

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

ADVANCED CODING TECHNOLOGIES LLC,

Patent Owner.

Patent No. 7,804,891

Filing Date: March 30, 2005

Issue Date: September 28, 2010

Inventor: Taichi Majima

Title: DEVICE AND METHOD FOR JUDGING COMMUNICATION
QUALITY AND PROGRAM USED FOR THE JUDGMENT

PATENT OWNER'S PRELIMINARY RESPONSE

Case No. IPR2025-01221

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LIST OF EXHIBITS

Exhibit No.	Description of Document
2001	Third Amended Docket Control Order, Dkt. 42, <i>Advanced Coding Techs. LLC v. Apple Inc.</i> , Case No. 2:24-cv-00572-JRG (E.D. Tex. October 29, 2024)
2002	Apple Inc.'s Second Supplementary Invalidity Contentions in <i>Advanced Coding Techs. LLC v. Apple Inc.</i> , Case No. 2:24-cv-00572-JRG (E.D. Tex.), dated July 3, 2025
2003	Advanced Coding Technologies LLC's Infringement Contentions and P.R. 3-1 and 3-2 Disclosures in <i>Advanced Coding Techs. LLC v. Apple Inc.</i> , Case No. 2:24-cv-00572-JRG (E.D. Tex.), dated September 18, 2024
2004	Joint Claim Construction and Prehearing Statement, Dkt. 72, <i>Advanced Coding Techs. LLC v. Apple Inc.</i> Case No. 2:24-cv-00572-JRG (E.D. Tex.), filed August 21, 2025

I. INTRODUCTION

On June 30, 2025, Apple Inc. (“Petitioner” or “Apple”) submitted a Petition (Paper 2, “Petition” or “Pet.”) to institute *inter partes* review (“IPR”) of U.S. Patent No. 7,804,891 (APPLE-1001, the “’891 Patent”), challenging Claims 1-9 (the “Challenged Claims”). The Petition asserts that (i) Claims 1, 3, 8, and 9 are rendered obvious over JP Publication No. JPH05260021A and Certified English Translation (“APPLE-1004” or “Yamane”) in view of U.S. Patent No. 6,512,748 (“APPLE-1005” or “Mizuki”) and U.S. Patent No. 5,425,053 (“APPLE-1006” or “Matsumoto”); (ii) Claims 1 and 3-9 are rendered obvious over Yamane in view of Mizuki, Matsumoto, and U.S. Patent No. 5,502,713 (“APPLE-1007” or “Lagerqvist”); and (iii) Claim 2 is rendered obvious over Yamane in view of Mizuki, Matsumoto, and U.S. Patent Application Publication No. 2004/0203941 (“APPLE-1016” or “Kaplan”). Pet. at 1. The Board should deny the Petition for at least the reasons described briefly below.

Petitioner fails to show that any combination of Yamane, Mizuki, Matsumoto, or Lagerqvist discloses at least “a data changing means for, if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol use in the judgment.”

First, the Petition is deficient because the Petition’s Ground 1A conflates two different items disclosed in Yamane, information signals B and bit sequence A, as the claimed “data to be transmitted.” However, the Petition fails to disclose any change made to bit sequence A in Yamane, which is the only data described as being “used in the judgment,” in contravention of Claims [1c], [8c], and [9c].

Second, the Petition is deficient because the Petition’s Ground 1B relies on Lagerqvist’s bad frame masking process while failing to show Lagerqvist’s disclosure of whether such frames are “to be transmitted” in their changed form (*i.e.*, after the predetermined change occurs).

Third, the Petition is deficient because neither Yamane (Ground 1A) nor Lagerqvist (Ground 1B) even mention “symbol” in their entire specifications. Even if Petitioner properly identified a disclosure of “data to be transmitted” in Yamane or Lagerqvist, the Petition is silent regarding Claims 1, 8, and 9’s recited data “represented by the symbol used in the judgment.”

Accordingly, the Board should deny institution of the Petition.

II. CLAIM CONSTRUCTION

In *Advanced Coding Techs. LLC v. Apple, Inc.*, Case No. 2:24-cv-00572-JRG (E.D. Tex.) (the “District Court Litigation”), both parties proposed the following constructions:

Claim Term	Claims	ACT's Proposed Construction	Apple's Proposed Construction
"a symbol judging means for obtaining a baseband signal representative of a sequence of multilevel symbols and judging the symbol represented by the baseband signal"	'891 Patent, Claims 1	Subject to 112 p. 6: Structure: processor and a memory that stores a processor and a memory that stores a program executed by the processor in a receiver that judges the instantaneous value of the baseband signal at the Nyquist point against threshold values and determines a symbol value of the section depending on the result as set forth in 9:13-10:4, 14:30-43, and equivalents thereof Function: obtaining a baseband signal representative of a sequence of multilevel symbols and judging the symbol represented by the baseband signal	Governed by 35 U.S.C. § 112, ¶ 6 Function: obtaining a baseband signal representative of a sequence of multilevel symbols and judging the symbol represented by the baseband signal Structure/Algorithm: special purpose electronics or a general-purpose processor that performs the recited function by obtaining from a demodulator a baseband signal representative of a sequence of multilevel symbols and judging the symbol by comparing the symbol level to a set of thresholds as disclosed at 9:13-10:4, 13:1-3, 14:30-43, and equivalents thereof

Claim Term	Claims	ACT's Proposed Construction	Apple's Proposed Construction
“a communication quality judging means for judging communication quality of a transmission channel over which the baseband signal has been transmitted, based on content of the symbol judged by the symbol judging means; [. . .] wherein the communication quality judging means identifies the number of redundant bits having the predetermined value or the number of redundant bits missing the predetermined value among the redundant bits contained in the symbol that contains a bit belonging to the protected portion, and judges the communication	'891 Patent, Claim 1	Subject to 112 p. 6: Structure: a processor and a memory that stores a program executed by the processor that receives a bit string derived from symbols obtained from a demodulated signal and checks the value of bits and compares the number of bits having or missing a predetermined value to threshold values as set forth in 9:13-25, 10:45-54, 10:62-12:10, and equivalents thereof. Function: judging communication quality of a transmission channel over which the baseband signal has been transmitted, based on content of the symbol judged by the symbol judging means”; “identifies the number of redundant bits having the predetermined value or the number of redundant bits	Governed by 35 U.S.C. § 112, ¶ 6 Function: judging communication quality of a transmission channel over which the baseband signal has been transmitted, based on content of the symbol judged by the symbol judging means...[by] identif[ying] the number of redundant bits having the predetermined value or the number of redundant bits missing the predetermined value among the redundant bits contained in the symbol that contains a bit belonging to the protected portion, and judges the communication

Claim Term	Claims	ACT's Proposed Construction	Apple's Proposed Construction
quality of the transmission channel based on the identified result"		missing the predetermined value among the redundant bits contained in the symbol that contains a bit belonging to the protected portion, and judges the communication quality of the transmission channel based on the identified result"	quality of the transmission channel based on the identified result Structure/Algorithm: "special purpose electronics or a processor configured to perform the recited function by evaluating the number of redundant bits x that do or do not have the predetermined value with respect to a predetermined lower limit n and a predetermined upper limit m (where n is an integer not less than 0, and m is an integer greater than n), and equivalents thereof as disclosed at 9:13-25, 10:45-12:10, 13:1-4, FIG. 8, and equivalents thereof"
"a data changing means for, if the communication quality judged by the	'891 Patent Claim 1	Subject to 112 p. 6: Structure: processor and a memory that stores a program	Governed by 35 U.S.C. § 112, ¶ 6 Function: if the communication

Claim Term	Claims	ACT's Proposed Construction	Apple's Proposed Construction
communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment"		executed by the processor that either (i) replaces the content of output data with content of previous output data; (ii) destroys / mutes either all of or certain output data of the total output data; or (iii) do not change the output data; as set forth in 11:26-34, FIG. 8, and equivalents thereof. Function: if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment	quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment. Structure: special-purpose electronics or a processor configured to perform the recited function by replacing, attenuating, or destroying data to be transmitted as disclosed at 9:13-25, 11:7-12:19, 13:1-4, 13:23-14:2, and equivalents thereof
"means for externally obtaining a parameter that defines at least a portion of the condition"	'891 Patent, Claim 2	Subject to 112 p. 6: Structure: a receiver compatible with (i) a switch, keyboard, or other input devices for inputting	Governed by 35 U.S.C. § 112, ¶ 6 Function: externally obtaining a parameter that defines at least a

Claim Term	Claims	ACT's Proposed Construction	Apple's Proposed Construction
		parameters; or (ii) serial interface circuit or recording media drive device to externally obtain serially-transmitted parameters or to read parameters recorded on the recording media, as set forth in 14:3-16, and equivalents thereof. Function: externally obtaining a parameter that defines at least a portion of the condition	portion of the condition Structure: A switch, a keyboard, a serial interface, other input devices, or a recording media drive device to externally obtain serially-transmitted parameters or to read parameters record on the recording media as disclosed at 14:3-16, and equivalents thereof

Ex. 2004, at 14-17.

Notably, while Petitioner proffers the same constructions for the Means-Plus-Function terms above in its Petition,¹ Petitioner never raised a claim construction issue for “to be transmitted” in the District Court Litigation. Petitioner now proposes a construction for “to be transmitted” as “data that was to be transmitted by a

¹ For the purposes of this Preliminary Response, Patent Owner believes that the proposed constructions for the Means-Plus-Function terms in Claim 1 identified do not impact institution because the same functions as Claim 1 (which are not rendered obvious by Petitioner’s Grounds) are present in Claims 8 and 9.

transmitter and that has been received by a receiver.” (Pet. at 7).

“The Board, in its claim construction determinations, will consider statements regarding claim construction made by patent owners and by a petitioner filed in other proceedings, if the statements are timely made of record.” Patent Trial and Appeal Board Consolidated Trial Practice Guide, November 2019, at 48 (citations omitted). Petitioner chose to apply a brand new claim construction to “data to be transmitted” in this proceeding, while agreeing to construe the term under its plain and ordinary meaning in the District Court Litigation. For consistency, the parties’ understanding of “data to be transmitted” as plain and ordinary meaning in the District Court Litigation should be applied in this proceeding.

III. LEVEL OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response only, Patent Owner utilizes Petitioner’s proposed level of skill in the art: “a Bachelor’s degree in electrical engineering, computer engineering, computer science, or equivalent, and two years of industry experience in telecommunications and audio coding. Additional education might compensate for less experience, and vice versa.” Pet. at 5 (citations omitted).

IV. PETITIONER HAS NOT DEMONSTRATED A REASONABLE LIKELIHOOD OF SUCCESS FOR THE GROUNDS ADVANCED IN THE PETITION, AND THE PETITION SHOULD BE DENIED

The question of obviousness is resolved on the basis of underlying factual

determinations, including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) so-called secondary considerations where in evidence. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983).

The Board has held that a failure to identify the differences between the claimed subject matter and the prior art is fatal to an obviousness challenge. *See, Apple, Inc. v. Contentguard Holdings, Inc.*, IPR2015-00355, Decision Denying Institution of *Inter Partes* Review, Paper 9 at 9-10 (P.T.A.B. June 26, 2015) (denying institution for failure to identify the differences between the claimed subject matter and the prior art).

In arriving at an obviousness determination, the Board must sufficiently explain and support the conclusions that the prior art references disclose all the elements recited in the Challenged Claims and a relevant, skilled artisan not only could have made, but would have been motivated to combine all the prior art references in the way the patent claims and reasonably expected success. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017). That is, even if all

the claim elements are found across a number of references, an obviousness determination must consider whether a person of ordinary skill in the art would have the motivation to combine those references. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1368 (Fed. Cir. 2016); *Los Angeles Biomedical Rsch. Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly & Co.*, 849 F.3d 1049, 1067 (Fed. Cir. 2017) (vacating and remanding an obviousness determination, in part, because the Board did not make factual finding as to whether there was an apparent reason to combine all three prior art references to achieve the claimed invention and whether a person of skill in the art would have had a reasonable expectation of success from such a combination). This combinability determination, as supported by an articulated motivation to combine, requires a plausible rationale as to why those prior art references would have worked together. *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013). Absent some articulated rationale, a “common sense” finding is no different than the conclusory statement “would have been obvious.” *In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017). Of additional importance, “knowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references” *Innogenetics, N.V. v. Abbott Lab’ys.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008).

A. Claims 1, 8, and 9 Are Not Obvious Over Any of Petitioner's Grounds

- 1. The Petition Does Not Show that the Combination of Yamane, Mizuki, and Matsumoto Discloses “*if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment,*” as Required by Claims [1c], [8c], and [9c]**

Claims 1, 8, and 9 of the '891 Patent require “if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment.”

The Petition is deficient because Petitioner's Ground 1A fails to properly address two aspects of this claim limitation: (i) “making a predetermined change to the data to be transmitted . . . used in the judgment;” and (ii) “the data to be transmitted represented by the symbol used in the judgment.” Notably, Petitioner only relies on Yamane within the purported Yamane-Mizuki-Matsumoto combination to disclose this claim limitation.

First, the Petition fails to show how Yamane discloses “making a predetermined *change to the data to be transmitted . . . used in the judgment*” Instead, the Petition focuses on Yamane's disclosure of making changes to “information signals B,” such as “information signal rejection” if three or more error bits are detected in bit sequence A. Pet. at 42-43 (citing EX1004, [0016]-[0018],

Table 1). In Yamane, the data to be transmitted and the data that was judged for errors is purportedly the bit sequence A. *Id.* Claims 1, 8, and 9 recite “making a predetermined change to [that bit sequence] data,” rather than separate “information signals.” Therefore, in view of Petitioner’s contradiction of the claim limitation, the Petition is deficient.

Second, Yamane does not even mention “symbol” in its entire specification. Therefore, even if information signals were “data to be transmitted” (they are not), the Petition fails to address how such data would be “*represented by the symbol used in the judgment*” with respect to this claim limitation.

Because of these deficiencies, institution should be denied.

2. The Petition Does Not Show that the Combination of Yamane, Mizuki, Matsumoto, and Lagerqvist Discloses “*if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment,*” as Required by Claims [1c], [8c], and [9c]

Claims 1, 8, and 9 of the ’891 Patent require “if the communication quality judged by the communication quality judging means does not satisfy a predetermined condition, making a predetermined change to the data to be transmitted represented by the symbol used in the judgment.”

To the extent that Petitioner relies on the same arguments/references as its Ground 1A (Pet. at 60), the Petition is deficient for the same reasons noted above. *See supra* § IV.A.1.

The Petition is also deficient because Petitioner's Ground 1B, which merely adds Lagerqvist to Petitioner's purported combination of Ground 1A, fails to properly address two aspects of this claim limitation: (i) "making a predetermined change to the data to be transmitted;" and (ii) "the data to be transmitted represented by the symbol used in the judgment." Thus, the addition of Lagerqvist in Ground 1B fails to remedy the deficiency of Ground 1A.

First, the Petition fails to show how Lagerqvist discloses "making a predetermined ***change to the data to be transmitted.***" Instead, the Petition describes Lagerqvist's disclosure of making changes to frames as part of a bad frame masking process depending on their "state." Pet. at 60-62 (citing Ex. 1007, 7:44-8:10). Nowhere does the Petition explain whether such frames are "to be transmitted" in their changed form (*i.e.*, after the predetermined change occurs). *See generally id.* at 60-63. Therefore, the Petition is deficient.

Second, Lagerqvist does not even mention "symbol" in its entire specification. Therefore, even if bad frames were "data to be transmitted" (the Petition fails to show how they are), the Petition fails to address how such frames would be

“represented by the symbol used in the judgment” with respect to this claim limitation.

Because of these deficiencies, institution should be denied.

B. Claims 2-7 Are Not Obvious Over Petitioner’s Grounds

Claims 2-7 depend upon Claim 1, and for at least the same reasons as Claim 1, Petitioner’s Grounds fail to render obvious Claims 2-7. ’891 Patent, Claims 2-7.

V. CONCLUSION

For the foregoing reasons, Patent Owner respectfully requests that the Board deny institution of the Petition in its entirety.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S PRELIMINARY RESPONSE specified in 37 C.F.R. § 42.24 has 2,892 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

Respectfully submitted,

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CERTIFICATE OF SERVICE

A copy of the foregoing Patent Owner's Preliminary Response and Exhibit
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