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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Adil Benyassine

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FARJAMI & FARJAMI LLP
26522 LA ALAMEDA AVE.
SUITE 360
MISSION VIEJO, CA 92691

EXAMINER

HARRIS, LAURID

ART UNIT

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2614

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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.

Office Action Summary	Application No. 11/201,637	Applicant(s) BENYASSINE ET AL.	
	Examiner LAURI HARRIS	Art Unit 2614	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/16/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Final Examination

1. This Office Action issued in response to Application's remarks filed January 16, 2009 regarding Application No. 11/201,637 filed August 10, 2005. Applicant's arguments have been carefully considered and are not persuasive. Accordingly, this is a second and final action. All the limitations of claims 1-24 are rejected for the same reasons set forth in the Non-Final Office Action dated January 7, 2009.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant fails to particularly point out and distinctly claim the transforms used in filter adaptation.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-4, 7-16, and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ericksson US Patent No. 6,219,418 in view of Roy US Patent No. 5,347,177 for reason of record set forth in the prior office action dated January 7, 2009.

6. Claims 5-6 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ericksson US Patent No. 6,219,418 in view of Roy US Patent No. 5,347,177 as applied to claims 1 and 13 above and further in view of Yatrou US Patent No. 5,343,522 for reason of record set forth in the prior office action dated January 7, 2009.

Response to Arguments

7. Applicant's arguments, with regard to claims 1-24, filed January 16, 2009 have been fully considered but they are not persuasive.

8. *Applicant Remarks: The Examiner has objected to the drawings, because the reference numeral 232 is not described in the specification. By the present amendment, applicant has amended the specification, as shown above, to cure this informality.*

The objection has been removed.

9. *Applicant Remark: Rejection of Claims 1-24 under 35 USC § 101*

The Examiner has rejected claims 1-24, under 35 USC § 101, stating that the claimed invention is directed to non-statutory subject matter: because "Neither a physical transformation nor any useful, concrete and tangible result is found"

Applicant respectfully disagrees with the Examiner's rejection of claim 1, under 35 USC § 101, because claim 1 provides a real "physical transformation," as shown below:

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canceled said echo signal based on said first bulk delay using said foreground adaptive filter....

In other words, there is a real physical transformation when an "echo signal" is cancelled by the echo canceller of claim 1. Accordingly, it is respectfully submitted that rejection of claim 1, under 35 USC § 101, is improper. Also, independent claim 13 includes limitations similar to those of claim 1, and claims 2-12 and 14-24 depend on claims 1 and 13, respectively. Therefore, applicant respectfully requests that rejection of claims 1-24, under 35 USC § 101, be withdrawn.

Examiner withdraws the rejection under 35 USC § 101 based on the understanding that an echo canceller requires a communications interface and as such would be statutory.

10. *Applicant Argued: Rejection of Claims 1-24 under 35 USC § 112 ¶ 1 The Examiner has rejected claims 1-24, under 35 USC § 112, ¶ 1, as failing to comply with the enablement requirement, because "one of ordinary skill in the art would need circuitry or the transform used for filtering to make and/or use the invention." Applicant respectfully disagrees.*

It is respectfully submitted that "circuitry or the transform used for filtering" a signal is well within the knowledge of one of ordinary skill in the art, and can be found in many textbooks, patents and publications. In fact, the present Office Action has cited references that discuss filtering a signal, just as in the present application. It is respectfully submitted that Applicant has not required any filtering beyond what is know

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in the art for implementing the invention of claims 1-24. Therefore, applicant respectfully requests that rejection of claims 1-24, under 35 USC § 112, ¶ 1, be withdrawn.

Examiner accepts Applicant's admission on the record that no new or novel filtering is accomplished within this application. All filtering within this application is well known and well documented within the art. The 35 USC § 112, ¶ 1 is withdrawn and replaced by applicant's admission of prior art. "Applicant has not required any filtering beyond what is known in the art".

11. *Applicant Argued: Rejection of Claims 1-4, 7-16 and 19-24 under 35 USC § 103(a) The Examiner has rejected claims 1-4, 7-16 and 19-24, under 35 USC § 103(a), as being unpatentable over Ericksson US Patent No. 6,219,418 in view of Roy US Patent No. 5,347,177. For the reasons stated below, applicant respectfully disagrees. First, claim 1 of the present application recites:*

determining a first bulk delay of an echo signal using a foreground adaptive filter, said foreground adaptive filter being a SPARSE filter; ...

determining a second bulk delay of said echo signal using a background adaptive filter, said background adaptive filter being a SPARSE filter

Applicant respectfully submits that a key distinction between claim 1 of the present application and Ericksson is that claim 1 of the present application recites that both the foreground and background filters are "adaptive filters." In contrast, both Ericksson and patent no. 3,787,645, which is discussed at columns 3 and 4 of Ericksson, disclose that one filter is an adaptive filter and the other filter is a "programmable filter."

As explained in Ericksson, FIG. "3 shows tile approach of patent no. 3,787,645, which uses adaptive filter 12 and "programmable foreground filter 18. Similarly, FIG. 4 of Ericksson describes Ericksson's implementation that also uses adaptive filter 12 and programmable foreground filter 18. Therefore, unlike claim 1 of the present application, Ericksson does not disclose, teach or suggest an echo cancellation system, where both filters are adaptive.

Examiner respectfully disagrees with Applicant. Examiner upholds the rejection based on Ericksson's "adaptive and programmable" filters being adaptive filters. Applicant gives no special meaning to the term adaptive. Therefore, Examiner took the accepted meaning of adaptive within the art, which is "automatic means are used to change the system parameters". Ericksson uses automatic means to change the coefficients of the programmable filter therefore it is an adaptive filter. "The coefficients from the adaptive background filter 12 are transferred to the programmable foreground filter 18" (Ericksson, column 3, lines 20-26). This copying of filter coefficients is the same action Applicant is taking to obtain an adaptive foreground filter. "changing the parameters includes copying one or more parameters of the background adaptive filter into respective one or more parameters of the foreground adaptive filter"(Specification, page 4).

12. *Applicant Argued: Even more, since one filter of Ericksson is not an adaptive filter, but a programmable filter, Ericksson naturally fails to show that the background adaptive filter remains in open-loop mode, while the foreground adaptive filter moves from open-loop mode to closed-loop mode.*

Examiner respectfully disagrees. Ericksson does use two adaptive filters per remarks above. With regard to the open-loop/closed-loop modes, Applicant's specification discloses the definition of open-loop and closed-loop modes as "open-loop mode, where the filter taps or coefficients are adapted more aggressively than in the closed-loop mode" (Specification, page 11). The circuitry or transforms necessary to cause one filter to adapt more aggressively than the other would be part of Applicant's admission on the record that the "circuitry or the transform used for filtering a signal is well within the knowledge of one of ordinary skill in the art, and can be found in many textbooks, patents and publications...Applicant has not required any filtering beyond what is know in the art". Therefore the claimed open/closed-loop modes of filtering are prior art

13. *Applicant Argued: Also, claim 1 recites that both adaptive filters are SPARSE filters. Applicant respectfully submits that there is no disclosure, teaching or suggestion in the cited references that both filters are SPARSE filters.*

Examiner respectfully disagrees. Examiner showed that Yatrou used SPARSE filters and Examiner substituted Yatrou's SPARSE filters for the adaptive filters of Ericksson. Also, Applicant has admitted on the record that the "circuitry or the transform used for filtering a signal is well within the knowledge of one of ordinary skill in the art, and can be found in many textbooks, patents and publications...Applicant has not required any filtering beyond what is know in the art". Therefore the claimed SPARSE filters are prior art.

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14. *Applicant Argued: Accordingly, at least for the reasons stated above, applicant respectfully submits that claim 1 is patentably distinguishable over the cited references, and should be allowed. Further, independent claim 13 includes limitations similar to those of claim 1, and claims 2-4, 7-12, 14-16 and 19-24, depend from claims 1 and 13, respectively, and should be allowed for the reasons stated above.*

Examiner respectfully disagrees with Applicant's arguments. The rejection of claim 1 and all dependent claims is maintained. Therefore, the rejection of claim 13 along with all dependent claims is also maintained for the same reasons as claim 1, stated above.

15. *Applicant Argued: Rejection of Claims 5-6 and 17-18 under 35 USC § 103(a) The Examiner has rejected claims 5-6 and 17-18, under 35 USC § 103(a), as being unpatentable over Ericksson in view of Roy, and further in View of Yatrou US Patent No. 5,343,522. Applicant respectfully submits that claims 5-6 and 17-18 depend from independent claims 1 and 13, respectively, and should be allowed at least for the reasons stated above in conjunction with patentability of claims 1 and 13, as amended.*

Examiner respectfully disagrees with Applicant's arguments, regarding claims 5-6 and 17-18 for the reasons stated above for claims 1 and 13.

16. Therefore, in view of the above reasons, Examiner maintains rejections.

Conclusion

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURI HARRIS whose telephone number is (571)270-7482. The examiner can normally be reached on Monday-Thursday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LH/

/Quynh H Nguyen/

Primary Examiner, Art Unit 2614