



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/013,124	01/21/2014	6,438,180 B1	ABYZ-501	1041

26285 7590 02/26/2014
K&L GATES LLP
210 SIXTH AVENUE
PITTSBURGH, PA 15222-2613

EXAMINER

NGUYEN, LINH M

ART UNIT	PAPER NUMBER
----------	--------------

3992

MAIL DATE	DELIVERY MODE
-----------	---------------

02/26/2014

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



DO NOT USE IN PALM PRINTER

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

K & L GATES

210 SIXTH AVENUE

PITTSBURGH PA 15222-2613

***EX PARTE* REEXAMINATION COMMUNICATION TRANSMITTAL FORM**

REEXAMINATION CONTROL NO. 90/013,124.

PATENT NO. 6,438,180 B1 E.

ART UNIT 3992.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified *ex parte* reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the *ex parte* reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

Order Granting / Denying Request For Ex Parte Reexamination	Control No. 90/013,124	Patent Under Reexamination 6,438,180 B1 E
	Examiner Linh M. Nguyen	Art Unit 3992

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

The request for *ex parte* reexamination filed 21 January 2014 has been considered and a determination has been made. An identification of the claims, the references relied upon, and the rationale supporting the determination are attached.

Attachments: a) PTO-892, b) PTO/SB/08, c) Other: _____

1. The request for *ex parte* reexamination is GRANTED.

RESPONSE TIMES ARE SET AS FOLLOWS:

For Patent Owner's Statement (Optional): TWO MONTHS from the mailing date of this communication (37 CFR 1.530 (b)). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).**

For Requester's Reply (optional): TWO MONTHS from the **date of service** of any timely filed Patent Owner's Statement (37 CFR 1.535). **NO EXTENSION OF THIS TIME PERIOD IS PERMITTED.** If Patent Owner does not file a timely statement under 37 CFR 1.530(b), then no reply by requester is permitted.

2. The request for *ex parte* reexamination is DENIED.

This decision is not appealable (35 U.S.C. 303(c)). Requester may seek review by petition to the Commissioner under 37 CFR 1.181 within ONE MONTH from the mailing date of this communication (37 CFR 1.515(c)). **EXTENSION OF TIME TO FILE SUCH A PETITION UNDER 37 CFR 1.181 ARE AVAILABLE ONLY BY PETITION TO SUSPEND OR WAIVE THE REGULATIONS UNDER 37 CFR 1.183.**

In due course, a refund under 37 CFR 1.26 (c) will be made to requester:

- a) by Treasury check or,
b) by credit to Deposit Account No. _____, or
c) by credit to a credit card account, unless otherwise notified (35 U.S.C. 303(c)).

--	--	--

cc:Requester (if third party requester)

The present application is being examined under the pre-AIA first to invent provisions.

DECISION ON REQUEST

A substantial new question of patentability (“SNQ”) exists, affecting claims 1 and 2 of United States Patent Number 6,438,180 to Kavcic et al. (hereinafter “the ‘180 patent”), entitled “SOFT AND HARD SEQUENCE DETECTION IN ISI MEMORY CHANNELS”. Since requester did not request reexamination of claims 3-27 and did not assert the existence of a substantial new question of patentability (SNQ) for such claims, such claims will not be reexamined. See MPEP 2243.

References Cited in the Request

The Request asserts that the following documents raise SNQs of the ‘180 patent:

Zeng, W., *Effective Detection Schemes for Magnetic Recording Channels with Severe Nonlinearities and Media Noise*, Thesis, University of Minnesota (October 1994) (“Zeng”).

Lee, I., *Channel Equalization Techniques Applied to Digital Storage and Transmission Systems*, Thesis, Stanford University (June 1995) (“Lee”).

U.S. Patent No. 6,104,766, filed on September 17, 1996 and issued on August 15, 2000, to Coker (“Coker”).

Of the above-mentioned references, Coker reference was cited by the examiner during the prosecution history of the base patent but was never applied in a prior art rejection. Insofar as Requester has applied the aforesaid reference with other prior art in a manner that plausibly suggests teachings reflected in the base patent claims, the Request has successfully presented this reference in a new light. See *Ex Parte Chicago Rawhide Mfg Co.* 223 USPQ 351 (BPAI 1984).

Applying "Old Art" for a New Request for Reexamination

As stated above, the reference Coker is considered "old art" for the determination of whether a new substantial question of patentability exists in the instant request for reexamination.

35 U.S.C. 303(a) provides for *ex parte* reexamination (emphasis added):

"Within three months following the filing of a request for reexamination under the provisions of section 302 of this title, the Director will determine whether a substantial new question of patentability affecting any claim of the patent concerned is raised by the request, with or without consideration of other patents or printed publications **The existence of a substantial new question of patentability is not precluded by the fact that a patent or printed publication was previously cited by or to the Office or considered by the Office.**"

The reexamination statute makes it clear that a SNQ can be raised by patents and printed publications "previously cited by or to the Office or considered by the Office."

This provision was added for both *ex parte* and *inter partes* reexamination via the Patent and Trademark Office Authorization Act of 2002 (Act of 2002).

Therefore, for any reexamination ordered on or after November 2, 2002, the effective date of the statutory revision, reliance on previously cited/considered art, i.e., "old art," does not necessarily

preclude the existence of a substantial new question of patentability (SNQ) that is based exclusively on that old art. Rather, determinations on whether a SNQ exists in such an instance shall be based upon a fact-specific inquiry done on a case-by-case basis.

Prosecution History

The '180 patent is drawn to a method of determining branch metric values in a detector. The method includes receiving a plurality of time variant signal samples, the signal samples having one of signal-dependent noise, correlated noise, and both signal dependent and correlated noise associated therewith. The method also includes selecting a branch metric function at a certain time index and applying the selected function to the signal samples to determine the metric values. Such method provides advantages since the detected data sequence is detected with higher degree of accuracy because it takes into account the correlation between noise samples in the readback signal.

The examiner generally agrees with the description of the prosecution history found in the Request at pp. 7-12, and that discussion is incorporated by reference. The application was ultimately allowed, with the examiner stating the reasons for allowance as follows:

“... the closest prior arts fail to teach, anticipate and render obvious the recited features of: selecting a branch metric function at a certain time index; applying the selected function to the signal samples to determine the metric values as recited in claim 1”.

Notice of Allowance mailed 3/21/2002, p. 2. References showing a method with such features would therefore have been important to a reasonable examiner in considering the patentability of the claims.

Requester's Proposed Rejections/SNQs

1. A substantial new question of patentability as to claims 1 and 2 is raised by Zeng.
2. A substantial new question of patentability as to claims 1 and 2 is raised by Zeng in view of Lee.
3. A substantial new question of patentability as to claims 1 and 2 is raised by Zeng in view of Coker.

Discussion of the References Pertaining to the Alleged SNQs

Proposal 1: Claims 1 and 2 - Anticipation by Zeng

It is agreed that Zeng raises a SNQ for claims 1 and 2 of the '180 patent. Insofar as the explanation at pp. 16-26 of the request and the item-matching at pp. 27-33 of the request at least facially suggests that Zeng teaches the recited method including the steps of selecting a branch metric function at a certain time index; and applying the selected function to the signal samples to determine the metric values. *See* Zeng pp. 65, 68, 76 and 78. A reasonable examiner would consider Zeng important in deciding whether or not claims 1 and 2 of the '180 patent are

Art Unit: 3992

patentable. Accordingly, Zeng raises a substantial new question of patentability as to claims 1 and 2, which question has not been decided in a previous examination of the '180 patent.

Such teachings are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination and the same question of patentability was not the subject of a final holding of invalidity by Federal Courts.

Proposal 2: Claims 1 and 2 – Obviousness by Zeng in view of Lee

It is agreed that the combination of Zeng and Lee raises a SNQ for claims 1 and 2 of the '180 patent. Insofar as the explanation at pp. 33-38 of the request and the item-matching at pp. 39-46 of the request at least facially suggests that the combination of Zeng and Lee teaches the recited method. Zeng accounts for transition noise through multiple branch-dependent branch metric functions, whereas Lee discloses multiple branch metric functions whose noise component is time-dependent. A reasonable examiner would consider the combination of Zeng and Lee important in deciding whether or not claims 1 and 2 of the '180 patent are patentable. Accordingly, the combination of Zeng and Lee raises a substantial new question of patentability as to claims 1 and 2, which question has not been decided in a previous examination of the '180 patent.

Such teachings are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior

examination and the same question of patentability was not the subject of a final holding of invalidity by Federal Courts.

Proposal 3: Claims 1 and 2 – Obviousness by Zeng in view of Coker

It is agreed that the combination of Zeng and Coker raises a SNQ for claims 1 and 2 of the '180 patent. Insofar as the explanation at pp. 46-51 of the request and the item-matching at pp. 51-63 of the request at least facially suggests that the combination of Zeng and Coker teaches the recited method. Combining the teachings of Zeng and Coker would at least lead to a sequence detector that reflects the time-variant statistics of the transition noise. A reasonable examiner would consider the combination of Zeng and Coker important in deciding whether or not claims 1 and 2 of the '180 patent are patentable. Accordingly, the combination of Zeng and Coker raises a substantial new question of patentability as to claims 1 and 2, which question has not been decided in a previous examination of the '180 patent.

Such teachings are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination and the same question of patentability was not the subject of a final holding of invalidity by Federal Courts.

Extensions of Time

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extension of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

Notification of Other Proceedings

The patent owner is reminded of the continuing responsibility under 37 CFR 1.985(a), to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving the base patent throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of any such activity or proceeding throughout the course of this reexamination proceeding. See MPEP § 2686 and 2686.04.

Correspondence

All correspondence relating to this *inter partes* reexamination proceeding should be directed:

By Mail to: Mail Stop *Inter Partes* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
United States Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900
Central Reexamination Unit

By hand: Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Art Unit: 3992

Registered users of EFS-Web may alternatively submit such correspondence via the electronic filing system EFS-Web, at <https://sportal.uspto.gov/authenticate/authenticateuserlocalepf.html>. EFS-Web offers the benefit of quick submission to the particular area of the Office that needs to act on the correspondence. Also, EFS-Web submissions are “soft scanned” (i.e., electronically uploaded) directly into the official file for the reexamination proceeding, which offers parties the opportunity to review the content of their submissions after the “soft scanning” process is complete.

Any inquiry concerning this communication or earlier communications from the examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:

/Linh M. Nguyen/
Primary Examiner, Art Unit 3992

Conferees:

/JAMES MENEFEER/

Primary Examiner, Art Unit 3992

/JENNIFER MCNEIL/
Supervisory Patent Examiner, Art Unit 3992

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known		
				Application Number	RE of Patent No. 6,438,180	
Sheet		1	of	2	Examiner Name	Emmanuel Bayard
					Attorney Docket Number	ABYZ-501

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)				
	Ex. F	US-6,104,766		08-15-2000	Coker et al.	

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	† ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)					

Examiner Signature	/Linh Nguyen/	Date Considered	02/11/2014
--------------------	---------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Application Number	RE of Patent No. 6,438,180
		Issue Date	August 20, 2002
		First Named Inventor	Aleksandar Kavcic
		Art Unit	2631
		Examiner Name	Emmanuel Bayard
		Attorney Docket Number	ABYZ-501
Sheet	2		2

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	Ex. D	ZENG, WEINING, "Effective Detection Schemes for Magnetic Recording Channels with Severe Nonlinearities and Media Noise" (October 1994)	<input type="checkbox"/>
	Ex. E	LEE, INKYU, "Channel Equalization Techniques Applied to Digital Storage and Transmission Systems" (June 1995)	<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

Examiner Signature	/Linh Nguyen/	Date Considered	02/11/2014
-----------------------	---------------	--------------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.