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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.



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

REEXAMINATION CONTROL NO. 90/019,255 .

PATENT UNDER REEXAMINATION 9210362 .

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)).

Notice of Pre-AIA or AIA Status

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

Status

Claims 1 and 11 of the US Patent No. 9,210,362 to Reddy et al (the '362 patent, hereinafter) have been ordered for the reexamination.

The References

(1) "McNeely" WO 2006/119490 to David Lowell McNeely, filed May 4, 2006, published November 9, 2006,

(2) "Pugel" WO 2007/145637 to Michael Anthony Pugel, filed June 16, 2006, published December 21, 2007.

(3) "Gomez" U.S. Patent No. 8,224,274 to Ramon Gomez et al., filed December 17, 2008, and issued July 17, 2012.

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of pre-AIA 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, 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.

Claim 1 and 11 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Pugel in view of Gomez

With respect to claims 1 and 11, Pugel teaches a system and a method comprising: in a wideband receiver system (**Abstract, wherein Pugel teaches receiver that processes frequencies in the range between 5MHz and 900 MHz (i.e. wideband receiver system)**): downconverting, a plurality of frequencies that comprises a plurality of desired television channels and a plurality of undesired television channels (**paragraphs [0024] and claim 18, wherein plurality of analog signals in different frequency ranges are converted into digital signals and wherein the signals then are downconverted as explained in claim 18**); digitizing, by a wideband analog-to-digital converter (ADC) module of said wideband receiver system, said plurality of frequencies comprising said plurality of desired television channels and said plurality of undesired television channels (**paragraphs [0009], [0024] and claim 18, wherein entire signal input (i.e. both desired and undesired television channels) are processed and first and second digital signals are formed**); selecting, by digital circuitry of said wideband receiver system, said plurality of desired television channels from said digitized plurality of frequencies (**“selecting (e.g., extracts or selects),by**

digital circuitry(e.g., digital channel select or of the digital tuner) of said wide band receiver system(e.g., Pugel's apparatus), said plurality of desired television channels (e.g., Pugel's digital channels desired to be recovered) from said digitized plurality of frequencies (e.g., from the digitized analog signals). Specifically, Pugel discloses extracting desired television programs (e.g., particular digital channels desired to be recovered) from the down converted, digitized frequencies (e.g., the "downconvert[ed]... first digital signal and ... second digital signal.")" paragraph [0038] and Figure 3, wherein tuner 130 corresponds to the selecting unit, and wherein "extracting" corresponds to the step of selection, wherein desired information is extracted to be provided to demodulator. See also paragraphs [0042] – [0045] and Abstract); and outputting, by said digital circuitry of said wideband receiver system, said selected plurality of television channels as a digital datastream (paragraphs [0010], [0024], [0040] and Figure 3. More specifically Pugel teaches that each separate analog signal is converted from analog to digital form in an analog-to-digital converter 121, 122 and 123. Each digital channel signal is coupled to a separate demodulator 141, 142 and 143).

Pugel, however does not explicitly disclose that the downconverting is performed by a mixer module of the wideband receiver system.

On the other hand, Gomez teaches a tuner which selects and downconverts a desired or selected channel from a RF input signal. More specifically mixer 301 down-converts the desired channel in RF signal (4:6-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teachings of Pugel and Gomez and utilize Gomez's teaching about employing a mixer to perform down-conversion in order to efficiently processing inputted signals. Pugel teaches down-conversion performed after the conversion from analog to digital, performing this step before A/D conversion was well known in the art and thus it would be obvious to one of ordinary skill in the art to change the order of the operations if needed.

Response to Arguments

Applicant's arguments filed June 18th, 2024 have been fully considered but they are not persuasive.

Argument #1: In the first argument, on pages 7-9, the Patent Owner contends *“McNeely specifically notes that “the process used by the FTM 110 is different from a direct tuning of those certain physical channels since other energy besides the selected channel may be present, and the channels are then recombined to form a new signal for further distribution.” (7:17—21) ... Pugel next discloses that the converted digital signals are coupled to digital tuner 130, which demultiplexes the converted digital signals to generate a plurality of digital channel signals ... Each digital channel signal is then coupled to a separate demodulator, which performs demodulation and forward-error-correction (FEC) operations appropriate for the content of that digital channel ... McNeely makes it explicitly clear that its FTM is not a tuner. This is because “the process used by the FTM 110 is different from a direct tuning of those certain physical channels since other energy besides the selected channel may be present, and the*

channels are then recombined to form a new signal for further distribution.” (7:17—21).

In other words, McNeely’s FTM filters out some—but not all—of the undesired channels and outputs a combination of desired and undesired channels.”

Examiner’s Response: The Examiner did not find the Patent Owner’s argument persuasive. It is important to note that since US Patent No. 9,210,362 is not expired, thus claims are interpreted according to the broadest reasonable interpretation standard explained in MPEP 2111:

“The broadest reasonable interpretation does not mean the broadest possible interpretation. Rather, the meaning given to a claim term must be consistent with the ordinary and customary meaning of the term (unless the term has been given a special definition in the specification), and must be consistent with the use of the claim term in the specification and drawings. Further, the broadest reasonable interpretation of the claims must be consistent with the interpretation that those skilled in the art would reach”.

More specifically claims 1 and 11 are directed to a receiver including a mixer module, analog to digital converter (ADC) module and circuitry to select a desired television channels and forward those channels to a demodulator. There is no mention in the claim language of a tuner and specific function that this unit would perform. As demonstrated in the rejection, all of the modules recited above are taught by the cited prior art. For instance, Patent Owner argue that McNeely teaches that some but not all undesired channels are filtered and a combination of desired and undesired channels is output for further processing. The Examiner disagrees with this interpretation. For instance, Figure 2 denotes that signal containing both desired (“selected”) and undesired (“not selected”) channels, is inputted into the unit 210 which as explained on page 9, lines 8-15, can filter frequencies and it also includes mixing circuits necessary to position band signal in the correct frequency range for operation of the A/D converter.

Furthermore, down-conversion takes place when a higher frequency signal is converted to a lower frequency signal. As explained by McNeely, the signal frequency is in the 1-2GHz frequency range and input into the A/D is at the frequency range of 975 and 1425MHz, thus the original signal is down-converted by the mixer 210 to feed the signal at the lower frequency band into A/D.

At this point the signal is sent over to element 220 where the analog signal is digitized. Subsequently, element 230 receives the output from the converter and selects certain channels (i.e. desired channels). On contrary, to what the Patent Owner alleges the re-combined signal does not include both desired and not desired signals but instead it can be an aggregate of the desired signals. For instance, page 10, lines 12-16 explains:

"The digital channel re-combiner 240 frequency translates the individual selected channels each to a different 15 and separate frequency range and combines these signals together to form a single selected digital signal".

Argument #2: In the second argument on page 10, the Patent Owner alleges that *"The OA fails to demonstrate that McNeely is analogous art ... To be analogous, a reference must be either (1) from the same field of endeavor as the patent-at-issue, or (2) reasonably pertinent to the particular problem with which the inventor of the challenged patent is involved ... The '362 Patent explains that tuners are "[r]eceptors used to down-convert and selectively filter TV channels." (1:24-27). This is why, for example, Claim 1 recites "[a] wideband receiver system channels is not contiguous, this swath includes the desired channels as well as undesired channels. Accordingly, the*

'362 Patent aims to improve upon wideband tuner architecture by "eliminat[ing] the need of expensive data conversion, filtering and channel selection on the demodulator side" and by "remov[ing] undesired channels from the signal path at an early stage, thus reliev[ing] the large dynamic range requirement in the demodulator." (6:60-64).

McNeely is not directed to a tuner, nor does it attempt to solve the problem of eliminating expensive data conversion, filtering, and channel selection from the demodulator side of a tuner. As explained above, McNeely is directed to an improved frequency translation module (FTM). McNeely explains that an FTM is used in satellite television systems because the signals travelling from the satellite dishes into the customer home occupy too much frequency for delivery over a single coaxial cable. (McNeely, 7:6-9). The FTM addresses this problem by performing what McNeely calls a "preselection" of certain physical channels, a process even McNeely acknowledges is different than tuning. (/d. at 7:11-26). McNeely makes it explicitly clear that its FTM is not a tuner."

Examiner's Response: *The Examiner did not find the above argument persuasive. In response to applicant's argument that McNeely is nonanalogous art, it has been held that a prior art reference must either be in the field of the inventor's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, McNeely teaches a system which includes a receiver for receiving and digitizing plurality of signals and recovering a set of selected channels from plurality*

of signals (page 3, lines 21-26). Accordingly, McNeely and '362 Patent both receive and process signals (i.e. field of endeavor) and thus are deemed analogous arts.

Argument #3: Then on page 10, the Patent Owner contends "*McNeely's FTM filters out some—but not all—of the undesired channels and outputs a combination of desired and undesired channels. And this is because McNeely is only concerned with making sure the signal bandwidth is narrow enough for delivery into the home on a single coaxial cable, rather than making sure that only the selected channels arrive at the demodulator side of a tuner ... McNeely Does Not Disclose or Suggest "Select[ing] Said Plurality of Desired Television Channels ... McNeely makes it expressly clear that FTM 110 does not "select said plurality of desired television channels" as required by the claims. As McNeely explains:*

The FTM 110 extracts certain ranges of frequencies containing selected physical channels as portions of the three L-band signals provided. . . . The process used by the FTM 110 may be described as a preselection of certain physical channels. However, the process used by the FTM 110 is different from a direct tuning of those certain physical channels since other energy besides the selected channel may be present, and the channels are then recombined to form a new signal for further distribution."

In other words, rather than selecting (and outputting) the desired television channels, McNeely's FTM selects ranges of frequencies containing the desired channels (and undesired channels). (/d. at 7:11-13). McNeely itself characterizes this as only a "preselection" because the outgoing signal still contains a mix of desired and undesired channels. (/d. at 7:15— 19). This is why McNeely still relies on the set-top boxes to actually tune to the desired channels before those channels can be demodulated ... The OA Fails to Allege a Rational Basis to Modify McNeely Based On

Pugel's Alleged Teaching of "Outputting the Selected Plurality of Television Channels to a Demodulator".

Examiner's Response: The Examiner found the above argument persuasive. Accordingly, the Rejection of claims 1 and 11 under 35 U.S.C. 103(a) over McNeely in view of Pugel are withdrawn.

Argument #4: On page 12, the Patent Owner alleges that "The Examiner asserts that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McNeely and Pugel and utilize Pugel's demodulator to process a digital datastream of McNeely." (OA at 5). This assertion ignores the actual teachings of McNeely, which confirm that there is no "digital datastream of McNeely," instead McNeely outputs an analog data stream".

Examiner's Response: This argument is moot because the Examiner has found the previous argument #3 persuasive.

Argument #5: On page 15, the Patent Owner asserts "As an initial matter, the OA does not explain why a person skilled in the art would initially look to modify Pugel in view of Gomez ... Pugel's "single digital receiver circuit" includes both a tuner and demodulators. (Pugel, Fig. 1). In contrast, Gomez relates to channel switching in a satellite FTM. (Gomez at 1:15-57). Although Gomez discloses that its FTM may contain one or more tuners (/d. at 1:41), Gomez teaches that its FTM is separate from the receivers, which Gomez refers to as integrated receiver decoder(s) [IRD], and which

Gomez confirms are located within the home ("IRD located within a household"). /d. at 1:38-41). Gomez does not concern itself with the architecture or features of the receiver, instead describing functionality that exists elsewhere in the signal delivery system. And in fact, Gomez goes against the very idea of Pugel, which is directed to a single digital receiver circuit that performs both tuning and demodulation".

Examiner's Response: *The Examiner did not find the above argument persuasive because Pugel and Gomez are considered analogous arts because they belong the same field of endeavor covering receiving and processing signals and tuners.*

Furthermore, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In this instance, down converting data was well known in the art as lowering frequency is often a necessary step in simplifying subsequent radio stages. In addition, the Examiner wishes to point out that Gomez reference has been used as a secondary reference to show that down converting step was well known in the art at the time the invention was made and thus it is not required for Gomez reference to teach a receiver as described in the claims 1 and 11.

Argument #6: On page 16, the Patent Owner further contends “*First, the claim language requires “downconverting, by a mixer module of said wideband receiver system, a plurality of frequencies that comprises a plurality of desired television channels and a plurality of undesired television channels.” The relied upon mixer 301 of Gomez downconverts only the desired channel(s), as the down-conversion happens after the tuning to the desired frequency has occurred*”.

Examiner’s Response: The Examiner did not find the above argument persuasive because Pugel’s teaching has been relied upon for processing plurality of frequencies comprising both desired and undesired channels. More specifically paragraph [0024] teaches processing multiple frequency bands comprising both channels. As later taught in paragraph [0038], a selection step takes place where desired channels can be selected and only those will further pass on for further processing. Gomez’s reference has been introduced to show that down-converting by a mixer module was well known in the art, thus one of ordinary skill in the art at the time the invention was made would be capable of incorporating a down-conversion step of the data (i.e. frequency band comprising both desired and undesired channels) provided by Pugel. In other words, mere down-conversion step in signal processing would not be considered an inventive step at the time the invention was made.

Argument #7: Continuing on pages 16 and 17, the Patent Owner also submits that “*the Examiner relies on Pugel’s disclosure of downconverting a digital signal.*

(Pugel at Cl. 18; OA at 5). However, Gomez does not teach the use of a mixer to perform digital downconversion. Rather, Gomez teaches that mixer 301 is an analog mixer. This is evident because mixer 301 receives an RF input signal (4:10-12) and because Figure 3 of Gomez does not disclose any digitization of the RF signal ... While Gomez does disclose that "Mixer 1201 receives digital data" and that "Mixer 1205 up-converts the frequency of the digital signal," Gomez does not indicate that either of these two mixers performs down-converting. (/d. at 7:66, 8:46-47). The OA does not explain why a person skilled in the art would find it obvious to modify Pugel based on Gomez to arrive at the claim language, when Gomez does not teach the use of a mixer to perform the digital downconversion that occurs in Pugel."

Examiner's Response: The Examiner did not find the above argument persuasive. While Pugel teaches downconverting a signal, it has been noted on page 6 that he doesn't teach downconverting the analog signal by the mixer (i.e. before conversion of analog to digital). Accordingly, the Examiner introduced the secondary reference, Gomez to demonstrate that downconverting an RF analog signal prior to conversion to digital was well known in the art (column 4, lines 4-7). Consequently, Gomez does not need to teach downconverting digital signals even he also mentions this embodiment in column 12, lines 29-33 and claims 17 and 21. Instead as clearly indicated in the rejection on page 6, the teaching about downconverting RF signals is being relied upon.

In addition, the Patent Owner alleges that in Gomez mixer performs up-conversion but there is no teaching about down-conversion. The Examiner disagrees with this assessment because as explained in the rejection on page 6, the Examiner

relied upon RF (analog) signal downconversion, thus before signal is converted to its digital form the downconversion would take place. Accordingly, Pugel discusses analog signal processing and so does Gomez.

Argument #8: Then in the last argument on page 17, the Patent Owner alleges that “*Third, Gomez actually teaches that there are disadvantages with using analog components such as mixers, and one of the stated goals of Gomez is to minimize the number of such analog components that are used*”.

Examiner's Response: The Examiner did not find the above argument persuasive because Gomez explicitly teaches downconverting RF signal in column 4, lines 4-19, thus even though he would suggest that digital signal processing may be more beneficial to analog, he certainly confirms that downconverting analog signal was well known in the art at the time the invention was made and could be reliably performed.

Conclusion

Claims 1 and 11 are rejected under 35 U.S.C. 103(a).

THIS ACTION IS MADE FINAL.

A shortened statutory period for response to this action is set to expire 2 months from the mailing date of this action.

Extensions of time under 37 CFR 1.136(a) do not apply in reexamination proceedings. The provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Further, in 35 U.S.C. 305 and in 37 CFR

1.550(a), it is required that reexamination proceedings "will be conducted with special dispatch within the Office."

Extensions of time in reexamination proceedings are provided for in 37 CFR 1.550(c). A request for extension of time must be filed on or before the day on which a response to this action is due, and it must be accompanied by the petition fee set forth in 37 CFR 1.17(g). The mere filing of a request will not effect any extension of time. An extension of time will be granted only for sufficient cause, and for a reasonable time specified.

The filing of a timely first response to this final rejection will be construed as including a request to extend the shortened statutory period for an additional month, which will be granted even if previous extensions have been granted. In no event however, will the statutory period for response expire later than SIX MONTHS from the mailing date of the final action. See MPEP § 2265.

NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS

Effective May 16, 2007, 37 CFR 1.33(c) has been revised to provide that: The Patent owner's correspondence address for all communications in an ex parte reexamination is designated as the correspondence address of the patent.

Revisions and Technical Corrections Affecting Requirements for Ex Parte Reexamination, 72 FR 18892 (April, 16, 2007) (Final Rule)

The correspondence address for any pending reexamination proceeding not having the same correspondence address as that of the patent is, by way of

this revision to 37 CFR 1.33(c), automatically changed to that of the patent file as of the effective date.

This change is effective for any reexamination proceeding which is pending before the Office as of May 16, 2007, including the present reexamination proceeding, and to any reexamination proceeding which is filed after that date.

Parties are to take this change into account when filing papers, and direct communications accordingly.

In the event the patent owner's correspondence address listed in the papers (record) for the present proceeding is different from the correspondence address of the patent, it is strongly encouraged that the patent owner affirmatively file a Notification of Change of Correspondence Address in the reexamination proceeding and/or the patent (depending on which address patent owner desires), to conform the address of the proceeding with that of the patent and to clarify the record as to which address should be used for correspondence.

Telephone Numbers for reexamination inquiries:

Reexamination	(571) 272-7703
Central Reexam Unit (CRU)	(571) 272-7705
Reexamination Facsimile Transmission No.	(571) 273-9900

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 reexamination proceedings are provided for in 37 CFR 1.550(c). After the filing of a request for reexamination by a third party requester, any document filed by either the patent owner of the third party requester must be served on the other party (or parties where two or more third-party-requester proceedings are merged) in the reexamination proceeding in the manner provided in 37 CFR 1.248. See 37 CFR 1.550(f).

Litigation Reminder

The patent owner is reminded of the continued responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, 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 § 2207, 2282 and 2286.

Correspondence

All correspondence relating to this *ex parte* reexamination proceeding should be directed:

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Patent Center has 100% of the functionality of EFS-Web and Private PAIR, and is available to all users for electronic filing and management of patent applications. Attend a transition to Patent Center Training session (<https://www.uspto.gov/about-us/events/patent-center>) to learn more about filing and managing patent applications.

Any inquiry concerning this communication should be directed to the Central
Reexamination Unit at telephone number 571-272-7705.

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