment creditor sought to enforce the award in Bermuda. The Bermuda Supreme Court refused to do so, ruling that it was an affront to local notions of substantive justice that a defendant should be required to put up security as a condition to defending itself in circumstances where it was unable to do so.

**17 Vitiating by fraud**

Will the court examine the foreign judgment for allegations of fraud upon the defendant or the court?

A judgment debtor can resist the enforcement of a foreign judgment on the basis of fraud under the 1958 Act and at common law. If a prima facie case of fraud can be made out, the court will order the issue to be tried to determine whether it can actually be proved. Ordinarily, the judgment debtor will argue that the alleged fraud relates to some aspect of the substantive judgment that the judgment creditor is seeking to enforce. Indeed, a causal nexus between the fraud and the judgment must be shown before enforcement of the judgment will be refused. On an appeal from Bermuda, the Privy Council has left open the question of whether a fraud leading to the wrongful acceptance of jurisdiction by the foreign court is capable of forming the basis of a refusal to enforce the judgment.

**18 Public policy**

Will the court examine the foreign judgment for consistency with the enforcing jurisdiction's public policy and substantive laws?

Although it may be possible to resist enforcement of a foreign judgment at common law on the grounds of public policy, it is not possible to do so under the 1958 Act.

**Update and trends**

While the foreign court's personal jurisdiction over a judgment debtor is a prerequisite of enforcement of in personam rights in Bermuda, the same is not true of relief assisting foreign bankruptcies. The Bermuda court has inherent jurisdiction to recognise and give effect to certain relief and appointments made by foreign bankruptcy courts with jurisdiction over a bankrupt. For example, it will recognise the authority of foreign insolvency office holders and grant them powers that would attach to analogous appointments in Bermudian winding-ups. This type of relief represents a sui generis category, being the collective enforcement of creditors' rights, rather than in personam claims.

However, a distinction has traditionally been drawn between relief representing collective enforcement of creditors' rights and relief amounting to the establishment of creditors' rights. 'Adversary proceedings' seeking restitution from third parties for adjustment of prior transactions in the context of bankruptcy proceedings have long been considered means of establishing rather than enforcing creditor rights. Accordingly, it has hitherto been understood that the same prerequisites of enforcing in personam rights apply equally here. While they are unique to bankruptcy proceedings, adversary proceedings nonetheless result in judgment debts and to that extent exhibit the hallmarks of in personam actions.

It has recently been argued that the distinction is illusory and that foreign courts need not have personal jurisdiction over the judgment debtor before adversary proceedings may be enforced. In *Rubin and Anor v Eurofinance SA and Ors* [2010] EWCA Civ 895, the English Court of Appeal held that judgment by the bankruptcy court for the

Southern District of New York for relief for unjust enrichment and avoidance of prior transactions under state and US federal law was enforceable against English individuals in spite of the fact that the bankruptcy court lacked personal jurisdiction. The Court of Appeal considered that adversary proceedings were an expression of the collective nature of bankruptcy proceedings generally and as such properly classified under the sui generis bankruptcy category. The in personam rules did not apply.

It is unclear whether the *Rubin* decision would be followed in Bermuda. The basis for the decision of the English Court of Appeal made extensive reference to European law (not binding in Bermuda) and the UNCITRAL Guide on its Model Law on Cross-Border Insolvency (implemented in the UK but not in Bermuda). The relevant common law authorities cited (which would be binding or persuasive in Bermuda) did not invite the analysis adopted by the Court of Appeal.

It is true that the Bermuda court seeks to cooperate with foreign bankruptcies, using its common law jurisdiction, and in so doing is influenced by the spirit of the Model Law. Nevertheless, the Bermuda court may not be inclined to accept the development of bankruptcy principles countenanced in *Rubin*, particularly where this entails incursion into settled principles of the enforcement of foreign judgments.

Another question that remains ripe for review in Bermuda is whether a judgment obtained in a United States class action (a procedure with no equivalent in Bermuda) would be enforced in Bermuda.

**19 Conflicting decisions**

What will the court do if the foreign judgment sought to be enforced is in conflict with another final and conclusive judgment involving the same parties or parties in privity?

Where there are two competing foreign judgments, both of which are pronounced by a court of competent jurisdiction, and both of which are final and unimpeachable, it is likely that the Bermuda court would recognise the one that is earlier in time and give effect to it to the exclusion of the latter.

**20 Alternative dispute resolution**

What will the court do if the parties had an enforceable agreement to use alternative dispute resolution, and the defendant argues that this requirement was not followed by the party seeking to enforce?

Bermuda courts will readily give effect to ADR agreements and have an established history of doing so, particularly with regard to arbitrations.

A judgment creditor will have difficulty enforcing a foreign judgment under the 1958 Act and at common law where proceedings were commenced in breach of an arbitration agreement, as the foreign court will not be deemed to have jurisdiction in connection with the dispute.

**21 Favourably treated jurisdictions**

Are judgments from some foreign jurisdictions given greater deference than judgments from others? If so, why?

In principle, the Supreme Court of Bermuda stands ready to enforce a foreign judgment from any foreign jurisdiction, subject to being satisfied of the matters outlined above.

**22 Alteration of awards**

Will a court ever recognise only part of a judgment, or alter or limit the damage award?

Under the 1958 Act and at common law, if the foreign judgment has been partially satisfied, registration will only be permitted in respect of the balance that remains owing. Likewise, as no foreign judgment

for multiple or exemplary damages can be enforced in Bermuda, any such component of an award will be carved out, but the remaining, compensatory portions are capable of enforcement.

**23 Currency, interest, costs**

In recognising a foreign judgment, does the court convert the damage award to local currency and take into account such factors as interest and court costs and exchange controls? If interest claims are allowed, which law governs the rate of interest?

Under the 1958 Act, the court will apply the rate of exchange prevailing at the date of the foreign judgment. Interest payable on the foreign judgment under the applicable foreign law will accrue up to the time of registration. Thereafter, the sum carries interest at the statutory rate. The judgment creditor is also entitled to reasonable costs of and incidental to registration, including the costs of obtaining a certified copy of the foreign judgment. Likewise, at common law, interest will accrue as part of the foreign judgment. Upon a successful application for judgment in Bermuda, interest will accrue at the Bermuda statutory rate.

**24 Security**

Is there a right to appeal from a judgment recognising or enforcing a foreign judgment? If so, what procedures, if any, are available to ensure the judgment will be enforceable against the defendant if and when it is affirmed?

Under the 1958 Act an application can be made to set aside the registration of a foreign judgment. The judgment debtor must make the application by summons, which is heard by a Supreme Court judge in chambers. The judge has power to either set aside registration or to suspend execution on the judgment, either unconditionally or on such terms as he or she thinks fit. The court's decision is subject to appeal to Bermuda's Court of Appeal, and the ordinary rules relating to security for costs on appeals will apply to any appeal.

Enforcement orders made at common law are subject to appeal in the usual course. The ordinary rules relating to security for costs on appeals will apply to any appeal.

**25 Enforcement process**

Once a foreign judgment is recognised, what is the process for enforcing it in your jurisdiction?

Once a foreign judgment is registered under the 1958 Act, the judgment may be enforced as if it had been made by the Supreme Court, that is to say by:

- writ of fieri facias;
- garnishee proceedings;
- appointment of a receiver;
- committal (in appropriate circumstances); or
- writ of sequestration.

Under the common law, an action will need to be started by writ endorsed with a statement of claim. If the judgment debtor fails to acknowledge the proceedings, the judgment creditor can obtain judgment in default. If the proceedings are acknowledged, the judgment creditor will invariably seek to obtain summary judgment. Upon judgment being granted, the Supreme Court will have the powers of enforcement set out above.

Rules concerning applications to the Bermuda Supreme Court under the 1958 Act are set out in the Judgments (Reciprocal Enforcement) Rules 1976.

**26 Pitfalls**

What are the most common pitfalls in seeking recognition or enforcement of a foreign judgment in your jurisdiction?

There is no statutory provision in Bermuda equivalent to section 33 of the United Kingdom Civil Jurisdiction and Judgments Act 1982, which permits a litigant to appear in foreign proceedings for the limited purpose of contesting the jurisdiction of the foreign court, or seeking dismissal or a stay of proceedings on the basis that the dispute should be submitted to either arbitration or determination by the courts of another country. Consequently, the position at common law remains, and a litigant who enters a conditional appearance in the foreign jurisdiction to set aside the foreign proceedings may be taken as having submitted to the jurisdiction, even if they take no steps to argue the merits of the case.

# Sedgwick Chudleigh

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AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON MARCH 23, 2000

REGISTRATION NO. 333-

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SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
-----

FORM S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933  
-----

MARVELL TECHNOLOGY GROUP LTD.

<TABLE>			
<S>	<C>	3674	<C>
BERMUDA			77-0481679
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(PRIMARY STANDARD INDUSTRIAL CLASSIFICATION CODE NUMBER)		(I.R.S. EMPLOYER IDENTIFICATION NUMBER)
</TABLE>			

CLARENDON HOUSE  
2 CHURCH STREET  
HAMILTON, HMCX  
BERMUDA  
(441) 295-1422

(ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE, OF  
REGISTRANT'S PRINCIPAL EXECUTIVE OFFICES)

-----

THOR BUELL  
GENERAL COUNSEL  
MARVELL SEMICONDUCTOR, INC.  
645 ALMANOR AVENUE  
SUNNYVALE, CALIFORNIA 94086  
(408) 222-2500

(NAME, ADDRESS, INCLUDING ZIP CODE, AND TELEPHONE NUMBER, INCLUDING AREA CODE,  
OF AGENT FOR SERVICE)

-----

COPIES TO:

<TABLE>		<C>
<S>	KENNETH R. LAMB JOHN E. STONER MICHELLE A. HODGES GIBSON, DUNN & CRUTCHER LLP ONE MONTGOMERY STREET SAN FRANCISCO, CALIFORNIA 94104 (415) 393-8200	JOHN L. SAVVA SULLIVAN & CROMWELL 1888 CENTURY PARK EAST LOS ANGELES, CALIFORNIA 90067 (310) 712-6600
</TABLE>		

-----

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. [ ]

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ] \_\_\_\_\_

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ] \_\_\_\_\_

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. [ ]

-----  
 CALCULATION OF REGISTRATION FEE

<TABLE>  
 <S>

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
Common Stock, \$0.002 par value.....	\$75,000,000	\$19,800

</TABLE>

(1) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933.

-----  
 THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

<PAGE> 2

THE INFORMATION IN THIS PRELIMINARY PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THESE SECURITIES MAY NOT BE SOLD UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PRELIMINARY PROSPECTUS IS NOT AN OFFER TO SELL NOR DOES IT SEEK AN OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION. DATED MARCH 23, 2000.

Shares

LOGO  
 MARVELL TECHNOLOGY GROUP LTD.

Common Stock

-----  
 This is an initial public offering of shares of common stock of Marvell Technology Group Ltd. All of the shares of common stock are being sold by Marvell.

Prior to this offering, there has been no public market for the common stock. Marvell estimates that the initial public offering price per share will be between \$ and \$ . Marvell will apply to include the common stock for quotation on the Nasdaq National Market under the symbol "MRVL".

See "Risk Factors" beginning on page 7 to read about factors you should

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	Per Share	Total
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<S>	<C>	<C>
Initial public offering price.....	\$	\$
Underwriting discount.....	\$	\$
Proceeds, before expenses, to Marvell.....	\$	\$

To the extent that the underwriters sell more than \_\_\_\_\_ shares of common stock, the underwriters have the option to purchase up to an additional \_\_\_\_\_ shares from Marvell at the initial public offering price less the underwriting discount.

The underwriters expect to deliver the shares against payment in New York, New York on \_\_\_\_\_, 2000.

GOLDMAN, SACHS & CO.

J.P. MORGAN & CO.

ROBERTSON STEPHENS

Prospectus dated \_\_\_\_\_, 2000.

<PAGE> 3

Inside Front Cover:

The inside front cover contains graphics. The upper third of the page contains the following words in white letters on dark blue background: "SILICON SOLUTIONS FOR BROADBAND COMMUNICATIONS." At the bottom of the dark blue background in smaller white letters is the word "Serving." Immediately under the word "Serving," on white background, are the logos of our customers, Seagate Technology, Hitachi, Samsung, Fujitsu and Toshiba. Under the logos are six pictures, arranged in a circular pattern, surrounding a picture of one of our integrated circuits containing the Marvell logo. All of the pictures are set on a blue background of blurred, digital data, i.e., 1's and 0's. The picture at the top of the circle is a picture of the earth, circumscribed by red, yellow and green circles. Immediately down and to the right of the earth picture is a picture of network storage equipment. Immediately under that picture is a picture of a partially-opened notebook computer. Down and to the left of the picture of the notebook computer is a fiber optic cable, with glowing fiber optics set against a black background. Up and to the left of the fiber optic cable picture is a picture of a worker in a communications control room. Above that picture is a picture of a large communications receiving dish set against a blue sky with some clouds. Down and to the left of the pictures is a black Marvell logo with the name "MARVELL" underneath in yellow type. Down and to the right of the pictures is the Marvell trademark "MOVING FORWARD FASTER." The words "MOVING FORWARD" are set in black type, and the word "FASTER" is set in red type. The word "FASTER" is slightly larger than the other words in the trademark.

Front Cover Gatefold

The inside front cover gatefold contains two pages of graphics. The top 1/10th of the two pages contains the following words in white letters on dark blue background: "A BROAD PERSPECTIVE ON APPLICATIONS FOR OUR TECHNOLOGY." On the

right hand side of the gatefold, beginning underneath the dark blue background, is a graphic depicting an analog signal transitioning to blurred digital data, i.e., 1's and 0's. The transition is represented by a red elliptical line. Under the graphic are the words "Marvell designs, develops and markets integrated circuits utilizing proprietary mixed-signal and digital signal processing technologies for broadband communications-related markets." Under the words is a picture of one of our integrated circuits containing the Marvell logo. To the left of the words and the analog-to-digital graphic is a graphic depicting applications and potential future applications of our technology. In the upper left corner of the graphic is a legend containing two boxes. The first box is blue. Next to the blue box is the phrase "Current Applications." Immediately under the blue box is a beige box. Next to the beige box is the phrase "Potential Future Applications." The graphics depicting applications are joined by heavy gray lines, depicting communication media, containing digital data, i.e., 0's and 1's. Starting from the left side of the gatefold, the first graphic is a blue depiction of a storage area network switch with the words "Storage Area Network (SAN) Switch." Immediately under the SAN switch graphic, connected by a gray line, is a blue graphic depicting a redundant array of independent drives. To the left of the graphic is the phrase "Enterprise Storage" and underneath is the acronym "RAID." To the right of the graphic depicting the SAN switch, connected by a gray line, is a blue graphic depicting a local area network switch. Over the gray connecting line are the words "Fibre Channel." Under the graphic is the phrase "Local Area Network (LAN) Switch." Down and slightly to the left of the graphic depicting the LAN Switch, connected by a gray line, is a blue graphic depicting a router. Over the gray connecting line are the words "Gigabit Ethernet." Under the graphic is the word "Router." To the right of the graphic depicting the router, connected by a gray line, is a graphic depicting a beige cable head. Over the gray connecting line are the words "Fibre Optics." Over the graphic are the words "Cable Head." Under the cable head graphic is a beige graphic depicting a home. The home graphic is connected to the cable head graphic by a gray line. To the right of the home are the stacked words "Cable Modem," "Web Based Television Storage" and "Wireless Network." To the right of the LAN switch graphic, connected by a gray line, is a blue graphic depicting a work group switch. Over the gray connecting line are the words "Fast & Gigabit Ethernet." Under the graphic are the words "Work Group Switch." Under the work group switch graphic, connected by a gray line, is a blue graphic depicting a partially open laptop computer. Under the gray connecting line are the words "Fast & Gigabit Ethernet." Under the graphic are the words "Laptop" and "NIC & Mobile Storage." Above the work group switch graphic, connected by a gray line, is a blue graphic depicting a small office/home office switch. Above the gray connecting line are the words "Fast Ethernet." Above the graphic are the words "Small Office/Home Office (SoHo)." To the right of the SoHo switch, connected by a gray line, is a blue graphic depicting a work station personal computer. Under the gray connecting line are the words "Fast Ethernet NIC or Gig NIC." Over the graphic are the words "Work Station" and "NIC & Enterprise Storage." To the right of the work station PC graphic, connected by the same gray line, is a blue graphic depicting a desktop personal computer. Above the graphic is the word "Desktop." To the right of the graphic are the words "NIC & Desktop Storage." Down and to the right of the work group switch graphic, connected by a gray line, is a beige graphic depicting a wireless hub. Under the gray connecting line are the words "Fast & Gigabit Ethernet." Under the graphic are the words "Wireless Hub." Down and to the right of the wireless hub graphic is an open laptop computer, connected to the wireless hub by concentric semi-circles depicting wireless communication. To the right of the laptop computer are the stacked words "Laptop" and "Wireless NIC & Mobile Storage." To the right of the work group switch graphic, connected by a gray line, is a blue graphic depicting an enterprise server. Over the gray connecting line are the words "Fast & Gigabit Ethernet." Under the graphic are the words "Enterprise Server" and to the right of the graphic are the words "NIC & Enterprise Storage." Underneath the entire applications graphic is a red line. Under the red line are four headings in red letters: "High Speed Networking," "Enterprise Storage," "Wireless Ethernet" and "Cable Modem." Under the heading "High Speed Networking," in black letters, is the following text: "Our integrated circuits enable next generation Ethernet devices for high speed data communications throughout the home and business enterprise." Under the heading

"Enterprise Storage," in black letters, is the following text: "Our integrated circuits for data storage applications allow enterprises and consumers to reliably store, transmit and rapidly access large volumes of data." Under the heading "Wireless Ethernet," in black letters, is the following text: "Our core technologies are applicable to the wireless networking market where we plan to introduce products that will enable high bandwidth data communications over wireless networks." Under the heading "Cable Modem," in black letters, is the following text: "Our core technologies are applicable to the cable modem market where we plan to introduce products that will connect personal computers to cable networks and the Internet at much faster speeds than possible through today's analog modems." On the lower left side of the gatefold is a black Marvell logo with the name "MARVELL" underneath in yellow type. On the lower right side of the gatefold is the Marvell trademark "MOVING FORWARD FASTER." The words "MOVING FORWARD" are set in black type and the word "FASTER" is set in red type. The word "FASTER" is slightly larger than the other words in the trademark.

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#### PROSPECTUS SUMMARY

The following summary highlights information found in greater detail elsewhere in this prospectus. It may not contain all of the information that is important to you. You should read the entire prospectus, including "Risk Factors" and the financial statements and notes to those statements, before you decide to buy our common stock. Except as otherwise noted, all information in this prospectus assumes the exercise of all outstanding warrants to purchase shares of preferred stock and common stock, gives effect to the conversion of all outstanding shares of preferred stock, and assumes no exercise of the underwriters' option to purchase additional shares of common stock in the offering. The share information in this prospectus reflects the approval by our shareholders on March 17, 2000 of two common stock dividends in which, in each case, our shareholders received an additional share of our common stock for each share held by them.

#### OUR BUSINESS

We design, develop and market integrated circuits for communications-related markets. Our products provide the critical interface between real world, analog signals and the digital information used in computing and communications systems. We enable our customers to store and transmit digital information reliably and at high speeds. We initially focused our core technology on the data storage market, where our products provide industry leading performance for customers such as Seagate, Samsung, Hitachi, Fujitsu and Toshiba. Recently, we applied our technology to the broadband data communications market by introducing our eight-port and six-port Fast Ethernet transceivers, which are used in network access equipment to provide the interface between communications systems and Ethernet transmission media. We believe that our core technology can be used to improve performance across a wide range of data communications applications. For example, we are actively developing products for the Gigabit Ethernet market. In addition, we are committing resources to the development of products for the wireless communications and cable modem markets. For the fiscal year ended January 31, 2000, we generated \$81.4 million in net revenue and \$13.1 million in net income.

The advent of new, data-intensive computing and communications applications is driving business and consumer demand for high speed broadband access to large volumes of information in multiple forms, including voice, video and data. Data storage and communications systems providers must consistently introduce higher capacity and higher performance equipment to satisfy this demand. Often the new equipment must operate using existing communications infrastructures that were not designed to support the desired levels of performance. These challenges are creating the need for a new generation of integrated circuit solutions capable of reliably supporting higher data transmission rates over existing media infrastructures.

Our integrated circuits implement custom digital signal processing algorithms in proprietary analog and digital circuit designs. Digital signal processing involves mathematical manipulation of data in digital form to more effectively recover transmitted information. Our products are designed for the complementary metal oxide semiconductor, or CMOS, manufacturing process. CMOS provides numerous benefits over other manufacturing processes, including lower manufacturing costs, faster time to market and greater worldwide foundry capacity. We believe we have achieved a level of integrated circuit performance in CMOS that has typically only been achieved with more expensive, less widely available, fabrication techniques. Additionally, we believe that our products enable our customers to introduce higher performance data storage and broadband data communications products rapidly and at competitive prices.

The following are key elements of our strategy:

- Expand our market position by developing new signal processing technologies for broadband communications-related applications and by continuing to invest in research and development;

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- Leverage our core technology in the data communications market by introducing advanced products, including a Gigabit Ethernet transceiver;
- Extend our leadership position in the data storage market by continuing to introduce high performance products for the enterprise and mobile market segments and by developing cost-effective solutions to further penetrate the desktop segment;
- Strengthen and expand our relationships with current and potential customers by customizing products to meet their specific needs and by jointly developing highly integrated products; and
- Use independent manufacturers to fabricate our integrated circuits using CMOS, thereby decreasing time to market and cost while foregoing the necessity for a major investment in foundry capacity.

#### OUR CORPORATE INFORMATION

We incorporated in Bermuda on January 11, 1995. Our registered address in Bermuda is Clarendon House, 2 Church Street, Hamilton, HMCX Bermuda, and our telephone number there is (441) 295-1422. The address of our principal location in the United States is Marvell Semiconductor, Inc., 645 Almanor Avenue, California, 94086, and our telephone number there is (408) 222-2500. We also have offices in Singapore and Japan.

As used in this prospectus, the terms "we," "us," "our" and "Marvell" refer to Marvell Technology Group Ltd. and its subsidiaries unless the context indicates another meaning, and the term "common stock" means our common stock, par value \$0.002 per share.

The Marvell name, logo, and the phrase "Moving Forward Faster" are our trademarks. We have applied for federal registration of these trademarks. All other trademarks or trade names appearing elsewhere in this prospectus are the property of their respective owners.

Information contained on our website is not intended to be part of this prospectus.

THE PERMISSION OF THE BERMUDA MONETARY AUTHORITY MUST BE OBTAINED FOR THE ISSUANCE OF THE COMMON STOCK IN THIS OFFERING. THE PROSPECTUS MUST ALSO BE FILED WITH THE REGISTRAR OF COMPANIES IN BERMUDA. IN GRANTING SUCH PERMISSION AND IN ACCEPTING THIS PROSPECTUS FOR FILING, THE BERMUDA MONETARY AUTHORITY AND THE REGISTRAR OF COMPANIES IN BERMUDA WILL ACCEPT NO RESPONSIBILITY FOR THE

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THE OFFERING

Shares offered.....	shares
Shares to be outstanding after this offering.....	shares
Use of proceeds.....	General corporate purposes, including working capital, capital expenditures and potential acquisitions of, or investments in, complementary businesses, technologies or services.
Proposed Nasdaq National Market Symbol.....	"MRVL"

The information in the above table is based on shares of common stock outstanding as of January 31, 2000. This information excludes:

- 12,385,924 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$0.87 per share;
- 5,082,520 shares available for future issuance under our 1995 Stock Option Plan and 1997 Directors' Stock Option Plan; and
- 1,172,250 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$5.00 per share, granted subsequent to January 31, 2000 and through February 29, 2000.

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SUMMARY CONSOLIDATED FINANCIAL DATA

<TABLE>  
<CAPTION>

	YEAR ENDED JANUARY 31,				
	1996	1997	1998	1999	2000
	(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)				
<S>	<C>	<C>	<C>	<C>	<C>
CONSOLIDATED STATEMENTS OF OPERATIONS DATA:					
Net revenue.....	\$ 210	\$ 190	\$ 625	\$21,253	\$81,375
Gross profit.....	210	190	313	11,150	47,602
Operating income (loss).....	(374)	(2,246)	(7,404)	(550)	17,096
Net income (loss).....	\$ (355)	\$ (2,153)	\$ (7,444)	\$ (959)	\$13,070
Basic net income (loss) per share.....	\$ (0.02)	\$ (0.08)	\$ (0.24)	\$ (0.03)	\$ 0.32
Diluted net income (loss) per share.....	\$ (0.02)	\$ (0.08)	\$ (0.24)	\$ (0.03)	\$ 0.16
Shares used in computing basic net income (loss) per share.....	20,738	25,593	30,436	32,470	41,094
Shares used in computing diluted net income (loss) per share.....	20,738	25,593	30,436	32,470	81,545

</TABLE>



The pro forma column in the consolidated balance sheet data assumes the exercise of all outstanding warrants to purchase preferred stock and common stock and reflects the automatic conversion of all shares of preferred stock into common stock upon the closing of this offering. The pro forma as adjusted column in the consolidated balance sheet data reflects these matters and the receipt of the net proceeds from the sale of shares of common stock offered by us at an assumed initial public offering price of \$ per share, after deducting an assumed underwriting discount and estimated offering expenses payable by us.

<TABLE>  
<CAPTION>

	JANUARY 31, 2000		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
		(IN THOUSANDS)	
<S>	<C>	<C>	<C>
CONSOLIDATED BALANCE SHEET DATA:			
Cash and cash equivalents.....	\$16,600	\$ 17,281	
Working capital.....	22,611	23,292	
Total assets.....	46,500	47,181	
Capital lease obligations, less current portion.....	36	36	36
Mandatorily redeemable convertible preferred stock...	22,353	--	--
Total shareholders' equity.....	7,940	30,974	

</TABLE>

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RISK FACTORS

You should carefully consider these risk factors, together with all of the other information included in this prospectus, before you decide to purchase shares of our common stock. Investing in our common stock involves a high degree of risk. If any of the following risks actually occurs, our business could be seriously harmed and the trading price of our common stock could decline. In those circumstances, you may lose part or all of your investment.

RISKS RELATED TO OUR BUSINESS

WE MAY EXPERIENCE SIGNIFICANT PERIOD-TO-PERIOD QUARTERLY AND ANNUAL FLUCTUATIONS IN OUR SALES AND OPERATING RESULTS, WHICH MAY RESULT IN VOLATILITY IN OUR STOCK PRICE.

We may experience significant period-to-period fluctuations in our sales and operating results in the future due to a number of factors. We have no control over many of these factors, and these factors are difficult or impossible to forecast. Any of these factors may cause our stock price to fluctuate. You should not rely on the results of any prior quarterly or annual periods as an indication of our future performance. It is likely that in some future period our operating results will be below the expectations of public market analysts or investors. If this occurs, our stock price may drop, perhaps significantly.

A number of factors may contribute to fluctuations in our sales and operating results, including:

- the cyclical nature of the integrated circuit industry;
- the timing and volume of orders and order cancellations from our customers;

- the level of acceptance of our products by existing and potential customers;
- the demand for, seasonality of the markets for, and life cycles of, products incorporating our products;
- our ability to fund, develop, introduce, ship and support new products and product enhancements, and the related timing and costs associated with those activities;
- deferrals of customer orders in anticipation of new products or product enhancements from us or our competitors;
- the loss of one or more of our major customers;
- fluctuations in our manufacturing yields;
- the introduction of competing products by us or our competitors;
- changes in our product mix;
- competitive pricing pressures;
- the cost and availability of capacity at our integrated circuit manufacturers and subcontractors;
- the rate at which new markets emerge for products we are currently developing or for which our design expertise can be utilized to develop new products;
- transition of our markets to new technologies or standards; and
- departures of key personnel.

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WE HAVE ONLY RECENTLY BEGUN OFFERING FOR SALE OUR FIRST DATA COMMUNICATIONS PRODUCT. OUR FUTURE SUCCESS IS DEPENDENT ON OUR ABILITY TO ACHIEVE RAPID AND WIDESPREAD MARKET ACCEPTANCE FOR THIS PRODUCT AND OTHER DATA COMMUNICATIONS PRODUCTS WE DEVELOP AND OFFER FOR SALE.

Prior to March 2000, all of our products were sold for use in data storage devices, a market where we expect our rate of sales growth to slow considerably in fiscal 2001 and going forward. In March 2000, we shipped and generated revenue from our first broadband data communications product, an integrated eight-port physical layer device for Fast Ethernet applications. We also introduced in March 2000 a six-port physical layer device for Fast Ethernet applications, which is currently being sampled by customers. We are developing other broadband data communications products, including an integrated physical layer Gigabit Ethernet device for use in standard unshielded twisted pair cabling, a type of cabling widely used in today's corporate broadband data communications infrastructure. We have a limited history in developing, marketing and selling our products in the broadband data communications market. Even if we successfully develop and manufacture products for this market, they may not achieve market acceptance in the near term or at all. If our six-port and eight-port physical layer devices for Fast Ethernet or other broadband data communications products do not achieve rapid and widespread market acceptance, our growth prospects could be seriously harmed.

WE HAVE DEPENDED ON SALES OF OUR READ CHANNEL AND PREAMPLIFIER PRODUCTS FOR SUBSTANTIALLY ALL OF OUR REVENUE TO DATE, AND SIGNIFICANT REDUCTIONS IN ORDERS FOR THESE PRODUCTS, OR THE DATA STORAGE DEVICES INTO WHICH SUCH PRODUCTS ARE INCORPORATED, WOULD SIGNIFICANTLY REDUCE OUR REVENUES.

Substantially all of our revenue to date has been derived from sales of our read channel and preamplifier products. In fiscal 1999 and 2000, we experienced rapid growth in sales of our data storage products and anticipate our rate of sales growth for these products will slow considerably in 2001 and going forward. Unless we are able to diversify our sales through the introduction of new products, we will continue to be dependent on sales of our read channel and preamplifier products. Our read channel and preamplifier products are incorporated into data storage devices by our customers primarily for sale to the personal computer and computer server markets. Any reduction in the demand for data storage devices that incorporate our products would likely result in reduced demand for our products and would harm our sales. The data storage market is rapidly evolving and is subject to substantial fluctuation. For example, the data storage market may be affected by:

- shifts in market share among data storage device manufacturers, driven by technological advances, price reductions, the level of end-user satisfaction with the data storage devices and the level of support provided to the end-users; and
- fluctuations in the market for computing devices and products containing data storage devices.

WE DEPEND ON A SMALL NUMBER OF LARGE CUSTOMERS FOR A SUBSTANTIAL MAJORITY OF OUR SALES. THE LOSS OF, OR A SIGNIFICANT REDUCTION OR CANCELLATION IN SALES TO, ANY KEY CUSTOMER WOULD SERIOUSLY HARM OUR ABILITY TO GROW AND BE PROFITABLE.

In fiscal 2000, our five largest customers accounted for approximately 98% of our sales. Of these customers, Samsung accounted for 36%, Seagate for 24%, Hitachi for 14%, Fujitsu for 14% and Toshiba for 10%. Sales to these large customers have fluctuated significantly from year-to-year and will likely continue to fluctuate dramatically in the future. The loss of any of our largest customers, or a significant reduction in sales we make to them, or any problems we encounter collecting amounts they owe us, would likely seriously harm our results of operations and financial condition. Our operating results in the foreseeable future will continue to depend on sales to a relatively small number of customers, as well as the ability of these customers to sell products that incorporate our products. In

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the future, these customers may decide not to purchase our products at all, to purchase fewer products than they did in the past, or to alter their purchasing patterns, particularly because:

- we do not have any long-term purchase arrangements or contracts with these or any of our other customers;
- substantially all of our sales are made on a purchase order basis, which permits our customers to cancel, change or delay product purchase commitments with little or no notice to us and without penalty; and
- some of our customers have sought or are seeking relationships with current or potential competitors, which may affect our customers' purchasing decisions.

IF WE ARE UNABLE TO DEVELOP NEW AND ENHANCED PRODUCTS THAT ACHIEVE MARKET ACCEPTANCE IN A TIMELY MANNER, OUR OPERATING RESULTS AND COMPETITIVE POSITION WILL BE HARMED.

Our future success will depend on our ability, in a timely and cost effective manner, to develop new products for the broadband data communications markets and to introduce product enhancements to our read channel and preamplifier products. We must also achieve market acceptance for these products

and enhancements. If we do not successfully develop and achieve market acceptance for new and enhanced products, our ability to maintain or increase revenues will suffer. The development of mixed signal products is highly complex. We occasionally have experienced delays in completing the development and introduction of new products and product enhancements, and we could experience delays in the future. In particular, we have a limited history in developing products for the broadband data communications market and may encounter technical difficulties in developing Gigabit Ethernet or other products for this market that could prevent or delay the successful introduction of these products. Unanticipated problems in developing broadband data communications products could also require the diversion of substantial engineering resources, which may impair our ability to develop new products for the data storage market, and could substantially increase our costs. Even if the new and enhanced products are introduced to the market, we may not be able to achieve market acceptance of these products in a timely manner.

Successful product development and market acceptance of our products depends on a number of factors, including:

- timely and cost-effective completion and introduction of new product designs;
- timely qualification and certification of our products for use in our customers' products;
- adoption of our products by early adopters and by customers perceived to be technology leaders;
- availability of foundry, assembly and testing capacity;
- achievement of high manufacturing yields;
- availability, price, performance, power use and size of our products and competing products and technologies;
- our customer service and support capabilities and responsiveness;
- successful development of our relationships with existing and potential customers and strategic partners;
- our ability to hire and retain qualified personnel, particularly in research and development; and
- our ability to predict and respond to changes in technology, industry standards or end-user preferences.

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WE ARE A RELATIVELY SMALL COMPANY WITH LIMITED RESOURCES COMPARED TO SOME OF OUR CURRENT AND POTENTIAL COMPETITORS, AND WE MAY NOT BE ABLE TO COMPETE EFFECTIVELY AND INCREASE OR MAINTAIN MARKET SHARE.

We may not be able to compete successfully against current or potential competitors. If we do not compete successfully, our market share and revenues may not increase or may decline. Some of our current and potential competitors have longer operating histories, significantly greater resources and name recognition and a larger base of customers than we have. As a result, these competitors may have greater credibility with our existing and potential customers. Moreover, our competitors may foresee the course of market developments more accurately than we do. They also may be able to adopt more aggressive pricing policies and devote greater resources to the development, promotion and sale of their products than we can to ours, which would allow them to respond more quickly than us to new or emerging technologies or changes in customer requirements. In addition, new competitors or alliances among existing

As we begin to enter the broadband data communications market, we face competition from a number of additional competitors who have a long history of serving that market. Many of these competitors have established reputations in that market and long-standing relationships with the customers to whom we intend to sell our products that could prevent us from competing successfully.

Increased competition could:

- increase pressure on us to lower our prices;
- reduce our sales;
- lower our margins; and
- decrease our market share.

DUE TO OUR LIMITED OPERATING HISTORY, WE MAY HAVE DIFFICULTY IN ACCURATELY PREDICTING OUR FUTURE SALES AND APPROPRIATELY BUDGETING FOR OUR EXPENSES, AND WE MAY NOT BE ABLE TO MAINTAIN OUR EXISTING GROWTH RATE.

We were incorporated in 1995, did not begin generating any meaningful sales until June 1998 and did not become profitable on an annual basis until fiscal 2000. This limited operating experience, combined with the rapidly changing nature of the markets in which we sell our products, limits our ability to accurately forecast quarterly or annual sales. Additionally, because many of our expenses are fixed in the short term or incurred in advance of anticipated sales, we may not be able to decrease our expenses in a timely manner to offset any shortfall of sales. We are currently expanding our staffing and increasing our expense levels in anticipation of future sales growth. If our sales do not increase as anticipated, significant losses could result due to our higher expense levels.

Although we have experienced sales and earnings growth in prior quarterly and annual periods, we may not be able to sustain these growth rates. Accordingly, you should not rely on the results of any prior quarterly or annual periods as an indication of our future performance.

BECAUSE WE DO NOT HAVE LONG-TERM COMMITMENTS FROM OUR CUSTOMERS, WE MUST ESTIMATE CUSTOMER DEMAND, AND ERRORS IN OUR ESTIMATES CAN HAVE NEGATIVE EFFECTS ON OUR INVENTORY LEVELS AND SALES.

Our sales are made on the basis of individual purchase orders rather than long-term purchase commitments. In addition, our customers may cancel or defer purchase orders. We have historically placed firm orders for products with our suppliers up to 16 weeks prior to the anticipated delivery

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date and typically prior to receiving an order for the product. Therefore our order volumes are based on our forecasts of demand from our customers. This process requires us to make multiple demand forecast assumptions, each of which may introduce error into our estimates. If we overestimate customer demand, we may allocate resources to manufacturing products that we may not be able to sell when we expect or at all. As a result, we would have excess inventory, which would harm our financial results. Conversely, if we underestimate customer demand or if insufficient manufacturing capacity is available, we would forego revenue opportunities, lose market share and damage our customer relationships. On occasion, we have been unable to adequately respond to unexpected increases

WE RELY ON INDEPENDENT FOUNDRIES AND SUBCONTRACTORS FOR THE MANUFACTURE, ASSEMBLY AND TESTING OF OUR INTEGRATED CIRCUIT PRODUCTS, AND THE FAILURE OF ANY OF THESE THIRD-PARTY VENDORS TO DELIVER PRODUCTS OR OTHERWISE PERFORM AS REQUESTED COULD DAMAGE OUR RELATIONSHIPS WITH OUR CUSTOMERS AND HARM OUR SALES AND FINANCIAL RESULTS.

We do not have our own manufacturing, assembly or testing facilities. Therefore, we must rely on third-party vendors to manufacture, assemble and test the products we design. If these vendors do not provide us with high quality services in a timely manner, or if one or more of these vendors were to terminate their relationship with us, we may be unable to fulfill customer orders on a timely basis and our operating results and relationships with our customers could suffer. We currently rely on Taiwan Semiconductor Manufacturing Company to produce substantially all of our integrated circuit products. We also currently rely on several third-party assembly and test subcontractors, including ST Assembly Test Services in Singapore, Siliconware Precision Industries in Taiwan and Amkor Technology in the Philippines, to assemble, package and test our products.

There are significant risks associated with relying on these third-party vendors, including:

- our customers or their end customers may fail to approve or delay in approving our selected supplier;
- we may experience capacity shortages during periods of high demand;
- we have reduced control over product cost, delivery schedules and product quality;
- the warranties on wafers or products supplied to us are limited; and
- we face increased exposure to potential misappropriation of our intellectual property.

We currently do not have long-term supply contracts with any of our third-party vendors. They therefore are not obligated to perform services or supply products to us for any specific period, in any specific quantities, or at any specific price, except as may be provided in a particular purchase order. None of our third-party foundry or assembly and test subcontractors has provided contractual assurances to us that adequate capacity will be available to us to meet future demand for our products. These foundries may allocate capacity to the production of other companies' products while reducing deliveries to us on short notice. In particular, foundry customers that are larger and better financed than we are or that have long-term agreements with these foundries may cause these foundries to reallocate capacity to those customers, decreasing the capacity available to us. If we need another integrated circuit foundry or assembly and test contractor because of increased demand or the inability to obtain timely and adequate deliveries from our providers at the time, we might not be able to develop relationships with other vendors who are able to satisfy our requirements. Even if other integrated circuit foundries or assembly and test contractors are available at that time to satisfy our requirements, it would likely take several months to acquire a new provider. Such a change may also require the approval of our customers.

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IF OUR FOUNDRIES DO NOT ACHIEVE SATISFACTORY YIELDS OR QUALITY, OUR RELATIONSHIPS WITH OUR CUSTOMERS AND OUR REPUTATION WILL BE HARMED.

The fabrication of silicon wafers is a complex and technically demanding

BECAUSE FOUNDRY CAPACITY IS LIMITED, WE MAY TAKE VARIOUS ACTIONS TO TRY TO SECURE CAPACITY, WHICH MAY HARM OUR OPERATING RESULTS.

In order to secure additional foundry capacity we may enter into various arrangements with suppliers that could be costly and harm our operating results. These arrangements could include, among others:

- option payments or other prepayments to a foundry;
- nonrefundable deposits with or loans to foundries in exchange for capacity commitments;
- contracts that commit us to purchase specified quantities of silicon wafers over extended periods;
- depositing funds with the foundry for our products when we place orders, rather than when the foundry delivers our product;
- issuance of our equity securities to a foundry;
- investment in a foundry;
- joint ventures; and
- other partnership relationships with foundries.

We may not be able to make any such arrangement in a timely fashion or at all, and any arrangements may be costly, reduce our financial flexibility, and not be on terms favorable to us. Moreover, if we are able to secure foundry capacity, we may be obligated to use all of that capacity or incur penalties. These penalties may be expensive and could harm our financial results.

WE DEPEND ON KEY PERSONNEL WITH WHOM WE DO NOT HAVE EMPLOYMENT AGREEMENTS TO MANAGE OUR BUSINESS EFFECTIVELY IN A RAPIDLY CHANGING MARKET, AND IF WE ARE UNABLE TO RETAIN OUR CURRENT PERSONNEL AND HIRE ADDITIONAL PERSONNEL, OUR ABILITY TO DEVELOP AND SUCCESSFULLY MARKET OUR PRODUCTS COULD BE HARMED.

We believe our future success will depend in large part upon our ability to attract, integrate and retain highly skilled managerial, engineering and sales and marketing personnel. The loss of any key employees or the inability to attract or retain qualified personnel, including engineers and sales and marketing personnel, could delay the development and introduction of, and harm our ability to sell, our products. Due to the relatively early stage of our company's business, we believe that our future

success is highly dependent on the contributions of Sehat Sutardja, our co-founder, President and Chief Executive Officer, Panjas Sutardja, our co-founder and Vice-President and Chief Technology Officer of Marvell Semiconductor, and Weili Dai, our co-founder and Executive Vice President and General Manager of Data Communications. We do not have employment contracts with these or any other key personnel, and their knowledge of the business and industry would be extremely difficult to replace.

There is currently a shortage of qualified technical personnel with significant experience in the design, development, manufacture, marketing and sales of analog and mixed signal communications integrated circuits. In particular, there is a shortage of engineers who are familiar with the intricacies of the design and manufacture of analog elements, and competition for these engineers is intense. Our key technical personnel represent a significant asset and serve as the source of our technological and product innovations. We may not be successful in attracting, integrating and retaining sufficient numbers of technical personnel to support our anticipated growth.

OUR RAPID GROWTH HAS STRAINED OUR RESOURCES AND OUR INABILITY TO MANAGE ANY FUTURE GROWTH COULD HARM OUR BUSINESS.

During the past year, we have significantly increased the scope of our operations and expanded our workforce from 101 employees at January 31, 1999 to 207 employees at February 29, 2000. This growth has placed, and any future growth of our operations will continue to place, a significant strain on our management personnel, systems and resources. We anticipate that we will need to implement a variety of new and upgraded operational and financial systems, procedures and controls, including the improvement of our accounting and other internal management systems. We also expect that we will need to continue to expand, train, manage and motivate our workforce. All of these endeavors will require substantial management effort. If we are unable to effectively manage our expanding operations, our business could be harmed.

WE FACE FOREIGN BUSINESS, POLITICAL AND ECONOMIC RISKS, WHICH MAY NEGATIVELY AFFECT OUR RESULTS OF OPERATIONS, BECAUSE A MAJORITY OF OUR PRODUCTS AND OUR CUSTOMERS' PRODUCTS ARE MANUFACTURED AND SOLD OUTSIDE OF THE UNITED STATES.

A substantial portion of our business is conducted outside of the United States and as a result, we are subject to foreign business, political and economic risks. All of our products are manufactured outside of the United States. Our current qualified integrated circuit manufacturers are located in the same region within Taiwan, and our primary assembly and test subcontractors are located in the Pacific Rim region. In addition, many of our customers are located outside of the United States, primarily concentrated in Singapore, Korea, the Philippines and Japan, which further exposes us to foreign risks. Sales outside of the United States accounted for 99% of our revenues in fiscal 1999 and fiscal 2000. We anticipate that our manufacturing, assembly, testing and sales outside of the United States will continue to account for a substantial portion of our operations and revenue in future periods. Accordingly, we are subject to international risks, including:

- difficulties in obtaining governmental approvals and permits and complying with foreign laws;
- difficulties in staffing and managing foreign operations;
- trade restrictions or higher tariffs;
- transportation delays;
- difficulties of managing distributors;
- political and economic instability; and
- inadequate local infrastructure.



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Because sales of our products have been denominated to date exclusively in United States dollars, increases in the value of the United States dollar will increase the price of our products so that they become relatively more expensive to customers in the local currency of a particular country, potentially leading to a reduction in sales and profitability for us in that country. A portion of our international revenue may be denominated in foreign currencies in the future, which will subject us to risks associated with fluctuations in exchange rates for those foreign currencies.

OUR INDEPENDENT FOUNDRIES AND SUBCONTRACTORS ARE CONCENTRATED IN TAIWAN AND ELSEWHERE IN THE PACIFIC RIM, AN AREA SUBJECT TO SIGNIFICANT EARTHQUAKE RISKS. ANY DISRUPTION TO THE OPERATIONS OF THESE FOUNDRIES AND SUBCONTRACTORS RESULTING FROM EARTHQUAKES OR OTHER NATURAL DISASTERS COULD CAUSE SIGNIFICANT DELAYS IN THE PRODUCTION OR SHIPMENT OF OUR PRODUCTS.

The risk of an earthquake in Taiwan and elsewhere in the Pacific Rim region is a significant risk due to the proximity of major earthquake fault lines to the facilities of our foundries and subcontractors. In September 1999, a major earthquake in Taiwan affected the facilities of several of our third party contractors. As a consequence of this earthquake, these contractors suffered power outages and disruptions that impaired their production capacity. The occurrence of an earthquake or other natural disaster could result in the disruption of our foundry or assembly and test capacity. Any disruption resulting from such events could cause significant delays in the production or shipment of our products until we are able to shift our manufacturing, assembling or testing from the affected contractor to another third party vendor. We may not be able to obtain alternate capacity on favorable terms, if at all.

WE MAY NEED ADDITIONAL FUNDS TO EXECUTE OUR BUSINESS PLAN, AND IF WE ARE UNABLE TO OBTAIN THESE FUNDS, WE WILL NOT BE ABLE TO EXPAND OUR BUSINESS AS PLANNED.

We may require substantial additional capital to finance our future growth, secure additional independent foundry capacity and fund our ongoing research and development activities beyond fiscal 2000. Our capital requirements will depend on many factors, including:

- acceptance of and demand for our products;
- the types of arrangements that we may enter into with our independent foundries; and
- the extent to which we invest in new technology and research and development projects and increase our sales and marketing or other operating expenses.

To the extent that our existing sources of liquidity and cash flow from operations are insufficient to fund our activities, we may need to raise additional funds. If we raise additional funds through the issuance of equity securities, the percentage of ownership of our existing shareholders would be reduced. Any equity securities we issue may have rights, preferences or privileges senior to those of our common stock. If we issue debt securities, we may incur significant interest expense, which would harm our profitability. The issuance of debt securities may also require us to agree to various restrictions common to debt securities, including limitations on further borrowings and on our right to pay dividends. Additional financing may not be available to us on terms favorable to us or at all.

ANY ACQUISITIONS WE MAKE COULD DISRUPT OUR BUSINESS AND HARM OUR FINANCIAL CONDITION.

As part of our growth strategy, we may consider opportunities to acquire other businesses or technologies that would complement our current product offerings, expand the breadth of our markets or enhance our technical capabilities. To date, we have not made any acquisitions and we are currently not subject to any agreement or letter of intent with respect to potential acquisitions. Acquisitions entail a number of risks that could harm our business, including:

- problems integrating the acquired operations, personnel, technologies or products with our existing business and products;

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- diversion of management's time and attention from our core business;
- difficulties in retaining business relationships with suppliers and customers of the acquired company;
- risks associated with entering markets in which we lack prior experience; and
- potential loss of key employees of the acquired company.

#### RISKS RELATED TO OUR INDUSTRY

THE AVERAGE SELLING PRICES OF PRODUCTS IN OUR MARKETS HAVE HISTORICALLY DECREASED RAPIDLY AND WILL LIKELY DO SO IN THE FUTURE, WHICH COULD HARM OUR GROSS PROFITS AND SALES.

The products we develop and sell are used for high volume applications. As a result, the prices of those products have historically decreased rapidly. Our gross profits and financial results will suffer if we are unable to offset any reductions in our average selling prices by increasing our sales volumes, reducing our costs, or developing new or enhanced products on a timely basis with higher selling prices or gross profits. We expect that as a result of pricing pressure from our customers our gross profits on our data storage products are likely to decrease over the next fiscal year below levels we have historically experienced. Because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities, and our costs may even increase. We have reduced the average unit price of our products in anticipation of future competitive pricing pressures, new product introductions by us or our competitors and other factors. We expect that we will have to do so again in the future.

WE HAVE A LENGTHY AND EXPENSIVE SALES CYCLE, WHICH DOES NOT ASSURE PRODUCT SALES, AND WHICH IF UNSUCCESSFUL MAY HARM OUR FINANCIAL RESULTS.

Our operating results could be harmed if customers curtail, reduce or delay orders during our lengthy sales cycle, choose not to use our products or choose not to release products employing our products. Our sales cycle typically begins with a three to six month evaluation and test period, also known as qualification, during which our products undergo rigorous reliability testing by our customers. Qualification is followed by a twelve to eighteen month development period by our customers and an additional three to six month period before a customer commences volume production of equipment incorporating our products. This lengthy sales cycle creates risks related to customer decisions to cancel or change product plans. During our sales cycle, our engineers assist our customers in implementing our solutions into their product. We incur significant research and development and selling, general and administrative expenses as part of this process and we may never generate related revenues. We derive revenue from this process only if our design is selected. Once a customer selects a particular integrated circuit for use in a data storage product, the customer generally uses solely that integrated circuit for a full generation of

the product. Therefore, if we do not achieve a design win for a product, we will be unable to sell that product to our customer until our customer develops a new product or a new generation of a product. Even if we achieve a design win with a customer our customer may not ultimately ship products incorporating our products or may cancel orders after we have achieved a sale. In addition, we will have to begin the qualification process again when a customer develops a new generation of a product for which we were the successful supplier.

WE ARE SUBJECT TO THE CYCLICAL NATURE OF THE INTEGRATED CIRCUIT INDUSTRY. ANY FUTURE DOWNTURNS WILL LIKELY REDUCE OUR REVENUE AND RESULT IN OUR HAVING EXCESS INVENTORY.

The integrated circuit industry is highly cyclical and is characterized by constant and rapid technological change, rapid product obsolescence and price erosion, evolving standards, short product life cycles and wide fluctuations in product supply and demand. The industry has experienced

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significant downturns, often connected with, or in anticipation of, maturing product cycles of both integrated circuit companies' and their customers' products and declines in general economic conditions. These downturns have been characterized by diminished product demand, production overcapacity, high inventory levels and accelerated erosion of average selling prices. Any future downturns will likely reduce our revenue and result in our having excess inventory. Furthermore, any upturn in the integrated circuit industry could result in increased competition for access to third-party foundry, assembly and test capacity.

WE ARE DEPENDENT UPON THE HARD DRIVE INDUSTRY, WHICH IS HIGHLY CYCLICAL AND EXPERIENCES RAPID TECHNOLOGICAL CHANGE.

As of February 29, 2000, all of our sales have been to customers in the hard disk drive industry. The hard disk drive industry is intensely competitive and the technology changes rapidly. As a result, the industry's demand for components also fluctuates. The hard disk drive industry is highly cyclical, with periods of increased demand and rapid growth followed by periods of oversupply and subsequent contraction. These cycles may affect suppliers to this industry because hard disk drive manufacturers tend to order more components than they may need during growth periods, and sharply reduce orders for components during periods of contraction. In addition, advances in existing technologies and the introduction of new technologies may result in lower demand for disk drive storage devices, thereby reducing demand for our products.

Rapid technological changes in the hard disk drive industry often result in significant and rapid shifts in market share among the industry's participants. If our customers do not retain or increase market share, our sales may decrease. Also, during the final production of a mature product, our customers typically exhaust their existing inventory of our products. Consequently, orders for our products may decline in those circumstances, even if our products are incorporated into both our customer's mature and replacement products. A delay in the customer's transition to commercial production of a replacement product may cause them to lose sales, which would delay our ability to recover the lost sales from the discontinuation of the related mature product.

THE DEVELOPMENT AND EVOLUTION OF MARKETS FOR OUR INTEGRATED CIRCUITS ARE DEPENDENT ON FACTORS, SUCH AS INDUSTRY STANDARDS, OVER WHICH WE HAVE NO CONTROL. FOR EXAMPLE, IF OUR CUSTOMERS ADOPT NEW OR COMPETING INDUSTRY STANDARDS WITH WHICH OUR PRODUCTS ARE NOT COMPATIBLE, OUR EXISTING PRODUCTS WOULD BECOME LESS DESIRABLE TO OUR CUSTOMERS AND OUR SALES WOULD SUFFER.

The emergence of markets for our products is affected by a variety of factors beyond our control. In particular, our products are designed to conform to current specific industry standards. Our customers may not continue to follow

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these standards, which would make our products less desirable to our customers and reduce our sales. Also, competing standards may emerge that are preferred by our customers, which could also reduce our sales and require us to make significant expenditures to develop new products.

WE MAY BE UNABLE TO PROTECT OUR INTELLECTUAL PROPERTY, WHICH WOULD NEGATIVELY AFFECT OUR ABILITY TO COMPETE.

If we fail to protect our intellectual property rights, competitors could sell products based on technology that we have developed, which could harm our competitive position and decrease our revenues. We believe that the protection of our intellectual property rights is and will continue to be important to the success of our business. We rely on a combination of patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods, to protect our proprietary technologies. We also enter into confidentiality or license agreements with our employees, consultants and business partners, and control access to and distribution of our documentation and other proprietary information. As of February 29, 2000, we had been issued nine patents and had a number of pending United States patent applications. However, a patent may not be issued as a

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result of any applications or, if issued, claims allowed may not be sufficiently broad to protect our technology. In addition, it is possible that existing or future patents may be challenged, invalidated or circumvented. Despite our efforts, unauthorized parties may attempt to copy or otherwise obtain and use our products or proprietary technology. Monitoring unauthorized use of our technology is difficult, and the steps that we have taken may not prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States.

SIGNIFICANT LITIGATION OVER INTELLECTUAL PROPERTY IN OUR INDUSTRY MAY CAUSE US TO BECOME INVOLVED IN COSTLY AND LENGTHY LITIGATION, WHICH COULD SUBJECT US TO LIABILITY, REQUIRE US TO STOP SELLING OUR PRODUCTS OR FORCE US TO REDESIGN OUR PRODUCTS.

Litigation involving patents and other intellectual property is widespread in the high-technology industry and is particularly prevalent in the integrated circuit industry, where a number of companies aggressively use their patent portfolios to bring numerous infringement claims. We may become a party to litigation in the future either to protect our intellectual property or as a result of an alleged infringement of others' intellectual property. These lawsuits could subject us to significant liability for damages and invalidate our proprietary rights. These lawsuits, regardless of their success, would likely be time-consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling products or using technology that contain the allegedly infringing intellectual property;
- pay damages to the party claiming infringement;
- attempt to obtain a license to the relevant intellectual property, which license may not be available on reasonable terms or at all; and
- attempt to redesign those products that contain the allegedly infringing intellectual property.

#### RISKS RELATED TO THIS OFFERING

WE ARE INCORPORATED IN BERMUDA, AND, AS A RESULT, IT MAY NOT BE POSSIBLE FOR SHAREHOLDERS TO ENFORCE CIVIL LIABILITY PROVISIONS OF THE SECURITIES LAWS OF THE UNITED STATES.

We are organized under the laws of Bermuda. As a result, it may not be possible for our shareholders to effect service of process within the United States upon us, or to enforce against us in United States courts judgments based on the civil liability provisions of the securities laws of the United States. In addition, there is significant doubt as to whether the courts of Bermuda would recognize or enforce judgments of United States courts obtained against us or our directors or officers based on the civil liabilities provisions of the securities laws of the United States or any state or hear actions brought in Bermuda against us or those persons based on those laws. We have been advised by our legal advisor in Bermuda that the United States and Bermuda do not currently have a treaty providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters. Therefore, a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not based solely on United States federal or state securities laws, would not be automatically enforceable in Bermuda.

BERMUDA LAW DIFFERS FROM THE LAWS IN EFFECT IN THE UNITED STATES AND MAY AFFORD LESS PROTECTION TO SHAREHOLDERS.

Our shareholders may have more difficulty in protecting their interests than would shareholders of a corporation incorporated in a jurisdiction of the United States. We are a Bermuda company and, accordingly, are governed by The Companies Act, 1981 of Bermuda. The Companies Act, 1981 of Bermuda differs in certain material respects from laws generally applicable to United States

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corporations and shareholders, including the provisions relating to interested directors, mergers and similar arrangements, takeovers, shareholder lawsuits, indemnification of directors and inspection of corporate records.

THE TAX BENEFITS WE RECEIVE MAY BE TERMINATED OR REDUCED IN THE FUTURE, WHICH WOULD INCREASE OUR COSTS.

We will be subject to United States federal income tax at regular corporate rates and to United States branch profits tax on our income that is effectively connected with the conduct of a trade or business within the United States, and we will be required to file federal income tax returns reflecting that income. We intend to conduct our business so as to limit the amount of our effectively connected income. However, the Internal Revenue Service may not agree with our positions taken in this regard in the past or in the future, and an unfavorable ruling with respect to our positions could subject us to significant liabilities for back taxes and interest.

The Economic Development Board of Singapore has informed us that it intends to recommend us for pioneer status. We believe that we will shortly receive official approval of pioneer status for a period of at least six years, commencing July 1, 1999. As a result, we anticipate that a significant portion of the income we earn in Singapore during this period will be exempt from the 26% Singapore tax rate. We are required to meet several requirements as to investment, headcount and activities in Singapore to retain this status. If we do not receive pioneer status or if our status is terminated early, our financial results could be harmed.

Under current Bermuda law, we are not subject to tax on our income or capital gains. We have obtained from the Minister of Finance of Bermuda under the Exempt Undertakings Tax Protection Act 1966, as amended, an undertaking that, in the event that Bermuda enacts any legislation imposing tax computed on income or capital gains, those taxes should not apply to us until March 28, 2016. However, this exemption may not be extended beyond this date.

IF WE ARE A PASSIVE FOREIGN INVESTMENT COMPANY, OUR SHAREHOLDERS MAY SUFFER ADVERSE TAX CONSEQUENCES.

Because we are incorporated in Bermuda and have operations in the United States and Singapore, we are subject to special rules and regulations, including rules regarding passive foreign investment company or PFIC. We believe that we are not a PFIC, and we expect to continue to manage our affairs so that we will not become a PFIC. However, whether we should be treated as a PFIC is a factual determination that is made annually and is subject to change. If we are classified as a PFIC, then each United States holder of our common stock would, upon qualifying distributions by us or upon the pledge or sale of their shares of common stock at a gain, be liable to pay tax at the then prevailing rates on ordinary income plus an interest charge, generally as if the distribution or gain had been earned ratably over the shareholder's holding period. In addition to the risks related to PFIC status, we and our shareholders could also suffer adverse tax consequences if we are classified as a foreign personal holding company, a personal holding company or a controlled foreign corporation, each of which is described in this prospectus under the heading "Taxation".

EXISTING SHAREHOLDERS OWN A LARGE PERCENTAGE OF OUR VOTING STOCK, AND THREE EXISTING DIRECTORS, WHO ARE ALSO SIGNIFICANT SHAREHOLDERS, ARE RELATED BY BLOOD OR MARRIAGE. THESE FACTORS MAY ALLOW THE EXISTING SHAREHOLDERS OR THE THREE RELATED DIRECTORS TO CONTROL THE ELECTION OF DIRECTORS AND THE APPROVAL OR DISAPPROVAL OF SIGNIFICANT CORPORATE ACTIONS FOLLOWING THIS OFFERING.

Immediately after this offering, we anticipate that our executive officers, directors and other principal shareholders will beneficially own or control, directly or indirectly, approximately % of the outstanding shares of common stock. Additionally, Sehat Sutardja and Weili Dai are husband and wife and Sehat Sutardja and Pantas Sutardja are brothers. All three are directors and together they will

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hold % of our outstanding common stock after the completion of this offering. As a result, if the existing shareholders or any of Sehat Sutardja, Pantas Sutardja and Weili Dai act together, they will significantly influence, and will likely control, the election of our directors and approval or disapproval of our significant corporate actions. This influence over our affairs might be adverse to the interests of other shareholders. In addition, the voting power of these shareholders or directors could have the effect of delaying or preventing an acquisition of our company on terms that other shareholders may desire.

OUR COMMON STOCK HAS NOT BEEN PUBLICLY TRADED, AND WE EXPECT THAT THE PRICE OF OUR STOCK MAY FLUCTUATE SUBSTANTIALLY.

Recently, the stock prices of technology companies similar to Marvell have been quite volatile. Moreover, prior to this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between the underwriters and us. If you purchase shares of common stock, you may not be able to resell your shares at or above the initial offering price. The market price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including the following:

- actual or anticipated fluctuations in our operating results;
- changes in recommendations or financial estimates by securities analysts or our failure to perform in line with such estimates;
- changes in market valuations of other technology companies, particularly those that design, manufacture and/or sell integrated circuits;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, joint ventures or capital commitments;

- introduction of technologies or product enhancements that reduce the need for our products;
- the operating and stock price performances of other comparable companies;
- departures of key personnel; and
- sales of our common stock in the future.

OUR BUSINESS MAY BE HARMED BY CLASS ACTION LITIGATION DUE TO STOCK PRICE VOLATILITY.

In the past, securities class action litigation often has been brought against a company following periods of volatility in the market price of its securities. Companies in the integrated circuit industry and other technology industries are particularly vulnerable to this kind of litigation due to the high volatility of their stock prices. Accordingly, we may in the future be the target of securities litigation. Securities litigation could result in substantial costs and could divert our management's attention and resources.

FUTURE SALES OF OUR COMMON STOCK IN THE PUBLIC MARKET MAY DEPRESS OUR STOCK PRICE.

After this offering, we will have outstanding \_\_\_\_\_ shares of common stock. Sales of a substantial number of shares of our common stock in the public market following this offering could cause our stock price to decline. Substantially all the shares sold in this offering will be freely tradable. Of the remaining \_\_\_\_\_ shares of common stock outstanding after this offering, approximately \_\_\_\_\_ shares will be subject to lock-up agreements with the underwriters ending 180 days after the date of this prospectus, but will then be eligible for sale in the public market. The remaining \_\_\_\_\_ shares will become freely tradable at various times after the date of this prospectus. Goldman, Sachs & Co. can waive the restrictions of the lock-up agreements at an earlier time without prior notice or announcement and allow shareholders to sell their shares. As restrictions on resale end, the market price of our stock could drop significantly if the holders of restricted shares sell them or

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are perceived by the market as intending to sell them. In addition, the sale of these shares could impair our ability to raise capital through the sale of additional stock.

WE INTEND TO ADOPT PROVISIONS IN OUR BYE-LAWS THAT COULD DELAY OR PREVENT A CHANGE IN CORPORATE CONTROL, EVEN IF THE CHANGE IN CORPORATE CONTROL WOULD BENEFIT OUR SHAREHOLDERS.

At our annual general meeting of shareholders in April 2000, we intend to seek the approval of our shareholders of an amendment and restatement of our Bye-laws, which would include the adoption of change in corporate control provisions. These change in corporate control provisions would include:

- authorizing the issuance of preferred stock without shareholder approval;
- providing for a classified board of directors with staggered, three-year terms;
- prohibiting cumulative voting in the election of directors; and
- requiring two-thirds of the outstanding shares to approve amendments to some provisions of our Bye-laws.

The adoption of these changes in corporate control provisions could make it more difficult for a third party to acquire us, even if doing so would be a benefit to our shareholders.

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## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

In this prospectus we have made statements under the headings "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations," "Business" and in other sections that are forward-looking statements. In some cases, you can identify these statements by forward-looking words such as "may," "might," "will," "should," "intends," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "projects," "potential" or "continue," the negative of these terms and other comparable expressions. These forward-looking statements, which are subject to risks, uncertainties, and assumptions about us, may include, among other things, projections of our future financial performance, our anticipated growth strategies, anticipated product introductions and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. Because these forward-looking statements involve risks and uncertainties, there are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including those factors discussed under the heading "Risk Factors". You should specifically consider the numerous risks described under the heading "Risk Factors".

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## USE OF PROCEEDS

The net proceeds to us from the sale of the \_\_\_\_\_ shares of common stock offered by us will be approximately \$ \_\_\_\_\_ million, or approximately \$ \_\_\_\_\_ million if the underwriters' option to purchase additional shares is exercised in full. The amount of net proceeds has been calculated based on an assumed initial public offering price of \$ \_\_\_\_\_ per share and after deducting an assumed underwriting discount and the estimated offering expenses payable by us.

We intend to use the net proceeds from this offering primarily for general corporate purposes, including working capital and capital expenditures. We may use a portion of the net proceeds from this offering to acquire or invest in businesses, technologies or services that are complementary to our existing business. However, we have no present plans or commitments and are not engaged in any negotiations with respect to any material transactions of this type. Pending these uses, we intend to invest the net proceeds in short-term, investment-grade, interest-bearing securities, certificates of deposit or guaranteed obligations of the United States.

## DIVIDEND POLICY

We have never declared or paid cash dividends on our capital stock. We currently expect to retain earnings, if any, to finance the growth and development of our business. Therefore, we do not anticipate declaring or paying cash dividends on our common stock in the foreseeable future. The decision whether to pay dividends will be made by our Board of Directors from time to time in light of conditions then existing including, among other things, our results of operations, financial condition and anticipated cash requirements. Our loan agreement with our bank contains restrictions on the payment of dividends.



CAPITALIZATION

The following table sets forth our capitalization as of January 31, 2000:

- on an actual basis;
- on a pro forma basis assuming the exercise of outstanding warrants to purchase preferred stock and common stock and giving effect to the automatic conversion of all outstanding shares of preferred stock into common stock, resulting in the issuance of 27,044,852 shares of common stock upon the closing of this offering; and
- on a pro forma as adjusted basis to reflect the sale of shares of common stock in this offering at an assumed initial public offering price of \$ per share, after deducting an assumed underwriting discount and the estimated offering expenses payable by us and the application of the net proceeds from the offering.

<TABLE>  
<CAPTION>

	JANUARY 31, 2000		
	ACTUAL	PRO FORMA	PRO FORMA AS ADJUSTED
	(IN THOUSANDS, EXCEPT SHARE DATA)		
	<C>	<C>	<C>
<S> Capital lease obligations, less current portion.....	\$ 36	\$ 36	\$ 36
Mandatorily redeemable convertible preferred stock, \$0.002 par value, 8,000,000 shares authorized, 6,609,860 shares issued and outstanding, actual; 8,000,000 authorized, none issued and outstanding pro forma and pro forma as adjusted.....	22,353	--	--
Shareholders' equity:			
Common stock, \$0.002 par value; 242,000,000 shares authorized, 48,931,560 shares issued and outstanding, actual; 242,000,000 shares authorized, 75,976,412 shares issued and outstanding, pro forma; 242,000,000 shares authorized, shares issued and outstanding, pro forma as adjusted.....	98	152	
Additional paid-in capital.....	17,580	40,560	
Deferred stock-based compensation.....	(11,897)	(11,897)	(11,897)
Retained earnings.....	2,159	2,159	2,159
Total shareholders' equity.....	7,940	30,974	
Total capitalization.....	\$ 30,329	\$ 31,010	\$
	=====	=====	=====

</TABLE>

This information should be read in conjunction with our financial statements and the notes relating to those statements appearing elsewhere in this prospectus.

The number of shares of common stock outstanding set forth in the table above excludes the following:

- 12,385,924 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$0.87 per share;
- 5,082,520 shares available for future issuance under our 1995 Stock

- 1,172,250 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$5.00 per share, granted subsequent to January 31, 2000 and through February 29, 2000.

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DILUTION

As of January 31, 2000, our pro forma net tangible book value was approximately \$30,974,000, or \$0.41 per share of common stock. Pro forma net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by 75,976,412 shares of common stock outstanding assuming the exercise of outstanding warrants to purchase preferred stock and common stock and giving effect to the conversion of all outstanding shares of preferred stock into shares of common stock upon completion of this offering. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of our common stock in this offering and the net tangible book value per share of our common stock immediately following this offering.

Purchasers of common stock in this offering will experience immediate dilution. Without taking into account any changes in net tangible book value after January 31, 2000, other than to give effect to the sale of the shares of common stock offered by us at an assumed initial public offering price of \$ per share, and after deducting an assumed underwriting discount and estimated offering expenses payable by us, our pro forma net tangible book value as of January 31, 2000 would have been approximately \$ million or \$ per share of common stock. This amount represents an immediate increase in pro forma net tangible book value of \$ per share to the existing shareholders and an immediate dilution in pro forma net tangible book value of \$ per share to new investors purchasing shares in this offering. If the initial public offering price is higher or lower, the dilution to new investors will be greater or less. The following table illustrates the dilution in pro forma net tangible book value per share to new investors.

<TABLE>  
 <S>

Assumed initial public offering price per share.....	<C>	<C>
Pro forma net tangible book value per share as of January 31, 2000.....	\$	
Increase per share attributable to new investors.....	\$ 0.41	
	-----	
Pro forma net tangible book value per share after this offering.....		
Dilution per share to new investors.....		\$
		=====

</TABLE>

The following table summarizes as of January 31, 2000, on the pro forma basis described above, the number of shares of common stock purchased from us, the total consideration paid to us and the average price per share paid by existing shareholders and by new investors purchasing shares of common stock in this offering, before deducting underwriting discounts and commissions and the estimated offering expenses:

<TABLE>  
 <CAPTION>

SHARES PURCHASED		TOTAL CONSIDERATION		AVERAGE PRICE
NUMBER	PERCENT	AMOUNT	PERCENT	PER SHARE

</TABLE>

The above information excludes:

- 12,385,924 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$0.87 per share;
- 5,082,520 shares available for future issuance under our 1995 Stock Option Plan and 1997 Directors' Stock Option Plan; and
- 1,172,250 shares issuable upon the exercise of outstanding stock options, at a weighted average exercise price of \$5.00 per share, granted subsequent to January 31, 2000 and through February 29, 2000.

To the extent any of these options is exercised, there will be further dilution to new investors.

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SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with, and are qualified by reference to, our consolidated financial statements and related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" appearing elsewhere in this prospectus. The statements of operations data for the years ended January 31, 1998, 1999 and 2000, and the balance sheet data as of January 31, 1999 and 2000, are derived from, and are qualified by reference to, our audited consolidated financial statements which are included elsewhere in this prospectus. The statements of operations data for the years ended January 31, 1996 and 1997, and the balance sheet data as of January 31, 1996, 1997 and 1998 are derived from financial statements that are not included in this prospectus. The historical results presented below are not necessarily indicative of future results. See Note 1 of the notes to our consolidated financial statements for an explanation of the determination of the number of shares used to compute per share amounts.

<TABLE>  
 <CAPTION>

	YEAR ENDED JANUARY 31,				
	1996	1997	1998	1999	2000
	(IN THOUSANDS, EXCEPT PER SHARE AMOUNTS)				
<S>	<C>	<C>	<C>	<C>	<C>
CONSOLIDATED STATEMENTS OF OPERATIONS DATA:					
Net revenue.....	\$ 210	\$ 190	\$ 625	\$21,253	\$81,375
Cost of product revenue.....	--	--	312	10,103	33,773
Gross profit.....	210	190	313	11,150	47,602
Operating expenses:					
Research and development.....	480	1,350	5,018	5,837	14,452
Marketing and selling.....	12	618	1,671	4,631	10,436
General and administrative.....	92	468	1,028	1,190	3,443
Amortization of stock compensation.....	--	--	--	42	2,175
Total operating expenses.....	584	2,436	7,717	11,700	30,506
Operating income (loss).....	(374)	(2,246)	(7,404)	(550)	17,096

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	22 (9)	96 (2)	170 (184)	175 (191)	486 (156)
Interest income.....					
Interest expense.....					
Income (loss) before income taxes.....	(355)	(2,152)	(7,398)	(476)	17,426
Provision for income taxes.....	--	1	46	483	4,356
Net income (loss).....	\$ (355)	\$ (2,153)	\$ (7,444)	\$ (959)	\$13,070
Basic net income (loss) per share.....	\$ (0.02)	\$ (0.08)	\$ (0.24)	\$ (0.03)	\$ 0.32
Diluted net income (loss) per share.....	\$ (0.02)	\$ (0.08)	\$ (0.24)	\$ (0.03)	\$ 0.16
Shares used in computing basic net income (loss) per share.....	20,738	25,593	30,436	32,470	41,094
Shares used in computing diluted net income (loss) per share.....	20,738	25,593	30,436	32,470	81,545
Pro forma basic net income per share.....					\$ 0.20
Pro forma diluted net income per share.....					\$ 0.16
Shares used in computing pro forma basic net income per share.....					66,157
Shares used in computing pro forma diluted net income per share.....					81,545

<TABLE>  
<CAPTION>

	AS OF JANUARY 31,				
	1996	1997	1998	1999	2000
	(IN THOUSANDS)				
<S>	<C>	<C>	<C>	<C>	<C>
CONSOLIDATED BALANCE SHEET DATA:					
Cash and cash equivalents.....	\$1,264	\$4,763	\$3,307	\$ 5,515	\$16,600
Working capital.....	1,188	4,426	2,682	6,865	22,611
Total assets.....	1,364	5,267	5,291	16,563	46,500
Notes payable to bank and capital lease obligations, less current portion.....	30	--	21	897	36
Mandatorily redeemable convertible preferred stock.....	1,383	7,176	13,465	17,524	22,353
Total shareholders' equity (deficit).....	(126)	(2,289)	(9,578)	(9,350)	7,940

</TABLE>  
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#### MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

This prospectus contains forward-looking statements that involve risks and uncertainties. Our actual results may differ significantly from the results discussed in these forward-looking statements. We assume no obligation to update the forward-looking statements or such risk factors. Our fiscal year-end financial reporting periods end on the Saturday closest to January 31st. For purposes of presentation, we have indicated our fiscal year as ending on January 31.

#### OVERVIEW

We design, develop and market integrated circuits using proprietary mixed signal and digital signal processing technology for the communications-related markets of high speed, high density data storage and broadband data communications. We were founded in 1995, and our business has grown rapidly since our inception. As a fabless integrated circuit company, we rely on independent, third-party contractors to perform manufacturing, assembly and test functions. This approach allows us to focus on designing, developing and marketing our products and significantly reduces the amount of capital we need

We began shipping our first generation read channel products in volume in June 1998. We began volume shipments of preamplifier products in June 1999. Read channels have historically accounted for more than 85% of our quarterly sales and virtually all of the balance has been derived from sales of preamplifier products. We expect to remain dependent on continued sales of read channel and preamplifier products for a majority of our revenue until we are able to diversify revenue through the addition of new products. We have introduced two new generations of read channel products and one new generation of preamplifier products since we first started shipping read channel and preamplifier products. In December 1999, we introduced our first generation integrated eight-port physical layer device for Fast Ethernet applications, which in March 2000 began shipping and generating revenue. In March 2000, we also introduced our six-port physical layer device for Fast Ethernet applications, which customers are now sampling. We expect to introduce additional broadband data communications products during calendar year 2000. Our future broadband data communications revenue will depend upon completion of our product development and acceptance by our customers.

We recognize product revenue upon shipment of our products to customers, net of accruals for estimated sales returns and allowances. We have not experienced any significant sales returns from customers to date. Substantially all of our sales have been generated through our direct sales force. In March 2000, we entered into our first distribution agreement to support our sales and marketing activities in the broadband data communications market, and we plan to enter into other distribution agreements during calendar year 2000. We defer recognition of product revenue on sales made through a distributor until the distributor sells product to its customer.

Historically, a relatively small number of customers have accounted for a significant portion of our revenue. Our top five customers accounted for 90%, 99% and 98% of our revenue for the years ended January 31, 1998, 1999 and 2000. We anticipate that sales to distributors will increase as a percentage of our revenue in future periods. However, we expect to continue to experience significant customer concentration from direct sales to key customers.

In addition, a significant portion of our products is sold to customers overseas. Sales to customers in Asia accounted for 99% of our revenue in each of the years ended January 31, 1999 and 2000. Because many manufacturers and subcontractors of data storage and broadband data communications devices are located in Asia, we expect that a majority of our revenue will continue to be represented by sales to customers in that region. All of our sales have been denominated in U.S. dollars.

Our sales have historically been made on the basis of purchase orders rather than long-term agreements. In addition, the sales cycle for our products is long, which may cause us to experience a

delay between the time we incur expenses and the time we generate revenue from these expenditures. We expect to increase our research and development, marketing and selling, and general and administrative expenditures as we seek to expand our operations. We anticipate the rate of new orders may vary significantly from quarter to quarter. Consequently, if anticipated sales and shipments in any quarter do not occur when expected, expenses and inventory levels could be disproportionately high, seriously harming our operating results for that quarter and, potentially, future quarters.

We will incur substantial stock compensation expense in future periods which represents non-cash charges incurred as a result of the issuance of stock options to employees and directors. These charges are recorded based on the difference between the deemed fair value of the common stock and the option

We have accrued income taxes at an effective tax rate of 25% since achieving consolidated profitability in fiscal 2000. The difference between this rate and the federal tax rate of 35% is due to the lower tax rates imposed on our operations in Bermuda and Singapore and to the benefits realized from research and development credits in the United States. Our operations in Singapore are subject to a statutory tax rate of 26%. The Economic Development Board of Singapore has informed us that it intends to recommend us for pioneer status. We believe that we will shortly receive official approval of pioneer status for a period of at least six years, commencing July 1, 1999. As a result, a percentage of our Singapore profits will not be subject to tax prior to July 31, 2005. We have an undertaking from the government of Bermuda that we will not be subject to tax on our income and capital gains in Bermuda until March 28, 2016.

RESULTS OF OPERATIONS

The following table sets forth the statements of operations data expressed as a percentage of net revenue for the periods indicated.

<TABLE>  
<CAPTION>

	YEAR ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Net revenue.....	100.0%	100.0%	100.0%
Cost of product revenue.....	49.9	47.5	41.5
Gross profit.....	50.1	52.5	58.5
Operating expenses:			
Research and development.....	802.9	27.5	17.8
Marketing and selling.....	267.4	21.8	12.8
General and administrative.....	164.5	5.6	4.2
Amortization of stock compensation.....	--	0.2	2.7
Total operating expenses.....	1234.8	55.1	37.5
Operating income (loss).....	(1184.7)	(2.6)	21.0
Interest income.....	27.2	0.8	0.6
Interest expense.....	(26.2)	(0.5)	(0.2)
Income (loss) before income taxes.....	(1183.7)	(2.3)	21.4
Provision for income taxes.....	(7.4)	(2.3)	(5.4)
Net income (loss).....	(1191.1)%	(4.6)%	16.0%

</TABLE>

**COST OF PRODUCT REVENUE.** Cost of product revenue consists primarily of the costs of manufacturing, assembly and test of our integrated circuit devices and related overhead costs, and compensation and associated costs related to manufacturing support, logistics and quality assurance personnel. Gross profit, which equals product revenue, excluding \$197,000 in revenue for the year ended January 31, 1998 related to a research and development contract, less cost of product revenue, as a percentage of revenue, increased from 27.1% in fiscal 1998, to 52.5% in fiscal 1999, and to 58.5% in fiscal 2000. The increase in gross profit in fiscal 1999 was primarily due to the substantial increase in sales volume. The increase in gross profit in fiscal 2000 was primarily due to the substantial increase in sales volume and a reduction in product costs per unit. We expect our gross profit to decrease as a percentage of revenue due to increased pricing pressures in the markets in which we compete and to potential cost increases resulting from limited foundry capacity.

Product costs per unit declined in fiscal 2000 due to a general decrease in the prices charged by contract manufacturers of integrated circuits because of the availability of capacity within the integrated circuit manufacturing industry, as well as improvements in the manufacturing yields achieved through the third quarter of fiscal 2000. We experienced a decline in our yields in the fourth quarter of fiscal 2000 due to the initial production ramp up of our newest, more complex, read channel products.

**RESEARCH AND DEVELOPMENT.** Research and development expense consists primarily of compensation and associated costs relating to development personnel, prototype wafer, mask and reticle costs, depreciation expenses and allocated occupancy costs for these operations. Research and development expense was \$5.0 million, or 802.9% of revenue, for fiscal 1998, \$5.8 million, or 27.5% of revenue, for fiscal 1999, and \$14.5 million, or 17.8% of revenue, for fiscal 2000. The year-to-year increases in absolute dollars were primarily due to the hiring of additional development personnel and, in fiscal 2000, an increase in prototype wafer, mask and reticle costs, and depreciation expense due to significant purchases of computer aided design software tools. We expect that research and development expense will increase substantially in absolute dollars in future periods and as a percentage of revenue in fiscal 2001 as we develop new products, engage in other product development initiatives and increase our number of research and development personnel.

**MARKETING AND SELLING.** Marketing and selling expense consists primarily of compensation and associated costs relating to marketing and selling personnel, sales commissions to independent sales representatives, promotional and other marketing expenses, and allocated occupancy costs for these operations. Marketing and selling expense was \$1.7 million, or 267.4% of revenue, for fiscal 1998, \$4.6 million or 21.8% of revenue, for fiscal 1999, and \$10.4 million, or 12.8% of revenue, for fiscal 2000. The year-to-year increases in absolute dollars were due primarily to the hiring of additional personnel, increased sales commissions, and expanded sales and marketing activities related to the further broadening of our customer and product base. We expect that marketing and selling expense will increase substantially in absolute dollars and as a percentage of revenue in fiscal 2001 as we hire additional personnel, expand our sales and marketing efforts, particularly in broadband data communications, and pay increased sales commissions.

GENERAL AND ADMINISTRATIVE. General and administrative expense consists primarily of compensation and associated costs relating to general and administrative personnel, professional fees and allocated occupancy costs for these operations. General and administrative expense was \$1.0 million, or 164.5% of revenue, for fiscal 1998, \$1.2 million, or 5.6% of revenue, for fiscal 1999, and \$3.4 million or 4.2% of revenue, for fiscal 2000. The year-to-year increases in absolute dollars were due primarily to the hiring of additional personnel and increased professional fees. We expect that general and administrative expense will continue to increase in absolute dollars as we hire additional personnel and incur costs associated with being a public company. We also expect our consulting expenses to increase as a result of post implementation support costs associated with our new enterprise resource planning system which is currently being installed. We expect general and administrative expense to fluctuate as a percentage of revenue due to changes in our sales volume and the fluctuating use of consultants for post implementation support associated with our enterprise resource planning system.

AMORTIZATION OF STOCK COMPENSATION. In connection with the grant of stock options to our employees and directors, we recorded deferred stock compensation of approximately \$14.1 million, which is being amortized under the accelerated method over the option vesting period. Amortization expense was \$42,000, or 0.2% of total revenue for fiscal 1999, and \$2.2 million, or 2.7% of total revenue for fiscal 2000. The increase in expense was due to deferred stock compensation recorded in fiscal 2000.

INTEREST INCOME. Interest income reflects interest earned on cash and cash equivalents and investment balances. Interest income was \$170,000 in fiscal 1998, \$175,000 in fiscal 1999, and \$486,000 in fiscal 2000. In each year, the increase in interest income was primarily due to interest earned on higher invested cash balances.

INTEREST EXPENSE. Interest expense consists of interest on our notes payable to bank and capital lease obligations. Interest expense was \$164,000 in fiscal 1998, \$101,000 in fiscal 1999, and \$156,000 in fiscal 2000. The changes in interest expense were primarily due to fluctuating average debt balances.

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QUARTERLY RESULTS OF OPERATIONS

The following tables present unaudited quarterly results, in dollars and as a percentage of net revenue, for each of the eight quarters in the period ended January 31, 2000. We believe this information reflects all adjustments, consisting only of normal recurring adjustments, that we consider necessary for a fair presentation of such information in accordance with generally accepted accounting principles. The results for any quarter are not necessarily indicative of results for any future period.

<TABLE>  
<CAPTION>

	QUARTER ENDED							
	APRIL 30,	JULY 31,	OCTOBER 31,	JANUARY 31,	APRIL 30,	JULY 31,	OCTOBER 31,	JANUARY
	1998	1998	1998	1999	1999	1999	1999	2000
	(IN THOUSANDS)							
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Net revenue.....	\$ 466	\$ 1,862	\$5,081	\$13,844	\$14,056	\$16,860	\$23,463	\$26,996
Cost of product revenue...	285	1,099	2,757	5,962	6,195	7,120	8,874	11,584



Gross profit.....	14,589	15,412
Operating expenses:		
Research and development.....	1,451	1,098
Marketing and selling... General and administrative.....	687	821
Amortization of stock compensation.....	254	224
Total operating expenses.....	2,392	2,143
Operating income (loss)...	(2,211)	(1,380)
Interest income.....	77	51
Interest expense.....	(1)	(9)
Income (loss) before income taxes.....	(2,135)	(1,338)
Provision for income taxes.....	--	(30)
Net income (loss).....	\$ (2,135)	\$ (1,368)

</TABLE>

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QUARTER ENDED AS A PERCENTAGE OF NET REVENUE

	APRIL 30, 1998	JULY 31, 1998	OCTOBER 31, 1998	JANUARY 31, 1999	APRIL 30, 1999	JULY 31, 1999	OCTOBER 31, 1999	JANUARY 31, 2000
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
Net revenue.....	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of product revenue.....	61.2	59.1	54.3	43.1	44.1	42.2	37.8	42.9
Gross profit.....	38.8	40.9	45.7	56.9	55.9	57.8	62.2	57.1
Operating expenses:								
Research and development.....	311.4	59.0	27.1	13.7	17.2	17.5	15.8	19.9
Marketing and selling.....	147.4	44.1	24.4	13.6	14.0	14.9	11.9	11.8
General and administrative.....	54.5	12.0	5.4	3.2	4.6	4.7	3.4	4.5
Amortization of stock compensation.....	--	--	0.2	0.2	0.6	0.9	1.4	6.0
Total operating expenses.....	513.3	115.1	57.1	30.7	36.4	38.0	32.5	42.2
Operating income (loss).....	(474.5)	(74.2)	(11.4)	26.2	19.5	19.8	29.7	14.9
Interest income.....	16.5	2.7	0.6	0.1	0.4	0.4	0.5	0.9
Interest expense.....	(0.2)	(0.5)	(1.4)	(0.1)	(0.2)	(0.3)	(0.2)	(0.1)
Income (loss) before income taxes.....	(458.2)	(72.0)	(12.2)	26.2	19.7	19.9	30.0	15.7
Provision for income taxes.....	--	(1.6)	(0.8)	(3.0)	(4.9)	(5.0)	(7.5)	(3.9)
Net income (loss).....	(458.2)%	(73.6)%	(13.0)%	23.2%	14.8%	14.9%	22.5%	11.8%

Our quarterly results of operations have varied from quarter-to-quarter in the past and we expect them to vary from quarter-to-quarter in future periods. These fluctuations may occur due to a number of factors, including:

- the cyclical nature of the integrated circuit industry;
- the timing and volume of orders and order cancellations from our customers;
- the level of acceptance of our products by existing and potential customers;
- the demand for, seasonality of the markets for, and life cycles of, products incorporating our products;
- our ability to fund, develop, introduce, ship and support new products and product enhancements, and the related timing and costs associated with those activities;
- deferrals of customer orders in anticipation of new products or product enhancements from us or our competitors;
- the loss of one or more of our major customers;
- fluctuations in our manufacturing yields;
- the introduction of competing products by us or our competitors;
- changes in our product mix;
- competitive pricing pressures;
- the cost and availability of capacity at our integrated circuit manufacturers and subcontractors;
- the rate at which new markets emerge for products we are currently developing or for which our design expertise can be utilized to develop new products;
- transition of our markets to new technologies or standards; and
- departures of key personnel.

Net revenue increased from the preceding quarter in each of the eight quarters in the period ended January 31, 2000. All of our sales in each of the eight quarters in the period ended January 31, 2000 have been derived from sales of our read channel and preamplifier products. Gross profit increased in each quarter in fiscal 1999, primarily due to substantial increases in product sales. Gross profit decreased slightly in the first quarter of fiscal 2000, to 55.9% of net revenue, primarily due to increased test and rework costs related to a product design issue with a significant customer. The increases in gross profit in the second and third quarter of fiscal 2000 were primarily due to a reduction in product costs. The decrease in gross profit in the fourth quarter of fiscal 2000, to 57.1% of net revenue, was due primarily to a decline in yields of our newest, more complex read channel product. Our gross profit may decline in future periods due to the expected introduction of competitive products and increased demand for wafer capacity within the integrated circuit industry.

Since our inception, we have financed operations through a combination of private sales of convertible preferred stock, bank loans and capital lease financing and, in fiscal 2000, net cash flow from operations. At January 31, 2000, we had \$22.6 million in working capital and \$16.6 million in cash and cash equivalents.

We used cash in our operating activities in the amount of \$6.8 million in fiscal 1998 and \$2.9 million in fiscal 1999. In fiscal 1998, cash used for operating activities was attributable primarily to our net loss. In fiscal 1999, cash used for operating activities was attributable to our net loss and a significant increase in accounts receivable and inventory, partially offset by increases in accounts

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payable and accrued liabilities. Accounts receivable and inventory increased as a result of the significant increase in revenue in fiscal 1999, particularly in the fourth quarter. Accounts payable and accrued liabilities increased as a result of an overall increase in our inventory levels and operating expenses as our business has grown. Our operating activities provided cash in the amount of \$12.6 million in fiscal 2000. The increase in cash was primarily a result of our net income for the period and increases in accounts payable, accrued liabilities and income taxes payable, partially offset by increases in accounts receivable and inventory. Accounts receivable and inventory increased as a result of the significant increase in revenue in fiscal 2000. Accounts payable increased as a result of an overall increase in our inventory levels and operating expenses as our business has grown. The increase in income taxes payable is due to the increasing amount of income earned in Singapore and Bermuda, both of which have tax rates lower than the U.S. federal tax rate. The balance of our accounts receivable at each period-end varies, primarily due to the timing of our shipments within the period. We have not experienced any material collection difficulties.

We used cash in our investing activities in the amount of \$1.0 million in fiscal 1998, \$1.6 million in fiscal 1999 and \$6.8 million in fiscal 2000, in each case attributable to purchases of property and equipment.

Net cash provided by financing activities was \$6.4 million in fiscal 1998, \$6.7 million in fiscal 1999 and \$5.3 million in fiscal 2000. In fiscal 1998, cash provided by financing activities was primarily attributable to proceeds from the issuance of convertible preferred stock. In fiscal 1999, cash provided by financing activities was primarily attributable to proceeds from the issuance of convertible preferred stock, the financing of property and equipment, and the exercise of stock options. In fiscal 2000, cash provided by financing activities was primarily attributable to proceeds from the issuance of convertible preferred stock and the exercise of warrants to purchase convertible preferred stock and the exercise of stock options, partially offset by the repayment of notes payable to our bank.

In May 1998, we entered into a loan agreement, which was amended in July 1999, and provides for borrowings of up to \$8.0 million in the form of line of credit advances based on eligible accounts receivable and inventory, and \$3.1 million available in the form of equipment advances. Borrowings accrue interest at the bank's prime rate plus 0.125%, which equaled 8.625% on January 31, 2000, and are secured by our tangible assets. In fiscal 1999 and 2000 we borrowed \$3.6 million under this agreement, which we repaid in full in fiscal 2000. On January 31, 2000, we were in compliance with all line of credit covenants, no amounts were outstanding and \$8.0 million was available for borrowing. This loan agreement expires in April 2000.

We lease equipment and software under leases with three-year terms. We intend to exercise purchase options at the end of the lease terms for a minimal cost. We also plan to spend up to approximately \$12.0 million during the next 12 months for test and other equipment and software. We lease our facilities under a non-cancelable operating lease, which expires in February 2002. We currently

We believe that the net proceeds from this offering, together with existing cash balances, will be sufficient to meet our capital requirements for at least the next 12 months. After this period, capital requirements will depend on many factors, including the rate of sales growth, market acceptance of our products, costs of securing access to adequate manufacturing capacity, the timing and extent of research and development projects and increases in our operating expenses. To the extent that funds generated by this offering, together with existing cash balances and cash from operations, are insufficient to fund our future activities, we may need to raise additional funds through public or private equity or debt financing. Although we are currently not a party to any agreement or letter of intent with respect to a potential acquisition or strategic arrangement, we may enter into acquisitions or strategic arrangements in the future, which also could require us to seek additional equity or debt financing. Additional funds may not be available on terms favorable to us or at all.

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#### QUANTITATIVE AND QUALITATIVE DISCLOSURE OF MARKET RISKS

**INTEREST RATE RISK.** Our cash equivalents are exposed to financial market risk due to fluctuation in interest rates, which may affect our interest income. As of January 31, 2000, our cash included money market securities. Due to the short term nature of our investment portfolio, we would not expect our operating results or cash flows to be affected to any significant degree by the effect of a sudden change in market interest rates. We do not use our investment portfolio for trading or other speculative purposes.

**FOREIGN CURRENCY EXCHANGE RISK.** Substantially all of our sales and expenses are denominated in U.S. dollars, and, as a result, we have relatively little exposure to foreign currency exchange risk. We do not currently enter into forward exchange contracts to hedge exposures denominated in foreign currencies or any other derivative financial instruments for trading or speculative purposes. However, in the event our exposure to foreign currency risk increases, we may choose to hedge those exposures.

#### INFLATION

The impact of inflation on our business has not been material for the fiscal years ended January 31, 1998, 1999 and 2000.

#### RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 133, "Accounting for Derivative Instruments and Hedging Activities," as amended by Statement of Financial Accounting Standards No. 137, "Accounting for Derivative Instruments and Hedging Activities -- Deferral of the Effective Date of FASB Statement No. 133- an amendment of FASB Statement No. 133". SFAS 133 requires that all derivative instruments be recorded on the balance sheet at their fair market value. Changes in the fair market value of derivatives are recorded each period in current earnings or comprehensive income, depending on whether a derivative is designed as part of a hedge transaction, and if so, the type of hedge transaction. Substantially all of our revenue and the majority of our costs are denominated in U.S. dollars, and to date we have not entered into any derivative contracts. We do not expect that the adoption of SFAS 133 will have a material effect on our financial statements. The effective date of SFAS 133 as amended by SFAS 137 is for fiscal quarters of fiscal years beginning after June 15, 2000.

## BUSINESS

This prospectus contains forward-looking statements that involve risks and uncertainties. Our actual results may differ significantly from the results discussed in these forward-looking statements. Factors that may cause such a difference include, but are not limited to, those discussed in "Risk Factors".

### OUR BUSINESS

We design, develop and market integrated circuits for communications-related markets. Our products provide the critical interface between real world, analog signals and the digital information used in computing and communications systems. We enable our customers to store and transmit digital information reliably and at high speeds. We initially focused our core technology on the data storage market, where our products provide industry leading performance for customers such as Seagate, Samsung, Hitachi, Fujitsu and Toshiba. Recently, we applied our technology to the broadband data communications market by introducing our eight-port and six-port Fast Ethernet transceivers, which are used in network access equipment to provide the interface between communications systems and Ethernet transmission media. We believe that our core technology can be used to improve performance across a wide range of data communications applications. For example, we are actively developing products for the Gigabit Ethernet market. In addition, we are committing resources to the development of products for the wireless communications and cable modem markets. For the fiscal year ended January 31, 2000, we generated \$81.4 million in net revenue and \$13.1 million in net income.

### INDUSTRY BACKGROUND

#### SATISFYING BANDWIDTH DEMAND

Businesses and consumers today are creating a rapidly growing demand for high-speed broadband access to large volumes of information in multiple forms, including voice, video and data. Ryan Hankin Kent, a telecommunications industry market research firm, estimates that North American network data traffic grew to approximately 350,000 terabytes per month in 1999. This demand is being driven by the introduction of new data-intensive computing and communications applications, such as web-based commerce, streaming audio and video, enterprise-wide information systems and telecommuting. In addition, information is increasingly available via networks through a variety of access devices, including personal computers, set-top boxes, cable modems, personal digital assistants and wireless phones. Improving end-user satisfaction with these applications and devices requires increasingly higher data transfer rates within computing systems and data storage devices and across local area networks, storage area networks, wide area networks, the public telephone infrastructure and the Internet backbone.

Communications systems must transfer data reliably at very high speeds using a wide range of physical media, including magnetic and optical storage disks, twisted pair copper wire, coaxial cable, fiber optic cable and open air. A critical element of these systems is a physical layer device, which performs the important interface functions between the communications system and the media. The physical layer device converts digital computer information into real world analog signals before transmitting them over communications media and also receives analog signals from communications media and converts them into digital data that computers can understand and manipulate.

The physical layer device often determines the overall performance of the communications system. Achieving high integrity data recovery and transmission becomes increasingly difficult at higher data transfer rates. Data transfer rates, often referred to as bandwidth, are measured in terms of megabits per second transmitted over given media. In order to achieve high integrity in data transmission and data recovery at high transfer rates, the physical layer device must overcome a number of factors that can impair signal quality and introduce errors, including substandard media, noise, signal level degradation over distance, interference from adjacent lines and signal echo. In

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many computing systems and networks, bandwidth bottlenecks arise where the media and the physical layer devices are incapable of supporting the required data transfer rates. As transmission speeds approach the fundamental limits of particular transmission media, the physical layer device must increasingly employ sophisticated signal processing algorithms and techniques to accurately recover the transmitted data.

High performance communications-related end markets in which bandwidth bottlenecks present critical problems include the data storage and broadband data communications markets.

#### DATA STORAGE

A substantial portion of all business and personal information is recorded on magnetic disk drives in data servers, workstations, personal computers and consumer entertainment devices. As end-user data requirements increase, disk drive suppliers must consistently offer drives with faster data transfer rates and higher capacities. Disk capacity is measured by areal density, which is the amount of data stored on one square inch of disk space. Current high performance disk drive systems offer data transfer rates of 400 to 500 million bits per second and capacities of up to 100 gigabytes. In comparison, high performance disk drive systems in 1998 offered data transfer rates of approximately 200 to 250 megabits per second and capacities of up to 50 gigabytes.

The critical physical layer device in a disk drive is called a read channel. The read channel transmits and receives the analog data that is stored on the magnetic disk and converts it to the digital data required for use in computing systems. The read channel plays a critical role in enabling the disk drive to achieve higher data transfer rates and areal densities. Often, the read channel can become the limiting bottleneck for the entire disk drive system because higher data transfer rates complicate recovery of the data stored on the disk. As data tracks are packed more closely together to achieve greater areal density, problems arise from interference between adjacent data tracks. These communication challenges require increasingly sophisticated read channel designs. In addition, as disk drive manufacturers seek to reduce costs, they are increasingly demanding that functions traditionally performed by stand-alone integrated circuits be combined with the read channel into a single integrated circuit.

#### BROADBAND DATA COMMUNICATIONS

In recent years there has been a rapid increase of data transmitted across and within local area networks, storage area networks, wide area networks, the public telephone infrastructure and the Internet. Communications infrastructures are constantly evolving to support this increase in data transmission demand. In the wide area network, this increase in data transmission demand has driven the deployment of high capacity fiber optic transmission systems and new broadband access technologies, such as cable modems and digital subscriber lines. In the local area network, this increase in data transmission demand has resulted in a transition from the 10 megabit per second Ethernet technology to the 100 megabit per second Fast Ethernet technology. Going forward, a new standard, Gigabit

In the broadband data communications market, physical layer devices are critical to the deployment of new, higher data rate transmission technologies. Gigabit data transmission rates present significant bandwidth utilization and data recovery challenges. A number of problems, such as interference from adjacent lines and line echo, arise when transmitting data at gigabit rates on the existing Category 5 cable infrastructure, which was originally designed to support 100 megabit per second data rates. As a result, the deployment of Gigabit Ethernet requires either the costly and

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time-consuming upgrading of this wiring or the deployment of new physical layer devices that enable gigabit transmission rates on the existing infrastructure.

#### THE OPPORTUNITY FOR NEW INTEGRATED CIRCUIT SOLUTIONS

The rapidly growing demand for high speed broadband access to large volumes of data is creating the need for a new generation of integrated circuit solutions. Physical layer devices capable of supporting increasingly higher data transmission rates over existing media infrastructures require sophisticated mixed signal and digital signal processing techniques. To keep the power consumption of these new solutions at acceptable levels, more efficient yet powerful signal processing algorithms, implemented in silicon, are required. These new generation physical layer devices must also satisfy market demands associated with large production volumes, competitive pricing, high reliability and decreasing size.

#### THE MARVELL SOLUTION

We design, develop and market integrated circuits for the communications-related markets of high speed, high density data storage and broadband data communications. Our integrated circuits combine highly precise mixed signal technologies with complex signal processing algorithms implemented with custom digital signal processing engines. Mixed signal technologies employ both analog and digital circuitry in a single integrated circuit. Our products are used for transmitting and recovering digitally encoded analog signals from various types of broadband communications media and allow our customers to store and move digital data reliably at high data transfer rates while utilizing existing media infrastructures.

Our products target high volume markets where some of the most critical success factors are performance, power consumption, quality and cost. We initially applied our mixed signal and digital signal processing technology to the data storage market, where we provide leading-edge read channel devices and preamplifiers to meet the high data transfer rate, high areal density and data integrity requirements of our customers. We believe that we have achieved significant market share in read channel integrated circuits for the enterprise and mobile segments of the data storage market. These segments have the most demanding performance requirements in terms of data transfer rates and areal densities. More recently, we applied our core technology to developing high performance physical layer devices for the broadband data communications market. We introduced the first member of our data communications product family, an eight-port physical layer device for 10 and 100 megabits per second Ethernet and Fast Ethernet applications, in the fourth quarter of calendar year 1999. Subsequently, we introduced a six-port physical layer device for this market.

Our fast Ethernet physical layer devices provide small form-factor and silicon chip size, long distance signal transmission capability and low power consumption. We are currently developing our first generation of Gigabit Ethernet physical layer devices for use with existing Category 5 cabling infrastructures.

Key features of our technology solutions include:

- MIXED SIGNAL BROADBAND ANALOG FRONT-END TECHNOLOGY. One of the most critical components of many communications-related mixed signal integrated circuits is the analog front-end, which serves as the interface between the digital signal processor and the physical communications media. We have developed high bandwidth, low noise, high precision analog front-end building blocks in deep sub-micron CMOS manufacturing processes. Deep sub-micron CMOS generally refers to the manufacturing processes for generating minimum feature sizes of 0.25 micron and smaller. We are able to design these broadband analog front-ends in deep sub-micron CMOS manufacturing processes due to a number of innovations, including proprietary self calibration techniques that compensate for the inherent variations of these processes. Our analog circuits are designed to be highly reusable across many of our products and easily scalable to smaller sub-micron CMOS process geometries as they emerge.

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- CUSTOM DIGITAL SIGNAL PROCESSING ENGINES. We have designed high performance, low power digital signal processing engines optimized for broadband communications applications. These engines are customized to execute our suite of advanced signal processing algorithms in real time at high clock rates. For example, our latest generation read channel device operates at clock rates of more than 750MHz and performs several hundred billion operations per second.
- PROPRIETARY DIGITAL SIGNAL PROCESSING ALGORITHMS. Our advanced digital signal processing algorithms enable data transmission at high speeds across a wide range of physical media with low data error rates. These signal processing algorithms perform signal equalization and data detection in the presence of media imperfections such as line attenuation, signal interference from adjacent lines, line echo and noise. We have developed a broad suite of broadband communications algorithms targeted at both data storage and broadband data communications applications.
- DESIGN FOR ADVANCED CMOS MANUFACTURING PROCESSES. In addition to CMOS, there are several modern processes for manufacturing integrated circuits including Bipolar, BiCMOS, silicon germanium and gallium arsenide. While it is significantly more difficult to design high performance analog integrated circuits in CMOS, CMOS provides multiple benefits compared to other processes, including significantly lower manufacturing cost, more predictable migration to smaller process geometries, more cost effective integration of additional functions in a single integrated circuit and greater worldwide foundry capacity. We have successfully combined advanced analog signal processing blocks with high speed digital signal processing engines in 0.25- and 0.18-micron CMOS manufacturing processes. We believe we have achieved a level of circuit speed performance in CMOS process technologies that has typically only been achieved with more expensive special fabrication techniques, such as BiCMOS.

We believe these advantages lead to several key benefits for our customers:

- HIGH PERFORMANCE. In the data storage market our products achieve industry leading data transfer rates and areal densities. In the



broadband data communications market, our products achieve the required low error rates when used with lower quality media and attain superior signal transmission distance when used with standard media. We believe that the advantages of our broadband data communications products enable businesses to upgrade their networks without the expense associated with installing new cabling.

- LOW POWER. Our custom digital signal processing engines use fewer transistors than standard designs to perform data transfer functions, reducing overall system power usage. We also implement our designs in deep sub-micron CMOS processes, which further reduces power requirements. These designs allow our customers to eliminate costly heat reduction components in their products.
- COST EFFECTIVE SOLUTIONS. We are able to lower our manufacturing costs by using advanced manufacturing processes and our custom digital signal processing technology. These processes and technologies result in smaller silicon chip size yielding more integrated circuits per wafer. In addition, our products generate less heat, which allows us to use less expensive packaging technologies and achieve lower cost system implementations. These manufacturing advantages reduce the cost of next generation communications equipment, enabling our customers to offer their products at competitive prices.
- HIGHER INTEGRATION CAPABILITY. The combination of our use of CMOS manufacturing processes, small silicon chip size and low power requirements allows us to deliver more functions in a single integrated circuit. We believe these capabilities position us to integrate elements of our customers' designs, currently implemented in discrete integrated circuits,

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into our products. Integration reduces the overall number of components, thereby reducing overall system cost.

- ACCELERATED TIME TO MARKET. We help our customers rapidly introduce higher performance, lower cost products. Many features of our integrated circuits are software-configurable, allowing our customers to customize circuit operation for their specific applications. In addition, the scalability of our designs helps us more rapidly adopt future process technologies to deliver new generations of products.

MARVELL STRATEGY

Our objective is to be a leading provider of mixed signal and digital signal processing integrated circuit technologies for broadband communications-related markets. Key elements of this strategy include the following:

EXPAND OUR MARKET POSITION BY DEVELOPING NEW SIGNAL PROCESSING TECHNOLOGIES FOR BROADBAND COMMUNICATIONS-RELATED APPLICATIONS

We believe that we have built significant expertise in the core areas of technology that are relevant for broadband communications, including mixed signal circuit design methodologies, broadband signal processing algorithms, custom digital signal processing engines and system-level expertise. We intend to continue to invest considerable resources in developing new and enhanced algorithms and improved mixed signal and digital signal processing technologies. We believe that investment will allow us to develop products that can achieve data transmission speeds approaching the fundamental limits of particular transmission media infrastructures. We believe our core signal processing technologies can be applied to a wide range of broadband communications-related markets, including data storage, data networking, wireless networking and cable

## LEVERAGE OUR TECHNOLOGY IN THE BROADBAND DATA COMMUNICATIONS MARKET

We initially applied our mixed signal and digital signal processing technology expertise to the data communications market through the introduction of our eight-port and six-port physical layer devices using the Fast Ethernet signaling protocol. These physical layer devices provide small form-factor, small silicon chip size, long distance signal transmission capability and low power consumption. We are currently developing our Gigabit Ethernet physical layer device products. Additionally, we plan to integrate the physical layer device with functions previously provided by other integrated circuits, such as the media access controller, the component that controls device access to the physical media.

## EXTEND OUR LEADERSHIP POSITION IN THE DATA STORAGE MARKET

The data storage market presents a large volume opportunity for our broadband mixed signal and digital signal processing technologies. We believe our technology effectively addresses the increasing data access rates and higher data integrity and reliability requirements of the data storage markets. We have achieved significant market share in the enterprise and mobile segments of the data storage market. These segments of the data storage market demand the highest performance read channel products. We intend to extend our leadership position in the enterprise and mobile market segments by continuing to develop and introduce products enabling higher data transfer rates and areal densities. In addition, we intend to apply our cost effective CMOS-based design to develop products targeted at the desktop segment.

## STRENGTHEN AND EXPAND OUR RELATIONSHIPS WITH CURRENT AND POTENTIAL CUSTOMERS

Our goal is to achieve design wins with early adopters and technology leaders in the data storage and broadband data communications markets. While we design products that can be used by multiple customers, we often customize our products to incorporate our customers' specific requirements. As the markets we address become increasingly complex and competitive, we anticipate that many of

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our customers will increasingly wish to combine elements of their designs with our own. We intend to jointly develop highly integrated products with our customers to meet their cost and performance requirements and to strengthen our relationships with them. For example, we are actively working with some of our customers to incorporate specific features developed by them into our read channel products.

## CAPITALIZE ON WIDELY AVAILABLE CMOS MANUFACTURING PROCESSES AND FABLESS OPERATING MODEL

We intend to continue to use widely available CMOS processes to manufacture our advanced mixed signal and digital signal processing products. We believe this will better enable us to reliably manufacture our products in volume, thereby decreasing our time-to-market and costs, while also facilitating the development of highly integrated products. We are a fabless integrated circuit manufacturer in the sense that we rely on third parties to manufacture, assemble and test our products for us. Our fabless model allows us to focus our resources on the development of proprietary and innovative mixed signal and digital signal processing designs, while reducing capital and operating infrastructure requirements.

## MARKETS

We target communications-related markets and applications that require integrated circuit devices for high speed data transmission. We currently offer solutions for two major markets: data storage and broadband data communications.

Demand for data storage is increasing rapidly due to the introduction of new data-intensive computing and communications applications, such as web-based commerce, streaming audio and video, enterprise wide information systems, and telecommuting. IDC estimates that shipments of hard disk drive units will increase at a compound annual growth rate of 17% from 1998 to 2003, reaching 319 million units in 2003. IDC estimates that the market for combined standalone and integrated read channel devices is expected to grow from \$733 million in 1998 to \$1.8 billion in 2003. We provide solutions tailored to the specific needs of the enterprise, mobile and desktop segments of this market.

ENTERPRISE. Proliferation of new technologies such as redundant array of independent drives, storage area networks and web caching is resulting in increased usage of enterprise data storage devices. IDC projects an 18% compound annual growth in shipments of enterprise hard disk drive units from 15 million in 1998 to 34 million in 2003. Enterprise applications require systems that are capable of storing and retrieving large amounts of data at high rates. As a result, manufacturers of storage devices for the enterprise segment place primary importance on disk drive performance, reliability and capacity and are less concerned with the size, power consumption and absolute cost. To accommodate these requirements, we provide integrated circuits that enable reliable data storage devices with high data transfer rates and high capacity that are essential for complex, large-scale processing environments.

MOBILE. IDC projects a 14% compound annual growth in shipments of mobile hard disk drive units from 16 million in 1998 to 31 million in 2003. Manufacturers of storage devices for the mobile segment are primarily concerned with power consumption, heat dissipation, cost and areal density. Our product family targeted at this market segment incorporates advanced data encoding schemes, digital filtering and data detection techniques. These elements allow us to provide very low power consumption integrated circuits that can accommodate high data transfer rates and enable very high areal density disk drives.

DESKTOP AND CONSUMER ENTERTAINMENT. IDC projects a 15% compound annual growth in shipments of desktop hard disk drive units from 111 million in 1998 to 222 million in 2003. Personal computer users have become increasingly price sensitive. As a result, disk drive manufacturers focused on this segment require integrated circuit components that facilitate

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design for high volume, low cost manufacturing. Our CMOS-based design is well suited to high volume, low cost manufacturing, scalable performance and integration. In addition, due to our ability to deliver enterprise-level data transfer rates while meeting the cost requirements of the desktop segment, we offer our desktop customers an expansion path for building the higher performance drives of the future. In addition, we expect that emerging consumer entertainment devices, such as digital camera devices, digital video recorders and digital audio entertainment centers, will increasingly use data storage systems.

#### BROADBAND DATA COMMUNICATIONS

As businesses and consumers seek faster access to increasing amounts of information through local area networks and wide area networks, such as the Internet, networks are constrained in their ability to process and transmit information quickly. As a result, the high speed networking equipment market is undergoing a rapid transition from first generation Ethernet technologies operating at 10 megabits per second to newer technologies, including Fast Ethernet and Gigabit Ethernet. A majority of the local area network equipment sold today is based on the Fast Ethernet standard. Based on IDC estimates,

shipments of 100 megabits per second Fast Ethernet network interface cards and switch ports will grow from 102 million in 1999 to 218 million in 2005. As lower cost, lower power consumption Gigabit Ethernet physical layer devices become available, we believe that Gigabit Ethernet will emerge as an important local and wide area network communications technology.

PRODUCTS

We design, develop and market integrated circuits for the communications-related markets of high speed, high density data storage and broadband data communications. Our integrated circuits utilize proprietary mixed signal and digital signal processing technologies.

DATA STORAGE PRODUCTS

READ CHANNEL. The read channel is an integrated circuit providing the physical layer interface between the analog signals from the magnetic storage media and digital signals that computers can understand and manipulate. Our initial read channel products incorporate sophisticated digital signal processing partial response maximum likelihood technology, known as PRML, which enables efficient media utilization through advanced data encoding, digital filtering and data detection techniques. Our latest generation products incorporate further advancements in PRML technology such as noise predictive Viterbi, or NPV, technology. Our read channel products allow our customers to achieve fast data transfer rates, high areal densities, and low power dissipation. Our read channels are designed in deep sub-micron CMOS manufacturing processes and use customized digital signal processing engines and broadband analog front-ends. We introduced our first generation of PRML read channels in 1997 and have introduced two subsequent generations of signal processing technology enhancements since then. We have migrated our manufacturing process technology from 0.5- to 0.18-micron and our product speed from 240 to 750 megabits per second. Our read channel integrated circuits target specific feature and performance requirements of enterprise, mobile and desktop customers. Beginning with the 88C4000 product family, we implemented a strategy to consolidate the signal processing algorithms required by each of our different market segments into a single integrated circuit design. This strategy provides cost savings and reduced product line complexity.

We are actively working with our customers to incorporate specific features requested by them in our read channel products. In an effort to enhance performance and lower cost, we are developing integrated products that incorporate the read channel, the disk drive controller and embedded memory functions in one integrated circuit.

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Our current read channel products are shown in the table below.

<TABLE>

READ CHANNEL	DESCRIPTION	PERFORMANCE	CMOS PROCESS	INTRODUCTION DATE*
<S> 88P2010	<C> First generation PRML read channel for use in enterprise storage systems such as RAID, server and high end workstations.	<C> 240Mbits/s	<C> 0.5mm	<C> 1st Qtr 1997
88C3000	Second generation extended PRML read channel with built-in Viterbi metric margin engine for use in higher density enterprise storage systems.	360Mbits/s	0.35mm	1st Qtr 1998

88C3100	Second generation PRML with new noise predictive Viterbi detector for extremely high user bit densities in mobile storage applications.	300Mbits/s	0.35mm	2nd Qtr 1998
88C3020	Lower speed derivative of the 88C3000 for use in desktop storage products.	280Mbits/s	0.35mm	3rd Qtr 1998
88C4200	Third generation noise predictive Viterbi PRML read channel for enterprise and desktop storage systems.	550Mbits/s	0.25mm	1st Qtr 1999
88C4220	Derivative of the 88C4200 for lower speed but higher user bit density mobile storage systems.	380Mbits/s	0.25mm	1st Qtr 1999
88C4300	Third generation PRML with second generation noise predictive Viterbi detector for future mobile and high-end desktop applications.	550Mbits/s	0.25mm	1st Qtr 2000
88C5200	Fourth generation noise predictive Viterbi PRML read channel for use in future enterprise storage systems.	750Mbits/s	0.18mm	1st Qtr 2000

</TABLE>

\* Introduction date refers to the calendar quarter in which product samples were initially made available to a customer for evaluation purposes. These products may not be available in commercial volumes for one or more quarters following sample introduction.

PREAMPLIFIER. A preamplifier amplifies the low level electrical signal transmitted to and from the recording heads in a disk drive device. Preamplifiers operate in two basic modes: read and write. In read mode, preamplifiers provide initial amplification of the high bandwidth signal from the read head. In write mode, the preamplifier provides the write head with the high frequency switched current required for writing on the magnetic media. We provide the only commercially available preamplifiers manufactured in sub-micron CMOS processes. We believe our CMOS-based preamplifier products provide high performance at a lower cost than standard BiCMOS-based products. We introduced our first preamplifier product in the third quarter of 1998 and our second-generation product in the second quarter of 1999. We have also introduced derivative products targeted at a range of applications for each of these product families.

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Our current preamplifier products are shown in the table below.

<TABLE>

PREAMPLIFIERS	DESCRIPTION	PERFORMANCE	CMOS PROCESS	INTRODUCTION DATE*
<S> 81G3004	<C> 4-channel derivative of the	<C> 300Mbits/s	<C> 0.5mm	<C> 3rd Qtr 1998

81G3018	8-channel high gain-bandwidth giant-magneto resistive preamplifier.	300Mbits/s	0.5mm	4th Qtr 1998
81G3002	2-channel derivative of the 81G3018 design for entry level desktop.	300Mbits/s	0.5mm	2nd Qtr 1999
81G4008	8-channel second generation high gain-bandwidth giant-magneto resistive preamplifier.	500Mbits/s	0.5mm	2nd Qtr 1999
81G4014	4-channel derivative of the 81G4008 for two-disk storage platforms.	500Mbits/s	0.5mm	4th Qtr 1999
81G4002	2-channel derivative of the 81G4008 for entry level desktop.	500Mbits/s	0.5mm	1st Qtr 2000

</TABLE>

\* Introduction date refers to the calendar quarter in which product samples were initially made available to a customer for evaluation purposes. These products may not be available in commercial volumes for one or more quarters following sample introduction.

BROADBAND DATA COMMUNICATIONS PRODUCTS

We are applying our mixed signal and digital signal processing technology to a variety of broadband data communications markets, including Fast and Gigabit Ethernet. Our integrated circuits provide the core functionality required for building Ethernet network interface cards, routers, repeaters, hubs and switches.

FAST ETHERNET PRODUCTS. Our first products for the Fast Ethernet data communications market are highly integrated, small form-factor, six-port and eight-port physical layer devices. These devices contain the active circuitry needed for interfacing with up to six or eight media access controllers and are typically used by our customers in Fast Ethernet repeaters, hubs, switches and routers. We believe these products enable reliable communication over long cable distances and lower quality cable installations. We believe we were the first to introduce an eight-port Fast Ethernet physical layer device in a 0.25-micron CMOS manufacturing process.

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Our current Fast Ethernet products are listed in the table below.

<TABLE>

DATA COMMUNICATIONS PRODUCTS	DESCRIPTION	PERFORMANCE	CMOS PROCESS	INTRODUCTION DATE*
<S> 88E3080	<C> 8-port DSP based Fast Ethernet physical layer device providing significantly better performance than required by the IEEE standard for use in workgroup and enterprise repeaters, hubs,	<C> 10/100Mbits/s	<C> 0.25mm	<C> 4th Qtr 1999

88E3060	6-port DSP based Fast Ethernet physical layer device for use in small office home office hubs and switches.	10/100Mbps/s	0.25mm	1st Qtr 2000
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</TABLE>

\* Introduction date refers to the calendar quarter in which product samples were initially made available to a customer for evaluation purposes. These products may not be available in commercial volumes for one or more quarters following sample introduction.

GIGABIT ETHERNET PRODUCTS. We are currently developing a Gigabit Ethernet physical layer device for unshielded twisted pair copper wire infrastructures. We are designing this product for a 0.18-micron CMOS manufacturing process. The design for this product incorporates sophisticated signal processing algorithms, as well as higher resolution analog-to-digital and digital-to-analog converters, to overcome the reduced signal-to-noise ratio of gigabit data rate signals on standard Category 5 cable. Target applications for this product include network interface cards, routers, repeaters, hubs and next-generation switches.

CUSTOMERS, SALES AND MARKETING

Our sales and marketing strategy is to achieve design wins with early adopters and technology leaders in each of our selected markets. Our direct sales force targets emerging high growth markets that have high intensity communications processing requirements. Our customers for read channel and preamplifier products are manufacturers of hard disk drives for the enterprise, mobile and desktop markets. As of January 31, 2000, we have shipped over 30 million read channels and preamplifiers to our customers in the data storage industry. A small number of our customers have historically accounted for a substantial portion of our revenue. The percentage of our revenue accounted for by our five major customers in fiscal 1999 and 2000 are set forth below.

<TABLE>  
<CAPTION>

CUSTOMER -----	PERCENTAGE OF REVENUE	
	1999	2000
<S>	<C>	<C>
Samsung.....	46%	36%
Seagate.....	43	24
Hitachi.....	7	14
Fujitsu.....	2	14
Toshiba.....	1	10
	--	--
Total.....	99%	98%

</TABLE>

We recently introduced two data communications products, our eight-port and six-port Fast Ethernet physical layer devices. We first began shipping for evaluation our eight-port product in December 1999 and our six-port product in March 2000. In March 2000, our eight-port Fast Ethernet device began shipping for revenue. Other potential customers are currently designing the eight-port

physical layer device into their products. Our target customers for this product are leading manufacturers of high speed networking equipment.

To date, substantially all of our data storage product sales have been made through our direct sales force of nine people. We also complement and support our direct sales force with manufacturer's representatives in North America and Asia. In the first calendar quarter 2000, we entered into our first distribution agreement to support our sales and marketing activities in the data communications market, and we plan to enter into other distribution agreements in the near term. We anticipate that sales through distributors will increase as a percentage of our revenues in future periods. However, we expect a significant percentage of our sales will continue to come from direct sales to key customers. As of February 29, 2000, our sales and marketing organization consisted of 47 employees and 11 manufacturers' representatives. In November 1999, our Japanese subsidiary, Marvell Japan, opened a new technical and sales support facility in Japan to provide greater support for our international customers.

Our sales are generally made under purchase orders received between one and four months prior to the scheduled delivery date. These purchase orders can be cancelled without charge if notice is given within an agreed upon period. Because of the scheduling requirements of our foundries, we generally place firm orders for products with our suppliers up to sixteen weeks prior to the anticipated delivery date and prior to an order for the product. We typically warrant our products for a 90-day period. To date, we have not experienced material product returns or warranty expense.

Our marketing team works in conjunction with our sales force and is organized around our product applications. Due to the complexity of our products, we introduce our new products to major customers with a global tour by a marketing, sales and engineering team. We believe that individual meetings are the most effective and rapid means of communicating the capabilities, benefits and extremely technical specifications of each new product.

We use field application engineers to provide intensive technical support and assistance to existing and potential customers in designing, testing and qualifying systems designs that incorporate our products. We believe that superior field applications engineering support plays a pivotal role in building long-term relationships with our customers by improving our customers' time-to-market, maintaining a high level of customer satisfaction and encouraging customers to use our next generation of products. As of February 29, 2000, we had eight field application engineers.

#### MARVELL TECHNOLOGY

We believe our key technical competitive advantages result from our collection of proprietary technologies that we have developed since our inception. Our products are based on the following technologies:

- high bandwidth, analog front-end technology;
- advanced communications algorithms and data codings;
- custom digital signal processing engines; and
- reusable building blocks for integrated system-on-a-chip design.

#### HIGH BANDWIDTH ANALOG FRONT-END TECHNOLOGY

We have developed significant expertise in mixed signal circuit design architectures and techniques required to design high performance analog front-ends. We have developed this technology for use with deep sub-micron CMOS manufacturing processes, which allows us to cost effectively integrate complex digital signal processing functions with other high level system functions on a small silicon chip. Our mixed signal circuits achieve performance levels that are generally associated with more expensive, special purpose integrated circuit manufacturing process technologies, such as BiCMOS. For example, our full flash



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read channel and Ethernet networking applications achieve sampling rates of up to 900MHz using a 0.18-micron CMOS process. In addition to achieving high performance, our mixed signal circuits are designed to compensate for variations inherent in current deep sub-micron CMOS manufacturing processes.

Our high bandwidth analog front-end technology can be used in various communications-related applications. We are currently developing experimental mixed signal technologies for extreme high bandwidth applications such as Fibre Channel transceivers operating at data rates of up to 2.5 gigabits per second for storage area networks. We are also developing a low phase noise radio frequency voltage controlled oscillator using CMOS manufacturing process technology to enable higher levels of integration of silicon components for cable modem and wireless products.

#### ADVANCED COMMUNICATIONS ALGORITHMS AND DATA CODINGS

We have also developed complex communications algorithms that are required for broadband data communications-related applications. Our communications algorithms and coding techniques perform the signal equalization, data detection and error corrections required to overcome media imperfections such as line attenuation, interference from adjacent lines, line echo and noise interference. These communications algorithms and coding techniques incorporate noise predictive Viterbi partial response maximum likelihood detection, decision feedback equalization, decision feedback sequence estimator, forward error correction, quadrature amplitude modulation, and quadrature phase shift keying techniques. These communications algorithms and coding techniques enable us to design digital signal processors for use in data storage, Fast Ethernet and Gigabit Ethernet applications as well as other possible future applications, such as cable modem and broadband wireless products.

#### CUSTOM DIGITAL SIGNAL PROCESSING ENGINES

We target communications-related markets, which require very fast data transfer rates and low power dissipation. To achieve the required performance levels, we implement our signal processing algorithms in custom-designed digital signal processing engines. Our Fast Ethernet digital signal processing engine operates at 125MHz clock speed and performs several billion operations per second while dissipating less than 100 milliwatts of power. Our fastest read channel digital signal processing engine operates at more than 750MHz clock speed and performs over 50 billion operations per second while dissipating less than 750 milliwatts of power. Such performance is not readily available using standard programmable digital signal processing solutions. We believe our custom digital signal processing engines, when combined with our library of digital signal processing circuit building blocks, will enable us to implement application specific digital signal processing engines that can perform at computational rates of up to one trillion operations per second in very small silicon chips. Small silicon chips result in low power dissipation, small packaging and low overall system cooling requirements.

#### REUSABLE BUILDING BLOCKS FOR INTEGRATED SYSTEM-ON-A-CHIP DESIGN

We have developed a proprietary set of manufacturing process design rules that we believe are scalable over several generations of manufacturing process geometries. We have also collected a significant library of circuit building blocks that can be reused with minimum modification in successive generations of products. These design methodologies allow us to shorten time-to-market for new products and take advantage of the latest CMOS manufacturing processes. We believe that as manufacturing process geometries continue shrinking, our customers will pursue silicon integration strategies. To address this market development, we have recently developed our own embedded memory technology for complex system-on-a-chip designs that require large amounts of repairable

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#### RESEARCH AND DEVELOPMENT

We believe that our future success depends on our ability to introduce improvements to our existing products and to develop new products that deliver cost effective solutions for both existing and new markets. Our research and development efforts are directed largely to the development of proprietary circuit designs for high bandwidth communications-related applications. We devote a significant portion of our resources to expanding our core technology library with designs that enable high performance, reliable communications over a variety of physical media. We are also focused on incorporating functions currently provided by stand-alone integrated circuits into our products to reduce our customers' overall system costs.

We have assembled a core team of engineers who have extensive experience in the areas of mixed signal circuit design, digital signal processing, and CMOS technology. As of February 29, 2000, we had 93 employees in engineering and process development, including 40 with advanced degrees. We have invested, and expect that we will continue to invest, significant funds for research and development. Our research and development expense was approximately \$5.8 million in fiscal 1999 and \$14.5 million in fiscal 2000.

#### MANUFACTURING

We believe our fabless manufacturing approach provides us with the benefits of superior manufacturing capability as well as flexibility to move the manufacture, assembly and test of our products to those vendors that offer the best capability at an attractive price. Our engineers work closely with our foundries and other subcontractors to increase yields, lower manufacturing costs and improve quality.

#### INTEGRATED CIRCUIT FABRICATION

Our integrated circuits are fabricated using widely available CMOS processes, which provide us greater flexibility to engage independent foundries to manufacture integrated circuits. By outsourcing our manufacturing, we are able to avoid the cost associated with owning and operating our own manufacturing facility. This allows us to focus our efforts on the design and marketing of our products. We currently outsource substantially all of our integrated circuit manufacturing to Taiwan Semiconductor Manufacturing Company. We work closely with Taiwan Semiconductor to forecast on a monthly basis our manufacturing capacity requirements. Our integrated circuits are currently fabricated in 0.50-, 0.35- and 0.25-micron processes. We are also currently sampling 0.18-micron products with customers. Because finer manufacturing processes generally lead to enhanced performance, smaller silicon chip size and lower power requirements, we continually evaluate the benefits and feasibility of migrating to smaller geometry process technology in order to reduce cost and improve performance.

#### ASSEMBLY AND TEST

Our silicon chips are shipped from our third-party foundries to our third-party assembly and test facilities where they are assembled into finished integrated circuit packages and tested. Our products are designed to use low cost, standard packages and to be tested with widely available test equipment. In addition, we specifically design our integrated circuits for ease of testability, further reducing manufacturing costs. We outsource all of our product packaging and testing requirements to several third-party assembly and test subcontractors, including ST Assembly Test Services in Singapore,

#### QUALITY ASSURANCE

We build quality into our products starting with the design and development process. Our designs are subjected to extensive circuit simulation under extreme conditions of temperature, voltage and processing before being committed to manufacture. We pre-qualify each of our subcontractors

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and conduct regular in-depth quality audits. We closely monitor foundry production to ensure consistent overall quality, reliability and yield levels. All of our independent foundry and assembly and test subcontractors have been awarded ISO 9000 certification.

#### INTELLECTUAL PROPERTY

Our future revenue growth and overall success depend in large part on our ability to protect our intellectual property. We rely on a combination of patents, copyrights, trademarks, trade secret laws, contractual provisions and licenses to protect our intellectual property. We also enter into confidentiality agreements with our employees, consultants, suppliers and customers and seek to control access to, and distribution of, our documentation and other proprietary information. Despite these precautions, it may be possible for a third party to copy or otherwise obtain and use our products and technology without authorization, develop similar technology independently or design around our patents.

As of February 29, 2000, we had been granted nine United States patents on various aspects of our technology, with expiration dates ranging from 2015 to 2018, and we had filed nine additional United States patent applications. However, there can be no assurance that patents will ever be issued for these applications. Furthermore, it is possible that our patents may be invalidated, circumvented, challenged or licensed to others.

In addition, the laws of some foreign countries in which our products are or may be developed, manufactured or sold, including various countries in Asia, may not protect our products or proprietary information to the same extent as do the laws of the United States and thus make the possibility of piracy of our technology and products more likely in these countries.

We have expended and will continue to expend considerable resources in establishing a patent position designed to protect our intellectual property. While our ability to compete is enhanced by our ability to protect our intellectual property, we believe that, in view of the rapid pace of technological change, the combination of the technical experience and innovative skills of our employees may be as important to our business as the legal protection of our patents and other proprietary information.

From time to time, we may desire or be required to renew or to obtain licenses from third parties in order to further develop and market commercially viable products effectively. We cannot be sure that any necessary licenses will be available or will be available on commercially reasonable terms.

The integrated circuit industry is characterized by vigorous protection and pursuit of intellectual property rights, which have resulted in significant and often time consuming and expensive litigation. Although there is currently no pending intellectual property litigation filed against us, there can be no assurance that third parties will not assert claims of infringement against us. Such claims, even those without merit, could be time consuming and result in costly litigation. We may not prevail in any such litigation or may not be able to license any valid and infringed patents from third parties on commercially reasonable terms. Litigation, regardless of the outcome, is likely to result in

## COMPETITION

The markets for data storage and broadband data communications devices are intensely competitive and characterized by rapid technological change, evolving standards, short product life cycles and pricing pressures imposed by high volume customers. We expect competition to intensify as current competitors expand their product offerings and new competitors enter the market.

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We believe that our ability to compete successfully in the rapidly evolving markets for our products depends on a number of factors, including:

- performance, features, quality and price of our products;
- the timing and success of new product introductions by us, our customers and our competitors;
- the emergence of new industry standards;
- our ability to obtain adequate foundry capacity;
- the number and nature of our competitors in a given market; and
- general market and economic conditions.

Our current products face competition from a number of sources. We believe our principal competitors in the read channel market are Cirrus Logic, Lucent Technologies, NEC, STMicroelectronics and Texas Instruments. Our primary competitors in the preamplifier market are Texas Instruments and Lucent Technologies. In expanding our presence in the broadband data communications market, we expect to compete with Broadcom, Intel and National Semiconductor.

Many of our current competitors and potential competitors have longer operating histories, greater name recognition, access to larger customer bases and significantly greater financial, sales and marketing, manufacturing, distribution, technical and other resources than us. As a result, they may be able to respond more quickly to changing customer demands or to devote greater resources to the development, promotion and sale of their products than we can. Our current or future competitors may develop and introduce new products that will be priced lower, provide superior performance or achieve greater market acceptance than our products. In addition, in the event of a manufacturing capacity shortage, these competitors may be able to manufacture products when we are unable to do so.

Furthermore, current or potential competitors have established or may establish, financial and strategic relationships among themselves or with existing or potential customers or other third parties to increase the ability of their products to address the needs of our prospective customers. Accordingly, it is possible that new competitors or alliances among competitors could emerge and rapidly acquire significant market share, which would harm our business.

In addition, many of our customers and potential customers have substantial technological capabilities and financial resources. Some customers have already developed, or in the future may develop, technologies that will compete directly with our products. We also may face competition from suppliers of products based on new or emerging technologies.

Historically, average unit selling prices in the integrated circuit industry in general, and for our products in particular, have decreased over the

life of a particular product. We expect that the average unit selling prices of our products will continue to be subject to significant pricing pressures. In order to offset expected declines in the average unit selling prices of our products, we will likely need to reduce the cost of our products. We intend to accomplish this by implementing design changes that lower the cost of manufacturing, assembly and testing, by negotiating reduced charges by our foundries as and if volumes increase, and by successfully managing our manufacturing and subcontracting relationships. Because we do not operate our own manufacturing, assembly or testing facilities, we may not be able to reduce our costs as rapidly as companies that operate their own facilities. If we fail to introduce lower cost versions of our products in a timely manner or to successfully manage our manufacturing, assembly and testing relationships, our business would be harmed.

EMPLOYEES

As of February 29, 2000, we had a total of 207 employees, of which 93 were in research and development, 47 in sales and marketing, 31 in operations and 36 in general and administration. Our

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employees are not represented by any collective bargaining agreements, and we have not experienced any work stoppage. We consider our relations with our employees to be good.

FACILITIES

Our primary facility, housing our research and design function as well as elements of marketing and administration, is in Sunnyvale, California. This facility consists of approximately 66,000 square feet and is leased until February 15, 2002. In addition, our subsidiaries in Singapore and Japan have leased space for their operations. Based upon our estimates of future hiring, we believe that these facilities will be inadequate to meet our requirements past 2000. Accordingly, we will need to locate additional space in California and Singapore and may find it necessary to vacate our current locations. The additional space we anticipate requiring may cost substantially more than our existing space, and we may incur significant additional capital expenditures for expansion or tenant improvements.

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MANAGEMENT

We are the parent of Marvell Semiconductor, Inc., a California corporation we founded to develop proprietary technology and to provide selected support services to us. Set forth below is certain information regarding the executive officers, directors and some of the other officers of both Marvell Technology Group Ltd. and Marvell Semiconductor, Inc. as of February 29, 2000.

<TABLE>  
<CAPTION>

NAME	AGE	POSITION
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<S>	<C>	<C>
Diosdado P. Banatao(1)(2).....	53	Co-Chairman of the Board, Marvell Technology Group Ltd.
Sehat Sutardja.....	38	Co-Chairman of the Board, President and Chief Executive Officer, Marvell Technology Group Ltd.; President and Chief Executive Officer and Director of Marvell Semiconductor, Inc.
Weili Dai.....	38	Executive Vice President, Corporate Assistant Secretary and Director of Marvell Technology Group Ltd.; Executive Vice President, General Manager of Data Communications Business Unit and Director of Marvell Semiconductor, Inc.

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Pantas Sutardja.....	37	Vice President and Director of Marvell Technology Group Ltd.; Chief Technology Officer and Director of Marvell Semiconductor, Inc.
Gordon M. Steel.....	55	Vice President of Finance and Chief Financial Officer, Marvell Technology Group Ltd.; Vice President of Finance and Chief Financial Officer of Marvell Semiconductor, Inc.
Alan J. Armstrong.....	36	Vice President of Marketing, Data Storage, Marvell Semiconductor, Inc.
Gani Jusuf.....	37	Vice President of Product Development, Data Communications, Marvell Semiconductor, Inc.
Nersi Nazari.....	41	Vice President of Signal Processing Technology, Marvell Semiconductor, Inc.
George Papa.....	51	Vice President of Sales, Data Communications, Marvell Semiconductor, Inc.
Larry L. Smith.....	59	Vice President of Sales, Data Storage, Marvell Semiconductor, Inc.
LeeChung Yiu.....	44	Vice President of Engineering, Marvell Semiconductor, Inc.
Stephen Zadig.....	49	Vice President of Operations, Marvell Semiconductor, Inc.
Herbert Chang(1)(2).....	37	Director, Marvell Technology Group Ltd.
John M. Cioffi(2).....	43	Director, Marvell Technology Group Ltd.
Paul R. Gray(2).....	57	Director, Marvell Technology Group Ltd.
Ron Verdoorn.....	49	Director, Marvell Technology Group Ltd.

</TABLE>

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 (1) Member of the Audit Committee.

(2) Member of the Compensation Committee.

DIOSDADO P. BANATAO has served as our Co-Chairman of the Board since October 1995. Mr. Banatao has been a partner in Mayfield Fund, a venture capital fund, since 1998. Prior to joining Mayfield Fund, Mr. Banatao founded S3, Incorporated, a designer and manufacturer of graphics and video accelerators for personal computers and related peripheral products, where he served as President and Chief Executive Officer from 1989 until 1992 and Chairman from 1992 to 1998. Mr. Banatao holds a Bachelor of Science degree in Electrical Engineering from the Mapua Institute of Technology and a Master of Science degree in Electrical Engineering and Computer Science from Stanford University.

SEHAT SUTARDJA, one of our co-founders, has served as our President since inception and as our Co-Chairman of the Board and Chief Executive Officer since August 1995. In addition, he has served as President, Chief Executive Officer and a Director of Marvell Semiconductor, Inc. since its founding.

From 1989 until 1995, Dr. Sutardja served as a manager and principal project engineer at 8X8 Inc., a designer and manufacturer of digital communications products. Dr. Sutardja received his Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley. Dr. Sutardja is the husband of Weili Dai and the brother of Dr. Pantas Sutardja.

WEILI DAI, one of our co-founders, has served as our Vice President, Corporate Assistant Secretary and one of our Directors since inception. Ms. Dai was promoted from Vice President to Executive Vice President in 1996, which position she currently holds. Ms. Dai has also served as Executive Vice President and Director for Marvell Semiconductor, Inc. since its founding. As Executive Vice President for Marvell Semiconductor, Inc., Ms. Dai is the General Manager of the Data Communications Business Unit and is also responsible for the corporate business development and human resources functions. From 1992 until 1995, Ms. Dai was involved in software development and project management at

PANTAS SUTARDJA, one of our co-founders, has served as our Vice President and one of our Directors since inception, and as Vice President of Engineering for Marvell Semiconductor, Inc. from its founding until 1999, when he was appointed Chief Technology Officer. Dr. Sutardja has also been a Director of Marvell Semiconductor, Inc. from inception. Previously, Dr. Sutardja served as Research Staff Member at IBM Almaden Research Center from 1988 to 1994. Dr. Sutardja holds Bachelor of Science, Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley. Dr. Sutardja is the brother of Dr. Sehat Sutardja.

GORDON M. STEEL has served as our Vice President of Finance and Chief Financial Officer since September 1998 and in a similar capacity for Marvell Semiconductor, Inc. from the same date. From 1987 to 1998, Mr. Steel was the Senior Vice President of Finance and Chief Financial Officer for Xilinx Inc., a designer and manufacturer of proprietary, programmable logic integrated circuits and related software design tools. Mr. Steel holds a Bachelor of Arts degree in Economics from Pomona College and a Master of Business Administration from the Stanford Graduate School of Business.

ALAN ARMSTRONG has served as Vice President of Marketing, Data Storage for Marvell Semiconductor since July 1999. From 1991 until 1999, Dr. Armstrong held various positions at Cirrus Logic Inc., a designer and manufacturer of analog and mixed signal circuits, most recently as Director of Product Planning and Applications for Data Storage Products. Dr. Armstrong holds a Bachelor of Science degree in Electrical Engineering from San Diego State University and Master of Science and Ph.D. degrees in Electrical Engineering from the University of California, San Diego.

GANI JUSUF has served as Vice President of Product Development, Data Communications, since February 2000. From 1998 to February 2000, Dr. Jusuf was a Research and Development Manager for Agilent Technologies, Inc., a subsidiary of Hewlett-Packard, which develops test, measurement and monitoring products and devices. From 1995 to 1998, Dr. Jusuf served as Director of Engineering responsible for product definition and development for Marvell Semiconductor, Inc. Dr. Jusuf holds Bachelor of Science, Master of Science and Ph.D. degrees in Electrical Engineering and Computer Science from the University of California at Berkeley.

NERSI NAZARI has served as Vice President of Signal Processing Technology for Marvell Semiconductor, Inc. since October 1997. From 1994 until 1997, Dr. Nazari served as Chief Technologist at GEC Plessey Semiconductors, a designer and manufacturer of integrated circuits, including data storage and data communications products. Dr. Nazari holds Bachelor of Science degrees in Electrical Engineering and Mathematics from Southern Illinois University, a Master of Science degree in Electrical Engineering from the University of Missouri, and a Ph.D. in Electrical Engineering from the University of Colorado.

GEORGE PAPA joined Marvell Semiconductor, Inc. in February 2000 as Vice President of Sales, Data Communications. From 1997 until 2000, Mr. Papa served as Vice President of Worldwide Sales

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for Level One Communications, Inc., a subsidiary of Intel Corporation. From 1985 to 1997, Mr. Papa served as Vice President of North American Sales for Siemens Corporation. Mr. Papa holds a Bachelor of Science degree in Electrical Engineering from Northeastern University.

LARRY SMITH has served as Vice President of Sales, Data Storage, for Marvell Semiconductor, Inc. since September 1996. From 1981 until 1996, Mr.

LEECHUNG YIU has served as Vice President of Engineering for Marvell Semiconductor, Inc. since May 1999. From 1994 until 1997, Dr. Yiu served as the Director of Engineering for SEEQ Technology Inc., a supplier of Ethernet data communications products for networking applications. From 1997 until 1999, Dr. Yiu was the Vice President of Engineering for Newave Semiconductor Corporation, a privately held company developing integrated circuits for the telecommunications market. Dr. Yiu holds a Bachelor of Science degree in Electrical Engineering from National Taiwan University and Master of Science and Ph.D. degrees in Electrical Engineering from the University of California at Berkeley.

STEPHEN ZADIG has served as the Vice President of Operations for Marvell Semiconductor, Inc. since 1996. From 1995 to 1996, Mr. Zadig served as Vice President of Operations for Paradigm Technology Inc., a designer and supplier of high performance SRAM products. From 1990 until 1995, Mr. Zadig served as Vice President of Operations for C-Cube Microsystems Inc., a company that designs and markets integrated circuits that implement digital video encoding and decoding.

HERBERT CHANG has served as one of our Directors since November 1996. Since April 1996, Mr. Chang has been President of InveStar Capital, Inc., a technology venture capital management firm based in Taiwan. From 1994 to 1996, Mr. Chang was Senior Vice President of WK Technology Fund, a venture capital fund. Mr. Chang serves as a director for NetIQ Corporation and Silicon Image, Inc. Mr. Chang holds a Bachelor of Science degree from National Taiwan University and a Master of Business Administration degree from National Chiao-Tung University in Taiwan.

JOHN M. CIOFFI has served as one of our Directors since March 2000. Dr. Cioffi has been a professor of Electrical Engineering at Stanford University since 1986. In 1991, he founded Amati Communications Corporation, which designs and manufactures modems for Asymmetric Digital Subscriber Lines, and served as the Chief Technology Officer until the company's acquisition by Texas Instruments, Inc. in 1998. Dr. Cioffi is an IEEE fellow and serves as a director for ITEX.

PAUL R. GRAY has served as one of our Directors since March 2000. Dr. Gray currently serves as the Dean of the College of Engineering at the University of California at Berkeley and has been appointed as Vice Chancellor and Provost, effective May 2000. During his 28 year tenure with the University, Dr. Gray has held numerous administrative posts, including Director of the Electronics Research Laboratory, Vice Chairman of the EECS Department for Computer Resources, and Chairman of the Department of Electrical Engineering and Computer Sciences.

RON VERDOORN has served as one of our Directors since January 1998. From January 1999 to the present, Mr. Verdoorn has served as Executive Vice President of Manufacturing for Affymetrix, Inc., a company specializing in the development of technology for acquiring and managing complex genetic information for use in biomedical research, genomics and clinical diagnostics. From 1997 to 1999, Mr. Verdoorn served as an independent consultant to the hard disk drive industry. From 1983 to 1997, Mr. Verdoorn held a number of positions with Seagate Technology, Inc., most recently as Executive Vice President and Chief Operating Officer of Storage Products. Mr. Verdoorn holds a Bachelor of Arts degree in Sociology from Linfield College.



COMMITTEES OF THE BOARD OF DIRECTORS

We have a Compensation Committee comprised of Messrs. Banatao, Chang, Cioffi and Gray and an Audit Committee comprised of Messrs. Banatao and Chang. We intend to appoint a third member to the Audit Committee prior to the consummation of this offering. The Compensation Committee has the authority to approve salaries and bonuses and other compensation matters for our officers and consultants, to approve employee health and benefit plans and to administer our stock option plans. The Audit Committee, which is comprised of independent directors, has the authority to recommend the appointment of our independent auditors and to review the results and scope of audits, internal accounting controls and other accounting related matters.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

None of our executive officers serves as a member of the Board of Directors or Compensation Committee of any entity that has one or more executive officers serving as a member of our Board of Directors or Compensation Committee.

DIRECTOR COMPENSATION

Our directors do not receive cash compensation for their service as directors. Under our 1997 Directors' Stock Option Plan, each new non-employee director will receive an option to purchase 180,000 shares of common stock upon joining the Board of Directors. In addition, under the plan, each incumbent non-employee director will be granted an option to purchase an additional 36,000 shares of our common stock annually. For a more detailed description of the 1997 Directors' Stock Option Plan see the discussion in this prospectus under the heading "Management -- Compensation Plans."

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EXECUTIVE COMPENSATION

The following table shows the cash compensation paid or accrued for the fiscal year ended January 31, 2000 to our Chief Executive Officer and each of our most highly compensated executive officers or former executive officers other than the Chief Executive Officer. We did not make any restricted stock awards or long-term incentive plan payments in the fiscal year ended January 31, 2000. The amount of cash compensation does not include the aggregate value of personal benefits or securities, property or other non-cash compensation paid or distributed other than pursuant to a plan that was less than the lesser of \$50,000 and ten percent (10%) of the cash compensation received by such officer.

SUMMARY COMPENSATION TABLE

<TABLE>  
<CAPTION>

	ANNUAL COMPENSATION	ALL OTHER COMPENSATION(1)
	-----	-----
<S>	<C>	<C>
Sehat Sutardja.....	\$100,000	\$3,081
Co-Chairman of the Board, President and Chief Executive Officer		
Weili Dai.....	100,000	3,081
Executive Vice President, Corporate Assistant Secretary and Director		
Pantas Sutardja.....	100,000	3,081
Vice President and Director		

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(1) These amounts consist of discretionary profit sharing payments.

#### FISCAL YEAR 2000 OPTIONS

No stock options were granted to those executive officers listed in the Summary Compensation Table for the year ended January 31, 2000. We have never granted any stock appreciation rights.

None of those executive officers listed in the Summary Compensation Table exercised stock options during fiscal 2000 or held unexercised options as of January 31, 2000.

#### EMPLOYMENT CONTRACTS AND CHANGE OF CONTROL ARRANGEMENTS

We do not have employment agreements or change in control agreements with any of our executive officers. Accordingly, our executive officers may resign at any time and the employment of each executive officer may be terminated at any time by the Board of Directors.

#### COMPENSATION PLANS

##### 1995 STOCK OPTION PLAN

Our Board of Directors adopted our 1995 Stock Option Plan on April 18, 1995, and intends to amend it at a forthcoming board meeting to add flexibility to the administration of the plan and to add certain other improvements. The plan will terminate no later than April 18, 2005. The plan provides for the grant of incentive stock options to our employees and nonstatutory stock options to our employees, directors and consultants. As of February 29, 2000, 29,500,000 shares of common stock were reserved for issuance under this plan. Of these shares, 13,008,466 were subject to outstanding options and 4,070,270 were available for future grant. As amended, the plan will provide for annual increases in the number of shares available for issuance on the first day of each year, beginning January 1, 2001, equal to the lesser of 5,000,000 shares, 5% of the outstanding shares on the date of the annual increase, or a number of shares determined by our Board.

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Our Board or a committee appointed by the Board administers the stock option plan and determines the terms of options granted, including the exercise price, the number of shares subject to individual option awards and the vesting period of options. The exercise price of nonstatutory options will generally be at least the fair market value of the common stock on the date of grant. The exercise price of incentive stock options cannot be lower than 100% of the fair market value of the common stock on the date of grant and, in the case of incentive stock options granted to holders of more than 10% of our voting power, not less than 110% of the fair market value. The term of an incentive stock option cannot exceed ten years, and the term of an incentive stock option granted to a holder of more than 10% of our voting power cannot exceed five years.

A participant may not transfer rights granted under our stock option plan other than by will, the laws of descent and distribution, or as otherwise provided under the stock option plan. As amended, the plan will provide the Board or committee with broad authority to adjust the treatment of options granted under our stock option plan if we are acquired, including causing them to accelerate and become fully exercisable, if the successor corporation does not assume them or substitute equivalent options in their place. Our Board of

#### 2000 EMPLOYEE STOCK PURCHASE PLAN

At a forthcoming board meeting, we intend to present for approval the 2000 Employee Stock Purchase Plan, the adoption of which shall be subject to shareholder approval. The purchase plan will terminate no later than 20 years after the Board approval. The purchase plan will provide our employees and those of our participating subsidiaries an opportunity to purchase our common stock through accumulated payroll deductions.

A total of 1,000,000 shares of common stock will initially be reserved for issuance under the purchase plan. In addition, the purchase plan will provide for annual increases in the number of reserved shares on the first day of each calendar year in the plan's term, beginning January 1, 2001, equal to the lesser of 500,000 shares, 0.75% of the outstanding shares on the date of the annual increase, or the amount the Board determines.

Our Board of Directors or a committee appointed by the Board will administer the purchase plan. The Board or committee will have full and exclusive authority to interpret the terms of the purchase plan. In addition, the Board will have the authority to amend or terminate the purchase plan at any time.

Employees will be eligible to participate if they are customarily employed for at least 20 hours per week. However, an employee will not be eligible to participate if immediately after the grant of a right to purchase stock under the purchase plan, he or she would own stock with five percent or more of the total combined voting power or value of all classes of our capital stock, or if and to the extent that, his or her rights to purchase stock under all of our employee stock purchase plans accrue at a rate that exceeds \$25,000 worth of stock per calendar year.

The purchase plan will permit participants to purchase common stock through payroll deductions of up to 20% of the participant's base compensation, which will include regular straight-time gross earnings and exclude overtime, shift premiums, incentive compensation or payments, bonuses, and commissions. Employees will participate in the purchase plan by enrolling in "offering periods" of up to 24 months, as determined by the plan administrator, each including four purchase periods. We intend the offering periods to start on the first trading day of each February and August during the term of the purchase plan, except that the first offering period is planned to begin on the first trading day before the effective date of this offering, and is planned to end on the last trading day of January 2002. Each purchase period will end in a purchase date on the last trading day of each January and July. An employee may be enrolled in only one offering period at a time.

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On each purchase date, amounts that are deducted and accumulated for the participant's account will be used to purchase shares of common stock at a price of 85% of the lower of the fair market value of the common stock at the first day of the offering period and the purchase date. If the fair market value of the common stock is lower on the purchase date than it was on the first day of the offering period, then all participants in that offering period will automatically be enrolled in the offering period that begins the next trading day, and their participation in the prior offering period will be terminated. In addition, if the fair market value of the common stock drops more than 25% from one purchase date (the "benchmark date") to the next, the number of shares a participant may purchase will be limited, unless the administrator determines otherwise, to 75% of the number that could have been purchased at 85% of the

Participants will be able to reduce their withholding percentage, but not below one percent, at any time during an offering period and will be able to increase their withholding percentage effective the first day of each purchase period. Participants will be able to end their participation, and will be repaid their payroll deductions through that date, at any time during an offering period. Participation will end automatically upon termination of employment.

We intend the purchase plan to qualify under Section 423 of the Internal Revenue Code, to allow favorable tax treatment of participants. In general, if a participant in a qualified employee stock purchase plan holds stock purchased under the plan for at least two years from the date he or she was granted the right to purchase the stock and at least one year after the purchase, then upon sale of the stock, (a) gain up to 15% of the value of the stock on the date the purchase right was granted is taxable as ordinary income and (b) additional gain is long-term capital gain.

A participant will not be able to transfer rights granted under the purchase plan other than by will, the laws of descent and distribution or as otherwise provided under the purchase plan.

The purchase plan will provide that, if we merge with or into another corporation or a sale of substantially all of our assets, a successor corporation may assume or substitute for each outstanding purchase right. If the successor corporation refuses to assume or substitute for the outstanding purchase rights, the offering period then in progress will be shortened, and a new purchase date will be set.

#### 1997 DIRECTORS' STOCK OPTION PLAN

On January 28, 1997 our Board of Directors adopted the 1997 Directors' Stock Option Plan and our shareholders approved the adoption of the plan on August 5, 1997. The plan provides for the grant of nonstatutory stock options to non-employee directors. A total of 900,000 shares of our common stock have been reserved for issuance under the director plan.

The 1997 Directors' Stock Option Plan provides that each non-employee director will automatically be granted an option to purchase 180,000 shares of our common stock on the date that he or she first becomes a non-employee director. In addition, each non-employee director will automatically be granted an option to purchase 36,000 shares on the date of each annual shareholders' meeting if at that time he or she will have served on the Board of Directors for at least the preceding six months. The term of each option shall not exceed ten years. Under the plan, the initial grant of 180,000 shares of common stock vests over five years with the first 20% vesting at the end of the first year and one sixtieth of the total vesting each month thereafter. Each subsequent grant of 36,000 shares begins to vest with 20% on the day that is one month after the fourth anniversary of the date of the grant and one twelfth of the total vests each month thereafter. In addition, upon a merger or the sale of substantially all of our assets, adoption of a plan of liquidation, dissolution, consolidation or reorganization all unvested options shall immediately vest and we will give each director a reasonable time thereafter to exercise his or her option. Alternatively, we may grant the director the right to exercise the option, whether or not vested, for an equivalent number of shares of the company acquiring our business by reason of such transaction.

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The exercise price of each option granted under the 1997 Directors' Stock Option Plan will be 100% of the fair market value per share of our common stock, on the date of grant. Each option will have a maximum term of 10 years, but will terminate earlier if the director ceases to be a member of the Board of Directors. The Board of Directors may amend the plan without shareholder

401(K) PLAN

We sponsor a defined contribution plan intended to qualify under Section 401(k) of the Internal Revenue Code. All employees are generally eligible to participate and may enter at any time during the year. Participants may make pre-tax contributions to the plan of up to the statutorily prescribed annual limit. Participants are fully vested in their contributions and the investment earnings. The plan permits us to make discretionary matching contributions. To date, we have not made matching contributions under the plan.

#### INDEMNIFICATION OF DIRECTORS AND EXECUTIVE OFFICERS AND LIMITATION ON LIABILITY

Bermuda law permits a company to indemnify its directors and officers, except for any acts of fraud or dishonesty. We have provided in our Bye-laws that our directors and officers will be indemnified and held harmless out of our assets from and against any and all actions, costs, charges, losses, damages and expenses by reason of any act or omission in the discharge of their duty, other than in the case of fraud or dishonesty.

Bermuda law and our Bye-laws also permit us to purchase insurance for the benefit of our directors and officers against any liability incurred by them for the failure to exercise the requisite care, diligence and skill in the exercise of their powers and the discharge of their duties, and to indemnify them in respect of any loss arising or liability incurred by them other than in respect of fraud or dishonesty.

We intend to enter into indemnification agreements with our officers and directors. To the extent permitted by law, the indemnification agreements may require us, among other things, to indemnify our officers and directors against certain liabilities that may arise by reason of their status or service as officers or directors (other than liabilities arising from fraud or dishonesty) and to advance expenses they incurred as a result of any proceedings against them as to which they could be indemnified.

There is currently no pending litigation or proceeding involving an officer or director that will require or permit us to provide indemnification. We are not aware of any threatened litigation or proceeding that may result in a claim for such indemnification.

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#### CERTAIN TRANSACTIONS

Since January 1997, there has not been nor is there currently proposed any transaction or series of similar transactions to which we were or will be a party in which the amount involved exceeded or will exceed \$60,000 and in which any director, executive officer, holder of more than 5% of our stock or any member of his or her immediate family had or will have a direct or indirect material interest, except as noted below.

#### ISSUANCES OF OPTIONS AND PURCHASES OF COMMON STOCK

From January 1, 1997 through March 15, 2000, we granted options and issued shares of our common stock as follows:

- In January 1997, we granted Diosdado Banatao an option to purchase 180,000 shares at an exercise price per share of \$0.05.
- In January 1997, we granted Herbert Chang an option to purchase 180,000 shares at an exercise price per share of \$0.05. In June 1997, Mr. Chang exercised all of the options.

- In October 1998, we granted Gordon M. Steel options to purchase an aggregate total of 1,600,000 shares at an exercise price per share of \$0.33. Mr. Steel exercised all of the options in January 1999. In February 2000, we granted Mr. Steel an option to purchase 15,000 shares at an exercise price per share of \$5.00, none of which have been exercised.
- In January 1998, we granted Ron Verdoorn options to purchase an aggregate of 630,000 shares at an exercise price per share of \$0.25. In March 2000, Mr. Verdoorn exercised all of the options.
- In December 1999, we granted Dr. John Cioffi options to purchase 180,000 shares at an exercise price per share of \$2.00. In January 2000, Dr. Cioffi exercised all of the options.
- In December 1999, we granted Dr. Paul Gray options to purchase 180,000 shares at an exercise price per share of \$2.00. In January 2000, Dr. Gray exercised 36,000 of these options.

Except as set forth above, none of our executive officers, directors or 5% shareholders received options to purchase or purchased our common stock during this period.

#### CONVERTIBLE NOTE FINANCING AND SERIES D PREFERRED STOCK

In June 1997, in conjunction with issuing convertible promissory notes for short-term financing, we issued warrants to purchase Series D preferred stock at an exercise price of \$4.33 per share. The number of shares subject to such warrant equaled 15% of the principal amount of each purchaser's note divided by the exercise price at the time of issuance. The promissory notes were cancelled in December 1997, and the accrued indebtedness, consisting of principal and interest, was converted to Series D preferred stock. Concurrent with the conversion of the convertible promissory notes, during the period December 1997 through February 1998 we sold additional shares of Series D preferred stock to investors at a purchase price of \$4.33 per share. Set forth below is a description of the warrants and shares of Series D preferred stock issued to our officers, directors and 5% shareholders.

- In December 1997, InveStar Burgeon Venture Capital, Inc., purchased 119,330 shares of Series D Preferred for the cancellation of \$517,094.50 in accrued indebtedness under a convertible promissory note issued in June 1997, and we granted to InveStar Burgeon Venture Capital, Inc. a warrant to purchase 17,307 shares of Series D preferred stock.
- In December 1997, InveStar Semiconductor Development Fund, Inc. purchased 469,428 shares of Series D Preferred for \$999,999 in cash and cancellation of \$1,034,189 in accrued indebtedness under a convertible promissory note issued in June 1997, and we issued to InveStar Semiconductor Development Fund, Inc. a warrant to purchase 34,616 shares of Series D preferred stock.

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- In December 1997, Sehat Sutardja and Weili Dai purchased 23,078 shares of Series D Preferred for cash.
- In December 1997, InveStar Dayspring Venture Capital, Inc. purchased 115,385 shares of Series D Preferred for cash.
- In February 1998, InveStar Semiconductor Development, Inc. purchased 92,309 shares of Series D Preferred for cash.
- In February 1998, InveStar Dayspring Venture Capital, Inc. purchased 46,154 shares of Series D Preferred for cash.

- In February 1998, Forefront Venture Partners, L.P. purchased 46,154 shares of Series D Preferred for cash.
- In February 1998, InveStar Excelsus Venture Capital, Inc. purchased 46,154 shares of Series D Preferred for cash.
- In February 1998, Ron Verdoorn purchased 8,078 shares of Series D Preferred for cash.

All share numbers and exercise prices for common stock have been adjusted to reflect the 50% stock dividend in June 1998 and the two 100% common stock dividends approved by our shareholders on March 17, 2000. All share numbers and exercise prices for preferred stock have been adjusted to reflect the 50% stock dividend in June 1998. Although the number of shares of Series D Preferred was not affected by the two 100% common stock dividends approved by our shareholders on March 17, 2000, as a result of the stock dividends, each share of Series D preferred stock automatically adjusted and became convertible into four shares of common stock.

InveStar Capital, Inc. acted as placement agent for several sales of the Series D preferred stock, and as partial consideration for such services we issued to InveStar Capital, Inc. warrants to purchase 10,825 shares of Series D preferred stock.

We have entered into an investor rights agreement with each of the purchasers of our preferred stock, including those set forth above. Under this agreement, these stockholders are entitled to registration rights with respect to their shares of common stock issuable upon conversion of the preferred stock and have defined rights of first refusal upon our issuance of new securities.

DIRECTOR AFFILIATIONS

Our director Ronald Verdoorn was employed by Seagate Technology, Inc. from May 1983 through September 1997, most recently as Executive Vice President and Chief Operating Officer of Storage Products. Seagate represented 21% of our net revenue in fiscal 1998, 43% of our net revenue in fiscal 1999 and 24% of our net revenue in fiscal 2000.

PRINCIPAL SHAREHOLDERS

The following table sets forth information regarding the beneficial ownership of our common stock as of March 15, 2000, and as adjusted to reflect the sale of the shares in this offering for:

- each person known by us to own beneficially more than 5% of our outstanding shares;
- each director and executive officer; and
- all directors and executive officers as a group.

The percentage of beneficial ownership for the following table is based on 77,101,316 shares of our common stock outstanding on March 15, 2000, assuming the conversion of all outstanding shares of preferred stock and preferred and common stock warrants into common stock. The percentage of beneficial ownership after this offering also assumes shares of common stock outstanding after completion of this offering, and assumes no exercise of the underwriters' option to purchase additional shares in the offering.

Unless otherwise indicated below, to our knowledge, all persons listed below have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under

The number of shares beneficially owned by each shareholder is determined in accordance with the rules of the Securities and Exchange Commission and are not necessarily indicative of beneficial ownership for any other purpose. Under these rules, beneficial ownership includes those shares of common stock that the shareholder has sole or shared voting of investment power and any shares of common stock that the shareholder has a right to acquire within sixty (60) days after March 15, 2000 through the exercise of any option, warrant or other right. The percentage ownership of the outstanding common stock, however, is based on the assumption, expressly required by the rules of the Securities and Exchange Commission, that only the person or entity whose ownership is being reported has converted options or warrants into shares of common stock. Although the number of shares of preferred stock was not affected by the two 100% common stock dividends approved by our shareholders on March 17, 2000, as a result of the stock dividends, each share of preferred stock automatically adjusted and became convertible into four shares of common stock.

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Unless otherwise indicated, the address of each person owning more than 5% of our outstanding shares is c/o Marvell Semiconductor, Inc., 645 Almanor Avenue, Sunnyvale, CA 94086.

<TABLE>  
<CAPTION>

NAME AND ADDRESS OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED PRIOR TO OFFERING		SHARES BENEFICIALLY OWNED AFTER OFFERING	
	NUMBER	PERCENT	NUMBER	PERCENT
<S> EXECUTIVE OFFICERS, DIRECTORS AND 5% SHAREHOLDERS:	<C>	<C>	<C>	<C>
Entities Affiliated with InveStar Capital, Inc.(1)..... 1737 North First Street San Jose, CA 95112	8,730,640	11.3%	8,730,640	
Sehat Sutardja(2).....	24,092,312	31.2%	24,092,312	
Weili Dai(2).....	24,092,312	31.2%	24,092,312	
Pantas Sutardja.....	12,000,000	15.6%	12,000,000	
Gordon M. Steel(3).....	1,615,000	2.1%	1,615,000	
Diosdado P. Banatao(4)..... 2800 Sand Hill Road, #250 Menlo Park, CA 94025	6,879,208	8.9%	6,879,208	
Herbert Chang(1)..... 1737 North First Street San Jose, CA 95112	8,730,640	11.3%	8,730,640	
John M. Cioffi.....	180,000	*	180,000	*
Paul R. Gray(5).....	180,000	*	180,000	*
Ron Verdoon.....	662,312	*	662,312	*
Executive Officers and Directors as a Group (9 persons)(6).....	54,339,472	70.5%	54,339,472	

</TABLE>

\* Less than one percent

(1) Represents 161,539 shares of Series D Preferred Stock held by InveStar Dayspring Venture Capital, Inc., 46,154 shares of Series D Preferred Stock held by InveStar Excelsus Venture Capital (Int'l), Inc., 570,000 shares of Series C Preferred Stock, 561,737 shares of Series D Preferred Stock and a warrant to purchase 34,615 shares of Series D Preferred Stock held by



- (2) Dr. Sutardja and Ms. Dai are husband and wife. Includes 9,000,000 shares held by Dr. Sutardja, of which Ms. Dai may be deemed to be a beneficial owner although Ms. Dai disclaims such beneficial ownership, 9,000,000 shares held by Ms. Dai, of which Dr. Sutardja may be deemed to be a beneficial owner, although Dr. Sutardja disclaims such beneficial ownership, 23,078 shares of Series D Preferred Stock convertible into 92,312 common shares held jointly by Dr. Sutardja and Ms. Dai, and 6,000,000 shares held by Dr. Sutardja and Ms. Dai as trustees of the Sutardja Family Trust dated January 31, 1995. Dr. Sutardja and Ms. Dai disclaim beneficial ownership of the 6,000,000 shares held by the Sutardja Family Trust.
- (3) Includes 400,000 shares held by each of Mr. Steel's two children. Mr. Steel disclaims beneficial ownership of the 800,000 shares held by his children, except to the extent of his pecuniary interest therein, if any. Includes 15,000 shares subject to stock options that are currently exercisable or will become exercisable within 60 days after March 15, 2000.

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- (4) Includes 15,711 shares held by Mr. Banatao's minor children. Mr. Banatao may be deemed to be a beneficial owner of these shares, although Mr. Banatao disclaims such beneficial ownership. Also includes 1,680,000 shares subject to stock options that are currently exercisable or will become exercisable within 60 days after March 15, 2000.
- (5) Includes 144,000 shares subject to stock options that are currently exercisable or will become exercisable within 60 days after March 15, 2000.
- (6) Includes 1,839,000 shares subject to stock options that are currently exercisable or will become exercisable within 60 days after March 15, 2000.

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#### DESCRIPTION OF CAPITAL STOCK

Our authorized share capital consists of \$500,000, divided into 242,000,000 shares of common stock, \$0.002 par value per share, and 8,000,000 shares of preferred stock, \$0.002 par value per share.

#### COMMON STOCK

As of February 29, 2000, there were 76,366,116 shares of our common stock issued and outstanding, held of record by approximately 222 shareholders. The number of shares of common stock outstanding has been adjusted to reflect the conversion when this offering closes of 6,806,213 outstanding shares of preferred stock and preferred and common stock warrants into 27,044,852 shares of common stock, at a conversion ratio of four shares of common stock for each share of preferred stock. In the event of our liquidation, dissolution or winding up, holders of common stock would be entitled to receive all of our assets, pro rata, after payment of all our debts and liabilities, and any

liquidation payment that we may be required to pay to our preferred shareholders on the date of liquidation. The shares of common stock do not have preemptive or conversion rights or other subscription rights and there are no redemption or sinking fund provisions. The outstanding shares of common stock are, and the shares of common stock offered hereby, when issued and upon our receipt of the full purchase price therefore, will be, fully paid and nonassessable.

PREFERRED STOCK

The Board of Directors is authorized to issue up to 8,000,000 shares of preferred stock in one or more series. The Board of Directors may, without any further approval of our shareholders:

- fix the rights, preferences, privileges and restrictions of the preferred stock, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, and liquidation preferences; and
- fix the number of shares and designation of any series of preferred stock.

Although the Board of Directors presently does not intend to do so, it could issue shares of preferred stock with voting and conversion rights which could adversely affect the voting power and other rights of the holders of common stock, including the loss of voting control to others, without obtaining further approval of our shareholders. The issuance of shares of preferred stock could delay or prevent a change in control of this company, without further action by our shareholders.

BERMUDA LAW

We were incorporated as an exempted Bermuda company under The Companies Act, 1981 of Bermuda. This means that we are exempted from the provisions of Bermuda law which stipulate that at least 60% of our equity must be beneficially owned by Bermudians. The rights of our shareholders, including those persons who will become our shareholders in connection with this offering, are governed by Bermuda law, our Memorandum of Association and Bye-laws. The following is a summary of certain provisions of Bermuda law and our organizational documents. Because this summary does not contain all of the information set forth in the Bermuda law provisions or our organizational documents, we encourage you to read those documents.

DIVIDENDS. Bermuda law authorizes a company to declare or pay a dividend or make a distribution out of contributed surplus, unless,

- the company would not be able to pay its debts as they become due, or
- the realizable value of the company's total assets would thereby be less than the aggregate of its liabilities and its issued share capital and share premium accounts.

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VOTING RIGHTS. Unless otherwise provided by the Companies Act or a company's bye-laws, under Bermuda law, questions brought before a general meeting of shareholders are decided by a majority vote of shareholders present at the meeting. Each shareholder has one vote, regardless of the number of shares held, unless a poll is requested. If a poll is requested, each shareholder present in person or by proxy has one vote for each share held. A poll may be requested by:

- the chairman of the meeting,
- at least three shareholders present in person or by proxy,

- any shareholder or shareholders present in person or represented by proxy and holding between them not less than one-tenth of the total voting rights of all the shareholders having the right to vote, or
- any shareholder or shareholders present in person or represented by proxy holding shares conferring the right to vote at the meeting, and the total paid up on those shares has been paid up equal to at least one-tenth of the total sum paid up on all shares conferring the right to vote at the meeting.

Our Bye-laws provide that, subject to the provisions of the Companies Act, any questions sent to a shareholder vote will be decided by a majority of the votes cast. At our annual general meeting in April 2000, we intend to seek the approval of our shareholders of an amendment and restatement of our Bye-laws requiring two-thirds of the outstanding shares to approve amendments to some provisions of our Bye-laws.

RIGHTS IN LIQUIDATION. Under Bermuda law, in the event of liquidation, dissolution or winding up of a company, the proceeds of such liquidation, dissolution or winding up are distributed pro rata among the holders of common stock, after satisfaction in full of all claims of creditors and subject to the preferential rights accorded to any series of preferred stock.

MEETINGS OF SHAREHOLDERS. Under Bermuda law, a company is required to convene at least one general shareholders' meeting per calendar year. Bermuda law provides that a special general meeting must be called by the board of directors and must be called upon the request of shareholders holding not less than 10% of such of the paid-up capital of the company having the right to vote. Bermuda law also requires that shareholders be given at least five days' advance notice of a general meeting, but the accidental omission of notice to any person does not invalidate the proceedings at such meeting. Our Bye-laws require at least five days' notice be given to each shareholder of the annual general meeting and of any special general meeting.

Under Bermuda law, the number of shareholders constituting a quorum at any general meeting of shareholders is determined by the bye-laws of the company. Our Bye-laws provide that two persons present in person and representing in person or by proxy at least 50% of the total issued voting shares constitutes a quorum.

ACCESS TO BOOKS AND RECORDS AND DISSEMINATION OF INFORMATION. Members of the general public have the right to inspect the public documents of a company available at the office of the Registrar of Companies in Bermuda. These documents include:

- our Memorandum of Association (including its objects and powers), and
- any amendment of our Memorandum of Association.

In addition, our shareholders have the right to inspect:

- our Bye-laws,
- our minutes of general meetings, and
- our audited financial statements, which must be presented at the annual general meeting.

Our register of shareholders is also open to inspection by our shareholders without charge and to members of the general public, upon the payment of a fee. We are required to maintain our share register in Bermuda but may, subject to

the provisions of the Companies Act, establish a branch register outside Bermuda. We are required to keep at our registered office a register of our directors and officers which is open for inspection for not less than two hours each day by members of the public without charge. However, Bermuda law does not provide a general right for shareholders to inspect or obtain copies of any other corporate records.

**ELECTION OR REMOVAL OF DIRECTORS.** Under Bermuda law and our Bye-laws, directors are elected at the annual general meeting for a term of one year or until their successors are elected or appointed, unless they resign or are earlier removed.

Under Bermuda law, unless otherwise provided in a company's bye-laws, a director may be removed at a special general meeting of shareholders specifically called for that purpose, provided that the director was served with at least 14 days' notice of the meeting. The director has a right to be heard at such meeting. Any vacancy created by the removal of a director at a special general meeting may be filled at such meeting by the election of another director in his or her place or, in the absence of any such election, by the board of directors.

At our annual general meeting in April 2000, we intend to seek the approval of our shareholders of an amendment and restatement of our Bye-laws providing for a classified Board of Directors with staggered terms and limiting the removal of directors without cause.

**AMENDMENT OF MEMORANDUM OF ASSOCIATION AND BYE-LAWS.** Bermuda law provides that the memorandum of association of a company may be amended by a resolution passed at a general meeting of shareholders after due notice has been given. An amendment to the memorandum of association, other than an amendment which alters or reduces a company's share capital, also requires the approval of the Bermuda Minister of Finance, who may grant or withhold approval at his or her discretion. The directors may amend the bye-laws, but the amendment must be approved by the shareholders at a general meeting.

Under Bermuda law, the holders of a total of at least 20% in par value of any class of a company's issued share capital have the right to apply to the Bermuda courts for an annulment of any amendment of the memorandum of association adopted by shareholders at any general meeting, other than an amendment which alters or reduces a company's share capital as provided in the Companies Act. Where such an application is made, the amendment becomes effective only to the extent that it is confirmed by the Bermuda courts. An application for annulment of any amendment of the memorandum of association must be made within 21 days after the date on which the resolution altering the company's memorandum is passed and may be made on behalf of the persons entitled to make the application by one or more of their number as they may appoint in writing for that purpose. No such application may be made by persons voting in favor of the amendment.

**APPRAISAL RIGHTS AND SHAREHOLDER SUITS.** Under Bermuda law, in the event of a consolidation or amalgamation of two companies, a shareholder who is not satisfied that fair value has been offered for his or her shares may apply to the Bermuda courts to appraise the fair value of his or her shares. The amalgamation of a company with another company requires the approval of the amalgamation agreement by the board of directors and by the shareholders, and of the holders of each class of such shares.

Class actions and derivative actions are generally not available to shareholders under Bermuda law. The Bermuda courts, however, would ordinarily be expected to permit a shareholder to commence an action in the name of a company to remedy a wrong done to the company where the act complained of is alleged:

- to be beyond the corporate power of the company,
- to be illegal, or

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- to violate the company's memorandum of association or bye-laws.

Furthermore, consideration would be given by the Bermuda courts to acts that are alleged to constitute a fraud against the minority shareholders or, for instance where an act requires the approval of a greater percentage of the company's shareholders than those who actually approve it.

When the affairs of a company are being conducted in a manner oppressive or prejudicial to the interests of some of the shareholders, one or more shareholders may apply to the Bermuda courts for an order to regulate the company's conduct of affairs in the future or order the purchase of the shares by any shareholder, by other shareholders or by the company.

#### WARRANTS

The warrants that we issued will expire upon this initial public offering.

#### REGISTRATION RIGHTS

Pursuant to the terms of the Investor Rights Agreement dated September 10, 1999, with our preferred shareholders and warrant holders and their transferees receiving at least 200,000 shares, after this offering the holders of 27,044,852 shares of common stock will have rights with respect to the registration of their respective shares under the Securities Act. Under the terms of the agreement, if we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders exercising registration rights, such holders are entitled to notice of such registration and are entitled to include their common stock in the registration. Six months following the effective date of this offering, these shareholders may also require us to file a registration statement under the Securities Act at our expense with respect to their shares of common stock, and we are required to use our best efforts to effect such registration. These shareholders have the right to request up to two such registration statements. Further, such shareholders may require us to file additional registration statements on Form S-3 or its equivalent at our expense. Each of these rights is subject to conditions and limitations, including the right of the underwriters of an offering to limit the number of shares included in such offering under various circumstances.

#### ANTI-TAKEOVER PROVISIONS

We intend to seek the approval of our shareholders at our annual general meeting in April 2000, for an amendment to our Bye-laws. The amendment will implement provisions that may have the effect of delaying, deferring or discouraging another person from acquiring control of us. These provisions include:

- following the completion of this offering, the approval of holders of two-thirds of the shares entitled to vote at an election of directors shall be required to adopt, amend or repeal our Bye-laws regarding the election and removal of directors;
- shareholders may only fill vacancies on the board when no quorum of directors remains;
- following the completion of this offering, our Board of Directors will be divided into three classes, each serving staggered three-year terms, which means that only one class of directors will be elected at each annual meeting of shareholders, with the other classes continuing for the remainder of their respective terms, and directors may only be removed for cause by the holders of two-thirds of the shares entitled to vote at an election of directors; and

- we will indemnify officers and directors against losses that they may incur in investigations and legal proceedings resulting from their services to us, which may include services in connection with takeover defense measures.

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## TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our common stock is .

## LISTING

We will apply to have our common stock listed for quotation on the Nasdaq National Market under the trading symbol "MRVL".

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## CERTAIN FOREIGN ISSUER CONSIDERATIONS

There are no limitations on the rights of foreign nationals or persons non-resident in Bermuda who own our common stock to hold or vote their shares. Because we have been designated as a non-resident for Bermuda exchange control purposes, there are no restrictions in Bermuda on our ability to transfer funds in and out of Bermuda or to pay dividends to United States residents who are holders of our common stock other than in respect of local Bermuda currency.

In the case of an applicant acting in a special capacity such as an executor or trustee, at the request of the applicant, certificates may record the capacity in which the applicant is acting. Notwithstanding the recording of any such special capacity, we are not bound to investigate or incur any responsibility in respect of the proper administration of any estate or trust. We will not take notice of any trust applicable to any of its shares whether or not we had notice of the trust.

Under Bermuda law, we are an exempted company. This means that we are exempted from the provisions of Bermuda law that stipulate that at least 60% of the equity must be beneficially owned by Bermudians. Consents under The Exchange Control Act, 1972 of Bermuda and the regulations under that Act have been obtained for the issue and subsequent transfer of the shares of common stock offered by this prospectus to and among persons not resident in Bermuda for exchange control purposes. For exchange control purposes, persons regarded as residents of Bermuda require specific consent under The Exchange Control Act 1972 to purchase shares. The Companies Act permits companies to adopt bye-law provisions relating to the transfer of shares. There are no limitations imposed by Bermuda law, our Memorandum of Association or our Bye-laws, on the right of foreign nationals or nonresidents of Bermuda to hold or vote shares of our common stock. There is no minimum subscription which must be raised by the issue of shares to provide the funds required for the purposes of Section 28 of the Companies Act.

As an exempted company, we may not, unless authorized by our Memorandum of Association or any other act, participate in certain business transactions, including:

- the acquisition or holding of land in Bermuda, except as required for our business and held by way of lease or tenancy for terms of not more than 50 years;
- the taking of mortgages on land in Bermuda; or
- the carrying on of business of any kind in Bermuda, except in

The Bermuda government actively encourages foreign investment in exempted entities which, like us, are based in Bermuda but do not operate in competition with local business. In addition to having no restrictions on the degree of foreign ownership, we are not subject to taxes on its income or dividends or to any foreign exchange controls in Bermuda. In addition, there is no capital gains tax in Bermuda, and we can accumulate, as required, without limitation.

We have been advised by our legal advisor in Bermuda that the United States and Bermuda do not currently have a treaty providing for the reciprocal recognition and enforcement of judgments in civil and commercial matters and that a final judgment for the payment of money rendered by any federal or state court in the United States based on civil liability, whether or not based solely on United States federal securities laws, would, therefore, not be automatically enforceable in Bermuda.

Nevertheless, a final and conclusive judgment obtained in a state court or federal court of the United States based upon a contractual obligation under which a sum of money is payable could be enforced by an action in the Supreme Court of Bermuda, without reexamination of the merits, under the common law doctrine of obligation. A final opinion as to the availability of this remedy could only be given when the facts surrounding the judgment were known but, on general principles, we would

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expect an application to be successful on the basis of advice from our legal advisor in Bermuda, provided that the judgment:

- was final and conclusive;
- was not obtained by fraud;
- was not and its enforcement would not be contrary to public policy of Bermuda;
- was obtained in circumstances where the proceedings were not contrary to the rules of natural justice; and
- was the subject of the correct procedures under the law of Bermuda for its enforcement.

A Bermuda court may impose civil liability on us or our directors or officers in a suit brought in the Supreme Court of Bermuda against us or those persons with respect to a violation of United States securities law, provided that the facts surrounding the violation would constitute or give rise to a cause of action under Bermuda law.

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#### TAXATION

##### TAXATION OF MARVELL

We believe that a significant portion of our income will not be subject to tax in Bermuda, which currently has no corporate income tax, or other countries in which we or our affiliates conduct activities or in which our customers are located, including the United States. However, our belief is based upon the anticipated nature and conduct of our business, which may change, and upon our understanding of our position under the tax laws of the various countries in which we have assets or conduct business. Our position may be subject to review

and possible challenge by taxing authorities and to possible changes in law that could have retroactive effect. The extent to which taxing jurisdictions may require us to pay tax or to make payments in lieu of tax cannot be determined in advance. In addition, our operations and payments due to us may be affected by changes in taxation, including retroactive tax claims or assessments of withholding on amounts payable to us or other taxes assessed at the source, in excess of the taxation we anticipate based on our business contacts and practices and the current tax regimes. These factors could harm our financial results.

#### UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

We and our non-United States subsidiaries will be subject to United States federal income tax at regular corporate rates, and to United States branch profits tax, on our income that is effectively connected with the conduct of a trade or business within the United States, and will be required to file federal income tax returns reflecting that income. We intend to conduct our business so as to limit the amount of our effectively connected income. However, the Internal Revenue Service might not agree with our positions in this regard. Moreover, our United States subsidiary will be subject to United States federal income tax on its worldwide income regardless of its source, subject to reduction by allowable foreign tax credits, and distributions by our United States subsidiary to us or our foreign subsidiaries generally will be subject to United States withholding.

#### BERMUDA TAX CONSIDERATIONS

Under current Bermuda law, we are not subject to tax on income or capital gains. Furthermore, we have obtained from the Minister of Finance of Bermuda under the Exempted Undertakings Tax Protection Act 1966, as amended, an undertaking that, in the event that Bermuda enacts any legislation imposing tax computed on profits, income, any capital asset, gain or appreciation, or any tax in the nature of estate duty or inheritance tax, then the imposition of such tax will not be applicable to us or to any of our operations, or our shares, capital or common stock, until March 28, 2016. The undertaking does not, however, prevent the imposition of property taxes on any company owning real property or leasehold interests in Bermuda.

#### SINGAPORE TAX CONSIDERATIONS

The Economic Development Board of Singapore has informed us that it intends to recommend us for pioneer status. We believe that we will shortly receive official approval of pioneer status for a period of at least six years, commencing July 1, 1999. We anticipate that as a consequence a significant portion of our income in Singapore will be free from the 26% Singapore tax rate during this period. We have agreed to meet certain requirements as to investment and headcount in Singapore, and barring unexpected events, we anticipate that we will meet such requirements.

#### TAXATION OF SHAREHOLDERS

In the opinion of Fenwick & West LLP, our special United States federal income tax counsel, the summary set forth below under "Taxation of Shareholders -- United States Federal Income Tax Considerations" accurately describes certain material United States federal income tax consequences that may be relevant to the ownership and disposition of our common stock. In the opinion of

Conyers, Dill & Pearman, our special Bermuda counsel, the summary set forth below under "Taxation of Shareholders -- Bermuda Tax Considerations" accurately describes certain material Bermuda tax consequences that may be relevant to the purchase, ownership and disposition of our common stock. Unless otherwise



stated, the discussion below deals only with our common stock held as capital assets by United States Holders, as defined below, who purchase the common stock upon original issuance at its original offering price. The discussion does not deal with all possible tax consequences relating to an investment in our common stock and does not purport to deal with the tax consequences applicable to all categories of investors, some of which, such as dealers in securities, financial institutions, insurance companies, tax-exempt entities, and shareholders who are subject to the alternative minimum tax, may be subject to special rules. In particular, the discussion does not address the tax consequences under state, local, estate, or other national, for example, non-United States, non-Bermuda, tax laws. Accordingly, each prospective investor should consult its own tax advisor regarding the particular tax consequences to it of an investment in our common stock. The following discussion is based upon laws, regulations and relevant interpretations thereof in effect as of the date of this prospectus, all of which are subject to change, possibly retroactively.

#### BERMUDA TAX CONSIDERATIONS

Under current Bermuda law, no income, withholding or other taxes or stamp or other duties will be imposed upon the issue, transfer or sale of our common stock or on any payments on the common stock. The undertaking on taxes we obtained from the Minister of Finance of Bermuda is described under the heading "Taxation of Marvell -- Bermuda Tax Considerations".

#### UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

The following is a summary of certain material United States federal income tax considerations that apply to the ownership and disposition of our common stock by United States Holders, as defined below, as of the date of this prospectus. This summary deals only with common stock that is held as a capital asset within the meaning of Section 1221 of the Internal Revenue Code by a United States Holder, and does not address tax considerations applicable to United States Holders that may be subject to special tax rules, such as dealers or traders in securities, financial institutions, insurance companies, tax-exempt entities, United States Holders subject to alternative minimum tax, United States Holders that hold common stock as part of a straddle, conversion transaction, constructive sale or other arrangement involving more than one position, United States Holders that have a principal place of business or "tax home" outside the United States or United States Holders whose functional currency is not the United States dollar. In addition, the summary generally does not address the tax consequences to the United States Holders that own, or are deemed for United States federal income tax purposes to own, pursuant to complex attribution and constructive ownership rules, 10% or more of our voting stock or that of any of our non-United States subsidiaries ("10% Shareholders").

The discussion below is based upon United States federal income tax law and administrative practice as of the date of this prospectus; future legislation, regulations, administrative interpretations, or court decisions could change such laws either prospectively or retroactively, so as to result in United States federal income tax consequences different from those discussed below.

THE DISCUSSION SET OUT BELOW IS INTENDED ONLY AS A GENERAL SUMMARY OF CERTAIN UNITED STATES FEDERAL INCOME TAX CONSEQUENCES OF AN INVESTMENT IN THE COMMON STOCK. PROSPECTIVE INVESTORS SHOULD CONSULT THEIR OWN TAX ADVISORS AS TO THE TAX CONSEQUENCES OF AN INVESTMENT IN THE COMMON STOCK, INCLUDING THE APPLICATION TO THEIR PARTICULAR SITUATIONS OF THE TAX CONSIDERATIONS DISCUSSED BELOW, AS WELL AS THE APPLICATION OF STATE, LOCAL, ESTATE, FOREIGN OR OTHER FEDERAL TAX LAWS. THE STATEMENTS OF UNITED STATES FEDERAL INCOME TAX LAW SET OUT BELOW ARE BASED ON THE LAWS IN FORCE AND INTERPRETATIONS THEREOF AS OF THE DATE OF THIS PROSPECTUS, AND ARE SUBJECT TO ANY CHANGES OCCURRING AFTER THAT DATE.

- a citizen or resident of the United States;
- a corporation, partnership or other entity created or organized in or under the laws of the United States or any political subdivision thereof;
- an estate the income of which is subject to United States federal income taxation regardless of its source; or
- a trust which is subject to the supervision of a court within the United States and the control of a United States person as described in Section 7701(a)(30) of the Internal Revenue Code.

#### TAXATION OF DISTRIBUTIONS

Subject to the passive foreign investment company rules described below, to the extent paid out of current or accumulated earnings and profits, as determined under United States federal income tax principles, a distribution made with respect to our common stock will be includible for United States federal income tax purposes in the gross income of a United States Holder as ordinary income. These dividends will not be eligible for the dividends received deduction allowed to corporations under Section 243 of the Internal Revenue Code. To the extent that the amount of any distribution exceeds our earnings and profits, the distribution will first be treated as a tax-free return of capital to the extent of the United States Holder's adjusted tax basis in the common stock, and thereafter as capital gain. We do not anticipate paying cash dividends in the foreseeable future. See "Dividend Policy." For so long as we are a "United States-owned foreign corporation," distributions with respect to our common stock that are taxable as dividends generally will be treated for United States foreign tax credit purposes as either (1) foreign source "passive income," or, in the case of certain United States Holders, foreign source "financial services income," or (2) United States source income, in proportion to our earnings and profits in the year of such distribution allocable to foreign and United States sources. For this purpose, we will be treated as a United States-owned foreign corporation so long as stock representing 50% or more of our voting power or value is owned, directly or indirectly, by United States Holders.

#### TAXATION OF CAPITAL GAINS

Subject to the PFIC rules described below, for United States federal income tax purposes, a United States Holder will recognize gain or loss on any sale or other disposition of common stock in an amount equal to the difference between the amount realized for the common stock and the United States Holder's adjusted tax basis in the common stock. This gain or loss generally will be capital gain or loss. Capital gain of individuals derived with respect to capital assets held for more than one year is eligible for reduced rates of taxation depending upon the holding period of such capital assets. The deductibility of capital losses is subject to limitations. Any gain or loss recognized by a United States Holder generally will be treated as United States source.

#### PASSIVE FOREIGN INVESTMENT COMPANY (PFIC)

We believe that we are not a passive foreign investment company, or PFIC, and do not expect to become a PFIC in the future for United States federal income tax purposes, although there can be no assurance in this regard. Our conclusion is a factual determination made annually and thus is subject to change. In addition, it is based, in part, on interpretations of existing law that we believe are reasonable, but which have not been approved by any taxing authority.

In general, we will be classified as a PFIC with respect to a United States Holder if, for any taxable year in which the United States Holder held common stock, either:

- at least 75% of our gross income for the taxable year is passive income; or
- at least 50% of the average percentage of our assets by value produce or are held for the production of passive income.

For this purpose, passive income generally includes dividends, interest, royalties, rents, other than certain rents and royalties derived in the active conduct of a trade or business, annuities and gains from assets that produce passive income other than sales of inventory. If we own directly or indirectly at least 25% by value of the stock of another corporation, we will be treated for purposes of the PFIC tests as owning our proportionate share of the assets of the other corporation, and as receiving directly our proportionate share of the other corporation's income. If we are classified as a PFIC in any year with respect to which a United States person is a shareholder, we generally will continue to be treated as a PFIC with respect to such shareholder in all succeeding years, regardless of whether we continue to meet the income or asset test described above, subject to certain possible shareholder elections that may apply in certain circumstances.

If we were to be classified as a PFIC, the United States federal income tax consequences to a United States Holder with respect to our common stock would change significantly from the consequences presented in this discussion. For example, special rules generally would apply to direct and certain indirect United States Holders upon disposition of the common stock, receipt of an "excess distribution," as defined in Section 1291(b) of the Internal Revenue Code, specified nonrecognition transactions, or use of our common stock as security for a loan. Those United States Holders could be subject to tax as if the gain or distribution were ordinary income earned ratably over the holding period for the common stock, including an interest charge on the deferred tax, and other adverse tax consequences. Alternatively, a United States Holder of stock in a PFIC that is treated as "marketable stock" may make a mark-to-market election. If a United States Holder were to make a timely filed mark-to-market election with respect to our common stock owned, or treated as owned, at the close of the United States Holder's taxable year, the United States Holder would include as ordinary income in that taxable year any excess of the fair market value of the United States Holder's common stock as of the close of such year over its adjusted basis. The United States Holder would be allowed a deduction for such taxable year in the amount of any excess of the adjusted basis of the United States Holder's common stock over its fair market value at the close of the taxable year, limited to the amount of the net mark-to-market gains previously included by the United States Holder in income. The electing United States Holder's basis in the stock would be adjusted to reflect any such income or loss amounts. Any gain or loss on the sale of the common stock would be ordinary income or loss, except that any loss will be ordinary loss only to the extent of the previously included net mark-to-market gain. If the United States Holder were to make a timely qualified electing fund election, the rules described above generally would not apply. If a qualified electing fund election were made, the United States Holder would be currently taxable on the United States Holder's pro rata share of our ordinary earnings and profits and net capital gains, regardless of whether or not distributions were received. The United States Holder's basis in the common stock would be increased to reflect taxed but undistributed income. Distributions of income that had previously been taxed would result in a corresponding reduction of basis in the common stock and would not be taxed again as a distribution to the United States Holder. If we are treated as a PFIC, we intend to notify United States Holders and to provide to United States Holders such information as may be required to make a qualified electing fund election effective.

A United States Holder who owns our common stock during any year that we

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#### FOREIGN PERSONAL HOLDING COMPANY

A foreign corporation is a foreign personal holding company if at least 60% of its gross income for the taxable year is foreign personal holding company income, generally certain types of passive income, and if at any time during the taxable year more than 50% of the stock by vote or by value is owned, directly or indirectly, by or for not more than five individuals who are citizens or residents of the United States (the "United States group"). In some situations, the minimum percentage of foreign personal holding company income is 50%, rather than 60%. Foreign personal holding companies are defined to exclude certain types of foreign corporations. If we or one of our non-United States subsidiaries were classified as a foreign personal holding company, then United States Holders including certain indirect holders who owned common stock on the last day of the taxable year when the United States group existed, would be taxed upon their pro rata shares of the undistributed foreign personal holding company income of Marvell or our non-United States subsidiaries. Certain information would be required on the returns of such United States Holders who owned 5% or more of the value of the stock on the last day on which the United States group existed. If we or one of our non-United States subsidiaries were a foreign personal holding company and the United States Holders described above were required to include a dividend amount in their United States federal taxable income, adjustments would need to be made to our or our non-United States subsidiary's accumulated earnings and profits and paid in surplus, and to such United States Holders' respective bases in their common stock. In addition, United States Holders who acquire their common stock from decedents would not receive a "stepped-up" basis in that common stock. Instead, those United States Holders would have a tax basis equal to the lower of the fair market value of that common stock or the decedent's basis. We believe that it is very unlikely that the shareholder test will be met for any taxable year beginning after this offering. We intend to manage our affairs so as to minimize having income imputed to our United States Holders under these rules, to the extent the management of our affairs in this manner is consistent with our business goals, although there can be no assurance in this regard.

#### PERSONAL HOLDING COMPANY

A corporation classified as a personal holding company is subject to a 39.6% tax on its undistributed personal holding company income. Foreign corporations, such as Marvell, determine their liability for personal holding company tax by considering only (1) gross income derived from United States sources and (2) gross income that is effectively connected with a United States trade or business. A corporation will be classified as a personal holding company if (1) at any time during the last half of the corporation's taxable year, five or fewer individuals own more than 50% of the corporation's stock, by value, directly or indirectly and (2) the corporation receives at least 60% of its adjusted ordinary gross income from certain passive sources. However, if a corporation is a foreign personal holding company or a PFIC, it cannot be a personal holding company. We believe that it is very unlikely that we could meet the personal holding company shareholder test in a given taxable year beginning after the offering. We intend to manage our affairs so as to attempt to avoid or minimize the imposition of the personal holding company tax, to the extent management of our affairs in this manner is consistent with our business goals, although there can be no assurance in this regard.

#### CONTROLLED FOREIGN CORPORATIONS

If 10% Shareholders (as defined above) own, in the aggregate, more than

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subsidiaries becomes a controlled foreign corporation, the United States federal income tax consequences to a United States Holder who is a 10% Shareholder of owning or disposing of shares in such corporations change significantly from the consequences presented in this section. It is possible that Marvell and our non-United States subsidiaries may be controlled foreign corporations or may become controlled foreign corporations in the future. However, as discussed above, controlled foreign corporation status generally only has potentially adverse consequences to 10% Shareholders.

#### TAXATION OF NON-UNITED STATES HOLDERS

For United States federal income tax purposes, a non-United States holder generally will not be subject to tax or withholding on distributions made with respect to, and gains realized from the disposition of, our common stock unless such distributions and gains are "effectively connected" with the holder's conduct of a trade or business in the United States, or, in the case of gains, if the holder is an individual, the holder is present in the United States for 183 or more days in the taxable year of the sale and certain other conditions exist.

#### INFORMATION REPORTING AND BACKUP WITHHOLDING UNITED STATES HOLDERS

In general, information reporting requirements will apply to dividends in respect of our common stock or the proceeds received on the sale, exchange, or redemption of the common stock paid within the United States, and in some cases, outside of the United States, to United States Holders other than certain exempt recipients, such as corporations, and a 31% backup withholding may apply to those amounts if the United States Holder fails to provide an accurate taxpayer identification number or to report dividends required to be shown on its United States federal income tax returns. The amount of any backup withholding from a payment to a United States Holder will be allowable as a credit against the United States Holder's United States federal income tax liability, provided that the required information or appropriate claim for refund is furnished to the IRS.

#### NON-UNITED STATES HOLDERS

Under current law, United States information reporting requirements and backup withholding generally will not apply to dividends paid to a non-United States Holder at an address outside the United States unless the payer has knowledge that the payee is a United States person. However, under recently finalized United States Treasury regulations effective for payments made after December 31, 2000, a non-United States Holder will generally be subject to backup withholding unless applicable certification requirements are met.

As a general matter, information reporting and backup withholding will not apply to a payment of the proceeds of a sale of our common stock effected outside the United States by a foreign office for a non-United States Holder. However, payment of the proceeds of a sale of our common stock within the United States or conducted through certain United States related financial intermediaries is subject to both backup withholding and information reporting

The amount of any backup withholding from a payment to a non-United States Holder will be allowable as a credit against such non-United States Holder's United States federal income tax liability, provided that the required information or appropriate claim for refund is furnished to the IRS.

Holders should consult their tax advisors regarding the application of information reporting and backup withholding to their particular situations, the availability of an exemption from reporting and withholding requirements, and the procedure for obtaining an exemption, if available.

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#### SHARES ELIGIBLE FOR FUTURE SALE

The sale of a substantial amount of our common stock, including shares issued upon exercise of outstanding options and warrants, in the public market after this offering could adversely affect the prevailing market price of our common stock.

Upon completion of this offering, we will have outstanding an aggregate of \_\_\_\_\_ shares of our common stock, based on shares of common stock outstanding as of February 29, 2000. Of these shares, all of the shares of our common stock sold in this offering will be freely tradable without restriction or further registration under the Securities Act, unless the shares are purchased by "affiliates" as that term is defined in Rule 144 under the Securities Act. Any shares purchased by an affiliate may not be resold except pursuant to an effective registration statement or an applicable exemption from registration, including an exemption under Rule 144 of the Securities Act. The remaining 76,366,116 shares of common stock held by existing shareholders are "restricted securities" as that term is defined in Rule 144 under the Securities Act. These restricted securities may be sold in the public market only if they are registered or if they qualify for an exemption from registration under Rule 144 or Rule 701 under the Securities Act. These rules are summarized below. Of the remaining shares of common stock that constitute restricted securities, \_\_\_\_\_ shares held by existing shareholders are subject to contractual restrictions on resale as described more fully under the heading "Underwriting."

Upon the expiration or waiver of the contractual restrictions on resale described under the heading "Underwriting" and subject to the provisions of Rule 144 and Rule 701, \_\_\_\_\_ restricted shares of common stock, assuming the exercise of outstanding warrants and vested stock options, will be available for sale in the public market 180 days after the date of this prospectus. The sale of these restricted securities is subject, in the case of shares held by affiliates, to the volume restrictions contained in Rule 144.

#### RULE 144

In general, under Rule 144 as currently in effect, beginning 90 days after the date of this prospectus, a person who has beneficially owned shares of our common stock for at least one year from the later of the date those shares of common stock were acquired from us or from an affiliate of ours would be entitled to sell within any three-month period a number of shares that does not exceed the greater of:

(1) one percent of the number of shares of common stock then outstanding, which will equal approximately \_\_\_\_\_ shares immediately after this offering; or

(2) the average weekly trading volume of the common stock on the

The sales of any shares of common stock under Rule 144 are also subject to manner of sale provisions and notice requirements and to the availability of current public information about us. Affiliates may sell shares not constituting restricted securities in accordance with the foregoing volume limitations and other restrictions, but without regard to the one-year holding period.

#### RULE 144(k)

In addition, under Rule 144(k), a person who is not one of our affiliates at any time during the three months preceding a sale, and who has beneficially owned the shares proposed to be sold for at least two years from the later of the date such shares of common stock were acquired from us or from an affiliate of ours is entitled to sell those shares without complying with the manner of sale, public information, volume limitation or notice provisions of Rule 144. Therefore, unless otherwise restricted pursuant to the lock-up agreements or otherwise, those shares may be sold immediately upon the completion of this offering.

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#### RULE 701

In general, under Rule 701 of the Securities Act as currently in effect, each of our employees, consultants or advisors who purchased shares from us in connection with a compensatory stock plan or other written agreement is eligible to resell those shares 90 days after the effective date of this offering in reliance on Rule 144, but without compliance with some of the restrictions, including the holding period, contained in Rule 144.

#### REGISTRATION RIGHTS

Immediately after the completion of this offering, in accordance with an Investor Rights Agreement dated September 10, 1999, certain of our shareholders and warrant holders beneficially owning 27,044,852 shares of our common stock will have rights with respect to the registration of their shares under the Securities Act. Under the terms of the agreement, if we propose to register any of our securities under the Securities Act, either for our own account or for the account of other security holders exercising registration rights, such holders are entitled to notice of such registration and are entitled to include their common stock in the registration. Six months following the effective date of this offering, these shareholders may also require us to file a registration statement under the Securities Act at our expense with respect to their shares of common stock, and we are required to use our best efforts to effect such registration. These shareholders have the right to request up to two such registration statements. Further, such shareholders may require us to file additional registration statements on Form S-3 or its equivalent at our expense. Each of these rights are subject to conditions and limitations, including the right of the underwriters of an offering to limit the number of shares included in such offering under various circumstances.

#### STOCK OPTIONS

At February 29, 2000, 13,008,466 options to purchase shares of our common stock were outstanding under our stock option plans and otherwise. Shortly after the effective date of this offering, we expect to file a registration statement under the Securities Act covering shares of common stock reserved for issuance under our stock option plans. Upon the filing of the registration statement relating to the reserved shares of common stock and upon expiration of the 180-day lockup agreements, approximately shares of common stock issuable upon exercise of stock options will be immediately eligible for sale in the public market, subject to Rule 144 volume limitations applicable to our

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UNDERWRITING

Marvell and the underwriters named below have entered into an underwriting agreement with respect to the shares being offered. Subject to certain conditions, each underwriter has severally agreed to purchase the number of shares indicated in the following table. Goldman, Sachs & Co., J. P. Morgan Securities Inc. and FleetBoston Robertson Stephens Inc. are the representatives of the underwriters.

<TABLE>  
<CAPTION>

Underwriters -----	Number of Shares -----
<S>	<C>
Goldman, Sachs & Co. ....	
J.P. Morgan Securities Inc. ....	
FleetBoston Robertson Stephens Inc. ....	
	-----
Total.....	=====

</TABLE>

If the underwriters sell more shares than the total number set forth in the table above, the underwriters have an option to buy up to an additional shares from Marvell to cover such sales. They may exercise that option for 30 days. If any shares are purchased pursuant to this option, the underwriters will severally purchase shares in approximately the same proportion as set forth in the table above.

The following table shows the per share and total underwriting discounts and commissions to be paid to the underwriters by Marvell. Such amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase additional shares.

Paid by Marvell

<TABLE>  
<CAPTION>

	No Exercise -----	Full Exercise -----
<S>	<C>	<C>
Per Share.....	\$	\$
Total.....	\$	\$

</TABLE>

Shares sold by the underwriters to the public will initially be offered at the initial public offering price set forth on the cover of this Prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to \$ per share from the initial public offering price. Any such securities dealers may resell any shares purchased from the underwriters to certain other brokers or dealers at a discount of up to \$ per share from the initial public offering price. If all the shares are not sold at the initial public offering price, the representatives may change the offering price and the other selling terms.

Marvell, its directors, officers, employees, and shareholders have agreed with the underwriters not to dispose of or hedge any of their common stock or securities convertible into or exchangeable for shares of the common stock during the period from the date of this prospectus continuing through the date



Prior to the offering, there has been no public market for the shares. The initial public offering price will be negotiated among Marvell and the representatives. Among the factors to be considered in determining the initial public offering price of the shares, in addition to prevailing market conditions, will be Marvell's historical performance, estimates of the business potential and earnings prospects of Marvell, an assessment of Marvell's management and the consideration of the above factors in relation to market valuation of companies in related businesses.

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Marvell will apply for quotation of the common stock on the Nasdaq National Market under the symbol "MRVL".

At Marvell's request, the underwriters have reserved up to shares of common stock for sale at the initial public offering price to persons with preexisting strategic or other relationships with Marvell through a directed share program. The number of shares of common stock available for sale to the general public will be reduced to the extent that these persons purchase these reserved shares. Any shares not so purchased will be offered by the underwriters to the general public on the same basis as the other shares offered hereby.

In connection with the offering, the underwriters may purchase and sell shares of common stock in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in this offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the common stock while the offering is in progress.

The underwriters also may impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

These activities by the underwriters may stabilize, maintain or otherwise affect the market price of the common stock. As a result, the price of the common stock may be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. These transactions may be effected on the Nasdaq National Market, in the over-the-counter market or otherwise.

The underwriters do not expect sales to discretionary accounts to exceed five percent of the total number of shares offered.

Marvell estimates that its share of the total expenses of the offering, excluding underwriting discounts and commissions, will be approximately \$ .

Marvell has agreed to indemnify the several underwriters against certain liabilities, including liabilities under the Securities Act.

#### VALIDITY OF COMMON STOCK

Conyers, Dill & Pearson, Bermuda, will pass upon the validity of the issuance of the shares of common stock offered by this prospectus for us.

EXPERTS

The financial statements as of January 31, 2000 and 1999 and for each of the three years in the period ended January 31, 2000 included in this prospectus have been so included in reliance on the report of PricewaterhouseCoopers LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

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ADDITIONAL INFORMATION

We have filed with the Securities and Exchange Commission a registration statement on Form S-1, including exhibits and schedules, under the Securities Act with respect to the common stock to be sold in this offering. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules that are part of the registration statement. Any statements made in this prospectus as to the contents of any contract, agreement or other document are not necessarily complete. With respect to each such contract, agreement or other document filed as an exhibit to the registration statement, we refer you to the exhibit for a more complete description of the matter involved, and each statement in this prospectus shall be deemed qualified in its entirety by this reference. You may read and copy all or any portion of the registration statement or any reports, statements or other information in the files at the following public reference facilities of the SEC:

<TABLE>

<S>	<C>	<C>
Washington, D.C. Room 1024 450 Fifth Street, N.W. Washington, D.C., 20549	New York, New York Seven World Trade Center Suite 1300 New York, New York 10048	Chicago, Illinois 500 West Madison Street Suite 1400 Chicago, Illinois 60661

You can request copies of these documents upon payment of a duplicating fee by writing to the SEC. You may call the SEC at 1-800-SEC-0330 for further information on the operation of its public reference rooms. Our filings, including the registration statement, will also be available to you on the Internet web site maintained by the SEC at <http://www.sec.gov>.

We intend to furnish our shareholders with annual reports containing financial statements audited by our independent auditors, and make available to our shareholders quarterly reports for the first three quarters of each year containing unaudited interim financial statements.

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MARVELL TECHNOLOGY GROUP LTD.

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REPORT OF INDEPENDENT ACCOUNTANTS

To the Board of Directors and Shareholders of  
 Marvell Technology Group Ltd.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of operations, of shareholders' equity and of cash flows present fairly, in all material respects, the financial position of Marvell Technology Group Ltd. and its subsidiaries as of January 31, 1999 and 2000, and the results of its operations and its cash flows for the three years in the period ended January 31, 2000, in conformity with accounting principles generally accepted in the United States. These consolidated financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audits of these statements in accordance with auditing standards generally accepted in the United States which require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

PRICEWATERHOUSECOOPERS LLP

San Jose, California  
 March 3, 2000 except for Note 11,  
 which is as of March 21, 2000

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MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED BALANCE SHEETS  
 (IN THOUSANDS, EXCEPT SHARE DATA)

<TABLE>  
 <CAPTION>

	JANUARY 31,		PRO FORMA
	1999	2000	JANUARY 31,
			2000
			(UNAUDITED)
	-----	-----	-----
<S>	<C>	<C>	<C>
ASSETS			
Current assets:			
Cash and cash equivalents.....	\$ 5,515	\$ 16,600	\$ 17,281
Accounts receivable, net of allowance for doubtful accounts of \$100 and \$100.....	5,497	14,701	14,701
Inventory, net.....	2,315	4,830	4,830
Prepaid expenses and other current assets.....	188	1,195	1,195
Deferred income taxes.....	842	1,456	1,456

Total current assets.....	16,563	38,782	39,469
Property and equipment, net.....	2,081	7,413	7,413
Other noncurrent assets.....	125	305	305
<b>Total assets.....</b>	<b>\$ 16,563</b>	<b>\$ 46,500</b>	<b>\$ 47,181</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY (DEFICIT)</b>			
<b>Current liabilities:</b>			
Notes payable to bank.....	\$ 649	\$ --	\$ --
Accounts payable.....	3,735	5,698	5,698
Accrued liabilities.....	1,432	3,050	3,050
Accrued employee compensation.....	476	1,474	1,474
Income taxes payable.....	1,189	5,875	5,875
Capital lease obligations.....	11	74	74
<b>Total current liabilities.....</b>	<b>7,492</b>	<b>16,171</b>	<b>16,171</b>
Notes payable to bank.....	888	--	--
Capital lease obligations, less current portion.....	9	36	36
<b>Total liabilities.....</b>	<b>8,389</b>	<b>16,207</b>	<b>16,207</b>
<b>Commitments (Note 9)</b>			
Mandatorily redeemable convertible preferred stock, \$0.002 par value; 8,000,000 shares authorized, 5,880,598 and 6,609,860 shares issued and outstanding actual; 8,000,000 shares authorized and none issued and outstanding pro forma (unaudited)...	17,524	22,353	--
<b>Shareholders' equity (deficit):</b>			
Common stock, \$0.002 par value; 242,000,000 shares authorized; 44,545,584 and 48,931,560 shares issued and outstanding; 242,000,000 shares authorized, 75,976,412 shares issued and outstanding pro forma (unaudited).....	89	98	152
Additional paid-in capital.....	1,692	17,580	40,560
Deferred stock-based compensation.....	(220)	(11,897)	(11,897)
Retained earnings (accumulated deficit).....	(10,911)	2,159	2,159
<b>Total shareholders' equity (deficit).....</b>	<b>(9,350)</b>	<b>7,940</b>	<b>30,974</b>
<b>Total liabilities and shareholders' equity.....</b>	<b>\$ 16,563</b>	<b>\$ 46,500</b>	<b>\$ 47,181</b>

</TABLE>

The accompanying notes are an integral part of these Consolidated Financial Statements.

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MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF OPERATIONS  
(IN THOUSANDS, EXCEPT PER SHARE DATA)

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Net revenue.....	\$ 625	\$21,253	\$81,375
Costs and expenses:			

Cost of product revenue.....	312	10,103	33,773
Research and development.....	9,018	5,837	10,436
Marketing and selling.....	1,671	4,631	3,443
General and administrative.....	1,028	1,190	2,175
Amortization of stock compensation.....	--	42	--
Total costs and expenses.....	8,029	21,803	64,279
Operating income (loss).....	(7,404)	(550)	17,096
Interest income.....	170	175	486
Interest expense.....	(164)	(101)	(156)
Income (loss) before income taxes.....	(7,398)	(476)	17,426
Provision for income taxes.....	46	483	4,356
Net income (loss).....	\$ (7,444)	\$ (959)	\$13,070
Net income (loss) per share:			
Basic net income (loss) per share.....	\$ (0.24)	\$ (0.03)	\$ 0.32
Diluted net income (loss) per share.....	\$ (0.24)	\$ (0.03)	\$ 0.16
Weighted average shares -- basic.....	30,436	32,470	41,094
Weighted average shares -- diluted.....	30,436	32,470	81,545
Pro forma net income per share:			
Pro forma basic net income per share (unaudited).....			\$ 0.20
Pro forma diluted net income per share (unaudited).....			\$ 0.16
Weighted average shares -- basic (unaudited).....			66,147
Weighted average shares -- diluted (unaudited).....			81,545

</TABLE>

The accompanying notes are an integral part of these Consolidated Financial Statements.

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MARVELL TECHNOLOGY GROUP LTD.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY (DEFICIT)  
(IN THOUSANDS, EXCEPT SHARE DATA)

<TABLE>  
<CAPTION>

	COMMON STOCK		ADDITIONAL	DEFERRED	RETAINED	
	SHARES	AMOUNT	PAID-IN	STOCK-BASED	EARNINGS	TOTAL
			CAPITAL	COMPENSATION	(DEFICIT)	
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Balance at January 31, 1997.....	37,646,000	\$75	\$ 144	\$ --	\$ (2,508)	\$ (2,289)
Common Stock options exercised.....	1,788,000	4	67	--	--	71
Issuance of warrants in connection with Series D Mandatorily Redeemable Convertible Preferred Stock.....	--	--	84	--	--	84
Net loss.....	--	--	--	--	(7,444)	(7,444)
Balance at January 31, 1998.....	39,434,000	79	295	--	(9,952)	(9,578)
Common Stock options exercised.....	5,486,592	11	1,081	--	--	1,092

Issuance of warrants in connection with Series D Mandatorily Redeemable Convertible Preferred Stock.....	--	--	66	--	--	66
Deferred stock-based compensation....	--	--	262	(262)	--	--
Amortization of deferred stock-based compensation.....	--	--	--	42	--	42
Net loss.....	--	--	--	--	(959)	(959)
Balance at January 31, 1999.....	44,545,584	89	1,692	(220)	(10,911)	(9,350)
Common stock options exercised.....	4,437,376	9	2,070	--	--	2,079
Common stock repurchased.....	(51,400)	--	(34)	--	--	(34)
Deferred stock-based compensation....	--	--	13,852	(13,852)	--	--
Amortization of deferred stock-based compensation.....	--	--	--	2,175	--	2,175
Net income.....	--	--	--	--	13,070	13,070
Balance at January 31, 2000.....	48,931,560	\$98	\$17,580	\$(11,897)	\$ 2,159	\$ 7,940

</TABLE>

The accompanying notes are an integral part of these Consolidated Financial Statements.

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MARVELL TECHNOLOGY GROUP LTD.  
 CONSOLIDATED STATEMENTS OF CASH FLOWS  
 (IN THOUSANDS)

<TABLE>  
 <CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net income (loss).....	\$(7,444)	\$ (959)	\$13,070
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:			
Depreciation and amortization.....	354	701	1,652
Amortization of deferred stock compensation.....	--	42	2,175
Changes in assets and liabilities:			
Accounts receivable.....	(99)	(5,398)	(9,204)
Inventory.....	(265)	(2,050)	(2,515)
Prepaid expenses and other assets.....	(34)	(228)	(1,187)
Accounts payable.....	252	3,264	1,963
Accrued liabilities.....	241	1,089	1,618
Accrued compensation costs.....	136	296	998
Income taxes payable.....	347	770	4,686
Deferred income taxes.....	(317)	(453)	(614)
Net cash provided by (used in) operating activities.....	(6,829)	(2,926)	12,642
CASH FLOWS FROM INVESTING ACTIVITIES:			
Cash used in purchase of property and equipment.....	(1,026)	(1,564)	(6,808)
Net cash used in investing activities.....	(1,026)	(1,564)	(6,808)
CASH FLOWS FROM FINANCING ACTIVITIES:			

Proceeds from the issuance of convertible preferred stock net.....	9,373	1,129	4,829
Proceeds from the issuance of common stock, net.....	71	1,079	2,045
Principal payments of capital lease obligations and notes payable to bank.....	(45)	(211)	(3,579)
Proceeds from borrowings on notes payable to bank.....	--	1,705	1,956
	-----	-----	-----
Net cash provided by financing activities.....	6,399	6,698	5,251
	-----	-----	-----
Net increase (decrease) in cash and cash equivalents.....	(1,456)	2,208	11,085
Cash and cash equivalents at beginning of period.....	4,763	3,307	5,515
	-----	-----	-----
Cash and cash equivalents at end of period.....	\$ 3,307	\$ 5,515	\$16,600
	=====	=====	=====
SUPPLEMENTAL CASH FLOW INFORMATION:			
Cash paid during the period for:			
Interest.....	\$ 164	\$ 101	\$ 174
	=====	=====	=====
Income taxes.....	\$ 17	\$ 88	\$ 206
	=====	=====	=====
Acquisition of property and equipment under capital lease obligations.....	\$ 93	\$ --	\$ 176
	=====	=====	=====

</TABLE>

The accompanying notes are an integral part of these Consolidated Financial Statements.

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 -- THE COMPANY AND ITS SIGNIFICANT ACCOUNTING POLICIES:

THE COMPANY

Marvell Technology Group Ltd., (the "Company"), a Bermuda exempted company, was incorporated on January 11, 1995. The Company engages in the design, development and sale of integrated circuits utilizing proprietary mixed signal and digital signal processing technology for the high-speed, high-density data storage and broadband data communications markets.

BASIS OF PRESENTATION

During fiscal 2000, the Company changed its fiscal year to the Saturday nearest January 31. In fiscal 1999 and 1998, the year ended on January 31. All years have been restated to reflect the current presentation. For presentation purposes, the consolidated financial statements and notes refer to January 31 as year end.

USE OF ESTIMATES

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates, and such differences could affect the results of operations reporting in future periods.

PRINCIPLES OF CONSOLIDATION

FAIR VALUE OF FINANCIAL INSTRUMENTS

The fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction between willing parties. The carrying amounts for cash and cash equivalents, accounts receivable, prepaid expenses and other current assets, accounts payable, accrued liabilities and accrued employee compensation approximate their respective fair values because of the short term maturity of these items. The carrying value of the Company's debt approximates fair market value because of prevailing interest rates.

CASH EQUIVALENTS

The Company considers all highly liquid investments with a maturity of three months or less from the date of purchase to be cash equivalents. Cash and cash equivalents consist of cash on deposit with banks, money market funds and commercial deposits, the fair value of which approximates cost. At January 31, 1999 and 2000, approximately \$704,000 and \$14,792,000 of money market funds are included in cash and cash equivalents, respectively.

CONCENTRATION OF CREDIT RISK AND SIGNIFICANT CUSTOMERS

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash equivalents and accounts receivable. The Company places its cash primarily in checking and money market accounts. Cash equivalents are maintained with high quality

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

institutions, the composition and maturities of which are regularly monitored by management. The Company believes that the concentration of credit risk in its trade receivables with respect to the data storage industry, as well as the limited customer base, located primarily in the Far East, is substantially mitigated by the Company's credit evaluation process, relatively short collection terms and the high level of credit worthiness of its customers. The Company performs ongoing credit evaluations of its customers' financial condition and limits the amount of credit extended when deemed necessary but generally requires no collateral.

The following table sets forth sales to customers comprising 10% or more of the Company's total revenue for the periods indicated:

<TABLE>  
<CAPTION>

CUSTOMER	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
A.....	--	46%	36%
B.....	21%	43%	24%
C.....	--	7%	14%
D.....	--	2%	14%
E.....	--	1%	10%
F.....	26%	--	--
G.....	25%	--	--
H.....	16%	--	--



The Company's accounts receivable were concentrated with three customers at January 31, 1999 (representing 51%, 29% and 10% of aggregate gross receivables) and four customers at January 31, 2000 (representing 48%, 16%, 15% and 14% of aggregate gross receivables).

#### INVENTORY

Inventory is stated at the lower of cost or market, cost being determined under the first-in, first-out method. Appropriate consideration is given to obsolescence, excessive levels, deterioration and other factors in evaluating net realizable value.

#### PROPERTY AND EQUIPMENT

Property and equipment including capital leases and leasehold improvements are stated at cost less accumulated depreciation or amortization. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which ranges from three to four years. Assets held under capital leases and leasehold improvements are amortized over the term of the lease or their estimated useful lives, whichever is shorter.

Long-lived assets held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that their net book value may not be recoverable. An impairment loss is recognized if the sum of the expected future cash flows (undiscounted and before interest) from the use of the asset is less than the net book value of the asset. The amount of the impairment loss will generally be measured as the difference between net book values of the assets and their estimated fair values. The Company believes that no long-lived assets were impaired at January 31, 1999 and 2000.

#### REVENUE RECOGNITION

Revenue from the sale of integrated circuits is recognized upon shipment, net of accruals for estimated sales returns and allowances. Revenue generated by sales to distributors under agreements

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MARVELL TECHNOLOGY GROUP LTD.

#### NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

allowing certain rights of return are deferred for financial reporting purposes until the products are sold by distributors. Net revenue for the year ended January 31, 1998 includes approximately \$197,000 derived from a research and development contract, which was recognized on the percentage of completion basis. The associated costs are included in research and development expenses.

#### RESEARCH AND DEVELOPMENT

Research and development costs are expensed as incurred.

#### STOCK-BASED COMPENSATION

The Company's employee stock option plan is accounted for in accordance with Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" and complies with the disclosure provisions of Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" ("SFAS 123"). Expense associated with stock-based compensation is amortized on an accelerated basis over the vesting period of the individual award consistent with the method described in Financial Accounting Standards Board Interpretation No. 28, ("FIN 28"). Application of FIN 28 results in amortization of approximately 46% of the compensation in the first 12 months of vesting, 26% of

the compensation in the second 12 months of vesting, 15% of the compensation in the third 12 months of vesting, 9% of the compensation in the fourth 12 months of vesting and 4% of the compensation in the fifth 12 months of vesting. The Company accounts for stock issued to non-employees in accordance with the provisions of SFAS 123 and Emerging Issues Task Force Consensus No. 96-18, "Accounting for Equity Instruments that are Offered to Other Than Employees for Acquiring of in Conjunction with Selling Goods or Services" ("EITF 96-18"). Under SFAS 123 and EITF 96-18, stock option awards issued to non-employees are accounted for at their fair value using the Black-Scholes method. The fair value of each non-employee stock awarded is remeasured at each period end until a commitment date is reached, which is generally the vesting date.

COMPREHENSIVE INCOME (LOSS)

The Company adopted Statement of Financial Accounting Standards No. 130 "Reporting Comprehensive Income" ("SFAS 130"). SFAS 130 establishes standards for reporting and displaying comprehensive income and its components in a full set of general-purpose financial statements. There was no difference between the Company's net income or loss and its total comprehensive net income or loss for the years ended January 31, 1998, 1999 and 2000.

NET INCOME (LOSS) PER SHARE

The Company reports both basic net income (loss) per share, which is based upon the weighted average number of common shares outstanding excluding contingently issuable or returnable shares, and diluted net income (loss) per share, which is based on the weighted average number of common shares outstanding and dilutive potential common shares outstanding.

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

The following table sets forth the computation of basic and diluted net income (loss) per share of common stock (in thousands, except per share amounts):

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Numerator:			
Net income (loss).....	\$ (7,444)	\$ (959)	\$13,070
	=====	=====	=====
Denominator:			
Basic --			
Weighted-average shares of common stock outstanding....	38,683	40,459	46,428
Less: unvested common shares subject to repurchase.....	(8,247)	(7,989)	(5,334)
	-----	-----	-----
Denominator for basic calculation.....	30,436	32,470	41,094
	-----	-----	-----
Effect of dilutive securities --			
Unvested common shares subject to repurchase.....	--	--	5,334
Mandatorily redeemable convertible preferred stock.....	--	--	25,063
Mandatorily redeemable convertible preferred stock warrants.....	--	--	273
Common stock warrants.....	--	--	20
Stock options.....	--	--	9,761
	-----	-----	-----

	30,436	32,470	81,545
Basic net income (loss) per share.....	\$ (0.24)	\$ (0.03)	\$ 0.32
	=====	=====	=====
Diluted net income (loss) per share.....	\$ (0.24)	\$ (0.03)	\$ 0.16
	=====	=====	=====

</TABLE>

The following table sets forth potential shares of common stock, assuming conversion of preferred stock and preferred stock warrants that are not included in the diluted net loss per share calculation above because to do so would be anti-dilutive for the periods presented (in thousands):

<TABLE>  
<CAPTION>

	JANUARY 31,	
	-----	-----
	1998	1999
	-----	-----
<S>	<C>	<C>
Unvested common stock subject to repurchase.....	8,247	7,989
Mandatorily Redeemable Convertible preferred stock.....	19,352	23,522
Mandatorily Redeemable Convertible preferred stock warrants.....	2,192	2,440
Stock options.....	12,738	12,896

</TABLE>

PRO FORMA NET INCOME PER SHARE (UNAUDITED)

Pro forma net income per share for the year ended January 31, 2000 is computed using the weighted average number of common shares outstanding, including the conversion of the Company's Series A, Series B, Series C, Series D and Series E mandatorily redeemable convertible preferred stock outstanding into shares of the Company's common stock effective upon the closing of the Company's initial public offering ("IPO") as if such conversion occurred on February 1, 1999 or at the date of original issuance, if later. The calculation of pro forma diluted net income per share includes incremental common shares issuable upon the exercise of stock options and common and preferred stock warrants.

PRO FORMA BALANCE SHEET (UNAUDITED)

Effective upon the closing of the IPO, the outstanding Series A, Series B, Series C, Series D and Series E preferred stock will automatically convert into an aggregate of 26,439,440 shares of common

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

stock and outstanding preferred and common stock warrants are expected to be exercised into 605,412 shares of common stock for aggregate proceeds of approximately \$681,000. The pro forma effects of these transactions are unaudited and have been reflected in the accompanying pro forma balance sheet as of January 31, 2000.

RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133 ("SFAS 133"), "Accounting for Derivative Instruments and Hedging Activities," as amended by Statement of Financial Accounting Standards No. 137, "Accounting for Derivative Instruments and Hedging Activities -- Deferral of the Effective Date of FASB Statement No. 133- an amendment of FASB Statement No. 133" ("SFAS 137"). SFAS 133 requires that all

derivative instruments be recorded on the balance sheet at their fair market value. Changes in the fair market value of derivatives are recorded each period in current earnings or comprehensive income, depending on whether a derivative is designed as part of a hedge transaction, and if so, the type of hedge transaction. Substantially all of the Company's revenues and the majority of its costs are denominated in U.S. dollars, and to date the Company has not entered into any derivative contracts. The Company does not expect that the adoption of SFAS 133 will have a material effect on its financial statements. The effective date of SFAS 133 as amended by SFAS 137 is for fiscal quarters of fiscal years beginning after June 15, 2000.

In December 1999, the Securities and Exchange Commission staff released Staff Accounting Bulletin ("SAB") No. 101, "Revenue Recognition in Financial Statements," which provides guidance on the recognition, presentation and disclosure of revenue in financial statements. The application of SAB No. 101 did not have a material impact on the Company's financial statements.

NOTE 2 -- BALANCE SHEET DETAILS (IN THOUSANDS):

<TABLE>  
<CAPTION>

	JANUARY 31,	
	1999	2000
	-----	-----
	<C>	<C>
<S>		
INVENTORY:		
Work-in-process.....	\$ 2,315	\$ 4,830
	=====	=====
PROPERTY AND EQUIPMENT:		
Machinery and equipment.....	\$ 1,589	\$ 3,890
Computer software.....	1,285	3,981
Furniture and fixtures.....	203	1,633
Leasehold improvements.....	130	685
	-----	-----
	3,207	10,189
Less: Accumulated depreciation and amortization.....	(1,126)	(2,776)
	-----	-----
	\$ 2,081	\$ 7,413
	=====	=====

</TABLE>

Machinery and equipment include \$144 and \$320 of assets under capital leases at January 31, 1999 and 2000, respectively. Accumulated depreciation for such equipment was \$53 and \$124 at January 31, 1999 and 2000, respectively.

NOTE 3 -- LINE OF CREDIT AND NOTES PAYABLE TO BANK:

In May 1998 (and amended in July 1999), the Company entered into a loan and security agreement with a bank which provides for borrowings of up to \$8,000,000 in the form of line of credit advances based on eligible accounts receivable and inventory, as defined, and \$3,100,000 available

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

in the form of equipment advances. The agreement expires on April 30, 2000. Borrowings accrue interest at the bank's prime rate plus 0.125%, which equaled 8.625% at January 31, 2000, and are secured by the tangible assets of the Company. In fiscal 1999 and 2000, the Company borrowed a total of approximately \$3,600,000 under this agreement, which was fully repaid in fiscal 2000.

At January 31, 2000, no amounts were outstanding under the line of credit or equipment advance. The agreement requires the Company to comply with certain covenants and maintain certain financial ratios. The agreement prohibits the payment of cash dividends without prior bank approval.

NOTE 4 -- MANDATORILY REDEEMABLE CONVERTIBLE PREFERRED STOCK:

Mandatorily redeemable convertible preferred stock at January 31, 2000 consisted of the following (in thousands):

<TABLE>  
<CAPTION>

	SHARES		PROCEEDS NET OF ISSUANCE COSTS	LIQUIDATION AMOUNT
	AUTHORIZED	OUTSTANDING		
<S>	<C>	<C>	<C>	<C>
Series A.....	525	525	\$ 350	\$ 350
Series B.....	1,119	1,119	1,199	1,231
Series C.....	2,184	2,090	7,098	7,316
Series D.....	3,750	2,526	10,206	10,945
Series E.....	422	350	3,500	3,500
	-----	-----	-----	-----
	8,000	6,610	\$22,353	\$23,342
	=====	=====	=====	=====

</TABLE>

The rights with respect to Series A, Series B, Series C, Series D and Series E are as follows:

VOTING

Each share of the Series A, Series B, Series C, Series D and Series E has voting rights equal to that of common stock on an as if converted basis. The holders of a majority of the outstanding shares of Series B and Series C, respectively, voting as a class individually, shall be entitled to elect one member of the Board of Directors each.

DIVIDENDS

Each holder of outstanding Series A, Series B, Series C, Series D and Series E are entitled to receive noncumulative dividends as declared by the Board of Directors at a rate of \$0.0468, \$0.0772, \$0.2452, \$0.3032 and \$0.70 per share, respectively, subject to anti-dilution. No dividends have been declared from inception through January 31, 2000.

LIQUIDATION

In the event of any liquidation, dissolution, winding up, or merger where less than 50% of the voting power is maintained by existing shareholders of the Company, the Series A, Series B, Series C, Series D and Series E shareholders are entitled to receive prior and in preference to any distribution to the holders of common stock, an amount per share equal to \$0.67, \$1.10, \$3.50, \$4.33 and \$10.00, respectively, plus any declared but unpaid dividends. The remaining assets shall be distributed pro rata to the holders of Series A, Series B, Series C, Series D and Series E based on the number of shares held. However, such incremental distribution is limited to an amount equal to \$1.67, \$2.75, \$8.75, \$10.83 and \$25.00 per share of Series A, Series B, Series C, Series D and Series E, respectively. All remaining assets shall be distributed pro rata to the holders of common stock.

CONVERSION

Each Series A, Series B, Series C, Series D and Series E share is convertible into four shares of common stock at the option of the holder, subject to adjustments for stock dividends, stock splits, combination of common stock, consolidations of common stock and the issuance of new common stock. Each share of Series A, Series B, Series C, Series D and Series E will be automatically converted upon (i) an initial public offering of the Company at not less than \$3.25 per share with aggregate proceeds greater than \$10,000,000, or (ii) the written consent of the respective shareholders of Series A, Series B, Series C, Series D and Series E of greater than fifty percent of the outstanding shares of Series A, Series B, Series C, Series D and Series E.

At January 31, 2000, the Company has reserved 32,000,000 shares of common stock for issuance upon conversion of the mandatorily redeemable convertible preferred stock.

The following is a summary of activity in mandatorily redeemable convertible preferred stock (in thousands):

<TABLE>  
<CAPTION>

	SHARES	TOTAL AMOUNT
<S>	<C>	<C>
Balance at January 31, 1997.....	3,357	\$ 7,176
Issuance of Series D Mandatorily Redeemable Convertible Preferred Stock.....	1,481	6,289
Balance at January 31, 1998.....	4,838	13,465
Issuance of Series D Mandatorily Redeemable Convertible Preferred Stock.....	1,043	4,059
Balance at January 31, 1999.....	5,881	17,524
Issuance of Series E Mandatorily Redeemable Convertible Preferred Stock.....	350	3,500
Issuance of Series C and Series D Mandatorily Redeemable Convertible Preferred Stock upon exercise of warrants.....	379	1,329
Balance at January 31, 2000.....	6,610	\$22,353
	=====	=====

</TABLE>

NOTE 5 -- PREFERRED AND COMMON STOCK WARRANTS:

At January 31, 2000, the Company has reserved 136,353 and 60,000 shares of Preferred Stock and Common Stock, respectively, for the issuance of shares upon the exercise of warrants.

In connection with the issuance of Series C, the Company issued warrants to purchase 471,428 shares of Series C at \$3.50 per share. Warrants to purchase 377,142 shares of Series C were exercised in April and May 2000, and 94,286 warrants expired during fiscal 2000.

During fiscal 1998, in connection with the issuance of Series D, the Company received bridge financing of approximately \$2,200,000 for which it issued warrants to purchase 93,473 shares of Series D at \$4.33 per share. The warrants are exercisable after December 10, 1997 for \$4.33 per share, subject to anti-dilution, and are exercisable on a net basis. The warrants expire upon the earlier of (i) closing of an initial public offering of the Company's common stock, (ii) the sale of all or substantially all of its assets or acquisition of the Company by another entity, or (iii) June 27, 2000. The Company valued the

During fiscal 1999, in connection with the Company's Loan and Security Agreement with a bank, the Company issued warrants to purchase 45,000 shares of Series D at \$4.33 per share. The warrants are exercisable after May 21, 1998 for \$4.33 per share, subject to anti-dilution, and are exercisable on a net basis. The warrants expire upon the earlier of (i) closing of an initial public offering of the Company's common stock, or (ii) May 21, 2003. The Company valued the warrants

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

under the "Black-Scholes" formula at approximately \$66,000. The warrant value has been recorded as interest expense.

In July 1999, in connection with the Company's Loan and Security Agreement with a bank, the Company issued warrants to purchase 60,000 shares of Common Stock at \$1.50 per share. The warrants are exercisable after July 16, 1999 for \$1.50 per share, subject to anti-dilution, and are exercisable on a net basis. The warrants expire upon the earlier of (i) closing of an initial public offering of the Company's common stock, or (ii) July 16, 2004. The Company valued the warrants under the "Black-Scholes" formula at approximately \$23,000. The warrant value has been recorded as interest expense.

NOTE 6 -- COMMON STOCK:

In April 1995, the Company adopted the 1995 Stock Option Plan, (the "Option Plan"). The Option Plan, as amended, has 29,500,000 shares of common stock reserved for issuance thereunder.

THE OPTION PLAN

The Option Plan allows for the issuance of incentive and nonqualified stock options to employees and consultants of the Company.

Options granted under the Option Plan are generally for periods not to exceed ten years, and generally must be issued at prices not less than 100% and 85%, for incentive and nonqualified stock options, respectively, of the fair market value of the stock on the date of grant as determined by the Board of Directors. Incentive stock options granted to shareholders who own greater than 10% of the outstanding stock are for periods not to exceed five years, and must be issued at prices not less than 110% of the fair market value of the stock on the date of grant. The options vest 20% one year after the vesting commencement date and the remaining shares vest one-sixtieth per month over the remaining forty-eight months. Options granted under the Plan may be exercised prior to vesting. The Company has the right to repurchase such shares at their original purchase price if the optionee is terminated from service prior to vesting. Such right expire as the options vest over a five year period.

1997 DIRECTORS' STOCK OPTION PLAN

In August 1997, the Company adopted the 1997 Directors' Stock Option Plan (the "Directors' Plan"). The Directors' Plan has 900,000 shares of common stock reserved thereunder. Under the Directors' Plan, an outside director is granted 180,000 options upon appointment to the Board of Directors. These options vest 20% one year after the vesting commencement date and remaining shares vest one-sixtieth per month over the remaining forty-eight months. An outside director is also granted 36,000 options on the date of each annual meeting of the shareholders. These options vest one-twelfth per month over twelve months after the fourth anniversary of the vesting commencement date.

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## MARVELL TECHNOLOGY GROUP LTD.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Aggregate activity under both the Option Plan and the Directors' Plan was as follows:

&lt;TABLE&gt;

&lt;CAPTION&gt;

	SHARES AVAILABLE	OPTIONS OUTSTANDING	WEIGHTED AVERAGE OPTIONS PRICE PER SHARE
	( IN THOUSANDS )		
<S>	<C>	<C>	<C>
Balance at January 31, 1997.....	1,156	7,698	\$0.04
Additional shares authorized.....	9,900	--	--
Options granted.....	(7,641)	7,641	\$0.18
Options canceled.....	813	(813)	\$0.04
Options exercised.....	--	(1,788)	\$0.04
	-----	-----	
Balance at January 31, 1998.....	4,228	12,738	\$0.12
Additional shares authorized.....	6,400	--	--
Options granted.....	(6,677)	6,677	\$0.49
Options canceled.....	1,032	(1,032)	\$0.13
Shares repurchased.....	375	--	\$0.03
Options exercised.....	--	(5,487)	\$0.20
	-----	-----	
Balance at January 31, 1999.....	5,358	12,896	\$0.28
Additional shares authorized.....	3,600	--	--
Options granted.....	(5,289)	5,289	\$1.80
Options canceled.....	1,363	(1,363)	\$0.39
Shares repurchased.....	51	--	\$0.66
Options exercised.....	--	(4,437)	\$0.44
	-----	-----	
Balance at January 31, 2000.....	5,083	12,385	\$0.87
	=====	=====	

&lt;/TABLE&gt;

At January 31, 2000, options to purchase 11,047,560 shares were vested and 5,034,148 unvested shares remain subject to the Company's repurchase rights under the Option Plan and the Directors Plan.

## ISSUANCE OF COMMON STOCK TO FOUNDERS

In January 1995, the Company issued 36,000,000 shares of its common stock ("the Founders' Shares") to its founders. Each founder has granted the Company a call right on 50% of his or her shares, exercisable in the event such founder's employment terminated for any reason. The call right expires at a rate of 1/60 per month. At January 31, 2000, Founders' Shares subject to call aggregated 300,000.

## OTHER STOCK OPTIONS

In October 1995 and July 1996, the Company granted to a director nonqualified common stock options to purchase 3,000,000 shares of common stock in total. One-half of the common stock options vest ratably over the five year vesting period. The remaining common stock options vest 20% one year after the date of grant and the remaining shares vest one-sixtieth per month over the remaining forty-eight months. In 1995, the director exercised 1,500,000 shares,



In January 1998, the Company granted to a director a nonqualified common stock option to purchase 450,000 shares of common stock at an exercise price of \$0.25. The option vests 20% one year after the vesting commencement date and remaining shares vest one-sixtieth per month over the remaining forty-eight months.

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Information relating to stock options outstanding under the Option Plan and the Directors' Plan at January 31, 2000 was as follows:

<TABLE>  
<CAPTION>

OPTIONS OUTSTANDING			
	NUMBER OUTSTANDING	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE	WEIGHTED EXERCISE PRICE
	<C>	<C>	<C>
Range of exercise prices:			
\$0.03 - \$0.04.....	2,325,904	6.16	\$0.04
\$0.05 - \$0.25.....	2,636,248	7.50	\$0.16
\$0.33 - \$0.88.....	1,969,872	8.61	\$0.42
\$1.06 - \$2.00.....	4,433,900	9.40	\$1.43
\$2.50 - \$3.00.....	1,020,000	9.98	\$3.00
	12,385,924		
	=====		

</TABLE>

<TABLE>  
<CAPTION>

OPTIONS VESTED		
	NUMBER VESTED	WEIGHTED AVERAGE EXERCISE PRICE
	<C>	<C>
Range of exercise prices:		
\$0.03 - \$0.04.....	4,761,000	\$0.04
\$0.05 - \$0.25.....	4,635,992	\$0.14
\$0.33 - \$0.88.....	1,460,568	\$0.39
\$1.06 - \$1.25.....	190,000	\$1.06
	11,047,560	
	=====	

</TABLE>

CERTAIN PRO FORMA DISCLOSURES

Had compensation expense for the Company's option grants been determined based on the fair value at the grant dates, as prescribed in SFAS 123, the Company's net income (loss) would have been as follows:

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
	<C>	<C>	<C>
Net income (loss):			
As reported.....	\$ (7,444,000)	\$ (959,000)	\$13,070,000
Pro forma.....	\$ (7,505,000)	\$ (1,572,000)	\$11,857,000
Basic net income (loss) per share:			
As reported.....	\$ (0.24)	\$ (0.03)	\$ 0.32
Pro forma.....	\$ (0.25)	\$ (0.05)	\$ 0.29
Diluted net income (loss) per share:			
As reported.....	\$ (0.24)	\$ (0.03)	\$ 0.16
Pro forma.....	\$ (0.25)	\$ (0.05)	\$ 0.15

For the purpose of above noted SFAS 123 pro forma disclosure the fair value of each option grant has been estimated on the date of grant using the minimum value method as prescribed by

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

SFAS 123. The following table summarizes the estimated fair value of options and assumptions used in the SFAS 123 calculations:

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
	<C>	<C>	<C>
Estimated fair value.....	\$0.04	\$0.38	\$2.96
Expected life (years).....	5	5	5
Risk-free interest rate.....	6.0%	4.5%	6.1%
Dividend yield.....	--	--	--
Volatility.....	--	--	--

STOCK COMPENSATION

During the years ended January 31, 1999 and 2000, the Company granted options to employees and directors and recognized unearned stock compensation of approximately \$262,000 and \$13,852,000, respectively. Such unearned stock compensation is being amortized using an accelerated method over the vesting period of five years and may decrease due to employees that terminate service prior to vesting.

In February 2000, the Company granted options to employees and recognized unearned stock compensation of approximately \$5,851,000. Such unearned stock compensation will be amortized using the accelerated method over the vesting period of five years and may decrease due to employees that terminate prior to vesting.

NOTE 7 -- BENEFIT PLAN:

Effective January 1, 1994, the Company adopted a 401(k) plan which allows all employees to participate by making salary deferred contributions to the

NOTE 8 -- INCOME TAXES:

The provision for income taxes for the years ended January 31, 1998, 1999 and 2000 consists of the following (in thousands):

<TABLE>  
<CAPTION>

	YEAR ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Current tax expense			
Federal.....	\$ 354	\$ 571	\$ 387
State.....	1	1	1
Foreign.....	8	364	4,582
Total current tax expense.....	363	936	4,970
Deferred income tax			
Federal.....	(218)	(298)	(380)
State.....	(99)	(155)	(234)
Total deferred income tax expense.....	(317)	(453)	(614)
Total provision for income taxes.....	\$ 46	\$ 483	\$4,356

</TABLE>

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

Deferred tax assets (liabilities) consists of the following (in thousands):

<TABLE>  
<CAPTION>

	AS OF JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Credits.....	\$363	\$627	\$1,310
Reserves and accruals.....	47	213	324
Depreciation.....	--	2	--
Total deferred tax assets.....	410	842	1,634
Deferred tax liabilities.....	(21)	--	(178)
Net deferred tax assets.....	\$389	\$842	\$1,456

</TABLE>

Reconciliation of the statutory federal income tax to the Company's effective tax:

<TABLE>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
Provision (benefit) at federal statutory rate.....	(34.0%)	(34.0%)	35.0%
Non-U.S. losses.....	38.4	262.2	--
Difference in U.S. and non-U.S. taxes.....	--	(8.5)	(8.2)
State taxes, net of federal benefit.....	(0.9)	(23.5)	(0.9)
General business credits.....	(3.0)	(88.8)	(5.4)
Non-cash stock compensation.....	--	3.3	4.4
Other.....	0.1	0.7	0.1
Effective tax rate.....	0.6%	111.4%	25.0%

</TABLE>

The U.S. and non-U.S. components of income (loss) before income taxes are:

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
<S>	<C>	<C>	<C>
U.S. operations.....	\$ 247	\$ 580	\$ 1,222
Non-U.S. operations.....	(7,645)	(1,056)	16,204
	\$(7,398)	\$ (476)	\$17,426

</TABLE>

As of January 31, 2000, the Company had federal research tax credit carryforwards for U.S. federal income tax return purposes of approximately \$800,000 that expire through 2020. As of January 31, 2000, the Company had unused California research tax credits of approximately \$700,000 that will carryforward indefinitely until utilized.

Federal and state tax laws impose restrictions on the utilization of tax credit carryforwards in the event of an "ownership change" as defined by the Internal Revenue Code.

Pending approval from the Economic Development Board of Singapore, the Company's Singapore operations are expected to enjoy, effective July 1, 1999, a tax holiday from Singapore taxes on certain non-investment income. The Company will be required to comply with certain conditions for minimum levels of investment, headcount and the nature of its activities at its Singapore operations to maintain the tax holiday. The tax holiday would have had an immaterial impact on the Company's net income in fiscal 2000.

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MARVELL TECHNOLOGY GROUP LTD.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

NOTE 9 -- COMMITMENTS

The Company is obligated under noncancelable operating leases for its facilities and under capital leases for certain equipment. The capital leases expire in fiscal year 2002 and include a buyout option.

Future minimum lease payments under the operating and capital leases are as

<TABLE>  
<CAPTION>

	OPERATING LEASES	CAPITAL LEASES
	-----	-----
<S>	<C>	<C>
2001.....	\$1,372	\$ 75
2002.....	1,357	36
2003.....	52	--
	-----	-----
Total minimum lease payments.....	\$2,781	111
	=====	
Less: amount representing interest.....		(1)
		-----
Present value of minimum lease payments.....		110
Less: current portion.....		(74)
		-----
Long-term lease obligation.....		\$ 36
		=====

</TABLE>

Rent expense on the operating leases for the years ended January 31, 1998, 1999 and 2000 was approximately \$105,000, \$214,000 and \$859,000, respectively.

#### PURCHASE COMMITMENTS

The Company's manufacturing relationships with foundries allow for the cancellation of all outstanding purchase orders, but requires repayment of all expenses incurred to date. As of January 31, 2000, foundries had incurred approximately \$5,600,000 of manufacturing expenses on the Company's outstanding purchase orders.

#### NOTE 10 -- SEGMENT AND GEOGRAPHIC INFORMATION:

The Company has adopted Statement of Financial Accounting Standards No. 131 "Disclosure about Segments of an Enterprise and Related Information" ("SFAS 131"). Based on its operating management and financial reporting structure, the Company has determined that it has one reportable business segment: the design, development and sale of integrated circuits.

The following is a summary of product revenue by geographic area based on the location of shipments (in thousands):

<TABLE>  
<CAPTION>

	YEARS ENDED JANUARY 31,		
	1998	1999	2000
	-----	-----	-----
<S>	<C>	<C>	<C>
Japan.....	\$ --	\$11,197	\$36,284
Singapore.....	--	14	25,234
Korea.....	--	9,680	4,342
Philippines.....	--	2	10,921
United States.....	625	276	309
Others.....	--	84	4,285
	-----	-----	-----
	\$625	\$21,253	\$81,375
	=====	=====	=====

</TABLE>

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

All sales are denominated in United States dollars. For all periods presented, substantially all of the Company's long-lived assets were located in the United States.

## NOTE 11 -- SUBSEQUENT EVENTS:

## INITIAL PUBLIC OFFERING

On March 21, 2000, the Company's Board of Directors authorized management of the Company to file a Registration Statement with the Securities and Exchange Commission permitting the Company to sell its common stock to the public.

## STOCK DIVIDEND

On March 17, 2000, the Company's shareholders approved two 100% common stock dividends. All references throughout the consolidated financial statements to number of shares, per share amounts and stock option data have been restated to reflect the common stock dividends. Additionally, on January 21, 2000, the authorized common shares was proposed to be increased to 242,000,000 by the Board of Directors. This increase was approved on March 17, 2000 by the Company's shareholders and took effect on that date.

## RESTRICTED CASH

In March 2000, the Company invested \$3,000,000 in a certificate of deposit with a major U.S. financial institution as security for a standby letter of credit with a major supplier for the same amount. This standby letter of credit expires on September 1, 2000.

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No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus. You must not rely on any unauthorized information or representations. This prospectus is an offer to sell only the shares offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus is current only as of its date.

-----  
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Use of Proceeds.....	22
Dividend Policy.....	22
Capitalization.....	23
Dilution.....	24
Selected Consolidated Financial Data.....	25

</TABLE>

-----  
 Through and including \_\_\_\_\_, 2000 (the 25th day after the date of this prospectus), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

-----  
 -----  
 -----  
 -----

Shares  
 MARVELL TECHNOLOGY  
 GROUP LTD.  
 Common Stock

-----  
 LOGO  
 -----  
 GOLDMAN, SACHS & CO.  
 J.P. MORGAN & CO.  
 ROBERTSON STEPHENS

Representatives of the Underwriters

-----  
 -----  
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PART II  
 INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the various expenses in connection with the sale and distribution of the securities being registered, other than the underwriting discounts and commissions. All amounts shown are estimates, except the Securities and Exchange Commission Registration Fee and the National Association of Securities Dealers, Inc. Filing Fee.

<TABLE>	
<S>	
Securities and Exchange Commission Registration Fee.....	\$ 19,800
National Association of Securities Dealers Filing Fee.....	8,000
Nasdaq National Market Listing Fee.....	
Blue Sky Fees and Expenses.....	
Transfer Agent and Registrar Fees.....	
Accounting Fees and Expenses.....	
Directors and Officers Liability Insurance.....	
Legal Fees and Expenses.....	
Printing Expenses.....	
Miscellaneous.....	
	-----
Total.....	\$ =====

</TABLE>

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Bermuda law permits a company to indemnify its directors and officers, except for any act of fraud or dishonesty. Marvell has provided in its Bye-laws that the directors and officers and the liquidators and trustees, if any, of Marvell will be indemnified and secured harmless to the full extent permitted by law out of the assets of Marvell from and against all actions, costs, charges, losses, damages and expenses incurred by reason of any act done, concurred in or omitted in or about the execution of their duties of supposed duties, or in their respective offices or trusts, and none of them shall be answerable for the acts, receipts, neglects or defaults of the others of them or for joining in any receipts for the sake of conformity, or for any bankers or other persons with whom any moneys or effects belonging to Marvell shall or may be lodged or deposited for safe custody, or for insufficiency or deficiency of any security upon which any moneys of or belonging to Marvell shall be placed out on or invested, or for any other loss, misfortune or damage which may happen in the execution of their respective offices or trusts, or in relation thereto, other than in the case of any fraud or dishonesty. In addition, Marvell has provided in its Bye-laws that each shareholder of Marvell agrees to waive any claim or right of action, individually or in the right of Marvell, against any director or officer of Marvell on account of any action taken by such director or officer, or the failure of such director or officer to take any action, in the performance of his duties with or for Marvell, other than with respect to any matter involving any fraud or dishonesty on behalf of such director or officer.

Bermuda law also permits Marvell to purchase insurance for the benefit of its directors and officers against any liability incurred by them for the failure to exercise the requisite care, diligence and skill in the exercise of their powers and the discharge of their duties, or indemnifying them in respect of any loss arising or liability incurred by them by reason of negligence, default, breach of duty or breach of trust. Marvell plans to purchase indemnification insurance for its officers and directors.

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ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.

From January 1, 1997 through February 29, 2000, we have issued and sold the following unregistered securities:

1. In June, 1997, we issued convertible promissory notes in the aggregate principal amount of \$2,211,250 to six investors for \$2,211,250 in cash. In conjunction with the issuance of the convertible promissory notes, we issued warrants to purchase 76,544 shares of Series D preferred stock to such investors at an exercise price of \$4.33 per share, which warrants expire, if not earlier exercised, on the earlier of June 27, 2000 or the consummation of this offering. The number of shares subject to such warrant



equaled 15% of the principal amount of each purchaser's note divided by the exercise price, which was \$6.50 prior to the June 1998 stock split. In December 1997, these noteholders converted the convertible promissory notes into 510,288 shares of Series D Preferred at a conversion price of \$4.33 per share.

2. In December 1997, as partial consideration for acting as our placement agents, we issued warrants to InveStar Capital, Inc. and Hambrecht & Quist LLC to purchase an aggregate of 16,929 shares of Series D preferred stock at an exercise price of \$4.33 per share, which warrants expire, if not earlier exercised, on the earlier of June 27, 2000 or the consummation of this offering.

3. During the period December 1997 through January 2000, we sold an aggregate of 2,525,787 shares of Series D preferred stock to 54 investors at a purchase price of \$4.33 per share for an aggregate consideration of \$10,945,077 in cash.

4. In May 1998, in connection with a loan agreement we issued a warrant to our bank to purchase up to 45,000 shares of Series D preferred stock at an exercise price of \$4.33 per share.

5. In June 1999, in connection with a loan agreement we issued a warrant to our bank to purchase up to 60,000 shares of common stock at an exercise price of \$1.50.

6. In July 1999, we sold an aggregate of 350,000 shares of Series E preferred stock to an investor at a purchase price of \$10.00 per share for an aggregate consideration of \$3,500,000 in cash.

7. As of February 29, 2000, 13,783,674 shares of common stock had been issued to our employees, directors and consultants upon exercise of options at exercise prices ranging from \$0.03 to \$5.00 per share and 13,008,466 shares of common were issuable upon exercise of outstanding options under our stock option plans at exercise prices ranging from \$0.03 to \$5.00 per share.

All share numbers and exercise prices for common stock have been adjusted to reflect the 50% stock dividend in June 1998 and the two 100% common stock dividends approved by our shareholders on March 17, 2000. All share numbers and exercise prices for preferred stock have been adjusted to reflect the 50% stock dividend in June 1998. Although the number of shares of Series D preferred stock and the Series E preferred stock were not affected by the two 100% common stock dividends approved by our shareholders on March 17, 2000, all of the 2,525,787 outstanding shares of Series D preferred stock and the 350,000 shares of Series E preferred stock will automatically convert on a four-for-one basis into shares of common stock upon the consummation of this offering.

The sales and issuances of securities listed above were deemed to be exempt from registration under Section 4(2) of the Securities Act, Regulation D thereunder as transactions not involving a public offering or by virtue of Rule 701 as transactions pursuant to compensatory benefit plans and contracts relating to compensation. All of the foregoing securities are deemed restricted securities for purposes of the Securities Act.

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ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

The following exhibits are filed herewith:

<TABLE>  
<CAPTION>  
EXHIBIT

<S>	<C>
1.1	Form of Underwriting Agreement*
3.1	Memorandum of Association
3.2	Bye-laws
4.1	Specimen Common Stock Certificate*
5.1	Opinion of Conyers, Dill & Pearman*
8.1	Tax Opinion of Fenwick & West LLP*
8.2	Tax Opinion of Conyers, Dill & Pearman*
10.1	1995 Stock Option Plan
10.2	1997 Directors' Stock Option Plan
10.3	2000 Employee Stock Purchase Plan
10.4	Sublease between Netscape Communications, Inc. and Marvell Semiconductor, Inc. dated October 1, 1998
10.5	First Amendment to Sublease between Netscape Communications, Inc. and Marvell Semiconductor, Inc. dated October 1, 1999
10.6	Investor Rights Agreement dated September 10, 1999
21.1	Subsidiaries
23.1	Consent of Conyers, Dill & Pearman (contained in Exhibits 5.1 and 8.2)*
23.2	Consent of Fenwick & West LLP (contained in Exhibit 8.1)*
23.3	Consent of PricewaterhouseCoopers LLP
24.1	Power of Attorney (included in II-4 -- II-5)
27.1	Financial Data Schedule
</TABLE>	

\* To be filed by amendment

Other financial statement schedules are omitted because the information called for is not required or is shown either in the financial statements or the notes thereto.

ITEM 17. UNDERTAKINGS.

(a) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described under "Item 14 -- Indemnification of Directors and Officers" above, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(b) The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this Registration Statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.

(2) For the purposes of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement, certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Sunnyvale, State of California, on the 23rd day of March, 2000.

MARVELL TECHNOLOGY GROUP LTD.

By: /s/ SEHAT SUTARDJA

-----  
 Dr. Sehat Sutardja  
 Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS that each individual whose signature appears below constitutes and appoints Sehat Sutardja and Thor Buell and each of them, his or her true and lawful attorneys-in-fact and agents with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments, including post-effective amendments, to this Registration Statement, and to sign any registration statement for the same offering covered by the Registration Statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all documents in connection therewith, making such changes in this Registration Statement as such person or persons so acting deems appropriate, with the Securities and Exchange Commission and the Registrar of Companies in Bermuda or any other regulatory authority in Bermuda as appropriate, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his, her or their substitute or substitutes, may lawfully do or cause to be done or by virtue hereof. Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the date indicated.

<TABLE>  
 <CAPTION>

SIGNATURE -----	TITLE -----	DATE -----
<S> /s/ SEHAT SUTARDJA ----- Dr. Sehat Sutardja	<C> Co-Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	<C> March 23, 2000
/s/ GORDON M. STEEL -----	Chief Financial Officer and Vice President of Finance	March 23, 2000

/s/ WEILI DAI	Executive Vice President and Director	March 23, 2000
-----		
Weili Dai		
/s/ PANTAS SUTARDJA	Chief Technology Officer and Director	March 23, 2000
-----		
Dr. Pantas Sutardja		

</TABLE>

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<TABLE>  
 <CAPTION>

SIGNATURE	TITLE	DATE
-----	-----	-----
/s/ DIOSDADO BANATAO	Co-Chairman of the Board	March 23, 2000
-----		
Diosdado Banatao		
/s/ HERBERT CHANG	Director	March 23, 2000
-----		
Herbert Chang		
-----		
Dr. John M. Cioffi	Director	
-----		
Dr. Paul R. Gray	Director	
-----		
/s/ RON VERDOORN	Director	March 23, 2000
-----		
Ron Verdoorn		

</TABLE>

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EXHIBIT INDEX

<TABLE>  
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EXHIBIT NUMBER	EXHIBIT TITLE
-----	-----
<C>	<S>
1.1	Form of Underwriting Agreement*
3.1	Memorandum of Association
3.2	Bye-laws
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10.5	First Amendment to Sublease between Netscape Communications,

10.6 Inc. and Marvell Semiconductor, Inc. dated October 1, 1989  
 21.1 Investor Rights Agreement dated September 10, 1999  
 21.1 Subsidiaries  
 23.1 Consent of Conyers, Dill & Pearman (contained in Exhibits 5.1 and 8.2)\*  
 23.2 Consent of Fenwick & West LLP (contained in Exhibit 8.1)\*  
 23.3 Consent of PricewaterhouseCoopers LLP  
 24.1 Power of Attorney (included in II-4 -- II-5)  
 27.1 Financial Data Schedule

</TABLE>

\* To be filed by amendment

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 </DOCUMENT>  
 <DOCUMENT>  
 <TYPE>EX-3.1  
 <SEQUENCE>2  
 <DESCRIPTION>EX-3.1  
 <TEXT>

<PAGE> 1

EXHIBIT 3.1

FORM NO. 2

[LOGO]

BERMUDA  
 THE COMPANIES ACT 1981  
 MEMORANDUM OF ASSOCIATION OF  
 COMPANY LIMITED BY SHARES  
 (SECTION 7(1) AND (2))

MEMORANDUM OF ASSOCIATION  
 OF

MARVELL TECHNOLOGY GROUP LTD.  
 (hereinafter referred to as "the Company")

1. The liability of the members of the Company is limited to the amount (if any) for the time being unpaid on the shares respectively held by them.
2. We, the undersigned, namely,

NAME	ADDRESS	BERMUDIAN STATUS (Yes/No)	NATIONALITY	NUMBER OF SHARES SUBSCRIBED
Lisa Marshall	Clarendon House 2 Church Street Hamilton HM 11 Bermuda	Yes	British	one
Nicholas B. Dill	"	Yes	British	one
John Sharpe	"	Yes	British	one

do hereby respectively agree to take such number of shares of the Company as may be allotted to us respectively by the provisional directors of the Company, not

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3. The Company is to be an exempted Company as defined by the Companies Act 1981.
4. The Company has power to hold land situated in Bermuda not exceeding in all, including the following parcels-  
  
N/A
5. The authorised share capital of the Company is US\$12,000.00 divided into shares of US\$.002 each. The minimum subscribed share capital of the Company is US\$12,000.00.
6. The objects for which the Company is formed and incorporated are -
  1. As set out in paragraphs (b) to (n) and (p) to (u) inclusive of the Second Schedule to the Companies Act 1981.
7. Powers of the Company  
-----
  1. The Company shall, pursuant to the Section 42 of the Companies Act 1981, have the power to issue preference shares which are, at the option of the holder, liable to be redeemed.

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Exhibit 3.2

B Y E - L A W S  
of  
MARVELL TECHNOLOGY GROUP LTD.

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INTERPRETATION

1. Interpretation

(1) In these Bye-laws the following words and expressions shall, where not inconsistent with the context, have the following meanings respectively:-

- (a) "Act" means the Companies Act 1981 as amended from time to time;
- (b) "Alternate Director" means an alternate Director appointed in accordance with these Bye-laws;
- (c) "Auditor" includes any individual or partnership;
- (d) "Board" means the Board of Directors appointed or elected pursuant to these Bye-laws and acting by resolution in accordance with the Act and these Bye-laws or the Directors present at a meeting of Directors at which there is a quorum;
- (e) "Company" means the company for which these Bye-laws are approved and confirmed;



- (f) "Director" means a director of the Company and shall include an Alternate Director;
- (g) "Member" means the person registered in the Register of Members as the holder of shares in the Company and, when two or more persons are so registered as joint holders of shares, means the person whose name stands first in the Register of Members as one of such joint holders or all of such persons as the context so requires;
- (h) "notice" means written notice as further defined in these Bye-laws unless otherwise specifically stated;
- (i) "Officer" means any person appointed by the Board to hold an office in the Company;
- (j) "Register of Directors and Officers" means the Register of Directors and Officers referred to in these Bye-laws;

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- (k) "Register of Members" means the Register of Members referred to in these Bye-laws; and
- (l) "Secretary" means the person appointed to perform any or all the duties of secretary of the Company and includes any deputy or assistant secretary.

(2) In these Bye-laws, where not inconsistent with the context:-

- (a) words denoting the plural number include the singular number and vice versa;
- (b) words denoting the masculine gender include the feminine gender;
- (c) words importing persons include companies, associations or bodies of persons whether corporate or not;
- (d) the word:-
  - (i) "may" shall be construed as permissive;
  - (ii) "shall" shall be construed as imperative; and
- (e) unless otherwise provided herein words or expressions defined in the Act shall bear the same meaning in these Bye-laws.

(3) Expressions referring to writing or written shall, unless the contrary intention appears, include facsimile, printing, lithography, photography and other modes of representing words in a visible form.

(4) Headings used in these Bye-laws are for convenience only and are not to be used or relied upon in the construction hereof.

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2. Board of Directors

The business of the Company shall be managed and conducted by the Board.

3. Management of the Company

(1) In managing the business of the Company, the Board may exercise all such powers of the Company as are not, by statute or by these Bye-laws, required to be exercised by the Company in general meeting subject, nevertheless, to these Bye-laws, the provisions of any statute and to such regulations as may be prescribed by the Company in general meeting.

(2) No regulation or alteration to these Bye-laws made by the Company in general meeting shall invalidate any prior act of the Board which would have been valid if that regulation or alteration had not been made.

(3) The Board may procure that the Company pays all expenses incurred in promoting and incorporating the Company.

4. Power to appoint managing director or chief executive officer

The Board may from time to time appoint one or more Directors to the office of managing director or chief executive officer of the Company who shall, subject to the control of the Board, supervise and administer all of the general business and affairs of the Company.

5. Power to appoint manager

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The Board may appoint a person to act as manager of the Company's day to day business and may entrust to and confer upon such manager such powers and duties as it deems appropriate for the transaction or conduct of such business.

6. Power to authorise specific actions

The Board may from time to time and at any time authorise any company, firm, person or body of persons to act on behalf of the Company for any specific purpose and in connection therewith to execute any agreement, document or instrument on behalf of the Company.

7. Power to appoint attorney

The Board may from time to time and at any time by power of attorney appoint any company, firm, person or body of persons, whether nominated directly or indirectly by the Board, to be an attorney of the Company for such purposes and with such powers, authorities and discretions (not exceeding those vested in or exercisable by the Board) and for such period and subject to such conditions as it may think fit and any such power of attorney may contain such provisions for the protection and convenience of persons dealing with any such attorney as the Board may think fit and may also authorise any such attorney to sub-delegate all or any of the powers, authorities and discretions so vested in the attorney. Such attorney may, if so authorised under the seal of the Company, execute any deed or instrument under such attorney's personal seal with the same effect as the affixation of the seal of the Company.

8. Power to delegate to a committee

The Board may delegate any of its powers to a committee appointed by the Board and every such committee shall conform to such directions as the Board

9. Power to appoint and dismiss employees

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The Board may appoint, suspend or remove any manager, secretary, clerk, agent or employee of the Company and may fix their remuneration and determine their duties.

10. Power to borrow and charge property

The Board may exercise all the powers of the Company to borrow money and to mortgage or charge its undertaking, property and uncalled capital, or any part thereof, and may issue debentures, debenture stock and other securities whether outright or as security for any debt, liability or obligation of the Company or any third party.

11. Exercise of power to purchase shares of or discontinue the Company

(1) The Board may exercise all the powers of the Company to purchase all or any part of its own shares pursuant to Section 42A of the Act.

(2) The Board may exercise all the powers of the Company to discontinue the Company to a named country or jurisdiction outside Bermuda pursuant to Section 132G of the Act.

12. Election of Directors

The Board shall consist of not less than two Directors or such number in excess thereof as the Members may from time to time determine who shall be elected or appointed in the first place at the statutory meeting of the Company and thereafter, except in the case of casual vacancy, at the annual general meeting or at any special general meeting called for the purpose and who shall hold office for such term as the Members may determine or, in the absence of such determination, until the next annual general meeting or until their successors are elected or appointed or their office is otherwise vacated, and any general meeting may authorise the Board to fill any vacancy in their number left unfilled at a general meeting.

13. Defects in appointment of Directors

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All acts done bona fide by any meeting of the Board or by a committee of the Board or by any person acting as a Director shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any Director or person acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a Director.

14. Alternate Directors

(1) Any general meeting of the Company may elect a person or persons to act as a Director in the alternative to any one or more of the Directors of the Company or may authorise the Board to appoint such Alternate Directors. Unless the Members otherwise resolve, any Director may appoint a person or persons to act as a Director in the alternative to himself or herself by notice in writing deposited with the Secretary. Any person so appointed shall have all the rights

(2) An Alternate Director shall be entitled to receive notice of all meetings of the Board and to attend and vote at any such meeting at which a Director for whom such Alternate Director was appointed in the alternative is not personally present and generally to perform at such meeting all the functions of such Director for whom such Alternate Director was appointed.

(3) An Alternate Director shall cease to be such if the Director for whom such Alternate Director was appointed ceases for any reason to be a Director but may be re-appointed by the Board as alternate to the person appointed to fill the vacancy in accordance with these Bye-laws.

#### 15. Removal of Directors

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(1) Except as provided for in Bye-Law 50, and subject to any provision to the contrary in these Bye-laws, the Members may, at any special general meeting convened and held in accordance with these Bye-laws, remove a Director provided that the notice of any such meeting convened for the purpose of removing a Director shall contain a statement of the intention so to do and be served on such Director not less than 14 days before the meeting and at such meeting such Director shall be entitled to be heard on the motion for such Director's removal.

(2) Except as provided for in Bye-law 50, a vacancy of the Board created by the removal of a Director under the provisions of subparagraph (1) of this Bye-law may be filled by the Members at the meeting at which such Director is removed and, in the absence of such election or appointment, the Board may fill the vacancy.

#### 16. Vacancies on the Board

(1) Except as provided for in Bye-law 50, the Board shall have the power from time to time and at any time to appoint any person as a Director to fill a vacancy on the Board occurring as the result of the death, disability, disqualification or resignation of any Director and to appoint an Alternate Director to any Director so appointed.

(2) The Board may act notwithstanding any vacancy in its number but, if and so long as its number is reduced below the number fixed by these Bye-laws as the quorum necessary for the transaction of business at meetings of the Board, the continuing Directors or Director may act for the purpose of (i) summoning a general meeting of the Company or (ii) preserving the assets of the Company.

(3) The office of Director shall be vacated if the Director:

- (a) is removed from office pursuant to these Bye-laws or is prohibited from being a Director by law;

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- (b) is or becomes bankrupt or makes any arrangement or composition with his creditors generally;
- (c) is or becomes of unsound mind or dies;

17. Notice of meetings of the Board

(1) A Director may, and the Secretary on the requisition of a Director shall, at any time summon a meeting of the Board.

(2) Notice of a meeting of the Board shall be deemed to be duly given to a Director if it is given to such Director verbally in person or by telephone or otherwise communicated or sent to such Director by post, cable, telex, telecopier, facsimile or other mode of representing words in a legible and non-transitory form at such Director's last known address or any other address given by such Director to the Company for this purpose.

18. Quorum at meetings of the Board

The quorum necessary for the transaction of business at a meeting of the Board shall be three Directors.

19. Meetings of the Board

(1) The Board may meet for the transaction of business, adjourn and otherwise regulate its meetings as it sees fit.

(2) Directors may participate in any meeting of the Board by means of such telephone, electronic or other communication facilities as permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously, and participation in such a meeting shall constitute presence in person at such meeting.

(3) A resolution put to the vote at a meeting of the Board shall be carried by the affirmative votes of a majority of the votes cast and in the case of an equality of votes

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the resolution shall fail. Notwithstanding the foregoing, a resolution to approve any of the following shall require the affirmative vote of at least four directors:

- (a) the issue of shares in the capital of the Company or any obligations, charges or debts convertible into shares or involving rights to vote under any circumstances;
- (b) the winding up, dissolution or termination of the corporate existence of the Company;
- (c) borrowing of any amount by the Company which exceeds in the aggregate \$1,000,000 or the mortgage, pledge or grant of a security interest in any property of the Company which exceeds in the aggregate \$1,000,000;
- (d) entering into or material modification by the Company of any contract or commitment which requires payment in excess of \$1,000,000 in the aggregate; and
- (e) purchasing, acquiring, selling or disposing of any tangible or intangible asset for amounts in excess of \$1,000,000.

20. Unanimous written resolutions

A resolution in writing signed by all the Directors which may be in counterparts, shall be as valid as if it had been passed at a meeting of the Board duly called and constituted, such resolution to be effective on the date on which the last Director signs the resolution. For the purposes of this Bye-law only, "Director" shall not include an Alternate Director.

#### 21. Contracts and disclosure of Directors' interests

(1) Any Director, or any Director's firm, partner or any company with whom any Director is associated, may act in a professional capacity for the Company and such Director or such Director's firm, partner or such company shall be entitled to remuneration for professional services as if such Director were not a Director, provided that nothing herein contained shall authorise a Director or Director's firm, partner or such company to act as Auditor of the Company.

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(2) A Director who is directly or indirectly interested in a contract or proposed contract or arrangement with the Company shall declare the nature of such interest as required by the Act.

(3) Following a declaration being made pursuant to this Bye-law, and unless disqualified by the chairman of the relevant Board meeting, a Director may vote in respect of any contract or proposed contract or arrangement in which such Director is interested and may be counted in the quorum at such meeting.

#### 22. Remuneration of Directors

The remuneration, (if any) of the Directors shall be determined by the Company in general meeting and shall be deemed to accrue from day to day. The Directors may also be paid all travel, hotel and other expenses properly incurred by them in attending and returning from meetings of the Board, any committee appointed by the Board, general meetings of the Company, or in connection with the business of the Company or their duties as Directors generally.

#### OFFICERS

#### 23. Officers of the Company

The Officers of the Company shall consist of a President and a Vice President or a Chairman and a deputy Chairman, a Secretary and such additional Officers as the Board may from time to time determine all of whom shall be deemed to be Officers for the purposes of these Bye-laws.

#### 24. Appointment of Officers

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(1) The Board shall, as soon as possible after the statutory meeting of Members and after each annual general meeting appoint a President and Vice President or a Chairman and Deputy Chairman who shall be Directors.

(2) The Secretary and additional Officers, if any, shall be appointed by the Board from time to time.

The Officers shall receive such remuneration as the Board may from time to time determine.

26. Duties of Officers

The Officers shall have such powers and perform such duties in the management, business and affairs of the Company as may be delegated to them by the Board from time to time.

27. Chairman of meetings

Unless otherwise agreed by a majority of those attending and entitled to attend and vote thereat, the Chairman, if there be one, and if not the President shall act as chairman at all meetings of the Members and of the Board at which such person is present. In their absence the Deputy Chairman or Vice President, if present, shall act as chairman and in the absence of all of them a chairman shall be appointed or elected by those present at the meeting and entitled to vote.

28. Register of Directors and Officers

(1) The Board shall cause to be kept in one or more books at its registered office a Register of Directors and Officers and shall enter therein the following particulars with respect to each Director and the President, each Vice-President, the Chairman, and each Deputy Chairman, provided that each such person is a Director and the Secretary, that is to say:

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- (a) first name and surname; and
- (b) address.

(2) The Board shall, within the period of fourteen days from the occurrence of-

- (a) any change among its Directors, the President, any Vice-President, the Chairman, and any Deputy Chairman, provided that each such person is a Director, and in the Secretary; or
- (b) any change in the particulars contained in the Register of Directors and Officers,

cause to be entered on the Register of Directors and Officers the particulars of such change and the date on which such change occurred.

(3) The Register of Directors and Officers shall be open to inspection at the office of the Company on every business day, subject to such reasonable restrictions as the Board may impose, so that not less than two hours in each business day be allowed for inspection.

MINUTES

29. Obligations of Board to keep minutes

The Board shall cause minutes to be duly entered in books provided for the purpose:-

- (a) of all elections and appointments of Officers;
- (b) of the names of the Directors present at each meeting of the Board and of any committee appointed by the Board; and
- (c) of all resolutions and proceedings of general meetings of the Members, meetings of the Board, meetings of managers and meetings of committees appointed by the Board.

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INDEMNITY

30. Indemnification of Directors and Officers of the Company

The Directors, Secretary and other Officers for the time being of the Company and the liquidator or trustees (if any) for the time being acting in relation to any of the affairs of the Company and every one of them, and their heirs, executors and administrators, shall be indemnified and secured harmless out of the assets of the Company from and against all actions, costs, charges, losses, damages and expenses which they or any of them, their heirs, executors or administrators, shall or may incur or sustain by or by reason of any act done, concurred in or omitted in or about the execution of their duty, or supposed duty, or in their respective offices or trusts, and none of them shall be answerable for the acts, receipts, neglects or defaults of the others of them or for joining in any receipts for the sake of conformity, or for any bankers or other persons with whom any moneys or effects belonging to the Company shall or may be lodged or deposited for safe custody, or for insufficiency or deficiency of any security upon which any moneys of or belonging to the Company shall be placed out on or invested, or for any other loss, misfortune or damage which may happen in the execution of their respective offices or trusts, or in relation thereto, PROVIDED THAT this indemnity shall not extend to any matter in respect of any fraud or dishonesty which may attach to any of said persons.

31. Waiver of claim by Member

Each Member agrees to waive any claim or right of action such Member might have, whether individually or by or in the right of the Company, against any Director or Officer on account of any action taken by such Director or Officer, or the failure of such Director or Officer to take any action in the performance of his duties with or for the Company, PROVIDED THAT such waiver shall not extend to any matter in respect of any fraud or dishonesty which may attach to such Director or Officer.

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MEETINGS

32. Notice of annual general meeting

The annual general meeting of the Company shall be held in each year other than the year of incorporation at such time and place as the President or the Chairman or any two Directors or any Director and the Secretary or the Board shall appoint. At least five days notice of such meeting shall be given to each Member stating the date, place and time at which the meeting is to be held, that the election of Directors will take place thereat, and as far as practicable, the other business to be conducted at the meeting.

33. Notice of special general meeting



The President or the Chairman or any two Directors or any Director and the Secretary or the Board may convene a special general meeting of the Company whenever in their judgment such a meeting is necessary, upon not less than five days' notice which shall state the date, time, place and the general nature of the business to be considered at the meeting.

#### 34. Accidental omission of notice of general meeting

The accidental omission to give notice of a general meeting to, or the non-receipt of notice of a general meeting by, any person entitled to receive notice shall not invalidate the proceedings at that meeting.

#### 35. Meeting called on requisition of Members

Notwithstanding anything herein, the Board shall, on the requisition of Members holding at the date of the deposit of the requisition not less than one-tenth of such of the paid-up share capital of the Company as at the date of the deposit carries the right to vote at general meetings of the Company, forthwith proceed to convene a special general meeting of the Company and the provisions of section 74 of the Act shall apply.

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#### 36. Short notice

A general meeting of the Company shall, notwithstanding that it is called by shorter notice than that specified in these Bye-laws, be deemed to have been properly called if it is so agreed by (i) all the Members entitled to attend and vote thereat in the case of an annual general meeting; and (ii) by a majority in number of the Members having the right to attend and vote at the meeting, being a majority together holding not less than 95% in nominal value of the shares giving a right to attend and vote thereat in the case of a special general meeting.

#### 37. Postponement of meetings

The Board may postpone any general meeting called in accordance with the provisions of these Bye-laws (other than a meeting requisitioned under these Bye-laws) provided that notice of postponement is given to each Member before the time for such meeting. Fresh notice of the date, time and place for the postponed meeting shall be given to each Member in accordance with the provisions of these Bye-laws.

#### 38. Quorum for general meeting

At any general meeting of the Company two persons present in person and representing in person or by proxy in excess of 50% of the total issued voting shares in the Company throughout the meeting shall form a quorum for the transaction of business, PROVIDED that if the Company shall at any time have only one Member, one Member present in person or by proxy shall form a quorum for the transaction of business at any general meeting of the Company held during such time. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting shall stand adjourned to the same day one week later, at the same time and place or to such other day, time or place as the Board may determine.

#### 39. Adjournment of meetings

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The chairman of a general meeting may, with the consent of the Members at any general meeting at which a quorum is present (and shall if so directed), adjourn the meeting. Unless the meeting is adjourned to a specific date and time, fresh notice of the date, time and place for the resumption of the adjourned meeting shall be given to each Member in accordance with the provisions of these Bye-laws.

#### 40. Attendance at meetings

Members may participate in any general meeting by means of such telephone, electronic or other communication facilities as permit all persons participating in the meeting to communicate with each other simultaneously and instantaneously, and participation in such a meeting shall constitute presence in person at such meeting.

#### 41. Written resolutions

(1) Subject to subparagraph (6), anything which may be done by resolution of the Company in general meeting or by resolution of a meeting of any class of the Members of the Company, may, without a meeting and without any previous notice being required, be done by resolution in writing signed by, or, in the case of a Member that is a corporation whether or not a company within the meaning of the Act, on behalf of, all the Members who at the date of the resolution would be entitled to attend the meeting and vote on the resolution.

(2) A resolution in writing may be signed by, or, in the case of a Member that is a corporation whether or not a company within the meaning of the Act, on behalf of, all the Members, or any class thereof, in as many counterparts as may be necessary.

(3) For the purposes of this Bye-law, the date of the resolution is the date when the resolution is signed by, or, in the case of a Member that is a corporation whether or not a company within the meaning of the Act, on behalf of, the last Member to sign and

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any reference in any Bye-law to the date of passing of a resolution is, in relation to a resolution made in accordance with this Bye-law, a reference to such date.

(4) A resolution in writing made in accordance with this Bye-law is as valid as if it had been passed by the Company in general meeting or by a meeting of the relevant class of Members, as the case may be, and any reference in any Bye-law to a meeting at which a resolution is passed or to Members voting in favour of a resolution shall be construed accordingly.

(5) A resolution in writing made in accordance with this Bye-law shall constitute minutes for the purposes of sections 81 and 82 of the Act.

(6) This Bye-law shall not apply to:

- (a) a resolution passed pursuant to section 89(5) of the Act;  
or
- (b) a resolution passed for the purpose of removing a Director before the expiration of his term of office under Bye-law 15.

#### 42. Attendance of Directors

The Directors of the Company shall be entitled to receive notice of and to attend and be heard at any general meeting.

#### 43. Voting at meetings

(1) Subject to the provisions of the Act and these Bye-laws, any question proposed for the consideration of the Members at any general meeting shall be decided by the affirmative votes of a majority of the votes cast in accordance with the provisions of these Bye-laws and in the case of an equality of votes the resolution shall fail.

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(2) No Member shall be entitled to vote at any general meeting unless such Member has paid all the calls on all shares held by such Member.

#### 44. Voting on show of hands

At any general meeting a resolution put to the vote of the meeting shall, in the first instance, be voted upon by a show of hands and, subject to any rights or restrictions for the time being lawfully attached to any class of shares and subject to the provisions of these Bye-laws, every Member present in person and every person holding a valid proxy at such meeting shall be entitled to one vote and shall cast such vote by raising his or her hand.

#### 45. Decision of chairman

At any general meeting a declaration by the chairman of the meeting that a question proposed for consideration has, on a show of hands, been carried, or carried unanimously, or by a particular majority, or lost, and an entry to that effect in a book containing the minutes of the proceedings of the Company shall, subject to the provisions of these Bye-laws, be conclusive evidence of that fact.

#### 46. Demand for a poll

(1) Notwithstanding the provisions of the immediately preceding two Bye-laws, at any general meeting of the Company, in respect of any question proposed for the consideration of the Members (whether before or on the declaration of the result of a show of hands as provided for in these Bye-laws), a poll may be demanded by any of the following persons:-

(a) the chairman of such meeting; or

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(b) at least three Members present in person or represented by proxy; or

(c) any Member or Members present in person or represented by proxy and holding between them not less than one-tenth of the total voting rights of all the Members having the right to vote at such meeting; or

(d) any Member or Members present in person or represented by proxy holding shares in the Company conferring the right to

(2) Where, in accordance with the provisions of subparagraph (1) of this Bye-law, a poll is demanded, subject to any rights or restrictions for the time being lawfully attached to any class of shares, every person present at such meeting shall have one vote for each share of which such person is the holder or for which such person holds a proxy and such vote shall be counted in the manner set out in sub-paragraph (4) of this Bye-Law or in the case of a general meeting at which one or more Members are present by telephone in such manner as the chairman of the meeting may direct and the result of such poll shall be deemed to be the resolution of the meeting at which the poll was demanded and shall replace any previous resolution upon the same matter which has been the subject of a show of hands.

(3) A poll demanded in accordance with the provisions of subparagraph (1) of this Bye-law, for the purpose of electing a chairman or on a question of adjournment, shall be taken forthwith and a poll demanded on any other question shall be taken in such manner and at such time and place as the chairman may direct and any business other than that upon which a poll has been demanded may be proceeded with pending the taking of the poll.

(4) Where a vote is taken by poll, each person present and entitled to vote shall be furnished with a ballot paper on which such person shall record his or her vote in such manner as shall be determined at the meeting having regard to the nature of the

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question on which the vote is taken, and each ballot paper shall be signed or initialled or otherwise marked so as to identify the voter and the registered holder in the case of a proxy. At the conclusion of the poll, the ballot papers shall be examined and counted by a committee of not less than two Members or proxy holders appointed by the chairman for the purpose and the result of the poll shall be declared by the chairman.

#### 47. Seniority of joint holders voting

In the case of joint holders the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders, and for this purpose seniority shall be determined by the order in which the names stand in the Register of Members.

#### 48. Instrument of proxy

The instrument appointing a proxy shall be in writing in the form, or as near thereto as circumstances admit, of Form "A" in the Schedule hereto, under the hand of the appointor or of the appointor's attorney duly authorised in writing, or if the appointor is a corporation, either under its seal, or under the hand of a duly authorised officer or attorney. The decision of the chairman of any general meeting as to the validity of any instrument of proxy shall be final.

#### 49. Representation of corporations at meetings

A corporation which is a Member may, by written instrument, authorise such person as it thinks fit to act as its representative at any meeting of the Members and the person so authorised shall be entitled to exercise the same powers on behalf of the corporation which such person represents as that

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#### SHARE CAPITAL AND SHARES

50. Subject to any resolution of the Members to the contrary and without prejudice to any special rights previously conferred on the holders of any existing shares or class of shares, the share capital of the Company is divided into two classes of shares to be designated respectively Common Stock (the "Common") and Preferred Stock (the "Preferred"). The Preferred may be issued from time to time in one or more series. The Board of Directors is authorized to fix the number of shares of any series of the Preferred and to determine or alter the rights, preferences, privileges, and restrictions granted to or imposed upon any wholly unissued series of the Preferred and, within the limits and restrictions stated in any resolution or resolutions of the Board of Directors originally fixing the number of shares constituting any series of the Preferred, to increase or decrease (but not below the number of shares of any such series then outstanding) the number of shares of any such series subsequent to the issue of shares of that series. The first series of the Preferred shall be designated Series A Preferred Stock ("Series A Preferred") and shall consist of up to 525,000 shares. The second series of the Preferred shall be designated Series B Preferred Stock ("Series B Preferred") and shall consist of up to 1,119,091 shares. The third series of the Preferred shall be designated Series C Preferred Stock (the "Series C Preferred") and shall consist of up to 2,184,280 shares. The fourth series of the Preferred shall be designated Series D Preferred Stock (the "Series D Preferred") and shall consist of up to 3,750,000 shares. The fifth series of the Preferred shall be designated Series E Preferred Stock (the "Series E Preferred") and shall consist of up to 421,629 shares.

The holders of the shares of COMMON STOCK shall, subject to the provisions of these Bye-laws:

(a) be entitled to one vote per share;

(b) be entitled to such dividends as the Board may from time to time declare, but only if dividends at the annual rate set forth in (b) below shall have been paid or declared and set apart upon all shares of Preferred for such fiscal year, and no dividend shall be declared or paid with respect to the Common Stock unless at the same time an

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equivalent dividend (which shall be in addition to the dividend on the Preferred referred to immediately previously) is declared or paid with respect to the Preferred;

(c) in the event of a winding-up or dissolution of the Company, whether voluntary or involuntary or for the purpose of a reorganization or otherwise or upon any distribution of capital, be entitled to the surplus assets of the Company, subject to the rights of the Preferred shares; and

(d) generally be entitled to enjoy all of the rights attaching to shares.

The holders of shares of SERIES A PREFERRED, SERIES B PREFERRED, SERIES C PREFERRED, SERIES D PREFERRED AND SERIES E PREFERRED shall be subject to the

## (a) Voting Rights; Directors.

1. Except as otherwise required by law, the holder of each share of Preferred shall be entitled to the number of votes equal to the number of shares of Common Stock into which such share of Preferred could be converted at the record date for determination of the shareholders entitled to vote on such matters, or, if no such record date is established, at the date such vote is taken or any written consent of shareholders is solicited, such votes to be counted together with all other shares of stock of the Company having general voting power and not separately as a class. Fractional votes by the holders of Preferred shall not, however, be permitted and any fractional voting rights shall (after aggregating all shares into which shares of the Preferred held by each holder could be converted) be rounded to the nearest whole number. Holders of Common Stock and the Preferred shall be entitled to notice of any shareholders' meeting in accordance with the Bye-laws of the Company.

2. The holders of a majority of the outstanding shares of Series B Preferred, voting as a class, shall be entitled to elect one (1) member of the Board of Directors (the "Series B Director").

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3. The holders of a majority of the outstanding shares of Series C Preferred, voting as a class, shall be entitled to one (1) member of the Board of Directors (the "Series C Director").

a) In the case of a vacancy in the office of the Series B Director, a majority of the holders of the Series B Preferred shall elect a successor to serve for the unexpired term of the Series B Director whose office is vacant.

b) The Series B Director may only be removed by the vote or written consent of the majority of the holders of the Series B Preferred.

c) In the case of a vacancy in the office of the Series C Director, a majority of the holders of the Series C Preferred shall elect a successor to serve for the unexpired term of the Series C Director whose office is vacant.

d) The Series C Director may only be removed by the vote or written consent of the majority of the holders of the Series C Preferred.

(b) Dividends. The holders of outstanding Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall be entitled to receive in any fiscal year, when, if and as declared by the Board of Directors, out of any assets at the time legally available therefor, dividends in cash at an annual rate of \$0.047, \$0.077 per share, \$0.245 per share, \$0.303 per share and \$0.70 per share (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), respectively. Such dividends shall be payable, when, as and if declared by the Board of Directors. The right to such dividends shall not be cumulative, and no right shall accrue to holders of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred by reason of the fact that dividends on such shares were not declared in any prior year, nor shall any undeclared or unpaid dividends bear or accrue interest. Any declared but unpaid dividends on Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred shall be paid upon the conversion of such shares into Common Stock either (at the option of the Company) by payment of cash or by the issuance of additional shares

of Common Stock based upon the fair market value of the Common Stock at the time of conversion, as determined by the Board of Directors.

(c) Liquidation Preference. In the event of any liquidation, dissolution, or winding up of the Company, either voluntary or involuntary, distributions to the shareholders of the Company shall be made in the following manner:

1. The holders of the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall be entitled, on a pari passu basis, to receive, prior and in preference to any distribution of any of the assets or surplus funds of the Company to the holders of the Common Stock by reason of their ownership of such stock, the amount of \$0.667, \$1.10, \$3.50, \$4.33 and \$10.00 per share, respectively, for each share of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred then held by them, (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred) and, in addition, an amount equal to all declared but unpaid dividends on the Series A Preferred (the "Series A Preferred Per Share Liquidation Preference"), all declared but unpaid dividends on the Series B Preferred (the "Series B Preferred Per Share Liquidation Preference"), all declared but unpaid dividends on the Series C Preferred (the "Series C Preferred Per Share Liquidation Preference"), all declared but unpaid dividends on the Series D Preferred (the "Series D Preferred Per Share Liquidation Preference") and all declared but unpaid dividends on the Series E Preferred (the "Series E Preferred Per Share Liquidation Preference"). If the assets and funds thus distributed among the holders of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall be insufficient to permit the payment to such holders of the full aforesaid respective preferential amounts for such series of Preferred, then the entire assets and funds of the Company legally available for distribution shall be distributed ratably among the holders of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred on a pari passu basis, in proportion to the full

respective preferential amount each such holder is otherwise entitled to receive with respect to such series of Preferred.

2. If the assets and funds of the Company available for distribution to shareholders exceed the aggregate amount of the Series A Preferred Per Share Liquidation Preference, the Series B Preferred Per Share Liquidation Preference, the Series C Preferred Per Share Liquidation Preference, the Series D Preferred Per Share Liquidation Preference and the Series E Preferred Per Share Liquidation Preference payable with respect to all shares of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred, respectively, then, after payment required by paragraph (1) above shall have been made or irrevocably set aside, the remaining assets of the Company available for distribution to shareholders shall be distributed among the holders of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Common Stock pro rata based on the number of shares of Common Stock then outstanding and the number of shares of Common Stock into which the outstanding shares of Preferred are then convertible; provided, however, that such pro rata participation by the Series A Preferred shall cease upon the receipt by the holders of the Series A Preferred (pursuant to this Section (c)(2)) of an amount equal to \$1.667 per share of the Series A Preferred (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), and further provided, that such pro rata participation by the Series

B Preferred shall cease upon the receipt by the holders of the Series B Preferred (pursuant to this Section (c)(2)) of an amount equal to \$2.75 per share of the Series B Preferred (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), and further provided, that such pro rata participation by the Series C Preferred shall cease upon the receipt by the holders of the Series C Preferred (pursuant to this Section (c)(2)) of an amount equal to \$8.75 per share of the Series C Preferred (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), and further provided, that such pro rata participation by the Series D Preferred shall cease upon receipt by the holders of the Series D Preferred (pursuant to this Section (c)(2)) of an

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amount equal to \$10.833 per share of the Series D Preferred (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), and further provided, that such pro rata participation by the Series E Preferred shall cease upon receipt by the holders of the Series E Preferred (pursuant to this Section (c)(2)) of an amount equal to \$25.00 per share of the Series E Preferred (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Preferred), and thereafter the holders of Common Stock shall be entitled to receive all remaining assets of the Company available for distribution to shareholders pro rata based on the number of shares of Common Stock then outstanding.

3. For purposes of this Section (c), an amalgamation, merger or consolidation of the Company with or into any other company or companies, or the amalgamation, merger or consolidation of any other company or companies into the Company, which results in the shareholders of the Company prior to the transaction owning less than 50% of the voting power of the surviving entity or a sale of all or substantially all the assets of the Company unless the stockholders prior to the sale own at least 50% of the surviving entity receive distributions in cash or securities of another company or companies as a result of such amalgamation, consolidation or merger, or a sale of all or substantially all of the assets of the Company shall be treated as a liquidation, dissolution or winding up of the Company.

4. If any of the assets of the Company are to be distributed other than in cash under this Section (c) or for any purpose, then the Board of Directors of the Company shall in good faith determine the value of such assets to be distributed to the holders of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred, Series E Preferred and Common Stock.

(d) Conversion. The holders of the Preferred have conversion rights as follows (the "Conversion Rights"):

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1. Right to Convert. Each share of Series A Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at the office of the Company or any transfer agent for the Series A Preferred, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series A Conversion Value per share of the Series A Preferred by the Conversion Price for the Series A Preferred (determined as hereinafter provided) in effect at the time of the conversion. Each share of Series B Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at



the office of the Company or any transfer agent for the Series B Preferred, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series B Conversion Value per share of the Series B Preferred by the Conversion Price for the Series B Preferred (determined as hereinafter provided) in effect at the time of the conversion. Each share of Series C Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at the office of the Company or any transfer agent for the Series C Preferred, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series C Conversion Value per share of the Series C Preferred by the Conversion Price for the Series C Preferred (determined as hereinafter provided) in effect at the time of the conversion. Each share of Series D Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at the office of the Company or any transfer agent for the Series D Preferred, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series D Conversion Value per share of the Series D Preferred by the Conversion Price for the Series D Preferred (determined as hereinafter provided) in effect at the time of the conversion. Each share of Series E Preferred shall be convertible, at the option of the holder thereof, at any time after the date of issuance of such share at the office of the Company or any transfer agent for the Series E Preferred, into such number of fully paid and nonassessable shares of Common Stock as is determined by dividing the Series E Conversion Value per share of the Series E Preferred by the Conversion Price for the Series E Preferred (determined as hereinafter provided)

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in effect at the time of the conversion. The initial Conversion Price per share of Series A Preferred shall be \$0.667. The Series A Conversion Value per share of Series A Preferred shall be \$0.667. The initial Conversion Price per share of Series B Preferred shall be \$1.10. The Series B Conversion Value per share of Series B Preferred shall be \$1.10. The initial Conversion Price per share of Series C Preferred shall be \$3.50. The Series C Conversion Value per share of Series C Preferred shall be \$3.50. The initial Conversion Price per share of Series D Preferred shall be \$4.333. The Series D Conversion Value per share of Series D Preferred shall be \$4.333. The Series E Conversion Value per share of Series E Preferred shall be \$10.00. The initial Conversion Price per share of Series E Preferred shall be \$10.00. The initial Conversion Price of each of the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall be subject to adjustment as hereinafter provided.

2. Automatic Conversion. Each share of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall automatically be converted into shares of Common Stock at the then effective Conversion Price (i) upon the closing of a firm commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, covering the offer and sale of Common Stock for the account of the Company to the public at a price per share (prior to deduction of underwriter commissions and offering expenses) of not less than \$13.00 per share (appropriately adjusted for any recapitalizations, combinations, stock dividends, subdivisions or split-ups) and an aggregate offering price to the public of not less than \$10,000,000 (prior to deduction of underwriter commissions and offering expenses), (ii) in respect of the Series A Preferred, upon the Company's receipt of the written consent of the holders of greater than one-half (1/2) of the then outstanding shares of Series A Preferred to the conversion of all then outstanding Series A Preferred under this Section (d), (iii) in respect of the Series B Preferred, upon the Company's receipt of the written consent of the holders of greater than one-half (1/2) of the then outstanding shares of Series B Preferred to the conversion of all then outstanding Series B Preferred under this Section (d), (iv) in respect of the Series C Preferred, upon the Company's receipt of the written consent of the

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shares of Series C Preferred to the conversion of all then outstanding Series C Preferred under this Section (d), (v) in respect of the Series D Preferred, upon the Company's receipt of the written consent of the holders of greater than one-half (1/2) of the then outstanding shares of Series D Preferred to the conversion of all then outstanding Series D Preferred under this Section (d) or (vi) in respect of the Series E Preferred, upon the Company's receipt of the written consent of the holders of greater than one-half (1/2) of the then outstanding shares of Series E Preferred to the conversion of all then outstanding Series E Preferred under this Section (d). In the event of the automatic conversion of the Preferred upon a public offering as aforesaid, the person(s) entitled to receive the Common Stock issuable upon such conversion of the Preferred shall not be deemed to have converted such shares of Preferred until immediately prior to the closing of such sale of securities.

3. Mechanics of Conversion. No fractional shares of Common Stock shall be issued upon conversion of shares of Preferred. In lieu of any fractional shares to which the holder would otherwise be entitled, the Company shall pay cash equal to such fraction multiplied by the then effective Conversion Price for such series of Preferred. Before any holder of Preferred shall be entitled to convert the same into full shares of Common Stock and to receive certificates therefor, such holder shall surrender the certificate or certificates therefor, duly endorsed, at the office of the Company or of any transfer agent for the Preferred, and shall give written notice to the Company at such office that such holder elects to convert the same; provided, however, that in the event of an automatic conversion pursuant to Section (d)(2), the outstanding shares of Preferred that is the subject of such automatic conversion shall be converted automatically without any further action by the holders of such shares and whether or not the certificates representing such shares are surrendered to the Company or its transfer agent, and provided further that the Company shall not be obligated to issue certificates evidencing the shares of Common Stock issuable upon such automatic conversion unless the certificates evidencing such shares of Preferred are either delivered to the Company or its transfer agent as provided above, or the holder notifies the Company or its transfer agent that such certificates have been lost, stolen or destroyed and executes an agreement

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satisfactory to the Company to indemnify the Company from any loss incurred by it in connection with such certificates. The Company shall, as soon as practicable after delivery of such certificate, or such agreement and indemnification in the case of a lost certificate, issue and deliver at such office to such holder of Preferred, a certificate or certificates for the number of shares of Common Stock to which such holder shall be entitled as aforesaid and a check payable to the holder in the amount of any cash amounts payable as the result of a conversion into fractional shares of Common Stock. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of such surrender of the shares of Preferred to be converted, or in the case of automatic conversion on the date of closing of the offering or the effective date of such written consent, and the person or persons entitled to receive the shares of Common Stock issuable upon such conversion shall be treated for all purposes as the record holder or holders of such shares of Common Stock on such date.

4. Adjustments to Conversion Price.

(a) Adjustments for Stock Dividends, Subdivisions, Combinations or Consolidation of Common Stock. In the event the outstanding shares of Common Stock shall be subdivided (by stock split, or otherwise), into a greater number of shares of Common Stock, or the Company shall declare or pay any dividend on the Common Stock payable in Common Stock, the applicable Conversion Price for the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred then in effect shall, concurrently with the effectiveness of such subdivision or stock dividend, be proportionately decreased based on the ratio of (i) the number of shares of Common Stock outstanding immediately prior to such subdivision or stock dividend to (ii) the number of shares of Common Stock outstanding immediately after such subdivision or stock dividend. In the event the outstanding shares of Common Stock shall be combined or consolidated, by reclassification or otherwise, into a lesser number of shares of Common Stock, the applicable Conversion Price for the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred then in effect

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shall, concurrently with the effectiveness of such combination or consolidation, be proportionately increased on the same basis as set forth above.

(b) Adjustments for Other Distributions. In the event the Company at any time or from time to time makes, or fixes a record date for the determination of holders of Common Stock entitled to receive any distribution payable in securities of the Company other than shares of Common Stock, and other than as otherwise adjusted for in this Section (d)(4), then and in each such event provision shall be made so that the holders of Preferred shall receive upon conversion thereof, in addition to the number of shares of Common Stock receivable thereupon, the amount of securities of the Company which they would have received had their shares of Preferred been converted into Common Stock on the date of such event and had they thereafter, during the period from the date of such event to and including the date of conversion, retained such securities receivable by them as aforesaid during such period, subject to all other adjustments called for during such period under this Section (d)(4) with respect to the rights of the holders of such series of Preferred.

(c) Adjustments for Reclassification, Exchange and Substitution. If the Common Stock issuable upon conversion of shares of Preferred shall be changed into the same or a different number of shares of any other class or classes of stock, whether by capital reorganization, reclassification or otherwise (other than a subdivision or combination of shares provided for above), the applicable Conversion Price of the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred then in effect shall, concurrently with the effectiveness of such reorganization or reclassification, be proportionately adjusted such that the shares of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred shall be convertible into, in lieu of the number of shares of Common Stock which the holders would otherwise have been entitled to receive, a number of shares of such other class or classes of stock equivalent to the number of shares of Common Stock that would be subject to receipt by the holders upon conversion of the Series A Preferred,

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Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred, respectively, immediately prior to such reclassification or capital reorganization.

(d) Preferred Conversion Price Adjustments. The Conversion Price for the Series A Preferred, Conversion Price for the Series B Preferred, the Conversion Price for the Series C Preferred, the Conversion Price for the Series D Preferred and the Conversion Price for the Series E Preferred shall be subject to adjustment from time to time as follows:

(i) Special Definitions. For purposes of this Section 4(d), the following definitions shall apply:

(1) "Options" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire either Common or Convertible Securities.

(2) "Series A Original Issue Date" shall mean the date on which the first share of Series A Preferred was first issued.

(3) "Series B Original Issue Date" shall mean the date on which the first share of Series B Preferred was first issued.

(4) "Series C Original Issue Date" shall mean the date on which the first share of Series C Preferred was first issued.

(5) "Series D Original Issue Date" shall mean the date on which the first share of Series D Preferred was first issued.

(6) "Series E Original Issue Date" shall mean the date on which the first share of Series E Preferred was first issued.

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(7) "Convertible Securities" shall mean any evidences of indebtedness, shares or other securities convertible into or exchangeable for Common.

(8) "Additional Shares of Common" shall mean all shares of Common issued (or, pursuant to Section 4(d)(iii) below, deemed to be issued) by the Company after the Series E Original Issue Date, other than shares of Common issued or issuable:

(a) upon conversion of shares of the Preferred.

(b) up to 6,475,000 shares issued or issuable to officers, directors, employees and consultants of the Company pursuant to incentive plans or arrangements, including the Company's 1995 Stock Option Plan and 1997 Director's Stock Option Plan (as amended from time to time), or other stock arrangements which have been approved by the Board;

(c) up to 150,000 shares issued or issuable to commercial banking or equipment leases financing entities in connection with such commercial transactions as the Board shall approve, or issued or issuable to corporations or other entities in connection with such strategic or commercial transactions as the Board shall approve, provided that the Board shall also approve the grant of shares or other securities exercisable for such shares in connection therewith;

(d) pursuant to any event for which adjustment has already been made pursuant to this Section (d)(4); or

(e) as a dividend or distribution on the Preferred.

(ii) No Adjustment of Conversion Price. No adjustment in

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issuance of Additional Shares of Common unless the consideration per share for an Additional Share of Common issued or deemed to be issued by the Company is less than the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price or Series E Conversion Price, as applicable, in effect on the date of and immediately prior to such issue.

(iii) Deemed Issue of Additional Shares of Common. Except as provided in Section 4(b) above, in the event the Company at any time or from time to time after the Series A Original Issue Date with respect to the Series A Preferred, after the Series B Original Issue Date with respect to the Series B Preferred, after the Series C Original Issue Date with respect to the Series C Preferred, after the Series D Original Issue Date with respect to the Series D Preferred and after the Series E Original Issue Date with respect to the Series E Preferred, shall issue any Options or Convertible Securities or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares (as set forth in the instrument relating thereto without regard to any provisions contained therein for a subsequent adjustment of such number) of Common issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date, provided that in any such case in which Additional Shares of Common are deemed to be issued:

(1) no further adjustment in the Series A Conversion Price, or Series B Conversion Price, Series C Conversion Price, Series D Conversion Price or Series E Conversion Price, as applicable, shall be made upon the subsequent issue of Convertible Securities or shares of Common upon the exercise of such Options or conversion or exchange of such Convertible Securities.

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(2) if such Options or Convertible Securities by their terms provide, with the passage of time or otherwise, for any increase or decrease in the consideration payable to the Company, or increase or decrease in the number of shares of Common issuable upon the exercise, conversion or exchange thereof, the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price or Series E Conversion Price, as applicable, computed upon the initial conversion prices thereof set forth in Section (d)(1) above (or upon the occurrence of a record date with respect thereto), and any subsequent adjustments based thereon, shall, upon any such increase or decrease becoming effective, be recomputed to reflect such increase or decrease insofar as it affects such Options or the rights of conversion or exchange under such Convertible Securities; and

(3) upon the expiration of any such Options or any rights of conversion or exchange under such Convertible Securities which shall not have been exercised, the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price or Series E Conversion Price, as applicable, computed upon the initial conversion prices set forth in Section (d)(1) above, and any subsequent adjustments based thereon,

(a) in the case of Convertible Securities or Options for Common, the only Additional Shares of Common issued were shares of Common, if any, actually issued upon the exercise of such Options or the conversion or exchange of such Convertible Securities, and the consideration received therefor was the consideration actually received by the Company for the issue of all such Options, whether or not exercised, plus the consideration actually received by the Company upon such exercise, or for the issue of all such Convertible Securities which were actually converted or exchanged plus the consideration actually received by the Company upon such conversion or exchange, if any, and

(b) in the case of Options for

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Convertible Securities, only the Convertible Securities, if any, actually issued upon the exercise thereof were issued at the time of issue of such Options and the consideration received by the Company for the Additional Shares of Common deemed to have been then issued was the consideration actually received by the Company for the issue of all such Options, whether or not exercised, plus the consideration deemed to have been received by the Company upon the issue of the Convertible Securities with respect to which such Options were actually exercised; and

(4) no readjustment pursuant to clause (2) or (3) above shall have the effect of: (v) increasing the Series A Conversion Price to an amount which exceeds the initial Series A Conversion Price set forth in Section (d)(1) above, (w) increasing the Series B Conversion Price to an amount which exceeds the initial Series B Conversion Price set forth in Section (d)(1) above, (x) increasing the Series C Conversion Price to an amount which exceeds the initial Series C Conversion Price set forth in Section (d)(1) above, (y) increasing the Series D Conversion Price to an amount which exceeds the initial Series D Conversion Price set forth in Section (d)(1) above or (z) increasing the Series E Conversion Price to an amount which exceeds the initial Series E Conversion Price set forth in Section (d)(1) above.

(iv) Adjustment of Conversion Price Upon Issuance of Additional Shares of Common. In the event this Company shall issue Additional Shares of Common (including Additional Shares of Common deemed to be issued pursuant to Section 4(d)(iii) but excluding stock dividends, subdivisions or split-ups that are the subject of adjustment pursuant to Section 4(a)) without consideration or for a consideration per share less than the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price and/or Series E Conversion Price applicable on and immediately prior to such issue, then and in such event, the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price and/or Series E Conversion Price as applicable, shall be reduced, concurrently with such issue, to a price (calculated to the nearest cent) determined by multiplying the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D Conversion Price and/or Series E Conversion Price, as applicable, in effect on the date of and immediately prior to such issue by a fraction, the numerator of which shall be the number of shares of Common Stock issuable upon conversion of any class or series of Preferred Stock (or shares issued upon conversion thereof) outstanding immediately prior to such issue, plus 10,600,000 shares (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Common) of Common, plus the number of shares of Common which the aggregate consideration received by the Company for the total number of Additional Shares of Common so issued would purchase at the Series A Conversion Price, Series B Conversion Price, Series C Conversion Price, Series D

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Conversion Price, and/or Series E Conversion Price, as applicable, in effect on the date of and immediately prior to such issue; and the denominator of which shall be the number of shares of Common Stock issuable upon conversion of any class or series of Preferred Stock (or shares issued upon conversion thereof) outstanding immediately prior to such issue, plus 10,600,000 shares (as appropriately adjusted for any combinations, consolidations, subdivisions, or stock dividends with respect to such shares of Common) of Common, plus the number of such Additional Shares of Common so issued.

(v) Determination of Consideration. For purposes of this Section 4(d), the consideration received by the Company for the issue of any Additional Shares of Common shall be computed as follows:

(1) Cash and Property. Such consideration shall:

(a) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Company;

(b) insofar as it consists of property other than cash, be computed at the fair value thereof at the time of such issue, as determined in good faith by the Board; and

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(c) in the event Additional Shares of Common are issued together with other shares or securities or other assets of the Company for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (A) and (B) above, as determined in good faith by the Board.

(2) Options and Convertible Securities. The consideration per share received by the Company for Additional Shares of Common deemed to have been issued pursuant to Section 4(d)(iii), relating to Options and Convertible Securities, shall be determined by dividing

(a) the total amount, if any, received or receivable by the Company as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Company upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such options for Convertible Securities and the conversion or exchange of such Convertible Securities by

(b) the maximum number of shares of Common (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities.

5. No Impairment. The Company will not, by amendment of its Memorandum of Association or Bye-laws or through any reorganization, transfer of assets, consolidation, amalgamation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Company but

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assist in the carrying out of all the provisions of this Section (d) and in the taking of all such action as may be necessary or appropriate in order to protect the conversion rights of the holders of Preferred against impairment.

6. Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the then applicable Conversion Price for the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and/or Series E Preferred pursuant to Section (d)(4), the Company at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of such series of Preferred a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Company shall, upon the written request at any time of any holder of Preferred, furnish or cause to be furnished to such holder a like certificate setting forth (i) such adjustments and readjustments, (ii) the applicable Conversion Price in effect at the time for such series, and (iii) the number of shares of Common Stock and the amount, if any, of other property which at the time would be received upon the conversion of such shares of Preferred.

7. Notices of Record Date. In the event that the Company shall propose at any time:

a) to declare any dividend or distribution upon its Common Stock, whether in cash, property, stock or other securities, whether or not a regular cash dividend and whether or not out of earnings or earned surplus;

b) to offer for subscription pro rata to the holders of any class or series of its stock any additional shares of stock of any class or series or any other similar rights;

c) to effect any reclassification or recapitalization of its Common Stock outstanding which results in a change in the Common Stock; or

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d) to merge or consolidate with or into any other corporation, or sell, lease or convey all or substantially all its property or business, or to liquidate, dissolve or wind up;

Then, in connection with each such event, the Company shall send to the holders of the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred:

(i) at least 20 days' prior written notice of the date on which a record shall be taken for such dividend, distribution or subscription offer (and specifying the date on which the holders of Common Stock shall be entitled thereto) or for determining rights to vote on the matters referred to in (c) and (d) above; and

(ii) in the case of the matters referred to in (c) and (d) above, at least 20 days' prior written notice of the date when the same shall take place and specifying the date on which the holders of Common Stock shall be entitled to exchange their Common Stock for securities or other property deliverable upon the occurrence of such event or the record date for the determination of such holders if such record date is earlier.



Each such written notice shall be delivered personally or given by first class mail, postage prepaid, addressed to the holders of the Series A Preferred, the Series B Preferred, the Series C Preferred, the Series D Preferred and the Series E Preferred at the address for each such holder as shown on the books of the Company.

#### 8. Certain Covenants.

a) In addition to any other rights provided by law, so long as any shares of Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred

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and Series E Preferred shall be outstanding, the Company shall not, without first obtaining the affirmative vote or written consent of the holders of not less than a majority of the outstanding shares of the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred and Series E Preferred (voting together as a single class):

(i) authorize or issue (i) any additional shares of Series A Preferred, (ii) any additional shares of Series B Preferred, (iii) any additional shares of Series C Preferred, (iv) any additional shares of Series D Preferred or (v) any additional shares of Series E Preferred;

(ii) declare or pay any dividend on shares of Common Stock, other than such dividends as are payable solely in shares of Common Stock, or repurchase or redeem any shares of Common Stock or Preferred other than such repurchases or redemptions of shares made from employees, officers, directors or consultants upon their termination at their original issue price;

(iii) authorize or issue any series or class of shares having rights or preferences superior to the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred as to liquidation preferences, or having redemption rights, ratchet or narrower-based weighted average anti-dilution protection than that afforded the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred or a liquidation preference per share that exceeds two times the aggregate amount invested per share with respect to such series or class of shares, or that is afforded separate voting rights with respect to subject matters in addition to those set forth in this Section 8 (or afforded by operation of law) for which Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred has such voting rights or other extraordinary voting rights not afforded the Series A Preferred, Series B Preferred, Series C Preferred, Series D Preferred or Series E Preferred herein or by operation of law;

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(iv) merge or consolidate with or into, or permit subsidiary to merge with into, any other corporation, corporations or other entity or entities unless shareholders of the Company immediately prior to such merger or consolidation continue to hold not less than fifty percent of the outstanding voting power of the surviving corporation or entity, or sell or otherwise dispose of all or substantially all of its assets; or

(v) adversely alter or change any of the powers, preferences, privileges or rights of the Series A Preferred, Series B Preferred,

51. Power to issue shares

(1) Subject to these Bye-laws and to any resolution of the Members to the contrary and without prejudice to any special rights previously conferred on the holders of any existing shares or class of shares, the Board shall have power to issue any unissued shares of the Company on such terms and conditions as it may determine and any shares or class of shares may be issued with such preferred, deferred or other special rights or such restrictions, whether in regard to dividend, voting, return of capital or otherwise as the Company may from time to time by resolution of the Members prescribe.

(2) The Board shall, in connection with the issue of any share, have the power to pay such commission and brokerage as may be permitted by law.

(3) The Company shall not give, whether directly or indirectly, whether by means of loan, guarantee, provision of security or otherwise, any financial assistance for the purpose of a purchase or subscription made or to be made by any person of or for any shares in the Company, but nothing in this Bye-Law shall prohibit transactions mentioned in Sections 39A, 39B and 39C of the Act.

(4) The Company may from time to time do any one or more of the following

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things:

- (a) make arrangements on the issue of shares for a difference between the Members in the amounts and times of payments of calls on their shares;
- (b) accept from any Member the whole or a part of the amount remaining unpaid on any shares held by him, although no part of that amount has been called up;
- (c) pay dividends in proportion to the amount paid up on each share where a larger amount is paid up on some shares than on others; and
- (d) issue its shares in fractional denominations and deal with such fractions to the same extent as its whole shares and shares in fractional denominations shall have in proportion to the respective fractions represented thereby all of the rights of whole shares including (but without limiting the generality of the foregoing) the right to vote, to receive dividends and distributions and to participate in a winding up.

52. Variation of rights, alteration of share capital and purchase of shares of the Company

(1) Subject to the provisions of Sections 42 and 43 of the Act any preference shares may be issued or converted into shares that, at a determinable date or at the option of the Company, are liable to be redeemed on such terms and in such manner as the Company before the issue or conversion may by resolution of the Members determine.

(2) If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, whether or not the Company is being

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issue of the shares of that class, be deemed to be varied by the creation or issue of further shares ranking *pari passu* therewith.

(3) The Company may from time to time by resolution of the Members change the currency denomination of, increase, alter or reduce its share capital in accordance with the provisions of Sections 45 and 46 of the Act. Where, on any alteration of share capital, fractions of shares or some other difficulty would arise, the Board may deal with or resolve the same in such manner as it thinks fit including, without limiting the generality of the foregoing, the issue to Members, as appropriate, of fractions of shares and/or arranging for the sale or transfer of the fractions of shares of Members.

(4) The Company may from time to time purchase its own shares in accordance with the provisions of Section 42A of the Act.

#### 53. Registered holder of shares

(1) The Company shall be entitled to treat the registered holder of any share as the absolute owner thereof and accordingly shall not be bound to recognise any equitable or other claim to, or interest in, such share on the part of any other person.

(2) Any dividend, interest or other moneys payable in cash in respect of shares may be paid by cheque or draft sent through the post directed to the Member at such Member's address in the Register of Members or, in the case of joint holders, to such address of the holder first named in the Register of Members, or to such person and to such address as the holder or joint holders may in writing direct. If two or more persons are registered as joint holders of any shares any one can give an effectual receipt for any dividend paid in respect of such shares.

#### 54. Death of a joint holder

Where two or more persons are registered as joint holders of a share or shares then in the event of the death of any joint holder or holders the remaining joint holder or holders

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shall be absolutely entitled to the said share or shares and the Company shall recognise no claim in respect of the estate of any joint holder except in the case of the last survivor of such joint holders.

#### 55. Share certificates

(1) Every Member shall be entitled to a certificate under the seal of the Company (or a facsimile thereof) specifying the number and, where appropriate, the class of shares held by such Member and whether the same are fully paid up and, if not, how much has been paid thereon. The Board may by resolution determine, either generally or in a particular case, that any or all signatures

(2) The Company shall be under no obligation to complete and deliver a share certificate unless specifically called upon to do so by the person to whom such shares have been allotted.

(3) If any such certificate shall be proved to the satisfaction of the Board to have been worn out, lost, mislaid or destroyed the Board may cause a new certificate to be issued and request an indemnity for the lost certificate if it sees fit.

#### 56. Calls on shares

(1) The Board may from time to time make such calls as it thinks fit upon the Members in respect of any monies unpaid on the shares allotted to or held by such Members and, if a call is not paid on or before the day appointed for payment thereof, the Member may at the discretion of the Board be liable to pay the Company interest on the amount of such call at such rate as the Board may determine, from the date when such call was payable up to the actual date of payment. The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.

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(2) The Board may, on the issue of shares, differentiate between the holders as to the amount of calls to be paid and the times of payment of such calls.

#### 57. Forfeiture of shares

(1) If any Member fails to pay, on the day appointed for payment thereof, any call in respect of any share allotted to or held by such Member, the Board may, at any time thereafter during such time as the call remains unpaid, direct the Secretary to forward to such Member a notice in the form, or as near thereto as circumstances admit, of Form "B" in the Schedule hereto.

(2) If the requirements of such notice are not complied with, any such share may at any time thereafter before the payment of such call and the interest due in respect thereof be forfeited by a resolution of the Board to that effect, and such share shall thereupon become the property of the Company and may be disposed of as the Board shall determine.

(3) A Member whose share or shares have been forfeited as aforesaid shall, notwithstanding such forfeiture, be liable to pay to the Company all calls owing on such share or shares at the time of the forfeiture and all interest due thereon.

#### REGISTER OF MEMBERS

#### 58. Contents of Register of Members

The Board shall cause to be kept in one or more books a Register of Members and shall enter therein the following particulars:-

- (a) the name and address of each Member, the number and, where appropriate, the class of shares held by such Member and the amount paid or agreed to be considered as paid on such shares;
- (b) the date on which each person was entered in the Register of Members;

and

- (c) the date on which any person ceased to be a Member for one year after such person so ceased.

59. Inspection of Register of Members

The Register of Members shall be open to inspection at the registered office of the Company on every business day, subject to such reasonable restrictions as the Board may impose, so that not less than two hours in each business day be allowed for inspection. The Register of Members may, after notice has been given by advertisement in an appointed newspaper to that effect, be closed for any time or times not exceeding in the whole thirty days in each year.

60. Determination of record dates

Notwithstanding any other provision of these Bye-laws, the Board may fix any date as the record date for:-

- (a) determining the Members entitled to receive any dividend; and
- (b) determining the Members entitled to receive notice of and to vote at any general meeting of the Company.

TRANSFER OF SHARES

61. Instrument of transfer

(1) An instrument of transfer shall be in the form or as near thereto as circumstances admit of Form "C" in the Schedule hereto or in such other common form as the Board may accept. Such instrument of transfer shall be signed by or on behalf of the transferor and transferee provided that, in the case of a fully paid share, the Board may accept the instrument signed by or on behalf of the transferor alone. The transferor shall be deemed to remain the holder of such share until the same has been transferred to the transferee in the Register of Members.

(2) The Board may refuse to recognise any instrument of transfer unless it is accompanied by the certificate in respect of the shares to which it relates and by such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer.

62. Restriction on transfer

(1) The Board may in its absolute discretion and without assigning any reason therefor refuse to register the transfer of a share. The Board shall refuse to register a transfer unless all applicable consents, authorisations and permissions of any governmental body or agency in Bermuda have been obtained.

(2) If the Board refuses to register a transfer of any share the Secretary shall, within three months after the date on which the transfer was lodged with the Company, send to the transferor and transferee notice of the refusal.

63. Transfers by joint holders

The joint holders of any share or shares may transfer such share or shares to one or more of such joint holders, and the surviving holder or holders of any share or shares previously held by them jointly with a deceased Member may transfer any such share to the executors or administrators of such deceased Member.

#### TRANSMISSION OF SHARES

##### 64. Representative of deceased Member

In the case of the death of a Member, the survivor or survivors where the deceased Member was a joint holder, and the legal personal representatives of the deceased Member where the deceased Member was a sole holder, shall be the only persons recognised by the Company as having any title to the deceased Member's interest in the

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shares. Nothing herein contained shall release the estate of a deceased joint holder from any liability in respect of any share which had been jointly held by such deceased Member with other persons. Subject to the provisions of Section 52 of the Act, for the purpose of this Bye-law, legal personal representative means the executor or administrator of a deceased Member or such other person as the Board may in its absolute discretion decide as being properly authorised to deal with the shares of a deceased Member.

##### 65. Registration on death or bankruptcy

Any person becoming entitled to a share in consequence of the death or bankruptcy of any Member may be registered as a Member upon such evidence as the Board may deem sufficient or may elect to nominate some person to be registered as a transferee of such share, and in such case the person becoming entitled shall execute in favour of such nominee an instrument of transfer in the form, or as near thereto as circumstances admit, of Form "D" in the Schedule hereto. On the presentation thereof to the Board, accompanied by such evidence as the Board may require to prove the title of the transferor, the transferee shall be registered as a Member but the Board shall, in either case, have the same right to decline or suspend registration as it would have had in the case of a transfer of the share by that Member before such Member's death or bankruptcy, as the case may be.

#### DIVIDENDS AND OTHER DISTRIBUTIONS

##### 66. Declaration of dividends by the Board

The Board may, subject to these Bye-laws and in accordance with Section 54 of the Act, declare a dividend to be paid to the Members, in proportion to the number of shares held by them, and such dividend may be paid in cash or wholly or partly in specie in which case the Board may fix the value for distribution in specie of any assets.

##### 67. Other distributions

The Board may declare and make such other distributions (in cash or in specie) to

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68. Reserve fund

The Board may from time to time before declaring a dividend set aside, out of the surplus or profits of the Company, such sum as it thinks proper as a reserve fund to be used to meet contingencies or for equalising dividends or for any other special purpose.

69. Deduction of Amounts due to the Company

The Board may deduct from the dividends or distributions payable to any Member all monies due from such Member to the Company on account of calls or otherwise.

CAPITALISATION

70. Issue of bonus shares

(1) The Board may resolve to capitalise any part of the amount for the time being standing to the credit of any of the Company's share premium or other reserve accounts or to the credit of the profit and loss account or otherwise available for distribution by applying such sum in paying up unissued shares to be allotted as fully paid bonus shares pro rata to the Members.

(2) The Company may capitalise any sum standing to the credit of a reserve account or sums otherwise available for dividend or distribution by applying such amounts in paying up in full partly paid shares of those Members who would have been entitled to such sums if they were distributed by way of dividend or distribution.

ACCOUNTS AND FINANCIAL STATEMENTS

71. Records of account

The Board shall cause to be kept proper records of account with respect to all

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transactions of the Company and in particular with respect to:-

- (a) all sums of money received and expended by the Company and the matters in respect of which the receipt and expenditure relates;
- (b) all sales and purchases of goods by the Company; and
- (c) the assets and liabilities of the Company.

Such records of account shall be kept at the registered office of the Company or, subject to Section 83 (2) of the Act, at such other place as the Board thinks fit and shall be available for inspection by the Directors during normal business hours.

72. Financial year end

The financial year end of the Company may be determined by resolution of the Board and failing such resolution shall be 31st December in each year.

73. Financial statements

AUDIT

74. Appointment of Auditor

Subject to Section 88 of the Act, at the annual general meeting or at a subsequent special general meeting in each year, an independent representative of the Members shall be appointed by them as Auditor of the accounts of the Company. Such Auditor may be a Member but no Director, Officer or employee of the Company shall, during his or her continuance in office, be eligible to act as an Auditor of the Company.

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75. Remuneration of Auditor

The remuneration of the Auditor shall be fixed by the Company in general meeting or in such manner as the Members may determine.

76. Vacation of office of Auditor

If the office of Auditor becomes vacant by the resignation or death of the Auditor, or by the Auditor becoming incapable of acting by reason of illness or other disability at a time when the Auditor's services are required, the Board shall, as soon as practicable, convene a special general meeting to fill the vacancy thereby created.

77. Access to books of the Company

The Auditor shall at all reasonable times have access to all books kept by the Company and to all accounts and vouchers relating thereto, and the Auditor may call on the Directors or Officers of the Company for any information in their possession relating to the books or affairs of the Company.

78. Report of the Auditor

(1) Subject to any rights to waive laying of accounts or appointment of an Auditor pursuant to Section 88 of the Act, the accounts of the Company shall be audited at least once in every year.

(2) The financial statements provided for by these Bye-laws shall be audited by the Auditor in accordance with generally accepted auditing standards. The Auditor shall make a written report thereon in accordance with generally accepted auditing standards and the report of the Auditor shall be submitted to the Members in general meeting.

(3) The generally accepted auditing standards referred to in subparagraph (2) of this Bye-law may be those of a country or jurisdiction other than Bermuda. If so, the financial statements and the report of the Auditor must disclose this fact and name such

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country or jurisdiction.

NOTICES



79. Notices to Members of the Company

A notice may be given by the Company to any Member either by delivering it to such Member in person or by sending it to such Member's address in the Register of Members or to such other address given for the purpose. For the purposes of this Bye-law, a notice may be sent by mail, courier service, cable, telex, telecopier, facsimile or other mode of representing words in a legible and non-transitory form.

80. Notices to joint Members

Any notice required to be given to a Member shall, with respect to any shares held jointly by two or more persons, be given to whichever of such persons is named first in the Register of Members and notice so given shall be sufficient notice to all the holders of such shares.

81. Service and delivery of notice

Any notice shall be deemed to have been served at the time when the same would be delivered in the ordinary course of transmission and, in proving such service, it shall be sufficient to prove that the notice was properly addressed and prepaid, if posted, and the time when it was posted, delivered to the courier or to the cable company or transmitted by telex, facsimile or other method as the case may be.

SEAL OF THE COMPANY

82. The seal

The seal of the Company shall be in such form as the Board may from time to time determine. The Board may adopt one or more duplicate seals for use outside Bermuda.

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83. Manner in which seal is to be affixed

The seal of the Company shall not be affixed to any instrument except attested by the signature of a Director and the Secretary or any two Directors, or some other person appointed by the Board for the purpose, provided that any Director, or Officer, may affix the seal of the Company attested by such Director or Officer's signature only to any authenticated copies of these Bye-laws, the incorporating documents of the Company, the minutes of any meetings or any other documents required to be authenticated by such Director or Officer.

WINDING-UP

84. Winding-up/distribution by liquidator

If the Company shall be wound up the liquidator may, with the sanction of a resolution of the Members, divide amongst the Members in specie or in kind the whole or any part of the assets of the Company (whether they shall consist of property of the same kind or not) and may, for such purpose, set such value as he or she deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the Members or different classes of Members. The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the

ALTERATION OF BYE-LAWS

85. Alteration of Bye-laws

No Bye-law shall be rescinded, altered or amended and no new Bye-law shall be made until the same has been approved by a resolution of the Board and by a resolution of the Members.

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\*

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SCHEDULE - FORM A (Bye-law 48)

.....

P R O X Y

I  
of  
the holder of share in the above-named Company hereby  
appoint ..... or failing him/her  
..... or failing him/her  
..... as my proxy to vote on my  
behalf at the General Meeting of the Company to be held on the day of , 19 , and  
at any adjournment thereof.

Dated this day of , 19

\*GIVEN under the seal of the company

\*Signed by the above-named

- - - - -

- - - - -

Witness

\*Delete as applicable.

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SCHEDULE - FORM B (Bye-law 57)

NOTICE OF LIABILITY TO FORFEITURE FOR NON PAYMENT OF CALL

You have failed to pay the call of [amount of call] made on the ..... day of ..... 19.. last, in respect of the [number] share(s) [numbers in figures] standing in your name in the Register of Members of the Company, on the ..... day of ..... 19.. last, the day appointed for payment of such call. You are hereby notified that unless you pay such call together with interest thereon at the rate of ..... per annum computed from the said ..... day of ..... 19... last, on or before the ..... day of ..... 19... next at the place of business of the said Company the share(s) will be liable to be forfeited.

Dated this ..... day of ....., 19...

[Signature of Secretary]
By order of the Board

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SCHEDULE - FORM C (Bye-law 61)

TRANSFER OF A SHARE OR SHARES

FOR VALUE RECEIVED ..... [amount]
..... [transferor]
hereby sell assign and transfer unto ..... [transferee]
of ..... [address]
..... [number of shares]
shares of ..... [name of Company]

Dated .....

-----
(Transferor)

In the presence of:

-----
(Witness)

-----
(Transferee)

In the presence of:

-----
(Witness)

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SCHEDULE - FORM D (Bye-law 65)

TRANSFER BY A PERSON BECOMING ENTITLED ON DEATH/BANKRUPTCY
OF A MEMBER

I/We having become entitled in consequence of the [death/bankruptcy] of [name of the deceased member] to [number] share(s), numbered [number in figures] standing in the register of members of [Company] in the name of the said [name of deceased Member] instead of being registered myself/ourselves elect to have [name of transferee] (the "Transferee") registered as a transferee of such share(s) and I/we do hereby accordingly transfer the said share(s) to the Transferee to hold the same unto the Transferee his or her executors administrators and assigns subject to the conditions on which the same were held at the time of the execution thereof; and the Transferee does hereby agree to take the said share(s) subject to the same conditions.

WITNESS our hands this ..... day of ....., 19...

Signed by the above-named )  
[person or persons entitled] )  
in the presence of: )

Signed by the above-named )  
[transferee] )  
in the presence of: )

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<SEQUENCE>4  
<DESCRIPTION>EXHIBIT 10.1  
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EXHIBIT 10.1

[PROPOSED]

MARVELL TECHNOLOGY GROUP LTD.

AMENDED AND RESTATED

1995 STOCK OPTION PLAN

1. Purpose. This Plan is intended to attract and retain the best available individuals as Employees and Consultants of the Company and its Subsidiaries, to provide additional incentives to those Employees and Consultants, and to promote the success of the Company's business.

2. Defined Terms. The meanings of defined terms (generally, capitalized terms) in this Plan are provided in Section 21 ("Glossary").

3. Shares Reserved. Subject to Section 14, a maximum aggregate of 13,750,000 Shares may be issued under this Plan; provided however, that beginning the first business day of each calendar year starting January 1, 2001 or after, there shall be added to this Plan the lesser of an additional (i) 5,000,000 shares of Common Stock, (ii) 5.0% of the outstanding shares of capital stock on such date, or (iii) an amount determined by the Board. The Shares may be authorized, but unissued, or reacquired Common Stock. If an Option expires or becomes unexercisable for any reason, any unpurchased Optioned Shares shall be available for future issuance under this Plan. Shares retained to satisfy tax withholding obligations do not reduce the number authorized for issuance.

4. Administration.

(a) In General. This Plan shall be administered by the Board or a

(b) After Exchange Act Applies. After the Company becomes subject to the Exchange Act, the Board may provide for administration of this Plan with respect to Employees who are also officers or directors of the Company by a Committee constituted so as to permit this Plan to comply as a discretionary plan with Rule 16b-3 promulgated under the Exchange Act or any successor thereto. A Committee appointed under this Section 4(b) may be separate from any Committee appointed to administer this Plan with respect to Employees who are neither officers nor directors.

(c) Powers of the Administrator. Subject to the provisions of this Plan and in the case of a Committee, the specific duties delegated by the Board, the Administrator shall have the authority, in its discretion:

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(i) to determine the Fair Market Value of the Common Stock;

(ii) to grant Options to such Consultants and Employees as it selects;

(iii) to determine the terms and conditions of each Option granted, including without limitation the number of Shares of Optioned Stock, the exercise price per share, and whether an Option is to be granted as an ISO or a NSO;

(iv) to approve forms of agreement for use under this Plan;

(v) to determine whether and under what circumstances to offer to buy out an Option for cash or Shares under Section 13;

(vi) to modify grants of Options to participants who are foreign nationals or employed outside of the United States in order to recognize differences in local law, tax policies, or customs; and

(vii) to construe and interpret the terms of this Plan and Options granted pursuant to this Plan.

(d) Administrator's Decisions Binding. All decisions, determinations, and interpretations of the Administrator shall be final and binding on all Optionees and any other holders of any Options, and no member of the Administrator shall be liable for any such determination, decision, or interpretation made in good faith.

#### 5. Eligibility.

(a) NSOs/ISOs. Nonstatutory Stock Options may be granted to Employees and Consultants. Incentive Stock Options may be granted only to Employees. An Employee or Consultant who has been granted an Option may, if otherwise eligible, be granted additional Options.

#### (b) Limitations.

(i) If the Company or a successor issues any class of common equity securities required to be registered under Section 12 of the Exchange Act or if this Plan is assumed by a corporation that has a

(ii) No Employee shall be granted, in any fiscal year of the Company, Options to purchase more than 1,000,000 Shares, adjusted proportionately in connection with any change in the Company's capitalization as described in Section 14. If an Option is granted but canceled in the same fiscal year, it shall nonetheless count against the

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foregoing limit. Reduction of an Option's exercise price is treated as a cancellation of the Option and the grant of a new Option.

6. Term of Options. The term of each Option shall be determined by the Administrator at the time of grant but shall not exceed ten years. In the case of an ISO granted to an Optionee who, at the time of grant, owns stock representing more than ten percent of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the Option term shall not exceed five years.

7. Date of Grant. Unless otherwise determined by the Administrator, the date of grant of an Option shall be the date on which the Administrator completes the actions necessary to grant the Option. Notice of the grant shall be given to the Optionee within a reasonable time after the date of the grant.

8. Exercise Price and Form of Consideration.

(a) Price. The per-Share exercise price of an Option shall be determined by the Administrator at the time of grant, but:

(i) In the case of an ISO:

(A) granted to an Employee who, at the time of grant, owns stock representing more than ten percent of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per-Share exercise price shall be at least 110% of the Fair Market Value on the date of grant; or

(B) granted to any other Employee, the per-Share exercise price shall be at least the Fair Market Value on the date of grant.

(ii) In the case of a NSO:

(A) granted to an Employee who, at the time of grant, owns stock representing more than ten percent of the voting power of all classes of stock of the Company or any Parent or Subsidiary, the per-Share exercise price shall be at least the Fair Market Value on the date of grant; or

(B) granted to any other Employee, the per-Share exercise price shall be at least 85% of the Fair Market Value on the date of grant.

(b) Form of Payment. Payment for Shares upon exercise of an Option shall be made in any lawful consideration approved by the Administrator and may, without limitation, consist of (1) cash, (2) check, (3) other Shares that have a Fair Market Value on the date of payment equal to the aggregate exercise price of the Shares as to which

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Option is exercised, (4) delivery by a broker or brokerage firm approved by the Administrator of a properly executed exercise notice together with payment of the exercise price and such other documentation as the Administrator shall require, or (5) any combination of the foregoing.

#### 9. Exercise.

(a) Exercisability. Each Option shall be exercisable at such times and under such conditions as determined by the Administrator at the time of grant,.

(b) Vesting. Each Option and the corresponding Optioned Stock shall vest at such times and under such conditions as determined by the Administrator at the time of grant, and as are otherwise permissible under the terms of this Plan, including without limitation performance criteria with respect to the Company and/or the Optionee.

(c) Fractional Shares. An Option may not be exercised for a fraction of a Share.

(d) Manner of Exercise; Rights as a Shareholder. Unless otherwise allowed by the Administrator, an Option shall be exercised by delivery to the Company of all of the following: (i) written notice of exercise by the Optionee, in a form approved by the Administrator and in accordance with the terms of the Option, (ii) full payment for the Shares with respect to which the Option is exercised, and (iii) payment (or provision for payment) of withholding taxes pursuant to Subsection (f), below. Delivery of any of the foregoing may be by electronic means approved by the Administrator. The Optionee shall be treated as a shareholder of the Company with respect to the purchased Shares upon completion of exercise of the Option.

(e) Optionee Representations. If Shares purchasable pursuant to the exercise of an Option have not been registered under the Securities Act of 1933, as amended, at the time the Option is exercised, the Optionee shall, if required by the Administrator, as a condition to exercise of all or any portion of the Option, deliver to the Company an investment representation statement in a form approved by the Administrator.

(e) Termination of Employment or Consulting Relationship. If an Optionee's Continuous Service terminates, the Optionee (or the Optionee's estate or heirs, if termination is due to death or the Optionee dies during the post-termination exercise period of the Option) may exercise the Option, (i) only within such period of time as is determined by the Administrator (but no later than the expiration date determined by the Administrator at the time of grant) and the Option shall terminate at the end of that period, and (ii) unless otherwise determined by the Administrator, only to the extent that the Optionee was entitled to exercise it at the date of termination.

(f) Tax Withholding. The Company's obligation to deliver Shares upon exercise of an Option is subject to payment (or provision for payment satisfactory to the

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Administrator) by the Optionee of all federal, state, and local income and employment taxes that the Administrator determines in its discretion to be due

10. Rule 16b-3. Except to the extent determined by the Administrator, Options granted to persons subject to Section 16(b) of the Exchange Act shall comply with Rule 16b-3 and shall contain such terms as may be required or desirable to qualify Plan transactions for the maximum exemption from Section 16 of the Exchange Act.

11. Non-Transferability of Options. Options may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Optionee, only by the Optionee.

12. Lockup Agreement. Grant and exercise of each Option are subject to the Optionee's agreement, upon the request of (and in form and substance satisfactory to) the Company or the underwriters managing an initial firmly underwritten public offering of the Company's securities, not to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any Shares or any derivative security (unless included in the registration of Shares offered) without the prior written consent of the Company or such underwriters, as the case may be, for such period of time (not to exceed 180 days) from the effective date of the registration as the Company or underwriters may specify.

13. Buyout of Options. The Administrator may at any time offer to buy out an Option for a payment in cash or Shares, based on such terms and conditions as the Administrator shall establish and communicate to the Optionee at the time of the offer.

14. Changes in Capitalization or Control.

(a) Changes in Capitalization. Subject to any required action by the shareholders of the Company, the number of shares of Optioned Stock and the number of Shares that have been authorized for issuance under this Plan but as to which no Options have then been granted or that have been returned to this Plan upon cancellation or expiration of an Option, as well as the price per share of Optioned Stock, shall be proportionately adjusted for any change in the number of issued Shares resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other change in the number of issued Shares effected without receipt of consideration by the Company (not counting Shares issued upon conversion of convertible securities of the Company as "effected without receipt of consideration"). Such adjustment shall be made by the Board and shall be final, binding, and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no consequent adjustment shall be made with respect to, the number or price of Shares subject to this Plan.

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(b) Change in Control. The Administrator may, in its discretion, determine at any time from and after the grant of an Option the effect that a Change in Control shall have upon the Option; provided however, that a Change in Control shall not have the effect of impairing the rights of any Optionee under any then-outstanding Option without his or her prior written consent. Without limiting the foregoing sentence, the Administrator may determine that upon a Change in Control, an Option:

(i) shall become fully vested and exercisable either for a limited period following the Change in Control or for the remainder of the Option's term;



(ii) shall terminate upon or after a specified period following the Change in Control;

(iii) shall be cancelled in exchange for cash in the amount of the excess of the fair market value of the Optioned Shares over the exercise price upon termination; or

(iv) shall be treated as provided under a combination of clauses (i) through (iii), or shall be so treated only if not adequately assumed (or substituted for) by a surviving or successor person or entity in the transactions or events that give rise to the Change in Control.

For purposes of this Section 14(b), the "Administrator" shall be the Administrator as constituted before the Change in Control occurs.

15. Amendments. The Board may at any time amend, alter, suspend, or discontinue this Plan, but no such action shall impair the rights of any Optionee under any then-outstanding Option without his or her prior written consent.

#### 16. Securities Regulation Requirements.

(a) Compliance with Rule; Buy-out Offer. In general, Shares shall not be issued pursuant to the exercise of an Option unless the exercise of the Option and issuance of the Shares comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended, the Exchange Act, the rules and regulations promulgated thereunder, the requirements of any stock exchange upon which the Shares may then be listed, and the requirements of any regulatory body having jurisdiction. When the Company receives notice of exercise of an Option, if the Administrator believes in its discretion that the period before Shares may be issued will exceed 21 days, the Administrator shall (unless it determines that such an offer is itself prevented by the rules described in the preceding sentence) make an offer pursuant to Section 12 to buy out the portion of the Option corresponding to the number of Shares whose issuance is thus prevented. The buy-out offer shall be valid for at least 21 days.

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(b) Optionee Investment Representation. As a condition to the exercise of an Option, the Company may require the person exercising the Option to represent and warrant that the Shares are being purchased only for investment and without any present intention to sell or distribute the Shares if, in the opinion of counsel for the Company, such a representation is required by law.

17. Written Option Agreements. Options shall be evidenced by written agreements in a form the Administrator approves from time to time. The written agreement shall designate the Option as either an Incentive Stock Option or a Nonstatutory Stock Option. Delay in executing a written agreement shall not affect the date of grant of an Option; however, an Option may not be exercised until a written agreement has been executed by the Company and the Optionee.

18. Shareholder Approval. This Plan is subject to approval by the shareholders of the Company within 12 months after the Board adopts this Plan. Shareholder approval shall be obtained in the degree and manner required under applicable state and federal law and the rules of any stock exchange upon which the Common Stock is listed.

19. Information to Optionees. The Company shall provide to each Optionee copies of financial statements at least annually, at the same time and in the

same form as it furnishes such information to its shareholders. The Company shall not be required to provide such statements to key employees whose duties assure their access to equivalent information.

20. No Employment Rights. This Plan does not confer upon any Optionee any right with respect to continuation of employment or consulting relationship with the Company, nor shall it interfere in any way with the Company's right to terminate his or her employment or consulting relationship at any time, with or without cause.

21. Term of Plan. This Plan shall become effective upon the earlier to occur of adoption by the Board or approval by the shareholders of the Company, as described in Section 17. It shall continue in effect for a term of ten years unless sooner terminated under Section 14.

22. Glossary. The following definitions apply for purposes of this Plan:

(a) "Administrator" means the Board or a committee appointed by the Board under Section 4.

(b) "Board" means the Board of Directors of the Company.

(c) "Change in Control" means a change in ownership or control of the Company by any of:

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(i) a merger or consolidation in which the holders of stock possessing a majority of the voting power in the surviving entity (or a parent of the surviving entity) did not own a majority of the Common Stock immediately before the transaction;

(ii) the sale of all or substantially all of the Company's assets to any other person or entity (other than a Subsidiary);

(iii) the liquidation or dissolution of the Company;

(iv) the direct or indirect acquisition by any person or related group of persons of beneficial ownership (within the meaning of Rule 13d-3 of the 1934 Act) of securities possessing more than 50% of the total combined voting power of the Company's outstanding securities pursuant to a tender or exchange offer made directly to the Company's shareholders that the Board does not recommend that the shareholders accept, or

(v) a change in composition of the Board over a period of 36 consecutive months such that a majority of the Board ceases, by reason of one or more contested elections for Board membership, to be composed of individuals who either (A) have been Board members continuously since the beginning of that period or (B) have been elected or nominated for election as Board members during that period by at least a majority of the Board members described in clause (A) who were in office when the Board approved the election or nomination.

(d) "Code" means the Internal Revenue Code of 1986, as amended.

(e) "Common Stock" means the Common Stock of the Company.

(f) "Company" means Marvell Technology Group Ltd., a Bermuda corporation.

(g) "Consultant" means any person other than an Employee, who is engaged by the Company or any Parent or Subsidiary to perform consulting or advisory services.

(h) "Continuous Service" means that an Optionee's employment or consulting relationship with the Company or a Parent or Subsidiary is not interrupted or terminated. Continuous Service is not interrupted by (i) any leave of absence approved by the Company, (ii) transfers between locations of the Company or between the Company, a Parent, a Subsidiary, or any successor, or (iii) changes in status from Employee to Consultant or Consultant to Employee.

(i) "Employee" means any person employed by the Company or any Parent or Subsidiary of the Company.

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(j) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(k) "Fair Market Value" means, as of any date, the value of common Stock determined as follows:

(i) If the Common Stock is quoted on an established stock exchange or national market system, including without limitation the National Association of Securities Dealers, Inc. Automated Quotation ("NASDAQ") National Market System, Fair Market Value shall be the closing sales price (or the closing bid, if no sales are reported) as quoted on that exchange or system for the day of the determination, as reported in The Wall Street Journal or an equivalent source, or if the determination date is not a trading day, then on the most recent preceding trading day;

(ii) If the Common Stock is quoted on NASDAQ (but not on the National Market System) or regularly quoted by a recognized securities dealer but selling prices are not reported, Fair Market Value shall be the mean between the high bid and low asked prices for the Common Stock on the day of the determination, or on the most recent preceding trading day if the determination date is not a trading day; or

(iii) In the absence of an established market for the Common Stock, Fair Market Value shall be determined by the Administrator.

(l) "Incentive Stock Option" or "ISO" means an Option intended to qualify as an "incentive stock option" within the meaning of, and to the extent otherwise permitted by, Section 422 of the Code.

(m) "Nonstatutory Stock Option" or "NSO" means an Option not intended to qualify as an ISO.

(n) "Officer" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(o) "Option" means a stock option granted pursuant to this Plan.

(p) "Optioned Stock" means the Common Stock subject to an Option.

(q) "Optionee" means the Employee or Consultant who receives an Option and includes any person who owns all or any part of an Option, or who is entitled to exercise an Option, after the death or disability of an Optionee.

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(s) "Plan" means this 1995 Marvell Technology Group Ltd. Stock Option Plan.

(t) "Share" means a share of the Common Stock, as adjusted in accordance with Section 13(a).

(u) "Subsidiary" means a "subsidiary corporation," present or future, as defined in Section 424(f) of the Code.

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EXHIBIT 10.2

MARVELL TECHNOLOGY GROUP, LTD.

1997 DIRECTORS' STOCK OPTION PLAN

1. PURPOSES OF THE PLAN. The purposes of this Directors' Stock Option Plan are to attract and retain the best available personnel for service as Directors of the Company, to provide additional incentive to the Outside Directors of the Company to serve as Directors, and to encourage their continued service on the Board.

All options granted hereunder shall be nonstatutory stock options.

2. DEFINITIONS. As used herein, the following definitions shall apply:

(a) "Board" shall mean the Board of Directors of the Company.

(b) "Code" shall mean the Internal Revenue Code of 1986, as amended.

(c) "Common Stock" shall mean the Common Stock of the Company.

(d) "Company" shall mean MARVELL TECHNOLOGY GROUP, LTD., a Bermuda corporation.

(e) "Continuous Status as a Director" shall mean the absence of any interruption or termination of service as a Director.

(f) "Director" shall mean a member of the Board.

(g) "Employee" shall mean any person, including any officer or director, employed by the Company or any Parent or Subsidiary of the Company who works at least twenty (20) hours a week for the Company. The payment of a director's fee by the Company shall not be sufficient in and of itself to constitute "employment" by the Company.

(h) "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

(i) "Option" shall mean a stock option granted pursuant to the Plan. All options shall be nonstatutory stock options (i.e., options that are not intended to qualify as incentive stock options under Section 422 of the Code).

(j) "Optioned Stock" shall mean the Common Stock subject to an Option.

(k) "Optionee" shall mean an Outside Director who receives an Option.

(l) "Outside Director" shall mean a Director who is not an Employee.

(m) "Parent" shall mean a "parent corporation," whether now or hereafter existing, as defined in Section 424(e) of the Code.

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(n) "Plan" shall mean this 1997 Directors' Stock Option Plan.

(o) "Share" shall mean a share of the Common Stock, as adjusted in accordance with Section 11 of the Plan.

(p) "Subsidiary" shall mean a "subsidiary corporation," whether now or hereafter existing, as defined in Section 424(f) of the Code.

3. STOCK SUBJECT TO THE PLAN. Subject to the provisions of Section 11 of the Plan, the maximum aggregate number of Shares which may be optioned and sold under the Plan is 150,000 Shares (the "Pool") of Common Stock. The Shares may be authorized, but unissued, or reacquired Common Stock.

If an Option should expire or become unexercisable for any reason without having been exercised in full, the unpurchased Shares which were subject thereto shall, unless the Plan shall have been terminated, become available for future grant under the Plan. If Shares which were acquired upon exercise of an Option are subsequently repurchased by the Company, such Shares shall not in any event be returned to the Plan and shall not become available for future grant under the Plan.

#### 4. ADMINISTRATION OF AND GRANTS OF OPTIONS UNDER THE PLAN.

(a) ADMINISTRATOR. Except as otherwise required herein, the Plan shall be administered by the Board.

(b) PROCEDURE FOR GRANTS. All grants of Options hereunder shall be automatic and nondiscretionary and shall be made strictly in accordance with the following provisions:

(i) No person shall have any discretion to select which Outside Directors shall be granted Options or to determine the number of Shares to be covered by Options granted to Outside Directors.

(ii) Each Outside Director shall be automatically granted an Option to purchase Shares (the "First Option") as follows: (A) with respect to persons who are Outside Directors on the effective date of this Plan, as

(iii) After the First Option has been granted to an Outside Director, such Outside Director shall thereafter be automatically granted an Option to purchase 6,000 Shares (a "Subsequent Option") on the date of each Annual Meeting of the Company's shareholders immediately following which such Outside Director is serving on the Board, provided that, on such date, he or she shall have served on the Board for at least six (6) months prior to the date of such Annual Meeting. The Subsequent Option will begin to vest from one month after the fourth

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anniversary of the date of grant in the amount of 1/12th of the Subsequent Option for each month thereafter.

(iv) Notwithstanding the provisions of subsections (ii) and (iii) hereof, in the event that a grant would cause the number of Shares subject to outstanding Options plus the number of Shares previously purchased upon exercise of Options to exceed to Pool, then each such automatic grant shall be for that number of Shares determined by dividing the total number of Shares remaining available for grant by the number of Outside Directors receiving an Option on such date on the automatic grant date. Any further grants shall then be deferred until such time, if any, as additional Shares become available for grant under the Plan through action of the shareholders to increase the number of Shares which may be issued under the Plan or through cancellation or expiration of Options previously granted hereunder.

(v) Notwithstanding the provisions of subsections (ii) and (iii) hereof, any grant of an Option made before the Company has obtained shareholder approval of the Plan in accordance with Section 17 hereof shall be conditioned upon obtaining such shareholder approval of the Plan in accordance with Section 17 hereof.

(vi) The terms of each First Option granted hereunder shall be as follows:

(1) the First Option shall be exercisable only while the Outside Director remains a Director of the Company, except as set forth in Section 9 hereof;

(2) the exercise price per Share shall be 100% of the fair market value per Share on the date of grant of the First Option, determined in accordance with Section 8 hereof; and

(3) the First Option shall be exercisable cumulatively according to the vesting schedule set out in the Notice of Grant. Alternatively, at the election of the Optionee, it may be exercised in whole or in part at any time as to Shares which have not yet vested.

(vii) The terms of each Subsequent Option granted hereunder shall be as follows:

(1) the Subsequent Option shall be exercisable only while the Outside Director remains a Director of the Company, except as set forth in Section 9 hereof;

(2) the exercise price per Share shall be 100% of the fair market value per Share on the date of grant of the Subsequent Option,

(3) the Subsequent Option shall be exercisable cumulatively according to the vesting schedule set out in the Notice of Grant. Alternatively, at the election of the Optionee, it may be exercised in whole or in part at any time as to Shares which have not yet vested.

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(c) POWERS OF THE BOARD. Subject to the provisions and restrictions of the Plan, the Board shall have the authority, in its discretion: (i) to determine, upon review of relevant information and in accordance with Section 8(b) of the Plan, the fair market value of the Common Stock; (ii) to determine the exercise price per share of Options to be granted, which exercise price shall be determined in accordance with Section 8(a) of the Plan; (iii) to interpret the Plan; (iv) to prescribe, amend and rescind rules and regulations relating to the Plan; (v) to authorize any person to execute on behalf of the Company any instrument required to effectuate the grant of an Option previously granted hereunder; and (vi) to make all other determinations deemed necessary or advisable for the administration of the Plan.

(d) EFFECT OF BOARD'S DECISION. All decisions, determinations and interpretations of the Board shall be final and binding on all Optionees and any other holders of any Options granted under the Plan.

(e) SUSPENSION OR TERMINATION OF OPTION. If the President or his or her designee reasonably believes that an Optionee has committed an act of misconduct, the President may suspend the Optionee's right to exercise any option pending a determination by the Board of Directors (excluding the Outside Director accused of such misconduct). If the Board of Directors (excluding the Outside Director accused of such misconduct) determines an Optionee has committed an act of embezzlement, fraud, dishonesty, nonpayment of an obligation owed to the Company, breach of fiduciary duty or deliberate disregard of the Company rules resulting in loss, damage or injury to the Company, or if an Optionee makes an unauthorized disclosure of any Company trade secret or confidential information, engages in any conduct constituting unfair competition, induces any Company customer to breach a contract with the Company or induces any principal for whom the Company acts as agent to terminate such agency relationship, neither the Optionee nor his or her estate shall be entitled to exercise any option whatsoever. In making such determination, the Board of Directors (excluding the Outside Director accused of such misconduct) shall act fairly and shall give the Optionee an opportunity to appear and present evidence on Optionee's behalf at a hearing before the Board or a committee of the Board.

5. ELIGIBILITY. Options may be granted only to Outside Directors. All Options shall be automatically granted in accordance with the terms set forth in Section 4(b) hereof. An Outside Director who has been granted an Option may, if he or she is otherwise eligible, be granted an additional Option or Options in accordance with such provisions.

The Plan shall not confer upon any Optionee any right with respect to continuation of service as a Director or nomination to serve as a Director, nor shall it interfere in any way with any rights which the Director or the Company may have to terminate his or her directorship at any time.

6. TERM OF PLAN; EFFECTIVE DATE. The Plan shall become effective on the effectiveness of the registration statement under the Securities Act of 1933, as amended, relating to the Company's initial public offering of securities. It shall continue in effect for a term of ten (10) years unless sooner terminated under Section 13 of the Plan.

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7. TERM OF OPTIONS. The term of each Option shall be ten (10) years from the date of grant thereof.

8. EXERCISE PRICE AND CONSIDERATION.

(a) EXERCISE PRICE. The per Share exercise price for the Shares to be issued pursuant to exercise of an Option shall be 100% of the fair market value per Share on the date of grant of the Option.

(b) FAIR MARKET VALUE. The fair market value shall be determined by the Board; provided, however, that where there is a public market for the Common Stock, the fair market value per Share shall be the mean of the bid and asked prices of the Common Stock in the over-the-counter market on the date of grant, as reported in The Wall Street Journal (or, if not so reported, as otherwise reported by the National Association of Securities Dealers Automated Quotation ("Nasdaq") System) or, in the event the Common Stock is traded on the Nasdaq National Market or listed on a stock exchange, the fair market value per Share shall be the closing price on such system or exchange on the date of grant of the Option (or, in the event that the Common Stock is not traded on such date, on the immediately preceding trading date), as reported in The Wall Street Journal. With respect to any Options granted hereunder concurrently with the initial effectiveness of the Plan, the fair market value shall be determined by the Board.

(c) FORM OF CONSIDERATION. The consideration to be paid for the Shares to be issued upon exercise of an Option shall consist entirely of cash, check, other Shares of Common Stock having a fair market value on the date of surrender equal to the aggregate exercise price of the Shares as to which said Option shall be exercised (which, if acquired from the Company, shall have been held for at least six months), or any combination of such methods of payment and/or any other consideration or method of payment as shall be permitted under applicable corporate law.

9. EXERCISE OF OPTION.

(a) PROCEDURE FOR EXERCISE: RIGHTS AS A SHAREHOLDER. Any Option granted hereunder shall be exercisable at such times as set forth in Section 4(b) hereof; provided, however, that no Options shall be exercisable prior to shareholder approval of the Plan in accordance with Section 17 hereof has been obtained.

An Option may not be exercised for a fraction of a Share.

An Option shall be deemed to be exercised when written notice of such exercise has been given to the Company in accordance with the terms of the Option by the person entitled to exercise the Option and full payment for the Shares with respect to which the Option is exercised has been received by the Company. Full payment may consist of any consideration and method of payment allowable under Section 8(c) of the Plan. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the stock certificate evidencing such Shares, no right to vote or receive dividends or any other rights as a shareholder shall exist with respect to the Optioned Stock, notwithstanding

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the exercise of the Option. A share certificate for the number of Shares so acquired shall be issued to the Optionee as soon as practicable after exercise of the Option. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in Section 11 of the Plan.



Exercise of an Option in any manner shall result in a decrease in the number of Shares which thereafter may be available, both for purposes of the Plan and for sale under the Option, by the number of Shares as to which the Option is exercised.

(b) TERMINATION OF STATUS AS A DIRECTOR. If an Outside Director ceases to serve as a Director, he or she may, but only within ninety (90) days after the date he or she ceases to be a Director of the Company, exercise his or her Option to the extent that he or she was entitled to exercise it at the date of such termination. Notwithstanding the foregoing, in no event may the Option be exercised after its term set forth in Section 7 has expired. To the extent that such Outside Director was not entitled to exercise an Option at the date of such termination, or does not exercise such Option (which he or she was entitled to exercise) within the time specified herein, the Option shall terminate.

(c) DISABILITY OF OPTIONEE. Notwithstanding Section 9(b) above, in the event a Director is unable to continue his or her service as a Director with the Company as a result of his or her total and permanent disability (as defined in Section 22(e)(3) of the Code), he or she may, but only within six (6) months (or such other period of time not exceeding twelve (12) months as is determined by the Board) from the date of such termination, exercise his or her Option to the extent he or she was entitled to exercise it at the date of such termination. Notwithstanding the foregoing, in no event may the Option be exercised after its term set forth in Section 7 has expired. To the extent that he or she was not entitled to exercise the Option at the date of termination, or if he or she does not exercise such Option (which he or she was entitled to exercise) within the time specified herein, the Option shall terminate.

(d) DEATH OF OPTIONEE. In the event of the death of an Optionee:

(i) During the term of the Option who is, at the time of his or her death, a Director of the Company and who shall have been in Continuous Status as a Director since the date of grant of the Option, the Option may be exercised, at any time within six (6) months following the date of death, by the Optionee's estate or by a person who acquired the right to exercise the Option by bequest or inheritance, but only to the extent of the right to exercise that would have accrued had the Optionee continued living and remained in Continuous Status as Director for six (6) months (or such lesser period of time as is determined by the Board) after the date of death. Notwithstanding the foregoing, in no event may the Option be exercised after its term set forth in Section 7 has expired.

(ii) Three (3) months after the termination of Continuous Status as a Director, the Option may be exercised, at any time within six (6) months following the date of death, by the Optionee's estate or by a person who acquired the right to exercise the Option by bequest or inheritance, but only to the extent of the right to exercise that had accrued at the date of

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termination. Notwithstanding the foregoing, in no event may the option be exercised after its term set forth in Section 7 has expired.

10. NONTRANSFERABILITY OF OPTIONS. The Option may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution or pursuant to a qualified domestic relations order (as defined by the Code or the rules thereunder). The designation of a beneficiary by an Optionee does not constitute a transfer. An Option may be exercised during the lifetime of an Optionee only by the Optionee or a transferee permitted by this Section.

(a) ADJUSTMENT. Subject to any required action by the shareholders of the Company, the number of shares of Common Stock covered by each outstanding Option, and the number of shares of Common Stock which have been authorized for issuance under the Plan but as to which no Options have yet been granted or which have been returned to the Plan upon cancellation or expiration of an Option, as well as the price per share of Common Stock covered by each such outstanding Option, shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any other increase or decrease in the number of issued shares of Common Stock effected without receipt of consideration by the Company; provided, however, that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." Such adjustment shall be made by the Board, whose determination in that respect shall be final, binding and conclusive. Except as expressly provided herein, no issuance by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no adjustment by reason thereof shall be made with respect to, the number or price of shares of Common Stock subject to an Option.

(b) CORPORATE TRANSACTIONS. In the event of (i) a dissolution or liquidation of the Company, (ii) a sale of all or substantially all of the Company's assets, (iii) a merger or consolidation in which the Company is not the surviving corporation, or (iv) any other capital reorganization in which more than fifty percent (50%) of the shares of the Company entitled to vote are exchanged, the Company shall give to the Eligible Director, at the time of adoption of the plan for liquidation, dissolution, sale, merger, consolidation or reorganization, either a reasonable time thereafter within which to exercise the Option, including Shares as to which the Option would not be otherwise exercisable, prior to the effectiveness of such liquidation, dissolution, sale, merger, consolidation or reorganization, at the end of which time the Option shall terminate, or the right to exercise the Option, including Shares as to which the Option would not be otherwise exercisable (or receive a substitute option with comparable terms), as to an equivalent number of shares of stock of the corporation succeeding the Company or acquiring its business by reason of such liquidation, dissolution, sale, merger, consolidation or reorganization.

12. TIME OF GRANTING OPTIONS. The date of grant of an Option shall, for all purposes, be the date determined in accordance with Section 4(b) hereof. Notice of the determination shall

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be given to each Outside Director to whom an Option is so granted within a reasonable time after the date of such grant.

13. AMENDMENT AND TERMINATION OF THE PLAN.

(a) AMENDMENT AND TERMINATION. The Board may amend or terminate the Plan from time to time in such respects as the Board may deem advisable; provided that, to the extent necessary and desirable to comply with Rule 16b-3 under the Exchange Act (or any other applicable law or regulation), the Company shall obtain approval of the shareholders of the Company to Plan amendments to the extent and in the manner required by such law or regulation. Notwithstanding the foregoing, the provisions set forth in Section 4 of this Plan (and any other Sections of this Plan that affect the formula award terms required to be specified in this Plan by Rule 16b-3) shall not be amended more than once every six months, other than to comport with changes in the Code, the Employee Retirement Income Security Act of 1974, as amended, or the rules

thereunder.

(b) EFFECT OF AMENDMENT OR TERMINATION. Any such amendment or termination of the Plan that would impair the rights of any Optionee shall not affect Options already granted to such Optionee and such Options shall remain in full force and effect as if this Plan had not been amended or terminated, unless mutually agreed otherwise between the Optionee and the Board, which agreement must be in writing and signed by the Optionee and the Company.

14. CONDITIONS UPON ISSUANCE OF SHARES. Shares shall not be issued pursuant to the exercise of an Option unless the exercise of such Option and the issuance and delivery of such Shares pursuant thereto shall comply with all relevant provisions of law, including, without limitation, the Securities Act of 1933, as amended, the Exchange Act, the rules and regulations promulgated thereunder, state securities laws, and the requirements of any stock exchange upon which the Shares may then be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance. As a condition to the exercise of an Option, the Company may require the person exercising such Option to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares, if, in the opinion of counsel for the Company, such a representation is required by any of the aforementioned relevant provisions of law.

15. RESERVATION OF SHARES. The Company, during the term of this Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan. Inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

16. OPTION AGREEMENT. Options shall be evidenced by written agreements in such form as the Board shall approve.

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17. SHAREHOLDER APPROVAL. Continuance of the Plan shall be subject to approval by the shareholders of the Company at or prior to the first annual meeting of shareholders held subsequent to the granting of an Option hereunder. If such shareholder approval is obtained at a duly held shareholders' meeting, it may be obtained by the affirmative vote of the holders of a majority of the outstanding shares of the Company present or represented and entitled to vote thereon. If such shareholder approval is obtained by written consent, it may be obtained by the written consent of the holders of a majority of the outstanding shares of the Company. Options may be granted, but not exercised, before such shareholder approval.

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MARVELL TECHNOLOGY GROUP LTD.

1997 DIRECTORS' STOCK OPTION PLAN

NOTICE OF STOCK OPTION GRANTS

Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Stock Option Agreement.

1. NOTICE OF STOCK OPTION GRANT

Optionee's Name and Address

(OptioneeName)  
 (Address)  
 (City), (State) (ZipCode)

You have been granted an option to purchase Common Stock of the Company, subject to the terms and conditions of the Plan and this Stock Option Agreement, as follows:

Grant Number	(GrantNumber)
Date of Grant	(DateOfGrant)
Vesting Commencement Date	(VestingCommenceDate)
Exercise Price Per Share	(ExercisePricePerShare)
Total Number of Shares Granted	(TotalNumberOfShares)
Total Exercise Price	(TotalExercisePrice)
Type of Option:	Nonstatutory Stock Option
Term/Expiration Date:	(TermExpirationDate)

Vesting Schedule:

This Option may be exercised immediately, in whole or in part, conditioned upon Optionee entering into a Restricted Stock Purchase Agreement with respect to any unvested Option Shares. The Shares subject to this Option shall vest and/or be released from the

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Company's repurchase option, as set forth in the Restricted Stock Purchase Agreement, in accordance with the following schedule.

For the First Options: Twenty percent (20%) of the Shares subject to the Option shall vest twelve months after the Vesting Commencement Date, and an additional one-sixtieth (1/60th) of the Shares subject to the Option shall vest at the end of each month thereafter, so that all of the Shares shall be vested five (5) years after the Vesting Commencement Date.

For the Subsequent Options: One-twelfth (1/12th) of the Shares subject to the Option shall vest one month after the fourth anniversary of the date of grant, and an additional one-twelfth (1/12th) of the Shares subject to the Option shall vest at the end of each month thereafter, so that all of the Shares shall be vested five (5) years after the Vesting Commencement Date.

Termination Period:

This Option may be exercised for 90 days after termination of Optionee's Continuous Status as an Outside Director, or such longer period as may be applicable upon death or Disability of Optionee's provided in the Plan, but in no event later than the Expiration Date as provided above.

By your signature and the signature of the Company's representative below, you and the Company agree that this option is granted under and governed by the terms and conditions of the 1997 Directors' Stock Option Plan and the Nonstatutory Stock Option Agreement, all of which are attached and made a part of this document.

OPTIONEE: MARVELL TECHNOLOGY GROUP, LTD

\_\_\_\_\_  
Signature By: \_\_\_\_\_

\_\_\_\_\_  
Print Name Title: \_\_\_\_\_

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EXHIBIT 10.3

MARVELL TECHNOLOGY GROUP LTD.  
2000 EMPLOYEE STOCK PURCHASE PLAN

1. Purpose.

This Plan is intended to allow Employees of the Company and its Designated Subsidiaries to purchase Common Stock through accumulated Payroll deductions.

2. Defined Terms.

The meanings of defined terms (generally, capitalized terms) in this Plan are provided in Section 23 ("Glossary").

3. Eligibility.

(a) Participation. Any person who is an Employee on an Offering Date shall be eligible to participate in this Plan during the corresponding Offering Period.

(b) No Participation by Five-Percent Stockholders. Notwithstanding

4. Offering Periods.

Except as otherwise determined by the Administrator:

(a) the first Offering Period under this Plan shall begin on the first business day before the effective date of a firmly underwritten initial public offering of Common Stock and shall end on the last trading day of January of the second succeeding calendar year;

(b) a new Offering Period shall begin on the first business day of each February and August while this Plan is in effect;

(c) the duration of each Offering Period (other than the first Offering Period) shall be 24 months (measured from the first business day of the first month to the last business day of the 24th month); and

(d) an Offering Period shall terminate on the first date that no Participant is enrolled in it.

5. Participation.

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(a) An Employee may become a Participant in this Plan by completing a subscription agreement, in such form as the Administrator may approve from time to time, and delivering it to the Administrator by 1 p.m. Pacific time on the applicable Offering Date, unless another time for filing the subscription agreement is set by the Administrator for all Employees with respect to a given Offering Period. The subscription agreement shall authorize Payroll deductions pursuant to this Plan and shall have such other terms as the Administrator may specify from time to time.

(b) At the end of an Offering Period, each Participant in the Offering Period who remains an Employee shall be automatically enrolled in the next succeeding Offering Period (a "Re-enrollment") unless, in a manner and at a time specified by the Administrator, but in no event later than 1 p.m. Pacific time on the Offering Date of such succeeding Offering Period, the Participant notifies the Administrator in writing that the Participant does not wish to be re-enrolled. Re-enrollment shall be at the withholding percentage specified in the Participant's most recent subscription agreement. No Participant shall be automatically re-enrolled whose participation has terminated by operation of Section 10.

(c) If the fair market value of the Common Stock on any Offering Date is less it was on the first day of a then-concurrent Offering Period, each Participant in the concurrent Offering Period shall automatically be withdrawn from such concurrent Offering Period and shall become a Participant in the commencing Offering Period. Participation shall be at the withholding percentage specified in the Participant's most recent (as of 1 p.m. Pacific time on the relevant Offering Date) subscription agreement. No Participant shall be automatically re-enrolled whose participation in this Plan has terminated by operation of Section 10.

6. Payroll Deductions.

(a) Payroll deductions under this Plan shall be in whole percentages,

from a minimum of 1% up to a maximum (not to exceed 20%) established by the Administrator from time to time, as specified by the Participant in his or her subscription agreement in effect on the first day of an Offering Period. Payroll deductions for a Participant shall begin with the first payroll payment date of the Offering Period and shall end with the last payroll payment date of the Offering Period, unless sooner terminated by the Participant as provided in Section 10.

(b) A Participant's Payroll deductions shall be credited to his or her account under this Plan. A Participant may not make any additional payments into his or her account.

(c) A Participant may reduce his or her Payroll deductions by any whole percentage (but not below 1%) at any time during an Offering Period, effective 15 days after the Participant files with the Administrator a new subscription agreement authorizing the change. A Participant may change his or her Payroll deductions during an Offering Period, effective the first business day after a Purchase Date, by delivering a new subscription agreement authorizing the change to the Administrator by 1 p.m. Pacific time on the effective date of the increase.

#### 7. Purchase Rights.

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(a) Grant of Purchase Rights. On the Offering Date of each Offering Period, the Participant shall be granted a Purchase Right to purchase during the Offering Period the number of shares of Common Stock determined by dividing (i) \$25,000 multiplied by the number of (whole or part) calendar years in the Offering Period by (ii) the fair market value of a share of Common Stock on the Offering Date.

(b) Terms of Purchase Rights. Except as otherwise determined by the Administrator, each Purchase Right shall have the following terms:

(i) The per-share price of the shares subject to a Purchase Right shall be 85% of the lower of the fair market values of a share of Common Stock on (a) the Offering Date on which the Purchase Right was granted and (b) the Purchase Date. The fair market value of the Common Stock on a given date shall be the closing price as reported in the Wall Street Journal; provided, however, that if there is no public trading of the Common Stock on that date, then fair market value shall be determined by the Administrator in its discretion.

(ii) Payment for shares purchased by exercise of Purchase Rights shall be made only through Payroll deductions under Section 6.

(iii) Upon purchase or disposition of shares acquired by exercise of a Purchase Right, the Participant shall pay, or make provision satisfactory to the Administrator for payment of, all tax (and similar) withholdings that the Administrator determines, in its discretion, are required due to the acquisition or disposition, including without limitation any such withholding that the Administrator determines in its discretion is necessary to allow the Company and its Subsidiaries to claim tax deductions or other benefits in connection with the acquisition or disposition.

(iv) During his or her lifetime, a Participant's Purchase Right is exercisable only by the Participant.

(v) Purchase Rights will in all respects be subject to the terms and conditions of this Plan, as interpreted by the Administrator

8. Purchase Dates; Purchase of Shares; Refund of Excess Cash.

(a) The Administrator shall establish one or more Purchase Dates for each Offering Period. Unless otherwise determined by the Administrator, the last trading day of each January and July in an Offering Period shall be a Purchase Date.

(b) Except as otherwise determined by the Administrator, and subject to subsection (c), below, each then-outstanding Purchase Right shall be exercised automatically on each Purchase Date, following addition to the Participant's account of that day's Payroll deductions, to purchase

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the maximum number of full shares of Common Stock at the applicable price using the Participant's accumulated Payroll deductions.

(c) If on a Purchase Date the fair market value of the Common Stock is less than 75% of the fair market value of the Common Stock on the immediately preceding Purchase Date (whether or not such preceding Purchase Date is in the same Offering Period) (the "Benchmark Date"), then (except as otherwise determined by the Administrator):

(i) the maximum number of shares that a Participant may purchase on the Purchase Date shall be determined by multiplying the fair market value of the Common Stock on the Benchmark Date by 0.6375 and then dividing the Participant's accumulated Payroll deductions by the result;

(ii) a maximum number of shares established pursuant to the clause (i) shall remain the maximum number of shares purchasable by a Participant on any subsequent Purchase Date until the Purchase Date on which the fair market value of the Common Stock is at least 75% of the fair market value of the Common Stock on the Benchmark Date; and

(iii) notwithstanding the foregoing, during the initial Offering Period under this Plan, the Benchmark Date shall be date of the beginning such Offering Period.

(d) The shares purchased upon exercise of a Purchase Right shall be deemed to be transferred to the Participant on the Purchase Date.

9. Registration and Delivery of Share Certificates.

(a) Shares purchased by a Participant under this Plan will be registered in the name of the Participant, or in the name of the Participant and his or her spouse, or in the name of the Participant and joint tenant(s) (with right of survivorship), as designated by the Participant.

(b) As soon as administratively feasible after each Purchase Date, the Company shall deliver to the Participant a certificate representing the shares purchased upon exercise of a Purchase Right. If approved by the Administrator in its discretion, the Company may instead (i) deliver a certificate (or equivalent) to a broker for crediting to the Participant's account or (ii) make a notation in the Participant's favor of non-certificated shares on the Company's stock records.

10. Withdrawal; Termination of Employment.



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will be made for the Participant on the Purchase Date, and all Payroll deductions then credited to the Participant's account will be refunded promptly.

(b) Upon termination of a Participant's Continuous Employment for any reason, including retirement or death, all Payroll deductions credited to the Participant's account will be promptly refunded to the Participant or, in the case of death, to the person or persons entitled thereto under Section 14, and the Participant's Purchase Right will automatically terminate.

(c) A Participant's withdrawal from an offering will not affect the Participant's eligibility to participate in a succeeding offering or in any similar plan that may be adopted by the Company.

11. Use of Funds; No Interest.

Amounts withheld from Participants under this Plan shall constitute general funds of the Company, may be used for any corporate purpose, and need not be segregated from other funds. No interest shall accrue on a Participant's Payroll deductions.

12. Number of Shares Reserved.

(a) The following numbers of shares of Common Stock are reserved for issuance under this Plan, and such number may be issued at any time before termination of this Plan:

(i) Beginning the date of approval of this Plan by the stockholders of the Company, 1,000,000 shares of Common Stock; and

(ii) Beginning the first business day of each calendar year starting January 1, 2001 or after, the lesser of an additional (A) 500,000 shares of Common Stock, (B) 0.75% of the outstanding shares of capital stock on such date, or (C) an amount determined by the Board.

(b) If the total number of shares that would otherwise be subject to Purchase Rights granted on an Offering Date exceeds the number of shares then available under this Plan (after deduction of all shares for which Purchase Rights have been exercised or are then exercisable), the Administrator shall make a pro-rata allocation of the available shares in a manner that it determines to be as uniform and equitable as practicable. In such event, the Administrator shall give written notice of the reduction and allocation to each Participant.

(c) The Administrator may, in its discretion, transfer shares reserved for issuance under this Plan into a plan or plans of similar terms, as approved by the Board, providing for the purchase of shares of Common Stock to employees of Subsidiaries designated by the Board that do not (or do not thereafter) participate in this Plan. Such additional plans may, without limitation, provide for variances from the terms of this Plan to take into account special circumstances (such as foreign legal restrictions) affecting the employees of the designated Subsidiaries.

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13. Administration.

This Plan shall be administered by the Board or by such directors, officers, and employees of the Company as the Board may select from time to time (the "Administrator"). All costs and expenses incurred in administering this Plan shall be paid by the Company, provided that any taxes applicable to an Employee's participation in this Plan may be charged to the Employee by the Company. The Administrator may make such rules and regulations as it deems necessary to administer this Plan and to interpret any provision of this Plan. Any determination, decision, or action of the Administrator in connection with the construction, interpretation, administration, or application of this Plan or any right granted under this Plan shall be final, conclusive, and binding upon all persons, and no member of the Administrator shall be liable for any such determination, decision, or action made in good faith.

14. Designation of Beneficiary.

(a) A Participant may file a written designation of a beneficiary who is to receive any shares and cash, if any, from the Participant's account under this Plan in the event of the Participant's death.

(b) A designation of beneficiary may be changed by the Participant at any time by written notice. In the event of the death of a Participant, and in the absence of a beneficiary validly designated under this Plan who is living at the time of the Participant's death, the Administrator shall deliver such shares and/or cash to the executor or administrator of the Participant's estate, or if no such executor or administrator has been appointed (to the Administrator's knowledge), the Administrator, in its discretion, may deliver such shares and/or cash to the spouse or to any one or more dependents or relatives of the Participant or, if no spouse, dependent, or relative is known to the Administrator, then to such other person as the Administrator may designate.

15. Transferability.

Neither Payroll deductions credited to a Participant's account nor any rights with regard to the exercise of a Purchase Right or to receive shares under this Plan may be assigned, transferred, pledged, or otherwise disposed of in any way (other than by will, the laws of descent and distribution, or as provided in Section 14) by the Participant. Any such attempt at assignment, transfer, pledge, or other disposition shall be without effect, except that the Administrator may treat such act as an election to withdraw funds in accordance with Section 10.

16. Reports.

Individual accounts will be maintained for each Participant in this Plan. Statements of account will be given to participating Employees promptly following each Purchase Date, setting forth the amounts of Payroll deductions, per-share purchase price, number of shares purchased, and remaining cash balance, if any.

17. Adjustments upon Changes in Capitalization.

(a) Subject to any required action by the stockholders of the Company, the number of shares of Common Stock covered by each unexercised Purchase Right and the number of shares of Common Stock authorized for issuance under this Plan but not yet been placed under a Purchase Right (collectively,

the "Reserves"), as well as the price per share of Common Stock covered by each unexercised Purchase Right, shall be proportionately adjusted for any change in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock, or any change in the number of shares of Common Stock effected without receipt of consideration by the Company (not counting shares issued upon conversion of convertible securities of the Company as "effected without receipt of consideration"). Such adjustment shall be made by the Board and shall be final, binding, and conclusive. Except as expressly provided herein, no issue by the Company of shares of stock of any class, or securities convertible into shares of stock of any class, shall affect, and no consequent adjustment shall be made with respect to, the number or price of shares of Common Stock subject to a Purchase Right.

(b) In the event of the proposed dissolution or liquidation of the Company, the then-current Offering Period will terminate immediately before the consummation of the proposed action, unless otherwise provided by the Board. In the event of a proposed sale of all or substantially all of the Company's assets, or the merger of the Company with or into another corporation (if the Company's stockholders own less than 50% of the total outstanding voting power in the surviving entity or a parent of the surviving entity after the merger), each Purchase Right under this Plan shall be assumed or an equivalent purchase right shall be substituted by the successor corporation or a parent or subsidiary of the successor corporation, unless the successor corporation does not agree to assume the Purchase Rights or to substitute equivalent purchase rights, in which case the Board may, in lieu of such assumption or substitution, accelerate the exercisability of Purchase Rights and allow Purchase Rights to be exercisable as to shares as to which they would not otherwise be exercisable, on terms and for a period that the Board determines in its discretion. To the extent that the Board accelerates exercisability of Purchase Rights as described above, it shall promptly so notify all Participants in writing.

(c) The Board may, in its discretion, also make provision for adjusting the Reserves, as well as the price per share of Common Stock covered by each outstanding Purchase Right, if the Company effects one or more reorganizations, recapitalizations, rights offerings, or other increases or reductions of shares of its outstanding Common Stock, or if the Company consolidates with or merges into any other corporation, in a transaction not otherwise covered by this Section 17.

18. Amendment or Termination.

(a) The Board may at any time terminate or amend this Plan. No amendment may be made without prior approval of the stockholders of the Company (obtained in the manner described in Section 20) if it would increase the number of shares that may be issued under this Plan.

(b) The Board may elect to terminate any or all outstanding Purchase Rights at any time, except to the extent that exercisability of such Purchase Rights has been accelerated pursuant to Section 17(b). If this Plan is terminated, the Board may also elect to terminate Purchase Rights upon completion of the purchase of shares on the next Purchase Date or to permit Purchase Rights to expire in accordance with their terms (with participation to continue through such expiration dates). If Purchase Rights are terminated before expiration, any funds contributed to this Plan that have not been used to purchase shares shall be refunded to Participants as soon as administratively feasible.

19. Notices.

20. Stockholder Approval.

This Plan shall be submitted to the stockholders of the Company for their approval within 12 months after the date this Plan is adopted by the Board.

21. Conditions upon Issuance of Shares.

(a) Shares shall not be issued with respect to a Purchase Right unless the exercise of such Purchase Right and the issuance and delivery of such shares pursuant thereto complies with all applicable provisions of law, domestic or foreign, including, without limitation, the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, the rules and regulations promulgated thereunder, and the requirements of any stock exchange upon which the shares may then be listed, and shall be further subject to the approval of counsel for the Company with respect to such compliance.

(b) As a condition to the exercise of a Purchase Right, the Company may require the person exercising such Purchase Right to represent and warrant at the time of any such exercise that the shares are being purchased only for investment and without any present intention to sell or distribute such shares if, in the opinion of counsel for the Company, such a representation is required by any of the aforementioned applicable provisions of law.

22. Term of Plan.

This Plan shall become effective upon the earlier of its adoption by the Board or its approval by the stockholders of the Company as described in Section 20. It shall continue in effect for a term of 20 years unless sooner terminated under Section 18.

23. Glossary. The following definitions apply for purposes of this Plan:

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(a) "Administrator" means the Board or the persons appointed by the Board to administer this Plan pursuant to Section 13.

(b) "Board" means the Board of Directors of the Company.

(c) "Code" means the Internal Revenue Code of 1986, as amended.

(d) "Common Stock" means the Common Stock of the Company.

(e) "Company" means Marvell Technology Group Ltd., a Bermuda corporation.

(f) "Continuous Employment" means the absence of any interruption or termination of service as an Employee. Continuous Employment shall not be considered interrupted in the case of a leave of absence agreed to in writing by the Company, provided that either (i) the leave does not exceed 90 days or (ii) re-employment upon expiration of the leave is guaranteed by contract or statute.

(g) "Designated Subsidiaries" means the Subsidiaries that have been designated by the Board from time to time in its sole discretion to participate in this Plan.

(h) "Employee" means any person, including an officer, who is

customarily employed for at least 20 hours per week and five months per year, by the Company or one of its Designated Subsidiaries. Whether an individual qualifies as an Employee shall be determined by the Administrator, in its sole discretion, by reference to Section 3401(c) of the Code and the regulations promulgated thereunder; unless the Administrator makes a contrary determination, the Employees of the Company shall, for all purposes of this Plan, be those individuals who satisfy the customary employment criteria set forth above and are carried as employees by the Company or a Designated Subsidiary for regular payroll purposes.

(i) "Offering Date" means the first business day of an Offering Period.

(k) "Offering Period" means a period established by the Administrator pursuant to Section 4 during which Payroll deductions are accumulated from Participants and applied to the purchase of Common Stock.

(l) "Participant" means an Employee who has elected to participate in this Plan pursuant to Section 5.

(m) "Payroll" means all regular, straight-time gross earnings, exclusive of payments for overtime, shift premium, incentive compensation or payments, bonuses, and commissions.

(m) "Plan" means this Marvell Technology Group Ltd. 2000 Employee Stock Purchase Plan.

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(n) "Purchase Date" means such business days during each Offering Period as may be established by the Administrator for the purchase of Common Stock pursuant to Section 8.

(o) "Purchase Right" means a right to purchase Common Stock granted pursuant to Section 7.

(p) "Subsidiary" means, from time to time, any corporation, domestic or foreign, of which not less than 50% of the voting shares are held by the Company or another Subsidiary of the Company.

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EXHIBIT 10.4

SUBLEASE  
(645 Almanor, Sunnyvale)

THIS SUBLEASE ("Sublease"), dated October \_\_, 1998 for reference purposes only, is entered into by and between NETSCAPE COMMUNICATIONS, INC., a Delaware corporation ("Netscape") and MARVELL SEMICONDUCTOR, INC. a California Corporation ("Subtenant").

RECITIVES

A. Netscape leases certain premises consisting of an industrial building (the "Building") containing approximately 132,000 square feet located at 645 Almanor, Sunnyvale, California, pursuant to that certain Lease dated November 1, 1996 between The Prudential Insurance Company Of America as landlord (the "Master Landlord") and Netscape, as tenant (the "Master Lease"), as more particularly described therein (the "Premises"). Capitalized terms used but not defined herein have the same meanings as they have in the Master Lease. A copy of the Master Lease is attached hereto as EXHIBIT A.

B. Netscape desires to sublease a portion of the Premises to Subtenant, and Subtenant desires to sublease a portion of the Premises from Netscape on the terms and provisions hereof.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, Netscape and Subtenant covenant and agree as follows:

AGREEMENT

1. SUBLEASED PREMISES. On and subject to the terms and conditions below, Netscape hereby leases to Subtenant, and Subtenant hereby leases from Netscape, approximately thirty-five thousand eight hundred forty two (35,842) rentable square feet of the Premises (the "Subleased Premises"). A description of the Subleased Premises is attached hereto as EXHIBIT B.

2. TERM. This Sublease shall commence on February 1, 1999 (the "Commencement Date"), provided Netscape has theretofore obtained the consent of Master Landlord, and shall expire February 15, 2002, unless sooner terminated pursuant to any provision hereof. Subtenant shall have the right to enter the Subleased Premises on January 1, 1999 to take reasonable preparatory measures for its occupancy of the Subleased Premises, including, without limitation, the installation of its trade fixtures, furnishings, and telephone and computer equipment. Such entry shall be subject to all of the terms and conditions of this Sublease, except that Subtenant shall not be required to pay any rent on account thereof.

3. POSSESSION. If for any reason Netscape cannot deliver possession of the Subleased Premises to Subtenant on the Commencement Date, Netscape shall not be subject to any liability therefor, nor shall such failure affect the validity of this Sublease or the obligations of Subtenant hereunder or extend the term hereof, provided that no rent shall be due hereunder until possession of the Subleased Premises has been delivered to Subtenant.

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4. RENT.

(a) Subject to section 3 above, commencing on the Commencement Date and continuing throughout the term of this Sublease, Subtenant shall pay monthly rent ("Rent") to Netscape in the following amounts:

(i) Base Rent. Subtenant shall pay to Netscape monthly base rent ("Base Rent") in the following amounts:

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Month	Monthly Base Rent
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01-12	\$1.45/rentable square foot
13-24	\$1.50/rentable square foot
25-End of term	\$1.55/rentable square foot

</TABLE>

(ii) Additional Rent. In addition to Base Rent, Subtenant shall also pay to Netscape as additional rent ("Additional Rent") Subtenant's pro rata

share ("Subtenant's Pro-Rata Share") of Building Operating Expenses (as defined below). Netscape and Subtenant hereby agree that Subtenant's Pro-Rata Share shall be the quotient derived by dividing the number of rentable square feet of the Subleased Premises by 132,000. To the extent that Netscape notifies Subtenant that any items constituting Additional Rent are due and payable under the Master Lease on a monthly basis, such Additional Rent shall be paid by Subtenant to Netscape as and when Basic Rent is paid. To the extent that such items constituting Additional Rent are billed from time to time to Netscape by Master Landlord, such Additional Rent shall be paid by Subtenant to Netscape within seven (7) business days after Subtenant's receipt from Netscape of an invoice therefor.

(b) "Building Operating Expenses" are defined, for purposes of this Sublease, as all actual costs and expenses paid or incurred by Netscape in connection with its management, operation, maintenance and repair of the Premises, including, without limitation: (i) the cost of electricity, natural gas, water, telephone, waste disposal and all other utilities, (ii) the cost of maintenance and repairs and all labor and material costs related thereto, including, without limitation, maintenance and repair of building systems, fire detection and sprinkler systems, building signs and directories, roof, common areas (including, without limitation, parking areas, loading and unloading areas, trash areas, striping, bumpers, irrigation systems, lighting facilities, elevators, fences and gates) and the cost of general maintenance, cleaning and service contracts and the cost of all supplies, tools and equipment required in connection therewith, (iii) the cost incurred by Netscape for license, permit and inspection fees for the Premises, (iv) wages, salaries, payroll taxes and other labor costs and employee benefits, (v) management fees (which shall not exceed management fees charged for similar facilities in the area and in any event, shall not exceed 5% of all other Building Operating Expenses), (vi) reasonable fees, charges and other costs of all independent contractors engaged by Netscape in connection with such management or repairs, (vii) reasonable accounting and legal expenses, (viii) janitorial and security systems, (ix) all Operating Expenses (as that term is used in the Master Lease) payable by Netscape to Master Landlord pursuant to the Master Lease, and (x) any other expenses of any kind whatsoever reasonably incurred in connection with the management, operation, maintenance and repair of the Building.

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(i) Audit Rights: Subtenant shall have the right to audit at Netscape's local offices, at Subtenant's expense, Netscape's accounts and records relating to Building Operating Expenses. Such audit shall be conducted by a certified public accountant approved by Netscape, which approval shall not be unreasonably withheld. If such audit reveals that Netscape has overcharged Subtenant, the amount overcharged shall be paid to Subtenant within 30 days after the audit is concluded.

(c) Payment of Rent. If the Commencement Date does not fall on the first day of a calendar month, Rent for the first month shall be prorated on a daily basis based upon a calendar month. Rent shall be payable to Netscape in lawful money of the United States, in advance, without prior notice, demand, or offset, on or before the first day of each calendar month during the term hereof. All Rent shall be paid to Netscape at the address specified for notices to Netscape in Section 16, below.

(d) Subtenant recognizes that late payment of any Rent will result in administrative expenses to Netscape, the extent of which additional expenses are extremely difficult and economically impractical to ascertain. Subtenant therefore agrees that if any Rent shall remain unpaid five (5) days after such amounts are due, the amount of such Rent shall be increased by a late charge to be paid to Netscape by Subtenant in an amount equal to the greater of five hundred dollars (\$500.00) or ten percent (10%) of the amount of the delinquent Rent.

(e) Upon execution of this Sublease, Subtenant shall deliver to

5. SECURITY DEPOSIT. Upon execution of this Sublease, Subtenant shall deposit with Netscape the sum of one hundred twenty-five thousand and 00/100 dollars (\$125,000.00) as a security deposit ("Security Deposit"). If Subtenant fails to pay Rent or other charges when due under this Sublease, or fails to perform any of its other obligations hereunder, Netscape may use or apply all or any portion of the Security Deposit for the payment of any Rent or other amount then due hereunder and unpaid, for the payment of any other sum for which Netscape may become obligated by reason of Subtenant's default or breach, or for any loss or damage sustained by Netscape as a result of Subtenant's default or breach. If Netscape so uses any portion of the Security Deposit, Subtenant shall restore the Security Deposit to the full amount originally deposited within ten (10) days after Netscape's written demand. Netscape shall not be required to keep the Security Deposit separate from its general accounts, and shall have no obligation or liability for payment of interest on the Security Deposit. The Security Deposit, or so much thereof as had not theretofore been applied by Netscape, shall be returned to Subtenant within thirty (30) days of the expiration or earlier termination of this Sublease, provided Subtenant has vacated the Subleased Premises.

6. CONDITION OF SUBLEASED PREMISES. Except as otherwise provided in Section 7 hereof, Subtenant has used due diligence in inspecting the Subleased Premises and agrees to accept the Subleased Premises in "as-is" condition and with all faults as of the date of Subtenant's execution of this Sublease, without any representation or warranty of any kind or nature whatsoever, or any obligation on the part of Netscape to modify, improve or otherwise prepare the Subleased Premises for Subtenant's occupancy, and by entry hereunder, Subtenant

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accepts the Subleased Premises in their present condition and without representation or warranty of any kind by Netscape. Subtenant hereby expressly waives the provisions of subsection 1 of Section 1932 and Sections 1941 and 1942 of the California Civil Code and all rights to make repairs at the expense of Netscape as provided in Section 1942 of said Civil Code.

7. CONDITION OF THE SUBLEASED PREMISES UPON COMMENCEMENT. Netscape will deliver the Subleased Premises in broom clean condition with all building systems in good working order and repair.

8. USE. Subtenant may use the Subleased Premises only for the purposes as allowed in the Master Lease, and for no other purpose. Subtenant shall not use or permit the use of the Subleased Premises in a manner that will create waste or a nuisance, interfere with or disturb other tenants in the Building or violate the provisions of the Master Lease. Subtenant shall promptly comply with all applicable statutes, ordinances, rules, regulations, orders, restrictions of record, and requirements in effect during the term of this Sublease governing, affecting and regulating Subtenant's specific use of the Subleased Premises, or that are triggered by any improvements or alterations done by, or at the direction of, Subtenant.

9. ALTERATIONS.

(a) Subtenant shall not make any alterations to the Subleased Premises without the express written consent of Netscape and the Master Landlord, which shall not be unreasonably withheld, and shall otherwise comply with the Alterations section of the Master Lease as incorporated herein.

(b) Subject to the foregoing, Subtenant shall at its sole cost and expense separately demise the Subleased Premises.

10. ASSIGNMENT AND SUBLETTING. Subtenant may not assign, sublet, transfer, pledge, hypothecate or otherwise encumber the Subleased Premises, in whole or in



part, or permit the use or occupancy of the Subleased Premises by anyone other than Subtenant, unless Subtenant has obtained Netscape's consent thereto (which shall not be unreasonably withheld) and the consent of Master Landlord. Regardless of Netscape's consent, no subletting or assignment shall release Subtenant of its obligations hereunder. Any rent or other consideration payable to Subtenant pursuant to any sublease or assignment permitted by this paragraph which is in excess of the Rent payable to Netscape pursuant hereto as offset by Subtenant's reasonable subleasing costs ("Sublease Bonus Rent") shall be divided equally between Netscape and Subtenant.

11. INCORPORATION OF SUBLEASE.

(a) All of the terms and provisions of the Master Lease, except as provided in subsection (b) below, are incorporated into and made a part of this Sublease and the rights and obligations of the parties under the Master Lease are hereby imposed upon the parties hereto with respect to the Subleased Premises, Netscape being substituted for the "Landlord" in the Master Lease, and Subtenant being substituted for the "Tenant" in the Master Lease. It is further understood that where reference is made in the Master Lease to the "Premises," the same shall mean the Subleased Premises as defined herein; where reference is made to the "Commencement

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Date," the same shall mean the Commencement Date as defined herein; and where reference is made to the "Lease," the same shall mean this Sublease.

(b) The following Sections of the Master Lease are not incorporated herein: Basic Lease Information (except "Use"), 1, 2, 3, 4, 5, 6, 7, 9(a), the first three sentences of 9(b), 10(b), 13(c), 23(c), 24, 26, 28, 30, 37 and 40; Exhibits B-1, B-2, C, C-1 and E.

(c) Subtenant hereby assumes and agrees to perform for Netscape's benefit, during the term of this Sublease, all of Netscape's obligations with respect to the Subleased Premises under the Master Lease, except as otherwise provided herein. Subtenant shall not commit or permit to be committed any act or omission which violates any term or condition of the Master Lease. Except as otherwise provided herein, this Sublease shall be subject and subordinate to all of the terms of the Master Lease.

12. INSURANCE. Subtenant shall be responsible for compliance with the insurance provisions of the Master Lease with respect to the Subleased Premises. Such insurance shall insure the performance by Subtenant of its indemnification obligations hereunder and shall name Master Landlord and Netscape as additional insureds. All insurance required under this Sublease shall contain an endorsement requiring thirty (30) days written notice from the insurance company to Subtenant and Netscape before cancellation or change in the coverage, insureds or amount of any policy. Subtenant shall provide Netscape with certificates of insurance evidencing such coverage prior to the commencement of this Sublease.

13. UTILITIES. Subject to reimbursement pursuant to Section 4(a)(ii) of this Sublease, Netscape shall provide the Subleased Premises with commercially reasonable amounts of water, electricity and janitorial service. Netscape reserves the right to install a separate meter to measure the consumption of any utility supplied by Netscape. If it is reasonably determined that Subtenant has been using more than a commercially reasonable amount of any utility supplied by Netscape, then such installation shall be at the sole cost to Subtenant. Subtenant shall separately contract with the appropriate utility for any services desired by Subtenant and not provided by Netscape.

14. SIGNAGE. Subject to approval by Master Landlord, which Netscape shall use commercially reasonable efforts to obtain, Netscape shall cause to be installed, at its own cost and expense, monument and door signage for the Subtenant.

15. DEFAULT. In addition to defaults contained in the Master Lease, failure of Subtenant to make any payment of Rent when due hereunder shall constitute an event of default hereunder.

16. NOTICES. The addresses specified in the Master Lease for receipt of notices to each of the parties are deleted and replaced with the following:

TO NETSCAPE AT: NETSCAPE COMMUNICATIONS, INC.  
501 East Middlefield Road  
Mountain View, California 94043  
Attn: Director of Real Estate

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WITH COPY TO: COOLEY GODWARD LLP  
5 Palo Alto Square  
3000 El Camino Real  
Palo Alto, CA 94306  
Attn: Toni P. Wise

TO SUBTENANT AT: MARVELL SEMICONDUCTOR, INC.  
645 Almanor Ave.  
Sunnyvale, CA 94086  
Attn: The Vice President of Finance

AFTER COMMENCEMENT  
DATE: At the Subleased Premises

17. NETSCAPE'S OBLIGATIONS.

(a) To the extent that the provision of any services or the performance of any maintenance or any other act respecting the Premises or Building is the responsibility of Master Landlord (collectively "Master Landlord Obligations"), upon Subtenant's request, Netscape shall make reasonable efforts to cause Master Landlord to perform such Master Landlord Obligations, provided, however, that in no event shall Netscape be liable to Subtenant for any liability, loss or damage whatsoever in the event that Master Landlord should fail to perform the same, nor shall Subtenant be entitled to withhold the payment of Rent or terminate this Sublease. It is expressly understood that the services and repairs which are incorporated herein by reference, including but not limited to the structural portions of the roof and building, will in fact be furnished by Master Landlord and not by Netscape, except to the extent otherwise provided in the Master Lease. In addition, Netscape shall not be liable for any maintenance, restoration (following casualty or destruction) or repairs in or to the Building or Subleased Premises, other than its obligation hereunder to use reasonable efforts to cause Master Landlord to perform its obligations under the Master Lease. With respect to any maintenance or repair to be performed by Master Landlord respecting the Subleased Premises, the parties expressly agree that Subtenant shall have the right to contact Master Landlord directly to cause it to so perform.

(b) Except as otherwise provided herein, Netscape shall have no other obligations to Subtenant with respect to the Subleased Premises or the performance of the Master Landlord Obligations.

18. EARLY TERMINATION OF SUBLEASE. If for any reason, the Master Lease should terminate prior to the expiration of this Sublease, Netscape shall have no liability to Subtenant on account of such termination. To the extent that the Master Lease grants Netscape any discretionary right to terminate the Master Lease, whether due to casualty, condemnation, or otherwise, Netscape shall be entitled to exercise or not exercise such right in its complete and absolute discretion.

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notwithstanding anything to the contrary herein, (a) Netscape shall have the same rights of approval or disapproval as Master Landlord has under the Master Lease, and (b) Subtenant shall not take any such action until it obtains the consent of Netscape and Master Landlord, as may be required under this Sublease or the Master Lease. This Sublease shall not be effective unless and until any required written consent of the Master Landlord shall have been obtained.

20. INDEMNITY. Subtenant shall indemnify, defend, protect, and hold Netscape and Master Landlord harmless from and against all actions, claims, demands, costs liabilities, losses, reasonable attorneys' fees, damages, penalties, and expenses (collectively "Claims") which may be brought or made against Netscape or which Netscape may pay or incur to the extent caused by (i) a breach of this Sublease by Subtenant, (ii) any violation of law by Subtenant or its employees, agents, contractors or invitees (collectively, "Agents") relating to the use or occupancy of the Subleased Premises, (iii) any act or omission by Subtenant or its Agents resulting in contamination of any part or all of the Subleased Premises by Hazardous Materials, or (iv) the negligence or willful misconduct of Subtenant or its Agents.

Netscape shall indemnify, defend, protect, and hold Subtenant harmless from and against all actions, claims, demands, cost liabilities, losses, reasonable attorneys' fees, damages, penalties, and expenses (collectively, "Claims") which may be brought or made against Subtenant or which Subtenant may pay or incur to the extent caused by (i) a breach of this Sublease by Netscape, or (ii) the gross negligence or willful misconduct of Netscape or its Agents.

21. RIGHT OF FIRST REFUSAL. In the event that space on the second floor of the building becomes available for lease (the "Available Space"), Netscape shall give Subtenant written notice of such availability, identifying the same and specifying the basic terms and conditions on which Netscape proposes to lease the Available Space (the "Availability Notice"). Subtenant shall have three (3) business days after its receipt of the Availability Notice in which Subtenant may either give Netscape written notice of Subtenant's acceptance of the Available Space on the terms and conditions specified in the Availability Notice (the "Acceptance Notice") or written notice of a counteroffer by Subtenant for the lease of the Available Space (the "Counter Notice").

Prior to giving the Availability Notice to Subtenant and for three (3) business days thereafter, Netscape shall not enter into any agreement for the Available Space with any other person. If during such three (3) business day period Subtenant gives Netscape an Acceptance Notice, Netscape and Subtenant shall then promptly enter into a lease for the Available Space on the terms and conditions specified in the Availability Notice (and otherwise on the terms and conditions contained in this Sublease). If during such three (3) business day period Subtenant gives Netscape a Counteroffer Notice, Netscape shall then give Subtenant written notice either accepting such counteroffer (in which event, Netscape and Subtenant shall promptly enter into a lease for the Available Space of the terms and conditions specified in the Counteroffer Notice and otherwise on the terms and conditions set forth in this Lease) or rejecting such counteroffer.

After the expiration of such three (3) business day period, if Subtenant has not given Netscape a timely Acceptance Notice or a timely Counteroffer Notice, then Netscape shall be free to enter into a lease for the use of the Available Space to any other person or entity on any terms and conditions. After the expiration of such three (3) business day period, if Subtenant has

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given Netscape a timely Counteroffer Notice which Netscape has rejected, Netscape shall be free to enter into an lease for the use of the Available Space to any other person or entity on any terms and conditions; provided, however, that Netscape shall not enter into a lease for the use of the Available Space with any other person or entity on basic terms materially less favorable to Netscape than those set forth in the Counteroffer Notice (or, if more than one Counteroffer Notice was timely given, then in the last such Counteroffer Notice) without giving Subtenant at least three (3) business days prior written notice of such proposed lease and the opportunity (during such three (3) business day period by delivery of written notice to Netscape) to agree to lease the Available Space on the same terms and conditions as those of such proposed lease.

22. BROKERS. Netscape and Subtenant each represent and warrant that they have dealt with no broker in connection with this Sublease and the transactions contemplated herein, except Cornish & Carey Commercial/ONCOR International and CPS Commercial respectively. Each party shall indemnify, protect, defend and hold the other party harmless from all costs and expenses (including reasonable attorneys' fees) arising from or relating to a breach of the foregoing representation and warranty.

23. NO THIRD PARTY RIGHTS. The benefit of the provisions of this Sublease is expressly limited to Netscape and Subtenant and their respective permitted successors and assigns. Under no circumstances will any third party be construed to have any rights as a third party beneficiary with respect to any of said provisions.

24. COUNTERPARTS. This Sublease may be signed in two or more counterparts, each of which shall be deemed an original and all of which shall constitute one agreement.

IN WITNESS WHEREOF, the parties have executed this Sublease as of the date first written above.

NETSCAPE:	SUBTENANT:
NETSCAPE COMMUNICATIONS, INC., a Delaware corporation	MARVELL SEMICONDUCTOR, INC., a California Corporation
By: Ed Axelsen -----	By: Gordon M. Steel -----
Sig: /s/ ED AXELSEN -----	Sig: /s/ GORDON M. STEEL -----
Its: Director of Real Estate and Facilities -----	Its: Vice President of Finance, CF -----
By: _____	By: _____
Sig: _____	Sig: _____
Its: _____	Its: _____

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LEASE

BETWEEN

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA  
A NEW JERSEY CORPORATION

AND

NETSCAPE COMMUNICATIONS CORPORATION  
A DELAWARE CORPORATION

FOR THE PREMISES LOCATED AT

645 ALMANOR AVENUE  
SUNNYVALE, CALIFORNIA 94086

DATED: NOVEMBER 1, 1996

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BASIC LEASE INFORMATION

DATE: November 1, 1998  
LANDLORD: THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, a New Jersey corporation  
TENANT: NETSCAPE COMMUNICATIONS CORPORATION, a Delaware corporation  
PREMISES: BUILDING ADDRESS: 645 Almanor Avenue  
Sunnyvale, CA 94086  
USE: Office, research and development, light manufacturing and distribution not involving Hazardous Substances  
TERM: Commencing on Commencement Date as defined in Section 2(a) and expiring sixty (60) months after Base Rent Commencement Date  
ESTIMATED COMMENCEMENT DATE: November 3, 1998

BASE RENT:

<TABLE>  
<CAPTION>

Months	Base Rent
(measured from Base Rent Commencement Date as defined in Section 4)	
<S>	<C>
1-36	\$ 97,500.00 per month
37-60	\$109,200.00 per month

</TABLE>

ADVANCE RENT: \$97,500

SECURITY DEPOSIT: NONE

BROKERS: Landlord's Broker: Cornish & Carey Commercial
Tenant's Broker: BT Commercial Real Estate

CONTRACT MANAGER: Voit Management Company, L.P.

ADDRESS FOR NOTICES:

LANDLORD: The Prudential Insurance Company of America
Four Embarcadero Center, Suite 2700
San Francisco, CA 94111-4180

CONTRACT MANAGER: With a copy to:
Voit Management Company, LP.
1111 Broadway, Suite 1510
Oakland, CA 94607

TENANT: Netscape Communications Corporation
645 Almanor Avenue
Sunnyvale, CA 94086

With a copy to:
Legal Department
Netscape Communications Corp.
501 East Middlefield Road
Mountain View, CA 94043

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- EXHIBITS AND ADDENDUM: Exhibit A - Site Plan of Premises
Exhibit B-1 - Commencement Date Memorandum
Exhibit B-2 - Base Rent Commencement Date Memorandum
Exhibit C - ADA and HVAC Improvements
Exhibit D - Rules and Regulations
Exhibit E - Environmental Reports

INITIALS: /s/[SIGNATURE ILLEGIBLE] /s/PKC
Landlord Tenant

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THIS LEASE, which is effective as of the date set forth in the Basic Lease information, is entered into by Landlord and Tenant, as set forth in the Basic Lease Information. Terms which are capitalized in this Lease and not expressly defined herein shall have the meanings set forth in the Basic Lease Information.

1. PREMISES. Landlord leases to Tenant, and Tenant leases from Landlord, the Premises described in the Basic Lease Information (as shown in Exhibit A), together with all improvements located thereon.

2. TERM.

(a) Lease Term. The Term of this Lease shall commence on the later of November 3, 1998 or the date Landlord tenders possession of the Premises to Tenant (the "Commencement Date") and, unless terminated on an earlier date in accordance with the terms of this Lease, shall expire on the date which is the date before the fifth anniversary of the Base Rent Commencement Date (the "Expiration Date"), as defined in Section 4 ("Term").

(b) Premises Not Delivered. If, for any reason, Landlord cannot deliver possession of the Premises to Tenant by the Estimated Commencement Date (as set forth in the Basic Lease Information), (i) the Term shall not commence until the Commencement Date; (ii) the failure shall not affect the validity of this Lease, or the obligations of Tenant under this Lease; and (iii) Landlord shall not be subject to any liability.

(c) Drop Deed Date. Notwithstanding anything to the contrary contained herein, if Landlord has not delivered the Premises to Tenant on or before January 1, 1997, Tenant shall have the right as its exclusive remedy thereafter to cancel this Lease, and upon such cancellation, Landlord shall return all sums theretofore deposited by Tenant with Landlord, and neither party shall have further liability to the other.

(d) Commencement Date Memorandum. When the Commencement Date is determined, the parties shall execute a Commencement Date Memorandum, in the form attached hereto as Exhibit B-1, setting forth the Commencement Date.

3. RENT. As used in this Lease, the term "Rent" shall include: (i) the Base Rent; (ii) Tenant's Percentage Share of the Operating Expenses paid or incurred by Landlord during the calendar year; and (iii) all other amounts which Tenant is obligated to pay under the terms of this Lease. All amounts of money payable by Tenant to Landlord shall be paid without prior notice or demand, deduction or offset. This Lease is intended to be a triple net lease, with all costs, expenses and charges (including the Operating Expenses) paid by Tenant. Tenant hereby acknowledges that late payment by Tenant to Landlord of Rent will cause Landlord to incur costs not contemplated by this Lease, the exact amount of which will be difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed on Landlord by the terms of any trust deed covering the Premises. Accordingly, if any installment of Rent or any other sums due from Tenant shall not be received by Landlord when due, Tenant shall pay to Landlord a late charge equal to six percent (6%) of such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Landlord will incur by reason of late payment by Tenant. Acceptance of such late charge by Landlord shall in no event constitute a waiver of Tenant's default with respect to such overdue amount, nor prevent Landlord from exercising any of the other rights and remedies granted hereunder. In addition, any amount which is not paid when due shall bear interest from the date due until the date paid at the rate ("Interest Rate") which is the lesser of fifteen percent (15%) per annum or the maximum rate permitted by law.
4. BASE RENT. Tenant shall pay Base Rent to Contract Manager (or other entity designated by Landlord), in advance, on the first day of each calendar month of the Term commencing as of the Base Rent Commencement Date, at Contract Manager's address for notices (as set forth in the Basic Lease Information) or at such other address as Landlord may designate. The Base Rent shall be the amount set forth in the Basic Lease Information. As used herein, the term "Base Rent Commencement Date" shall mean the date which is the earlier of (a) ninety days after the Commencement Date, or (b) the date that Tenant commences business operations on the Premises. When the Base Rent Commencement Date is determined, the parties shall execute a Base Rent Commencement Date Memorandum, in the form attached hereto as Exhibit B-2, setting forth the Base Rent Commencement Date and the expiration date ("Expiration Date") of this Lease.
5. OPERATING EXPENSES.
  - (a) Operating Expenses as Portion of Rent. Tenant shall pay as additional Rent Tenant's Percentage Share of the Operating Expenses paid or incurred by Landlord during the calendar year.
  - (b) Definition of Operating Expenses. The term "Operating Expenses" shall mean (i) all of Landlord's direct costs and expenses of operation, repair and maintenance of the Premises, as determined by Landlord



accounting principles consistently applied; (ii) a reasonably amortized portion of the costs of any capital improvements made to the Premises by Landlord which comprise labor-saving devices or other equipment intended to improve the operating efficiency of any system within the Premises (such as an energy management computer system) to the extent of cost savings in Operating Expenses as a result of the device or equipment, as reasonably determined by Landlord; and (iii) costs allocable to the Premises of any capital improvements made to the Premises by Landlord that are required under any governmental law or regulation that was not applicable to the Premises at the time they were constructed, and/or that are reasonably required for the health and safety of tenants in the Premises, and/or are installed to repair or replace property located in the Premises as of the Commencement Date, the costs to be amortized over such reasonable period as Landlord shall reasonably determine together with interest on the unamortized balance at the Interest Rate or such higher rate as may have been paid by Landlord on funds borrowed for the purpose of constructing the capital improvements. The term "Operating Expense" shall include the cost of all insurance which Landlord and Landlord's lender reasonably deems necessary for the Premises; a reasonable management fee; dues imposed by any property owner's association ("Association"); and the Real Property Taxes (as defined in subsection 5(f)). If Landlord elects to self-insure or includes the Premises under blanket insurance policies covering multiple properties, then the term "Operating Expenses" shall include the portion of the cost of such self-insurance or blanket insurance allocated by Landlord to this Premises. The definition of Operating Expenses shall not be deemed to impose any obligations on Landlord to perform any obligations under this Lease. Landlord's sole obligations regarding maintenance, repair or otherwise related to the condition of the Premises are specified in Section 7 and subsection 10(b) of the Lease.

(c) Exclusions from Operating Expenses: The term "Operating Expenses" shall not include (i) Leasing commissions, attorneys' fees, costs, disbursements, and other expenses incurred in connection with negotiations or disputes with tenants, or in connection with leasing, renovating, or improving space for tenants; (ii) the cost of any service sold to Tenant for which Landlord is reimbursed as an additional charge or rental over and above the basic rent and escalations payable under this Lease; (iii) any depreciation on the Premises; (iv) increases in costs incurred due to Landlord's default of any terms or conditions of this Lease (beyond applicable notice and cure periods); (v) overhead profit increments paid to Landlord's subsidiaries or affiliates for management or other services on or to the building or for supplies or other materials to the extent that the cost of the services, supplies, or materials exceeds the cost that would have been paid had the services, supplies or materials been provided by unaffiliated unionized parties on a competitive basis; (vi) all interest, loan fees, and other carrying costs related to any mortgage or deed of trust and all rental and other amounts payable due under any ground or underlying lease; (vii) any compensation paid to clerks, attendants, or other persons in commercial concessions operated by Landlord on the Premises; (viii) advertising and promotional expenditures; (ix) costs of repairs and other work occasioned by fire, windstorm, or other casualty to the extent insured by Landlord; provided, however, reasonable deductibles under any such policy may be included in Operating Expenses; (x) any fines, or penalties incurred due to violations by Landlord of any governmental rule or authority, which is not the responsibility of Tenant under the Lease, or costs due to Landlord's gross negligence or willful misconduct; (xi) management costs to the extent they exceed 5% of Base Rent plus other Operating Expenses; (xii) costs for sculpture, paintings, or other objects of art (nor insurance paid thereon or extraordinary security in connection therewith); (xiii) wages, salaries, or other compensation paid to any executive employees above the grade of building manager; (ix) the cost of correcting any building code or other violations which were violations prior to the Commencement Date, provided that a condition which was not constructed in compliance with laws at the time of construction shall be deemed to be in compliance with applicable law notwithstanding that such law has thereafter been changed or amended; and (x) costs incurred to contain, remove or remediate any contamination of the ground water under the Premises by Hazardous Substances.

(d) Estimates of Operating Expenses: During December of each calendar year during the Term, or as soon thereafter as practicable, Landlord shall give Tenant written notice of Landlord's estimate of the amount of Operating Expenses which will be payable for the ensuing calendar year. On or before the first day of each month during the ensuing calendar year, Tenant shall pay to Landlord one-twelfth (1/12) of the estimated amount; provided, however, that if notice is not given in December, Tenant shall continue to pay on the basis of the then applicable Rent until the month after the notice is given. If at any time it reasonably appears to Landlord that the amount payable for the current calendar year will vary from Landlord's estimate by more than five percent (5%), Landlord may give notice to Tenant of Landlord's revised estimate for the year, and subsequent payments by Tenant for the year shall be based on the revised estimate; provided, however, that Landlord shall not give notice of a revised estimate for any year more frequently than once a calendar quarter.

(e) Annual Adjustment. Within one hundred twenty (120) days after the close of each calendar year of the Term, or as soon after the one hundred twenty (120) day period as practicable, Landlord shall deliver

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to Tenant a statement of the actual Operating Expenses for the prior calendar year. If, on the basis of the statement, Tenant owes an amount that is less than the estimated payments for the calendar year previously made by Tenant, Landlord shall apply the excess to the next payment of Operating Expenses due. If, on the basis of the statement, Tenant owes an amount that is more than the estimated payments for the calendar year previously made by the Tenant, Tenant shall pay the deficiency to Landlord within thirty (30) days after delivery of the statement. The statement of Operating Expenses shall be presumed correct and shall be deemed final and binding upon Tenant unless (i) Tenant in good faith objects in writing thereto within thirty (30) days after delivery of the statement to Tenant (which writing shall state, in reasonable detail, all of the reasonable detail, all of the reasons for the objection); and (ii) Tenant pays in full, within thirty (30) days after delivery of the statement to Tenant, any amount owed by Tenant with respect to the statement which is not in dispute. Tenant's failure to pay the amount shown on Landlord's statement within thirty (30) days after delivery thereof or Tenant's failure to pay in a timely manner the revised estimate of Landlord's determination of Operating Expenses shall be deemed an irrevocable waiver of Tenant's right to contest and/or receive any credit or reimbursement for an overcharge of Operating Expenses shown on the Landlord's statement under which payment is required at that time. If Tenant objects to Landlord's allocation to the Premises of the cost of self-insurance or blanket insurance, such allocation shall nonetheless be presumed correct and shall be deemed final and binding upon Tenant unless Tenant's timely written objection includes credible evidence that Landlord could have obtained substantial comparable insurance coverage for this Premises alone at lower cost.

(f) Tenant's Right to Audit Landlord's Records. Within 90 days after timely giving Landlord its notice of its objection to Landlord's statement of actual Operating Expenses in accordance with Section 5(e), (the "Landlord's Statement"), Tenant shall have the right to audit at Landlord's local offices, at Tenant's expense, Landlord's accounts and records relating to Operating Expenses and Real Property Taxes. Such audit shall be conducted by a certified public accountant approved by Landlord, which approval shall not be unreasonably withheld, and shall be completed within such ninety (90) day period. If such audit reveals that Landlord has overcharged Tenant, the amount overcharged shall be paid (or at Landlord's option credited toward amounts next payable by Tenant under this Lease) to Tenant within 30 days after the audit is concluded. In addition, if, following such audit, the parties agree that Landlord's Statement of Operating Expenses exceeds the actual Operating Expenses which should have been charged to Tenant by more than 15%, the cost of such audit shall be paid by Landlord.

(g) Definition of Real Property Taxes. The term "Real Property Taxes" shall mean any ordinary or extraordinary form of assessment or special assessment,

license fee, rent tax, levy, penalty (if a result of Tenant's delinquency), or tax, other than net income, estate, succession, inheritance, transfer or franchise taxes, imposed by any authority having the direct or indirect power to tax, or by any city, county, state or federal government for any maintenance or improvement or other district or division thereof. The term shall include all transit charges, housing fund assessments, real estate taxes and all other taxes relating to the Premises, all other taxes which may be levied in lieu of real estate taxes, all assessments, assessment bonds, levies, fees and other governmental charges (including, but not limited to, charges for traffic facilities, improvements, child care, water services studies and improvements, and fire services studies and improvements) for amounts necessary to be expended because of governmental orders, whether general or special, ordinary or extraordinary, unforeseen as well as foreseen, of any kind and nature for public improvement, services, benefits or any other purposes which are assessed, levied, confirmed, imposed or become a lien upon the Premises or become payable during the Term.

(h) Acknowledgment of Parties. It is acknowledged by Landlord and Tenant that Proposition 13 was adopted by the voters of the State of California in the June, 1978 election, and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such purposes as fire protection, street, sidewalk, road, utility construction and maintenance, refuse removal and for other governmental services which formerly may have been provided without charge to property owners or occupants. It is the intention of the parties that all new and increased assessments, taxes, fees, levies and charges due to Proposition 13 or any other cause are to be included within the definition of Real Property Taxes for purposes of this Lease.

(i) Taxes on Tenant Improvement and Personal Property. Notwithstanding any other provision hereof, Tenant shall pay the full amount of any Real Property Taxes during the Term resulting from any and all alterations and tenant improvement of any kind whatsoever placed in, on or about the Premises for the benefit of, at the request of, or by Tenant. Tenant shall pay, prior to delinquency, all taxes assessed or levied against Tenant's personal property in, on or about the Premises. When possible, Tenant shall cause its personal property to be assessed and billed separately from the real or personal property of Landlord.

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6. PRORATION OF RENT. If the Commencement Date is not the first day of the month, or if the end of the Term is not the last day of the month, Rent shall be prorated on a monthly basis (based upon a thirty (30) day month) for the fractional month during the month which this Lease commences or terminates. The termination of this Lease shall not affect the obligations of Landlord and Tenant pursuant to subsection 5(e) which are to be performed after the termination.

7. TENANT IMPROVEMENTS.

(a) Landlord shall cause the electrical system, plumbing and roof to be in good and operable condition and repair as of the Commencement Date. However, Landlord shall not be obligated to make any alteration or repair required as a result of improvements to be installed by Tenant in the Premises. Landlord shall be conclusively deemed to have satisfied the foregoing obligation unless Tenant identifies specific items of noncompliance by delivery of written notice to Landlord within sixty (60) days after the Commencement Date. Upon Landlord's correction of such items, Landlord's obligations under this subsection (a) shall be deemed fully satisfied.

(b) Tenant shall install the ADA Improvements and HVAC Improvements shown on attached Exhibit C and Landlord shall reimburse Tenant up to \$47,500 for costs incurred by Tenant in connection with the ADA Improvements and

(c) Except as specified in subsections (a) above and (d) below, Tenant shall accept the Premises "as-is" and with all faults and Landlord shall have no obligations to improve or modify the Premises.

(d) Landlord covenants and represents that it has full and complete authority to enter into this Lease under all of the terms, covenants and provisions set forth herein and so long as Tenant performs each and every term, provision and condition herein contained on the part of Tenant to be performed, Tenant may peacefully and quietly enjoy the Premises in accordance with the terms of this Lease.

8. USES OF PREMISES.

(a) Tenant shall use the Premises solely for the use set forth in the Basic Lease Information, and Tenant shall not use the Premises for any other purpose without obtaining the prior written consent of Landlord, which consent shall not be unreasonably withheld. Tenant shall, at its own cost and expense, comply with all laws, rules, regulations, orders, permits, licenses and ordinances issued by any governmental authority which relate to the condition, use or occupancy of the Premises during the term of this Lease. Notwithstanding the foregoing or anything to the contrary contained in this Lease, Tenant shall not be responsible for compliance with any laws, codes, ordinances or other governmental directives where such compliance is not related specifically to or required as a result of Tenant's use, occupancy and/or alteration of the Premises. For example, if any governmental authority should require the Premises to be structurally strengthened against earthquake and such measures are imposed as a general requirement applicable to all tenants rather than as a condition of Tenant's specific use or occupancy of or alterations to the Premises, such work shall be performed by Landlord and included in a capital expense under Operating Expenses. Tenant shall not use the Premises in any manner that will constitute waste or nuisance.

(b) "Hazardous Substance" shall mean the substances including within the definitions of the term "Hazardous substance" under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. Section 9801 et seq., and the California Carpenter-Presley-Tenner Hazardous Substance Account Act, California Health & Safety Code Section 25300 et seq., and regulations promulgated thereunder, as amended. "Hazardous Waste" shall mean (a) any waste listed as or meeting the identified characteristics of a "Hazardous Waste" under the Resource Conservation and Recovery Act of 1976, 42 U.S.C. Section 6901 et seq., and regulations promulgated pursuant thereto, collectively "RCRA", or (b) any waste meeting the identified characteristics of "Hazardous Waste" under California Hazardous Waste Control Law, California Health and Safety Code Section 25100 et. seq., and regulations promulgated pursuant thereto, collectively "CHWCL". "Hazardous Waste Facility" shall mean a hazardous waste facility as defined under CHWCL.

(c) Tenant covenants that, at its sole cost and expense, it will comply with all applicable laws, rules, regulations, orders, permits, licenses and operating plans of any governmental authority with respect to the use, handling, generation, transportation, storage, treatment and/or disposal of Hazardous Substances or Wastes brought on to the Premises by Tenant and/or Tenant's agents, contractors, employees, invitees, licensees, sublessees or other person on or about the Premises during the term, and Tenant will provide

connection with its authorized use of the Premises. Additionally, Tenant agrees to comply with the Rules and Regulations attached hereto as Exhibit D, the requirements of the Board of Fire Underwriters or Landlord's insurance carrier, and to comply with covenants, conditions and restrictions ("CC&R'S), if any, applicable to the Property.

(d) Tenant agrees that it shall not operate on the Premises any facility required to be permitted or licensed as a Hazardous Waste Facility or for which interim status as such is required. Nor shall Tenant store any Hazardous Wastes on the Premises for ninety (90) days or more.

(e) No underground storage tanks shall be permitted on the Premises.

(f) If applicable, Tenant shall provide to Landlord in writing the following information and/or documentation at the Commencement Date and within sixty (60) days of any change in the required information and/or documentation:

- (i) A list of all Hazardous Substances and/or Wastes that Tenant uses, handles, generates, transports, stores, treats or disposes in connection with its operations on the Premises.
- (ii) Copies of all Material Safety Data sheets ("MSDS's") required to be completed with respect to operations of Tenant at the Premises in accordance with Title 8, California Code of Regulations Section 5194 or 42 U.S.C. Section 11021, or any amendments thereto. In lieu of this requirement, Tenant may provide a Hazardous Materials Inventory Sheet that details the MSDS's.
- (iii) Copies of all hazardous waste manifests, as defined in Title 26, California Code of Regulations Section 22-66260.10, that Tenant is required to complete in all connections with its operations at the Premises.
- (iv) A copy of any Hazardous Materials Management Plans required with respect to Tenant's operations.
- (v) Copies of any Contingency Plans and Emergency Procedures, if any, required of Tenant due to its operations in accordance with Title 26, Section 22-66260.10, of the California Code of Regulations, and any amendments thereto.
- (vi) Copies of any biennial reports to be furnished to California Department of Health Services relating to Hazardous Substances or Wastes.
- (vii) Copies of all industrial waste water discharge permits.

(g) Tenant shall secure Landlord's prior written approval for any proposed receipt, storage, possession, use, transfer or disposal of "Radioactive Materials" or "Radiation", as such materials are defined in Title 28, California Code of Regulations Sections 17-30100 or possessing the characteristics of the materials so defined, which approval Landlord may withhold in its sole and absolute discretion. The Tenant, in connection with any authorized receipt, storage, possession, use, transfer or disposal of radioactive materials or radiation shall:

- (i) Comply with all federal, state and local laws, rules, regulations, orders, licenses and permits;
- (ii) Furnish Landlord with a list of all radioactive materials or radiation received, stored, possessed, used, transferred or disposed; and

(h) Tenant agrees to comply with any and all applicable laws, rules, regulations, and orders with respect to the release into the environment of any Hazardous Wastes or Substances or Radiation of Radioactive Materials brought on to the Premises by Tenant and/or Tenant's agents, contractors, employees, invitees, licensees, sublessees or other person on or about the Premises during the Term. Tenant agrees to notify Landlord in writing of any unauthorized release into the environment within twenty-four (24) hours of the time at which Tenant becomes aware of such release.

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(i) Tenant shall indemnify, defend, and hold Landlord harmless from any and all claims, losses (including, but not limited to, loss of rental income and loss due to business interruption), damages (including diminution in value or loss of rental value following expiration or earlier termination of the Term), liabilities, costs, legal fees, and expenses of any sort arising out of or relating to any unauthorized release into the environment of Hazardous Substances or Wastes or Radiation or Radioactive Materials by Tenant or any of Tenant's agents, contractors or invitees, or Tenant's failure to comply with Subparagraphs (a)-(?) of this section of the Lease.

(j) Tenant agrees to cooperate with Landlord in furnishing Landlord with complete information regarding Tenant's receipt, handling, use, storage, transportation, generation, treatment and/or disposal of Hazardous Substances or Wastes or Radiation or Radioactive Materials. Upon reasonable prior written notice, Tenant agrees to grant Landlord reasonable access at reasonable times to the Premises to inspect Tenant's receipt, handling, use, storage, transportation, generation, treatment and/or disposal of Hazardous Substances Wastes or Radiation or Radioactive Materials without being deemed guilty of any disturbance of Tenant's use or possession and without being liable to Tenant in any manner.

(k) Notwithstanding Landlord's rights of inspection and review under this paragraph, Landlord shall have no obligation or duty to so inspect or review, and no third party shall be entitled to rely on Landlord to conduct any sort of inspection or review by reason of the provisions of this paragraph.

(l) The following provisions shall apply to any Existing Contamination (as defined herein):

(i) Tenant acknowledges that (1) certain Hazardous Substances may be located on, about, or under the Premises; (2) Landlord has made available to Tenant the environmental reports referenced on attached Exhibit E (collectively the "Environmental Reports"); (3) neither Landlord nor any agent or contractor of Landlord has made any representation or warranty concerning the environmental condition of the Premises; (iv) neither Landlord nor any agent or contractor of Landlord has made any representation or warranty concerning the accuracy or completeness of the Environmental Reports; (v) Tenant shall make such additional assessments, tests or inquiries regarding the environmental condition of the Premises as Tenant may deem necessary or appropriate; provided that Tenant shall not conduct any tests on or about the Premises unless Tenant has obtained the prior written approval of Landlord regarding the nature and scope of such testing; and (4) subject to Landlord's indemnity referenced below, Tenant shall accept the Premises in its "AS IS" environmental condition. As used herein, the term "Existing Contamination" shall mean the identity of Hazardous Substances referenced in the Environmental Reports as being

located on, under or in the vicinity of the Premises as of the date of this Lease or otherwise proven by Tenant to have been located on or under the Premises as of the date of this Lease or to have migrated under the Premises during the term of this Lease (other than a migration caused by the acts or omissions of Tenant and or Tenant's agents, contractors, licensees or invitees or other persons on the Premises during the term of this Lease.

(ii) Subject to the provisions of this subsection, Landlord shall indemnify, defend and hold harmless Tenant from and against any Environmental Claim (as defined below) asserted against Tenant and, subject to the limitations referenced in the following paragraph, any out of pocket costs, fees and expenses, including attorneys' and consultants' fees, paid by Tenant in connection with such Environmental Claim, provided that the foregoing indemnity shall not apply to the extent, that any such Environmental Claim arises out of or is caused or exacerbated by the negligence or intentional act or intentional failure to act of Tenant or any affiliate of Tenant and/or their respective agents, contractors, employees, licensees, invitees, sublessees and/or assignees. As used in this Lease, the term "Environmental Claim" shall mean any claim, demand, loss, damage, and/or liability asserted against Tenant with respect to the Existing Contamination (i) by a governmental authority for the investigation, abatement, clean up or remediation of or other action related to Existing Contamination on the Premises, or (ii) by any third party who is not an affiliated subsidiary, partner, agent, employee or invitee of Tenant. The parties acknowledge that the term "Environmental Claim" shall not include under any circumstance (a) lost profits, business interruption, whether in connection with a claim related to the Existing Contamination or otherwise, or (b) any consequential damages suffered or incurred by Tenant, or (c) any claim related to Hazardous Substances on the Premises which are not included within the scope of the term "Existing Contamination".

(iii) In the event an Environmental Claim is asserted against Tenant for which Tenant intends to seek indemnification pursuant to the foregoing paragraph, Tenant shall promptly deliver written notice to Landlord of such Environmental Claim and Landlord shall have exclusive authority related

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to the response to and defense of the Environmental Claim. No cost, fee or expense paid or incurred by Tenant with respect to an Environmental Claim shall be required to be reimbursed or indemnified by Landlord unless Landlord has previously approved such expense in writing or Landlord has denied approval of such expenses on the basis that the foregoing indemnity does not cover the specific Environmental Claim for which such expense was incurred and thereafter it is determined pursuant to a final non-appealable judicial order that the foregoing indemnity does cover the specific Environmental Claim for which such expense was incurred. Tenant shall cooperate with Landlord in connection with the response to and defense of any Environmental Claim and shall make available to Landlord such information and personnel as Landlord may reasonably request in order to respond to or defend such Environmental Claim.

(m) This Section 8 of the Lease shall survive termination of the Lease.

9. ALTERATIONS.

(a) Initial Alterations.

(i) Preliminary Plans. Preliminary plans and specifications for construction of the tenant improvements to be initially installed by Tenant in the Premises ("Initial Alterations") shall be prepared by a

licensed architect as is proposed by Tenant and reasonably approved by Landlord (the "Architect"). The preliminary plans and specifications shall be submitted to Landlord for Landlord's approval which approval shall not be unreasonably withheld, provided that Landlord may withhold such consent, in Landlord's sole discretion, if the construction contemplated by such preliminary plans will affect the structure, roof, or the exterior appearance of the Premises, or will have an adverse affect on the utility systems of the Premises. The preliminary plans and specifications approved as set forth above are referred to herein as the "Approved Preliminary Plans."

(ii) Working Drawings. Promptly following approval of the Approved Preliminary Plans, Tenant shall instruct the Architect to produce, and submit to Landlord for review and approval, which approval shall not be unreasonably withheld, working drawings and specifications. The working drawings and specifications which have been approved as provided herein are hereinafter referred to as the "Approved Working Drawings."

(iii) Selection of Contractor. Tenant shall engage a general contractor as is proposed by Tenant and reasonably approved by Landlord (the "Contractor") to construct the Initial Alterations.

(iv) Construction. Tenant shall cause construction of the Initial Alterations to be completed in a good and workmanlike manner and in compliance with all applicable laws, rules and regulations. Tenant shall provide access to Landlord at all reasonable times for the purpose of inspecting the construction of the Initial Alterations and shall cooperate with Landlord and Landlord's agents during such inspections and provide to Landlord and Landlord's agents such information as Landlord or Landlord's agents may reasonably request.

(v) Change Requests. No changes to the Approved Working Drawings requested by Tenant shall be made without Landlord's prior approval. Any changes to the Approved Working Drawings shall be in writing and shall be signed by both Landlord and Tenant prior to the change being made.

(vi) Plans and Specifications. Upon completion, Tenant shall deliver to Landlord a complete set of "as-built" plans and specifications for the Initial Alterations.

- (b) Additional Alterations. As used in this Section 9, the term "alteration" shall include the Initial Alterations and any subsequent alteration, addition or improvement. Tenant shall give Landlord not less than ten (10) days' notice of any alteration Tenant desires to make to the Premies. Except for the Initial Alterations, Tenant shall not make any alteration in, or about the Premises without the prior written consent of Landlord unless the alteration does not require a building permit, affect the Building structure, the exterior appearance of the Building, the roof or the Building systems (e.g. electrical systems) and the cost of the alteration is not in excess of Twenty Thousand Dollars (\$20,000.00) in each particular instance or in excess of Eighty Thousand Dollars (\$80,000.00) in any calendar year. Tenant shall comply with all rules, laws, ordinances and requirements applicable at the time Tenant makes any alteration and shall

deliver to Landlord a complete set of "as built" plans and specifications for each alteration. Tenant shall be solely responsible for maintenance and repair of all alterations made by Tenant.



(c) Liens. If, because of any act or omission of Tenant or anyone claiming by, through, or under Tenant, any mechanics lien or other lien is filed against the Premises or against other property of Landlord (whether or not the lien is valid or enforceable), Tenant, at its own expense, shall cause it to be discharged of record within a reasonable time, not to exceed thirty (30) days, after the date of the filing. In addition, Tenant shall defend and indemnify Landlord and hold it harmless from any and all claims, losses, damages, judgments, settlements, costs and expenses, including attorneys' fees, resulting from the lien.

(d) Ownership of Alterations. Any alteration made by Tenant immediately shall become Landlord's property. Except as provided in subsection 9(d), Landlord may require Tenant, at Tenant's sole expense and by the end of the Term, to remove any alterations made by Tenant (including any alteration which so not require Landlord's consent) and to restore the Premises to its condition prior to the alteration, provided that Tenant shall not be required to remove such alterations if, in response to Tenant's request pursuant to subsection (d) below, Landlord has notified Tenant at the time Landlord consents to such alteration that such removal will not be required.

(d) Request Regarding Removal Obligation. At the time that Tenant requests Landlord's consent of any alteration, Tenant may request that Landlord notify Tenant if Landlord will require Tenant, at Tenant's sole expense, to remove any or all of the alteration by the end of the Term, and to restore the Premises to its condition prior to the alteration.

#### 10. REPAIRS.

(a) Tenant's Obligation. Except as provided in subsection 10(b), Tenant, at all times during the Term and at Tenant's sole cost and expense, shall keep the Premises and every part thereof in good condition and repair, including without limitation any replacement of any element of the Premises requiring replacement, ordinary wear and tear, damage thereto not caused by Tenant, by fire, earthquake, acts of God or the elements excepted. Tenant hereby waives all right to make repairs at the expense of Landlord or in lieu thereof to vacate the Premises as provided in California Civil Code Section 1942 or any other law statute or ordinance now or hereafter in effect.

(b) Landlord's Obligations. Landlord, at Landlord's expense, shall repair and maintain the structural portions of the roof (but not roof membrane or other non-structural elements of the roof) and structural portions of the Building unless and to the extent that the maintenance and repair are caused by the act, neglect, fault or omission of any duty of Tenant, its agents, servants, employees or invitees, in which case Tenant shall pay to Landlord the cost of the maintenance and repairs caused in whole or in part by Tenant. There shall be no abatement of Rent and no liability of Landlord by reason of any injury to or interference with Tenant's business arising from the making of any repairs, alterations or improvements in or to the fixtures, appurtenances and equipment therein. Landlord's cost of performing the forgoing obligations shall be included in Operating Expenses.

#### 11. DAMAGE OR DESTRUCTION.

(a) Landlord's Obligation to Rebuild. If the Premises are damaged or destroyed, Landlord promptly and diligently shall repair the Premises (subject to the limitations specified in this Section 11) unless Landlord has the option to terminate this Lease as provide herein, and Landlord elects to terminate.

(b) Right to Terminate. Landlord and Tenant each shall have the option to terminate this Lease if the Premises is destroyed or damaged by fire or other casualty, regardless of whether the casualty is insured against under this Lease, if Landlord reasonably determines that Landlord's obligation to repair the Premises cannot be completed within two hundred seventy (270) days after the casualty. If a party desires to exercise the right to terminate this Lease as a result of a casualty, the party shall exercise the right by giving the other party written notice of its election to terminate within thirty (30) days after

the damage or destruction, in which event this Lease shall terminate fifteen (15) days after the date of the notice. If neither Landlord nor Tenant exercises the right to terminate this Lease, Landlord promptly shall commence the process of obtaining necessary permits and approvals, and shall commence repair of the Premises as soon as practicable and thereafter prosecute the repair diligently to completion, in which event this Lease shall continue in full force and effect.

(c) Limited Obligation to Repair. Landlord's obligation, should Landlord elect or be obligated to repair or rebuild, shall be limited to the Building shell. Tenant, at its option and expense, shall replace or fully

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repair all trade fixtures, equipment and any improvements installed by Tenant and existing at the time of the damage or destruction.

(d) Abatement of Rent. In the event of any damage or destruction to the Premises which does not result in termination of this Lease, the Base Rent temporarily shall be abated proportionately to the degree the Premises are untenable as a result of the damage or destruction, commencing from the date of the damage or destruction and continuing during the period required by Landlord to substantially complete Landlord's repair and restoration of the Premises; provided, however, that nothing herein shall preclude Landlord from being entitled to collect the full amount of any rent loss insurance proceeds. Tenant shall not be entitled to any compensation or damages from Landlord for loss of the use of the Premises, damage to Tenant's personal property or any inconvenience occasioned by any damage, repair or restoration. Tenant hereby waives the provisions of Section 1932, Subdivision 2, and Section 1933, Subdivision 4, of the California Civil Code, and the provisions of any similar law hereafter enacted.

(e) Damage Near End of Term and Extensive Damage. In addition to the rights to termination under subsection 11(b), either Landlord or Tenant shall have the right to cancel and terminate this Lease as of the date of the occurrence of destruction or damage if the Premises or the Building is substantially destroyed or damaged (i.e., there is damage or destruction which Landlord determines would require more than six (6) months to repair) and made untenable during the last twelve (12) months of the Term. Landlord or Tenant shall give notice of its election to terminate this Lease under this subsection 11(e) within thirty (30) days after Landlord determines that the damage or destruction would require more than six (6) months to repair. If neither Landlord nor Tenant elects to terminate this Lease, the repair of the damage shall be governed by subsection 11(a) or 11(b), as the case may be.

(f) Insurance Proceeds. If this Lease is terminated, Landlord may keep all the insurance proceeds resulting from the damage, except for those proceeds which specifically insured Tenant's personal property and trade fixtures.

12. Eminent Domain. If all or any part of the Premises is taken for public or quasi-public use by a governmental authority under the power of eminent domain or is conveyed to a governmental authority in lieu of such taking, and if the taking or conveyance causes the remaining part of the Premises to be untenable and inadequate for use by Tenant for the purpose for which they were leased, then Tenant, at its option and by giving notice within fifteen (15) days after the taking, may terminate this Lease as of the date Tenant is required to surrender possession of the Premises. If a part of the Premises is taken or conveyed but the remaining part is tenantable and adequate for Tenant's use, then this Lease shall be terminated as to the part taken or conveyed as of the date Tenant surrenders possession; Landlord shall make such repairs, alterations and improvements as may be necessary to render the part not taken or conveyed tenantable; and the Rent shall be reduced in proportion to the part of the

Premises taken or conveyed. All compensation awarded for the taking or conveyance shall be the property of Landlord without any deduction therefrom for any estate of Tenant, and Tenant hereby assigns to Landlord all its right, title and interest in and to the award. Tenant shall have the right, however, to recover from the governmental authority, but not from Landlord, such compensation as may be awarded to Tenant on account of the interruption of Tenant's business, moving and relocation expenses; and removal of Tenant's trade fixtures and personal property.

13. Indemnity and Insurance.

(a) Indemnity. Tenant shall be responsible for, shall insure against, and shall indemnify Landlord and its constituent parts and hold them harmless from, any and all liability for any claim, demand, liability, loss, damage or injury to person or property occurring in, on or about the Premises, and Tenant hereby releases Landlord and its constituent parts from any and all liability for the same except arising from Landlord's gross negligence or willful misconduct. Tenant's obligation to indemnify Landlord and its constituent parts hereunder shall include the duty to defend against any claims asserted by reason of any loss, damage or injury, and to pay any judgments, settlements, costs, fees and expenses, including attorneys' fees, incurred in connection therewith.

(b) Insurance. At all times during the term of this Lease, Tenant shall carry, at its own expense, for the protection of Tenant, Landlord, Landlord's constituent parts and Landlord's management agents, as their interests may appear, one or more policies of comprehensive general public liability and property damage insurance, issued by one or more insurance companies acceptable to Landlord, with minimum coverages of One Million Dollars (\$1,000,000.00) for injury to one person in any one accident, Three Million Dollars (\$3,000,000.00) for injuries to more than one person in any one accident and Two Million Dollars (\$2,000,000.00) in property damage per accident and insuring against any and all liability for which Tenant is responsible under this Lease. The insurance policy or policies shall name Landlord, Landlord's constituent parts and Landlord's management agents as additional insureds, and shall provide that the policy or policies

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may not be cancelled on less than thirty (30) days' prior written notice to Landlord. Tenant shall furnish Landlord with certificates evidencing the insurance. If Tenant fails to carry the insurance and furnish Landlord with copies of all the policies after a request to do so, Landlord shall have the right to obtain the insurance and collect the cost thereof from Tenant as additional Rent.

(c) Property Insurance. Landlord shall maintain fire and all risk insurance on the Building shell and may, but shall not be obligated to maintain insurance on any improvements installed within the Premises. Tenant shall separately insure all improvements made by Tenant to the Premises.

14. ASSIGNMENT AND SUBLETTING.

(a) Landlord's Consent. Tenant shall not assign, sublet or otherwise transfer all or any portion of Tenant's interest in this Lease (collectively, "sublet") without Landlord's prior written consent, which consent shall not be unreasonably withheld except as permitted under Section 14(h), below. Consent by Landlord to one sublet shall not be deemed to be a consent to any subsequent sublet.

(b) Effect of Sublet. Each sublet to which Landlord has consented shall be by an instrument in writing, in a form satisfactory to Landlord as evidenced by Landlord's written approval. Each sublessee shall agree in

writing, for the benefit of Landlord, to assume, to be bound by and to perform the terms, conditions and covenants of this Lease to be performed by Tenant. Tenant shall not be released from personal liability for the performance of each term, condition and covenant of this Lease, and Landlord shall have the right to proceed against Tenant without proceeding against subtenant.

(c) Information to be Furnished. If Tenant desires at any time to sublet the Premises, Tenant first shall notify Landlord of its desire to do so and shall submit in writing to Landlord: (i) the name of the proposed subtenant; (ii) the nature of the proposed subtenant's business to be carried on in the Premises; (iii) the terms and provisions of the proposed sublease and a copy of the proposed sublease form; and (iv) such financial information, including financial statements, as Landlord reasonably may request concerning the proposed subtenant.

(d) Landlord's Election. At any time within twenty (20) days after Landlord's receipt of the information specified in subsection 14(c), Landlord, by written notice to Tenant, may elect either (i) to consent to the sublet by Tenant; or (ii) to refuse its consent to the sublet. If Landlord fails to elect either of the alternatives within the twenty (20) day period, it shall be deemed that Landlord has refused its consent to the sublet. If Landlord refuses its consent, Landlord shall deliver to Tenant a statement of the basis for its refusal. Any attempted sublet without Landlord's consent shall not be effective.

(e) Payment Upon Sublet. If Landlord consents to the sublet, Tenant thereafter may enter into a valid sublet of the Premises or portion thereof, upon the terms and conditions set forth in the information furnished by Tenant to Landlord pursuant to subsection 14(c), subject to the condition that fifty percent (50%) of any excess of the monies due to Tenant under the sublet ("subrent") over the Rent required to be paid by Tenant plus the amortized cost incurred by Tenant for the Initial Alterations constructed by Tenant within the Premises hereunder shall be paid to Landlord. Any subrent to be paid to Landlord pursuant hereto shall be payable to Landlord as and with the Base Rent payable to Landlord hereunder pursuant to the terms of Section 4. The term "subrent" as used herein shall include any consideration of any kind received, or to be received, by Tenant from the subtenant, if the sums are related to Tenant's interest in this Lease or in the Premises, including, without limitation, bonus money, and payments (in excess of fair market value thereof) for Tenant's assets, fixtures, inventory, accounts, goodwill, equipment, furniture, general intangibles and any capital stock or other equity ownership of Tenant. For purposes of the foregoing calculation, any credit to Tenant for the Initial Alterations constructed by Tenant in the Premises shall be amortized over a five (5) year period from the date such cost is incurred with interest on the unamortized balance at the rate of ten percent (10%) per year. Accordingly, for any subletting which occurs beyond the initial sixty months of the Term, there shall be no deduction from subrents for costs incurred by Tenant for the Initial Alterations.

(f) Executed Counterparts. No sublet shall be valid nor shall any subtenant take possession of the Premises until an executed counterpart of the sublease has been delivered to Landlord and approved in writing.

(g) Intentionally Omitted.

(h) Transfers to Affiliates. Tenant may assign this Lease or sublet the Premises, without Landlord's consent, to any corporation which controls, is controlled by or is under common control with Tenant, or to

any corporation resulting from the merger or consolidation with Tenant, or to any person or entity which acquires all the assets of Tenant as a going concern of the business that is being conducted on the Premises, provided that the assignee assumes, in full, the obligations of Tenant under this Lease.

(i) Costs. In the event Tenant shall assign or sublet the Premises or request the consent of Landlord to any assignment, subletting, hypothecation or other action requiring Landlord's consent hereunder, then Tenant shall pay a processing fee in the amount of \$500 plus Landlord's reasonable attorney's fees incurred in connection therewith.

15. DEFAULT.

(a) Tenant's Default. At the option of Landlord, a material breach of this Lease by Tenant shall exist if any of the following events (severally, "Event of Default"; collectively, "Events of Default") shall occur: (i) if Tenant shall have failed to pay Rent, including Tenant's Percentage Share of Operating Expenses, or any other sum required to be paid hereunder, together with interest at the Interest Rate, from the date the amount became due through the date of payment, inclusive; (ii) if Tenant shall have failed to perform any term, covenant or condition of this Lease except those requiring the payment of money, and Tenant shall have failed to cure the breach within thirty (30) days after written notice from Landlord if the breach could reasonably be cured within the thirty (30) day period; provided, however, if the failure could not reasonably be cured within the thirty (30) day period, then Tenant shall not be in default unless it has failed to promptly commence and thereafter continue to make diligent and reasonable efforts to cure the failure as soon as practicable as reasonably determined by Landlord; (iii) if Tenant shall have assigned its assets for the benefit of its creditors; (iv) if the sequestration of, attachment of, or execution on, any material part of the property of Tenant or on any property essential to the conduct of Tenant's business shall have occurred, and Tenant shall have failed to obtain a return or release of the property within thirty (30) days thereafter, or prior to sale pursuant to any sequestration, attachment or levy, whichever is earlier; (v) if a court shall have made or entered any decree or order adjudging Tenant to be insolvent, or approving as properly filed a petition seeking reorganization of Tenant, or directing the winding up or liquidation of Tenant, and the decree or order shall have continued for a period of thirty (30) days; (vi) if Tenant shall make or suffer any transfer which constitutes a fraudulent or otherwise avoidable transfer under any provision of the federal Bankruptcy Laws or any applicable state law; or (vii) if Tenant shall have failed to comply with the provisions of Section 23 or 25. An Event of Default shall constitute a default under this Lease. Notwithstanding the foregoing, an Event of Default shall not be deemed to have occurred with respect to the first two failures to pay Rent when due during any twelve month period until three (3) days after delivery of notice of nonpayment from Landlord to Tenant. Any subsequent failure to pay Rent during such twelve month period shall not require any such notice in order to establish an Event of Default. Any notice delivered pursuant to this Section 15(a) shall be in lieu of and not in addition to any notice required under California Code of Civil Procedure Section 1161 et seq.

(b) Remedies Upon Tenant's Default. Upon an Event of Default, Landlord shall have the following remedies, in addition to all other rights and remedies provided by law, equity, statute or otherwise provided in this Lease, to which Landlord may resort cumulatively or in the alternative:

(i) Landlord may continue this Lease in full force and effect, and this Lease shall continue in full force and effect as long as Landlord does not terminate Tenant's right to possession, and Landlord shall have the right to collect Rent when due. During the period Tenant is in default, Landlord may enter the Premises and

relet it, or any part of it, to third parties for Tenant's account provided that any Rent in excess of the Rent due hereunder shall be payable to Landlord. Tenant shall be liable immediately to Landlord for all costs Landlord incurs in reletting the Premises, including, without limitation, brokers' commissions, expenses of cleaning and redecorating the Premises required by the reletting and like costs. Reletting may be for a period shorter or longer than the remaining Term of this Lease. Tenant shall pay to Landlord the Rent and other sums due under this Lease on the dates the Rent is due, less the Rent and other sums Landlord receives from any reletting. No act by Landlord allowed by this subsection (i) shall terminate this Lease unless Landlord notifies Tenant in writing that Landlord elects to terminate this Lease.

(iii) Landlord may terminate Tenant's right to possession of the Premises at any time by giving written notice to that effect. No act by Landlord other than giving written notice to Tenant shall terminate this Lease. Acts of maintenance, efforts to relet the Premises or the appointment of a receiver on Landlord's initiative to protect Landlord's interest under this Lease shall not constitute a termination of Tenant's right to possession. On termination, Landlord shall have the right to remove all personal property of Tenant and store it at Tenant's cost and to recover from Tenant as damages; (a) the worth at the time of award of unpaid Rent and other sums due and payable

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which had been earned at the time of termination; plus (b) the worth at the time of award of the amount by which the unpaid Rent and other sums due and payable which would have been payable after termination until the time of award exceeds the amount of the Rent loss that Tenant proves could have been reasonably avoided; plus (c) the worth at the time of award of the amount by which the unpaid Rent and other sums due and payable for the balance of the Term after the time of award exceeds the amount of the Rent loss that Tenant proves could be reasonably avoided; plus (d) any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform Tenant's obligations under this Lease, or which, in the ordinary course of things, would be likely to result therefrom, including, without limitation, any costs or expenses incurred by Landlord: (1) in retaking possession of the premises, including reasonable attorneys' fees and costs therefor; (2) maintaining or preserving the premises for reletting to a new tenant, including repairs or alterations to the Premises for the reletting; (3) leasing commissions; (4) any other costs necessary or appropriate to relet the Premises; and (5) at Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by the laws of the State of California.

The "worth at the time of award" of the amounts referred to in subsections (ii)(a) and (ii)(b) is computed by allowing interest at the Interest Rate, on the unpaid Rent and other sums due and payable from the termination date through the date of award. The "worth at the time of award" of the amount referred to in subsection (ii)(c) is computed by discounting the amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award, plus one percent (1%). Tenant waives redemption or relief from forfeiture under California Code of Civil Procedure Sections 1174 and 1179, under any other present or future law, if Tenant is evicted or Landlord takes possession of the Premises by reason of any default of Tenant hereunder.

(c) Landlord's Default. Landlord shall not be deemed to be in default in the performance of any obligation required to be performed by Landlord hereunder unless and until Landlord has failed to perform the obligation within thirty (30) days after receipt of written notice by Tenant to

Landlord specifying wherein Landlord has failed to perform the obligation provided, however, that if the nature of Landlord's obligation is such that more than thirty (30) days are required for its performance, then Landlord shall not be deemed to be in default if Landlord shall commence the performance within the thirty (30) day period and thereafter shall diligently prosecute the same to completion.

16. LANDLORD'S RIGHT TO PERFORM TENANT'S COVENANTS. If Tenant shall at any time fail to make any payment or perform any other act on its part to be made or performed under this Lease, Landlord may, but shall not be obligated to, make the payment or perform any other act to the extent Landlord may deem desirable and, in connection therewith, pay expenses and employ counsel. Any payment or performance by Landlord shall not waive or release Tenant from any obligations of Tenant under this Lease. All sums so paid by Landlord, and all penalties, interest and costs in connection therewith, shall be due and payable by Tenant on the next day after any payment by Landlord, together with interest thereon at the Interest Rate, from that date to the date of payment thereof by Tenant to Landlord, plus collection costs and attorneys' fees. Landlord shall have the same rights and remedies for the nonpayment thereof as in the case of default in the payment of Rent.

17. [Intentionally Omitted]

18. SURRENDER OF PREMISES. By taking possession of the Premises, except as provided in Section 7, Tenant shall be deemed to have accepted the Premises in good, clean and completed condition and repair, subject to all applicable laws, codes and ordinances. On the expiration or early termination of this Lease, except as provided in Section 9, Tenant shall surrender the Premises to Landlord in its condition as of the Commencement Date, normal wear and tear excepted. Tenant shall remove from the Premises all of Tenant's personal property, trade fixtures and any alterations required to be removed pursuant to Section 9. Tenant shall repair damage or perform any restoration work required by the removal. If Tenant fails to remove any personal property, trade fixtures or alterations after the end of the Term, Landlord may remove the property and store it at Tenant's expense, including interest at the Interest Rate. If the Premises are not so surrendered at the termination of this Lease, Tenant shall indemnify Landlord against all loss or liability resulting from delay by Tenant. In so surrendering the Premises, including, without limitation, any claims made by any succeeding tenant, losses to Landlord due to lost opportunities to lease to succeeding tenants, and reasonable attorneys' fees and costs.

19. HOLDING OVER. If Tenant remains in possession of all or any part of the Premises after the expiration of the Term or the termination of this Lease, the tenancy shall be month-to-month only and shall not constitute a renewal or extension for any further term. In such event, Base Rent shall be increased in an amount equal to one hundred fifty percent (150%) of the Base Rent during the last month of the Term (including any extensions), and any other sums due under this Lease shall be payable in the amount, and at the times, specified in this Lease. The month-to-

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month tenancy shall be subject to every other term, condition, covenant and agreement contained in this Lease and Tenant shall vacate the Premises immediately upon Landlord's request.

20. ACCESS TO PREMISES. Tenant shall permit Landlord and its agents to enter the Premises at all reasonable times upon reasonable notice, except in the case of an emergency (in which event no notice shall be necessary), to inspect the Premises; to post Notices of Nonresponsibility and similar notices and to show the Premises to interested parties such as prospective mortgagors, purchasers and tenants; to make necessary alterations, additions, improvements or repairs

either to the Premises, the Building or other premises within the Building; and to discharge Tenant's obligations hereunder when Tenant has failed to do so within a reasonable time after written notice from Landlord. The above rights are subject to reasonable security regulations of Tenant, and to the requirement that Landlord shall at all times act in a manner to cause the least possible interference with Tenant's operations.

21. SIGNS. The size, design, color, location and other physical aspects of any sign in or on the Building shall be subject to the CC&R's, if any, Rules and Landlord's approval prior to installation, and to any appropriate municipal or other governmental approvals. The costs of any permitted sign, and the costs of its installation, maintenance and removal, shall be at Tenant's sole expense and shall be paid within ten (10) days of Tenant's receipt of a bill from Landlord for the costs.

22. WAIVER OF SUBROGATION. Anything in this Lease to the contrary notwithstanding, Landlord and Tenant each hereby waives and releases the other of and from any and all rights of recovery, claim, action or cause of action against the other, its subsidiaries, directors, agents, officers and employees, for any loss or damage that may occur in the Premises; to Improvements to the Premises or personal property (building contents) within the Premises; or to any furniture, equipment, machinery, goods and supplies not covered by this Lease which Tenant may bring or obtain upon the Premises or any additional improvements which Tenant may construct on the Premises by reason of fire, the elements or any other cause which is required to be insured against under this Lease, regardless of cause or origin, including negligence of Landlord or Tenant and their agents, subsidiaries, directors, officers and employees, to the extent insured against under the terms of any insurance policies carried by Landlord or Tenant and in force at the time of any such damage, but only if the insurance in question permits such a partial release in connection with obtaining a waiver of subrogation from the insurer. Because this Section 22 will preclude the assignment of any claim mentioned in it by way of subrogation or otherwise to an insurance company or any other person, each party to this Lease agrees immediately to give to each insurance company written notice of the terms of the mutual waivers contained in this Section and to have the insurance policies properly endorsed, if necessary, to prevent the invalidation of the insurance coverages by reason of the mutual waivers contained in this Section.

23. SUBORDINATION.

(a) Subordinate Nature. Except as provided in subsection 23(b), this Lease is subject and subordinate to all ground and underlying leases, mortgages and deeds of trust which now or may hereafter affect the Premises, the CC&R's, if any, and to all renewals, modifications, consolidations, replacements and extensions thereof. Subject to subsection (c) below, within ten (10) days after Landlord's written request therefor, Tenant shall execute any and all documents required by Landlord, the lessor under any ground or underlying lease ("Lessor"), or the holder or holders of any mortgage or deed of trust ("Holder") to make this Lease subordinate to the lien of any lease, mortgage or deed of trust, as the case may be.

(b) Possible Priority of Lease. If a Lessor or a Holder advises Landlord that it desires or requires this Lease to be prior and superior to a lease, mortgage or deed of trust, Landlord may notify Tenant. Within seven (7) days of Landlord's notice, Tenant shall execute, have acknowledged and deliver to Landlord any and all documents or instruments, in the form presented to Tenant, which Landlord, Lessor or Holder deems necessary or desirable to make this Lease prior and superior to the lease, mortgage or deed of trust.

(c) Recognition or Attornment Agreement. If Landlord or Holder requests Tenant to execute a document subordinating this Lease, the document shall provide that, so long as Tenant is not in default, Lessor or Holder shall agree to enter into either a recognition or attornment agreement with Tenant, or a new lease with Tenant upon the same terms and conditions as



24. TRANSFER OF THE PROPERTY. Upon transfer of the Property and assignment of this Lease, Landlord shall be entirely freed and relieved of all liability under any and all of its covenants and obligations contained in or derived from this Lease occurring after the consummation of the transfer and assignment. Tenant shall attorn to any entity purchasing or otherwise acquiring the Premises at any sale or other proceeding.

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25. ESTOPPEL CERTIFICATES. Within ten (10) days following written request by Landlord, Tenant shall execute and deliver to Landlord an estoppel certificate, in the form prepared by Landlord. The certificate shall: (i) certify that this Lease is unmodified and in full force and effect or, if modified, state the nature of the modification and certify that this Lease, as so modified, is in full force and effect, and the date to which the Rent and other charges are paid in advance, if any; (ii) acknowledge that there are not, to Tenant's knowledge, any uncured defaults on the part of Landlord hereunder, or if there are uncured defaults on the part of the Landlord, state the nature of the uncured defaults; and (iii) evidence the status of the Lease as may be required either by a lender making a loan to Landlord to be secured by deed of trust or mortgage covering the Premises or a purchaser of the Property from Landlord.

26. MORTGAGEE PROTECTION. In the event of any default on the part of Landlord, Tenant will give notice by registered or certified mail to any beneficiary of a deed of trust or mortgagee of a mortgage covering the Premises and shall offer the beneficiary or mortgagee a reasonable opportunity to cure the default, including time to obtain possession of the Premises by power of sale or a judicial foreclosure, if such should prove necessary to effect a cure.

27. ATTORNEYS' FEES. If either party shall bring any action or legal proceeding for damages for an alleged breach of any provision of this Lease, to recover rent or other sums due, to terminate the tenancy of the Premises or to enforce, protect or establish any term, condition or covenant of this Lease or right of either party, the prevailing party shall be entitled to recover, as a part of the action or proceedings, or in a separate action brought for that purpose, such attorneys' fees and court costs as may be fixed by the court or jury. The prevailing party shall be the party which secures a final judgment in its favor.

28. BROKERS. Each party warrants and represents to the other that it has had no dealings with any real estate broker or agent in connection with the negotiation of this Lease, except for any broker(s) specified in the Basic Lease information, and that it knows of no other real estate broker or agent who is or might be entitled to a commission in connection with this Lease. The representing party shall indemnify and hold harmless the other from and against any and all liabilities or expenses arising out of claims made by any other broker or individual for commissions or fees resulting from this Lease arising out of the action of such party.

29. PARKING. Tenant shall have the right to park in the parking facilities located on the Premises. Landlord shall not be liable to Tenant, nor shall this lease be affected, if any parking is impaired by moratorium, initiative, referendum, law, ordinance, regulation or order passed, issued or made by any governmental or quasi-governmental body. Tenant acknowledges that the area shown as "SFWD Property" on Exhibit A is not included as part of the Premises, except that the Premises does include the right to cross the SFWD Property to park vehicles on the northwest portion of the Premises.

30. UTILITIES AND SERVICES. Tenant shall be solely responsible for obtaining and paying for all utilities and services, including heating, air conditioning,

ventilation (i.e., HVAC service contracts, janitorial and security) in connection with the Premises. Landlord shall not be liable for, and Tenant shall not be entitled to any abatement or reduction of Rent by reason of, no eviction of Tenant shall result from and, further, Tenant shall not be relieved from the performance of any covenant or agreement in this Lease because of, Landlord's failure to furnish or Tenant's failure to obtain any such utility or service any of the foregoing.

31. MODIFICATION FOR LENDER. If, in connection with obtaining financing for the Premises or any portion thereof Landlord's lender shall request reasonable modification to this Lease as a condition to such financing (which shall not materially change Tenant's rights or obligations hereunder), Tenant shall not unreasonably withhold, delay or defer its consent thereto, provided such modifications do not materially affect Tenant's rights hereunder.

32. ACCEPTANCE. Delivery of this Lease, duly executed by Tenant, constitutes an offer to lease the Premises as set forth herein, and under no circumstances shall such delivery be deemed to create an option or reservation to lease the Premises for the benefit of Tenant. This Lease shall become effective and binding only upon execution hereof by Landlord and delivery of a signed copy to Tenant. Upon acceptance of Tenant's offer to lease under the terms hereof and receipt by Landlord of the Rent for the first month of the Term and the Security Deposit in connection with Tenant's submission of the offer, Landlord shall be entitled to retain the sums and apply them to damages, costs and expenses incurred by Landlord if Tenant fails to occupy the Premises. If Landlord rejects the offer, the sums shall be returned to Tenant.

33. USE OF NAMES. Tenant shall not use the name of the Building or the name of the business park in which the Building is located in the name or title of its business or occupation without Landlord's prior written consent, which consent Landlord may withhold in its sole discretion. Landlord reserves the right to change the name of the Building without Tenant's consent and without any liability to Landlord.

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34. RECORDING. Neither Landlord nor Tenant shall record this Lease, nor a short form memorandum of this Lease, without the prior written consent of the other.

35. QUITCLAIM. Upon any termination of this Lease pursuant to its terms, Tenant, at Landlord's request, shall execute, have acknowledged and deliver to Landlord a quitclaim deed of all Tenant's interest in the Premises, Building and Property created by this Lease.

36. NOTICES. Any notice or demand required or desired to be given under this Lease shall be in writing and shall be given by hand deliver, telecopy or the United States mail. Notices which are sent by telecopy shall be deemed to have been given upon receipt. Notices which are mailed shall be deemed to have been given when seventy-two (72) hours have elapsed after the notice was deposited in the United States mail, registered or certified, the postage prepaid, addressed to the party to be served. As of the date of execution of this Lease, the addresses of Landlord and Tenant are as specified in the Basic Lease Information. Either party may change its address by giving notice of the change in accordance with this Section.

37. LANDLORD'S EXCULPATION. In the event of default, breach or violation by Landlord (which term includes Landlord's partners, co-venturers and co-tenants, and officers, directors, employees, agents and representatives of Landlord and Landlord's partners, co-venturers and co-tenants) of any of Landlord's obligations under this Lease, Landlord's liability to Tenant shall be limited to its ownership interest in the Building and Property or the proceeds of a public sale of the ownership interest pursuant to the foreclosure of a judgment against Landlord. Landlord shall not be personally liable, or liable in any event, for

38. ADDITIONAL STRUCTURES. Any diminution or interference with light, air or view by any structure which may be erected on land adjacent to the Building shall in no way alter this Lease or impose any liability on Landlord.

39. GENERAL.

- (a) Captions. The captions and headings used in this Lease are for the purpose of convenience only and shall not be construed to limit or extend the meaning of any part of this Lease.
- (b) Time. Time is of the essence for the performance of each term, condition and covenant of this Lease.
- (c) Severability. If any provision of this Lease is held to be invalid, illegal or unenforceable, the invalidity, illegality, or unenforceability shall not affect any other provision of this Lease, but this Lease shall be construed as if the invalid, illegal or unenforceable provision had not been contained herein.
- (d) Choice of Law; Construction. This Lease shall be construed and enforced in accordance with the laws of the State of California. The language in all parts of this Lease shall in all cases be construed as a whole according to its fair meaning and not strictly for or against either Landlord or Tenant.
- (e) Gender; Singular, Plural. When the context of this Lease requires, the neuter gender includes the masculine, the feminine, a partnership or corporation or joint venture, and the singular includes the plural.
- (f) Binding Effect. The covenants and agreements contained in this Lease shall be binding on the parties hereto and on their respective successors and assigns (to the extent this Lease is assignable).
- (g) Waiver. The waiver of Landlord of any breach of any term, condition or covenant of this Lease shall not be deemed to be a waiver of the provision or any subsequent breach of the same or any other term, condition or covenant of this Lease. The subsequent acceptance of Rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach at the time of acceptance of the payment. No covenant, term or condition of this Lease shall be deemed to have been waived by Landlord unless the waiver is in writing signed by Landlord.
- (h) Entire Agreement. This Lease is the entire agreement between the parties, and there are no agreements or representations between the parties except as expressed herein. Except as otherwise provided herein, no subsequent change or addition to this Lease shall be binding unless in writing and signed by the parties hereto.
- (i) Waiver of Jury. To the extent permitted by law, Tenant hereby waives any right it may have to a jury trial in the event of litigation between Tenant and Landlord pertaining to this Lease.

(j) Counterparts. This Lease may be executed in counterparts, each of which shall be an original, but all counterparts shall constitute one (1) instrument.

(k) Exhibits. The Basic Lease Information and all exhibits attached hereto are hereby incorporated herein and made an integral part hereof.

(1) Addendum. The Addendum, if any, attached hereto is hereby incorporated herein and made an integral part hereof.

40. OPTION TO EXTEND.

(a) Terms of Option. Provided that an Event of Default does not exist under this Lease either at the time of exercise of the right to extend or on the Expiration Date, Tenant shall have the non-assignable (except to an affiliate of Tenant pursuant to Subsection 14(h)) right, at its option, to extend this Lease for one (1) period of five (5) years (the "Extension Term") commencing on the Expiration Date. For purposes of this Section 40, the term Expiration Date shall be deemed to be the last day of the original term. If Tenant elects to extend this Lease for the Extension Term, Tenant shall give unequivocal written notice ("Exercise Notice") of its exercise to Landlord not less than six (6) months, nor more than nine (9) months prior to the Expiration Date. Tenant's failure to give the Exercise Notice in a timely manner shall be deemed a waiver of all of Tenant's rights to extend unless this Section 40. The terms, covenants and conditions applicable to the Extension Term shall be the same terms, covenants and conditions of this Lease except that (i) Tenant shall not be entitled to any further option to extend under this Section 40, and (ii) the Base Rent for the Premises during the Extension Term shall be determined as provided in subsection 40(b) below, and (iii) Landlord shall have no obligation to improve or otherwise modify the Premises.

(b) Determination of Base Rent During Extension Term.

(i) Agreement on Rent. Subject to the limitations of this Section, Landlord and Tenant agree that the Base Rent during each Extension Term shall be equal to ninety five percent (95%) of the fair market rental value of the Premises at the time Tenant exercises its option to extend the Term. Landlord and Tenant shall have thirty (30) days after Landlord receives the Exercise Notice with respect to such Extension Term in which to agree on the Base Rent during the Extension Term. In determining the fair market rental value of the Premises during the Extension Term, consideration shall be given to the uses of the Premises permitted under this Lease, the quality, size design and location of the Premises, and the rental value of comparable space located in the proximity of the Premises. In no event shall the Base Rent for the Extension Term be less than the Base Rent last payable under this Lease during the last full month prior to the commencement of the Extension Term. If Landlord and Tenant agree on the Base Rent for the Extension Term during the thirty (30) day period, they shall immediately execute an amendment to this Lease stating the Base Rent.

(ii) Selection of Appraisers. If Landlord and Tenant are unable to agree on the Base Rent for the Extension Term within the thirty (30) day period, then within fifteen (15) days after the expiration of the thirty (30) day period, Landlord and Tenant each, at its cost and by giving notice to the other party, shall appoint a competent and disinterested real estate appraiser with at least five (5) years full-time commercial appraisal experience in area in which the Premises is located to appraise and set the Base Rent during the Extension Term. If either Landlord or Tenant does not appoint an appraiser within ten (10) days after the other party has given notice of the name of its appraiser, the single appraiser appointed shall be the sole appraiser and shall set the Base Rent during the Extension Term. If two (2) appraisers are appointed by Landlord and Tenant as stated in this section, they shall meet promptly and attempt to set the Base Rent for the Extension Term. If the two (2) appraisers are unable to agree within thirty (30) days after the

second appraiser has been appointed, they shall attempt to select a third appraiser meeting the qualifications stated in this section within ten (10) days after the last day the two (2) appraisers are given to set the Base Rent. If they are unable to agree on the third appraiser, either Landlord or Tenant, by giving ten (10) days' notice to the other party, can apply to the then president of the real estate board of Santa Clara County, or to the Presiding Judge of the Superior Court of Santa Clara County for, the selection of a third appraiser who meets the qualifications stated in this section. Landlord and tenant each shall bear one-half (1/2) of the cost of appointing the third appraiser and of paying the third appraiser's fee. The third appraiser, however selected, shall be a person who has not previously acted in any capacity for either Landlord or Tenant.

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(iii) Value Determined By Three (3) Appraisers. Within thirty (30) days after the selection of the third appraiser, a majority of the appraisers shall set the Base Rent for the Extension Term. If a majority of the appraisers is unable to set the Base Rent for within the stipulated period of time, Landlord's appraiser shall arrange for simultaneous exchange of written appraisals of the fair market rental value of the Premises from each of the appraisers and three (3) appraisals shall be added together and their total divided by three (3); ninety five percent (95%) of the resulting quotient shall be the Base Rent for the Premises during the Extension Term. If, however, the low appraisal and/or the high appraisal are/is more than ten percent (10%) lower and/or higher than the middle appraisal, the low appraisal and/or the high appraisal shall be disregarded. If only one (1) appraisal is disregarded, the remaining two (2) appraisals shall be added together and their total divided by two (2); ninety five percent (95%) of the resulting quotient shall be the Base Rent for the Premises during the Extension Term. If both the low appraisal and the high appraisal are disregarded as stated in this Paragraph, ninety five percent (95%) of the middle appraisal shall be the Base Rent for the Premises during the Extension Term.

(iv) Notice to Landlord and Tenant. After the Base Rent for the Extension Term has been set, the appraisers shall immediately notify Landlord and Tenant, and Landlord and Tenant shall immediately execute an amendment to this Lease stating the Base Rent.

[Remainder of page intentionally left blank]

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IN WITNESS WHEREOF, the parties have executed this Lease effective as of the date first above written.

"LANDLORD"

VOIT MANAGEMENT COMPANY, L.P., as Agent for  
THE PRUDENTIAL INSURANCE OF AMERICA  
a New Jersey Corporation

By /s/ MARY E. DAVIS

-----  
Name Mary E. Davis

Title Vice President

"TENANT"

NETSCAPE COMMUNICATIONS CORPORATION,  
a Delaware corporation

By /s/ PETER CURRIE

Name Peter Currie

Title E.V.P., C.F.O.

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EXISTING SITE PLAN

SFWD Property

[DIAGRAM OF PREMISES]

645 Almanor Ave.  
Sunnyvale, California

Exhibit A

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EXHIBIT B-1

COMMENCEMENT DATE MEMORANDUM

LANDLORD: THE PRUDENTIAL INSURANCE COMPANY OF AMERICA,  
a New Jersey corporation

TENANT: NETSCAPE COMMUNICATIONS CORPORATION, a Delaware corporation

LEASE DATE: November 1, 1996

PREMISES: 645 Almanor Avenue, Sunnyvale, California 94086

Pursuant to Section \_\_\_ of the above-referenced Lease, the Commencement Date hereby is established as \_\_\_\_\_ .

TENANT:  
NETSCAPE COMMUNICATIONS CORPORATION,  
a Delaware corporation

LANDLORD:  
VOIT MANAGEMENT COMPANY, L.P., as  
Agent for THE PRUDENTIAL INSURANCE OF AMERICA, a New Jersey corporation

Name \_\_\_\_\_ Name \_\_\_\_\_

Title \_\_\_\_\_ Title \_\_\_\_\_

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EXHIBIT B-2

BASE RENT COMMENCEMENT DATE MEMORANDUM

LANDLORD: THE PRUDENTIAL INSURANCE COMPANY OF AMERICA,  
a New Jersey corporation

TENANT: NETSCAPE COMMUNICATIONS CORPORATION, a Delaware corporation

LEASE DATE: November 1, 1996

PREMISES: 645 Almanor Avenue, Sunnyvale, California 94086

Pursuant to Section 4 of the above-referenced Lease, the Base Rent Commencement Date hereby is established as \_\_\_\_\_, and the Expiration Date is hereby established as \_\_\_\_\_.

TENANT:  
NETSCAPE COMMUNICATIONS CORPORATION,  
a Delaware corporation

LANDLORD:  
VOIT MANAGEMENT COMPANY, L.P., as  
Agent for THE PRUDENTIAL INSURANCE OF AMERICA, a New Jersey corporation

By \_\_\_\_\_ By \_\_\_\_\_

Name \_\_\_\_\_ Name \_\_\_\_\_

Title \_\_\_\_\_ Title \_\_\_\_\_

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EXHIBIT C

ADA and HVAC Improvements

Within ninety (90) days after the Commencement Date, Tenant shall cause certain improvements shown on the report included as part of this Exhibit C as Schedule C-1 (the "ADA Improvements") and also certain improvements to be made to the heating, ventilation and air conditioning system servicing the Premises (the "HVAC Improvements") to be installed on the Premises in a good and workmanlike manner and in compliance with all laws. Landlord shall reimburse Tenant up to \$47,500 for costs incurred by Tenant in installing the ADA Improvements and up to \$75,000 for costs incurred by Tenant in installing the HVAC Improvements as follows. Upon completion of the ADA Improvements or the HVAC Improvements, as the case may be, Tenant shall submit to Landlord invoices and other reasonable substantiating documentation with respect to the cost of the completed

improvements, and, within forty-five (45) days after Landlord's receipt thereof, Landlord shall pay to Tenant the amounts requested in the submitted invoices up to \$47,500 with respect to the ADA Improvements and up to \$75,000 with respect to the HVAC Improvements, provided that the following conditions have been satisfied: (1) on the date of such request, Tenant is not in default (beyond the applicable cure period specified in the Lease) of Tenant's obligations under the Lease; (2) the work and/or materials for which reimbursement is requested has been completed in a good and workmanlike manner and in compliance with all laws; (3) Tenant shall have delivered to Landlord such mechanic's lien waivers as Landlord may reasonably request to assure lien-free construction and completion of such improvements; and (4) there shall have been no mechanic's liens, recorded against the Premises in connection with such improvements. Notwithstanding that the actual cost of designing and installing the ADA Improvements and/or the HVAC Improvements may exceed the \$47,500 or \$75,000 amounts specified above, Landlord shall have no obligation to provide any additional funds for such excess costs or any other improvements related thereto or to otherwise make any improvements or modifications required under laws related to access for disabled persons or the heating, ventilation and air conditioning system.

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SCHEDULE C-1

[DENNIS KOBZA & ASSOCIATES, INC. LETTERHEAD]

645 ALMANOR H/C UPGRADES ESTIMATES

The following is a cost estimate by our office to correct the noted non-compliance items in the enclosed ADA Compliance Survey.

<TABLE>

<S>	<C>
1. Site Signs	\$ 800.00
2. H/C Stall Restripping	\$ 600.00
3. New H/C Stall Walkways	\$ 3,200.00
4. Overlay Pavement at North Exit	\$ 800.00
5. Storefront Doors	\$ 3,000.00
6. Add Ramp East Exit	\$ 2,000.00
7. Door Closer Adjustment	\$ 500.00
8. Lever Door Hardware	\$ 6,000.00
9. Stair Handrails	\$ 7,500.00
10. Restroom Doors (Walls)	\$ 3,500.00
11. H/C Toilet Stalls	\$ 6,000.00
12. Restroom Fixture & Accessories at Lobby	\$ 1,500.00
13. Wrap Drains and Hotwater Supply	\$ 200.00
14. Coffee Bars	\$ 3,600.00
15. Lower Light Switch	\$ 5,000.00
16. Ramp Railings	\$ 1,000.00
17. Stair Door at 2nd Floor	\$ 1,200.00
18. Remove Interior Door at East Exit	\$ 100.00
19. Restroom Signage	\$ 1,000.00
	-----
ESTIMATE	\$47,500.00

</TABLE>

If you have any questions, please contact me.

Sincerely,

DENNIS KOBZA & ASSOCIATES, INC.

/s/ DONATO "VINCE" VINCENT

-----  
Donato "Vince" Vincent



&lt;PAGE&gt; 37

## EXHIBIT D

## RULES AND REGULATIONS

1. No sign, placard, picture, advertisement, name or notice shall be installed or displayed on any part of the outside or inside of the Building without the prior written consent of Landlord. Landlord shall have the right to remove, at Tenant's expense and without notice, any sign installed or displayed in violation of this rule.
2. Except as consented to in writing by Landlord or in accordance with Building standard improvements, no draperies, curtains, blinds, shades, screens or other devices shall be hung at or used in connection with any window or exterior door or doors of the Premises. No awning shall be permitted on any part of the Premises. Tenant shall not place anything against or near glass partitions or doors or windows which may appear unsightly from outside the Premises.
3. Tenant shall not obstruct any sidewalks, halls, lobbies, passages, exits, entrances, elevators or stairways of the Building. No tenant and no employee or invitee of any tenant shall go upon the roof the Building or make any roof or terrace penetrations.
4. If Tenant requires a burglar alarm, it shall first obtain, and comply with, Landlord's instructions for its installation.
5. Tenant shall not place a load upon any floor of the Premises which exceeds the maximum load per square foot which the floor was designed to carry and which is allowed by law. Tenant's business machines and mechanical equipment which cause noise or vibration which may be transmitted to the structure of the Building or to any space therein, and which is objectionable to Landlord or to any tenants in the Building, shall be placed and maintained by Tenant, at Tenant's expense, on vibration eliminators or other devices sufficient to eliminate noise or vibration.
6. Tenant shall not permit or allow the Premises to be occupied or used in a manner offensive or objectionable to Landlord or other occupants of the Building by reason of noise, odors, or vibrations. No animal, except seeing eye dogs when in the company of their masters, may be brought into or kept in the Building.
7. Tenant shall cooperate fully with Landlord to assure the most effective operation of the Building's heating and air-conditioning and to comply with any governmental energy-saving rules, laws or regulations.
8. Landlord reserves the right, exercisable without notice and without liability to Tenant, to change the name and street address of the Building.
9. Tenant shall close and lock the doors of its Premises, shut off all water faucets or other water apparatus and turn off all lights and other equipment which is not required to be continuously run. Tenant shall be responsible for any damage or injuries sustained by other tenants or occupants of the Building or Landlord for noncompliance with this Rule.
10. The toilet rooms, toilet, urinals, wash bowls and other apparatus shall not be used for any purpose other than that for which they were constructed, and no foreign substance of any kind whatsoever shall be placed therein. The expense of any breakage, stoppage or damage resulting from any violation of this rule shall be borne by the tenant who, or whose employees

11. Tenant shall not install any radio or television antenna, loudspeaker or other device on the roof or exterior walls of the Building. Tenant shall not interfere with radio or television broadcasting or reception from or in the Building or elsewhere.
12. Tenant shall not affix any floor covering to the floor of the Premises in any manner except as approved by Landlord. Tenant shall repair, or be responsible for the cost of repair of any damage resulting from non-compliance with this Rule.
13. Canvassing, soliciting and distributing handbills or any other written material and peddling in the Building are prohibited, and each tenant shall cooperate to prevent these activities.
14. Tenant shall store all its trash and garbage in a separate designated area. Tenant shall not place in any trash box or receptacle any material which cannot be disposed of in the ordinary customary manner

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of trash and garbage disposal. All garbage and refuse disposal shall be made in accordance with directions issued from time to time by Landlord.

15. Use by Tenant of Underwriters' Laboratory approved equipment for brewing coffee, tea, hot chocolate and similar beverages and microwaving food shall be permitted, provided that the equipment and use is in accordance with all applicable federal, state, county and city laws, codes, ordinances, rules and regulations.
16. Tenant shall not use the name of the Building in connection with or in promoting or advertising the business of Tenant, except as Tenant's address, without the written consent of Landlord.
17. Tenant shall comply with all safety, fire protection and evacuation procedures and regulations established by Landlord or any governmental agency. Tenant shall be responsible for any increased insurance premiums attributable to Tenant's use of the Premises, Building or Property.
18. Tenant assumes any and all responsibility for protecting its Premises from theft and robbery, which responsibility includes keeping doors locked and other means of entry to the Premises closed.
19. Tenant shall not use the Premises, or suffer or permit anything to be done on, in or about the Premises, which may result in an increase to Landlord in the cost of insurance maintained by Landlord on the Building and Common Areas.
20. Tenant shall not park its vehicles in any parking areas designated by Landlord as areas for parking by visitors to the Building or other reserved parking spaces. Tenant shall not leave vehicles in the Building parking areas overnight, nor park any vehicles in the Building parking areas other than automobiles, motorcycles, motor driven or non-motor driven bicycles or four-wheeled trucks. Tenant, its agents, employees and invitees shall not park any one (1) vehicle in more than one (1) parking space.
21. Landlord may waive any one or more of these Rules and Regulations for the benefit of Tenant or any other tenant, but no waiver by Landlord shall be construed as a waiver of the Rules and Regulations in favor of Tenant or any other tenant, nor prevent Landlord from thereafter enforcing the Rules and Regulations against any or all of the tenants of the Building.

- 22. These Rules and Regulations are in addition to, and shall not be construed to in any way modify or amend, in whole or in part, the terms, covenants, agreements and conditions of any lease of premises in the Building.
- 23. Landlord reserves the right to make other reasonable Rules and Regulations as, in its judgment, may from time to time be needed for safety and security, for care and cleanliness of the Building and for the preservation of good order therein. Tenant agrees to abide by all Rules and Regulations hereinabove stated and any additional rules and regulations which are adopted.
- 24. Tenant shall be responsible for the observance of all of the foregoing rules by Tenant's employees, agents, clients, customers, invitees, and guests.

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EXHIBIT E

- Final Report Asbestos Removal Project. 9/28 - 11/15/87  
Gisson Technical Services
- Result of Soil and Groundwater Sampling. 1/6/96  
645 & 675 Almanor Ave. Sunnyvale, CA  
Geraghty & Miller Inc.
- Combined Quarterly Extraction and Treatment System Monitoring Report. 6/1/91 - 8/31/91  
Levine & Fricke
- Quarterly Report of Hydrogeologic Investigations. 1/31/89  
Levine & Fricke
- Quarterly Monitoring Report Extraction and Treatment System. 6/1 - 8/31/88  
Levine & Fricke
- Combined Monthly Extraction and Treatment System Report on Effectiveness of the Extraction and Treatment System. 1/29/88  
Levine & Fricke
- Joint Quarterly Groundwater Monitoring Report. 3/88  
Sampling Program, North Pastoria/Almanor Ave.  
Brown & Caldwell
- Litronix/Micreal Site Investigation, Results of phase IV. 4/1/87  
Extended Offsite Hydrogeologic Investigation and Proposed Groundwater Extraction System.  
Levine & Fricke
- Letter from Litton Applied Technology to Ron Starichs,  
Fire Prevention Bureau dated September 2, 1987

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October 31, 1996

Netscape Communications Corporation  
501 East Middlefield Road  
Mountain View, CA 94043

Re: Lease Between The Prudential Insurance Company of America  
("Landlord") and Netscape Communications Corporation ("Tenant")  
Dated October 11, 1996 (the "Lease")

Landlord and Tenant are parties to the Lease referenced above for the Premises located at 645 Almanor Avenue, Sunnyvale, California. Capitalized terms are used in this letter as such terms are defined in the Lease. This letter shall be deemed an addendum to the Lease and the Lease is incorporated herein by this reference.

Tenant intends to install a passenger elevator (the "Elevator") in the Premises. The design and installation of the Elevator shall be considered an alteration under the Lease, except that Tenant shall not be required to remove the Elevator upon the expiration or earlier termination of the Lease. Subject to the conditions specified below, Landlord has agreed to reimburse Tenant for fifty percent (50%) of the Approved Elevator Cost. As used herein, the term "Approved Elevator Cost" shall mean the cost of the design, purchase, and installation of the Elevator which has been approved in writing by Landlord. Tenant shall obtain at least two (2) competitive bids for the design and installation of the Elevator and shall submit such bids to Landlord for approval. Landlord shall reimburse Tenant for fifty percent (50%) of the Approved Elevator Cost, upon (i) completion of the Installation of the Elevator in accordance with the design, plans, and specifications approved by Landlord, and (ii) delivery to Landlord of such lien releases as Landlord may reasonably request to assure that all contractors, subcontractors, and materialmen with rights to record a lien against the Building have released such lien rights. Tenant shall maintain and repair the Elevator in good condition and repair at Tenant's sole cost and expense.

As modified by this letter, the Lease is hereby ratified and shall remain in full force and effect.  
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Please confirm your agreement with this letter by signing as indicated below.

Very truly yours,

VOIT MANAGEMENT COMPANY, L.P.,  
as Agent for PRUDENTIAL INSURANCE COMPANY  
OF AMERICA, a New Jersey corporation

By /s/ MARY E. DAVIS  
-----

Name Mary E. Davis  
-----

Title Vice President  
-----

Accepted and Agreed:

NETSCAPE COMMUNICATIONS CORPORATION,  
a Delaware corporation

By /s/ PETER CURRIE  
-----

Name Peter Currie

Title E.V.P., CFO

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EXHIBIT B

SUBLEASED PREMISES

11

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EXHIBIT 10.5

FIRST AMENDMENT TO SUBLEASE

THIS FIRST AMENDMENT (this "Amendment"), is entered into this \_\_ day of October, 1999, by and between Netscape Communications, Inc. ("Netscape") and Marvell Semiconductor, Inc. ("Subtenant").

Recitals

WHEREAS, Netscape currently leases certain premises consisting of approximately 132,000 square feet of space located at 645 Almanor, Sunnyvale, California (the "Premises"), pursuant to that certain Lease dated November 1, 1996, between Netscape and The Prudential Insurance Company of America ("Landlord");

WHEREAS, Netscape and Subtenant entered into that certain Sublease dated as of October 1998 (the "Sublease"), which provided for Netscape leasing approximately 35,842 rentable square feet of the Premises to Subtenant; and

WHEREAS, Subtenant desires to lease additional space of the Premises from Netscape and Netscape has agreed to lease such space to Subtenant; pursuant to the terms and conditions hereof, as well as to correct the legal name of Netscape.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, Netscape and Subtenant covenant and agree as follows:

1. In the introduction paragraph of the Sublease, delete "Netscape Communications, Inc.," and replace it with "Netscape Communications Corporation," the correct legal name of Netscape.

2. Additional Subleased Premises. Section 1 of the Sublease is hereby amended by adding the following language to the end of the Section:

On and subject to the terms and conditions contained herein, as amended, Netscape hereby agrees to lease to Subtenant, and Subtenant hereby agrees to lease from Netscape, an additional 30,607 rentable square feet of space in the Premises, as indicated on Exhibit C attached hereto and incorporated herein by this reference (the "Additional Subleased Premises").

3. Additional Rent. As of the date hereof, Subtenant's pro rata share of Building Operating Expenses (as defined in the Sublease) shall be 90.3%. Additional Rent shall be paid by Subtenant in accordance with the terms and provisions of Section 4(ii) of the Sublease, as amended.

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4. Term. Section 2 of the Sublease is hereby amended by adding the following language to the end of the Section:

The term for the Additional Subleased Premises shall commence on November 1, 1999 (the "Additional Subleased Premises Commencement Date"), provided Netscape has obtained the consent of the Landlord, and shall expire on February 15, 2002, unless sooner terminated pursuant to any provisions hereof.

5. Rent.

(a) The first sentence of Section 4(a)(i) of the Sublease is hereby amended by adding "for the Subleased Premises" after "Monthly base rent," and changing ("Base Rent") to ("Subleased Premises Base Rent").

(b) Section 4(a) is hereby amended by adding the following subsection (iii):

(iii) Base Rent for Additional Subleased Premises: Subtenant shall pay Netscape monthly base rent for the Additional Subleased Premises (the "Additional Subleased Premises Base Rent") in the following amounts:

Month	Monthly Base Rent
01-12	\$1.45/rentable square foot
13-24	\$1.50/rentable square foot
25-end	\$1.55/rentable square foot

6. Condition of Additional Subleased Premises. Section 6 of the Sublease is hereby amended by adding the following language to the end of the Section:

Subtenant has used due diligence in inspecting the Additional Subleased Premises and agrees to accept the Additional Subleased Premises in "as-is" condition and with all faults as of the Additional Subleased Premises Commencement Date, without any representation or warranty of any kind or nature whatsoever, or any obligation on the part of Netscape to modify, improve or otherwise prepare the Additional Subleased Premises for Subtenant's occupancy, and by entry hereunder, Subtenant accepts the Additional Subleased premises in their present condition and without representation or warranty of any kind by Netscape. Subtenant hereby expressly waives the provisions of Section 1 of Section 1932 and Sections 1941 and 1942 of the California Civil Code and all rights to make repairs at the expense of Netscape as provided in Section 1942 of said civil code.

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7. First Right to Negotiate. In the event that any space on the first floor of the Premises becomes or is reasonably anticipated to become vacant during the Term of this Sublease, Netscape shall notify Subtenant of the availability of such space. Provided that (i) a default does not exist under this Sublease, (ii) no event has occurred which with the passage of time or the giving of notice (or both) would be deemed a default if not cured in the applicable cure period, and (iii) Subtenant provides written notice to Netscape, within ten (10) days after receipt of Netscape's notice, of Subtenant's election to expand the Subleased Premises in the available space, Subtenant shall have the first right to negotiate for such space for a period of twenty (20) days after Netscape's notice. If Netscape and Subtenant do not agree on the terms for the sublease of such space within such twenty (20) day period, Subtenants's right to first negotiate with respect to such space shall

terminate and Netscape shall have the right to sublease such space to any other person or entity upon any terms and conditions which Netscape desires, in its sole discretion. Notwithstanding anything to the contrary contained in this Lease, Tenant shall not have any such first right to negotiate a lease of any space that is currently vacant ("Initial Space") until after such Initial Space becomes available for lease following the expiration or earlier termination of an initial lease of such Initial Space.

8. Demising Wall. Subject to Landlord's consent to the removal of such demising wall, Netscape hereby agrees to pay one-half of the cost of removing the demising wall in the Additional Subleased Premises, as shown on Exhibit D attached hereto and incorporated herein by this reference, with Subtenant. Notwithstanding the foregoing, in no event shall Netscape's share of such costs exceed \$6,425.00. Upon completion of such work, Subtenant shall submit a proper invoice to Netscape for payment of Netscape's share of such work, which invoice shall include documentation providing Netscape with the names and addresses of all contractors, subcontractors and materialmen who provided labor and materials in connection with this work, final lien waivers from all such contractors, subcontractors and materialmen covering all work and materials in connection with this work, and proof of all required inspections and issuance of any required approvals and sign-offs by public authorities, if necessary.

9. During the term hereof, Subtenant shall have the right to use the elevator located in the Subleased Premises. Netscape shall be responsible for the repair and maintenance of the elevator. Subtenant shall be responsible for all costs and expenses incurred by Netscape in connection with the repair and maintenance of the elevator. Such expenses shall be billed by Netscape to Subtenant and paid by Subtenant as Additional Rent, in accordance with Section 4(a)(ii) of the Sublease.

10. Netscape shall have the right to enter into the Subleased Premises for any reason whatsoever, upon reasonable notice to Subtenant. In the event of an  
<PAGE> 4  
emergency, Netscape shall immediately be permitted to enter into the Subleased Premises.

11. Except as provided for in this Amendment, all references in the Sublease to Subleased Premises, shall include both the Subleased Premises and the Additional Subleased Premises.

12. Except as modified hereby, all terms and conditions of the Sublease remain in full force and effect.

13. No Broker. Netscape and Subtenant each represent and warrant that they have dealt with no broker in connection with this Amendment and the transactions contemplated hereby, except Cornish & Carney Commercial. Each party shall indemnify, protect and hold the other party harmless from all costs and expenses (including reasonable attorneys' fees) arising from or relating to a breach of the foregoing representation and warranty.

IN WITNESS WHEREOF, the parties have executed this Amendment as the date first written above.

NETSCAPE:  
  
NETSCAPE COMMUNICATIONS CORPORATION

SUBTENANT:  
  
MARVELL SEMICONDUCTOR, INC.

By: \_\_\_\_\_  
Name:  
Title:

By: /s/ GORDON M. STEEL  
\_\_\_\_\_  
Name: Gordon M. Steel  
Title: Vice President

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EXHIBIT 10.6

MARVELL TECHNOLOGY GROUP, LTD.

INVESTORS RIGHTS AGREEMENT

This Investors Rights Agreement (the "Agreement") is made as of September 10, 1999 by and among Marvell Technology Group, Ltd., a Bermuda corporation (the "Company"), the undersigned purchasers of Series A Preferred Stock of the Company (the "Series A Purchasers"), the undersigned purchasers of Series B Preferred Stock of the Company (the "Series B Purchasers"), the undersigned purchasers of Series C Preferred Stock of the Company (the "Series C Purchasers"), the undersigned Purchasers of the Series D Preferred Stock (the "Series D Purchasers") and the undersigned Purchasers of the Series E Preferred Stock (the "Series E Purchasers") (the Series A Purchasers, the Series B Purchasers, the Series C Purchasers, the Series D Purchasers, the Series E Purchasers and GBC Venture Capital, Inc. ("GBC"), an affiliate of General Bank, being hereinafter referred to individually as a "Purchaser" and together, along with such additional parties as are hereafter deemed Purchasers pursuant to Section 8 hereof, as the "Purchasers"), and Weili Dai, Pantas Sutardja and Sehat Sutardja (individually, a "Founder" and collectively, the "Founders").

RECITALS

A. The Company and the Series A Purchasers, the Series B Purchasers, the Series C Purchasers and the Series D Purchasers are parties to the certain Registration and Information Rights Agreement, dated as of December 10, 1997 (the "Prior Agreement") pursuant to which the Company granted certain registration and other rights to the Series A Purchasers, the Series B Purchasers, the Series C Purchasers and the Series D Purchasers;

B. The Company, the Founders, the Series A Purchasers, the Series B Purchasers, the Series C Purchasers and the Series D Purchasers are parties to that certain Shareholders Agreement, dated December 10, 1997 (the "Prior Shareholders Agreement") pursuant to which the Company granted certain rights of first refusal to the Series A Purchasers, the Series B Purchasers, the Series C Purchasers and the Series D Purchasers;

C. The Series E Purchasers and the Company have entered into or concurrently herewith are entering into a Series E Preferred Stock Purchase Agreement (the "Series E Purchase Agreement"), pursuant to which such Series E Purchasers are purchasing from the Company shares of the Series E Preferred Stock;

D. The obligations of the Company and such Series E Purchasers under the Series E Purchase Agreement are conditioned, among other things, upon the execution and delivery of this Agreement by the Company, the Founders, the Series A Purchasers, the Series B Purchasers, the Series C Purchasers, the Series D Purchasers and the Series E Purchasers; and



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dated June \_\_, 1999 (the "General Bank Agreement"), pursuant to which the Company issued to GBC a warrant to purchase up to 45,000 shares of Series D Preferred Stock (the "General Bank Series D Warrants") and to GBC a warrant to purchase up to 15,000 shares of Common Stock (the "General Bank Common Warrants");

F. The Series E Purchasers and GBC desire to be granted the rights set forth herein relating to registration rights and the Company, the Founders, the Series A Purchasers, the Series B Purchasers, the Series C Purchasers, the Series D Purchasers desire that this Agreement supersede and cancel the Prior Agreement relating to registration and information rights and the Prior Shareholders Agreement relating to the right of first refusal on new issuances by the Company;

NOW, THEREFORE, in consideration of the mutual promises and covenants hereinafter set forth, the Company, the Founders, the Series A Purchasers, the Series B Purchasers, the Series C Purchasers, the Series D Purchasers, the Series E Purchasers and GBC agree as follows:

SECTION 1. CERTAIN DEFINITIONS.

As used in this Agreement, the following terms shall have the following respective meanings:

"Commission" shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

"Conversion Stock" means the Series A Preferred, the Series B Preferred, the Series C Preferred, the Series D Preferred (including the Series C Preferred and Series D Preferred issuable upon exercise of outstanding warrants to purchase Series C Preferred and Series D Preferred) and the Common Stock issued or issuable pursuant to the conversion of the Series A Preferred, Series B Preferred, Series C Preferred, or Series D Preferred.

"General Meeting" shall mean any general meeting of the shareholders of the Company.

"Holders" shall mean (i) the Purchasers for so long as Purchasers hold Conversion Stock or Registrable Securities, (ii) the Founders for so long as the Founders hold Registrable Securities, (iii) GBC, and (iv) any person holding Registrable Securities to whom the rights under this Agreement have been transferred in accordance with Section 5.9 hereof.

"Initiating Holders" shall mean any holder or holders of more than 25% of the Series A Preferred, Series B Preferred, the Series C Preferred and Series D Preferred (and Registrable Securities issued upon conversion thereof) voting as a single class.

"Series A Preferred" shall mean the Series A Preferred Stock of the Company issued pursuant to the Series A Preferred Stock Purchase Agreement, dated April 26, 1995.

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"Series B Preferred" shall mean the Series B Preferred Stock of the Company issued pursuant to the Series B Preferred Stock Purchase Agreement, dated October 19, 1995.

"Series C Preferred" shall mean the Series C Preferred Stock of the Company issued pursuant to the Series C Preferred Stock Purchase Agreement, dated September 12, 1996 and the Series C Preferred Stock Purchase Agreement, dated November 4, 1996.

"Series D Preferred" shall mean the Series D Preferred Stock of the Company issued pursuant to the Series D Preferred Stock Purchase Agreement and the General Bank Series D Warrant.

"Series E Preferred" shall mean the Series E Preferred Stock of the Company issued pursuant to the Series E Preferred Stock Purchase Agreement.

"Registrable Securities" means (i) shares of Common Stock of the Company issued or issuable in respect of the Conversion Stock upon any stock split, stock dividend, recapitalization, or similar event, or any Common Stock otherwise issuable with respect to the Conversion Stock, (ii) shares of Common Stock which are Conversion Stock, (iii) shares of Common Stock issuable upon exercise of the General Bank Common Warrant and (iv) shares of Common Stock which are held by the Founders; provided, however, that shares of Conversion Stock or other securities shall only be treated as Registrable Securities if and so long as they have not been sold to or through a broker or dealer or underwriter in a public distribution or a public securities transaction.

The terms "register," "registered" and "registration" refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act, and the declaration or ordering of the effectiveness of such registration statement.

"Registration Expenses" shall mean all expenses, except as otherwise stated below, incurred by the Company in complying with Sections 5.1, 5.2 and 5.3 hereof, including, without limitation, all registration, qualification and filing fees, printing expenses, escrow fees, fees and disbursements of counsel for the Company, blue sky fees and expenses, the expenses of any special audits incident to or required by any such registration (but excluding the compensation of regular employees of the Company which shall be paid in any event by the Company) and the reasonable fees and disbursements of one counsel for all Holders as appointed by the Holders (other than the Founders).

"Restricted Securities" shall mean the securities of the Company required to bear the legend set forth in Section 3 hereof.

"Securities Act" shall mean the Securities Act of 1933, as amended, or any similar federal statute and the rules and regulations of the Commission thereunder, all as the same shall be in effect at the time.

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"Selling Expenses" shall mean all underwriting discounts, selling commissions and stock transfer taxes applicable to the securities registered by the Holders and, except as set forth under "Registration Expenses", all reasonable fees and disbursements of counsel for any Holder.

SECTION 2. RESTRICTIONS ON TRANSFERABILITY. The Conversion Stock and any other securities issued in respect of the Conversion Stock upon any stock split, stock dividend, recapitalization, merger, consolidation or similar event, shall not be sold, assigned, transferred or pledged except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. Each Purchaser will cause any proposed purchaser, assignee, transferee, or pledgee of any such shares held by such Purchaser to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

SECTION 3. RESTRICTIVE LEGEND. Each certificate representing (i) the Conversion Stock and (ii) any other securities issued in respect of the Conversion Stock upon any stock split, stock dividend, recapitalization, merger, consolidation or similar event, shall (unless otherwise permitted by the provisions of Section 4 below) be stamped or otherwise imprinted with a legend in substantially the following form (in addition to any legend required under applicable state securities laws):

THE SHARES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. SUCH SHARES MAY NOT BE SOLD OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION UNLESS THE COMPANY RECEIVES AN OPINION OF COUNSEL REASONABLY ACCEPTABLE TO IT STATING THAT SUCH SALE OR TRANSFER IS EXEMPT FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT. COPIES OF THE AGREEMENTS COVERING THE PURCHASE OF THESE SHARES AND RESTRICTING THEIR TRANSFER MAY BE OBTAINED AT NO COST BY WRITTEN REQUEST MADE BY THE HOLDER OF RECORD OF THIS CERTIFICATE TO THE SECRETARY OF THE CORPORATION AT THE PRINCIPAL EXECUTIVE OFFICES OF THE CORPORATION.

Each Purchaser and each Holder consents to the Company making a notation on its records and giving instructions to any transfer agent of the Preferred Stock or the Common Stock in order to implement the restrictions on transfer established in this Agreement.

SECTION 4. NOTICE OF PROPOSED TRANSFERS. The holder of each certificate representing Restricted Securities by acceptance thereof agrees to comply in all respects with the provisions of this Section 4. Prior to any proposed sale, assignment, transfer or pledge of any Restricted Securities (other than (i) a transfer not involving a change in beneficial ownership,

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(ii) in transactions involving the distribution without consideration of Restricted Securities by any Purchaser to any of its partners, or retired partners, or to the estate of any of its partners or retired partners, (iii) in transactions involving the transfer without consideration of Restricted Securities by a Purchaser during his or her lifetime by way of gift or on death by will or intestacy, or (iv) in transactions in compliance with Rule 144), unless there is in effect a registration statement under the Securities Act covering the proposed transfer, the holder thereof shall give written notice to the Company of such holder's intention to effect such transfer, sale, assignment or pledge. Each such notice shall describe the manner and circumstances of the proposed transfer, sale, assignment or pledge in sufficient detail, and shall be accompanied, at such holder's expense, by either (i) an unqualified written opinion of legal counsel who shall be, and whose legal opinion shall be, reasonably satisfactory to the Company addressed to the Company, to the effect that the proposed transfer of the Restricted Securities may be effected without registration under the Securities Act, or (ii) a "no action" letter from the Commission to the effect that the transfer of such securities without registration will not result in a recommendation by the staff of the Commission that action be taken with respect thereto, whereupon the holder of such Restricted Securities shall be entitled to transfer such Restricted Securities in accordance with the terms of the notice delivered by the holder to the Company. Each certificate evidencing the Restricted Securities transferred as above provided shall bear, except if such transfer is made pursuant to Rule 144, the appropriate restrictive legend set forth in Section 3 above, except that such certificate shall not bear such restrictive legend if, in the opinion of counsel for such holder and the Company, such legend is not required in order to establish compliance with any provision of the Securities Act.

## 5.1 REQUESTED REGISTRATION.

(a) In case the Company shall receive from Initiating Holders a written request that the Company effect any registration, qualification or compliance with respect to shares of Registrable Securities with an anticipated aggregate offering price, net of underwriting discounts and commissions, of ten million dollars (\$10,000,000), the Company will:

(i) promptly give written notice of the proposed registration, qualification or compliance to all other Holders, except for the Founders, who shall not be entitled to registration in this Section 5.1; and

(ii) as soon as practicable, use its best efforts to effect such registration, qualification or compliance (including, without limitation, appropriate qualification under applicable blue sky or other state securities laws and appropriate compliance with applicable regulations issued under the Securities Act and any other governmental requirements or regulations) as may be so requested and as would permit or facilitate the sale and distribution of all or such portion of such Registrable Securities as are specified in such request, together with all or such portion of the Registrable Securities of any Holder or Holders joining in

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such request as are specified in a written request received by the Company within 20 days after receipt of such written notice from the Company.

(b) Notwithstanding the foregoing, the Company shall not be obligated to take any action pursuant to this Section 5.1:

(i) In any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, qualification or compliance, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(ii) Prior to the earlier to occur of: (x) July 31, 1991 and (y) six months after the effective date of the Company's first registered public offering of shares of its Common Stock;

(iii) During the period starting with the date sixty (60) days prior to the Company's estimated date of filing of, and ending on the date six (6) months immediately following the effective date of, any registration statement pertaining to securities of the Company (other than a registration of securities in a Rule 145 transaction or with respect to an employee benefit plan), provided that the Company is actively employing in good faith all reasonable efforts to cause such registration statement to become effective;

(iv) After the Company has effected two such registrations pursuant to this subparagraph 5.1(a), and such registrations have been declared or ordered effective and remains effective until the earlier to occur of (x) 90 days or (y) the sale all the securities offered pursuant to each such registration;

(v) If the Company shall furnish to such Initiating Holders a certificate signed by the President of the Company stating that in the good faith judgment of the Board of Directors it would be seriously detrimental to the Company or its shareholders for a registration statement to be filed in the near future, then the Company's obligation to use its best efforts to register,

qualify or comply under this Section 5.1 shall be deferred for a period not to exceed 90 days from the date of receipt of written request from the Initiating Holders, provided that the Company may not exercise this deferral right for more than 90 days in any one year period.

(vi) If such registration, qualification or compliance is proposed to be part of a firm commitment underwritten public offering with underwriters not reasonably acceptable to the Company.

Subject to the foregoing clauses (i) through (vi), the Company shall file a registration statement covering the Registrable Securities so requested to be registered as soon as practicable after receipt of the request or requests of the Initiating Holders.

(c) Underwriting. In the event of a registration statement pursuant to Section 5.1, the Company shall advise the Holders as part of the notice given pursuant to Section

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5.1(a)(i) that the right of any Holder to registration pursuant to Section 5.1 shall be conditioned upon such Holder's participation in the underwriting arrangements required by this Section 5.1, and the inclusion of such Holder's Registrable Securities in the underwriting to the extent requested shall be limited to the extent provided herein.

The Company shall (together with all Holders proposing to distribute their securities through such underwriting) enter into an underwriting agreement in customary form with the managing underwriter selected for such underwriting by a majority in interest of the Initiating Holders, but subject to the Company's reasonable approval. Notwithstanding any other provision of this Section 5.1, if the managing underwriter advises the Initiating Holders in writing that marketing factors require a limitation of the number of shares to be underwritten, then the Company shall so advise all holders of Registrable Securities and the number of shares of Registrable Securities that may be included in the registration and underwriting shall be allocated among all Holders in proportion, as nearly as practicable, to the respective amounts of Registrable Securities held by such Holders at the time of filing the registration statement. No Registrable Securities excluded from the underwriting by reason of the underwriter's marketing limitation shall be included in such registration. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest 100 shares.

If any Holder of Registrable Securities disapproves of the terms of the underwriting, such person may elect to withdraw therefrom by written notice to the Company, the managing underwriter and the Initiating Holders. The Registrable Securities and/or other securities so withdrawn shall also be withdrawn from registration, and such Registrable Securities shall not be transferred in a public distribution prior to 180 days after the effective date of such registration, or such other shorter period of time as the underwriters may require.

5.2 COMPANY REGISTRATION.

(a) Notice of Registration. If at any time or from time to time the Company shall determine to register any of its equity securities, either for its own account or the account of a security holder or holders, other than (i) a registration relating solely to employee benefit plans, (ii) a registration relating solely to a Rule 145 transaction, or (iii)

(i) promptly give to each Holder written notice thereof; and

(ii) include in such registration (and any related qualification under blue sky laws or other compliance), and in any underwriting involved therein, all the Registrable Securities specified in a written request or requests, made within twenty (20) days after receipt of such written notice from the Company, by any Holder.

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(b) Underwriting. If the registration of which the Company gives notice is for a registered public offering involving an underwriting, the Company shall so advise the Holders as a part of the written notice given pursuant to Section 5.2(a)(i). In such event, the right of any Holder to registration pursuant to Section 5.2 shall be conditioned upon such Holder's participation in such underwriting and the inclusion of Registrable Securities in the underwriting shall be limited to the extent provided herein.

All Holders proposing to distribute their securities through such underwriting shall (together with the Company and the other holders distributing their securities through such underwriting) enter into an underwriting agreement in customary form with the managing underwriter selected for such underwriting by the Company. Notwithstanding any other provision of this Section 5.2, if the managing underwriter determines that marketing factors require a limitation of the number of shares to be underwritten, the managing underwriter may limit the Registrable Securities to be included in such registration (i) in the case of the Company's initial public offering, to zero, and (ii) in the case of any other offering, to an amount no less than 25% of the Registrable Securities then held by each such Holder provided that in each such case, no shares held by any Holder other than the Founder shall be so excluded from such registration until all shares held by the Founders are excluded from such registration. The Company shall so advise all Holders and other holders distributing their securities through such underwriting and the number of shares of Registrable Securities that may be included in the registration and underwriting shall be allocated among all the Holders in proportion, as nearly as practicable, to the respective amounts of Registrable Securities held by such Holders at the time of filing the Registration Statement. To facilitate the allocation of shares in accordance with the above provisions, the Company may round the number of shares allocated to any Holder or holder to the nearest 100 shares.

If any of the Holders disapproves of the terms of any such underwriting, such Holder may elect to withdraw therefrom by written notice to the Company and the managing underwriter. Any securities excluded or withdrawn from such underwriting shall be withdrawn from such registration.

(c) Right to Terminate Registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 5.2 prior to the effectiveness of such registration whether or not any Holder has elected to include securities in such registration.

### 5.3 REGISTRATION ON FORM S-3

(a) If any of the Holders (excluding the Founders) request that the Company file a registration statement on Form S-3 (or any successor form to Form S-3) for a public offering of shares of the Registrable Securities the reasonably anticipated aggregate price to the public of which, net of

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to be qualified in such jurisdictions as such Holder or Holders may reasonably request; provided, however, that the Company shall not be required to effect more than one registration pursuant to this Section 5.3 in any six (6) month period. The Company shall inform other Holders (excluding the Founders) of the proposed registration and offer them the opportunity to participate. In the event the registration is proposed to be part of a firm commitment underwritten public offering, the substantive provisions of Section 5.1(c) shall be applicable to each such registration initiated under this Section 5.3.

(b) Notwithstanding the foregoing, the Company shall not be obligated to take any action pursuant to this Section 5.3:

(i) in any particular jurisdiction in which the Company would be required to execute a general consent to service of process in effecting such registration, qualification or compliance, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(ii) if the Company, within ten (10) days of the receipt of the request of the Holders, gives notice of its bona fide intention to effect the filing of a registration statement with the Commission within ninety (90) days of receipt of such request (other than with respect to a registration statement relating to a Rule 145 transaction, an offering solely to employees, or any other registration which is not appropriate for the registration of Registrable Securities);

(iii) during the period starting with the date sixty (60) days prior to the Company's estimated date of filing of, and ending on the date six (6) months immediately following, the effective date of any registration statement pertaining to securities of the Company (other than a registration of securities in a Rule 145 transaction or with respect to an offering solely to employees, or any other registration which is not appropriate for the registration of Registrable Securities), provided that the Company is actively employing in good faith all reasonable efforts to cause such registration statement to become effective; or

(iv) if the Company shall furnish to such Holder or Holders a certificate signed by the President of the Company stating that in the good faith judgment of the Board of Directors it would be seriously detrimental to the Company or its shareholders for registration statements to be filed in the near future, then the Company's obligation to use its best efforts to file a registration statement shall be deferred for a period not to exceed 90 days from the receipt of the request to file such registration by such Holder or Holders, provided that the Company may not exercise this deferral right for more than 150 days in any one year period.

5.4 EXPENSES OF REGISTRATION. All registration Expenses incurred in connection with (i) the two registrations pursuant to Section 5.1, (ii) all registrations pursuant to Section 5.2, and (iii) three registrations pursuant to Section 5.3 shall be borne by the Company

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Unless otherwise stated, all Selling Expenses relating to securities registered on behalf of the Holders and all other registration expenses shall

5.5 REGISTRATION PROCEDURES. In the case of each registration, qualification or compliance effected by the Company pursuant to this Agreement, the Company will keep each of the Holders advised in writing as to the initiation of each registration, qualification and compliance and as to the completion thereof. At its expense the Company will:

(a) prepare and file with the Commission a registration statement with respect to such securities and use its best efforts to cause such registration statement to become and remain effective for at least one hundred twenty (120) days or until the distribution described in the registration statement has been completed, whichever first occurs;

(b) furnish to the Holders participating in such registration and to the underwriters of the securities being registered such reasonable number of copies of the registration statement, preliminary prospectus, final prospectus and such other documents as such underwriters may reasonably request in order to facilitate the public offering of such securities.

#### 5.6 INDEMNIFICATION.

(a) The Company will indemnify each Holder of securities, each of its officers, directors and partners, and each person controlling such Holder within the meaning of Section 15 of the Securities Act, with respect to which registration, qualification or compliance has been effected pursuant to this Agreement, and each underwriter, if any, and each person who controls any underwriter within the meaning of Section 15 of the Securities Act, against all expenses, claims, losses, damages and liabilities (or actions in respect thereof), including any of the foregoing incurred in settlement of any litigation, (commenced or threatened), arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in any registration statement, prospectus, offering circular or other document, or any amendment or supplement thereto, incident to any such registration, qualification or compliance, or based on any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, and will reimburse each such Holder, each of its officers, directors, general partners and each person controlling such Holder, each such underwriter and each person who controls any such underwriter, for any legal and any other expenses reasonably incurred, as such expenses are incurred, in connection with investigating, preparing or defending any such claim, loss, damage, liability or action, provided that the Company will not be liable in any such case to the extent that any such claim, loss, damage, liability or expense arises out of or is based on any untrue statement or omission or alleged untrue statement or omission, made in reliance upon and in conformity with written information furnished to the Company by such Holder, controlling person or underwriter specifically for use therein; provided, however, that the foregoing indemnity agreement is subject to the condition that, insofar as it relates to any such untrue statement, alleged untrue statement, omission or alleged omission made in a preliminary prospectus on file with the Commission at

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the time the registration statement becomes effective or the amended prospectus filed with the Commission pursuant to Rule 424(b) (the "Final Prospectus"), such indemnity agreement shall not inure to the benefit of: (1) any Holder, (i) if there is no underwriter, and a copy of the Final Prospectus was not furnished to the person asserting the loss, liability, claim or damage at or prior to the time such action is required by the Securities Act and the Final Prospectus would have cured the defect giving rise to the loss, liability, claim or damage (to the extent that such Holder was obligated by law to provide



a copy of the Final Prospectus to such person) or (ii) to the extent that such untrue statement, alleged untrue statement, omission or alleged omission is made in reliance upon and in conformity with written information furnished to the Company by an instrument duly executed by such Holder and stated to be specifically for use therein; or (2) any underwriter, (i) if a copy of the Final Prospectus was not furnished to the person asserting the loss, liability, claim or damage at or prior to the time such action is required by the Securities Act and the Final Prospectus would have cured the defect giving rise to the loss, liability, claim or damage, or (ii) to the extent that such untrue statement, alleged untrue statement, omission or alleged omission is made in reliance on and in conformity with written information furnished to the Company by an instrument duly executed by such underwriter and stated to be specifically for use therein.

(b) Each Holder will, if Registrable Securities held by such Holder are included in the securities as to which such registration, qualification or compliance is being effected, indemnify the Company, each of its directors and officers, each underwriter, if any, of the Company's securities covered by such a registration statement, each person who controls the Company or such underwriter within the meaning of Section 15 of the Securities Act, and each other such Holder, each of its officers and directors and each person controlling such Holder within the meaning of Section 15 of the Securities Act, against all expenses, claims, losses, damages and liabilities (or actions in respect thereof), including any of the foregoing incurred in settlement of any litigation (commenced or threatened), arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in any such registration statement, prospectus, offering circular or other document, or any amendment or supplement thereto, incident to such registration, qualification or compliance, or any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, and will reimburse the Company, such Holders, such directors, officers, persons, underwriters or control persons for any legal and any other expenses reasonably incurred, as such expenses are incurred, in connection with investigating or defending any such claim, loss, damage, liability or action, in each case to the extent, but only to the extent, that such untrue statement (or alleged untrue statement) or omission (or alleged omission) is made in such registration statement, prospectus, offering circular or other document in reliance upon and in conformity with written information furnished to the Company by such Holder specifically for use therein. Notwithstanding the foregoing, the liability of each Holder under this subsection 5.6(b) shall be limited in an amount equal to the net proceeds received by such Holder from the sale of shares in such registration, unless such liability arises out of or is based on willful misconduct by such Holder.

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(c) Each party entitled to indemnification under this Section 5.6 (the "Indemnified Party") shall give notice to the party required to provide indemnification (the "Indemnifying Party") promptly after such Indemnified Party has actual knowledge of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the defense of any such claim or any litigation resulting therefrom, provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be approved by the Indemnified Party (whose approval shall not unreasonably be withheld), and the Indemnified Party may participate in such defense at such party's expense, and provided further that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Agreement, unless the failure to give such notice is materially prejudicial to an Indemnifying Party's ability to defend such action, and provided further that the Indemnifying Party shall not assume the defense for matters as to which there is a conflict of interest or separate and different defenses. No Indemnifying Party, in the

5.7 INFORMATION BY HOLDERS. The Holder or Holders of Registrable Securities included in any registration shall furnish to the Company such information regarding such Holder or Holders, the Registrable Securities held by them and the distribution proposed by such Holder or Holders as the Company may request in writing and as shall be required in connection with any registration, qualification or compliance referred to in this Agreement.

5.8 RULE 144 REPORTING. With a view to making available the benefits of certain rules and regulations of the Commission which may at any time permit the sale of the Restricted Securities to the public without registration, after such time as public market exists for the Common stock of the Company, the Company agrees to use all reasonable efforts to:

(a) Make and keep public information available, as those terms are understood and defined in Rule 144 under the Securities Act, at all times after the effective date that the Company becomes subject to the reporting requirements of the Securities Act or the Securities Exchange Act of 1934, as amended;

(b) File with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Securities Exchange Act of 1934, as amended (at any time after it has become subject to such reporting requirements); and

(c) So long as any of the Holders own any Restricted Securities, to furnish to such Holders forthwith upon request a written statement by the Company as to its compliance with the reporting requirements of said Rule 144 (at any time after 90 days after the effective date of the first registration statement filed by the Company for an offering of its securities to the general public), and of the Securities Act and the Securities Exchange Act of 1934 (at any time after it has become subject to such reporting requirements), a copy of the most

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recent annual or quarterly report of the Company, and such other reports and documents of the Company and other information in the possession of or reasonably obtainable by the Company as such Holders may reasonably request in availing itself of any rule or regulation of the Commission allowing the Holders to sell any such securities without registration.

5.9 TRANSFER OF REGISTRATION RIGHTS. The rights to cause the Company to register securities granted to the Holders under Sections 5.1, 5.2 and 5.3 may be assigned to a transferee or assignee in connection with any transfer or assignment of Registrable Securities by a Purchaser or Founder only if such transferee or assignee, as appropriate, acquires at least 50,000 shares (as adjusted for stock splits, stock dividends, recapitalizations and the like) of the Company's Common Stock or Conversion Stock, provided written notice thereof is promptly given to the Company and the transferee agrees to be bound by the provisions of this Agreement. Notwithstanding the foregoing, the rights to cause the Company to register securities may be assigned to any constituent partner or retired partner of a Holder which is a partnership, or an affiliate of a Holder which is a corporation, or a family member or trust for the benefit of a Holder who is an individual, provided written notice thereof is promptly given to the Company and the transferee agrees to be bound by the provisions of this Agreement.

5.10 TERMINATION OF REGISTRATION RIGHTS. The rights granted pursuant to Sections 5.1, 5.2 and 5.3 of this Agreement shall terminate on the five year anniversary of the Company's initial public offering pursuant to an effective registration statement under the Securities Act, or as to any Holder at such time as the Company has registered its shares of Common Stock under the Securities Exchange Act of 1934, as amended, and such Holder is able to sell all such Registrable Securities as are held by such Holder under Rule 144 promulgated under the Securities Act within a 90-day period.

#### SECTION 6. FINANCIAL INFORMATION AND INSPECTION RIGHTS.

(a) The Company will provide the following reports and rights to each Purchaser for so long as such Purchaser continues to hold at least 75,000 shares of Conversion Stock (as adjusted for stock splits, stock dividends, recapitalizations and the like):

(i) As soon as practicable after the end of each fiscal year, and in any event within 120 days thereafter and at least seven days prior to any to any General Meeting at which the Financial Information (as defined below) is to be considered, consolidated balance sheets of the Company and its subsidiaries, if any, as of the end of such fiscal year, and consolidated statements of operations and consolidated statements of cash flows and shareholders' equity of the Company and its subsidiaries, if any, for such year, prepared in accordance with generally accepted accounting principles and setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail and audited by independent public accountants of national standing selected by the Company (the "Financial Information"), and a capitalization table in reasonable detail for such fiscal year;

(ii) As soon as practicable after the end of the first, second, and third quarterly accounting periods in each fiscal year of the Company and in any event within 60 days thereafter, a consolidated balance sheet of the Company and its subsidiaries, if any, as of the

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end of each such quarterly period, and consolidated statements of operations and, to the extent prepared for the Board of Directors of the Company, consolidated statements of cash flows of the Company and its subsidiaries for such period and for the current fiscal year to date, prepared in accordance with generally accepted accounting principles (other than for accompanying notes), subject to changes resulting from year-end audit adjustments, in reasonable detail and signed by the principal financial or accounting officer of the Company;

(iii) The Company shall permit each Purchaser, at such Purchaser's expense, to visit and inspect the Company's properties, to examine its books of account and records, and to discuss the Company's affairs, finances and accounts with its officers, all at such reasonable times as may be requested by such Purchaser; provided, however, that the Company shall not be obligated pursuant to this clause (iii) to provide access to any information that it reasonably considers to be a trade secret or similar confidential information.

(b) The rights granted pursuant to Section 6 may be assigned to a transferee or assignee in connection with any transfer or assignment of Registrable Securities by a Purchaser only if such transferee or assignee, as appropriate, acquires at least 50,000 shares (as adjusted for stock splits, stock dividends, recapitalizations and the like) of the Company's Conversion Stock, provided written notice thereof is promptly given to the Company. Notwithstanding the foregoing, the rights to cause the Company to register securities may be assigned to any constituent partner or retired partner of a Holder which is a partnership, or an affiliate of a Holder which is a

(c) Each of the Purchasers acknowledge and agree that any information obtained pursuant to this Section 6 which may be considered "inside" non-public information will not be utilized by any Purchaser in connection with purchases or sales of the Company's securities except in compliance with applicable state and federal securities laws.

(d) The covenants set forth in this Section 6 shall terminate and be of no further force or effect upon the consummation of a firm commitment underwritten public offering or at such time as the Company is required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, whichever shall occur first.

#### SECTION 7. RIGHT OF FIRST REFUSAL ON COMPANY ISSUANCES

7.1 RIGHT OF FIRST REFUSAL. The Company hereby grants to each Purchaser who continues to hold not less than 150,000 shares of Preferred Stock (or shares of Common Stock issued upon conversion of such Preferred Stock, the "Conversion Stock") of the Company a right of first refusal ("Right of First Refusal") to purchase such Shareholder's Pro Rata Share (as defined in Section 7.2 hereof) of any New Securities (as defined in Section 7.3 hereof) which the Company may, from time to time, propose to issue and sell.

7.2 PRO RATA SHARE. Each Shareholder's "Pro Rata Share", for purposes of this Article 1, is equal to the fraction obtained by dividing (a) the sum of the total number of shares of any (i) Common Stock, (ii) Common Stock issuable upon conversion of any Preferred Stock and

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(iii) Common Stock issuable upon exercise of any options or warrants then held by such Purchaser by (b) the sum of the total number of shares of (i) Common Stock, (ii) Common Stock issuable upon the conversion of Preferred Stock and (iii) Common Stock issuable upon any exercise of any options or warrants of the Company then outstanding.

7.3 "NEW SECURITIES". Except as set forth below, "New Securities" shall mean any shares of capital stock of the Company, including Common Stock and Preferred Stock, whether or not now authorized, and rights, options or warrants to purchase said shares of Common Stock or Preferred Stock and securities of any type whatsoever that are, or may by their terms become, convertible into said shares of Common Stock or Preferred Stock. Notwithstanding the foregoing, "New Securities" do not include securities issued or issuable (i) upon the conversion of Preferred Stock, (ii) to employees, officers, directors and consultants of the Company pursuant to any one or more employee stock incentive plans or agreements approved by the Company's Board of Directors up to 6,475,000 shares (as appropriately adjusted for any recapitalizations, combinations, stock dividends, subdivisions or split-ups), (iii) pursuant to commercial transactions approved by the Company's Board of Directors including, but not limited to, equipment leases or bank lines of credit, provided that the specific issuance is approved by the Board and do not exceed in the aggregate 150,000 shares of capital stock (as appropriately adjusted for any recapitalizations, combinations, stock dividends, subdivisions or split-ups), (iv) as a dividend or distribution on, or in connection with a split of, any of the capital stock or the Company, (v) in connection with a recapitalization or reorganization of the Company, relating to the Company's merger with or acquisition of another corporation or other entity or (vi) pursuant to a registered public offering of shares of the Company's Common Stock pursuant to an effective registrations statement under

#### 7.4 PROCEDURE.

(a) In the event the Company proposes to undertake an issuance of New Securities, it shall give each Purchaser written notice (the "Company Notice") of its intention, describing the amount and type of New Securities to be issued, and the price and terms upon which the Company proposes to issue the same. Each Purchaser shall have fifteen (15) days from the date of receipt of the Company Notice to exercise such Purchaser's Right of First Refusal to purchase up to such Purchaser's respective Pro Rata Share of such New Securities for the price and upon the terms specified in the Company Notice by delivering written notice (the "Right of First Refusal Election Notice") to the Company and stating therein the quantity of New Securities to be purchased.

(b) Settlement for the New Securities to be purchased by the Purchasers pursuant to this Section 7.4 shall be made in cash within twenty (20) days from the Purchasers' deemed date of receipt of the Company Notice; provided, however, that if the terms of payment for the New Securities specified in the Company Notice were for other than cash against delivery or promissory notes payable over time, each Purchaser shall pay in cash to the Company the fair

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market value of such consideration as mutually agreed upon the Company and a majority of the Purchasers who elect to purchase New Securities or, if no such agreement is reached, as determined by an investment banking firm mutually acceptable to the Company and a majority of the Purchasers who elect to purchase New Securities, which appraisal shall be final, within five (5) days of such determination if such determination is made after fifteen (15) days following receipt of the Company Notice.

(c) In the event that the Purchasers have not elected to purchase all of the New Securities within the applicable period of either fifteen (15) days after the deemed receipt of Company Notice pursuant to clause (a) above or within five (5) days after such determination of fair market value pursuant to clause (b) above, the Company shall have ninety (90) days thereafter to sell the New Securities not elected to be purchased by a Purchaser at the price and upon the terms no more favorable to the purchasers of such securities than specified in the Company Notice. In the event the Company has not sold some or all of the New Securities within said ninety (90) day period, the Company shall not thereafter issue or sell any unsold New Securities without first offering such securities to the Purchasers in the manner provided above.

(d) If any Purchaser shall have failed to deliver to the Company its Right of First Refusal Election Notice within the time period described in this Section 7.4, such Shareholder shall be deemed to have waived its Right of First Refusal.

7.5 WAIVER OF RIGHT OF FIRST REFUSAL. The Right of First Refusal may be waived as to any given issuance of New Securities on behalf of all Purchasers, by Purchasers holding not less than a majority of the shares of Common Stock and Preferred Stock then held by all Purchasers or their permitted assignees or transferees.

7.6 FEES AND EXPENSES OF VALUATION OF NEW SECURITIES. The fees and expenses of any investment banking firm retained in connection with the determination of the fair market value of the consideration to be paid for the

7.7 COMPANY RIGHT TO TERMINATE ISSUANCE OF NEW SECURITIES. Notwithstanding the foregoing, the Company may in its sole discretion terminate any proposed issuance of New Securities in respect of which the Company has given Company Notice, at any time prior to the consummation thereof. The foregoing provision shall apply even in the event one or more Purchasers shall have exercised their Rights of First Refusal hereunder; provided, however, that no New Securities shall then have been issued.

7.8 RIGHT OF FIRST REFUSAL PROVISIONS OF PRIOR SHAREHOLDERS AGREEMENT SUPERSEDED AND CANCELED. The Company, the Founders and each of the Series A Purchasers, the Series B Purchasers, the Series C Purchasers and the Series D Purchasers who are parties to this Agreement and to the Prior Shareholders Agreement hereby agree that the provisions of this

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Section 7 supersede and cancel the right of the first refusal provisions of Article I of the Prior Shareholders Agreement.

SECTION 8. STANDOFF AGREEMENT. In connection with any public offering of the Company's securities in connection with an effective registration statement under the Securities Act, each Holder agrees, upon the request of the Company or the underwriters managing any underwritten offering of the Company's securities, not to sell, make any short sale of, loan, grant any option for the purchase of, or otherwise dispose of any securities of the Company (other than those included in the registration) without the prior written consent of the Company or such underwriters, as the case may be, for such period of time, not to exceed one hundred eighty (180) days for the Company's initial public offering registration and not to exceed ninety (90) days, in the case of any subsequent registration (or such lesser period as officers, directors or 1% shareholders of the voting power of the Company are so restricted with respect to the transfer of shares of capital stock of the Company held by them) after the effective date of the registration statement relating thereto provided that, should the underwriters release from such transfer restriction shares held by any officer, director or 1% shareholder, then such Holder shall similarly be released from such restriction. Each of the Purchasers and each Holder agrees that the Company may instruct its transfer agent to place stop-transfer notations in its records to enforce the provisions of this Section 8.

SECTION 9. ADDITIONAL PARTIES. The parties hereto agree that additional holders of Series E Preferred Stock of the Company may, with the consent only of the Company, be added as parties to this Agreement with respect to any or all securities of the Company held by them, and shall thereupon be deemed for all purposes "Purchasers" hereunder; provided, however, that from and after the date of this Agreement, the Company shall not without the prior written consent of each Purchaser, enter into any agreement with any holder or prospective holder of any securities of the Company providing for the grant to such holder of rights superior to those granted herein. Any such additional party shall execute a counter-part of this Agreement, and upon execution by such additional party and by the Company, shall be considered a Purchaser for purposes of this Agreement.

SECTION 10. AMENDMENT. Any provision of this Agreement may be amended or the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the Holders of a majority of each of: (i) the Founders and (ii) the Holders of Series A Preferred, Series B Preferred, Series

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SECTION 11. GOVERNING LAW. This Agreement and the legal relations between the parties arising hereunder shall be governed by and interpreted in accordance with the internal laws of Bermuda.

SECTION 12. ENTIRE AGREEMENT. This Agreement constitutes the full and entire understanding and agreement between the parties hereto regarding the matters set forth herein, and supersedes in their entirety all prior agreements and understandings among the parties relative to the subject matter hereof. Upon execution of this Agreement by the parties required to amend the Prior Agreement, the Prior Agreement shall be rendered null and void and be of no further force or effect. Except as otherwise expressly provided herein, the provisions hereof shall inure to the benefit of, and be binding upon the successors, assigns, heirs, executors and administrators of the parties hereto.

SECTION 13. NOTICES, ETC. All notices and other communications required or permitted hereunder shall be in writing and shall be deemed effectively given upon personal delivery to the party to be notified or three (3) days after deposit with the United State mail, by registered or certified mail, postage prepaid, addressed (a) if to a Purchaser, at the address of such Purchaser set forth on Exhibit A hereto, as it may be amended from time to time, or at such other address as the Purchasers shall have furnished to the Company in writing in accordance with this Section 13, if to General Bank or GBC, at the address set forth on the General Bank Agreement, (b) if to a Founder, at the address of such Founder set forth on Exhibit A to the Prior, (c) if to any other holder of Conversion Stock, at such address as such holder shall have furnished the Company in writing in accordance with this Section 13, or, until any such holder so furnishes an address to the Company, then to and at the address of the last holder thereof who has so furnished an address to the Company, or (d) if to the Company, at its principal office, or that of Marvell Semiconductor, Inc., its subsidiary, with a copy addressed to Venture Law Group, Professional Corporation, 2775 Sand Hill Road, Menlo Park, California, 94025, to the attention of Tae Hea Nahm, Esq.

SECTION 14. COUNTERPARTS. This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute one instrument.

[Signature pages follow]

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The foregoing agreement is hereby executed as of the date first above written.

"COMPANY"

MARVELL TECHNOLOGY GROUP, LTD.  
a Bermuda corporation

By:

-----  
Sehat Sutardja, President  
and Chief Executive Officer

SIGNATURE PAGE TO REGISTRATION AND INFORMATION RIGHTS AGREEMENT

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EXHIBIT 21.1

SUBSIDIARIES

Marvell Asia Pte Ltd  
Marvell Japan KK  
Marvell Semiconductor, Inc.

Singapore  
Japan  
California

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EXHIBIT 23.3

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the use in this Registration Statement on Form S-1 of our report dated March 3, 2000 except for Note 11, which is as of March 21, 2000, relating to the financial statements of Marvell Technology Group Ltd., which appears in such Registration Statement. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP



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# **EXHIBIT D**

# Stock Buybacks

By **RightLine Staff Writers**

## RIGHTLINE

During times when the stock market is declining there will often be an increase in the number of companies announcing a stock buyback. Although a stock buyback is fairly common, the investing public often overlooks the potential value of these announcements that can be used in their investing or trading analysis.

### What Is A Stock Buyback?

When a corporation buys its own stock on the open stock market, it is considered a "stock buyback" and the shares purchased are re-titled "treasury stock." Before examining some of the potential benefits and pitfalls of a stock buyback, let's first review a couple of terms that will be used in this discussion:

**Authorized Shares** - the number of shares of stock a corporation is "authorized" to issue per their articles of incorporation. Additional shares can be "authorized" by the Board of Directors with approval of shareholders.

**Outstanding Shares** - the number of shares of stock that are held by investors (including employees and executives of the corporation). Treasury and Authorized-not-Issued shares are not included in this figure.

**Treasury Shares** - the number of shares of previously outstanding stock that has been repurchased by the corporation. Treasury stock can later be sold or retired based on a shareholder vote.

**Float** - the number of shares outstanding minus what is owned by insiders (people in the company, like the CEO, COO, CFO, President, Vice Presidents, etc.) and treasury stock.

**Earnings Per Share (EPS)** - Earnings divided by the number of outstanding shares of stock.

Now that we've defined a few terms, let's move on to take a closer look at the effect a buyback can have - both positive and negative.

Benefits of Stock Buybacks



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**Increased Shareholder Value** - There are many ways to value a profitable company but the most common measurement is Earnings Per Share (EPS). If earnings are flat but the number of outstanding shares decreases. . Voila! . . A magical increase in period-to-period EPS will result.

**Higher Stock Prices** - An increase in EPS will often alert investors that a stock is undervalued or has the potential for increasing in value. The most common result is an increase in demand and an upward movement in the price of a stock.

**Increased Float** - As the number of outstanding shares decreases, the shares remaining represent a larger percentage of the float. If demand increases and there is less supply, then fuel is added to a potential upward movement in the price of a stock.

**Excess Cash** - Companies usually buy back their stock with excess cash. If a company has excess cash, then at a minimum you can bank that it doesn't have a cash flow problem. More importantly, it signals that executives feel that cash re-invested in the corporation will get a better return than alternative investments.

**Income Taxes** - When excess cash is used to buyback company stock, in lieu of increasing or paying dividends, shareholders often have the opportunity to defer capital gains AND lower their tax bill if the stock price increases. Remember that dividends are taxed as ordinary income in the year they are received whereas the sale of appreciated stock is taxed when sold. Also, if the stock is held for more than one year the gain will be subject to lower capital gain rates.

**Price Support** - Companies with buyback programs in place use market weakness to buy back shares more aggressively during market pullbacks. This reflects confidence that a company has in itself and alerts investors that the company believes that the stock is cheap. Frequently you will see a company announce a buyback after its stock has taken a hit, which

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is merely an overt action to take advantage of the discount on the shares. This lends support to the price of the stock and ultimately provides security for long-term investors during rough times.

Now that we've shown a few reasons to be bullish on "buyback stocks," should you go out and buy every buyback you can find? Definitely not. Not all buybacks are equal and some buybacks seem to be nothing more than an attempt to manipulate the stock price.

#### Potential Pitfalls

**Manipulation of Earnings** - Above we described how a buyback improves the earnings per share number. Analysts rate stocks on many factors, but one of the most important numbers is the Earnings Per Share. Assume that an analyst estimates earnings using a higher number of outstanding shares existing before a buyback is executed. If the timing is right, companies could buyback shares and appear to beat consensus estimates that were based on a larger number of outstanding shares. So, watch out for announcements just prior to earnings.

**Buyback Percentage** - The higher the percentage of the buyback, the greater the potential for profits. Unfortunately, the buyback percentage is not typically part of an announcement so in order to determine if there is any significance to the announcement you'll need to do some research. Don't assume that a large number of shares is necessarily a large percentage.

**Execution of Buyback** - There is a difference between announcing a buyback and actually purchasing the stock. A buyback announcement may initially boost the price of a stock, but this phenomenon (when it occurs) is usually short lived. Don't be fooled into believing that all announcements are implemented. A good portion of announced buybacks are not executed in full.

**High Stock Prices** - Beware of a buyback program announced when a stock is at or nearing an all-time high. A stock buyback can be used to manipulate less than desirable EPS expectations. One way of investigating this is to compare the P/E (Price/Earnings) ratio relative to other stocks in the sector or industry. If a higher than normal P/E ratio exists, then it doesn't make a whole lot of sense for a company to buy its stock at a premium unless there is something in the works that will add substantially to earnings.

#### The Bottom Line

Stock buyback programs take advantage of supply and demand by reducing the number of shares outstanding, increasing EPS shareholder value, float and ultimately the price of stock. In addition, they are often a wise use of excess cash and can create tax opportunities for the investor. However, not all buybacks are actually implemented so caution and research is advisable.

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When a company announces a stock buyback, also commonly referred to as a share repurchase, is this a good thing or a bad thing for investors?

Such action can be an indication that management believes the stock price is undervalued. On the other hand, the company may be compelled to buy back its own shares for other reasons—reasons that are not entirely in the best interests of its stockholders.

### Stock Buybacks Defined

When a company elects to purchase outstanding shares of its own stock—shares held by the investing public—it can accomplish this through one of two ways:

1. The company can tender an offer to existing stockholders. A tender offer invites shareholders to sell their stock, generally at a price above the market price, within a certain period of time.
2. The company can purchase shares of its stock in the open market, similar to the way individuals would. In this case, the company would simply pay market price.

Whichever method the company chooses, it has decided to invest in itself for one reason or another. But is this the best use of its cash? Wouldn't it be better if the company reinvested excess cash for future growth? Or perhaps it should distribute the cash to shareholders in the form of a dividend.

What gives? Why are companies going down this road?

Good, Bad or Just Plain Ugly?

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These are words that have been uttered by numerous companies after they announce a share buyback. The company is saying that its shares are currently selling at a discount to their fair value. They are a good bargain at this price. However, as we alluded to earlier, a company can have a number of other motives behind a share repurchase. Here are some other potential reasons, both good and bad.

1.) A company finds itself with a large amount of excess cash on its hands and must decide what to do with it. A number of companies will give its shareholders a piece of the pie. Some choose to issue dividends while others prefer to buy back their own shares (some do both). Less shares outstanding give investors a greater ownership position in the company.

2.) A company may simply be trying to make its financial ratios look prettier, when in reality, it is not a fundamentally sound organization. When a company buys back its shares, this can give their ratios a temporary boost.

a. Since share repurchase programs reduce the number of shares outstanding, ratios tied to this measure, such as earnings per share (EPS) and price-to-earnings ratio (P/E ratio), can be given a nice facelift.

b. When a company spends its cash, its assets are reduced. This will cause its return on assets (ROA) to increase. Also, return on equity (ROE) is upped because there is less outstanding equity.

3.) Another motive behind a buyback may have to do with large employee stock option programs. When employees exercise their stock options, the number of shares outstanding actually increases. This can lead to dilution—a reduction in each current shareholder's fractional ownership. Share repurchases help to rectify this situation.

4.) Companies may find themselves in a position where another company is planning an unfriendly or hostile takeover—a takeover which goes against the wishes of the target company's management and board of directors. If a company can succeed in buying back a substantial amount of its own shares, this makes it more difficult to be taken over.

#### Repurchase of Stocks with Healthy Zacks Ranks

Investors obviously would like companies to buy back shares of their own stock because they are currently undervalued (or for any reason that is in their best interest). The market has yet to realize the company's true value, and once it does, they would enjoy the price appreciation that should result. If management is looking to give their suffering ratios an extreme makeover, this can spell bad news for investors.

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03/22/2013

Company Name	Symbol	%Change
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FIRSTBANK AL	FBMI	4.52% ▲
NETQIN MOBIL	NQ	4.01% ▲
HUANENG POWE	HNP	3.84% ▲
FLOWERS FOOD	FLO	3.56% ▲

**VIEW:** Zacks Rank #1 Strong Buys 

When trying to determine the motives behind a company's share buyback program, take a quick look at its current Zacks Rank. If a company is receiving positive earnings estimate revisions, leading to an attractive Zacks Rank, and decides to repurchase its shares, this can be a recipe for success ([Learn more about the Zacks Rank](#)). A fundamentally sound company investing in itself—I like the odds of this one, don't you?

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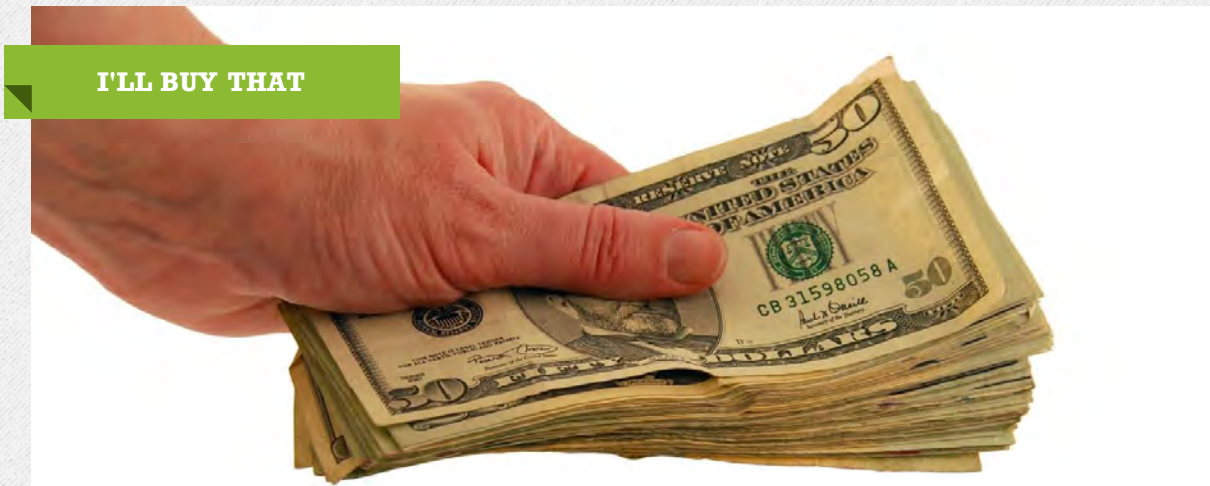
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# NAVELLIER: SURGE IN STOCK BUYBACKS A BIG OPPORTUNITY FOR INVESTORS

Big-time growth investor points to cheap debt fueling this trend

We've seen a host of [big-ticket deals in February](#). These include Warren Buffett and Berkshire Hathaway (NYSE:[BRK.A](#), [BRK.B](#)) teaming up with 3G Capital to purchase Heinz (NYSE:[HNZ](#)) for \$23 billion, as well as PC icon Dell (NASDAQ:[DELL](#)) announcing its intention to go private for more than \$24 billion.

These moves could be a bullish sign for investors, as private equity starts looking for opportunities to unlock value with buyouts that send shares soaring. But don't think that just because your investments aren't players in one of these deals that you're going to miss out.

Share buybacks are on the rise across the board. And according to one renowned growth investor, share buybacks are a form of "mini buyout" where corporations "invest in themselves."

[Louis Navellier](#), the growth investor behind *Blue Chip Growth* and *Emerging Growth*, is getting pretty excited about the current environment as big-time stocks put big-time money into share repurchase plans.

"If Wall Street does not price a company properly, then they have the right to buy their stock back and go private," Navellier told me. "These buybacks are truly a big story right now."

This chart shows the surge of stock buybacks lately, pushing back to mid-2008 levels and topping \$400 billion quarterly. Some of the recent share repurchase deals of note include a [\\$10 billion plan](#) from General Electric (NYSE:[GE](#)) and a [\\$7.5](#)



JEFF REEVES

*Editor, The Slant*

“A word of warning, however.”

Historically, corporate America has a poor sense of timing when it does buybacks. Consider the buybacks at the rate of \$600 billion a quarter in 2007 and early 2008. Not exactly the best period to be investing whole-hog in stocks. Also, the earnings boost provided by buybacks is nice but unsustainable -- so investors who confuse an accounting trick with real growth could be in trouble.

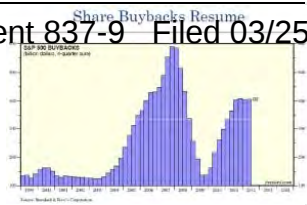


LOUIS NAVELLIER

*Editor, Blue Chip Growth*

“A no-brainer.”

Corporate America is raising approximately \$2 trillion in the bond market per year at the current pace. The last I checked, the stock market was only worth \$18 trillion. So if Wall Street does not price their stock right, the entire stock market could just go "poof" and largely disappear on stock buybacks.



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[billion plan](#) from chemicals giant 3M (NYSE:[MMM](#)).

Furthermore, since the Great Recession there are hints that stocks engaging in big buybacks have outperformed stocks plowing cash into bigger dividends. Check out the total returns here in this second chart, especially since the bear-market lows of 2009.

Navellier says the easy-money environment of low interest rates may continue to fuel buybacks going forward, too.

Share Buybacks Can Drive Performance



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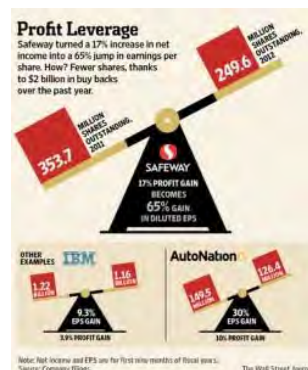
“Big companies can borrow at 3% or less in the bond market. If their ROE is 12% or higher, it is a no-brainer to borrow in the bond market and buy their stock back,” he said. “Corporate America is raising approximately \$2 trillion in the bond market per year at the current pace. The last I checked, the stock market was only worth \$18 trillion. So if Wall Street does not price their stock right, the entire stock market could just go ‘poof’ and largely disappear on stock buybacks.”

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### The Cost and Benefits of Buybacks

Proponents of stock buybacks claim the following benefits:

EPS boost: Earnings per share naturally inflate after a significant buyback, because you are lowering the “S” from all EPS calculations. For instance, if a stock earns \$100 million and has 100 million shares outstanding, it has earnings per share of \$1. If it buys back 10 million shares but earnings are flat, next year it would have \$100 million in profits over 90 million shares outstanding — pushing up EPS to \$1.11 by virtue of math alone. Consider [this chart from The Wall Street Journal](#) for real



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A sign of excess cash: Though Navellier points out companies can offer debt for buybacks, typically companies use cash. And if executives feel that they can spare a few billion on a buyback plan, it is often a clear sign that the underlying stock doesn't have anything to worry about when it comes to cash flow.

A sign of confidence: As Navellier puts it, when a company buys back shares it is saying to the world that it sees "no better investment than itself."

Those are all noteworthy factors in favor of buybacks and the companies that undertake them. But for balance it's worth pointing out the following potential pitfalls that accompany buyback plans. Like everything in investing, buybacks are never a sure thing.

Consider [this article I wrote a year or so ago](#), highlighting stocks that had spent huge amounts of money on buybacks ... with mixed results. While some stocks spend billions on buybacks to big success, others like Microsoft (NASDAQ:[MSFT](#)) have spent over [\\$100 billion in buybacks](#) to see shares essentially move sideways.

Here are some of the reasons buybacks may be ill-advised:

Buying a top: Historically, corporate America has a poor sense of timing when it does buybacks. Consider the first chart above where buybacks peaked at \$600 billion a quarter in 2007 and 2008. Not exactly the best period to be investing whole-hog in stocks. Or take the more recent example of Apple (NASDAQ:[AAPL](#)) and its \$10 billion buyback plan. [Apple's repurchasing stated in October 2012](#) ... when shares were in the high-\$600 range. Shares are off about 25% since then.

Increased volatility: For some stocks that don't trade a lot of shares, buying back stock increases volatility because of simple supply and demand. Fewer shares on the market means that buyers and sellers have less to work with, and thus a big headline or other such trading event that causes a spike in interest could result in big swings for prices due to constrained supply of stock.



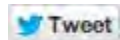
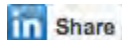
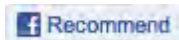
The best-laid plans...: Always remember there is a difference between announcing a buyback and actually purchasing the stock. A good portion of announced buybacks are not executed in full. A company may approve a \$10 billion plan but only buy back a fraction of that amount.

Earnings shenanigans: Many investors are hip to the fact that buybacks juice earnings and aren't as willing to bid up a stock any more based on this kind of "growth." While fundamental analysis may reveal an uptrend at first glance, stock buybacks can't prop up momentum forever if the top line isn't growing. Simply lifting earnings per share via a share repurchase sometimes isn't enough.

## Related Reading

- [John Waggoner on why buybacks matter](#). (*USA Today*)
- [The case for even more buybacks](#). (*Y Charts via Yahoo Finance*)
- [What's behind the buyout binge?](#) (*Advisor Perspectives*)
- On the other side of the coin: [Why stock buybacks are more harmful than you think](#). (*Money Morning*)
- [Buybacks were up \\$274 billion in 2012](#) over 2011 numbers. (*WSJ*)

*Jeff Reeves* is the editor of [InvestorPlace.com](#) and the author of "[The Frugal Investor's Guide to Finding Great Stocks](#)." Write him at [editor@investorplace.com](mailto:editor@investorplace.com) or follow him on Twitter via [@JeffReevesIP](#). As of this writing he held a long position in Apple but no other stocks named here.



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## A Breakdown Of Stock Buybacks

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There are a number of ways in which a company can return wealth to its shareholders. Although stock price appreciation and [dividends](#) are the two most common ways of doing this, there are other useful, and often overlooked, ways for companies to share their wealth with investors. In this article, we will look at one of those overlooked methods: [share buybacks](#). We'll go through the mechanics of a [share buyback](#) and what it means for investors.

**SEE:** [6 Bad Stock Buyback Scenarios](#)

### The Meaning of Buybacks

A stock buyback, also known as a "share repurchase", is a company's buying back its shares from the marketplace. You can think of a buyback as a company investing in itself, or using its cash to buy its own shares. The idea is simple: because a company can't act as its own [shareholder](#), repurchased shares are absorbed by the company, and the number of [outstanding shares](#) on the market is reduced. When this happens, the relative ownership stake of each investor increases because there are fewer shares, or claims, on the earnings of the company.

Typically, buybacks are carried out in one of two ways:



### 1. Tender Offer

Shareholders may be presented with a [tender offer](#) by the company to submit, or tender, a portion or all of their shares within a certain time frame. The tender offer will stipulate both the number of shares the company is looking to repurchase and the price range they are willing to pay (almost always at a premium to the market price). When investors take up the offer, they will state the number of shares they want to tender along with the price they are willing to accept. Once the company has received all of the offers, it will find the right mix to buy the shares at the lowest cost.

### 2. Open Market

The second alternative a company has is to buy shares on the open market, just like an [individual investor](#) would, at the market price. It is important to note, however, that when a company announces a buyback it is usually perceived by the market as a positive thing, which often causes the share price to shoot up.

Now let's look at why a company would initiate such a plan.

#### The Motives

If you ask a firm's management, they'll likely tell you that a buyback is the best use of [capital](#) at a particular time. After all, the goal of a firm's management is to maximize return for shareholders and a buyback generally increases [shareholder value](#). The prototypical line in a buyback press release is "we don't see any better investment than in ourselves." Although this can sometimes be the case, this statement is not always true.

Nevertheless, there are still sound motives that drive companies to repurchase shares. For example, management may feel the market has discounted its share price too steeply. A stock price can be pummeled by the market for many reasons like weaker-than-expected earnings results, an accounting scandal or just a poor overall economic climate. Thus, when a company spends millions of dollars buying up its own shares, it says management believes that the market has gone too far in discounting the shares - a positive sign.

#### Improving Financial Ratios

Another reason a company might pursue a buyback is solely to improve its financial ratios - metrics upon which the market seems to be heavily focused. This motivation is questionable. If reducing the number of shares is not done in an attempt to create more value for shareholders but rather make financial ratios look better, there is likely to be a problem with the management. However, if a company's motive for initiating a buyback program is sound, the improvement of its financial ratios in the process may just be a byproduct of a good corporate decision. Let's look at how this happens.

First of all, [share buybacks](#) reduce the number of shares outstanding. Once a company purchases its shares, it often cancels them or keeps them as [treasury shares](#) and reduces the number of shares outstanding, in the process.

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Moreover, buybacks **reduce the assets on the balance sheet** (remember cash is an asset). As a result, **return on assets** (ROA) actually increases because assets are reduced; **return on equity** (ROE) increases because there is less outstanding equity. In general, the market views higher ROA and ROE as positives.

Suppose a company repurchases one million shares at \$15 per share for a total cash outlay of \$15 million. Below are the components of the ROA and **earnings per share** (EPS) calculations and how they change as a result of the buyback.

	Before Buyback	After Buyback
Cash	\$20,000,000	\$5,000,000
Assets	\$50,000,000	\$35,000,000
Earnings	\$2,000,000	\$2,000,000
Shares Outstanding	10,000,000	9,000,000
ROA	4.00%	5.71%
Earnings Per Share	\$0.20	\$0.22

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As you can see, the company's cash hoard has been reduced from \$20 million to \$5 million. Because cash is an asset, this will lower the total assets of the company from \$50 million to \$35 million. This then leads to an increase in its ROA, even though earnings have not changed. Prior to the buyback, its ROA was 4% (\$2 million/\$50 million) but after the repurchase, ROA increases to 5.71% (\$2 million/\$35 million). A similar effect can be seen in the EPS number, which increases from 20 cents (\$2 million/10 million shares) to 22 cents (\$2 million/9 million shares).

The buyback also helps to improve the company's **price-earnings ratio** (P/E). The P/E ratio is one of the most well-known and often-used measures of value. At the risk of oversimplification, when it comes to the P/E ratio, the market often thinks lower is better. Therefore, if we assume that the shares remain at \$15, the P/E ratio before the buyback is 75 (\$15/20 cents); after the buyback, the P/E decreases to 68 (\$15/22 cents) due to the reduction in outstanding shares. In other words, fewer shares + same earnings = higher EPS!

Based on the P/E ratio as a measure of value, the company is now less expensive than it was prior to the repurchase despite the fact there was no change in earnings.

*Dilution*

Another reason that a company may move forward with a buyback is to reduce the **dilution** that is often caused by generous **employee stock option plans** (ESOP).

SEE: [The "True" Cost Of Stock Options](#)

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Bull markets and strong economies often create a very competitive labor market - companies have to compete to retain personnel and ESOPs comprise many compensation packages. Stock options have the opposite effect of [share repurchases](#), as they increase the number of shares outstanding when the options are [exercised](#). As was seen in the above example, a change in the number of outstanding shares can affect key financial measures such as EPS and P/E. In the case of dilution, it has the opposite effect of repurchase: it weakens the financial appearance of the company.


Continuing with the previous example, let's assume, instead, that the shares in the company had increased by one million. In this case, its EPS would have fallen to 18 cents per share from 20 cents per share. After years of lucrative [stock option](#) programs, a company may feel the need to repurchase shares to avoid or eliminate excessive dilution.

[Tax Benefit](#)


In many ways, a buyback is similar to a dividend because the company is distributing money to shareholders. Traditionally, a major advantage that buybacks had over dividends was that they were taxed at the lower [capital-gains tax rate](#), whereas dividends are taxed at ordinary [income tax](#) rates. However, with the [Jobs and Growth Tax Relief Reconciliation Act of 2003](#), the tax rate on dividends is now equivalent to the rate on capital gains.

**The Bottom Line**

Are share buybacks good or bad? As is so often the case in finance, the question may not have a definitive answer. If a stock is undervalued and a buyback truly represents the best possible investment for a company, the buyback - and its effects - can be viewed as a positive sign for shareholders. Watch out, however, if a company is merely using buybacks to prop up ratios, provide short-term relief to an ailing stock price or to get out from under excessive dilution.



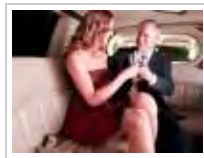




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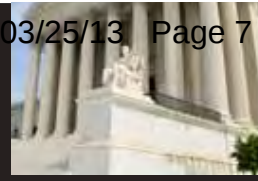
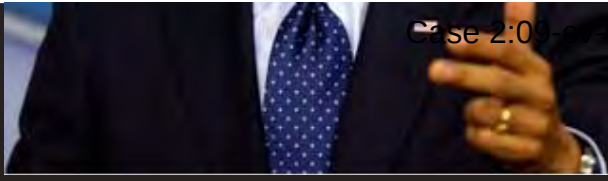
Cory Janssen is a co-founder of Investopedia.com and currently oversees the company's internal operations.



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## How And Why Do Companies Pay Dividends?



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Look anywhere on the web and you're bound to find information on how dividends affect stockholders: the information ranges from a consideration of steady flows of income, to the proverbial "[widows and orphans](#)", and to the many different tax benefits that [dividend-paying companies](#) provide. An important part missing in many of these discussions is the purpose of dividends and why they are used by some companies and not by others. Before we begin describing the various policies that companies use to determine how much to pay their investors, let's look at different arguments for and against dividends policies. (Read more about widows and orphans in [Widow And Orphan Stocks: Do They Still Exist?](#))

### Arguments Against Dividends

First, some [financial analysts](#) feel that the consideration of a [dividend policy](#) is irrelevant because investors have the ability to create "homemade" dividends. These analysts claim that this income is achieved by individuals adjusting their personal portfolios to reflect their own preferences. For example, investors looking for a steady stream of income are more likely to [invest](#) in [bonds](#) (in which interest payments don't change), rather than a dividend-paying stock (in which value can



Watch: Dividend Yields

The second argument claims that little to no dividend payout is more favorable for investors. Supporters of this policy point out that taxation on a dividend is higher than on a [capital gain](#). The argument against dividends is based on the belief that a firm that reinvests funds (rather than paying them out as dividends) will increase the value of the firm as a whole and consequently increase the market value of the stock.

According to the proponents of the no dividend policy, a company's alternatives to paying out excess cash as dividends are the following: undertaking more projects, repurchasing the company's own shares, acquiring new companies and profitable assets, and reinvesting in [financial assets](#) ✓. (Keep reading about capital gains in [Tax Effects On Capital Gains](#).)

### Arguments For Dividends

In opposition to these two arguments is the idea that a high dividend payout is important for investors because dividends provide certainty about the company's financial well-being; dividends are also attractive for investors looking to secure [current income](#) ✓. In addition, there are many examples of how the decrease and increase of a dividend distribution can affect the price of a security. Companies that have a long-standing history of stable dividend payouts would be negatively affected by lowering or omitting dividend distributions; these companies would be positively affected by increasing dividend payouts or making additional payouts of the same dividends. Furthermore, companies without a dividend history are generally viewed favorably when they declare new dividends. (For more, see [Dividends Still Look Good After All These Years](#).)



Watch: Dividend

### Dividend-Paying Methods

Now, should the company decide to follow either the high or low dividend method, it would use one of three main approaches: residual, stability, or a hybrid compromise between the two.

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#### Residual

Companies using the residual dividend policy choose to rely on internally generated [equity](#) to finance any new projects. As a result, dividend payments can come out of the residual or leftover equity only after all project capital requirements are met. These companies usually attempt to maintain balance in their [debt/equity ratios](#) before making any dividend distributions, which demonstrates that they decide on dividends only if there is enough money left over after all operating and expansion expenses are met.

For example, let's suppose that a company named CBC has recently earned \$1,000 and has a strict policy to maintain a debt/equity ratio of 0.5 (one part debt to every two parts of equity). Now, suppose this company has a project with a capital requirement of \$900. In order to maintain the

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debt/equity ratio of 0.5, CBC would have to pay for one-third of this project by using debt (\$300) and two-thirds (\$600) by using equity. In other words, the company would have to borrow \$300 and use \$600 of its equity to maintain the 0.5 ratio, leaving a residual amount of \$400 (\$1,000 - \$600) for dividends. On the other hand, if the project had a capital requirement of \$1,500, the debt requirement would be \$500 and the equity requirement would be \$1,000, leaving zero (\$1,000 - \$1,000) for dividends. If any project required an equity portion that was greater than the company's available levels, the company would issue new stock.

### Stability

The fluctuation of dividends created by the residual policy significantly contrasts with the certainty of the dividend stability policy. With the stability policy, companies may choose a cyclical policy that sets dividends at a fixed fraction of quarterly earnings, or it may choose a stable policy whereby quarterly dividends are set at a fraction of yearly earnings. In either case, the aim of the dividend stability policy is to reduce uncertainty for investors and to provide them with income.

Suppose our imaginary company, CBC, earned the \$1,000 for the year (with quarterly earnings of \$300, \$200, \$100, \$400). If CBC decided on a stable policy of 10% of yearly earnings (\$1,000 x 10%), it would pay \$25 (\$100/4) to shareholders every quarter. Alternatively, if CBC decided on a cyclical policy, the dividend payments would adjust every quarter to be \$30, \$20, \$10 and \$40 respectively. In either instance, companies following this policy are always attempting to share earnings with shareholders rather than searching for projects in which to invest excess [cash](#).

### Hybrid

The final approach is a combination between the residual and stable dividend policy. Using this approach, companies tend to view the debt/equity ratio as a long-term rather than a short-term goal. In today's markets, this approach is commonly used by companies that pay dividends. As these companies will generally experience business cycle fluctuations, they will generally have one set dividend, which is set as a relatively small portion of yearly income and can be easily maintained. On top of this set dividend, these companies will offer another extra [dividend paid](#) only when income exceeds general levels.

### Conclusion

If a company decides to pay dividends, it will choose one of three approaches: residual, stability or hybrid policies. Which a company chooses can determine how profitable its dividend payments will be for investors - and how stable the income.

To read more on this subject, see [Dividend Facts You May Not Know](#).



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[www.StreetAuthority.com](http://www.StreetAuthority.com)

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Six solid dividend stocks to give your portfolio an income boost.



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[www.CitinvestFunds.com](http://www.CitinvestFunds.com)

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[Best Dividend Stocks](#)

[www.insideinvestingdaily.com/Dividends](http://www.insideinvestingdaily.com/Dividends)

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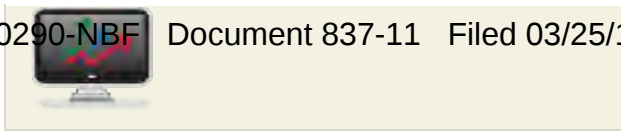
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by **Investopedia Staff**



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# **EXHIBIT I**

# Dividend Monk

Disciplined Dividend Stock Research

## The 9 Best Stocks to Own Now



Here's a list of the recommendations that all of the top analysts agree on. Don't pay \$99 for the names of these stocks. [Get them here for free](#)

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## 8 Reasons to go with Dividends

February 24, 2010 By Matt Alden S. [21 Comments](#)



[Dividend stocks](#) are an excellent source of passive income and can be extensively used for building long-term wealth. I build the base of my portfolio out of dividend stocks for a number of reasons, as shown below.

### Performance

Companies that pay a regular [dividend](#) have been shown to provide great returns over time. Some studies reveal that companies that pay a dividend outperform companies that do not pay a dividend in the S&P 500. They grow steadily during bull markets and yet are fairly good at reducing losses during recessions. Don't buy into the myth that dividend-paying-companies offer a lower return just because they are "safer".

### Diverse Returns

When you invest in a company that does not pay dividends, you only have one way to profit: capital appreciation (increase of the stock price). Your only desired outcome is to watch the stock price go up, and that compromises 100% of your returns. A company that pays growing dividends, however, offers two streams of growth: dividend income and capital appreciation.

### Valuation Competency

It's important to invest in things you understand. Out of all the companies I evaluate for investing, I feel most competent at evaluating dividend-paying companies. Seeing historical dividend growth and comparing current yield to previous yield are two extra metrics, among others, that dividend-paying companies have over companies that do not pay a dividend.

## Shareholder Friendly

A dividend is pretty good evidence that a company is shareholder friendly. When looking for a company to invest in, it's important to note that a great company might not make a great stock. A great company might be overvalued in terms of share price, or it might not care about creating shareholder value. Companies that pay dividends are taking care of the shareholders, and are likely to keep doing that.

## Company Diligence

It is my hypothesis that dividend-paying companies use capital more [efficiently](#). Firstly, paying a dividend requires solid cash flow. This means that a company has to have its financials in order to know how much it can reasonably pay over the long term. Secondly, a company that has less capital to work with (due to paying some capital as dividends) will stick to investing in its best ideas, not simply all of its ideas. This means that they return money to you, the shareholder, and then use the rest to invest in only their very best ideas. The best part is that you can reinvest your dividends into buying more shares, so you can fully embrace all of their best ideas.

## Simplicity

Dividend stocks are generally less volatile than companies that do not pay a dividend. This is especially true if you invest in large-cap dividend payers. Dividend-paying companies are an excellent option if you want to take control of your own finances (individual stock selections) without having to check on each of your companies every day. If I have a portfolio of 8 stable dividend payers and 1 obscure Chinese small-cap, guess which one I'm going to be tempted to "check on" every day? This also means that dividend paying companies are excellent companies to start investing with, and are perfect for someone who is interested in building some serious wealth without feeling the need to think about investing 24/7.

## Management Projection

The amount by which the company directors decide to raise dividend payouts in a given year says a lot about their confidence for the future. Past history is one thing to take note of, but the future is what really matters to investors, so it's great to get insight into managerial confidence. If management is unsure or pessimistic about the future of their company, they are likely to keep dividends

conservative. If management raises dividends by a considerable amount, it shows they see great promise in their future. This is because companies that focus on increasing dividends each year have to conservatively manage their dividend payouts to ensure that they don't bite off more than they can chew, since if their projections don't work out right, they may have to cut dividends, and that always gives horrible press and angers shareholders. When a company raises dividends by a noteworthy amount, it's likely that management is optimistic about long-term future performance.

## Retirement

When you retire, you can keep all of your dividend investments and rely on the passive income of dividends. Once you buy into a dividend paying company, if you've made a wise investment choice and that proves to be a good investment for decades, you could literally hold onto that investment for the rest of your life.

Let me know what you think about dividends in the comment section below.

Further Reading:

[What is a Dividend?](#)

[Dividends: An Investor's Edge](#)

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These stocks yield 12%, yet most US investors don't know they exist.



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## Comments

**RobberBaron** says:

[July 28, 2010 at 12:30 am](#)

Thanks for this. I think I would adjust the diversification element to acknowledge share buy-backs as a stream of revenue, sort-of. It does increase share values, sort-of, though it doesn't put cash in share-holder hands.

[Reply](#)

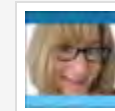


**Barb Friedberg** says:

[August 17, 2010 at 5:54 pm](#)

Go dividends! I like the simple list in the article. As a long time investor, I totally support your dividend focus. It gives an extra level of security in risky assets. Keep it up!  
(this one went in my post for tomorrow)

[Reply](#)



**tom dicks** says:

[October 18, 2010 at 1:58 pm](#)

the tinge i like about dividend stocks is you always make money even in down markets. i have 4 dividend stocks that reinvested buy 1 plus shares a quarter. duk,se,xom,pfe

[Reply](#)



**luis** says:

[October 18, 2010 at 5:08 pm](#)

Great website! Thank goodness I found what I need. My goal is to buy and, hold , good dividend-growth stocks for my wife who currently does not work so as to have decent passive income when in retirement. She's 46 years old and and has about \$60,000.00 in an IRA at schwab. How can this website help me/us?

Dr Leyva

[Reply](#)



**Matt says:**

[October 18, 2010 at 5:54 pm](#)

Hi luis,

This website provides weekly stock analysis articles to give readers potential dividend investment ideas, in addition to education articles. You can also check out my recommended reading list of other dividend blogs on my right sidebar.

[Reply](#)



**[The Dividend Ninja](#) says:**

[January 1, 2011 at 12:19 am](#)

Hi Dividend Monk. An excellent blog, and I agree with all your points here. The fact that dividends provide regular income, as well as potential capital appreciation is the real bonus. Once more people stop buying overpriced mutual funds, and start investing in big blue-chip companies that pay dividends, the sooner they can keep their own money working for them :) PS I've put a link to your site, keep up the good work.

[Reply](#)



**Ralph Kuhn says:**

[January 6, 2011 at 2:36 pm](#)

Matt,

I'm new to this site and so far I like what I'm reading. Now, at 73, I look for a shorter time line, meaning I want to concentrate more on dividends. Capitol appreciation would be the icing on the (stock) cake. This site has the clearest explanations with regards to dividends and education that I've read.

Looking foward to the next e-mail.

Ralph



## Trackbacks

[Important Stock Metrics for Dividend Growth Investors — Dividend Monk](#) says:

[March 7, 2010 at 8:58 pm](#)

[...] Further Reading: 8 Reasons to go with Dividends [...]

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[10 Rules to be Average — Dividend Monk](#) says:

[March 15, 2010 at 9:40 am](#)

[...] How to Invest in the Stock Market 8 Steps to Build Wealth 8 Reasons to go with Dividends [...]

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[Dividend Monk's Millionaire List — Dividend Monk](#) says:

[March 31, 2010 at 3:33 pm](#)

[...] primary path to wealth through investing is to invest in long-term dividend growth stocks. This entails diligently finding well-run, profitable businesses that will be good [...]

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[Smuckers \(SJM\) Raises its Dividend — Dividend Monk](#) says:

[April 23, 2010 at 2:33 pm](#)

[...] Consider reading: 8 Reasons to go with Dividends [...]

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[The Dangers of Penny Stocks — Dividend Monk](#) says:

[April 29, 2010 at 7:11 am](#)

[...] Consider a more rational, long-term approach to investing. 8 Reasons to go with Dividends [...]

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[FOLLOW THESE INSTRUCTIONS & GET WEALTHY | Barbara Friedberg Personal Finance](#) says:

[August 18, 2010 at 9:11 am](#)

[...] at Dividend Monk tells you 8 Reasons to go with [...]

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[Johnson and Johnson \(JNJ\) Dividend Stock Analysis 2010 — Dividend Monk](#) says:

[October 9, 2010 at 5:50 pm](#)

[...] Further Reading: McCormick (MKC) Dividend Stock Analysis National Presto (NPK) Dividend Stock Analysis Becton Dickinson (BDX) Dividend Stock Analysis 8 Reasons to go with Dividends [...]

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[Automatic Data Processing \(ADP\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:29 pm](#)

[...] Further reading: Waste Management (WM) Dividend Stock Analysis Pepsico (PEP) Dividend Stock Analysis Exelon (EXC) Dividend Stock Analysis Abbott Laboratories (ABT) Dividend Stock Analysis 8 Reasons to go with Dividends [...]

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[Abbott Laboratories \(ABT\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:29 pm](#)

[...] Harleyville Group Inc (HGIC) Dividend Stock Analysis Brookfield Infrastructure Partners (BIP) Dividend Stock Analysis Coca Cola (KO) Dividend Stock Analysis McCormick (MKC) Dividend Stock Analysis National Presto (NPK) Dividend Stock Analysis 8 Reasons to go with Dividends [...]

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[Cincinnati Financial Corporation \(CINF\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:31 pm](#)

[...] Check out analysis of other high-dividend-yield stocks: Exelon (EXC) Dividend Stock Analysis Brookfield Infrastructure Partners (BIP) Dividend Stock Analysis National Presto Inc (NPK) Dividend Stock Analysis 8 Reasons to go with Dividends [...]

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[J.M. Smucker Company \(SJM\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:33 pm](#)

[...] Further reading: [3M Company \(MMM\) Dividend Stock Analysis](#) [Emerson \(EMR\) Dividend Stock Analysis](#) [Wal-Mart Stores \(WMT\) Dividend Stock Analysis](#) [Automatic Data Processing \(ADP\) Dividend Stock Analysis](#) [8 Reasons to go with Dividends](#) [...]

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[McCormick and Company, Inc. \(MKC\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:34 pm](#)

[...] Further Reading: [National Presto \(NPK\) Dividend Stock Analysis](#) [Becton Dickinson \(BDX\) Dividend Stock Analysis](#) [8 Reasons to go with Dividends](#) [...]

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[The Procter and Gamble Company \(PG\) Dividend Stock Analysis — Dividend Monk](#) says:

[October 16, 2010 at 3:35 pm](#)

[...] Further reading: [3M Company \(MMM\) Dividend Stock Analysis](#) [Wal-Mart Stores \(WMT\) Dividend Stock Analysis](#) [Automatic Data Processing \(ADP\) Dividend Stock Analysis](#) [Waste Management \(WM\) Dividend Stock Analysis](#) [8 Reasons to go with Dividends](#)

[...]

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[The Importance of Passive Income — Dividend Monk](#) says:

[April 15, 2012 at 10:42 pm](#)

[...] Further Reading: [What is a Dividend? 8 Reasons to go with Dividends](#) [...]

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[Reports of the Best Dividend Stocks](#)

[The Dividend Discount Model](#)

[High Dividend Stocks](#)

[Newsletter Archives](#)

[Financial Freedom 101](#)

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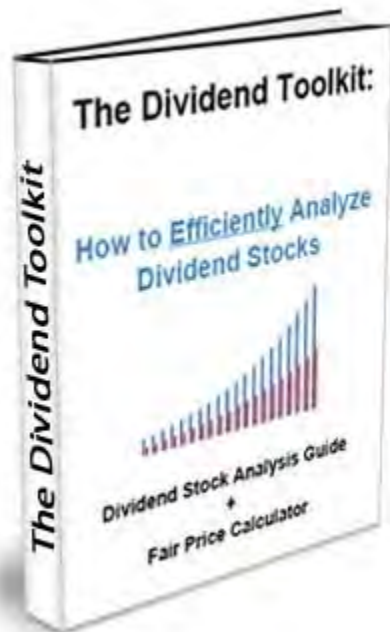
Seeking Alpha  $\alpha$

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Get the Guide:

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Learn the efficient method to quickly and thoroughly analyze a dividend stock, and get the same exact spreadsheet tool that I use to determine the fair



price to pay for any stock: [The Dividend Toolkit](#)

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## Recommended Sites:

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- › [Andrew Hallam](#)
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› [Defensiven](#)

› [Dividend Growth Investor](#)

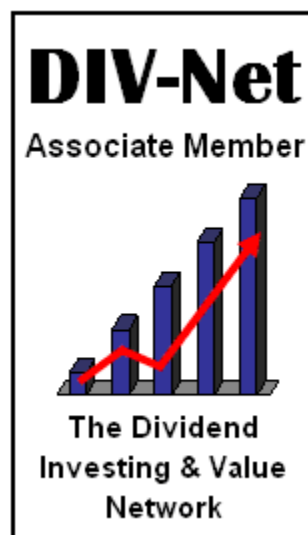
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# **EXHIBIT J**

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**From:** Joseph Milowic III  
**Sent:** Tuesday, February 19, 2013 3:36 PM  
**To:** McElhinny, Patrick; Edward DeFranco; Marvell-CMU-TrialTeam  
**Cc:** Greenswag, Douglas B.; Knedeisen, Mark G.; Verdini, Christopher M.  
**Subject:** RE: CMU v. Marvell -- Ongoing Royalty

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Pat, Ed asked me to forward this email to you.

Pat,

It is premature for the parties and the Court to be grappling with setting a specific, on-going royalty given the numerous, pending post-trial issues that should first be resolved, including Marvell's arguments concerning damages that go to the heart of the royalty rate. As detailed in Marvell's post-trial damages motion, a royalty rate of \$0.50, or higher, seems grossly excessive—such a royalty rate is based on what Marvell respectfully submits are erroneous legal theories that did not find adequate evidentiary support at trial. Under the circumstances, negotiations regarding a post-trial royalty rate should be postponed until after Judge Fischer and the Federal Circuit have resolved the relevant arguments, along with Marvell's other post-trial arguments, such that the parties are advised in the premises and can proceed efficiently.

Regards,

Ed

---

**From:** McElhinny, Patrick [<mailto:Patrick.McElhinny@klgates.com>]  
**Sent:** Friday, February 01, 2013 6:01 PM  
**To:** Edward DeFranco; Marvell-CMU-TrialTeam  
**Cc:** Greenswag, Douglas B.; Knedeisen, Mark G.; Verdini, Christopher M.  
**Subject:** CMU v. Marvell -- Ongoing Royalty

Ed:

As reflected in the Joint Status Report, CMU intends to file a motion requesting the Court to impose an ongoing royalty in the event that it does not issue a permanent injunction. The cases suggest that the parties attempt to negotiate the terms of such a royalty. Please advise us by February 7 of Marvell's proposal regarding its ongoing royalty obligations if it intends to oppose an injunction or to seek a stay of injunction.

It is CMU's position the starting point for any ongoing royalty in this case is the \$0.50 per chip royalty awarded by the jury. CMU will be asking the Court to increase the per chip royalty to reflect the fact that Marvell's ongoing uses of CMU's patented method constitute willful infringement. Such a royalty would be payable to CMU quarterly and be subject to rights to audit.

As always, please be in touch if you have any questions.

Regards,

Pat

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