

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK L.L.C.,
Petitioner,

v.

ENTROPIC COMMUNICATIONS, LLC,
Patent Owner.

CASE: IPR2024-00373
U.S. PATENT NO. 7,594,249

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW

Table of Contents

I.	Introduction.....	1
II.	The Board Failed To Analyze Claim 17	3
A.	Ground 3 does not render obvious Claim 17	3
B.	Ground 4 does not render obvious Claim 17	5
III.	The Board Improperly Relied On A Footnote Of Jacobsen That Contradicts The Findings And Purpose Of The Rest Of The Reference	6
IV.	Conclusion	11

I. INTRODUCTION

The Final Written Decision (Paper 44 (“FWD”)) wrongly claims that Patent Owner failed to present any arguments relating to certain claims and improperly relies on prior art for a supposed “teaching” that is entirely at odds with the entirety of the reference. Both errors warrant Director review and reversal of the FWD.

First, the panel simply ignored arguments Patent Owner made and used their supposed absence as a basis for finding unpatentability. The FWD purported to find that “Patent Owner [] does not present any arguments specific to [dependent] claims 2, 9, and 17.” FWD at 60.¹ This is wrong. Claim 17 requires that certain communications occur using “time division duplex protocol” and that “beacon messages” are used to synchronize communications. Patent Owner presented numerous arguments as to why the references at issue included neither time division duplex nor beacon messages. Indeed, Patent Owner’s Response dedicated almost six pages to Claim 17. *See* Paper 17, 46-51. Patent Owner’s Sur-Reply dedicated almost four pages to Claim 17. *See* Paper 34, 19-22. At the oral hearing, another four pages

¹ As noted in the POR, only Claims 10, 13, and 17 are asserted in the underlying district court action, so this request focuses on the findings associated with these asserted claims. *See* Paper 17, 14-15.

of the transcript are specifically devoted to these dependent claims, including responding to three specific questions from the panel unique to Claim 17. *See* Paper 42, 50:10-53:12 (questions appearing at 51:9-10, 51:18-20, and 52:1-2). In view of this, the FWD’s finding that Patent Owner “does not present any arguments specific to claim[] 17” is wrong and should be reversed. FWD at 60.

Separately, the FWD performed an about-face from the Institution Decision on a key element, which while not inherently improper, underscores the hindsight-driven analysis of the FWD. Claim 10 requires the use of equalization to correct certain signal impairments. The Petition argued that Jacobsen would have suggested to a POSITA to use equalization in a single-carrier communication system described in Amit. As the Institution Decision correctly noted, that argument was wrong: Jacobsen actually taught that multicarrier modulation was preferred as compared to equalization solution. Paper 9 at 38-39. No evidence was presented to change this reality, and so the Board could—and should—have simply stood by its initial analysis. Instead, and without any meaningful explanation, the FWD eschewed this clear statement—which, facially, is the entire purpose of the *Jacobsen* reference (Ex. 1007, 15).

In its place, the FWD concluded a footnote that stated that detailed discussions of an equalizer were “beyond the scope of this paper” served as a basis to change

course. But this footnote 4 cannot be a basis to ignore the conclusion of the *Jacobsen* reference that “multicarrier modulation appears to be better equipped than single-carrier modulation [with equalization].” Ex. 1007, 8 (Abstract), 15 (Conclusion). Rather than analyze *Jacobsen* for its actual teachings, the FWD placed an improper emphasis on what *Jacobsen* expressly says is “beyond the scope of” the reference. Ex. 1007, 12. This too warrants reversal of Ground 3, at least as it relates to Claim 10.

The FWD did not reach Grounds 1 or 2.

II. THE BOARD FAILED TO ANALYZE CLAIM 17

First, the FWD incorrectly found that “Patent Owner relies on its arguments for claims 1, 5, and 10, and does not present any arguments specific to [dependent] claims 2, 9, and 17.” FWD at 60. This is simply wrong.

A. Ground 3 does not render obvious Claim 17

Claim 17 adds to Claim 10, from which it depends, requirements that certain communications occur using “time division duplex protocol” and that “beacon messages” are used to synchronize communications. Patent Owner repeatedly and consistently argued that Claim 17 was not unpatentable in view of any of the grounds as a result of these limitations. *See* Paper 17 (POR) at 46-51. Specifically, for Grounds 3 and 4, those addressed in the FWD, the POR argued that “*Jacobsen* does

not disclose a time-based synchronization at all” and does not disclose the use of beacon messages for such a synchronization. *Id.* at 46. The POR then argued that *Amit*, the other reference, did not disclose the use of the claimed time division duplexing (“TDD”), but rather different technology, time division multiplexing (“TDM”). *Id.* Patent Owner further argued that *Amit*’s TDM did not disclose the claimed TDD, because the claims were directed to a “local area network” and *Amit* required a connection to a Cable Modem Termination System (“CMTS”) to perform TDM and synchronization. *Id.* Patent Owner also argued that *Amit* fails to disclose anything that constitutes the claimed beacon message. *Id.* at 47 (citing Ex. 1005, 26:41-42).

Patent Owner’s sur-reply further discussed these arguments. Paper 34 at 19. As Patent Owner explained, Petitioner’s attempt to supplement the record with the “Gibbs reference,” a patent not submitted with either the Petition or the Reply, fails to rebut the above arguments. Moreover, as argued in the sur-reply, Gibbs is also completely silent with regard to “beacon messages.” *Id.*

Patent Owner thus argued that none of the references of Ground 3 use TDD and none of the references of Ground 3 disclose beacon messages. The FWD either overlooked or ignored these arguments. Instead, it found without explanation that “Patent Owner relies on its arguments for claims 1, 5, and 10”—which is wrong,

because those claims do not include the “time division duplex” and “beacon packet” elements. The FWD never addresses why the combination of *Jacobsen* (which does not disclose beacon messages or TDD) and *Amit* (which does not disclose beacon messages or TDD) can renders obvious a claim that requires “at least one of the communication channels between terminal devices uses time division duplex protocol for communications and the communications are synchronized by broadcasting a beacon message on the network.” The FWD thus incorrectly found that these references, which lack any teaching of the claimed subject matter, render Claim 17 unpatentable.

As the same arguments were made for Claims 2 and 9, which recite the same limitations, the FWD’s findings should be reversed for these claims.

B. Ground 4 does not render obvious Claim 17

Ground 4 adds another reference, the DSL-Book. Although the FWD ignored Patent Owner’s arguments on this reference as well, it does not change the calculus. The DSL-Book is equally silent as it relates to beacon messages. Instead, the Petition relies on a teaching of a “pilot tone” for this element, which is not a beacon message. Paper 17 (POR) at 48. As the POR demonstrated, the Petition’s own statements confirm that the DSL-Book’s pilot tone cannot be a beacon message and Petitioner’s own expert further agreed that pilot tones were not beacon messages. *Id.* at 48 (citing

Petition at 85, and citing Ex. 2008, 46:25-47:7). The Sur-Reply again argued specifics about the differences between pilot tones and beacon messages, and why the pilot tone of the DSL-Book failed to render obvious the claimed beacon *message*. Paper 34 at 21.

The FWD ignored these arguments and found that “[t]he addition of DSL-Book to the combination does not change our view for these claims.” FWD at 77. While it is true that “the addition of DSL-Book to the combination” should not change the result, had the FWD considered Patent Owner’s arguments, that result should have been that Claim 17 is patentable.

As the same arguments were made for Claims 2 and 9, which recite the same limitations, the FWD’s findings should be reversed for these claims.

III. THE BOARD IMPROPERLY RELIED ON A FOOTNOTE OF JACOBSEN THAT CONTRADICTS THE FINDINGS AND PURPOSE OF THE REST OF THE REFERENCE

As noted above, the Petition relied on *Jacobsen* to argue that a POSITA would have been motivated to add equalization to the systems disclosed in *Amit*, which utilize single-carrier modulation. *Jacobsen*² is clear as to conditions it analyzed: “a

² The FWD not only relies on hearsay evidence as a basis for Jacobsen’s prior art status (FWD at 21), it also found that because PO’s expert was aware of Dr.

comparison between the performance of single-carrier modulation with equalization and multicarrier modulation on simulated cable television (CATV) channels.” Ex. 1007, 8. It is equally clear as to what it concluded: “discrete multitone modulation is more computationally efficient than single-carrier modulation with equalization for the transmission of digital data over CATV channels with rippled passbands.” *Id.*, 15. The FWD ignores the conclusion and purpose of *Jacobsen* the reference, in a results-oriented finding, to arrive at the untenable conclusion that a POSITA would have found that *Jacobsen* somehow taught “perform[ing] equalization on the received signal that restores a flat frequency response” within *Amit’s single-carrier* system. Ex. 1001, Cl 1; FWD at 27-28.

The FWD based this finding on a single footnote in *Jacobsen*, footnote 4. But this finding is unsupported. First, although footnote 4 describes a hypothetical situation in which an equalizer *could* be used, it admits that a full discussion is “beyond the scope of this reference.” Second, footnote 4 discusses that any use of

Jacobsen’s work, somehow that contributed to a finding that “a person having ordinary skill in the art would have known of Jacobsen [the reference] before the priority date” of the ’249 Patent. This improperly conflates knowledge of an author, with the actual reference selected by the Petitioner.

an equalizer requires a specific tradeoff: “to reduce the length of the cyclic prefix in exchange for an increase in system complexity.” Indeed, this was the only circumstance under which the FWD claimed that “Jacobsen does not teach away from using” equalization. FWD, 28. There is, however, no evidence in the record that this tradeoff applies to the combination Petitioner proposes.

Given this, the FWD should have adhered to the actual analysis and conclusion of *Jacobsen*: do not add equalization—it is computationally inefficient—instead use multicarrier modulation without equalization. *Id.* at 15. While it is undeniable that a reference must be considered in its entirety, the reference must also be analyzed from the perspective of a person of ordinary skill in the art. Rather than adhere to the references relied on by the Petition, the FWD expands to teachings that are “beyond the scope” of the reference in an effort to find the challenged claims unpatentable.

Indeed, the Board properly understood the purpose and teaching of *Jacobsen* at the institution phase: “*Jacobsen* teaches that multicarrier modulation performs better than single carrier modulation with equalization at least by some measure

under some circumstances”³ and “[a]ccordingly...Petitioner has not shown a reasonable likelihood that claim 10 would have been obvious over the combination of Amit and Jacobsen.” ID, 38-39.⁴

As discussed extensively in Patent Owner’s Response (*see* Paper 17, 17-20) and the sur reply (*see* Paper 34, 12-16), *Jacobsen* is clear, that one would use multicarrier signals rather than single carrier with equalization. Footnote 4 cannot undo these clear teachings.

³ Allegations that *Jacobsen* teaches or suggests using multicarrier modulation with equalization are not supported. *See* Ex. 1007, 10 (“no equalizer is required in the multicarrier receiver”).

⁴ In its pre-institution papers, Patent Owner noted that the USPTO had recently issued a NIIRC, indicating that Claim 10 (and therefore Claims 13 and 17 depending from Claim 10) was allowable over prior art that closely mirrored the art from the Petition. *See* Paper 8. The ID was consistent with the USPTO’s actions, similarly indicating that Claim 10 (and therefore Claims 13 and 17) was patentable. In a surprising about-face, the FWD inconsistently concluded that these claims were unpatentable over substantially the same theory.

Even if footnote 4’s “beyond the scope” statement is properly considered, the FWD ignores that *Jacobsen* merely notes the theoretical possibility that some systems “**could** use the smaller FFT size...by implementing a time-domain equalizer (TEQ)...in exchange for an **increase in system complexity**.” *Id.* There is no other discussion of using TEQ with a multicarrier system in *Jacobsen*, or any evidence that it would be preferred, or explanation as to why a person of ordinary skill in the art would have been motivated by this single footnote in the face of the rest of the teachings of *Jacobsen*.

The Reply’s reliance on *Winner Int’l Royalty Corp.* proves Patent Owner’s point: as *Winner* explained, in the very footnote cited, “the benefits, both lost and gained, should be weighed against one another.” *Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349, n.8, (Fed. Cir. 2000) (affirming nonobvious decision because “the district court did not clearly err in finding that one of ordinary skill in the art would not have reasonably elected trading [one] benefit [for another].”). Here, as noted above, the analysis presented in *Jacobsen* performed this “weighing” and concluded that the use of equalization was not worth it.

None of Petitioner, Petitioner’s expert, nor Mr. Bates dispute the findings of *Jacobsen*, that equalization with single carrier modulation was less efficient than multicarrier modulation. *Id.*, 204:10-11; Ex. 1030, ¶18; Reply, 25 (citing Ex. 1007,

13). Yet somehow the FWD arrived at the conclusion that a single footnote would motivate a person of ordinary skill in the art in a direction *contrary* to the entire conclusion of *Jacobsen*.

IV. CONCLUSION

The findings as to Claim 17 should be reversed and the hindsight driven motivation to combine *Amit* and *Jacobsen* found for Claim 10 should be reversed. The panel should be directed to analyze at least Claims 10 and 17 in the context of Ground 2 as well.

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CERTIFICATE OF SERVICE

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