

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE, INC.,
Petitioner,

v.

PERSONAL AUDIO LLC,
Patent Owner.

Case IPR2015-00846
Patent 7,509,178 B2

Before MITCHELL G. WEATHERLY, DAVID C. McKONE, and
BRIAN P. MURPHY, *Administrative Patent Judges*.

WEATHERLY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a), 37 C.F.R. § 42.73

I. INTRODUCTION

A. BACKGROUND

Google, Inc. (“Petitioner”)¹ filed a petition (Paper 6, “Pet.”) to institute an *inter partes* review of claims 1–9, 13–17, 28, and 29 (the “challenged claims”) of U.S. Patent No. 7,509,178 B2 (Ex. 1001, “the ’178 patent”). 35 U.S.C. § 311. Petitioner supported the Petition with a Declaration from Martin G. Walker PhD (Ex. 1002). Personal Audio LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 13 (“Prelim. Resp.”). On September 17, 2015, based on the record before us at the time, we instituted an *inter partes* review of claims 1–9, 13–17, 28, and 29. Paper 18 (“Institution Decision” or “Dec.”). We instituted the review on the following challenges to the claims:

References	Basis	Claims challenged
U.S. Patent Publication No. 2002/0177914 A1 (Ex. 1007, “Chase”) and Shoshana Loeb, <i>Architecting Personalized Delivery of Multimedia Information</i> , VOL. 35, NO. 12 COMMUNICATIONS OF THE ACM 39–48 (Dec. 1992) (Ex. 1011, “Loeb”)	§ 103	1–4, 9, and 13
Chase, Loeb, and U.S. Patent No. 4,811,315 (Ex. 1009, “Inazawa”)	§ 103	5, 6, 14–17, 28, and 29

¹ With our prior authorization, the parties filed joint motions to terminate the proceeding with respect to original petitioner Barnes & Noble, Inc., Paper 20, and original petitioners Lenovo (United States) Inc., Lenovo Holding Company, Inc., and Lenovo Group Ltd., Paper 22. We granted the motions and dismissed Barnes & Noble, Inc., Lenovo (United States) Inc., Lenovo Holding Company, Inc., and Lenovo Group Ltd. from the proceeding, which left Google, Inc. as the sole remaining petitioner. Paper 24.

References	Basis	Claims challenged
Chase, Loeb, Inazawa, and U.S. Patent No. 4,609,954 (Ex. 1010, “Bolton”)	§ 103	7 and 8

After we instituted this review, Patent Owner filed a Patent Owner Response in opposition to the Petition (Paper 29, “PO Resp.”) that was supported by a Declaration from Kevin C. Almeroth, PhD (Ex. 2016). Petitioner filed a corrected Reply in support of the Petition (Paper 31, “Reply”). Patent Owner did not move to amend any claim of the ’178 patent.

We heard oral argument on June 16, 2016. A transcript of the argument has been entered in the record (Paper 38, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons expressed below, we conclude that Petitioner has demonstrated by a preponderance of evidence that claims 1–4, 9, and 13 are unpatentable, but it has failed to do so for claims 5–8, 14–17, 28, and 29.

B. RELATED PROCEEDINGS

Petitioner identified as related matters the co-pending district court proceedings of *Personal Audio v. Acer America, et al.*, Case No. 1:14-cv-8-RC (E.D. Tex.) and *Personal Audio LLC v. Fuhu, Inc.*, Case No. 1:13-cv-513-RC (E.D. Tex.). Pet. 1. Petitioner also identified IPR2015-00500 and

IPR2015-00501² as related matters. *Id.* Patent Owner further identified as additional related matters the district court proceedings of *Personal Audio LLC v. Apple, Inc., et al.*, Case No. 9:09-cv-00111 (E.D. Tex.) (the “Apple Litigation”); *Personal Audio LLC v. Samsung Electronic Co., Ltd. et al.*, Case No. 1:11-cv-00432 (E.D. Tex.); and *Personal Audio LLC v. Amazon Digital Services, Inc., et al.*, Case No. 1:11-cv-00655 (E.D. Tex.).³ Paper 11, 2–3.

C. THE ’178 PATENT

The ’178 patent describes an audio program distribution system in which a host system organizes and transmits program segments to a player at a client subscriber location. Ex. 1001, Abstract. The player can be a laptop computer or personal computer with a mass storage device and sound reproduction components. *Id.* at 4:43–59.

A program includes compressed audio segments (e.g., MIDI files), text files, and image files. *Id.* at 5:57–6:21. These files are accompanied by a sequencing file, which contains the identification of highlighted passages and hypertext anchors within the program content, references to images, and the starting and ending temporal offsets in the audio presentation at which the display of an associated image(s) should begin and end. *Id.* at 6:22–31. The host server transmits (using file transfer protocol (FTP)) a download compilation file to the player. *Id.* at 6:60–64. The download compilation file identifies the program segments to be played during a session, which the

² IPR2015-00500 and -00501 were terminated due to a settlement on April 13, 2015. Paper 10 in IPR2015-00500; Paper 9 in IPR2015-00501.

³ According to Patent Owner, all three of these district court proceedings have been terminated. Paper 11, 2–3.

player can download or confirm that it already has in local storage, as well as a session schedule file (also referred to as a sequencing file or program sequence file). *Id.* at 8:38–53.

The program sequence file identifies the order in which downloaded program segments are to be played. *Id.* at 8:48–53. The recommended order can be based on user preference data collected by the server system. *Id.* at 8:51–53. Before a playback session begins, the user of the player can review and alter the provisional program selections and sequence. *Id.* at 8:54–57. The user can control playback using commands such as SKIP (causing the player to advance to the beginning of the next program segment) and BACK (operating like the SKIP command, but in the reverse direction). *Id.* at 15:25–63.

Claims 1 and 14, which are the independent claims among the challenged claims representative recite:

1. An audio program player comprising:

- a communications port for establishing a data communications link for downloading a plurality of separate digital compressed audio program files and a separate sequencing file from one or more server computers,
- a digital memory unit coupled to said communications port for persistently storing said separate digital compressed audio program files and said separate sequencing file, said sequencing file containing data specifying an ordered sequence of a collection of said separate digital compressed audio program files,
- an audio output unit including at least one speaker or headset for reproducing said audio program files in audible form perceptible to a listener,
- one or more manual controls for accepting commands from said listener, and

- a processor for continuously delivering a succession of said audio program files in said collection to said audio output unit in said ordered sequence specified by said sequencing file in the absence of a program selection command from said listener, and for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener.

Id. at 45:60–46:18.

14. An audio program player for automatically playing a collection of audio program files selected by a listener, said player comprising, in combination:

- a memory unit for storing:

- (a) a plurality of audio program files,
- (b) program description data including displayable text describing each of said audio program files, and
- (c) at least one separately stored playback session sequencing file which specifies an ordered sequence of a collection of said plurality of audio program files,

- a communications port for downloading at least some of said audio program files and said playback session sequencing file from said one or more server computers, at least some of said audio program files downloaded from said one or more server computers being selected by said listener from a library of audio program files available from said one or more server computers, and said audio program files in said collection specified by said playback session sequencing file being selected by or on behalf of said listener to produce a personalized playback session,

- one or more controls for accepting input commands from said listener,

- a display screen for presenting a visual menu listing to said listener containing displayable text describing some or all of

the audio program files in said collection specified by said sequencing file,

an audio playback unit for automatically and continuously reproducing said audio program files in said collection in the ordered sequence specified by said playback session sequencing file in the absence of a control command from said listener, and

a processor for executing one or more utility programs to perform control functions in response to said input commands from a user, said functions including:

- (a) in response to a first one of said input commands designating a selected audio program file described on said visual menu listing for causing said audio playback unit to discontinue the reproduction of the currently playing audio program file in said ordered sequence and to instead continue the reproduction at the beginning of said selected audio program file,
- (b) in response to a second one of said control commands for discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence specified by said playback session sequencing file,
- (c) in response to a third one of said control commands accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file, and
- (d) in response to said third one of said control commands accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program file and

instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence specified by said playback session sequencing file.

Id. at 48:1–67.

II. ANALYSIS

A. CLAIM INTERPRETATION

“A claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (affirming that USPTO has statutory authority to construe claims according to Rule 42.100(b)). When applying that standard, we interpret the claim language as it would be understood by one of ordinary skill in the art in light of the specification, and absent any special definition, we give claim terms their ordinary and customary meaning. *See In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007) (“The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question.” (internal quotation marks omitted)). Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

In our Institution Decision, we preliminarily interpreted the “processor for . . .” elements of claims 1 and 4 Dec. 7–8. After our Institution Decision, neither party identified any issues relating to our preliminary interpretation of the “processor for . . .,” and we discern no other reason to modify our interpretation. Accordingly, we maintain our

interpretation of the “processor for . . .” for the purposes of this Final Written Decision. Our interpretation is consistent with the findings of the District Court in the Apple Litigation, which interpreted the “processor for . . .” elements as recited in claims 1, 4, 5, 6, and 14 under 35 U.S.C. § 112, ¶ 6. Because the parties raise issues regarding the scope of terms introduced in claims 5, 6, and 14, we also adopt the District Court’s interpretation of those terms and the reasoning supporting those interpretations. The claim interpretations upon which we rely in resolving disputed issues are summarized in the table below.

Claim Term	Interpretation
Claim 1: “processor . . . for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener”	Function: in response to a “Go” command, discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 14, lines 25 to 26; column 14, lines 35 to 39; and column 34, line 19 to column 35, line 52. Specifically, this algorithm includes the following steps: (1) resetting the CurrentPlay variable to the record number of the

Claim Term	Interpretation
	listener-selected Selection_Record; and (2) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record. Ex. 1014, 17–18.
Claim 4: “said processor responds to a skip forward program selection command accepted from said listener by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently audio program file in said ordered sequence specified by said sequencing file”	Function: in response to a “Skip” command, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence specified by said sequencing file. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 15, lines 25 to 29 and column 34, line 19 to column 35, line 35. Specifically, this algorithm includes the following steps: (1) scanning forward in the sequencing file to locate the next Selection_Record of the appropriate LocType;

Claim Term	Interpretation
	(2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record. <i>Id.</i> at 18.
Claim 5: said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file.	Function: in response to a “Back” command accepted at a time when said currently playing audio program file has played for at least a predetermined amount of time, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has played for a predetermined amount of time, resetting the playback position to the beginning of the audio program file; and

Claim Term	Interpretation
	(2) playing the audio program file from its beginning. <i>Id.</i> at 18–19.
Claim 6: said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said sequencing file.	Function: in response to a “Back” command accepted at a time when said currently playing audio program file has not yet played for said predetermined amount of time, discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said sequencing file. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63 and column 34, line 19 to column 35, line 40. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has not yet played for said predetermined amount of time, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType;

Claim Term	Interpretation
	(2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record. <i>Id.</i> at 19–20.
Claim 14: A processor for executing one or more utility programs to perform control functions in response to said input commands from a user, said functions including: . . . (c) in response to a third one of said control commands accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file.	Function: (c) in response to a “Back” command accepted at a time when said currently playing audio program file has played for at least a predetermined amount of time, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has played for a predetermined amount of time, resetting the playback position to the beginning of the audio program file; and

Claim Term	Interpretation
	(2) playing the audio program file from its beginning. <i>Id.</i> at 23.
Claim 14: A processor for executing one or more utility programs to perform control functions in response to said input commands from a user, said functions including: . . . (d) in response to said third one of said control commands accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence specified by said playback session sequencing file.	Function: (d) in response to a “Back” command accepted at a time when said currently playing audio program file has not yet played for said predetermined amount of time, discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence. Corresponding structure: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Exhibit 1001 Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63 and column 34, line 19 to column 35, line 40. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has not yet played for said predetermined amount of time, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType;

Claim Term	Interpretation
	(2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record. <i>Id.</i> at 23–24.

B. THE PARTIES’ POST-INSTITUTION ARGUMENTS

In our Institution Decision, we concluded that the argument and evidence adduced by Petitioner demonstrated a reasonable likelihood that claims 1–9, 13–17, 28, and 29 were unpatentable as obvious based on the challenges identified in the table in Part I.A above. Dec. 9–18. We must now determine whether Petitioner has established by a preponderance of the evidence that the specified claims are unpatentable over the cited prior art. 35 U.S.C. § 316(e). In this connection, we previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 19, 3. Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

C. THE CHALLENGES TO THE CLAIMS

Petitioner challenges the patentability of claims 1–9, 13–17, 28, and 29 on the grounds that the claims are obvious in light of various combinations of Chase, Leob, Inazawa, and Bolton. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), reaffirmed the

framework for determining obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). The *KSR* Court summarized the four factual inquiries set forth in *Graham* that we apply in determining whether a claim is reasonably likely to be unpatentable as obvious under 35 U.S.C. § 103(a) as follows:

1. determining the scope and content of the prior art,
2. ascertaining the differences between the prior art and the claims at issue,
3. resolving the level of ordinary skill in the pertinent art, and
4. considering objective evidence indicating nonobviousness, i.e., secondary considerations.

KSR, 550 U.S. at 406. With these standards in mind, we address each challenge below.

1. Obviousness of Claims 1–4, 9, and 13 in View of Chase and Loeb

Petitioner contends that claims 1–4, 9, and 13 are unpatentable as obvious over Chase and Loeb. Pet. 25–44. Petitioner supports its contentions with Dr. Walker’s testimony. *Id.* For the reasons set forth below, we are persuaded that Petitioner has demonstrated by a preponderance of evidence that the combination of Chase and Loeb renders claims 1–4, 9, and 13 unpatentable as obvious under 35 U.S.C. § 103.

a) Overview of Chase

Chase describes a method and system for a national radio broadcaster to create radio programs and distribute them to local affiliate radio stations. Ex. 1007, ¶¶ 5, 7, 23. In one example, a delivery subsystem assembles data files, audio files, and a “play list file” into a single “envelope” and directs it to an individual affiliate terminal. *Id.* ¶ 41. The affiliate terminal stores the

audio files on a hard disk drive and replays the audio files based on instructions in the play list file (also referred to as a “playback list”) or based on instructions from an operator at the affiliate terminal. *Id.* ¶ 42.

According to definitions provided in Chase, an “Audio Program” is “[o]ne or more audio segments grouped on a playlist and delivered to at least one affiliate terminal;” an “Audio Segment” is “[a]n audio event containing a continuous sequence of audio signals having defined beginning and ending points;” and a “Playback List” is “[a]n outline or log, associated with a particular audio program, containing information uniquely identifying each audio segment/clip/event within the associated audio program.” *Id.* ¶ 36. “[A] play list is represented by a directory,” and “[i]n the directory is a file which is always named with the same name as the directory but has the extension ‘TXT’. This is an ASCII representation of the play list.” *Id.* ¶ 202.

An example affiliate terminal is shown in Figure 4, reproduced below:

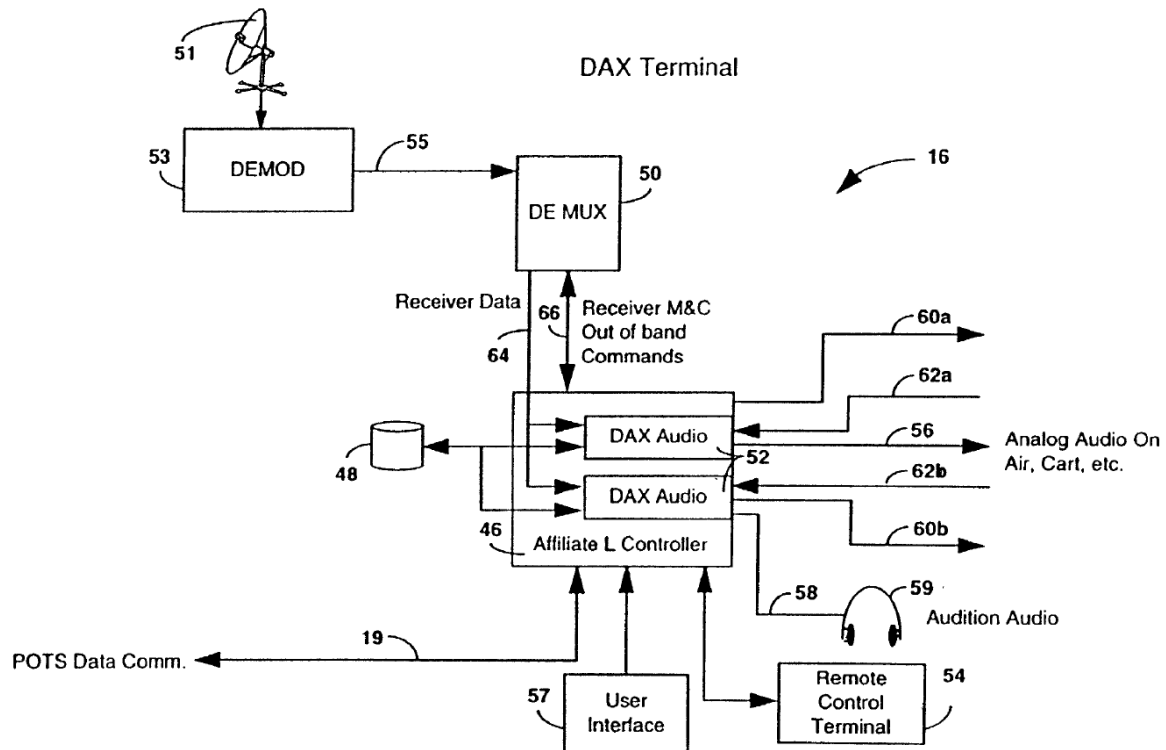


Fig. 4

Figure 4 is a block diagram of an affiliate terminal. *Id.* ¶ 27. Affiliate terminal 16 includes antenna 51 and demodulator 53 for receiving and demodulating data files, such as audio segments, audio programs, and playback lists. *Id.* ¶ 65. Affiliate controller 46 (e.g., a personal computer) receives the data files and stores them on memory 48 (e.g., a hard disk drive). *Id.* ¶¶ 42, 66. Affiliate controller 46 includes digital audio card (“DAC”) 52, with a digital signal processor (“DSP”) for decoding audio signals. *Id.* ¶¶ 66, 71. Affiliate terminal 16 outputs an audio signal over analog output line 56 for broadcast by the station. *Id.* ¶ 67.

Chase describes a remote control terminal that provides control of the affiliate terminal, for example, from within a DJ booth. *Id.* ¶ 184. The audio program plays back automatically, without intervention by the remote

control terminal, in a sequence determined by the play list. *Id.* The remote control terminal can override this sequence. *Id.* For example, a DJ can start play of the next queued audio segment, stop play of the current segment, and fast forward or rewind through the current segment or to a next or previous segment. *Id.* ¶ 186.

Chase refers to and incorporates source code appendices, submitted along with the application. *Id.* ¶¶ 2, 4. Petitioner includes these as Exhibit 1018.

b) Overview of Loeb

Loeb is an article on information filtering that describes, *inter alia*, a “LyricTime” personalized music system. Ex. 1011, 6. LyricTime plays songs on a listener’s workstation. *Id.* The listener can control LyricTime “to stop and start playing at any time, step forward and backward through the list of selected songs, change the volume, bias the selection of the filter by clicking on a ‘mood’ button, and provide evaluative feedback on the current song.” *Id.* LyricTime includes an “interface [that] contains buttons for controlling the playing of songs. These buttons allow the listener to step backward and forward through the list of selected songs, play the current song, and stop playing.” *Id.* at 7.

c) Independent Claim 1

Petitioner compares the teachings of Chase to the requirements of claim 1 in detail and also relies upon Dr. Walker’s testimony. Pet. 26–38. Petitioner also relies upon Loeb “out of an abundance of caution” as additional evidence describing the use of Chase’s system by the “listener” recited in claim 1. *Id.* at 28–30, 34–36, 38. Among the types of listener-oriented functionality described by Loeb is a user interface that permits the

listener to control playback of songs including skipping through a list of selected songs. *Id.* at 36 (citing Ex. 1011, 6, 7, 9; Ex. 1002 ¶¶ 69, 70).

Claim 1 requires, among other limitations, a “processor . . . for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener.” Ex. 1001, 46:9–18.

Petitioner argues that Chase’s affiliate terminal allows the DJ to discontinue playing a currently playing segment and instead play the next segment in a playlist. Pet. 35 (citing Ex. 1007 ¶ 184). Petitioner further argues that Loeb describes a personalized music system with an interface that allows a listener to skip forward in a list of songs. Pet. 36 (citing Ex. 1011, 6, 7, 9).

Petitioner argues that both Chase and Loeb teach the function of “discontinuing the reproduction,” namely “in response to a command (e.g., a skip forward or backward),” but that neither “explicitly disclose[s] the exact 112 ¶ 6 construed structure” of this limitation. *Id.* at 36–37.

Petitioner argues that the precise structure would have been obvious to a skilled artisan in light of the programming structures disclosed in Chase’s software appendix. *Id.* at 37–38. In particular, Petitioner maps this software to an algorithm that includes scanning forward in a play list to find a next playable element and returning a pointer to the next element to a SetCurrentElement function, which invokes a CueElement function to configure the player to start playing the next element. *Id.* at 37. Petitioner argues that this code consists of common programming techniques and would have been applied predictably to implement Loeb’s teaching. *Id.* at 38. Dr. Walker testifies that “Chase discloses all parts of the

algorithms for navigating to and starting reproduction of the next or previous programs in a sequence, by providing the source code for each step, including ‘rPlayer::Stop(),’ ‘rPlayer::FindNextElement(),’ ‘rPlayer::SetCurrentElement(),’ and ‘rPlayer::Play()’ functions.” Ex. 1002 ¶ 87. We credit this testimony.

Patent Owner argues that “Loeb fails to disclose the ability to discontinue a song while playing and advance to another audio program” and instead “discloses separate buttons that allow stepping forward, backward, and stopping.” PO Resp. 24. Loeb discloses that “[t]he listener is free to stop and start playing at any time, [and] step forward and backward through the list of selected songs.” Ex. 1011, 6. Figure 3 of Loeb depicts conventional controls for an audio device, including a stop button and a fast forward button “>>.” According to Loeb: “The middle portion of the interface contains buttons for controlling the playing of songs. These buttons allow the listener to step backward and forward through the list of selected songs.” *Id.* at 7. We find that Loeb discloses the function of discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which follows said currently playing program in said sequence in response to a user pressing the “>>” button. The reference clearly discloses skipping ahead and playing the next song on the list in response to that button press. Patent Owner’s argument notwithstanding, we do not believe that Loeb teaches continuing to play the current song simultaneously with the next song on the list.

Petitioner argues that a skilled artisan would have combined the teachings of Chase and Loeb based on Loeb’s statement that its user

interface “induces nearly instant acceptance and allows people to use the *LyricTime* prototype with almost no preparation.” Pet. 38 (quoting Ex. 1011, 6–7). As Petitioner points out, the applicants for the parent to the ’178 patent admitted, during prosecution, that “conventional CD players allow the user to skip forward to the beginning of the next track on the disk or to skip backward to preceding tracks.” *Id.* at 35 (quoting Ex. 1005, 52). Dr. Almeroth admitted during deposition that, at least in terms of the skip function of conventional CD players, “you would stop playout of the particular track and then go to the next one.” Ex. 1026, 52:11–22.

Patent Owner argues that a skilled artisan would not have combined Chase and Loeb because they “*serve incompatible purposes*.” PO Resp. 16. According to Patent Owner, a skilled artisan would not have used the personal preferences for a single individual, as captured by Loeb’s algorithm, in a system, such as Chase, that is directed to distributed national broadcast programs. *Id.* at 16–17. Patent Owner argues that a goal of “a personalized player for an individual listener” would “*undermine the very reason* to distribute a sequencing file provided by a producer to a plurality of affiliate radio terminals over a communication link for broadcast.” *Id.* at 19. Patent Owner asserts that “the resultant device made by one skilled in the art from the combination of Loeb and Chase with the goal of making a personal player would not produce the claimed combination.” *Id.* at 20.

Petitioner responds, and we agree, that Chase and Loeb are both directed to audio program players and network-based audio systems. Reply 9–10 (citing Ex. 1002 ¶¶ 29, 30, 68, 69, 75). Petitioner also contends persuasively that Chase suggests distributing audio to selected end users. Reply 9 (citing Ex. 1007 ¶ 14; Ex. 1026, 25:7–17). Additionally, the claims

do not exclude the DJ of Chase as a listener despite Patent Owner's argument otherwise.

As stated by the Federal Circuit, “a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). “Rather, the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art.” *Id.* Petitioner does not seek to combine the devices of Chase and Loeb physically. Rather, Petitioner argues that Loeb describes an example of a conventional interface used for controlling a device that plays music and contends that features of that interface would have been recognized as advantageous for Chase's affiliate terminal. We are persuaded that a skilled artisan would have sought out examples of admittedly conventional interfaces to improve the functionality of Chase's affiliate terminal. *See KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

Patent Owner also argues that Chase teaches away from discontinuing any currently playing song to advance forward. PO Resp. 23–24. Thus, Patent Owner argues, “one would not combine this disclosure of Loeb in view of Chase's explicit teaching away of disabling playback controls while a song is playing.” *Id.* at 24 n.2. In particular, Patent Owner cites to Chase's description of a “jock box” that “[w]hile playing, . . . locks out all key presses except stop.” *Id.* at 24 (quoting Ex. 1007 ¶ 223) (emphasis removed). Citing to Dr. Almeroth's testimony, Patent Owner argues that this

is consistent with radio broadcasts, as a radio broadcaster would not want a DJ to be able to advance a song forward while that song is playing on air. *Id.* (citing Ex. 2016 ¶ 56). As Petitioner points out (Reply 6), Dr. Almeroth has admitted that he does not have the expertise to opine on the expected behavior of DJs. Ex. 1026, 64:18–19 (“I’m not sure I would be in a position to offer an expert opinion about what a DJ would do.”). We accord Dr. Almeroth’s testimony little weight on this point.

We are not persuaded that Chase teaches away from discontinuing a currently playing song to advance to a next segment. According to Chase, “[t]he jock box is a physical representation of a DAC cart located in a studio. It provides 8 pushbuttons each with an LED and a small LCD display. Conceptually the jock box is a CD player with an automated changer.” Ex. 1007 ¶ 219. As explained above, and shown in Chase’s Figure 4, DAC 52 is a component separate from remote control terminal 54. The jock box is a “physical representation of a DAC cart.” *Id.* We read this to be a typographical error and view the jock box as a physical representation of a DAC card, e.g., DAC card 52. If “cart” is not a typographical error, it could refer to a “cart machine,” *id.* ¶ 36, which also is a component separate from remote control terminal 54 (Figure 4 shows line 56 communicating with a cart, not shown). In either case, Chase’s description of a jock box does not refer to the behavior of remote control terminal 54, which is described elsewhere as follows:

The DJ may also request, through the remote control terminal, that the DAC 52 start play of the next segment queued in the DAC 52, stop play of the current segment, fast forward/rewind through the current segment or to a next/previous segment. The DJ may use up/down arrows on the remote control terminal to

scroll through a play list displayed to the DJ and select, out of turn, a segment from the play list.

Id. ¶ 186. This description is consistent with a device that can discontinue play of a current segment and skip to the next. Thus, Chase does not teach away from a player with that behavior.

We have considered Petitioner’s and Patent Owner’s competing evidence and argument and find that a skilled artisan would have had reason, with rational underpinning, to combine the teachings of Chase and Loeb. Dr. Walker testifies that Chase’s source code appendix includes all the necessary software constructs to implement the algorithm of the “processor . . . for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener.” Ex. 1002

¶ 87. We credit this testimony. Patent Owner does not offer expert testimony rebutting Dr. Walker’s analysis of Chase’s source code. We find that using Chase’s software constructs to implement what was admittedly the conventional controls listeners have used to navigate music segments would have been a predictable use of known components for their intended purposes. As explained above, we are not persuaded that Chase teaches away from this combination.

Patent Owner also argues that the controls described in Chase do not permit advancing playback to a “*listener selected* song” because the system is controlled by DJs rather than listeners. PO Resp. 25–26. Patent Owner also contends that Loeb’s interface could not be used by listeners because it is a “computer implemented interface” that “could not be used by conventional radio listeners.” *Id.* at 25 (citing Ex. 2016 ¶¶ 48–53). Patent

Owner further contends that “continuing the reproduction at the beginning of a *listener-selected* . . . audio program file” as recited in claim 1 requires an ability to “jump forward to any particular song in the sequence selected by the listener.” *Id.* at 26–30.

Petitioner responds that a DJ may be considered to be “listener” and that even if Loeb described nothing more than a control for the listener to skip forward through a list of selected songs, skipping to the next track is a type of selection by the listener. Reply 6. Petitioner also reiterates its position that the combination of Chase and Loeb renders obvious the function of advancing to a selected specific song. *Id.* at 7 (citing Pet. 36–38; Ex. 1026, 98:19–99:22, 100:15–101:5).

Patent Owner’s argument is unpersuasive. As we have determined above, Petitioner does not seek to combine the devices of Chase and Loeb physically. Rather, Petitioner argues that Loeb describes an example of a conventional interface used for controlling a device that plays music and contends that features of that interface would have been recognized as advantageous for Chase’s affiliate terminal. We are persuaded that a skilled artisan would have sought out examples of admittedly conventional interfaces to improve the functionality of Chase’s affiliate terminal. *See KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

In sum, we find that Chase and Loeb teach each limitation of claim 1 and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the teachings of Chase and Loeb.

d) Dependent Claims 2 and 3

Claim 2 depends from claim 1, Ex. 1001, 46:19, and claim 3 depends from claim 2, *id.* at 46:29. Patent Owner’s arguments for the patentability of claims 2 and 3 rest solely upon its arguments that claim 1 is patentable over Chase and Loeb. *See* PO Resp. 12–55. Based on our review of the record before us, and for the reasons stated in the Petition (Pet. 38–40), which we adopt, we determine that Chase and Loeb teach each limitation of claims 2 and 3 and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the teachings of Chase and Loeb.

e) Dependent Claim 4

Claim 4 depends indirectly from claim 1 and further recites aspects of the “processor for . . .” that is recited in claim 1 as follows:

said processor responds to a skip forward program selection command accepted from said listener by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently audio program file in said ordered sequence specified by said sequencing file.

Ex. 1001, 46:34–41. In our Institution Decision, we indicated that we regarded claim 4 to limit further the “processor for . . .” recited in claim 1 to require an additional algorithm that enables a skip forward functionality. Dec. 13.

Petitioner contends that the combination of Chase and Loeb suggests the “skip forward” functionality recited in claim 4. Pet. 40–43. Petitioner contends that an ordinarily skilled artisan, upon reviewing Chase’s source code appendix, would understand that Chase’s code allows a user to advance the playback to the next audio segment. *Id.* at 42 (citing Ex. 1018, 401–3, 409). Based upon Chase and Loeb’s teachings regarding a listener

discontinuing playback of one item in a play list to skip forward to another item in the play list and Chase's source code appendix, Petitioner contends that claim 4 would have been obvious to an ordinarily skilled artisan.

Pet. 40–42.

First, Patent Owner argues that claim 4 is not a “further limitation of claim 1's ‘processor for . . . discontinuing . . .’” but rather recites a separate “skip command which explicitly requires a second control that allows one merely [to] jump to the next song in the sequence.” PO Resp. 28. Patent Owner contends that neither “Chase nor Loeb teach a control feature, much less a control algorithm, that skips to a listener selected song in the sequence, as claimed, but rather both Chase and Loeb only merely allow for skipping to the next audio file.” *Id.* at 29.

Patent Owner's argument is unpersuasive. Patent Owner implicitly argues that claim 4 is limited to audio players that skip to a listener selected song in the sequence other than the next file in the sequence. Based on our plain reading of claim 4, which recites that a “skip forward” command results in “reproduction at the beginning” of the file “which follows” the “currently [playing] audio program . . . in said ordered sequence,” we discern no basis for such a narrow reading of claim 4.

Second, Patent Owner argues that Petitioner improperly relies upon the same portions of Chase and Loeb as describing both the “processor . . . for discontinuing” recited in claim 1 (which Patent Owner calls a “Go” command) and the “skip forward” functionality (which Patent Owner calls a “Skip” command). PO Resp. 30–32. Patent Owner cites no legal support for its argument. Petitioner persuasively responds that a “single structure may meet multiple claim elements.” Reply 8 (citing *Intellectual Prop. Dev.*,

Inc. v. UA-Columbia Cablevision of Westchester, Inc., 336 F.3d 1308, 1320 n.9 (Fed. Cir. 2003) (“Contrary to [patentee’s] argument, we see no reason why, as a matter of law, one claim limitation may not be responsive to another merely because they are located in the same physical structure. *See In re Kelley*, 49 C.C.P.A. 1359, 305 F.2d 909, 915–16 (1962) (noting that two limitations hypothetically can read on the same structure).”). We determine that Patent Owner’s second argument is unpersuasive.

In sum, for the reasons stated in the Petition, which we adopt, we find that Chase and Loeb teach each limitation of claim 4 and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the teachings of Chase and Loeb.

f) Claims 9 and 13

Claim 9 depends from claim 1 and further requires that the sequencing file defines “a playback session that is personalized to the preferences of said listener.” Ex. 1001, 47:27–32. Claim 13 depends from claim 9 and thus includes the same requirement. *Id.* at 47:63.

Petitioner relies upon Loeb’s LyricTime personalized music system as describing the personalized sequencing file of claims 9 and 13. Pet. 43–44. Patent Owner contends that Petitioner has failed to provide any reason that an ordinarily skilled artisan would have modified Chase to include the personalized sequencing file suggested by Loeb. PO Resp. 15–17. Patent Owner argues that the features taken from Loeb “serve fundamentally incompatible purposes,” *id.* at 16–17, and would “*undermine the very reason* to distribute a sequencing file provided by a producer to a plurality of affiliate radio terminals over a communication link for broadcast,” *id.* at 19.

We determine that Patent Owner’s argument is unpersuasive for the reasons expressed in Part II.C.1.c) above.

Patent Owner also argues that a provision of the Copyright Statute “excludes licenses for radio broadcasts ‘that enables a member of the public to receive a transmission of a program specially created for the recipient, or on request, a transmission of a particular sound recording . . . selected by or on behalf of the recipient.’” *Id.* at 17 (quoting 17 U.S.C. § 114(d)(2)(A)(i)) (emphasis removed). Patent Owner concludes that an ordinarily skilled artisan “would not be motivated to modify a radio broadcast system with the Loeb personalization algorithm to select an audio program on behalf of a listener because the resultant system would not be fit for its ‘intended purpose’ of radio broadcasts.” *Id.* Even if Patent Owner’s characterization of the Copyright Statute is correct, we are not persuaded that it is evidence of the understanding of a skilled artisan (rather than a copyright lawyer) such that it relates to whether a skilled artisan would have modified Chase in view of Loeb.

In sum, for the reasons stated in the Petition, which we adopt, we find that Chase and Loeb teach each limitation of claims 9 and 13 and that a person of ordinary skill in the art would have had reason, with rational underpinning, to combine the teachings of Chase and Loeb.

g) Objective Indicia of Non-obviousness

Patent Owner contends that objective indicia, including lack of actual use of the prior art teachings until Apple introduced the iPod, widespread adoption of the invention after that, widespread acquiescence to licensing of the patent, and commercial success, evidence non-obviousness. PO Resp. 51–55. According to the Federal Circuit, “objective considerations of

non-obviousness must be considered in *every* case.” *WBIP, LLC v. Kohler Co.*, No. 2015-1038, 2016 WL 3902668, at *5 (Fed. Cir. July 19, 2016).

First, Patent Owner argues that “the lack of actual use from the teachings of the prior art is indicative of non-obviousness.” PO Resp. 52. “The length of the intervening time between the publication dates of the prior art and the claimed invention can also qualify as an objective indicator of nonobviousness.” *Leo Pharm. Prods., Ltd. v. Rea*, 726 F.3d 1346, 1359 (Fed. Cir. 2013).

Patent Owner argues that its expert, Dr. Almeroth, performed a survey of devices from the effective filing date of the ’178 patent (in 1996) to 2000 and concluded that there were no applications of downloadable navigable playlists during that time period. PO Resp. 52. Here, Patent Owner points to Dr. Almeroth’s trial testimony in the *Apple* Litigation. *Id.* (citing Ex. 2017, 2692:1–5). Dr. Almeroth’s testimony, however, is conclusory, and does not identify the data or explain the methodology on which his conclusion is based. At deposition, Dr. Almeroth testified that, in the *Apple* Litigation, he “wrote a fairly lengthy report on this and testified, and I don’t remember the specific details.” Ex. 1026, 77:23–25. Patent Owner does not point to such a report in this proceeding. On this record, Dr. Almeroth’s testimony is entitled to little weight. *See* 37 C.F.R. 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”).

Patent Owner further argues that “[t]o this day, no person has attempted to modify a radio broadcast system similar to Chase to produce a personalized player in the manner asserted to be ‘obvious’ by Petitioners.” PO Resp. 52. Similarly, Patent Owner argues that although “radio broadcast

systems have been around for decades and FTP had been around since the 1970s, none of the creators or companies involved with these products ever suggested anything similar to the claimed inventions.” *Id.* at 53. Patent Owner does not cite to any evidence in support of these arguments.

Patent Owner further argues that “no product provides the solution of a player capable of receiving a personalized audio program from a host over a communication link until the 2000s with the introduction of the Apple iPod and similar products.” *Id.* Patent Owner cites to Dr. Almeroth’s Declaration in this proceeding in support, arguing that it evidences a long-felt need for the invention “for decades.” *Id.* (citing Ex. 2016 ¶ 70). Dr. Almeroth’s testimony on this point is conclusory and does not cite to supporting evidence. As such, it is entitled to little weight. *See* 37 C.F.R. 42.65(a). We find that Patent Owner has not shown a long-felt need for the invention of the ’178 patent.

Patent Owner argues that Dr. Almeroth concluded that once downloadable navigable playlists were introduced in devices around the year 2000, there was widespread adoption of this feature, and that Apple considered this feature crucial. PO Resp. 53. Patent Owner again relies on Dr. Almeroth’s trial testimony in the *Apple* Litigation. *Id.* (citing Ex. 2017, 2699:1–5). Dr. Almeroth’s testimony on this point also is conclusory and does not explain its factual basis, other than to reference, generally “the testimony of several Apple witnesses.” Ex. 2017, 2698:24–25. Patent Owner does not attempt to support its argument with citations to such witness statements. Dr. Almeroth’s testimony on this point is entitled to little weight. On this record, Patent Owner has not shown widespread adoption of the invention after alleged introduction around the year 2000.

Patent Owner also argues that the '178 patent has been licensed by over fifteen companies, representing nearly 75 percent of the market, for over 30 million dollars. PO Resp. 53. Patent Owner does not introduce any such licenses into evidence. Rather, Patent Owner relies upon its technical expert, who merely repeated what he was told. *Id.* (citing Ex. 2016 ¶ 75). As Petitioner points out, Dr. Almeroth has admitted that he is not an expert in patent licensing and has never seen the actual license agreements. Reply 23 (citing Ex. 1026, 95:7–9). Dr. Almeroth's testimony again is entitled to little weight. In the absence of the licenses or any credible evidence of the contents of such licenses, Patent Owner has not shown that such licensing is relevant to obviousness.

Patent Owner argues that “a prior art study by some of the same companies failed to turn up any prior art that provided a path for invalidity.” PO Resp. 53. Again, Patent Owner does not point to results of the alleged study itself, but rather testimony from Dr. Almeroth about what he understood the study to have produced. Ex. 2016 ¶¶ 75–78. Petitioner argues that the study only offered rewards for prior art that was not already known to those conducting the study. Reply 23. Patent Owner has not offered evidence sufficient to conclude that a study failed to turn up invalidating prior art.

Finally, Patent Owner argues that commercial success evidences non-obviousness. PO Resp. 54. Specifically, Patent Owner points to the success of Apple's iPod devices. *Id.* Patent Owner argues that these devices have been adjudicated to infringe the challenged claims of the '178 patent and, therefore, there is a nexus between Apple's commercial success and the challenged claims. *Id.* “[T]here is a presumption of nexus for objective

considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention disclosed and claimed in the patent.’” *WBIP*, 2016 WL 3902668, at *6.

To show that Apple’s iPod devices infringe the challenged claims, Patent Owner relies on the testimony of Dr. Almeroth, who repeats Patent Owner’s statement that “Apple’s iPod/iTunes and its progeny . . . have been adjudicated to infringe” the challenged claims. Ex. 2016 ¶ 71 (citing Ex. 1015). However, Exhibit 1015, a District Court decision on a motion for JMOL filed by Apple, demonstrates that an Apple iPod does not infringe any of the challenged claims of the ’178 patent. Ex. 1015, 47.

Based on our review of Patent Owner’s argument and evidence, we determine that Patent Owner has not shown commercial success. Specifically, Patent Owner has not shown that the allegedly successful products embody the invention of the challenged claims. Nor has Patent Owner provided any evidence of the market or the extent of Apple’s success in the market attributable to the claimed invention. Patent Owner’s evidence is entirely conclusory.

In sum, we have considered Patent Owner’s objective indicia of non-obvious and find them to be unpersuasive.

h) Conclusion of Obviousness

As explained above, the combination of Chase and Loeb teaches each limitation of claims 1–4, 9, and 13. Petitioner has introduced persuasive evidence that a skilled artisan would have had reasons to combine Chase and Loeb to arrive at these claims. We have weighed Petitioner’s evidence against the objective evidence presented by Patent Owner. As explained above, we consider that objective evidence to be entitled to little weight for

the reasons given above. In sum, upon consideration of all the evidence, including the evidence in the Petition and Patent Owner's objective indicia of non-obviousness, we conclude that Petitioner has proved by a preponderance of the evidence that claims 1–4, 9, and 13 are unpatentable as obvious over Chase and Loeb.

2. Obviousness of Claims 5, 6, 14–17, 28, and 29 in View of Chase, Loeb, and Inazawa

Petitioner contends that claims 5, 6, 14–17, 28, and 29 are rendered unpatentable as obvious in view of the combination of Chase, Loeb, and Inazawa. Pet. 44–56. In support of its challenge to claims 5, 6, 14–17, 28, and 29, Petitioner largely reiterates its arguments and citations to evidence relating to claim 1 and further relies upon Inazawa as describing the ability to skip forward, backward, or restart a currently playing audio track depending upon whether a “predetermined amount of time” has passed between the beginning of playback for a particular audio file and a command from the user. Pet. 44–56. For the reasons expressed below, we determine that the combination of Chase, Loeb, and Inazawa fails to describe the required responses to a skip backward command that depend upon whether a “predetermined amount of time” has passed since playback of the currently playing audio file started.

Claim 5 recites behavior of a “skip backward” command that occurs after a “predetermined amount of time” has passed as follows:

said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file.

Ex. 1001, 46:43–49. Claim 6, which depends directly from claim 5, specifies the behavior of the audio player when the “skip backward” command occurs before the “predetermined amount of time” has passed as follows:

said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said sequencing file.

Id. at 46:51–59.

Independent claim 14 and its dependent claims 15–17, 28, and 29 recite similar behavior for a “third one of said control commands” that occurs after the “predetermined amount of time” passes as follows:

in response to a third one of said control commands accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file.

Id. at 48:50–57. Claim 14 also specifies the behavior for the “third one of said control commands” that occurs before the “predetermined amount of time” passes as follows:

in response to said third one of said control commands accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence specified by said playback session sequencing file.

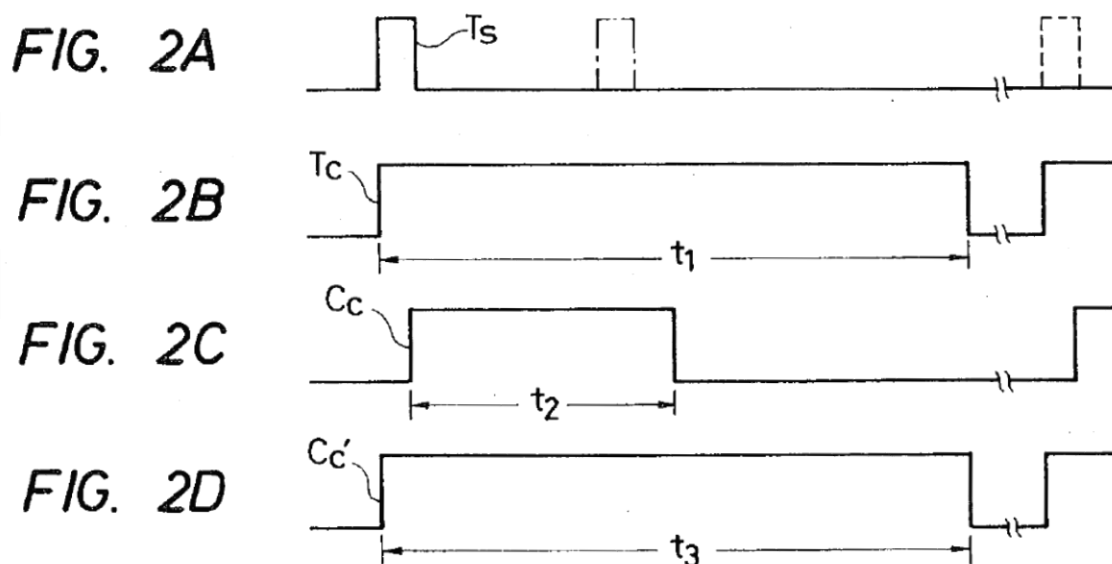
Id. at 48:58–67. To facilitate our discussion, we refer to these requirements of claims 5, 6, and 14 collectively as the claimed “skip back algorithm.”

a) Overview of Inazawa

Inazawa describes a disc player for reproducing audio information recorded on a digital audio disc. Ex. 1009, Abstract. Program information containing a plurality of partitions is recorded along with address data onto the disc. *Id.* at 2:66–3:4.

Inazawa describes push-button type controls for moving through program selections, for example a first program selecting key for making the disc player take a forward program selection mode and a second program selecting key for making the disc player take a reverse program selection mode. *Id.* at 3:43–62.

If partition N currently is being played and the second program selecting key (backward key) is pressed, the disc player starts a timer. This is illustrated in Figures 2A–2D, reproduced below:



Figures 2A–2D are waveform diagrams depicting timing signals. *Id.* at 2:59–61, 6:30–7:31. When a key input signal checker detects that the

second program selection key has been pressed, starting signal T_S (shown in Figure 2A) starts a timer and generates control signal T_C (shown in Figure 2B). *Id.* at 6:30–37. The timer is chosen to be a time t_1 , longer than the time necessary for a person to press the second program selection key twice repeatedly, e.g., 1.5 to 2 seconds. *Id.* at 6:37–41. Figure 2C shows control signal C_C , formed by the system controller to begin when a drive control signal is first obtained corresponding to the press of the second program selection key and to have duration t_2 , supplying the address for the beginning of partition N as the current selection to play. *Id.* at 6:41–54, 6:5–16. Figure 2D shows signal C_C' as the logical sum of control signal C_C from the system controller and control signal T_C from the timer, with duration t_3 . *Id.* at 6:54–60.

If the second program selecting key is pressed a second time within t_3 (shown in Figure 2A as a dot-dash line), the address for partition N–1 is supplied as the current selection to play and the disc player moves the optical head to partition N–1 and plays partition N–1. *Id.* at 6:61–7:20. If, on the other hand, a second key press comes after the duration of t_3 , it is treated the same as the first key press, i.e., the optical head is controlled to move to the beginning of partition N. *Id.* at 7:21–31.

b) Analysis

Petitioner contends that Inazawa teaches using a time period as part of a program selection mode used to determine whether to reset the playback position to the beginning of the current audio segment or to the beginning of the previous segment and playing that segment from its beginning. Pet. 45–46. According to Petitioner, if Inazawa detects a key press during time t_3 , Inazawa's system skips backward to the program at address N–1. *Id.* at 46.

On the other hand, if the key press happens after the duration of t_3 , the system skips to the beginning of the current program at address N. *Id.* Petitioner points to this second scenario as the algorithm meeting the claimed skip back algorithm of the corresponding structure for the “processor for . . .” limitations of claims 5, 6, and 14. *Id.* at 45–46.

Petitioner identifies programming constructs in Chase’s software appendix for fetching and playing playable elements in a backward direction in a playlist. *Id.* at 46–47. Petitioner argues that it would have been a matter of design choice to use Chase’s software constructs to implement, in software, the algorithms that Inazawa describes for hardware. *Id.* at 47–48.

Patent Owner argues that “[b]y using the amount of time that the audio file has played to determine whether one skips back to the beginning of the current audio segment or previous one, the claimed limitation’s solution allows the program to accommodate the likely desires of the listener with a single key stroke,” and that “[t]he absence of this feature in any of [the] art demonstrates that the art did not appreciate the specific claimed skip back algorithm.” PO Resp. 49 n.9. Patent Owner cites to Dr. Almeroth, who testifies:

Inazawa teaches a rewind button that goes to the beginning of the current track if pressed once and goes to the beginning of the previous track if pressed again within an amount of time. However, the skip back function claimed by the . . . ’178 patent[] goes to the beginning of the previous track if the button is pressed ***within a predetermined amount of time*** but the beginning of the current track if the button is pressed outside the predetermined amount of time.

Ex. 2016 ¶ 57.

We are persuaded by Patent Owner and Dr. Almeroth. Inazawa describes an algorithm different from the claimed skip back algorithm. The

plain terms recited in claims 5, 6, and 14 require that the skip back algorithm is invoked by the same command, a “skip backward program selection” in claims 5 and 6, and a “third one of said control commands” in claim 14. These respective commands cause different behavior depending upon whether the command is issued before or after a “predetermined time” has passed since playback of the current track has started. The Specification describes this required behavior at column 15, lines 53–63, of the ’178 patent, including:

- (1) if the currently playing program segment has played for a predetermined amount of time, resetting the playback position to the beginning of the program segment; and
- (2) playing the program segment from its beginning.

Specifically, the ’178 patent states:

Note that, after any given segment has played for a predetermined amount of time, the BACK command should reset the playback to be [the] beginning of the current segment or topic respectively, allowing the user to start the current segment or topic from the beginning unless the playback point is already near the beginning, in which case the transition is made to the prior segment. The system responds to BACK commands by resetting the playback point to the desired point in the sequence and recording the start time, volume setting and new program segment ID in the log file as indicated at 267.

Ex. 1001, 15:53–63. Thus, the ’178 patent describes the skip back algorithm as determining whether to skip to the beginning of the current program segment or the beginning of the previous program segment based on the amount of time that has lapsed since the beginning of the current program segment. According to Petitioner, this is met by an algorithm in which a first key press is detected, a time period (t_3) expires, and a second key press is

detected, after which the system resets the playback position to the beginning of the current program segment. This is shown in Figure 2A of Inazawa, as the solid line and dashed line versions of T_S .

We find that each of Inazawa's instances of T_S is a detection of a "Back" command. Thus, Inazawa skips back to the beginning of the currently playing segment either in response to a single "Back" command at the instant that command is detected (and not after a predetermined amount of time) or in response to multiple "Back" commands spaced more than t_3 apart (rather than a single "Back" command). Petitioner's argument asks us to ignore the first instance of T_S , and to consider Inazawa's algorithm to start after that and end after a second button press outside the t_3 window. That is not how Inazawa describes its algorithm. Rather, we find that Inazawa's algorithm starts at the first button press and ends after t_3 expires, after which the algorithm starts over the next time the second program selecting key is pressed. Ex. 1009, 7:21–31. Moreover, in Inazawa's algorithm, time period t_3 is not determined from the beginning of the song. Rather, it is determined from a press of a program key. As explained above, the claimed skip back algorithm involves a predetermined time from the beginning of the currently playing audio program file. Ex. 1001, 15:53–59. Thus, we find that the algorithm in Inazawa differs from the claimed skip back algorithm for this additional reason.

In making these findings, we considered the testimony of both Dr. Walker (Ex. 1002 ¶¶ 107–18) and Dr. Almeroth (Ex. 2016 ¶¶ 56–61). Both experts largely repeat the arguments from the parties' respective papers. Nevertheless, we find that Dr. Almeroth's opinion on the comparison of Inazawa to claims 5, 6, and 14 is more consistent with the

description in Inazawa. Therefore, we credit Dr. Almeroth's testimony over Dr. Walker's on this point.

In sum, we find that the algorithm described in Inazawa is not the same as that of the claimed skip back algorithm of claims 5, 6, and 14. While Petitioner asserts that aspects of Inazawa's algorithm are "equivalent" to the "construed 112 ¶ 6 structure" of the claimed skip back algorithm, Pet. 50, Petitioner offers no persuasive evidence of equivalency beyond its evidence that the structure is the same. In any case, "[a] key feature that distinguishes 'equivalents' under section 112, paragraph 6 and 'equivalents' under the doctrine of equivalents is that section 112, paragraph 6 equivalents must perform the identical function of the disclosed structure." *Kemco Sales, Inc. v. Control Papers Co., Inc.*, 208 F.3d 1352, 1364 (Fed. Cir. 2000). As explained above, Petitioner has not shown that Inazawa performs the identical function of the claimed skip back algorithm. Petitioner has also failed to demonstrate how either Chase or Loeb describe the claimed skip back algorithm. Accordingly, Petitioner has not shown that Chase, Loeb, and Inazawa teach the claimed skip back algorithm of claims 5, 6, and 14.

c) Conclusion of Obviousness

We have determined that Petitioner has failed to establish by a preponderance of evidence that the combination of Chase, Loeb, and Inazawa describes the skip back algorithms of claims 5, 6, and 14. Claims 15–17, 28, and 29 depend directly or indirectly from claim 14. Accordingly, we conclude that Petitioner has failed to establish that the combination of Chase, Loeb, and Inazawa renders claims 5, 6, 14–17, 28, and 29 unpatentable as obvious.

3. *Obviousness of Claims 7 and 8 in View of Chase, Loeb, Inazawa, and Bolton*

Claim 7 depends directly from claim 6 and indirectly from claims 1–5 and further requires that the processor support specific functionality to skip backward from the first program within the playlist or skip forward from the last program in the playlist. Ex. 1001, 46:19–47:6. Claim 8 depends directly from claim 7. *Id.* at 47:7–26. Claim 8 recites limitations similar to those introduced in claim 29. *Compare id.* (claim 8), *with id.* at 50:48–61 (claim 29).

Petitioner incorporates its argument and evidence demonstrating the obviousness of claim 6 in view of Chase, Loeb, and Inazawa. Pet. 56–60. Petitioner acknowledges that Chase, Loeb, and Inazawa are silent regarding what occurs when skipping forward or backward from the back or front end of the play list. *Id.* at 57. Petitioner relies upon Bolton as describing such functionality to render claims 7 and 8 obvious. *Id.* at 57–58 (citing Ex. 1010, Abstract, 4:5–17, 5:8–12, 8:63–66, 9:12–10:7, Figs. 6 and 7). Petitioner also relies upon Dr. Walker’s testimony to support its contention. *Id.* at 58–60 (citing Ex. 1002 ¶¶ 143–46).

For the reasons expressed in Part II.C.2 above, we have determined that the combination of Chase, Loeb, and Inazawa does not render claims 5 and 6 obvious. Petitioner does not rely upon Bolton as addressing the deficiencies that we noted in the teachings of Chase, Loeb, and Inazawa in connection with claims 5 and 6. Accordingly, we determine that Petitioner also fails to establish that the combination of Chase, Loeb, Inazawa, and Bolton renders claims 7 and 8 unpatentable as obvious.

III. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–4, 9, and 13 are unpatentable as obvious over the combination of Chase and Loeb. Petitioner has not demonstrated, by a preponderance of the evidence, that claims 5, 6, 14–17, 28, and 29 are unpatentable as obvious over Chase, Loeb, and Inazawa. Petitioner also has not demonstrated, by a preponderance of the evidence, that claims 7 and 8 are unpatentable as obvious over Chase, Loeb, Inazawa, and Bolton.

IV. ORDER

For the reasons given, it is:

ORDERED, based on a preponderance of evidence, that claims 1–4, 9, and 13 of U.S. Patent 7,509,178 B2 are *unpatentable* as obvious under 35 U.S.C. § 103 in view of the combined teachings of Chase and Loeb;

FURTHER ORDERED that claims 5–8, 14–17, 28, and 29 of U.S. Patent 7,509,178 B2 have not been shown to be unpatentable; and

FURTHER ORDERED because this is a final written decision, the parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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PETITIONER:

Daniel M. De Vos
Matthew N. Nicholson
Jeannine Yoo Sano (*pro hac vice*)
Jason Xu (*pro hac vice*)
Leon Miniovich (*pro hac vice*)
NICHOLSON DE VOS WEBSTER & ELLIOTT LLP
dan@nicholsondevos.com
matt@nicholsondevos.com
jsano@whitecase.com
jxu@whitecase.com
lminiovich@whitecase.com

PATENT OWNER:

Minghui Yang
Greg Donahue
DiNOVO PRICE ELLWANGER & HARDY LLP
myang@dpelaw.com
gdonahue@dpelaw.com