

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

STRATOSAUDIO, INC.,
Patent Owner.

IPR2021-00721
Patent 8,166,081 B2

Before JUSTIN T. ARBES, HYUN J. JUNG, and
KEVIN C. TROCK, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* TROCK.

Opinion Dissenting filed by *Administrative Patent Judge* ARBES.

TROCK, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We have authority to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision issues pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, we determine that Volkswagen Group of America, Inc. (“Petitioner”) has shown by a preponderance of the evidence that claims 9–11 and 23 (the “challenged claims”) of U.S. Patent No. 8,166,081 B2 (Ex. 1001, “the ’081 Patent”) are unpatentable. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2019).

A. Procedural History

Petitioner Volkswagen Group of America, Inc. filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 9–11 and 23 of the ’081 Patent. Patent Owner StratosAudio, Inc. filed a Preliminary Response. Paper 6. Pursuant to an Order, Paper 11, Petitioner filed a Reply, Paper 12, and Patent Owner filed a Sur-reply, Paper 14 to address issues raised in Patent Owner’s Preliminary Response. Based upon the record at that time, we instituted *inter partes* review on all challenged claims on the grounds presented in the Petition. Paper 16 (“Institution Decision” or “Dec.”).

After institution, Patent Owner filed a Response, Paper 27 (“PO Resp.”), Petitioner filed a Reply, Paper 31 (“Pet. Reply”), and Patent Owner filed a Sur-reply, Paper 36 (“PO Sur-reply”).

On June 2, 2022, we granted a Motion for Joinder with IPR2021-00721 filed by Mazda Motor of America, Inc., Subaru of America, Inc., and Volvo Car USA, LLC in IPR2022-00203. *See* Paper 37. Pursuant to that Order, Mazda Motor of America, Inc., Subaru of America, Inc., and Volvo Car USA, LLC maintained a secondary role in this proceeding.

On July 21, 2022, we issued an Order, Paper 43, terminating Mazda Motor of America, Inc. from this proceeding due to a settlement.

On July 22, 2022, an oral hearing was held. A transcript of the hearing is made part of the record. Paper 52 (“Tr.”).

On September 29, 2022, we issued an Order, Paper 56, terminating Volvo Car USA, LLC from this proceeding due to a settlement.

Concurrently with this Final Written Decision we are issuing an order terminating Subaru of America, Inc., from this proceeding due to a settlement.

B. Related Matters

The parties identify the following as related matters:

- *StratosAudio, Inc. v. Hyundai Motor America*, No. 20-cv-01125-ADA (W.D. Tex.);
- *StratosAudio, Inc. v. Mazda Motor of America, Inc.*, No. 20-cv-01126-ADA (W.D. Tex.).
- *StratosAudio, Inc. v. Subaru of America, Inc.*, No. 20-cv-01128-ADA (W.D. Tex.).
- *StratosAudio, Inc. v. Volvo Cars USA, LLC*, No. 20-cv-01129-ADA (W.D. Tex.).
- *StratosAudio, Inc. v. Volkswagen Group of America, Inc.*, No. 6:20-cv-1131 (W.D. Tex.);¹

Pet. 1; Paper 4, 1.

¹ Patent Owner identifies this proceeding as *StratosAudio, Inc. v. Volkswagen Group of America, Inc.*, No. 20-cv-01127-ADA (W.D. Tex.). Paper 4, 1. The correct case number appears to be 6:20-cv-1131-ADA. Ex. 2006, 1.

C. The '081 Patent

The '081 Patent relates to media advertising and associating an advertising media signal with another media signal. Ex. 1001, 1:18–20. The '081 Patent explains that it is generally desirable to associate products with specific characteristics and such associations may increase the chance that a potential customer will decide to purchase a product when the product is associated with a favorable characteristic. *Id.* at 1:22–30. In view of this, the '081 Patent states that an advertisement may be more effective if it is associated with an image of a celebrity or another media element that exhibits favorable characteristics. *Id.* at 1:30–34.

The '081 Patent describes a media enhancement system that is configured to associate a secondary media signal (e.g., an advertisement) to a primary media signal (e.g., a radio broadcast). *Id.* at 3:8–12. The '081 Patent explains that the secondary media signal may be based on the content of the primary media, user characteristics (e.g., demographic and/or geographic information), and/or third party preferences (e.g., the goals of advertisers). *Id.* at 3:17–21.

The '081 Patent discloses one example in which a radio station transmits a song in a first media signal that is received by a user enabled-device (e.g., a cellular phone with a radio). *Id.* at 3:27–30. A media association system analyzes the song to determine what media elements can be associated with the song, and the media association system provides a second media signal (e.g., an advertisement) to the user enabled-device. *Id.* at 3:30–36. While the user enabled-device is playing the song, the user enabled-device displays the media content in the second media signal (e.g., a still or moving picture of the advertised product). *Id.* at 3:37–40. The '081 Patent discloses another embodiment in which a user enabled-device is

playing a song from a first media signal, media content from a second media signal (e.g., a still or moving picture with selectable audio of an advertised product) is displayed by the user enabled-device, and the audio track for the first media signal is paused upon selection of the second media signal audio. *Id.* at 3:41–47.

Figure 1A of the '081 Patent is reproduced below.

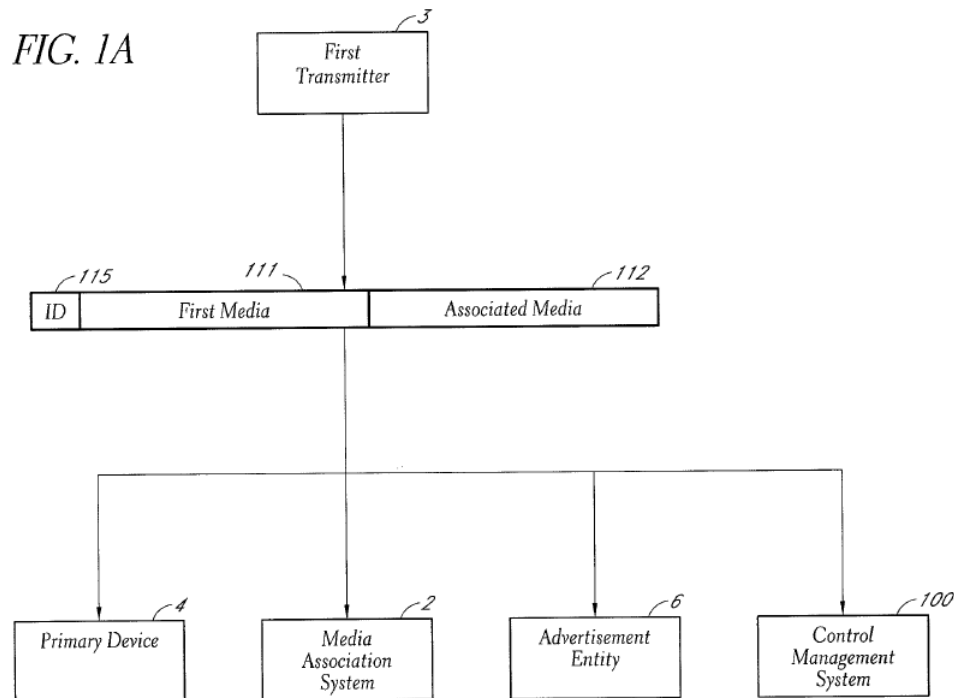
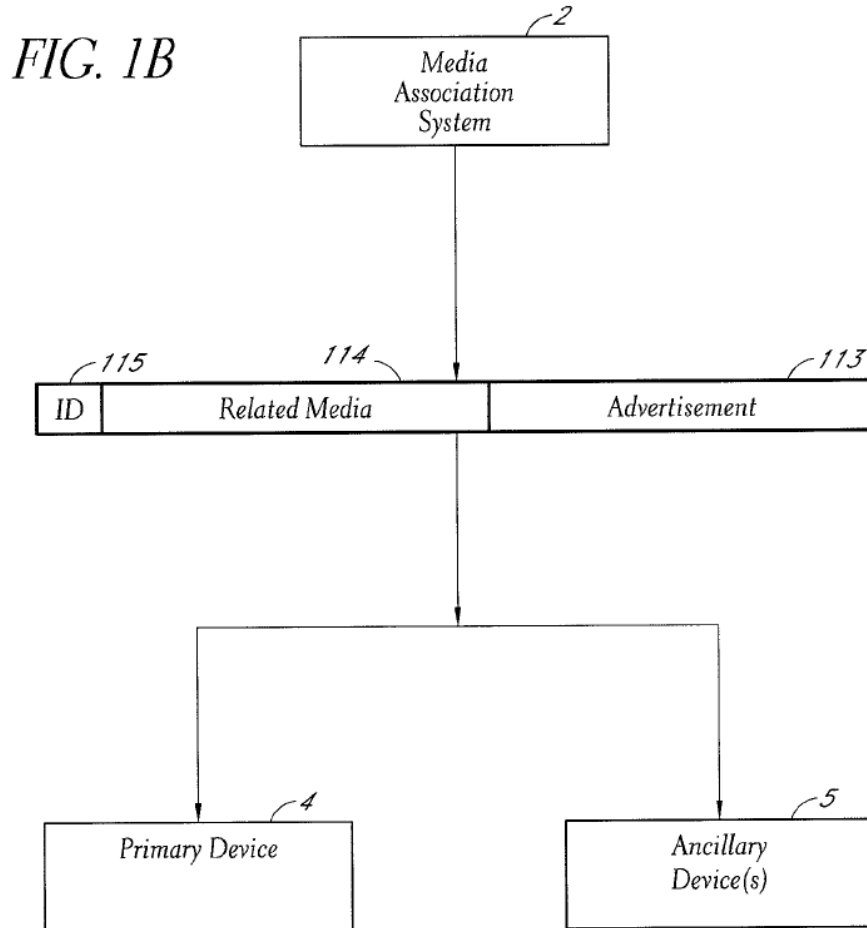


Figure 1A, above, is a block diagram that depicts signals and identifiers correlated and transmitted between elements of a media enhancement system. *Id.* at 2:41–43. The system can include first transmitter 3, control management system 100, media association system 2, primary device 4, and advertisement entity 6. *Id.* at 8:11–16. First transmitter 3 can be broadcast content from a radio station, from over the internet, through a cable line, or satellite, and/or through other communication methods. *Id.* at 8:17–24. For instance, first transmitter 3

can send first media signal 111 that is received by primary device 4. *Id.* at 8:41–43.

Figure 1B of the '081 Patent is reproduced below.



According to the '081 Patent, Figure 1B, above, is a block diagram illustrating that media association system 2 can send or transmit secondary or related media signal 114, using information regarding the media content of first media signal 111, to primary device 4 and/or ancillary device 5 through an Internet connection. *Id.* at 9:34–37, 9:39–48. Advertisement entity 6 can send advertisement signal 113 to media association system 2 so advertisement signal 113 is provided to primary device 4 upon the latter receiving a specific song from first transmitter 3 via first media signal 111. *Id.* at 10:24–29.

The '081 Patent explains that unique identifier 115 can be provided for each media signal (i.e., first media signal 111 and advertisement media signal 113) to facilitate the assignment and/or sending of advertisement media signal 113 with first media signal 111. *Id.* at 12:66–13:3. According to the '081 Patent, unique identifier 115 can be stored in a database and/or other location, such as control management system 100, along with other relevant information. *Id.* at 13:13–15. The '081 Patent discloses that unique identifier 115 can be used by media association system 2, advertisement entity 6, first transmitter 3, and/or primary device 4 and/or control management system 100 to track and/or record the results of any signal and to determine whether the signal should be provided to primary device 4 and/or the user. *Id.* at 13:16–22.

Figure 3 of the '081 Patent is reproduced below.

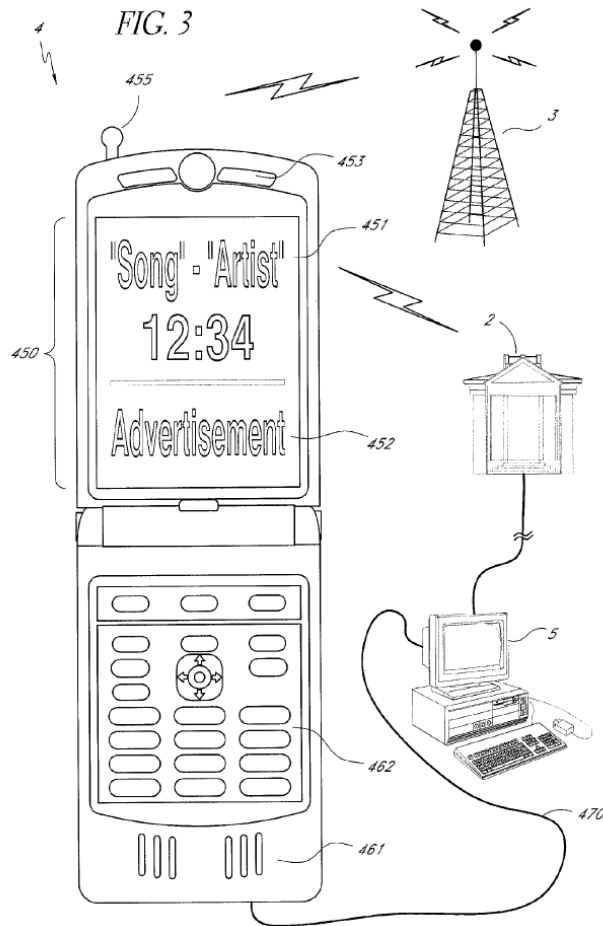


Figure 3, shown above, is an illustration that depicts primary device 4, such as a radio-enabled cellular phone, with display panel 450 that is connected to media association system 2. *Id.* at 2:50–51, 18:55–57, 19:11–13, 19:17. Primary device 4 receives first media signal 111 (not shown in Fig. 3) via receiver 455 and/or wire data connection 470. *Id.* at 18:57–59. First media signal 111 includes, for example, a radio program that primary device 4 can play to a user via speaker 453. *Id.* at 18:61–63. Display panel 450 can show information relating to the radio program being played. *Id.* at 19:13–15. For instance, upper portion 451 of the display panel can include textual information corresponding to the radio's music. *Id.* at 19:17–22. The information about the radio's music may be obtained from a Radio Broadcast Data System (RBDS) and/or Radio Data System (RDS) signal

accompanying first media signal 111 when the latter is in the form of a radio signal. *Id.* at 24:63–65. Lower panel 452 displays advertisement media signal 113 (not shown in Fig. 3), which may comprise any form of media content. *Id.* at 12:40–42, 19:45–46.

Primary device 4 can also send signals to transmitter 3, media association system 2, control management system 100, and/or advertisement entity 6. *Id.* at 15:9–12. For example, the signals from primary device 4 can be responses to interactive media signals. *Id.* at 15:12–14. Primary device 4 can transmit user behavior, can report location, direction of motion, and/or speed, and can detect other information about a user and/or the user’s location and/or environment. *Id.* at 15:17–27. The ’081 Patent explains that this information can be used by media association system 2 to determine what media and/or advertisements to send to primary device 4 to obtain a user’s reaction and/or what media and/or advertisements are likely to elicit a positive reaction at a given time and/or when the user is in a given state or environment. *Id.* at 15:27–34.

D. Challenged Claims

Petitioner challenges claims 9–11 and 23. Claim 9 is the only independent claim. Claim 9 is reproduced below:

- 9[pre] A system for combining multiple media comprising:
- 9[a] a first receiver module configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium;
- 9[b] a second receiver module configured to receive at least a second media signal content and uniquely identifying data specific to at least the second media content,

- 9[c] the second media content received discretely from the first media content;
- 9[d] an output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module;
- 9[e] an input module configured to receive at least a response input responsive to the second media content; and
- 9[f] a transmitting module configured to transmit a response message having at least the uniquely identifying data specific to the second media content to a computer server.

Ex. 1001, 35:22–41 (bracketed labelling designated by Petitioner; *see* Pet. 15–42).

E. Evidence

Petitioner relies upon the following evidence:

- (1) U.S. Patent No. US 6,349,329 B1, issued February 19, 2002 (“Mackintosh”) (Ex. 1004);
- (2) U.S. Patent Application Publication No. 2005/0262542 A1, published November 24, 2005 (“DeWeese”) (Ex. 1005); and
- (3) Declarations of Tim A. Williams, Ph.D. (Exs. 1003, 1016).

Patent Owner relies on the declaration of Todd Moon, Ph.D. (Ex. 2019).

F. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

References	Basis	Claims Challenged
Mackintosh	§ 102(b)	9–11, 23
Mackintosh	§ 103(a)	9–11, 23
DeWeese	§ 102(b)	9–11, 23
DeWeese	§ 103(a)	9–11, 23

Pet. 3.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Whether a reference anticipates is assessed from the perspective of an ordinarily skilled artisan. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008) (“[T]he meaning of a prior art reference requires analysis of the understanding of an artisan of ordinary skill.”). In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner contends that “a person of ordinary skill in the art (‘POSITA’) would have had at least a B.S. in computer science or electrical engineering or a related field, and approximately three years of experience working in the communications or Internet-related industries” and that this is approximate because “a higher education or skill level might make up for

less experience, and vice-versa; for example, a POSITA could have a master's degree with no industry experience.” Pet. 7 (citing Ex. 1003 ¶ 33). Patent Owner does not dispute this level of skill. PO Resp. 11–12.

Petitioner's description of the level of ordinary skill is generally consistent with the subject matter of the '081 Patent. We agree with Petitioner's description with the exception of the qualifier “at least” to keep the description from extending to a level beyond that of ordinary skill.

Accordingly, for purposes of this Final Written Decision, a person of ordinary skill in the art is a person with a bachelor's degree in computer science or electrical engineering or a related field, and approximately three years of experience working in the communications or Internet-related industries, or other equivalent industry experience in the field. A person with a master's degree in one of these fields with less industry experience would also qualify as a person of ordinary skill in the art.

B. Claim Construction

Pursuant to 37 C.F.R. § 42.100(b), we apply the claim construction standard as set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Under *Phillips*, claim terms are generally given their ordinary and customary meaning as would be understood by one with ordinary skill in the art in the context of the specification, the prosecution history, other claims, and even extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Phillips*, 415 F.3d at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v.*

Zhongshan Broad Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (in the context of an *inter partes* review, applying *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

1. “media content”

Petitioner asserts that it adopts the '081 Patent's definition of “media content,” which is:

[T]he terms “media” or “media content” are broad terms that comprise any form of content, including without limitation, graphics, videos, sounds, text, text messages, interactive applications, vibrations, television and/or radio programming, podcasts, movies, songs, games, telephone conversations, speeches, news, information, advertisements, polls votes, personal messages, and/or other physical manifestations capable of communicating a concept or idea.

Pet. 8 (quoting Ex. 1001, 5:22–29; citing Ex. 1003 ¶¶ 39–40). Patent Owner does not dispute Petitioner's construction. PO Resp. 16.

While the '081 Patent does not provide a strict definition for the term “media content,” the specification does state that “the terms ‘media’ or ‘media content’ are broad terms that comprise any form of content.” Ex. 1001, 5:20–23. The '081 Patent also provides a number of different examples of media or media content, such as “graphics, videos, sounds, text, text messages . . . television and/or radio programming, podcasts, movies, songs, games, telephone conversations, speeches, news, information, advertisements, polls votes, [and] personal messages.” *Id.* at 5:24–28.

For purposes of this Decision, we do not find it necessary to expressly construe the term “media content.” *See Vivid Techs.*, 200 F.3d at 803 (holding that only terms that are in controversy need to be construed, and “only to the extent necessary to resolve the controversy”). To the extent that

the determination of the meaning of this claim term is necessary, we use its ordinary and customary meaning.

2. “*present . . . media content*”

Petitioner argues the term “present . . . media content,” which appears in claim 9, “should be construed to mean ‘provide an output, related to a media content, that can be sensed by the user,’ for example, display, audio, and vibration.” Pet. 8–9 (citing Ex. 1001, 5:22–29, 5:36–40, 19:1–64; Ex. 1003 ¶¶ 42–44). Patent Owner does not dispute Petitioner’s construction. PO Resp. 16.

Petitioner points out that the ’081 Patent explains that media content can be presented in various ways. The ’081 Patent states, and Petitioner points out, that “the terms ‘display,’ ‘present,’ their synonyms, and their alternative conjugations should be used interchangeably and be broadly interpreted as providing media to be sensed by the user.” Pet. 9 (citing Ex. 1001, 5:36–40; Ex. 1003 ¶ 43).

Petitioner also points out that the ’081 Patent explains that media content “need not be presented through the display panel, but could alternatively be presented through the speaker, a vibration system, and/or any other primary device output.” Pet. 9 (citing Ex. 1001, 19:52–56, *see also id.* at 19:1–65; Ex. 1003 ¶ 44).

For purposes of this Decision, we do not find it necessary to expressly construe the term “present . . . media content.” To the extent that the determination of the meaning of this claim term is necessary, we use its ordinary and customary meaning.

3. *first/second receiver module*

The terms “*first receiver module*” and “*second receiver module*” are recited in independent claim 9. *See* Ex. 1001, 35:22–31. Patent Owner

asserts that the recited claim terms “do not require a particular construction,” but “maintains that the Board should interpret the claim to require two distinct receiver modules.” PO Resp. 12. “In view of the totality of Claim 9,” Patent Owner argues, “the Board should understand *first receiver module* and *second receiver module* as two separate and distinct receiver modules.” *Id.* (citing Ex. 2019 ¶ 50).

Petitioner argues that Patent Owner’s proposal “attempts to improperly import additional limitations into the claims,” and “seeks to rewrite [claims that] are clear and unambiguous in their original form, both on their own and in light of the specification.” Pet. Reply 4, 6. Petitioner points out that Patent Owner does not “provide an actual construction for the Board to adopt,” and argues that “there is no construction for the Board to consider.” *Id.* at 5. Petitioner also argues that Patent Owner’s “interpretation introduces additional ambiguity as to what constitutes ‘separate and distinct’ receiver modules.” *Id.* at 6.

We agree with Patent Owner that the claim terms, “*first receiver module*” and “*second receiver module*,” do not require a particular construction. But as the proponent of a particular “interpretation” or “understanding” of these terms, Patent Owner has not shown that the ordinary and customary meaning of “*first receiver module*” and “*second receiver module*” are somehow deficient or deprive claim 9 of its clarity. We also agree with Petitioner that Patent Owner’s proposal would improperly add limitations to the claim as well as create ambiguity as to what does, or does not, constitute “separate and distinct” receiver modules.

Moreover, as the proponent of the proposed “interpretation” or “understanding” of the claim terms, Patent Owner has not justified incorporating the additional limitations of “separate and distinct” modules

into claim 9, and Patent Owner’s arguments for doing so are flawed because they ignore key aspects of the ’081 Patent’s specification that provide important context to the claim language “*module*.”

“Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313 (citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998)); *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (“We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”).

For example, the ’081 Patent specification explains that:

in general the word ‘module,’ as used herein, refers to logic embodied in hardware and/or firmware, and/or to a collection of software instructions, possibly having entry and/or exit points, written in a programming language. . . . It will be appreciated that software modules may be callable from other modules and/or from themselves, and/or may be invoked in response to detected events and/or interrupts. . . . Generally, the modules described herein refer to logical modules that may be combined with other modules or divided into sub-modules despite their physical organization or storage.

Ex. 1001, 6:47–7:8 (emphases added).

This use of the term “module” in the ’081 Patent specification explains to one of ordinary skill in the art that a “module” may be “logic embodied in hardware” and/or “firmware,” and/or “a collection of software instructions.” *Id.* at 6:47–49. Moreover, this use of the term “module” also explains to one of ordinary skill in the art that generally the “modules” being described refer to “logical modules” that “may be combined with other

modules” or “divided into sub-modules” despite their physical organization or storage. *Id.* at 7:5–8.

The parties here do not appear to dispute that claim 9 does, in fact, recite two receiver modules, i.e. “*a first receiver module*” and “*a second receiver module*.” *See, e.g.*, Pet. 25 (“Mackintosh’s computer [212/702], which includes ‘communications interface 724,’ corresponds to the claimed ‘first receiver module’”), *id.* at 32 (“a [person of ordinary skill in the art] would have understood that the communication interface [724] of Mackintosh’s user terminal/computer [212/702] corresponds to the claimed ‘second receiver module’”); PO Resp. 1–2 (“The [claimed] system is configured to present concurrently both the first and second media on the output of either the first receiver module *or* the second receiver module.”).

Rather, the disagreement here seems to stem from the parties misconstruing each other’s arguments, and not from any inherent ambiguity in the claim language. For example, Petitioner is not arguing that claim 9 “be read as having only a single receiver module,” as Patent Owner asserts. *See* PO Resp. 13. Rather, Petitioner is arguing that the ’081 Patent’s “specification contemplates *a single device having the necessary modules* for receiving both the first and second media content.” Pet. Reply 9 (citing Ex. 1016 ¶¶ 26–27) (emphasis added); *see also id.* at 10 (“The [’081 patent] specification therefore also describes the functionality of *the claimed first and second receiver modules occurring at a single device which uses multiple receiver modules* to receive both sets of media content.”).

In its Sur-reply, Patent Owner eventually concedes “that the specification of the ’081 patent supports a reading where one device can have the ‘necessary modules for receiving both the first and second media content.’” PO Sur-reply 2 (citing Pet. Reply 8–10). Patent Owner finally

articulates the misunderstanding between the parties when it states, “Patent Owner never argued claim 9 requires two ‘devices.’ Patent Owner instead pointed out that the claim requires two distinct *modules*.” *Id.* (citing PO Resp. 12–15).

For these reasons, we do not find it necessary to expressly construe or interpret the claim terms “*first receiver module*” and “*second receiver module*” as Patent Owner proposes. To the extent that the determination of the meaning of these terms is necessary, however, we use their ordinary and customary meaning as would be understood by one with ordinary skill in the art in the context of the claims, the specification, the prosecution history and relevant extrinsic evidence. This understanding of the term “module” is informed by its description in the specification of the ’081 Patent as “logic embodied in hardware and/or firmware, and/or . . . a collection of software instructions,” which “may be callable from other modules and/or from [itself], and “may be combined with other modules or divided into sub-modules.” *See* Ex. 1001, 6:47–7:8.

4. “*on an output of the first receiver module or the second receiver module*”

Claim 9 recites in pertinent part, “an output system configured to present concurrently the first media content **and** the second media content on an output of the first receiver module **or** the second receiver module.” Ex. 1001, 35:22, 32–35 (emphasis added).

Although the parties have not formally requested a construction of this limitation, it is clear from the briefing and the oral argument that the parties dispute the meaning and the scope of this limitation. In essence, the parties dispute whether this portion of claim 9 requires one output or two outputs. For example, Patent Owner argues, “[e]lement 9[d], requires two outputs”

(PO Resp. 42), and “you have to have two of these modules receiving data discretely, each with their own output” (Paper 52, 47:15–17). Whereas Petitioner argues, “the claims are satisfied when a single system includes a first and second receiver module and outputs the first and second media content concurrently” (Pet. Reply 25), and “We don't believe . . . that two separate outputs, one existing on each of these separate and distinct modules is required. Instead, a single device having a single output system as shown in Fig. 3 of the '081 Patent is sufficient” (Paper 52, 13:16–22).

The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art in question at the time of the invention when read in the context of the specification and prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). A person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. *Id.* at 1313.

Here, claim 9 selectively uses the conjunctive “and” and the disjunctive “or” within the same phrase: “an output system configured to present concurrently the first media content **and** the second media content on an output of the first receiver module **or** the second receiver module.” Ex. 1001, 35:32–35 (emphases added).

Our reviewing court has consistently interpreted the word “or” to mean that items in a sequence are alternatives to each other. *See Schumer v. Lab. Computer Sys., Inc.*, 308 F.3d 1304, 1311 (Fed. Cir. 2002). Given this understanding, in our view the phrasing of limitation 9[d] means that: 1) the output system must be able to present, at the same time, both the first **and** the second media content on an output of the first receiver module; **or** 2) the

output system must be able to present, at the same time, the first **and** the second media content on an output of the second receiver module.

This understanding of the output system of claim 9 is consistent with the '081 Patent specification. For example, the '081 Patent specification describes an embodiment having “an output module configured to output a primary media content from the first media signal and output a secondary media content from the second media signal.” Ex. 1001, 2:2–5.

This understanding of the output system of claim 9 is also consistent with the testimony of Dr. Williams, who explains how one of ordinary skill in the art would understand the '081 Patent. *See* Ex. 1016 ¶¶ 30–35. Dr. Williams provides examples from the '081 Patent specification consistent with this understanding of the output system recited in claim 9. Dr. Williams testifies that “outputting audio data (‘first media content’), for example via a speaker, with corresponding visual data (‘second media content’), for example via a display, using a single device would be sufficient to satisfy the claim.” *Id.* ¶ 32 (citing Ex. 1001, Fig. 3). Dr. Williams points out numerous examples described in the '081 Patent where different media content are presented concurrently on a single device’s output. *Id.*

While this understanding of limitation 9[d] acknowledges the existence of two modules, each having an output, i.e. “an output of the first receiver module,” and “an output of the second receiver module,” it does not necessarily follow that the outputs of these modules are separate and distinct physical structures as Patent Owner argues. *See, e.g.*, PO Resp 1 (“A second receiver module with its own separate output, receives a second media content”), *id.* at 43 (“Petitioner does not identify a second ‘output’ that is

distinct from this first ‘output.’ For example, there is no second device with its own separate display” (internal citations omitted)).

As we discussed above with respect to the claim term “module,” the ’081 Patent specification explains that a “module” may be “logic embodied in hardware” and/or “firmware,” and/or “a collection of software instructions.” Ex. 1001, 6:47–49. This use of the term “module” also explains to one of ordinary skill that generally the “modules” being described refer to “logical modules” that “may be combined with other modules” or “divided into sub-modules” despite their physical organization or storage. *Id.* at 7:5–8.

Patent Owner acknowledged at oral argument that one module could be a submodule of another. “Could one module be a submodule of another? You know, potentially, it could. I don’t know that anything excludes that.” Tr. 48:13–15. Because the receiving modules may be logical submodules of one another, and therefore not necessarily separate physical structures or components, it follows that their outputs may not necessarily be separate physical structures either, but may maintain their identity and distinction through the use of logic or software or other technical means. Dr. Williams, for example, explains how the ’081 Patent “expressly contemplates first and second media content being transmitted and received discretely using a single, subdivided signal. This would be achieved, for example, by multiplexing or interleaving the two types of content.” Ex. 1016 ¶ 75.

For these reasons, we construe the limitation “*an output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module*” to mean either: 1) the output system must be able to present, at the same time, both the first and the second media content on an

output of the first receiver module; or 2) the output system must be able to present, at the same time, the first and the second media content on an output of the second receiver module. Although we understand claim 9 to be reciting two receiving modules, i.e. a “first receiving module” and a “second receiving module,” each having an output, we do not understand claim 9 to require that the receiving modules and their outputs must be separate and distinct physical structures or components.

C. Patentability Challenges

As indicated above, Petitioner presents four grounds challenging the patentability of particular claims of the '081 Patent under 35 U.S.C. §§ 102, 103. Petitioner challenges claims 9–11 and 23 as (1) anticipated by Mackintosh, (2) as obvious over Mackintosh, (3) as anticipated by DeWeese, and (4) as obvious over DeWeese. Pet. 3.

1. Principles of Law

To anticipate a claim under 35 U.S.C. § 102, “a single prior art reference must expressly or inherently disclose each claim limitation.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008). Accordingly, “the dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching” that every claim element was disclosed in that single reference. *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003).

Anticipation cannot be proven by “multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017); *see also Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). Rather, the reference must “clearly and unequivocally disclose the

claimed [invention] or direct those skilled in the art to the [invention] without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.”

Net MoneyIN, 545 F.3d at 1371 (quoting *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972)). Thus, while “[s]uch picking and choosing may be entirely proper in the making of a 103, obviousness rejection . . . it has no place in the making of a 102, anticipation rejection.” *Arkley*, 455 F.2d at 587–88.

A claim is unpatentable as obvious under 35 U.S.C. § 103 “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.” 35 U.S.C. § 103(a) (2006). 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,” including commercial success, long-felt but unsolved needs, failure of others, and unexpected results. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).²

2. Relevant Prior Art

i. *Mackintosh (Ex. 1004)*

Mackintosh is a U.S. Patent that issued on February 19, 2002, more than one year before the earliest priority date of the ’081 Patent. Ex. 1001, code (22), (60); Ex. 1004, code (45). Petitioner asserts that *Mackintosh* is prior art under pre-AIA 35 U.S.C. § 102(b). Pet. 9.

² Neither party has presented any evidence on the fourth *Graham* factor.

Mackintosh relates to broadcast materials and to a system and method for coordinating the delivery of supplemental information with broadcast materials. Ex. 1004, 1:19–22. Mackintosh describes supplemental material as including, for instance, images, video clips, audio clips, data, or other materials that may be provided to a user in conjunction with broadcast materials. *Id.* at 2:57–60. Mackintosh explains:

According to one aspect of the invention, supplemental materials can be provided to a user in a coordinated fashion with the broadcast materials being delivered. The supplemental materials can be provided in a coordinated fashion such that they relate to the actual broadcast materials as they are being streamed or otherwise delivered to the user. For example, according to one embodiment, the broadcast material is delivered to the user in segments such as, for example, tracks of music, advertisements, and promotional materials in a radio broadcast. In this embodiment, the supplemental materials can be coordinated with the individual segments (e.g., tracks) such that supplemental materials relating to the segments can be provided as the segments are being provided to the user.

Id. at 2:43–56.

Mackintosh describes an example in which radio broadcast materials are broadcast over the Internet. *Id.* at 2:66–3:1. For instance, the radio broadcast can include a plurality of tracks that are streamed to a user via the Internet, such as music tracks, advertising tracks, DJ voice or introduction tracks, promotional tracks, and any other track a station may wish to broadcast. *Id.* at 3:1–7. Mackintosh states that the tracks can identify a track, the type of track, and other pertinent or relevant information regarding a particular track. *Id.* at 3:7–11.

Figure 5 of Mackintosh is reproduced below.

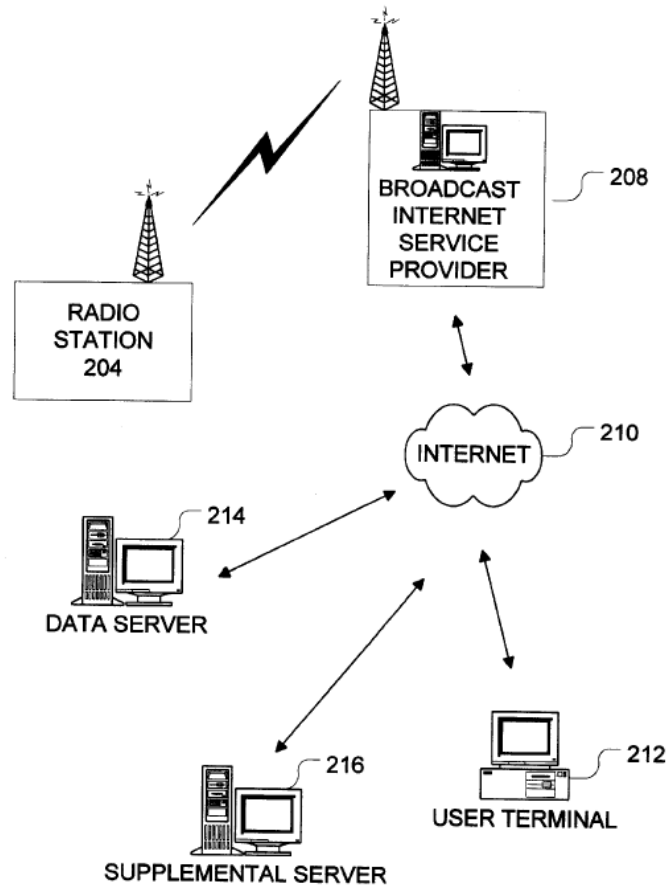


Fig. 5

Figure 5, above, depicts an example in which radio station 204 provides broadcast materials to a listener at user terminal 212. *Id.* at 4:28–31, 8:31–34. Specifically, radio station 204 provides its broadcast materials to broadcast Internet service provider 208. *Id.* at 8:40–41. In turn, Internet service provider 208 provides the broadcast materials in a digital format to user terminal 212 via Internet 210. *Id.* at 9:48–51.

Figure 7 of Mackintosh is reproduced below.

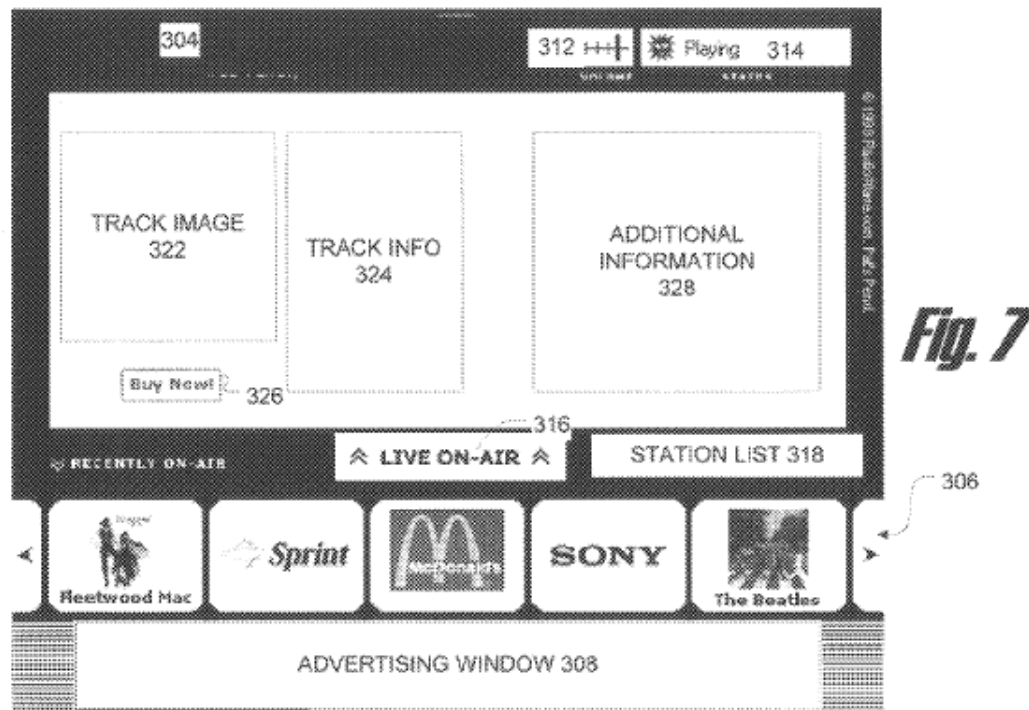


Figure 7, above, shows an exemplary user interface for a player. *Id.* at 4:37–39. The player can include four parts: data window 302, player interface 304, history window 306, and advertising window 308. *Id.* at 12:35–37. Mackintosh discloses that data window 302 can include album image 322, artist or album or track information 324, buy now button 326, and additional information selection area 328. *Id.* at 12:55–61. Mackintosh explains that buy now button 326 can be used to activate a link to a source so a user can purchase the album title being played, such as by accessing a supplier’s web site and allowing the user to purchase the album online. *Id.* at 14:21–26.

ii. DeWeese (Ex. 1005)

DeWeese is a U.S. Patent Application Publication that published on November 24, 2005, more than one year before the earliest priority date of the '081 Patent. Ex. 1001, code (60); Ex. 1005, code (43). Petitioner asserts that DeWeese is prior art under pre-AIA 35 U.S.C. § 102(b). Pet. 13.

DeWeese relates to television chat system and “to techniques for supporting chat communications in a television environment that may include an interactive television program guide.” Ex. 1005 ¶ 2. Figure 1A of DeWeese is reproduced below.

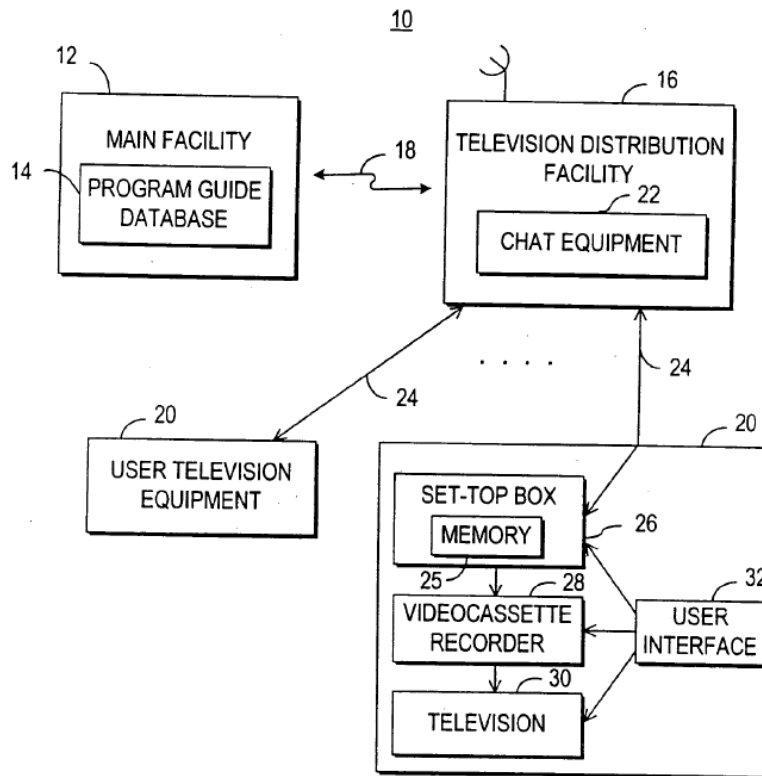


FIG. 1A

Figure 1A, above, is a diagram of television chat system 10. *Id.* ¶¶ 19, 51. System 10 includes main facility 12 that may have program guide database 14 that stores program guide information, such as television program guide listing data, and allows system 10 to support an interactive television program guide. *Id.* ¶ 51. DeWeese explains that information from database 14 may be transmitted to television distribution facility 16 via communications link 18. *Id.* According to DeWeese, the program guide information includes television program listings data, such as program times,

channels, titles, descriptions, etc. and may also include information on chat groups that are available for particular television programs or channels. *Id.* ¶ 53.

DeWeese explains that television distribution facility 16 distributes the program guide data and other information to user television equipment 20 via communications paths 24. *Id.* ¶ 55. Communication paths 24 allow television distribution facility 16 “to distribute scheduled television programming, pay programming, real-time communications, chat requests and other video and audio information to user television equipment 20 in addition to non-video program guide information and communications.” *Id.*

Figure 9 of DeWeese is reproduced below.

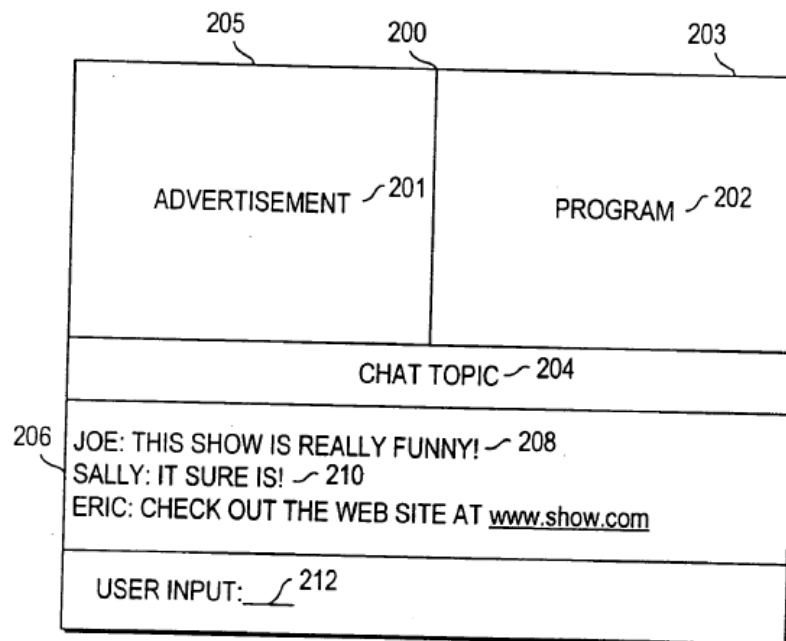


FIG. 9

Figure 9, above, depicts display screen 200 containing video for television program 202 in one region 203 of display screen 200 and chat room region 206. *Id.* ¶¶ 31, 93. DeWeese describes chat room participants

sending chat messages, which appear in chat room region 206. *Id.*

DeWeese also discloses that advertisement 201 may also be displayed in region 205. *Id.*

D. Anticipation by Mackintosh

Petitioner contends that Mackintosh anticipates claims 9–11 and 23 under 35 U.S.C. § 102(b). Pet. 15–52; Pet. Reply 13–21. Patent Owner argues that Mackintosh fails to disclose all the recited limitations of the challenged claims. PO Resp. 25–38; PO Sur-reply 9–18. Claim 9 is the only challenged independent claim. The remaining challenged claims, 10, 11, and 23, all depend from claim 9. We first discuss independent claim 9.

1. Independent Claim 9

In response to Petitioner’s evidence and arguments that Mackintosh anticipates independent claim 9 of the ’081 Patent (*see* Pet. 15–52), Patent Owner argues that Mackintosh fails to disclose specific limitations recited by claim 9 (*see* PO Resp. 25–38). These contested limitations include portions of limitation 9[a]: “*data enabling identification of a specific instance of the first media content*”; 9[b]: “*a second receiver module*”; and 9[d] “*an output of the first receiver module or the second receiver module*”.

We begin with a review of Petitioner’s evidence and arguments with respect to limitations 9[a] “*a first receiver module . . .*” and 9[b] “*a second receiver module . . .*”.

- i. Limitation 9[a]: a first receiver module configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium;*

With respect to limitation 9[a], Petitioner asserts that:

Mackintosh's computer,³ which includes "communications interface 724," corresponds to the claimed "first receiver module"; and, it is configured to receive (i) "broadcast material" (audio data), which corresponds to the claimed "first media content," and (ii) "program data," which corresponds to the claimed "data enabling the identification of a specific instance of the first media content from a first broadcast medium."

Pet. 25 (citing Ex. 1003 ¶ 74).

Figures 5 and 10 of Mackintosh are shown below, side by side.

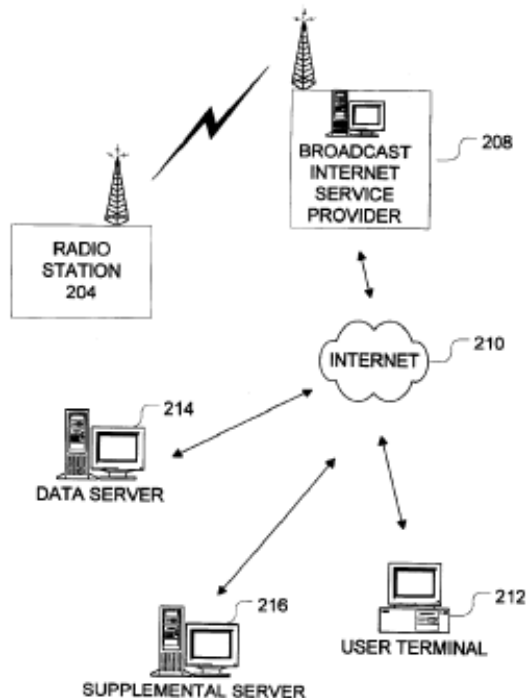


Fig. 5

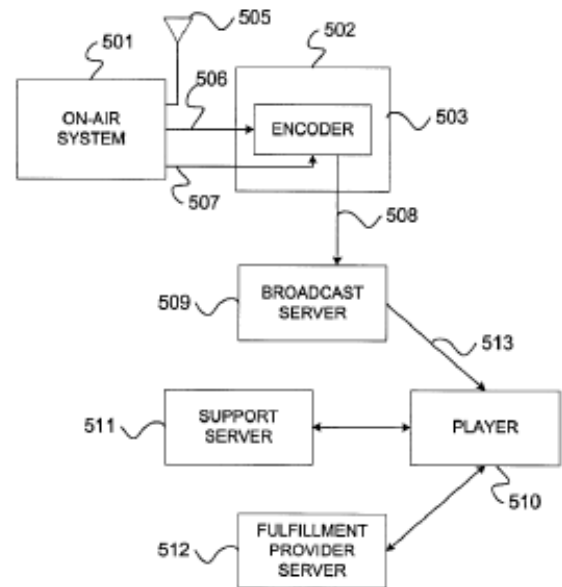


Fig. 10

With respect to Mackintosh's Figure 5 (above, left) and Figure 10 (above, right), Petitioner asserts that Mackintosh "discloses that a broadcaster (shown as 'broadcast internet service provider 208' and 'broadcast server 509,' respectively) transmits broadcast material, including

³ Petitioner states in a footnote that "[f]or ease of reference, Petitioner will hereinafter refer to each of Mackintosh's 'user terminal 212' and 'computer system 702' as 'computer.'" Pet. 19 n.1 (citing Ex. 1003 ¶ 61).

audio and program data, to a user (shown, respectively, as ‘user terminal 212’ and ‘player 510’).” Pet. 21–22 (citing Ex. 1004, Figs. 5, 10, 8:40–49, 9:48–50; Ex. 1003 ¶ 67).

Petitioner also asserts that “[t]he ‘program data’ that is sent with the audio data ‘can include, for example, a cut number, a category of the cut, and a duration of the cut.’” Pet. 22. According to Petitioner, Mackintosh explains that each “cut code correspond[s] to and uniquely identif[ies] a segment from the standpoint of the radio station.” Pet. 22–23 (citing Ex. 1004, 9:18–19, 21:21–25; Ex. 1003 ¶ 68). Petitioner argues that “the station ID and the cut number, collectively, correspond to the claimed data that enable the identification of a specific instance of the first media content.” Pet. 23 (citing Ex. 1003 ¶ 68).

Petitioner asserts that “Mackintosh further discloses that ‘player’ software (*e.g.*, ‘software application resident on user terminal 212’ or ‘player 510’ running on ‘computer system 702’) ‘play[s] the broadcast material broadcast from the broadcast Internet service provider 208.’” Pet. 23 (citing Ex. 1004, 12:18–22, 21:56–67).

Petitioner explains that “Mackintosh’s computer, on which the ‘player’ software operates, includes a ‘communications interface 724,’ which ‘allows software and data to be transferred between computer system 702 and external devices.’” Pet. 24 (citing Ex. 1004, 24:55–58; Ex. 1003 ¶ 72).

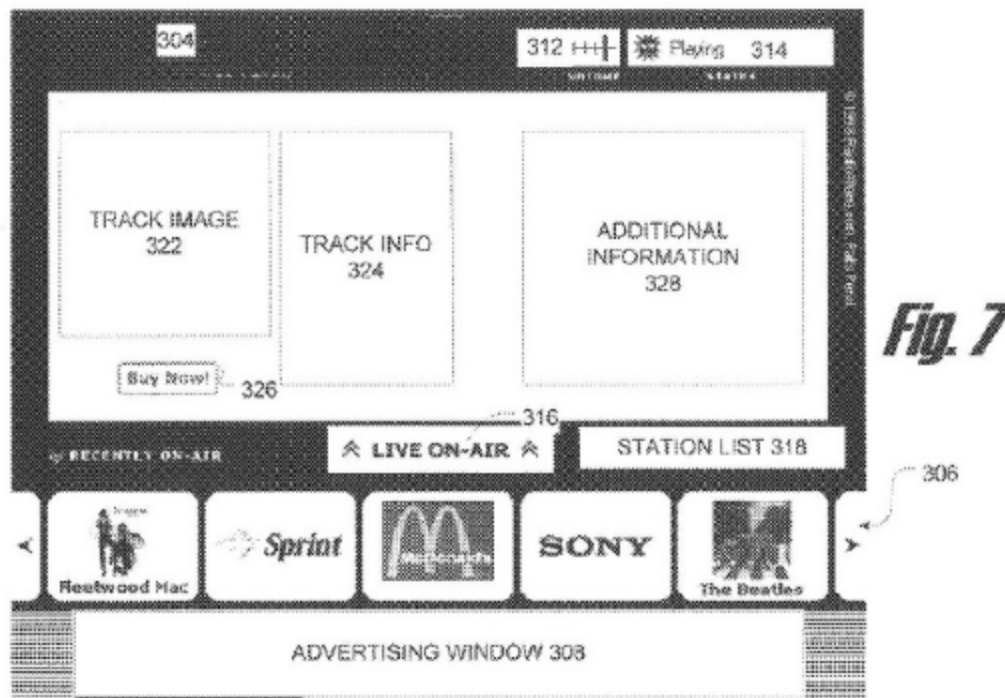
Petitioner’s arguments are supported by the testimony of Dr. Williams. *See* Ex. 1003 ¶¶ 67–74.

- ii. *Limitation 9[b]: a second receiver module configured to receive at least a second media signal content and uniquely identifying data specific to at least the second media content;*

With respect to limitation 9[b], Petitioner asserts that “the communication interface of Mackintosh’s user terminal/computer corresponds to the claimed ‘second receiver module.’” Pet. 32 (citing Ex. 1003 ¶ 86).

Petitioner argues that in Mackintosh, “to enhance the broadcast experience, a server provides ‘supplemental materials’ to the listener of the broadcast.” Pet. 25–26 (citing Ex. 1003 ¶ 75). Mackintosh, Petitioner argues, “teaches that the ‘supplemental materials’ can broadly include ‘images, video clips, audio clips, data, or other materials that may be provided to the user in conjunction with the broadcast materials. . . . The supplemental materials can also include advertising information that is provided to the user during particular segments of the broadcast material.’” Pet. 26 (citing Ex. 1004, 2:57–62, 10:32–33, 22:55–60; Ex. 1003 ¶ 76).

Mackintosh’s Figure 7 is shown below.



Petitioner explains that:

Mackintosh discloses, with respect to figure 7 [shown above], that its software player—which displays the “supplemental materials” to the user—includes “data window 302” that can include “an album image 322, artist or album or track information 324, a buy now button 326, and additional information selection area 328,” as well as “a history window 306, and an advertising window 308.

Pet. 27 (citing Ex. 1004, 12:35–46, 12:55–63, Fig. 7; Ex. 1003 ¶ 78).

Petitioner also points out that:

Mackintosh explains that various elements of the “supplemental materials,” which are graphically represented in the player, include links that direct a user to a website, hosted by a server, where the user can obtain additional information (such as learning about tour information) or take a particular action (such as purchasing the music or a product/service being advertised).

Pet. 29 (citing Ex. 1004, 23:26–24:4; Ex. 1003 ¶ 79).

Petitioner argues that any of Mackintosh’s four described “elements of the ‘supplemental materials’—*i.e.*, (i) the ‘buy now’ button, (ii) the ‘tours and tickets’ button, (iii) the ‘artist archives’ button, or (iv) the ‘advertisement’ shown in the banner—correspond to the claimed ‘second media content.’” Pet. 31 (citing Ex. 1003 ¶ 83). Petitioner argues that

[t]he underlying link or URL that takes the user to the website relating to that element corresponds to the claimed ‘uniquely identifying data specific to at least the second media content’ because each link or URL (i) relates specifically to the particular element (*e.g.*, to the advertisement shown in the banner or to the tour information related to the artist being played); (ii) accompanies the graphical representation of that particular element; and (iii) is used to retrieve additional information about, or take a particular action regarding, the specific element.

Pet. 31–32 (citing Ex. 1003 ¶¶ 84–85).

Petitioner’s arguments are supported by the testimony of Dr. Williams. *See* Ex. 1003 ¶¶ 75–86.

iii. Patent Owner argues that Mackintosh fails to teach a second receiver module

Patent Owner argues that “Petitioner gives the impression that two separate parts of Mackintosh’s system describe the *first receiver module* (element 9[a])⁴ and the *second receiver module* (element 9[b]).” PO Resp. 25. “While on the surface,” Patent Owner argues, “the two components Petitioner identifies (a ‘computer’ and a ‘communications interface’) are different words, a closer review of Mackintosh reveals that Petitioner is

⁴ Patent Owner refers to the different terms of claim 9 as “elements,” while the Board refers to them as “limitations” following the guidance in *Festo v. Shoketsu*, 234 F.3d 558, 563 n.1 (Fed. Cir. 2000) (en banc), *judgment vacated on other grounds*, 520 U.S. 1111. But for purposes of this Decision, it is understood that both words are referring to the same thing when referencing the same claim terms.

actually relying on only one component—the ‘communications interface’—to satisfy both element 9[a] and 9[b].” *Id.* (citing Ex. 2019 ¶ 68). “Because the claim requires two receiver modules,” Patent Owner argues, “Mackintosh fails to anticipate.” PO Resp. 25 (citing Ex. 2019 ¶ 68).

To support its argument, Patent Owner points out Petitioner’s assertion that “Mackintosh’s computer, which includes ‘communications interface 724,’ corresponds to the claimed ‘first receiver module.’” PO Resp. 25 (citing Pet. 25; Ex. 2019 ¶ 69). “Petitioner then asserts,” Patent Owner argues, “that ‘a [person of ordinary skill in the art] would have understood that the communication interface of Mackintosh’s user terminal/computer corresponds to the claimed ‘second receiver module.’” PO Resp. 25 (citing Pet. 32; Ex. 2019 ¶ 69).

Patent Owner argues that Petitioner’s expert, Dr. Williams, “agrees that claim 9 of the ’081 patent requires two separate modules.” PO Resp. 26. In support of this argument, Patent Owner cites Dr. Williams’s deposition testimony where Dr. Williams states that “the second media content received discretely from the first media content would require that different resources be applied to the reception of the second media content than the first media content and those resources can be hardware and/or software.” PO Resp. 26 (quoting Ex. 2020, 25:5–14 (discussing “received discretely” in connection with related U.S. Patent No. 9,355,405 B2 (“the ’405 patent”)); *see also id.* at 23:25–26:17, 49:22–50:6 (acknowledging that his understanding of “received discretely” in the ’081 patent is the same as his understanding of the claim term in the ’405 patent)).

Patent Owner alleges that:

Petitioner combines different embodiments in Mackintosh in support of its assertion that Mackintosh shows a *first* and *second*

receiver module. Ex. 2019 ¶ 71. To bridge the gap between the two embodiments, Petitioner creates the term “computer” to refer to different aspects within each embodiment. Pet. 19 n.2 (citing Ex. 1003 ¶ 61); Ex. 2019 ¶ 71. In particular, Petitioner says that “computer” refers to the “user terminal 212” in Figure 5 and the “computer system 702” in Figure 13. Pet. 19 n.2 (citing Ex. 1003 ¶ 61); Ex. 2019 ¶ 71).

PO Resp. 26.

“Regardless of which embodiment is considered,” Patent Owner argues, “Mackintosh explains that ‘user terminal 212’/‘computer system 702’ both communicate with external devices in the same manner.” *Id.* at 27. Patent Owner argues that “Mackintosh’s ‘user terminal 212’ includes an appropriate ‘communication interface’ to allow for delivery of the broadcast medium.” *Id.* (citing Ex. 1004, 5:28–34; Ex. 2019 ¶ 72).

“Similarly,” Patent Owner argues, “as indicated in Mackintosh’s Fig. 13 (reproduced below), the ‘computer system 702’ has only a single interface that receives external data—the ‘communications interface 724.’” PO Resp. 27 (citing Ex. 1004, 24:55–58 (“Communications interface 724 allows software and data to be transferred between computer system 702 and external devices.”); Ex. 2019 ¶ 72; *see also* Pet. 24 (citing the same). Patent Owner asserts that “Petitioner’s expert confirmed this during redirect deposition, where he pointed to Mackintosh’s ‘communication interface’ as corresponding to both the ‘first receiver module’ and the ‘second receiver module’ in the challenged claims.” PO Resp. 27 (citing Ex. 2020, 159:20–161:13).

Patent Owner provides Mackintosh’s Figure 13, shown below.

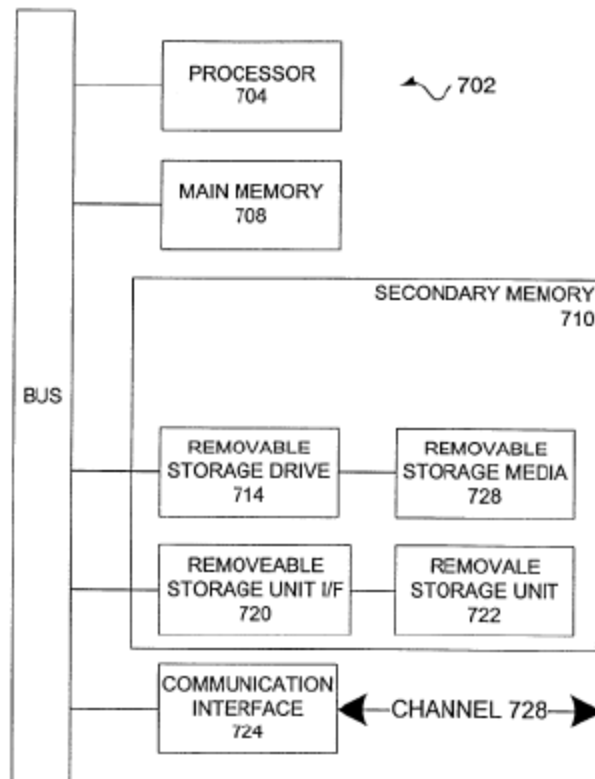


Fig. 13

According to Mackintosh, Figure 13, above, depicts the architecture of computer system 702, including communications interface 724, which “allows software and data to be transferred between computer system 702 and external devices . . . via a channel 728.” Ex. 1004, 24:55–66.

Patent Owner argues, “[f]or either the ‘user terminal 212’ or ‘computer system 702’—both of which Petitioner labeled ‘computer’—the device uses the ‘communication interface’ to receive media content.” PO Resp. 28 (citing Ex. 2019 ¶ 73). Patent Owner argues that “Petitioner’s identification of the first and second receiver module is, therefore, to the same interface, not a *first receiver module* and *second receiver module*.” PO Resp. 28 (citing Ex. 2019 ¶ 73). “For this reason alone,” Patent Owner

argues, “Mackintosh fails to anticipate claim 9 of the ’081 patent.”

PO Resp. 28 (citing Ex. 2019 ¶ 73). We agree.

In order to establish that independent claim 9 is anticipated by Mackintosh under 35 U.S.C § 102(b), Petitioner must prove, by a preponderance of the evidence, that one of ordinary skill in the art would reasonably understand or infer from Mackintosh that every limitation of claim 9 is disclosed, either expressly or inherently. 35 U.S.C. §§ 102, 316(e); *Finisar*, 523 F.3d at 1334; *Dayco*, 329 F.3d at 1368.

Moreover, anticipation cannot be proven by “multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” *Microsoft*, 878 F.3d at 1069; *see also Net MoneyIN*, 545 F.3d at 1371. Rather, Mackintosh must “clearly and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.” *Net MoneyIN*, 545 F.3d at 1371 (quoting *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972)).

Independent claim 9 (with Petitioner’s labeling of limitations) recites the following in pertinent part:

9. A system for combining multiple media comprising:

[a] a first receiver module configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium;

[b] a second receiver module configured to receive at least a second media signal content and uniquely identifying data specific to at least the second media content, the second media content received discretely from the first media content;

The parties do not dispute that claim 9 recites two receiver modules, “*a first receiver module*,” and “*a second receiver module*.” In our view, Petitioner’s identification of what in Mackintosh constitutes the claimed “*first receiver module*,” and “*second receiver module*” is ambiguous and confusing to the point of being indeterminable.

First, Petitioner’s identification of the claimed “*first receiver module*” is ambiguous. Petitioner begins by stating that “Mackintosh discloses that the broadcast and supplemental materials,” which Petitioner identifies as the claimed “*first media content*” and “*second media content*,” respectively, “can be presented to its users on a device such as ‘user terminal 212,’ or, more specifically, ‘computer system 702.’” Pet. 18–19; *see also* Pet. 25 (identifying “‘broadcast material’ (audio data)” as the claimed “*first media content*”); Pet. 31 (identifying “supplemental materials” as the claimed “*second media content*”).

Petitioner then explains in a footnote that “[f]or ease of reference, Petitioner will hereinafter refer to each of Mackintosh’s ‘user terminal 212’ and ‘computer system 702’ as ‘computer.’” Pet. 19 n.2. This creates ambiguity because whenever Petitioner subsequently uses the term “computer” with reference to Mackintosh, one does not know whether Petitioner is referring to Mackintosh’s “user terminal 212” or Mackintosh’s “computer system 702.”

Petitioner goes on to state that “Mackintosh’s computer, which includes ‘communications interface 724,’ corresponds to the claimed ‘first receiver module.’” Pet. 25. This statement has two levels of ambiguity. It is not clear from this statement whether Petitioner is mapping “Mackintosh’s computer” as a whole to the claimed “*first receiver module*,” or mapping

“Mackintosh’s computer, which includes ‘communications interface 724’” to the “*first receiver module*,” or only mapping “communications interface 724” to the “*first receiver module*.” It is also not clear that when Petitioner uses the term “Mackintosh’s computer” whether Petitioner is referring to Mackintosh’s “user terminal 212” or Mackintosh’s “computer system 702”.

Second, Petitioner’s identification of the claimed “*second receiver module*” is confusing. In the Petition, Petitioner asserts that a person of ordinary skill in the art “would have understood that the communication interface of Mackintosh’s user terminal/computer corresponds to the claimed ‘second receiver module.’” Pet. 32 (citing Ex. 1003 ¶ 86). But here, Petitioner does not identify Mackintosh’s “communication interface,” “user terminal,” or “computer” by using Mackintosh’s identifying numerals such as “communication interface 724,” “user terminal 212,” or “computer system 702,” which would help clarify exactly which components of Mackintosh’s disclosure Petitioner is mapping to the claimed “*second receiver module*” and how these components relate to and interact with each other. *See, e.g.*, Ex. 1004, Figs. 5, 13.

But even Petitioner and its expert, Dr. Williams, seem confused as to exactly which components of Mackintosh’s disclosure they are using to map to the claimed “*second receiver module*.” In an effort to clarify some of the ambiguity in the record, the Board requested post-hearing briefing from the parties, asking the parties to specifically “identify where in the substantive papers [they] argued that Mackintosh does, or does not, disclose a ‘*first receiver module*’ and a ‘*second receiver module*,’ and provide a brief summary of the evidence of record [they] cited in support of those arguments,” among other things. *See, e.g.*, Paper 47, 6–7. Here, Petitioner responded by stating that “Mackintosh’s computer 702 discloses the claimed

'first receiver module,'” and “Mackintosh’s communications interface 724 corresponds to the *'second receiver module.'*” Paper 50, 6–7.

Petitioner’s post-hearing identification of “Mackintosh’s computer 702” as the claimed *“first receiver module”* and “Mackintosh’s communications interface 724” as the claimed *“second receiver module,”* however, directly conflicts with Petitioner’s expert testimony where Dr. Williams identifies Mackintosh’s “communications interface” as the claimed *“first receiver module”* and *“second receiver module.”*

During his deposition, Dr. Williams testified as follows:

Q. Yes. I was directing your attention to page 40 of your '081 declaration with respect to limitation 9[c]. Are you there?

A. Yes.

Q. With reference to this section, and any of the preceding sections, what constitutes in your opinion the first receiver module in Mackintosh?

A. So as I discussed in paragraph 74 of my '081 report, *the first receiver module would correspond to the communications interface* and that's configured to receive broadcast material that corresponds to the first media content. And program materials corresponds to the claim data enabling the identification of a specific instance of the first media content from a first broadcast medium.

So, again, as we've discussed throughout the day, the receiver is the -- it is the hardware and software that takes

the information off of the modulated signal that was used to communicate to that -- that receiver and presents that information to the user. So it's the entire process.

Q. And then what constitutes the second receiver module in Mackintosh?

A. So *the communications interface of Mackintosh's computer corresponds to the claimed second receiver module* which has -- as I explained previously -- include all the hardware and software required to perform the task of taking that information from the modulated stream and presenting it to the user. So it's all the way through the -- the receiving process.

And as I pointed out in 9[c], the -- it includes elements of the computer in Mackintosh.

Ex. 2020, 159:15–161:13 (emphasis added).⁵

The record is confusing. Is it, as Petitioner states in its post-hearing brief, that “Mackintosh’s computer 702 discloses the claimed ‘*first receiver module*,’” and “Mackintosh’s communications interface 724 corresponds to the ‘*second receiver module*’”? Paper 50, 6–7. Or is it as Petitioner’s expert, Dr. Williams, testifies at deposition, that “the first receiver module would correspond to the communications interface,” and “the communications interface of Mackintosh's computer corresponds to the

⁵ Dr. Williams’ testimony is also at odds with Petitioner’s Reply, where Petitioner alleges that Patent Owner “incorrectly argues that the Petition relies on Mackintosh’s communication interface to disclose the first and second receiver modules—which it does not.” Pet. Reply 14.

claimed second receiver module”? Ex. 2020, 160–161. Simply put, based on this record, we cannot tell. *See Microsoft Corp. v. FG SRC, LLC*, 860 F. App’x 708, 713 (Fed. Cir. June 17, 2021) (non-precedential) (“It is not the Board’s job to cobble together assertions from different sections of a petition or citations of various exhibits in order to infer every possible permutation of a petitioner’s arguments. Arguments in a petition must be made with particularity, not opacity . . .”).

This is not to say that a single feature or element of a prior art reference cannot satisfy more than one limitation. Indeed, in our Institution Decision we pointed out to the parties that the ’081 Patent specification explains that in general its use of the word “module” refers to logic embodied in hardware and/or software instructions that may be combined with other modules, and are not necessarily separate physical components as Patent Owner asserted. *See* Dec. 43–44. We even invited the parties to address the issue in their subsequent briefing of whether a single feature or element of a reference, such as Mackintosh’s “communication interface,” may satisfy more than one limitation of claim 9 of the ’081 Patent. *See id.* at 44 n.7. We cannot tell whether the parties accepted our invitation.

But even if we were somehow able to discern that Petitioner is indeed relying on Mackintosh’s communication interface 724 to disclose both the claimed “*first receiver module*” and “*second receiver module*” of claim 9, which we cannot based on this record, Petitioner does not provide a persuasive explanation as to how Mackintosh’s communication interface 724 accomplishes this task such that one of ordinary skill in the art would reasonably understand or infer that Mackintosh clearly and unequivocally discloses two receiver modules. *Net MoneyIN*, 545 F.3d at 1371; *Dayco*, 329 F.3d at 1368.

Based on the record, Petitioner has not demonstrated that Mackintosh discloses the claimed “*first receiver module*” and “*second receiver module*” of independent claim 9. Because we find that Petitioner has not demonstrated Mackintosh’s disclosure of a “*first receiver module*” and a “*second receiver module*,” we do not reach the other limitations of claim 9.

iv. Petitioner’s alternative disclosure

In its Reply, Petitioner argues that “[e]ven if [Patent Owner’s] erroneous interpretation were adopted, Mackintosh still discloses two distinct receiver modules.” Pet. Reply 14 (citing Ex. 1004, 19:59–20:22, Fig. 8; Ex. 1003 ¶¶ 88–89; Ex. 1016 ¶¶ 40–41). “For example,” Petitioner argues, “and in direct response to [Patent Owner’s] unsupported claim interpretation, Mackintosh discloses a ‘player’ that ‘includes several modules for receiving materials, coordinating materials, and playing the materials via the player.’” Pet. Reply 14 (citing Ex. 1004, 19:63–66, Fig. 8 (emphasis omitted)).

The problem with Petitioner’s alternative disclosure is two-fold. First, it is late. If Petitioner had wanted to argue an alternative disclosure in Mackintosh to demonstrate how Mackintosh anticipates the challenged claims, Petitioner could have included this disclosure of Mackintosh’s “player” in the Petition. It did not. *See* 37 C.F.R. § 42.23(b) (“A reply may only respond to arguments raised in the corresponding . . . patent owner response, or decision on institution.”); *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 775 (Fed. Cir. 2018) (concluding that the Board did not abuse its discretion in refusing to consider portions of a reply declaration “rais[ing] a new obviousness argument for [a claim] limitation that could have been made in the petition” but was not); *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016)

(concluding that the Board did not abuse its discretion in refusing to consider reply brief arguments advocating a “new theory” of unpatentability under 37 C.F.R. § 42.23(b)); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), 74, *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“‘Respond,’ in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing. While replies . . . can help crystalize issues for decision, a reply . . . that raises a new issue or belatedly presents evidence may not be considered.”).

Second, even if we were to consider this late disclosure of Mackintosh’s “player,” it is substantively deficient as well. For example, Petitioner cites the alternative disclosure of a “player” that “includes several modules for receiving materials, coordinating materials, and playing the materials via the player.” Pet. Reply 14 (citing Ex. 1004, 19:63–66, Fig. 8) (emphasis omitted); *see also id.* at 17 (citing Ex. 1004, 20:10–13, 20:23–31). Petitioner provides this alternative disclosure of a “player” because Patent Owner argues that claim 9 requires “two distinct receiver modules.” *Id.* But claim 9 contains many more limitations than just two “receiver module[s].”

For example, the first receiver module of the “player” would need to be “configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium,” and the second receiver module of the “player” would need to be “configured to receive at least a second media signal content and uniquely identifying data specific to at least the second media content, the second media content received discretely from the first media content.” *See* Ex. 1001, 35:22–31. In addition, there are limitations directed to an output system concerning the first and second receiver modules, as well as an input

module limitation and a transmitting module limitation. *See* Ex. 1001, 35:32–47. Petitioner’s Reply, however, never maps the alternative “player” to claim 9’s other limitations to demonstrate that claim 9 is unpatentable under 35 U.S.C. § 102(b), as Patent Owner correctly points out. *See* PO Sur-reply 11; *see also* Ex. 2022, 37:3–8, 39:15–21 (Dr. Williams testifying that he “ha[s] not expressed an opinion” as to what would map to the output limitation of claim 9 under Petitioner’s alternative theory).

For these reasons, we find Petitioner’s alternative disclosure of a “player” to be deficient.

v. *Conclusion on Independent Claim 9*

Based upon consideration of the entire record, we are not persuaded by Petitioner’s arguments and evidence and determine that Petitioner has not demonstrated by a preponderance of the evidence that Mackintosh anticipates independent claim 9 under 35 U.S.C. § 102(b).

2. *Dependent Claims 10, 11, and 23*

Petitioner contends that Mackintosh anticipates dependent claims 10, 11, and 23 under 35 U.S.C. § 102(b). *See* Pet. 47–49 (claim 10), 49–51 (claim 11), and 52 (claim 23). Claims 10, 11, and 23 each depend directly from independent claim 9. Because Petitioner has not established that Mackintosh discloses all of the limitations of independent claim 9, Petitioner cannot establish that Mackintosh discloses all the limitations of dependent claims 10, 11, and 23.

Based upon consideration of the entire record, we are not persuaded by Petitioner’s arguments and evidence and determine that Petitioner has not demonstrated by a preponderance of the evidence that Mackintosh anticipates dependent claims 10, 11, and 23 under 35 U.S.C. § 102(b).

E. Obviousness over Mackintosh

Petitioner contends claims 9–11 and 23 are unpatentable as obvious under 35 U.S.C. § 103(a) over Mackintosh. Pet. 52–53.

Petitioner argues that “it would have been obvious to a [person of ordinary skill in the art] to combine the features from the various embodiments [of Mackintosh], and a [person of ordinary skill in the art] would have had a reasonable expectation of success in doing so, as it would have been nothing more than routine design and implementation to apply various configurations.” *Id.* (citing Pet. § V.B.1.9[f]; Ex. 1003 ¶ 114).

Petitioner also argues that “[t]he features of Mackintosh’s invention are additive and compatible with each other, and Mackintosh itself explicitly characterizes its various disclosures as, *e.g.*, ‘specific application[s] of this generalized system.’” Pet. 53 (citing Ex. 1004, 8:17–21, 19:1–7, 19:55–61; Ex. 1003 ¶ 115). Petitioner concludes that “a [person of ordinary skill in the art] would have found the motivation to combine various embodiments of Mackintosh’s invention (to the extent they are found to be distinct embodiments at all, and not exemplary applications of the invention as a whole) within Mackintosh itself.” Pet. 53 (citing Ex. 1003 ¶ 116).

Patent Owner argues that the Petition fails to address adequately certain of the factual inquiries articulated in *Graham* that are necessary to make an obviousness determination, including: (1) the scope and content of the prior art; and (2) any differences between the claimed subject matter and the prior art. PO Resp. 51–55 (citing *Graham*, 383 U.S. 17–18).

With respect to the first *Graham* factor, Patent Owner asserts that the Petition’s “obviousness analysis provides no specificity regarding what is taught in the prior art.” *Id.* at 52. Patent Owner argues the Petition “only makes conclusory remarks that the various embodiments taught in

Mackintosh would have been combinable,” and Petitioner only “generically states that it may be possible to use features from different embodiments or applications within Mackintosh.” *Id.* at 53 (citing Pet. 80).

With respect to the second *Graham* factor, Patent Owner argues that the Petition does not “point to any claim limitation at all, let alone refer to any disclosure in [Mackintosh] that allegedly map[s] to any claim limitation. Nor does Petitioner explain what the difference is between the reference and the claim, as required by this factor.” *Id.* at 53–54.

In its Reply, Petitioner does not respond to Patent Owner’s arguments concerning Petitioner’s lack of analysis and evidence of obviousness. *See* Pet. Reply *passim*.

We agree with Patent Owner. Petitioner’s obviousness analysis is deficient in that it does not provide an adequate articulation of the necessary factual analysis set forth in *Graham*. For example, the Petition’s obviousness analysis does not articulate what differences exist between the claimed subject matter and Mackintosh’s teachings, which of Mackintosh’s embodiments would need to be modified or combined in order to meet the claim limitations, how Mackintosh’s embodiments would have been modified or combined, and why such a modification or combination would have been desirable to one of skill in the art at the time of the claimed invention. Petitioner’s conclusory statements with respect to obviousness, without more, are irreparably lacking in detail.

Based upon consideration of the entire record, we are not persuaded by Petitioner’s arguments and evidence and determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 9–11 and 23 are unpatentable as obvious under 35 U.S.C. § 103(a) over Mackintosh.

F. Anticipation by DeWeese

Petitioner contends that DeWeese anticipates claims 9–11 and 23 under 35 U.S.C. § 102(b). Pet. 53–80; Pet. Reply 21–28. Patent Owner argues that DeWeese fails to disclose all the recited limitations of the challenged claims. PO Resp. 38–48; PO Sur-reply 18–23. Claim 9 is the only challenged independent claim. The remaining challenged claims, 10, 11, and 23, all depend from claim 9. We first discuss independent claim 9.

1. Independent Claim 9

In response to Patent Owner’s evidence and arguments that DeWeese anticipates independent claim 9 of the ’081 Patent (*see* Pet. 53–75), Patent Owner argues that DeWeese fails to disclose specific limitations recited by claim 9 (*see* PO Resp. 38–46). These contested limitations include portions of limitations 9[a]: “*data enabling identification of a specific instance of the first media content*”; 9[b]: “*a second receiver module configured to receive . . . the second media content*”; 9[c]: “*the second media content received discretely from the first media content*”; and 9[d]: “*an output of the first receiver module or the second receiver module*”.

We begin with a review of Petitioner’s evidence and arguments with respect to limitation 9[a] “*a first receiver module . . .*” and 9[b] “*a second receiver module . . .*” and then consider Patent Owner’s evidence and arguments concerning the contested limitations of claim 9.⁶

⁶ We have considered the entire record and determine that for the uncontested limitations of claim 9, that Petitioner has established that DeWeese’s disclosure satisfies those limitations.

- i. *Limitation 9[a]: a first receiver module configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium*

For limitation 9[a], Petitioner asserts that

DeWeese's "set-top box 26" corresponds to the claimed "first receiver module"; and, set-top box 26 is both configured to receive "television programming," which corresponds to the claimed "first media content ... from a broadcast medium," and configured to receive "program guide data," which corresponds to the claimed "data enabling the identification of a specific instance of the first media content from a first broadcast medium."

Pet. 58–59 (citing Ex. 1003 ¶ 124).

Petitioner provides DeWeese's Figure 1A, shown below.

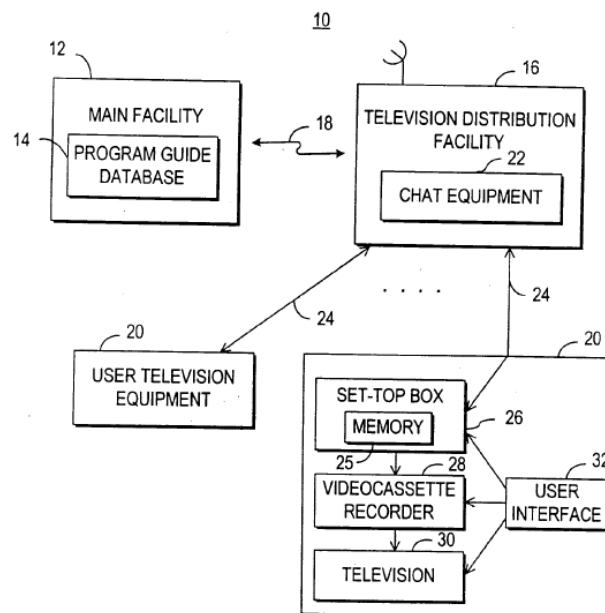


FIG. 1A

DeWeese's Figure 1A, above, is a diagram of a television chat system. Petitioner explains that Figure 1A

illustrates DeWeese's "television chat system 10," which includes a "television distribution facility 16," "communication paths 24," and "user television equipment 20." Ex. 1005, ¶¶51, 55, Fig. 1A; Ex. 1003, ¶122. User television equipment 20 includes a "set-top box 26." Ex. 1005, ¶56; Ex. 1003, ¶122. DeWeese discloses that "television and audio channels (analog, digital, or both analog and digital) may be provided to set-top boxes 26 via communications paths 24." Ex. 1005, ¶56; Ex. 1003, ¶122. "Communication paths 24 ... allow television distribution facility 16 to distribute scheduled television programming, pay programming ... to user television equipment 20 in addition to non-video program guide information and communications."

Pet. 57 (citing Ex. 1005 ¶ 55; Ex. 1003 ¶ 122).

Petitioner goes on to explain that "DeWeese's figure 1A also illustrates that television chat system 10 includes a main facility 16 that sends program guide information to television distribution facility 16, which in turn distributes 'program guide data and other information to the user television equipment 20 of multiple users via communications paths 24'" and that "DeWeese further discloses that 'program guide information . . . includes television program listings data such as program times, channels, titles, descriptions, etc.'" Pet 57–58 (citing Ex. 1005 ¶¶ 51, 53, 55; Ex. 1003 ¶ 123).

According to Petitioner, "DeWeese further discloses that 'program guide information . . . includes television program listings data such as program times, channels, titles, descriptions, etc.'" Pet. 58 (citing Ex. 1005 ¶ 53; Ex. 1003 ¶ 123). Petitioner argues that a person of ordinary skill in the art "would have found that DeWeese's 'program guide data' enables the identification of a specific instance of a television program." Pet. 58.

- ii. *Limitation 9[b]: a second receiver module configured to receive at least a second media signal content and uniquely identifying data specific to at least the second media content*

For limitation 9[b], Petitioner asserts that “DeWeese’s ‘DOCSIS modem’ corresponds to the claimed ‘second receiver module’.” Pet. 63 (citing Ex. 1005 ¶¶ 58–59; Ex. 1003 ¶ 131). According to Petitioner, “[t]he DOCSIS modem is configured to receive ‘real-time communications and chat requests,’ which correspond to the claimed ‘second media content’.” Pet. 63 (citing Ex. 1005 ¶¶ 58–59, Fig. 9; Ex. 1003 ¶ 131).

Petitioner asserts that the “DOCSIS modem is also configured to receive a ‘unique user identification code’ associated with the real-time communications and chat requests, which code uniquely identifies a particular communication or request within the context of the chat session associated with the specific instance of the program being played.” Pet. 63 (citing Ex. 1005 ¶¶ 76, 141; Ex. 1003 ¶ 131). “Therefore,” Petitioner argues, “the ‘unique user identification code’ corresponds to the claimed ‘uniquely identifying data specific to at least the second media content’.” Pet. 63–64 (citing Ex. 1003 ¶ 131).

Referring to DeWeese’s Figure 1A, shown above, Petitioner explains that

DeWeese’s television chat system 10, which includes a “chat equipment 22 such as a chat server,” “communication paths 24,” and “user television equipment 20.” Ex. 1005, ¶¶ 51, 57, Fig. 1A; Ex. 1003, ¶ 125. User television equipment 20 includes a “set-top box 26,” which “may include a DOCSIS modem for use in two-way communication to and from a server or television distribution facility.” Ex. 1005, ¶¶ 56, 59; Ex. 1003, ¶ 125. Moreover, “chat equipment 22 (e.g., a chat server) is capable of handling real-time communications and chat requests involving text, graphics, video, or audio data.”

Pet. 59 (citing Ex. 1005 ¶ 58; Ex. 1003 ¶ 125).

Petitioner also explains that

DeWeese discloses that “[c]ommunication paths 24 ... allow television distribution facility 16 to distribute ... real-time communications [and] chat requests and other video and audio information to user television equipment 20....” Ex. 1005, ¶55; Ex. 1003, ¶126. “The real-time communications supported by communication paths 24 may be text-based or, if more bandwidth is available, may be audio or video communications.”

Pet. 60 (citing Ex. 1005 ¶ 55; Ex. 1003 ¶ 126).

Petitioner further explains that

DeWeese discloses that set-top box 26: may present a “chat request on the recipient’s television screen if the recipient user is watching the television program related to the chat request”; may “notify the user of chat request[s] sent by certain individuals”; and may “display incoming chat requests on the television based upon the user’s indicated preferences.”

Pet. 61 (citing Ex. 1005 ¶ 131; Ex. 1003 ¶ 127).

Petitioner provides an annotated version of DeWeese’s Figure 4, below.

120

ENTER USER PROFILE:

121

NAME RICHARD

138

USER ID 10

122

FAVORITE PROGRAMS DATELINE

124

MORE ▾

126

FAVORITE CHANNELS ABC - W

130

MORE ▾

132

FAVORITE CATEGORIES OF PROGRAMS MOVIES

136

MORE ▾

133

NICK NAME DUKE

140

DONE

FIG. 4

DeWeese's Figure 4, above, annotated by Petitioner, shows a display screen for entering household user profile information. According to Petitioner,

each user of television chat system 10 has a "unique user identification code (displayed in box 138 [annotated by a red box]), to help the system distinguish the user from other user's [sic] at the same user television equipment device when receiving a real-time communication or chat request from the outside. In this way real-time communications and chat requests can be directed to specific users." Ex. 1005, ¶76 (emphasis added); Ex. 1003, ¶128. DeWeese also discloses that "screen 120 may provide the user with an opportunity to enter a[n] icon that identifies the user in the chat room[.]"

Pet. 61 (citing Ex. 1005 ¶ 76; Ex. 1003 ¶ 128).

Petitioner also provides DeWeese's Figure 9, below.

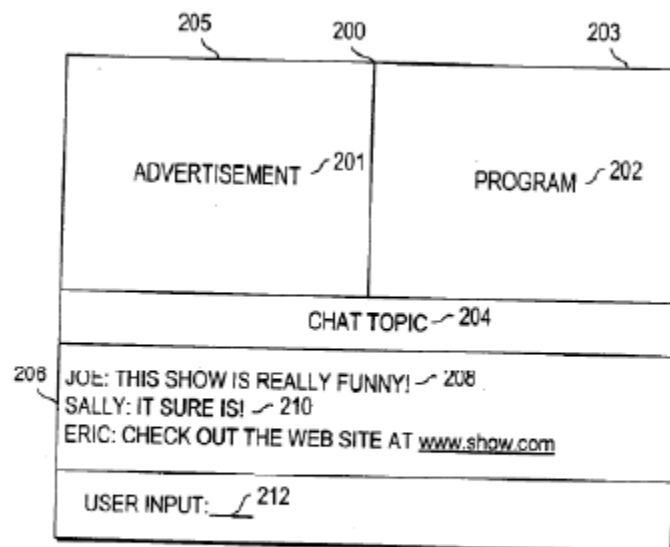


FIG. 9

DeWeese's Figure 9, above, depicts an illustrative display screen containing video for a television program and a chat group display region related to the program. According to Petitioner, as shown in Figure 9,

“[t]elevision program 202 may be displayed ... while a chat room region 206 [is] displayed....” Ex. 1005, ¶93; Ex. 1003, ¶130. “Participants in the chat room send chat messages [208 and 210]” to a chat server, such as chat equipment 22, which then transmits the chat messages 208 and 210 to other users’ devices to “appear in region 206.”

Pet. 62 (citing Ex. 1005 ¶¶ 93, 94; Ex. 1003 ¶ 130).

- iii. *Patent Owner argues that DeWeese fails to disclose a second receiver module where the second media content is received discretely from the first media content*

As discussed above, Petitioner asserts that DeWeese’s “set-top box 26” corresponds to the claimed “*first receiver module*,” and that set-top box 26 is configured to receive “television programming,” which corresponds to the claimed “*first media content*”. Pet. 58–59 (citing Ex. 1003 ¶ 124).

Petitioner also asserts that DeWeese’s “DOCSIS modem” corresponds to the claimed “*second receiver module*” and that “[t]he DOCSIS modem is configured to receive ‘real-time communications and chat requests,’” which correspond to the claimed “*second media content*”. Pet. 63 (citing Ex. 1005 ¶¶ 58–59; Ex. 1003 ¶ 131).

Patent Owner, however, disputes whether DeWeese discloses a second receiver module where the second media content is received discretely from the first media content. PO Resp. 39–41, 44–46. Patent Owner argues that “DeWeese provides no detail on the DOCSIS modem to suggest that the modem receives the alleged *second media content*,” and that “DeWeese makes clear that real-time communications are sent through communication path 24 of the set-top box (*i.e.*, Petitioner’s asserted *first receiver module*).” PO Resp. 39–40 (citing Ex. 2019 ¶¶ 101–102).

Patent Owner argues that “the ‘DOCSIS modem’ is mentioned only once in DeWeese,” where “DeWeese explains ‘set-top box may include a

DOCSIS modem for use in two-way communication to and from a server or television distribution facility.” PO Resp. 40 (citing Ex. 1005 ¶ 59; Ex. 2019 ¶ 101). Patent Owner points out that “DeWeese does not state that the DOCSIS modem receives ‘real-time communications or chat requests,’ nor does it offer any detail on what the DOCSIS modem receives or how the DOCSIS modem interacts with the device to output the media content.” *Id.* (citing Ex. 2019 ¶ 101).

Patent Owner points out that “DeWeese describes the real-time communications are received by the ‘communication paths 24,’” not the DOCSIS modem as Petitioner asserts. PO Resp. 40–41 (citing Ex. 2019 ¶ 102).

Patent Owner also argues that

Petitioner’s expert, Dr. Williams, admitted at his deposition that he relied on the same components of DeWeese as both the *first receiver module* and the *second receiver module*. Dr. Williams testified that the DOCSIS modem is a “part of the receiver” and that the receiver the DOCSIS modem is a part of is the “set-top box 26.” EX2020, 102:24-105:7. Similarly, Dr. Williams testified that the DOCSIS modem also received the real-time communications (Petitioner’s alleged *second media content*) as part of the larger receiver, “set-top box 26.”

PO Resp. 40 (citing Ex. 2020, 105:15–106:17).

Patent Owner argues that “DeWeese does not describe how the television programming (Petitioner’s alleged *first media content*) and the real-time communications or chat requests (Petitioner’s alleged *second media content*) are received by the user television device.” PO Resp. 44–45 (citing Ex. 2019 ¶ 113). Patent Owner also argues that “Petitioner’s expert at deposition identified the DOCSIS modem as corresponding to both the first receiver module and the second receiver module.” PO Resp. 45 (citing Ex. 2020, 103:14–19, 105:15–25).

Patent Owner argues, “[t]here is nothing in Petitioner’s explanation that shows that DeWeese’s “television programming” and “real-time communications” or “chat requests” are received in separate signals.” PO Resp. 46 (citing Ex. 2019 ¶ 117). “If anything,” Patent Owner argues, “Petitioner’s arguments suggest the *first* and *second media content* are received together and not discretely.” PO Resp. 46 (citing Ex. 2019 ¶ 117).

We agree with Petitioner. Here, Petitioner explains that DeWeese’s “set-top box 26” includes a “DOCSIS modem for use in two-way communication to and from a server,” such as chat server 22, over communication path 24. *See* Pet. 59–64; Ex. 1005 ¶ 59. Because DeWeese explains that its DOCSIS modem is “for use in two-way communication to and from a server,” a person of ordinary skill in the art would reasonably infer that such a server would include DeWeese’s “chat server,” which is a part of DeWeese’s “chat equipment 22” that is capable of handling real-time communications and chat requests involving text, graphics, video, and audio data. Ex. 1005 ¶ 58.

DeWeese also explains that

[c]ommunication paths 24 preferably have sufficient bandwidth to allow television distribution facility 16 to distribute scheduled television programming, pay programming, *real-time communications*, *chat requests* and other video and audio information to user television equipment 20 in addition to non-video program guide information and communications. *The real-time communications supported by communication paths 24 may be text-based.*

Id. ¶ 55 (emphasis added).

With respect to Patent Owner’s argument that DeWeese’s DOCSIS modem (Petitioner’s “second receiver module”) may be housed within DeWeese’s set-top box 26, we have already rejected Patent Owner’s

argument that the two receiver modules recited in claim 9 must be “separate and distinct” from each other, i.e. two physically separate modules or devices. *See* Section II.B.3. There is nothing in claim 9, or in the ’081 Patent specification, that would require such a physical separation between the two recited receiver modules. On the contrary, we have already pointed out that the ’081 Patent specification explains that “the word ‘module’ . . . refers to logic embodied in hardware and/or firmware, and/or a collection of software instructions, possible having entry and/or exit points, written in a programming language” and that “software modules may be callable from other modules and/or from themselves” and logical modules “may be combined with other modules or divided into sub-modules despite their physical organization or storage.” Ex. 1001, 6:47–7:8. Thus, we see nothing in claim 9 or the ’081 Patent that would preclude the second receiver module from being housed within the first receiver module, or vice-versa, as Patent Owner argues.

With respect to Patent Owner’s arguments that Dr. Williams relied on the same components of DeWeese as both the first receiver module and the second receiver module and that there is nothing in Petitioner’s explanation that shows that DeWeese’s television programming (“*first media content*”) and real-time communications or chat requests (“*second media content*”) are received as separate signals, we disagree.

Claim 9 recites in pertinent part “*the second media content received discretely from the first media content.*” Neither party sought construction of the claim term “*discretely*”. With respect to DeWeese, Dr. Williams explains that

“DOCSIS” refers to the “Data-Over-Cable Service Interface Specifications,” and that a “DOCSIS modem” receives television

and radio broadcasts over the same physical transmission medium with Internet Protocol (“IP”) data traffic, such as real-time communications; however, *the broadcast packets and the IP packets remain separate and distinct from one another* because the DOCSIS standard requires that each packet include a “header [that] identifies the payload as belonging to Data-Over-Cable ... [or] other payloads”—a technique known as “interleaving.”

Ex. 1003 ¶ 133 (citing Ex. 1008, 47) (emphasis added).

Dr. Williams goes on to explain that a person of ordinary skill in the art

would have understood that because of the distinct header associated with each piece of information, *each piece of information can be directed to either a separate physical electronic component within the set-top box or a separate software process in order to provide for discrete processing and/or presentation of information to the user.*

Ex. 1003 ¶ 134 (emphasis added).

Dr. Williams concludes that a person of ordinary skill in the art would have understood that set-top box 26 receives the “real-time communications,” which correspond to the claimed “second media content,” discretely from the “television programming,” which corresponds to the claimed “first media content.”

Ex. 1003 ¶ 135; *see also* Ex. 1016 ¶ 75 (explaining how the ’081

Patent characterizes time multiplexed signals as “discretely separated”). We credit the testimony of Dr. Williams regarding DeWeese and “*the second media content received discretely from the first media content.*”

Based upon the record before us, Petitioner has shown that one of ordinary skill in the art would reasonably understand or infer that DeWeese discloses a “*second receiver module*” where the “*second media content*” is received discretely from the “*first media content*”.

iv. Patent Owner argues that DeWeese fails to disclose data enabling identification of a specific instance of the first media content

Patent Owner argues that “DeWeese features a static identifier in the form of a ‘program guide’ provided for television viewers.” PO Resp. 38 (citing Ex. 1005 ¶ 53; Ex. 2019 ¶ 98). Patent Owner points out that “[t]he program guide data provides static information such as TV listings, program times, channels, and titles generated beforehand at the main facility.” PO Resp. 38–39 (citing Ex. 1005 ¶¶ 51, 53; Ex. 2019 ¶ 98).

In contrast, Patent Owner argues that “the ’081 patent permits identification of each occurrence by dynamically determining the data enabling the identification of a specific instance of the content at the time of broadcast.” PO Resp. 39 (citing Ex. 1001, 32:5–20; Ex. 2021, 10:4–42, 12:32–38, 14:31–34; Ex. 2019 ¶ 99). Patent Owner argues that “Petitioner does not identify anything in DeWeese showing that the program guide data is dynamically determined at the time of broadcast by the main facility.” PO Resp. 39 (citing Ex. 2019 ¶ 99).

Petitioner argues that there is no requirement in claim 9 that DeWeese’s program guide be “dynamically determined,” and that Patent Owner is improperly incorporating that limitation into the claim. Pet. Reply 21–22. Petitioner points out that Patent Owner “broadly cites the functionality of a ‘broadcast scanning system 160’ as described in the ’081 specification,” and that “no ‘broadcast scanning system’ or dynamic determination appears in claim 9.” Pet. Reply 22 (citing Ex. 1016 ¶ 61).

We agree with Petitioner. Claim 9 recites in pertinent part, “data enabling the identification of a specific instance of the first media content from a first broadcast medium.” Ex. 1001, 35:24–26. There is no requirement in claim 9 that the data be “dynamically determined” as Patent

Owner argues. We credit Dr. Williams’ testimony that a person of ordinary skill in the art “would have found that DeWeese’s “program guide data” enables the identification of a specific instance of a television program.”

Ex. 1003 ¶ 123; *see also* Ex. 1016 ¶¶ 60–63.

Based upon the record before us, Petitioner has shown that one of ordinary skill in the art would reasonably understand or infer that DeWeese discloses *data enabling identification of a specific instance of the first media content*.

- v. *Patent Owner argues that DeWeese fails to teach two receiver module outputs (an output of the first receiver module or the second receiver module)*

With respect to this limitation, Petitioner asserts that

DeWeese’s “user television equipment 20” corresponds to the claimed “output system,” which is configured to present concurrently “television program 202,” which corresponds to the claimed “first media content,” and “chat room messages 208 and 210,” which correspond to the claimed “second media content,” on “display screen 200,” which corresponds to the claimed “output of the first receiver module or the second receiver module.”

Pet. 68 (citing Ex. 1003 ¶ 139).

Petitioner provides Figure 9 from DeWeese, below.

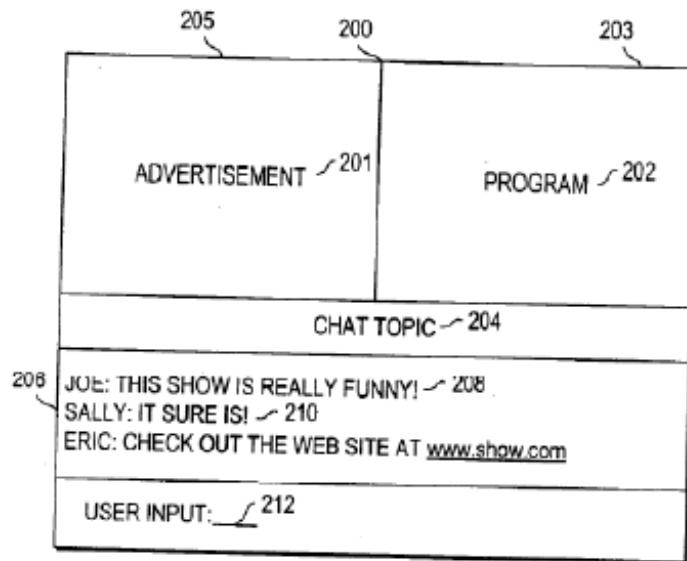


FIG. 9

DeWeese's Figure 9, shown above, depicts an illustrative display screen containing video for a television program and a chat group display region related to the program.

Petitioner explains that

DeWeese discloses that "user television equipment 20" includes a "set-top box 26[] connected to a television 30," as illustrated in figure 1A. Ex. 1005, ¶¶55, 65, Fig. 1A; Ex. 1003, ¶136. In one example, as illustrated in figure 9, reproduced [above], "[t]elevision program 202 may be displayed in region 203 of display screen 200, while a chat room region 206 may be displayed simultaneously in the lower portion of display screen 200." Ex. 1005, ¶93; Ex. 1003, ¶137. "Participants in the chat room send chat messages [208 and 210] which appear in region 206. A chat participant may send an HTML chat message such as a URL for a web site."

Pet. 66 (citing Ex. 1005 ¶ 93; Ex. 1003 ¶ 137).

According to Petitioner, DeWeese further explains, in connection with the example of figure 9, that

The divided nature of screen 200 allows users to simultaneously watch a television program and send real-time communications to other users who are viewing the same program at the same time. In this way, chat room 206 is directly linked to the on-going actions in program 202 in that a user can send and receive comments about the content of the program as it unfolds on his television screen.

Pet. 67 (citing Ex. 1005 ¶ 97; Ex. 1003 ¶ 138).

Patent Owner, however, argues that claim 9 “requires two outputs.” PO Resp. 42. According to Patent Owner, claim 9 “recites a structure of the claimed system: it must have a first “output” of the “first receiver module” and a second “output” of the “second receiver module.” *Id.* (citing Ex. 2019 ¶ 106). “Each output,” Patent Owner argues, “must have the capability of presenting—audibly, visibly or otherwise—media content.” PO Resp. 42 (citing Ex. 2019 ¶ 106).

“At most,” Patent Owner argues, “Petitioner has identified a single ‘output’—a television with a display.” PO Resp. 43 (citing Pet. 66–68; Ex. 2019 ¶ 107). “This ‘output,’” Patent Owner argues, “is capable of either individual or concurrent presentation of media, but it is still only a single ‘output.’” PO Resp. 43 (citing Ex. 2019 ¶ 107). Patent Owner argues that “Petitioner does not identify a second ‘output’ that is distinct from this first output.” *Id.* “For example,” Patent Owner argues, “there is no second device with its own separate display.” *Id.* “Petitioner cannot identify a second output,” Patent Owner argues, “because DeWeese does not disclose one.” *Id.*

We have construed the recited limitation of claim 9, “an output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module to mean either: 1) the output system must be able to present,

at the same time, both the first and the second media content on an output of the first receiver module; or 2) the output system must be able to present, at the same time, the first and the second media content on an output of the second receiver module.

With respect to DeWeese, the depiction in Figure 9, below, is instructive.

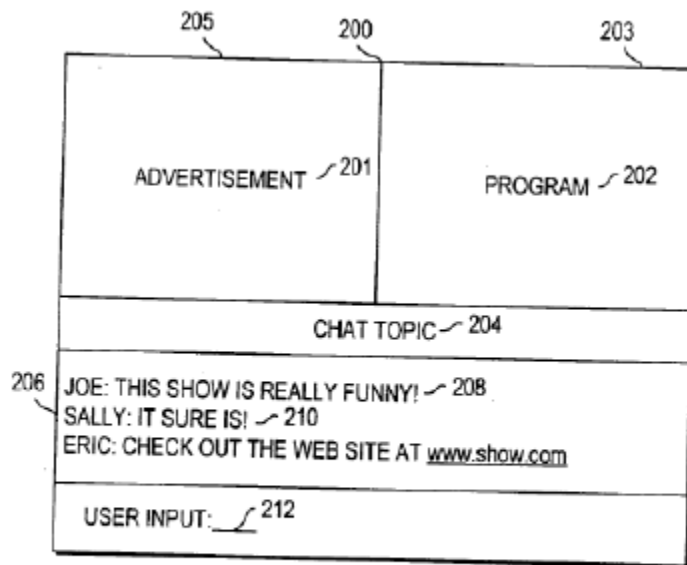


FIG. 9

With respect to DeWeese's Figure 9, shown above, Petitioner explains that "[t]elevision program 202 is displayed in region 203 of display screen 200, while chat room region 206 is displayed simultaneously in a lower portion of display screen 200." Pet. Reply. 26 (citing Ex. 1005 ¶ 93). DeWeese explains that "[t]he divided nature of screen 200 allows users to simultaneously watch a television program and send real-time communications to other users who are viewing the same program at the same time." Ex. 1005 ¶ 97. Thus, Petitioner argues, and we agree, "DeWeese's 'user television equipment 20' discloses the claimed 'output

system,’ and it is configured to concurrently present television program 202 (*‘first media content’*) and chat room messages 208 and 210, (*‘second media content’*) on its display screen 200 (*‘output of the first receiver module or the second receiver module’*). Pet. Reply 26 (citing Pet. 66–68; Ex. 1016 ¶¶ 70–71).

Petitioner persuades us that DeWeese satisfies at least one of the following alternatives: 1) the output system must be able to present, at the same time, both the first and the second media content on an output of the first receiver module; or 2) the output system must be able to present, at the same time, the first and the second media content on an output of the second receiver module.

As discussed above in Section II.B.4., because the receiving modules may be logical submodules of one another, and therefore not necessarily separate physical structures or components, it follows that their outputs may not necessarily be separate physical structures either, but may maintain their identity and distinction through the use of logic or software or other technical means.

In one alternative, DeWeese discloses that its user television equipment 20 is configured to present concurrently television program 202 (a *“first media content”*) and chat room messages 208 and 210 (a *“second media content”*) on an output of the asserted *“first receiver module”* (set-top box 26), in particular, display screen 200. *See, e.g.*, Ex. 1005 ¶¶ 93, 97, Fig. 9. Thus, DeWeese discloses the recited *“output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module.”*

vi. Conclusion on Independent Claim 9

Based upon consideration of the entire record, we are persuaded by Petitioner's arguments and evidence, notwithstanding Patent Owner's arguments and evidence, and determine that Petitioner has demonstrated by a preponderance of the evidence that DeWeese anticipates independent claim 9 under 35 U.S.C. § 102(b).

2. Dependent Claims 10, 11, and 23

Petitioner contends that DeWeese anticipates dependent claims 10, 11, and 23 under 35 U.S.C. § 102(b). *See* Pet. 76–80. Claims 10, 11, and 23 each depend directly from independent claim 9.

i. Dependent Claim 10

Dependent claim 10 recites, “[t]he system of claim 9 further comprising an output selection module configured to limit the output of the first and second media content based on a criterion.” Ex. 1001, 35: 42–44.

Petitioner argues that

DeWeese discloses that “the set-top box application may assist in ... filtering ... to ensure that the chat requests are only delivered to the appropriate users.” Ex. 1005, ¶134; Ex. 1003, ¶151. “For example, if a chat request is to be distributed to all users tuned to channel 4, the chat server at a television distribution facility may distribute a chat request to all users with information that specifies that the request is to be restricted to viewers whose set-top boxes are currently tuned to channel 4.... If the set-top box is not tuned to channel 4, the chat request is not displayed.” Ex. 1005, ¶134. In addition, each program can have “one or more *associated* chat sessions.” Ex. 1005, ¶¶64, 93, 97 (emphasis added); Ex. 1003, ¶151. Accordingly, a POSITA would have understood that the set-top box includes a channel tuner, and that the setting of the channel tuner limits the output of the television program (*i.e.*, which program is shown) and the *associated* chat session (including the chat messages therein).

Ex. 1003, ¶151. Specifically, the tuner turns off (or changes) the outputs of both media contents.

Pet. 76–77 (citing Ex. 1003 ¶ 151).

Petitioner also argues that

DeWeese’s “set-top box” includes a channel tuner, which corresponds to the claimed “output selection module,” and is configured to limit the output of the television program and chat requests, which corresponds to the claimed “limit[ing of] the output of the first and second media content based on a criterion.”

Pet. 77 (citing Ex. 1003 ¶ 152).

Patent Owner asserts that “claim 10 relates to limiting how the first and second media content is output, it is not directed to changing what media is output.” PO Resp. 46–47 (citing Ex. 2019 ¶¶ 119, 124). Patent Owner argues that

Petitioner does not rely on how DeWeese outputs the media content on the display screen. EX2019, ¶ 125. Instead, Petitioner contends that “a POSITA would have understood that the set-top box includes a channel tuner, and that the setting of the channel tuner limits the output of the television program (i.e., **which** program is shown) and the associated chat session (including the chat message therein).” Pet. 76 (emphasis omitted and added); EX2019, ¶ 125. Petitioner readily admits that it relies on “**which** program” is output rather than on how the program is output. EX2019, ¶ 125. This reliance was similarly confirmed by Petitioner’s expert during his deposition. EX2020, 109:4-110:8. Petitioner has not shown that the selection module limits the output of the media based on a criterion. Accordingly, Petitioner has failed to show that DeWeese teaches *limit[ing] the output of the first and second media content based on a criterion*.

PO Resp. 48 (citing Ex. 2019 ¶ 125).

We agree with Petitioner. Claim 10 does not require a showing of how the output is limited. Rather, claim 10 is satisfied when an output is limited “based on a criterion.”

DeWeese describes tuning the output to different channels, which would therefore limit the output of any previously viewed channels. *See* Ex. 1005 ¶¶ 134, 64, 93, 97. DeWeese explains that “[f]or example, if a chat request is to be distributed to all users tuned to channel 4 [and] the set-top box is not tuned to channel 4, the chat request is not displayed.” Ex. 1005 ¶ 134. When the set-top box is tuned to a different channel, the previous television programming and corresponding chat requests would no longer be output. The criterion would be whether the channel tuner switched to another channel. *See* Ex. 1016 ¶¶ 77–79. If so, the output of the first and second media content would be limited. Petitioner’s arguments are supported by the testimony of Dr. Williams. *See* Ex. 1003 ¶¶ 151–153.

Based upon consideration of the entire record, we are persuaded by Petitioner’s arguments and evidence, notwithstanding Patent Owner’s arguments and evidence, and determine that Petitioner has demonstrated by a preponderance of the evidence that DeWeese anticipates dependent claim 10 under 35 U.S.C. § 102(b).

ii. Dependent Claim 11

Dependent claim 11 recites, “[t]he system of claim 9 further comprising a computer storage device configured to store at least one of one the first and second media content.”

Petitioner argues that DeWeese discloses that “[r]eal-time communications can be stored on a chat server (e.g. located at a television distribution facility).” Pet. 77 (quoting Ex. 1005 ¶ 98). Petitioner argues that the “chat server” (or a sub-system thereof) corresponds to the claimed “computer storage device,” and is configured to store “real-time communications,” which corresponds to the claimed “second media content.” Pet. 77 (citing Ex. 1003 ¶ 154).

Petitioner argues DeWeese also discloses that each “set-top box 26 is typically connected to an optional videocassette recorder (VCR) 28 or other *storage device* in the home or at a remote location so that selected *television programs and/or chat sessions may be recorded*.” Pet. 78 (quoting Ex. 1005 ¶ 64 (emphasis added by Petitioner)). Petitioner argues that “[t]he ‘storage device’ (or a subsystem thereof) corresponds to the claimed ‘computer storage device,’ and is configured to store ‘television programs and/or chat sessions,’ which correspond to the claimed ‘first media content’ and ‘second media content,’ respectively.” Pet. 78 (citing Ex. 1003 ¶ 155).

Patent Owner does not contest Petitioner’s evidence with respect to claim 11, but merely argues that “because Petitioner has failed to demonstrate claim 9 is anticipated by DeWeese, Petitioner has not carried its burden that dependent claims 11 and 23 are anticipated by DeWeese.” PO Resp. 48 (citing Ex. 2019 ¶ 130).

We agree with Petitioner. Petitioner’s arguments are supported by the testimony of Dr. Williams. *See* Ex. 1003 ¶¶ 154–156.

Based upon consideration of the entire record, we are persuaded by Petitioner’s arguments and evidence and determine that Petitioner has demonstrated by a preponderance of the evidence that DeWeese anticipates dependent claim 11 under 35 U.S.C. § 102(b).

iii. Dependent Claim 23

Dependent claim 23 recites, “[t]he system of claim 9, wherein the response message includes data that enables identification of a responder.”

Petitioner argues that “DeWeese discloses the system of claim 9, wherein the response message includes data that enables identification of a responder.” Pet. 78 (citing Ex. 1003 ¶¶ 157–158). Petitioner argues that as shown in DeWeese’s Figure 4, “each user of television chat system 10 has a

unique user identification code (displayed in box 138), to help the system distinguish the user from other users at the same user television equipment device when receiving a real-time communication or chat request from the outside.” Pet. 78 (citing Ex. 1005 ¶ 76; Ex. 1003 ¶ 157). “In this way,” Petitioner argues, “real-time communications and chat requests can be directed to specific users.” Pet. 78 (citing Ex. 1005 ¶ 76).

Petitioner also argues with respect to DeWeese’s Figure 9, that “when a chat message is received at set-top box 26, the identity of the sender is also received.” Pet. 79 (citing Ex. 1005, Fig. 9; Ex. 1003 ¶ 158). Petitioner argues, a person of ordinary skill in the art “would therefore have understood that each response message includes data that enables the identification of a responder, for example, the user’s unique identification code 138, as further explained above in connection with limitation 9[b] and 9[f].” Pet. 79–80 (citing Ex. 1003 ¶ 158).

Patent Owner does not contest Petitioner’s evidence with respect to claim 23, but merely argues that “because Petitioner has failed to demonstrate claim 9 is anticipated by DeWeese, Petitioner has not carried its burden that dependent claims 11 and 23 are anticipated by DeWeese.” PO Resp. 48 (citing Ex. 2019 ¶ 130).

We agree with Petitioner. Petitioner’s arguments are supported by the testimony of Dr. Williams. *See* Ex. 1003 ¶¶ 157–159.

Based upon consideration of the entire record, we are persuaded by Petitioner’s arguments and evidence and determine that Petitioner has demonstrated by a preponderance of the evidence that DeWeese anticipates dependent claim 23 under 35 U.S.C. § 102(b).

G. Obviousness over DeWeese

Petitioner contends that claims 9–11 and 23 are unpatentable as obvious under 35 U.S.C. § 103(a) over DeWeese. Pet. 80–81. Petitioner argues that “it would have been obvious to a [person of ordinary skill in the art] to combine the features from the various embodiments, and a [person of ordinary skill in the art] would have had a reasonable expectation of success in doing so, as it would have been nothing more than routine design and implementation to apply various configurations.” Pet. 80–81 (citing Pet. § V.B.1.9[f]; Ex. 1003 ¶ 160).

Petitioner also argues that the “features of DeWeese’s invention are additive and compatible with each other.” Pet. 81 (citing Ex. 1003 ¶ 161). Petitioner argues that a person of ordinary skill in the art “would have understood that the architecture of the generic television chat system 10 discussed with reference to figures 1A and 1B of DeWeese could implement the various embodiments of DeWeese.” *Id.* Petitioner concludes that a person of ordinary skill in the art “would have found the motivation to combine various embodiments of DeWeese’s invention (to the extent they are found to be distinct embodiments at all, and not exemplary applications of the invention as a whole) within DeWeese itself.” Pet. 81 (citing Ex. 1003 ¶ 162).

Patent Owner makes similar arguments against Petitioner’s showing of obviousness over DeWeese as it did for Mackintosh, which we discuss above in Section II.E. *See* PO Resp. 49–58.

In its Reply, Petitioner does not respond to Patent Owner’s arguments concerning Petitioner’s lack of analysis and evidence of obviousness. *See* Pet. Reply *passim*.

We agree with Patent Owner. Petitioner's obviousness analysis is deficient in that it does not provide an adequate articulation of the necessary factual analysis set forth in *Graham*. The Petition's obviousness analysis does not articulate what differences exist between the claimed subject matter and DeWeese's teachings, which of DeWeese's embodiments would need to be modified or combined in order to meet the claim limitations, how DeWeese's embodiments would have been modified or combined, and why such a modification or combination would have been desirable to one of ordinary skill in the art at the time of the claimed invention. Petitioner's conclusory statements with respect to obviousness, without more, are irreparably lacking in detail.

Based upon consideration of the entire record, we are not persuaded by Petitioner's arguments and evidence and determine that Petitioner has not demonstrated by a preponderance of the evidence that claims 9–11 and 23 are unpatentable as obvious under 35 U.S.C. § 103(a) over DeWeese.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 9–11 and 23 of U.S. Patent No. 8,166,081 B2 are unpatentable on the bases set forth in the following table.⁷

⁷ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Final Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related

Claims	35 U.S.C. §	References	Claims Shown Unpatentable	Claims Not Shown Unpatentable
9–11, 23	102(b)	Mackintosh		9–11, 23
9–11, 23	103(a)	Mackintosh		9–11, 23
9–11, 23	102(b)	DeWeese	9–11, 23	
9–11, 23	103(a)	DeWeese		9–11, 23
Overall Outcome			9–11, 23	

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that Petitioner has demonstrated by a preponderance of the evidence that claims 9–11 and 23 of U.S. Patent No. 8,166,081 B2 are unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, any party to the proceeding seeking judicial review of this Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA, INC.,
Petitioner,

v.

STRATOSAUDIO, INC.,
Patent Owner.

IPR2021-00721
Patent 8,166,081 B2

ARBES, *Administrative Patent Judge*, dissenting.

I join all aspects of the majority’s decision other than Section II.B.4, pertaining to interpretation of the “output” limitation of claim 9, and Section II.F, pertaining to Petitioner’s anticipation ground based on DeWeese. Because I would conclude that Petitioner has not met its burden to prove by a preponderance of the evidence that DeWeese anticipates claim 9, or claims 10, 11, and 23 depending therefrom, I respectfully dissent from the majority’s determination that the challenged claims are unpatentable on that basis.

Claim 9 recites “an output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module.” Patent Owner argues that the claim thereby “recites a *structural* limitation of the system: that the first

receiver module and the second receiver module each have a corresponding output,” where the system is configured to present concurrently the first and second media content “on one of these outputs.” PO Resp. 13–14, 31, 42 (emphasis added); PO Sur-reply 7, 20–21; Paper 49, 1–2. “In other words, both outputs must exist, and at least one must support concurrent presentation.” PO Sur-reply 7. Petitioner responds that because claim 9 uses the word “or,” the claim is “satisfied when a single system includes a first and second receiver module and outputs the first and second media content concurrently.” Pet. Reply 11–12, 25; Paper 50, 2. Thus, claim 9 in Petitioner’s view encompasses a single system that presents concurrently the two items of media content, whereas Patent Owner argues that the claim requires the system to have two outputs (with at least one capable of presenting concurrently the two items of media content). I agree with Patent Owner.

First, the plain language of claim 9 supports Patent Owner’s interpretation. Claim 9 recites “first” and “second” receiver modules configured to receive, respectively, “first” and “second” media content. The output system is configured to present concurrently those two items of media content on an output “of” the first receiver module or an output “of” the second receiver module. Thus, the system has (at least) two receiver modules, and each has its own output. The “or” in claim 9 applies to the concurrent presentation—the output system is configured to present concurrently the two items of media content on one output or on the other output, i.e., the output “of” the first receiver module or the output “of” the second receiver module. “Or” does not mean that there need not even be a second output. *See* Tr. 14:20–15:14 (Petitioner agreeing at the oral hearing

that claim 9 requires that “two outputs exist,” with “one output that is of the first module, and another output that is of the second module”); *but see id.* at 13:16–22 (Petitioner arguing that “a single device having a single output system . . . is sufficient”).

Petitioner’s reading of the claim focuses solely on the recited “output system” and, in effect, ignores the last clause of “on an output of the first receiver module or the second receiver module.” *See* Pet. Reply 11–12. Indeed, Petitioner’s reading, and its position regarding the prior art, would appear to be the same even if the claim omitted the last clause, or recited “on an output” rather than “on an output of the first receiver module or the second receiver module.” *See* PO Sur-reply 7. But that is not what Patent Owner claimed.¹ According to the plain language of claim 9, (1) the recited system must have two outputs, one for each of the two receiver modules, and (2) the two items of media content must be presented concurrently on at least one of those two outputs. I would give the last clause meaning and determine that the claim requires the system to have two outputs, one “of” the first receiver module and another “of” the second receiver module. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“[C]laims are interpreted with an eye toward giving effect to all terms in the claim.”); *Merck & Co., Inc. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”).

¹ Unlike claim 9, which recites an output “of” one receiver module and another output “of” a different module, claim 5 of the ’081 Patent recites “outputting” first and second media content “on the receiving system.”

Second, the Specification of the '081 Patent supports Patent Owner's interpretation. As shown in Figures 1–3, primary device 4 and ancillary device 5 can both receive first media signal 111 and advertisement media signal 113. Ex. 1001, 10:56–62, 12:30–35, 21:49–51. Primary device 4 and ancillary device 5 each have an output, and each can be capable of presenting the two signals “at the same time or substantially the same time.” *Id.* at 14:5–13, 14:27–31, Fig. 3 (depicting primary device 4 with a display screen output showing information from multiple signals). The Specification further indicates why it might be beneficial to choose one output over the other for doing so. For example, one device may have insufficient bandwidth or may be incapable of presenting certain media content. *See, e.g., id.* at 15:43–47 (“ancillary device 5 can comprise superior bandwidth, storage capacity, and/or processing power relative to the primary device 4”), 21:31–36 (“Other . . . output modules can be provided through a connection to an ancillary device 5. For example, if a media signal 114 and/or an advertisement media signal 113 cannot [be] viewed on the primary device 4, then a user can view the media signal 114 and/or the advertisement media signal 113 on an ancillary device 5.”), 25:20–29 (processing steps at media association system 2 “can reduce bandwidth requirements, restrict access to the related media signal 114, and allow it to be viewed on the primary and/or an ancillary devices 4, 5 capable of viewing media in a certain set of formats”). These disclosures in the Specification pertaining to two outputs with different capabilities are consistent with the claim's use of “or” as reflecting a choice between two different outputs in the system (one “of” the first receiver module and another “of” the second receiver module) for displaying the items of media content together.

Based on the language of claim 9 and Specification of the '081 Patent, I would interpret the “output” limitation to mean that the recited system has two outputs, one for each of the two receiver modules, and the first and second media content must be presented concurrently on at least one of those two outputs. I do not find expert testimony necessary to interpret the claim language, but to the extent relevant, would conclude for the reasons explained above that Dr. Moon’s testimony is consistent with the plain language and Specification, whereas Dr. Williams’s testimony is not. *See* Ex. 1016 ¶¶ 30–35; Ex. 2019 ¶¶ 38–39, 52–53.

Turning to Petitioner’s contentions regarding DeWeese, Petitioner explains in the Petition what components in DeWeese it is mapping to various limitations in claim 9. Pet. 53–75; *see also* Ex. 1020, 12 (table showing Petitioner’s mappings); Ex. 2023, 55 (visually depicting Petitioner’s mappings). Petitioner argues that “DeWeese’s ‘set-top box 26’ corresponds to the claimed ‘first receiver module’”; the “‘television programming’ . . . [received by set-top box 26] corresponds to the claimed ‘first media content’”; “DeWeese’s ‘DOCSIS modem’ corresponds to the claimed ‘second receiver module’”; and the “‘real-time communications and chat requests’ [received by the DOCSIS modem according to Petitioner] correspond to the claimed ‘second media content.’” Pet. 58–59, 63–64. In addressing the “output” limitation of claim 9, Petitioner first quotes various disclosures in DeWeese pertaining to set-top box 26, which displays television program 202 and chat room region 206 on display screen 200. *Id.* at 66–67 (citing Ex. 1005 ¶¶ 55, 65, 93, 97, Fig. 9). Petitioner then argues that

DeWeese’s “user television equipment 20” corresponds to the claimed “output system,” which is configured to present

concurrently “television program 202,” which corresponds to the claimed “first media content,” and “chat room messages 208 and 210,” which correspond to the claimed “second media content,” on “display screen 200,” which corresponds to the claimed “output of the first receiver module or the second receiver module.”

Id. at 68. Petitioner thus maps user television equipment 20 to the “output system” and display screen 200 to the “output of the first receiver module or the second receiver module.” *Id.*; Pet. Reply 25–27.

As explained above, I would interpret the “output” limitation to require that the system have two outputs. To prove anticipation of claim 9, Petitioner must establish that DeWeese discloses two outputs—one “of” the “first receiver module” (i.e., set-top box 26) and one “of” the “second receiver module” (i.e., the DOCSIS modem). And at least one of those outputs must present concurrently both the “first media content” (i.e., the television programming) and the “second media content” (i.e., the chat room messages). Petitioner, however, identifies a single output in DeWeese—display screen 200—which allegedly displays both items of media content. Petitioner never identifies any second output. Nor does Petitioner ever argue, for example, that a portion of display screen 200 constitutes the first recited output and another portion of display screen 200 constitutes the second recited output.² Petitioner identifies *only* display screen 200.

² Even assuming that the language of claim 9 could be read to permit some overlap between the first and second outputs, I do not see how it would permit *complete* overlap. In other words, it would not be sufficient in my view for Petitioner to point to a single structure—as Petitioner did here with display screen 200—and assert that it is both a first output of the first receiver module and a second output of the second receiver module. The claim recites two outputs of two different receiver modules, not “an output.”

See Pet. 68. I agree with Patent Owner and Dr. Moon that that failure is fatal to Petitioner’s anticipation ground.³ *See* PO Resp. 41–43; PO Sur-reply 20–21; Ex. 2019 ¶¶ 104–108.

Further, even if display screen 200 could be considered an output “of” the asserted “first receiver module” (i.e., set-top box 26), Petitioner identifies no output that could be considered “of” the asserted “second receiver module” (i.e., the DOCSIS modem). Indeed, it is unclear how a DOCSIS modem (mentioned in just a single paragraph of DeWeese) could have an output at all. *See* PO Resp. 43 (arguing that an output is simply “something capable of displaying media content to a user”); Ex. 1001, 18:28–30 (“The output device(s) may comprise a speaker, a display screen, a printer, and/or a voice synthesizer.”); Ex. 1005 ¶ 59.

It is Petitioner’s burden to prove unpatentability by a preponderance of the evidence, which includes proving that DeWeese discloses, expressly or inherently, the “output” limitation of claim 9. *See* 35 U.S.C. § 316(e); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378–79 (Fed. Cir. 2015) (“In an *inter partes* review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ . . . and that burden never shifts to the patentee. ‘Failure to prove the matter as required by the applicable standard means that the party with the burden of persuasion loses on that point’”). Based on the full record developed

³ Petitioner argued for the first time at the oral hearing that DeWeese’s speakers are another “output,” but acknowledged that the speakers are not “something that was identified in the Petition.” Tr. 76:14–77:17. That is a new theory not entitled to consideration. *See Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (holding that the Board is obligated under its own regulations to dismiss untimely argument “raised for the first time during oral argument”).

during trial, I would find that Petitioner has not shown sufficiently that DeWeese discloses the “output” limitation of claim 9,⁴ and, therefore, has not met its burden to prove by a preponderance of the evidence that DeWeese anticipates claims 9–11 and 23.

⁴ Accordingly, I would conclude that there is no need to address Patent Owner’s remaining arguments disputing Petitioner’s anticipation ground. *See* PO Resp. 38–41, 44–49; PO Sur-reply 18–20, 22–23; *supra* Section II.F.

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