Trials@uspto.gov
Tel: 571-272-7822

Paper 36
Entered: November 7, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SDI TECHNOLOGIES, INC.,
Petitioner,

v.

BOSE CORP.,
Patent Owner.

Case IPR2013-00350
Patent 8,401,682 B2

Before KARL D. EASTHOM, MICHAEL J. FITZPATRICK, and DAVID C. McKONE, *Administrative Patent Judges.*

McKONE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

SDI Technologies, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting *inter partes* review of claims 1–21, 24, 27, 28, 30–48, 51, 54, 62, 63, 67–70, 73, 74, and 76 of U.S. Patent 8,401,682 B2 (Ex. 1001, "the '682 patent"). Bose Corporation ("Patent Owner") filed a Preliminary Response (Paper 10, "Prelim. Resp."). Pursuant to 35 U.S.C. § 314, in our Decision to Institute, we instituted this proceeding as to all of the challenged claims of the '682 patent. Paper 11 ("Dec.").

After the Decision to Institute, Patent Owner timely filed a Patent Owner Response (Paper 20, "PO Resp."), and Petitioner timely filed a Reply to the Patent Owner Response (Paper 24, "Reply"). An oral hearing was held on September 4, 2014. Paper 35 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6(c). This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims. Based on the record before us, Petitioner has demonstrated by a preponderance of the evidence that all of the challenged claims, claims 1–21, 24, 27, 28, 30–48, 51, 54, 62, 63, 67–70, 73, 74, and 76, are unpatentable.

B. Related Proceedings

Patent Owner asserted the '682 patent and U.S. Patent No. 8,364,295 ("the '295 patent") against Petitioner in *Bose Corp. v. SDI Technologies, Inc.*, Case No. 13-cv-10277-WGY (D. Mass.) ("the '682/'295 patent litigation"). Pet. 1. The '682 patent matured from a continuation of the

application that gave rise to the ’295 patent. The ’682/’295 patent litigation has been administratively closed pending the outcome of this *inter partes* review. *See Bose Corp. v. SDI Techs., Inc.*, Order for Closure (Jan. 24, 2014) (Ex. 2018).

Petitioner filed a second petition for *inter partes* review of the ’682 patent, *SDI Technologies, Inc. v. Bose Corp.*, Case IPR2014-00343 (PTAB Jan. 10, 2014). Petitioner also filed two petitions for *inter partes* review of the ’295 patent, *SDI Technologies, Inc. v. Bose Corp.*, Case IPR2013-00465 (PTAB July 25, 2013), and *SDI Technologies, Inc. v. Bose Corp.*, Case IPR2014-00346 (PTAB Jan. 13, 2014).

C. References Relied Upon

Petitioner relies upon the following prior art references:

ZS-D7 Personal Audio System Operating Instructions, Sony Corp., 3-860-694-33(1) (1998) (Ex. 1002, “SMS”);

Creative NOMAD® Digital Audio Player User Guide, On-line Version, v. 1.0, Creative Tech. Ltd. (June 1999) (Ex. 1005, “Nomad Manual”);

Guy Hart-Davis & Rhonda Holmes, MP3!, I DIDN’T KNOW YOU COULD DO THAT …™ 65-83 (Sybex, Inc. 1999) (Ex. 1009, “WinAmp”);

Remote control WinAmp and more, downloaded at web.archive.org/web/19990508121919/http://www.evation.com/irman/index.html (archived May 8, 1999) (Ex. 1010, “Irman Web Pages”);

ADA310W Altec Lansing Computer Speaker System User Guide, Altec Lansing Techs., Inc., (1998) (Ex. 1011, “Altec Lansing Manual”); and

U.S. Patent No. 5,969,283, issued Oct. 19, 1999 (Ex. 1013, "Looney").

D. Grounds of Unpatentability

We instituted this proceeding based on the grounds of unpatentability set forth in the table below. Dec. 27–28.

References	**Basis**	**Claims challenged**
SMS and Nomad Manual	§ 103	1–11, 18–21, 24, 27, 28, 30–38, 45–48, 51, 54, 73, 74
SMS, Nomad Manual, and Looney	§ 103	12–17, 39–44, 62, 63, 67–70, 76
WinAmp, Irman Web Pages, and Altec Lansing Manual	§ 103	1–11, 18–21, 24, 27, 28, 30–38, 45–48, 51, 54, 73, 74
WinAmp, Irman Web Pages, Altec Lansing Manual, and Looney	§ 103	12–17, 39–44, 62, 63, 67–70, 76

E. The '682 Patent

The '682 patent generally relates to audio systems for reproducing sound from computer files and computer network radio stations. Ex. 1001, col. 1, ll. 16–19. Figure 1 of the '682 patent is reproduced below.

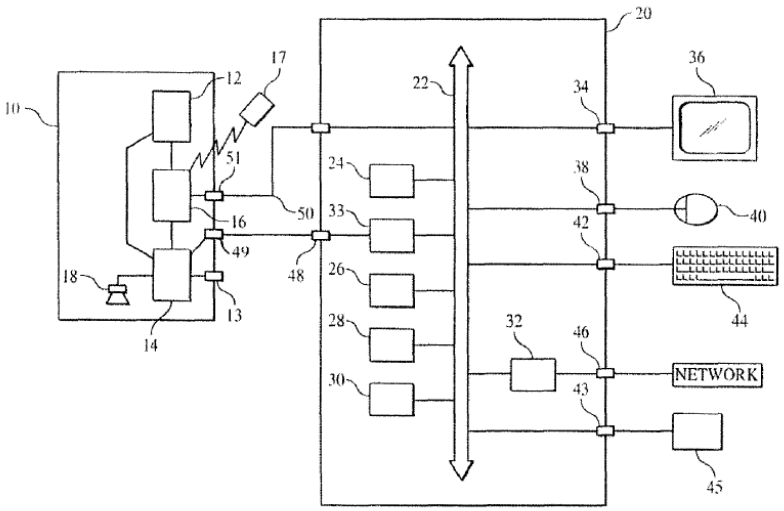

FIG. 1

Figure 1 shows sound reproduction device 10 (such as a Bose Wave® radio) that includes AM/FM tuner 12, audio signal processing circuitry 14, control electronics circuitry 16 for controlling the tuner and the signal processing circuitry, remote control device 17 for controlling the control electronics circuitry, and speaker 18. *Id.* at col. 3, ll. 30–35; col. 4, ll. 49–52. Sound reproduction device 10 is connected to computer 20 through control connector 50, which connects control electronics circuitry 16 to the computer's bus 22, and through a connector between the audio system's analog input terminal 49 and the computer's stereo jack 48. *Id.* at col. 3, ll. 54–58. Stereo jack 48 connects the computer's sound card 33 to the sound reproduction device's audio signal processing circuitry 14. *Id.* at Fig. 1. The computer includes hard disk drive 30 that can store digital music files. *Id.* at col. 3, ll. 41–44; col. 6, l. 52 – col. 7, l. 3. The computer also is connected to a network, such as the Internet. *Id.* at col. 3, ll. 49–53. The computer can access web radio stations through the network. *Id.* at col. 6,

ll. 40–48. Signals from remote control 17, received by sound reproduction device 10, can control functions of computer 20. *Id.* at col. 10, ll. 31–56.

The '682 patent also describes organizing music files into "assemblages." *Id.* at col. 7, ll. 18–43. The assemblages are based on metadata contained in the music files. *Id.* "'Metadata' values are typically in file header information of music files in many popular music file formats. Metadata values may include the artist, the composer, the type of music, and others." *Id.* at col. 7, ll. 20–23.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. An audio system configured to connect to a separate computer that is configured to provide audio information from any one of a plurality of sources, including digital music files stored on the computer and a network accessible by the computer, the audio system comprising:
>
> (a) a sound reproduction system comprising:
>
> a housing;
>
> control circuitry located within the housing for receiving control commands;
>
> audio signal processing circuitry located within the housing for processing audio signals for reproduction;
>
> one or more speakers for reproducing audio signals processed by the audio signal processing circuitry; and
>
> a connector configured to provide a physical and electrical connection exclusively between the sound reproduction system and the computer, wherein the connection includes one or more signal paths configured to
>
> (i) receive audio information from the computer corresponding to the digital music files stored on

the computer and audio information from the network via the computer, and

(ii) transmit to the computer signals for controlling the computer; and

(b) a remote control device configured to transmit signals representing at least a first type of command from a user and a second type of command from a user to the control circuitry of the sound reproduction system, wherein the first type of command is a command to control a user function of the sound reproduction system and the second type of command is a command to control a user function of the computer,

wherein the control circuitry is configured to receive the signals from the remote control and, in response to receiving such signals:

(i) control the user function of the sound reproduction system when the user issues a command of the first type, and

(ii) transmit to the computer, via a signal path of the connector, a signal for controlling the user function of the computer when the user issues a command of the second type.

II. ANALYSIS

A. Claim Construction

The Board interprets claims using the broadest reasonable construction. *See* 37 C.F.R. § 42.100(b). Claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. Claim Terms Previously Construed

In the Petition, Petitioner proposed a construction for the term "computer," appearing in independent claims 1, 28, and 62. Pet. 10–11. Patent Owner, in its Preliminary Response, proposed constructions for the terms "network," "configured to provide audio information from any one of a plurality of sources," and "audio information from the network via the computer," recited in claim 1. Prelim. Resp. 5–15. In the Decision to Institute (Dec. 9–16, 21), we construed claim terms as reproduced in the table below:

Claim Phrase	Claim Construction in the Decision to Institute
"computer" (claims 1, 28, 62)	any machine capable of receiving input, processing, storing, and outputting data
"network" (claim 1)	an interactive computer network, such as the internet
"computer that is configured to provide audio information from any one of a plurality of sources, including digital music files stored on the computer and a network accessible by the computer" (claim 1)	requires a computer configured to provide audio information from either one or more of digital music files stored on a computer, or one or more of different networks accessible by a computer, but, does not preclude providing the information from both types of sources
"audio information from the network via the computer" (claim 1)	audio information received from the computer that the computer has downloaded from the network
"a connector . . . between the sound reproduction system and the computer, wherein the connection is configured to . . . receive audio information from the computer corresponding to the digital music files stored on the computer and audio information from the network via the computer" (claim 1)	This claim limitation does not require a connection that actually receives audio information from a network. Instead, it requires a connection that is configured to do so.

During trial, Patent Owner disputed our constructions of "computer that is configured to provide audio information from any one of a plurality of sources, including digital music files stored on the computer and a network accessible by the computer" and "a connector . . . between the sound reproduction system and the computer, wherein the connection is configured to . . . receive audio information from the computer corresponding to the digital music files stored on the computer and audio information from the

network via the computer." PO Resp. 5–9. Because we do not reach the issue whether SMS and Nomad Manual render obvious the challenged claims—the only ground in which it is disputed whether these terms are met by the asserted prior art—we also do not reach Patent Owner's challenge to our preliminary constructions of these terms.

Patent Owner also proposed a construction for "audio signal processing circuitry," recited in claims 1 and 28, and constructions of terms related to "assemblages" and "metadata," recited in claims 12–17, 39–44, 62, 63, 67–70, and 76. *Id.* at 10–13. Petitioner opposes Patent Owner's constructions of these terms. Reply 3.

2. "audio signal processing circuitry"

In the '682/'295 patent litigation, the district court construed "audio signal processing circuitry," recited in claims 1 and 28, as meaning "circuitry that modifies an audio signal." Ex. 2016, at 33–34. Patent Owner asks us to construe this term to exclude circuitry for amplification, PO Resp. 10, an issue the district court expressly declined to decide, *see* '682/'295 patent litigation, *Markman* Hearing Tr. (Ex. 2016), at 33–34.

Patent Owner argues that claim 1 of the related '295 patent (which is otherwise similar to claim 1 of the '682 patent) recites "an amplifier located within the housing for powering the one or more speakers" rather than "audio signal processing circuitry located within the housing for processing audio signals for reproduction," as recited in claim 1 of the '682 patent. PO Resp. 10. Patent Owner argues that, per the doctrine of claim differentiation, we should presume that claim 1 of the '682 patent excludes an amplifier. *Id.* at 10–11. Patent Owner's argument assumes that

construing "audio signal processing circuitry" to include amplifiers would render these two claims identical in scope. Petitioner points out, however, that, if audio signal processing circuitry includes amplifiers, it would be broader in scope than amplifiers, rather than commensurate in scope, rendering claim differentiation inapplicable. Reply 3. We agree with Petitioner; the doctrine of claim differentiation is not applicable here. Thus, we are persuaded that the claimed audio signal processing circuitry may include amplifiers.

Further, Patent Owner's additional arguments are unavailing. Patent Owner argues that the specification of the '682 patent describes audio signal processing circuitry separately from powered speakers and that the specification uses the term audio signal processing circuitry to refer to techniques, such as bass and treble adjustments, used to modify an audio signal. PO Resp. 11–12 (citing the testimony of its declarant, Dr. Robert Stevenson, Ex. 2026 ¶¶ 78–81). The specification, however, does not distinguish between audio signal processing circuitry and powered speakers. Rather, the patent refers to a powered speaker as an abstract logical unit, while providing a more detailed description of a powered speaker that includes such features as audio signal processing circuitry 14, control electronics circuitry 16, and electroacoustical transducer 18. Ex. 1001, col. 3, ll. 28–35. In any event, Patent Owner has pointed to no disclosure that distinguishes amplifiers from audio signal processing circuitry.

Dr. Stevenson further testifies that Figure 9J of the '682 patent depicts an amplifier connected to speakers directly, arguing that a skilled artisan would distinguish it from other circuitry in Figures 9I and 9J that performs filtering prior to amplification. Ex. 2026 ¶ 81. Figure 9J, however,

describes items 12, 14, and 16 of Figure 1, which correspond to the AM/FM tuner 12, audio signal processing circuitry 14, and control electronics circuitry 16, respectively. Ex. 1001, col. 3, ll. 20–21; col. 3, ll. 30–32. The amplifier Dr. Stevenson points to most naturally aligns with the audio signal processing circuitry. In any case, Dr. Stevenson points to nothing in the specification that treats this amplifier separately from the other signal-modifying circuitry in Figure 9J.

In sum, Patent Owner has not persuaded us that, under a broadest reasonable construction, "audio signal processing circuitry" excludes amplifiers. Accordingly, we adopt the district court's construction, i.e., "circuitry that modifies an audio signal," which is broad, but reasonable, and is consistent with the specification.

3. "an assemblage of music files based on a first type of metadata included in the music files"[1]

Claims 12 and 39 recite "an assemblage of music files based on a first type of metadata included in the music files." Patent Owner contends that the court in the '682/'295 patent litigation construed this limitation to mean "a first group of music files that is based on a first type of metadata that is located in the music file, which may be in the file header or elsewhere in the file" and urges us to adopt that construction here. PO Resp. 12–13. As Patent Owner points out (*id.* at 13), Petitioner agreed to this construction in the '682/'295 patent litigation. *See* Ex. 2016, at 34–38.

In the Reply, Petitioner contends that no express construction of this term is necessary. Reply 3. Nevertheless, Petitioner argues that "[t]he claims . . . mean that the assemblages are based on types of metadata (for example, artist, album, genre, etc.), ***not*** the metadata ('The Beatles,' 'Abby Road,' 'Here Comes the Sun,' 'Rock') itself." *Id.* at 11. In essence, Petitioner argues that the claims are directed to assemblages of files based

[1] Claim 62 recites a storage device configured to store music files, "each music file including within the music file at least a first and second type of metadata that characterizes the music file," and a display for displaying a user interface configured to "present a first assemblage of the plurality of music files in a first set of groups according to the first type of metadata associated with the music files." This language is similar to, but not the same as, the language in claims 12 and 39. Neither Patent Owner nor Petitioner addresses the particular language of claim 62 or the differences between it and the language of claims 12 and 39. *See* PO Resp. 12–13; Reply 3, 11–12. We conclude that this language in claim 62 does not require express construction. We note, however, that claim 62 explicitly requires that each music file include metadata. This is consistent with our construction of "an assemblage of music files based on a first type of metadata included in the music files."

on categories that might be included in metadata, although the files themselves might not include metadata. Petitioner's position is contrary to the plain language of the claims, which recites that an assemblage is "based on . . . a first type of metadata *included in the music files*."

Moreover, consistent with the claim language, the '682 patent describes creating assemblages from metadata contained within the files that store the audio data:

> A second type of assemblage includes recorded units with common identifying characteristics, sometimes referred to as common "metadata" values. "Metadata" values are typically in file header information of music files in many popular music file formats. Metadata values may include the artist, the composer, the type of music, and others. . . .
>
> For example, if an assemblage contains music files having a common composer metadata value of "Beethoven", each time the assemblage is requested, a computer database program may search all the music files for the metadata value of "Beethoven" as the composer. In this manner, each time a new music file is recorded with "Beethoven" as the composer, it is automatically added to the assemblage.

Ex. 1001, col. 7, ll. 18–41.

In light of the claim language and the description in the specification, and consistent with the district court in the '682/'295 patent litigation, we construe "an assemblage of music files based on a first type of metadata included in the music files" to mean "a first group of music files that is based on a first type of metadata that is located in the music file, which may be in the file header or elsewhere in the file." We recognize the differences in the claim construction framework employed by district courts, but

nevertheless are persuaded that the district court's construction is the broadest reasonable interpretation.

B. The Level of Ordinary Skill in the Art

The declarants for Petitioner and Patent Owner essentially agree that a person of ordinary skill in the art would have had a bachelor's degree in electrical engineering and several years (e.g., three years) of experience with audio systems. *Compare* Declaration of Andrew B. Lippman (Ex. 1017, "Lippman Decl.") ¶ 19, *with* Stevenson Decl., Ex. 2026 ¶ 20.

C. Obviousness Over WinAmp, Irman Web Pages, and Altec Lansing Manual

Petitioner asserts that claims 1–11, 18-21, 24, 27, 28, 30–38, 45–48, 51, 54, 73, and 74 of the '682 patent would have been obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual. Pet. 39–52.

1. WinAmp

WinAmp describes a software package for playing MP3 digital audio files on a computer. Ex. 1009, at 12. According to WinAmp, the software plays MP3 files stored on the computer and also streams music from the Internet. *Id.* at 17–19. WinAmp describes storing "ID3" tag information, such as title, artist, album, and genre, in each MP3 file. *Id.* at 28.

2. Irman Web Pages

Irman Web Pages describes an infrared receiver that connects to a computer. Ex. 1010, at 1. The receiver receives signals from various remote

controls and converts the signals into computer commands for controlling software executing on the computer. *Id.* Irman Web Pages lists the WinAmp software package as an example of software that can be controlled by a remote control through the receiver. *Id.*

3. Motion to Exclude Irman Web Pages

Patent Owner has moved to exclude Irman Web Pages as hearsay (under FEDERAL RULE OF EVIDENCE 802) and lacking authentication (under FEDERAL RULE OF EVIDENCE 901). Patent Owner Bose Corporation's Motion to Exclude Evidence (Paper 28, "PO Mot. to Exclude") 6–9. Irman Web Pages is a collection of web pages obtained from the Internet Archive, or Wayback Machine. Patent Owner contends that Petitioner has failed to authenticate the reference "by one who has relevant knowledge." PO Mot. to Exclude 6. According to Patent Owner, at least one district court, in *Novak v. Tucows, Inc.*, 2007 WL 922306 (E.D.N.Y. Mar. 26, 2007), excluded printouts from the Wayback Machine as lacking authentication. PO Mot. to Exclude 6–7.

Petitioner responds that Irman Web Pages includes distinctive characteristics, such as a unique Wayback Machine logo, header, and uniform resource locator ("URL"), indicating that Irman Web Pages is authentic. Petitioner's Opposition to Patent Owner's Motion to Exclude Evidence (Paper 30, "Pet. Opp. to Mot. to Exclude") 5–6; *see also* FED. R. EVID. 901(b)(4) ("The appearance, contents, substance, internal patterns, or other distinctive characteristics of the item, taken together with all the circumstances" is evidence that may satisfy the authentication requirement.). Petitioner further points to several district court cases in which printouts

from the Wayback Machine have been found admissible. Pet. Opp. to Mot. to Exclude 8–9 (citing *Keystone Retaining Wall Sys., Inc. v. Basalite Concrete Prods., LLC*, 2011 WL 6436210 (D. Minn. Dec. 19, 2011); *Web Tracking Solutions, L.L.C. v. Wexler*, 2010 U.S. Dist. LEXIS 143519 (E.D.N.Y. July 27, 2010); *Market-Alerts Pty. Ltd. v. Bloomberg Finance L.P.*, 922 F. Supp. 2d 486, 494 n.12 (D. Del. 2013)). Petitioner also points out that "Bose does not argue that Exhibit 1010 does not accurately represent archive pages . . . captured on May 8, 1999," and points to indicia that show that the date is self-authenticating. *See* Pet. Opp. to Mot. to Exclude, 6, 7, 8 n.3 (footnote providing a "clickable version" of the website).

Patent Owner contends that, in those cited cases in which printouts from the Wayback Machine were found to be authenticated and not hearsay, the party proffering the printouts also offered proof of its accessibility. PO Mot. to Exclude 8–9. At the hearing, Patent Owner clarified that a standard affidavit from the Internet Archive would have provided sufficient authentication. *See* Tr. 87:4–21. The Internet Archive's standard affidavit, however, merely attests to the general procedures of the Internet Archive and the general characteristics of archived web pages on the Wayback Machine and states that the particular web page is part of its records. Ex. 3004. As Petitioner points out, however, we can follow the URL reproduced in Irman Web Pages and verify that Irman Web Pages is part of the Internet Archive's records. Pet. Opp. to Mot. to Exclude 8. Thus, Patent Owner's argument reduces to the contention that Petitioner has not provided an affidavit from Internet Archive attesting to its general procedures. As the *Keystone* case explains, "[t]he Internet Archive has existed since 1996, and

federal courts have regularly accepted evidence from the Internet Archive." 2011 WL 6436210, at *9 n.9. At the hearing, counsel for Patent Owner was asked to explain why we should consider Irman Web Pages unreliable, and, specifically, why we should consider unreliable the indication that Irman Web Pages was archived on May 8, 1999. Tr. 81:13–22; 82:21–83:9; 85:13–86:9; *see also* Fed. R. Evid. 807. Patent Owner did not articulate anything about the document itself that would indicate unreliability.

Instead, as indicated above, Patent Owner essentially contends that Petitioner committed a technical violation of the Rules of Evidence by not obtaining a standard affidavit from Internet Archive to show that "the web contents [were] available on that particular date." *See* Tr. 83:1–2; 85:13–86:9. Such an affidavit would not have added materially to the record for the reasons outlined above. Petitioner shows that the date on the Irman Web Pages facially appears authentic and is authenticated further by accessing the website. Patent Owner has not carried the burden on its motion to show that Irman Web Pages is not authentic. Therefore, we deny Patent Owner's Motion to Exclude, with respect to Irman Web Pages.

4. Altec Lansing Manual

Altec Lansing Manual describes a powered speaker system, the ADA310W, that is plugged into an audio card of a personal computer, either through a universal serial bus ("USB") cable or through a stereo audio cable connecting the computer's analog output to the speaker system's analog input. Ex. 1011, at 3–5. According to Altec Lansing Manual, the speaker system accepts digital and analog audio data. *Id.* at 6. If the computer and the ADA310W are connected using a USB cable, the computer can control

all of the speaker functions. *Id.* at 3. The ADA310W includes a subwoofer and two separate satellite speakers. *Id.* at 4–5. The computer connects to the subwoofer, which connects to the satellite speakers. *Id.* The speaker system also includes a remote control. *Id.* at 6. The signal from the remote control is received at an IR receiver on one of the satellite speakers. *Id.*

5. Motion to Exclude Altec Lansing Manual

Patent Owner moves to exclude page seven of the Altec Lansing Manual. PO Mot. to Exclude 4–6.[2] While the majority of the Altec Lansing Manual describes the ADA310W product, page seven describes an ADA104 product. *Id.* at 4–5; Ex. 1011, at 7. As Patent Owner points out (PO Mot. to Exclude 4), page seven is in a landscape orientation while the remaining pages of the exhibit are in a portrait orientation. Petitioner argues its declarant, Dr. Lippman, testified that page seven might be a part of the manual for the ADA310W product because the ADA104 and ADA310W products might use the same remote control discussed at page seven. Pet. Opp. to Mot. to Exclude 4 (citing Ex. 2015, 92:8–14; 96:3–9[3]). However, every indication is that page seven is from a different document than the remainder of Exhibit 1011. Petitioner has not offered persuasive evidence to

[2] Earlier in the Motion, Patent Owner stated that it "moves to exclude the Altec Lansing Manual (Ex. 1011) or at least page seven in that exhibit." PO Mot. to Exclude 2. Patent Owner's argument, however, is directed to excluding page seven only. *Id.* at 4–6. Patent Owner confirmed at the hearing that it only seeks to exclude page seven. Tr. 84:17–19.

[3] Pages 92 and 96 are not included in the excerpts of Dr. Lippman's deposition comprising Exhibit 2015. Petitioner did not supplement the record with the portions of testimony it cites.

the contrary. Accordingly, we grant Patent Owner's Motion to Exclude with respect to page seven of Exhibit 1011.

6. *Claims 1–4, 6–8, 10, 11, 18, 19, 24, 27, 28, 30–32, 34, 35, 37, 38, 45, 46, 51, 54, 73, and 74 Would Have Been Obvious Over WinAmp, Irman Web Pages, and Altec Lansing Manual*

According to Petitioner, the Altec Lansing ADA310W speaker system could be connected to a computer equipped with WinAmp software. Pet. 7–8. The ADA310W, then, would receive, process, and play audio information from the computer, such as stored MP3 files and music streamed from the Internet. *Id.* Petitioner further argues that the computer could be equipped with an Irman receiver, which would convert remote control signals into commands that would control the WinAmp software. *Id.* This would result in a system with two remote controls: one for the computer, through the Irman receiver, and one for the ADA310W. *Id.* Petitioner proposes that a person of ordinary skill in the art would consolidate the functions of the two remote controls into one remote control, which would interface with the ADA310W. *Id.* at 40, 46. According to Petitioner, a person of ordinary skill would do this "in order to, for example, reduce clutter and duplication." *Id.* Petitioner's proposed combination is supported by the testimony of Dr. Lippman. Ex. 1017 ¶¶ 38–41.

Regarding claims 1 and 28, in addition to findings elsewhere, we make the following findings: Altec Lansing Manual's speaker system is an audio system that is configured to be connected to a computer. Ex. 1011, at 4. This speaker system is a sound reproduction system that includes a housing. *Id*. The housing includes speakers, a connector configured to

provide a physical and electrical connection to the computer, control circuitry (the IR receiver and corresponding circuitry that converts the IR signals into computer commands), and audio signal processing circuitry (including amplifiers and Dolby Digital processing circuitry). *Id.* at 6. Altec Lansing Manual also describes a receiver for receiving information from a remote control device. *Id.* Irman Web Pages describes controlling user functions of music reproduction software on a computer, such as that described in WinAmp, using a remote control. Ex. 1010, at 1.

We conclude that receiving a remote control signal at a receiver located in a speaker system, as taught in Altec Lansing Manual, transmitting that signal to an attached computer, and controlling a function of sound reproduction software (such as WinAmp) on the computer, as taught in Irman Web Pages, would have been no more than an obvious rearrangement of old elements, used for their intended purposes, yielding no more than predictable results. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416–17 (2007). For these reasons, we conclude that Petitioner has proved by a preponderance of the evidence that claims 1 and 28 would have been obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual.

Claims 2–4, 6–8, 10, 11, 18, 19, 24, 27, and 73 depend from claim 1. Claims 30–32, 34, 35, 37, 38, 45, 46, 51, 54, and 74 depend from claim 28. Having reviewed Petitioner's evidence of unpatentability for these dependent claims,[4] we conclude that Petitioner also has proved by a preponderance of the evidence that claims 2–4, 6–8, 10, 11, 18, 19, 24, 27,

[4] Patent Owner did not challenge Petitioner's assertion of unpatentability with regard to the additional limitations found in these claims.

30–32, 34, 35, 37, 38, 45, 46, 51, 54, 73, and 74 would have been obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual. *See* Pet. 42–52.

a. The references do not teach away from Petitioner's proposed combination

Patent Owner contends that the references teach away from Petitioner's proposed combination by teaching two other combinations of the references that are not within the scope of the claims. PO Resp. 33–41. With respect to the first alternative combination, Patent Owner argues that Altec Lansing Manual teaches that a computer can control all functions of a speaker system and that Irman Web Pages teaches that it could be extended to support other remote control devices (presumably including the one described in Altec Lansing Manual). *Id.* at 34. According to Patent Owner, these teachings would lead a person of ordinary skill in the art to configure the computer to accept the remote control signal (using an Irman receiver) and use the remote control to control all functions of the ADA310W speakers through the computer (per Altec Lansing Manual). *Id.* at 34–35. In this first Patent Owner-proposed combination, contrary to the claims, the speaker system would not control the computer.

With respect to the second of its proposed combinations, Patent Owner contends that a skilled artisan would use a single universal remote control that would have communicated with both the Irman receiver and the receiver on the Altec Lansing satellite speaker. *Id.* at 36. In this combination, Patent Owner argues, no modifications to software or circuitry

would have been required. *Id.* In this combination, also, the speaker system would not control the computer.

According to Patent Owner, by leading a skilled artisan to one of these two combinations, the references as a whole would have led the skilled artisan in a direction divergent from the claims and, thus, would have taught away from them. *Id.* at 36–37. Patent Owner further argues that Petitioner's proposed combination would be counterintuitive because the simpler device (the speaker system) would control the more complex device (the computer). *id.* at 40–41.

As the United States Court of Appeals for the Federal Circuit has counseled:

> A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. . . . [I]n general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.

In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). Patent Owner has not persuaded us that a skilled artisan would have been discouraged from using the remote control from Altec Lansing Manual's speaker system rather than a remote control interfacing with a computer connected to the speaker system, nor has Patent Owner persuaded us that such a combination would have been unlikely to be productive of the result achieved by the claims.

We also are not persuaded that the prior art would have led a skilled artisan in a direction divergent from that of the '682 patent. Rather, Patent Owner's evidence suggests that a skilled artisan may have had reasons to

pursue one or the other of its two proposed combinations in certain circumstances. However, "the 'mere disclosure of alternative designs does not teach away.'" *In re Mouttet*, 686 F.3d 1332, 1334 (Fed. Cir. 2013) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). We are not persuaded that the prior art implicitly teaches that Patent Owner's proposed combinations would have been superior to that proposed by Petitioner. *Cf. Spectralytics, Inc. v. Cordis Corp.*, 649 F.3d 1336, 1343 (Fed. Cir. 2011) (a jury was permitted to find that "prior Swiss-style machines taught away from embracing vibrations to improve cutting accuracy because all prior machines improved accuracy by dampening vibrations"). Moreover, even if the combinations proposed by Patent Owner would have been preferable to that proposed by Petitioner, "just because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes." *Mouttet*, 686 F.3d. at 1334. Thus, we are not persuaded that WinAmp, Irman Web Pages, and Altec Lansing Manual teach away from a combination in which the remote control interfaces with a speaker system and controls a function of a computer.

Patent Owner further contends that Dr. Lippman's testimony was driven by hindsight because it did not include descriptions of the two combinations proposed by Patent Owner. *Id.* at 37–40. Indeed, Patent Owner moves to exclude ¶¶ 39–44 of Dr. Lippman's testimony because he does not specifically address Patent Owner's proposed combinations.

PO Mot. to Exclude 9–15.[5] Dr. Lippman testified in deposition that he did not opine about Patent Owner's combinations because, as combinations that would not render the claims obvious, they were not relevant to the case. Ex. 2015, 157:6–159:15. Patent Owner has not shown that focusing one's testimony on an allegedly invalidating combination to the exclusion of other, non-invalidating combinations, evidences hindsight bias. Rather,

> [t]o reach a non-hindsight driven conclusion as to whether a person having ordinary skill in the art at the time of the invention would have viewed the subject matter as a whole to have been obvious in view of multiple references, the Board must provide some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct.

In re Kahn, 441 F.3d 977, 987 (Fed. Cir. 2006). Thus, the issue is not whether Dr. Lippman described combinations of the references that would not have rendered the claims obvious; instead, the issue is whether Dr. Lippman provided a reason, with rational underpinning, for combining the references in the way he proposes. *Cf. id* at 988 ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

Dr. Lippman testified that a skilled artisan would have made the proposed combination "in order to reduce duplication and clutter, such that one remote would control both the speaker and the computer and using the

[5] For the reasons stated below, we disagree with Patent Owner's argument. Moreover, Patent Owner has not persuaded us that testimony suffering from hindsight bias should be excluded as inadmissible. Rather, that would go to the weight we give to the testimony. Thus, we deny Patent Owner's Motion to Exclude with respect to ¶¶ 39–44 of Dr. Lippman's testimony.

IR receiver positioned in the speaker." Ex. 1017 ¶ 41. We conclude that this reason has rational underpinning. Moreover, as explained in the Decision to Institute (Dec. 24–25), adding Patent Owner's proposed combinations to Petitioner's proposed combination renders the latter no more than an obvious selection from a finite number (here, three) of predictable solutions. The Federal Circuit has distinguished between circumstances where the challenger of a patent "merely throws metaphorical darts at a board filled with combinatorial prior art possibilities," which is vulnerable to hindsight bias, and circumstances "where a skilled artisan merely pursues 'known options' from a 'finite number of identified, predictable solutions,'" which evidences obviousness. *In re Kubin*, 561 F.3d 1351, 1359 (Fed. Cir. 2009) (quoting *KSR*, 550 U.S. at 421). We conclude that this case falls into the latter category. Patent Owner's two combinations and Petitioner's combination together constitute three rearrangements of the same elements, where each of those combinations is a predictable use of the elements for their intended purposes. Precisely how to arrange these known elements would have been an obvious matter of design choice. *See also Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1331 (Fed. Cir. 2009) ("As the Supreme Court explained, if trying such a limited number of solutions 'leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.'" (quoting *KSR*, 550 U.S. at 421)).

b. Altec Lansing Manual teaches audio signal processing circuitry located within the housing

Patent Owner argues that Altec Lansing Manual does not describe audio signal processing circuitry located within the same housing as control circuitry for receiving control commands. PO Resp. 22–25. Petitioner contends that the speakers described in Altec Lansing Manual included amplifiers located in the satellite speakers and the subwoofer for processing audio signals. Pet. 40. Petitioner also contends that the IR receiver shown at page 6 of Altec Lansing Manual constitutes "control circuitry . . . for receiving control commands." *Id.*

Patent Owner first argues that an amplifier is not audio signal processing circuitry. For the reasons given in Section II.A.2, we disagree with Patent Owner. Moreover, Patent Owner admits that Altec Lansing Manual discloses additional audio signal processing circuitry in the subwoofer. PO Resp. 44 ("The Altec Lansing Manual describes various operating modes, and Exhibit 1012 to SDI's Petition indicates that at least the audio signal processing circuitry for the Dolby Digital mode is included in the subwoofer.").

Patent Owner next argues that Altec Lansing Manual's control circuitry would have been located in a satellite speaker while the amplifiers more likely would have been located only in the subwoofer. PO Resp. 41–42. Thus, Patent Owner argues, in Petitioner's proposed combination, the audio signal processing circuitry and the control circuitry would not have been included in the same housing. *Id.* Moving that audio signal processing circuitry to a satellite speaker, Patent Owner contends, would have required

the interconnection of several wires and would have detracted from the Altec Lansing Manual system's simple design. *Id.* at 44.

In response, Petitioner argues that "[t]he 'control circuitry,' however, extends from the satellite th[r]ough the cable that connects to the subwoofer, and into the subwoofer, which is the only way that the remote control signals received by the IR receiver can get to the amplifier that Bose says is in the subwoofer." Reply 14. Petitioner further argues that the claimed housing can include each of the three speakers (the two satellites and the subwoofer described in Altec Lansing Manual). *Id.* Finally, Petitioner argues that where to locate the control circuitry and audio signal processing circuitry simply would have been a matter of design choice. *Id.*

We agree with Petitioner that the control circuitry taught in Altec Lansing Manual is not limited to the IR receiver positioned on the satellite speaker, but rather includes circuitry in the subwoofer that receives commands from the remote control via the IR receiver (e.g., circuitry that receives a signal from the remote to control the volume of the subwoofer). We also are persuaded by Petitioner that where to locate the particular circuitry would have been a predictable matter of design choice, with the circuitry performing the same intended function regardless of whether it is located in the subwoofer or a satellite speaker. *See also Mouttet*, 686 F.3d at 1332 ("It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.").

Patent Owner argues that page seven of Altec Lansing Manual does not describe the same product as the remainder of the reference. PO Resp. 42–43. Accordingly, Patent Owner argues, Petitioner cannot rely on page

seven to show audio signal processing circuitry. *Id.* As explained above, we agree that page seven does not belong with the remainder of Altec Lansing Manual. Nevertheless, we agree with Petitioner (*see* Reply 14) that pages 4–6 show audio signal processing circuitry and the ability to control the speaker system with a remote control. Thus, the reference as a whole supports Petitioner's argument even without page seven.

7. Claims 5, 9, 20, 21, 33, 36, 47, and 48 Would Have Been Obvious Over WinAmp, Irman Web Pages, and Altec Lansing Manual

Each of claims 5, 9, 20, 21, 33, 36, 47, and 48 recites an audio system that includes an AM/FM tuner located at least partially within the housing. Petitioner, through its declarant, contends that the notion of an AM/FM radio tuner incorporated within a speaker system was well-known and, by contrast, that it was uncommon to place an AM/FM tuner in a computer. Ex. 1017 ¶ 44. According to Dr. Lippman, it would have been an obvious engineering combination, with no undue design challenges, to place an AM/FM tuner in the housing of the speaker system of Altec Lansing Manual, and a person of ordinary skill in the art would have added a tuner to give users the advantage of listening to the radio without using computer resources. *Id.*

Patent Owner concedes that coupling an AM/FM tuner with a speaker is "very old," but, nevertheless, argues that Petitioner has failed to provide a reason to combine a tuner within the housing of the Altec Lansing Manual speaker system. PO Resp. 45. Patent Owner argues that a skilled artisan would have added a tuner using an input on the back of the speaker system

rather than incorporating it within the housing of a satellite speaker. *Id.* at 46 (citing Stevenson Decl., Ex. 2026 ¶ 73). According to Patent Owner, incorporating a tuner into a satellite speaker would require more interconnections and would lead to interference, as the satellite speakers are meant to be placed near the computer. *Id.*

Petitioner replies that such interconnections would have been well within the abilities of a skilled artisan and that interference was a common issue that a skilled artisan would have known to alleviate by shielding. Reply 14–15. We agree with Petitioner. The record shows that adding an AM/FM tuner within the Altec Lansing Manual speaker system housing would have been little more than re-locating or adding a well-known and desirable feature, for its intended purpose, with predictable results. *See KSR*, 550 U.S. at 416–17; Lippman Decl., Ex. 1017 ¶ 44.

Regarding claims 21 and 48, Patent Owner argues that a skilled artisan would not have added control buttons on an Altec Lansing Manual satellite speaker to control a function of the computer because software on the computer (e.g., WinAmp software) already could control the computer function. PO Resp. 46–47. Petitioner responds that the control buttons on the satellite speaker would be redundant of those on the remote control and that it would have been desirable if the remote control were to fail. Reply 15. We are persuaded that Petitioner's proposed reason has rational underpinning.

In sum, Petitioner has proved, by a preponderance of the evidence, that claims 5, 9, 20, 21, 33, 36, 47, and 48 would have been obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual.

D. Obviousness of Claims 12–17, 39–44, 62, 63, 67–70, and 76 Over WinAmp, Irman Web Pages, Altec Lansing Manual, and Looney

Petitioner asserts that claims 12–17, 39–44, 62, 63, 67–70, and 76 would have been obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual, and Looney. *See* Pet. 52–59.

Looney describes compressing music into MPEG3 (also referred to as MP3) files and storing those files in a database along with data indicating categories to which the MP3 files are assigned. Ex. 1013, col. 2, ll. 27–50. The MP3 files are stored in the database separately from the category information. *Id.* at col. 6, ll. 14–17 ("These categories are carried in a database, along with the raw digital music data, and allow the user to playback each of the individual selections based upon specific categories in a random or ordered manner."). The music files can be organized into such categories as "title, artist, date, main music category, sub-main music category," etc. *Id.* at col. 6, ll. 51–63.

According to Petitioner, Looney discloses sorting digital music files based on metadata. Pet. 53. Petitioner's proposed reason to combine Looney with WinAmp, Irman Web Pages, and Altec Lansing Manual is to allow the users to navigate their music collections in a conventional way. Pet. 53–54 (citing Lippman Decl., Ex. 1017 ¶ 48). Dr. Lippman's opinion, offered on behalf of Petitioner, assumes "that 'the music files' would include the database of [Looney] that includes the metadata." Ex. 1017 ¶ 48. In the alternative, Dr. Lippman states that the location of the data used to perform the sorting simply would have been a matter of design choice. *Id.*

Patent Owner argues that Looney does not describe an assemblage of music files based on "metadata *included in* the music file." PO Resp. 47.

Instead, Patent Owner argues, Looney describes organizing music files using metadata stored separately in a database. *Id.* at 28. As explained in Section II.A.3, we agree that claims 12–17 and 39–44 require a remote configured to transmit a signal representing a command for causing the computer to select a first group of music files that is based on a first type of metadata that is located in the music file, which may be in the file header or elsewhere in the file. Nevertheless, the evidence of record supports the conclusion of obviousness.

While Looney describes organizing music files based on metadata stored separately from the music files (*see, e.g.*, Ex. 1013, col. 6, ll. 14–17), the '682 patent, itself, admits that "'[m]etadata' values are typically included in file header information of music files in many popular music file formats." Ex. 1001, col. 7, ll. 20–22. Indeed, WinAmp discloses that each MP3 file can store "ID3 Tag" information, which includes metadata such as "Title," "Artist," "Album," and "Genre." Ex. 1009, at 28; *see* Pet. 56. Looney teaches the concept of organizing music files into assemblages based on types of metadata, such as title, artist, and music style. Ex. 1013, col. 11, ll. 1–22. Per the admission in the '682 patent, a skilled artisan would have known that the metadata could have been stored in the music files themselves (such as the MP3 files described in WinAmp, Ex. 1009, at 28). As Dr. Lippman observed, "the location of the data used to perform the sorting is simply a matter of design choice." Ex. 1017 ¶ 48. *See Kubin*, 561 F.3d at 1359; *Perfect Web*, 587 F.3d at 1331.

Petitioner contends that a skilled artisan would have combined the teachings of Looney with those of WinAmp, Irman Web Pages, and Altec Lansing Manual "to allow the user to navigate their music collection in a

conventional way." Pet. 53. Patent Owner argues that "[b]ecause the WinAmp software already includes a way for users to organize the music, there is no reason why one of ordinary skill in the art would choose to implement some other scheme, in particular Looney's different approach." PO Resp. 48. The arguments support the record evidence that skilled artisans would have known about these two music file organization systems to navigate, find, and play stored music. We conclude that substituting Looney's scheme of organizing music files for that described in WinAmp would have been nothing more than a mere substitution of one type of file organization system for another, or the obvious choice of known options from predictable solutions. *See Kubin*, 561 F.3d at 1359; *Perfect Web*, 587 F.3d at 1331.

Having reviewed Petitioner's evidence of unpatentability for the remaining limitations of claims 12–17, 39–44, 62[6], 63, 67–70, and 76, we conclude that Petitioner has proved by a preponderance of the evidence that each of these claims would have been obvious over WinAmp, Irman Web Pages, Altec Lansing Manual, and Looney.

E. Obviousness Grounds Based on SMS

Our determination that each challenged claim is unpatentable over WinAmp, Irman Web Pages, and Altec Lansing Manual, along with Looney, renders it unnecessary to reach Petitioner's contentions that claim 1–11, 18–21, 24, 27, 28, 30–38, 45–48, 51, 54, 73, and 74 would have been obvious

[6] The findings and conclusions set forth in Section II.C.6, above, for claims 1 and 28 are applicable to the similar limitations of independent claim 62.

over SMS, with or without Nomad Manual, and that claims 12–17, 39–44, 62, 63, 67–70, and 76 would have been obvious over SMS and Looney, with or without Nomad Manual. *Cf. In re Gleave*, 560 F.3d 1331, 1338 (Fed. Cir. 2009) (not reaching obviousness after finding anticipation).

III. CONCLUSION

Petitioner has demonstrated by a preponderance of the evidence that claims 1–21, 24, 27, 28, 30–48, 51, 54, 62, 63, 67–70, 73, 74, and 76 of the '682 patent are unpatentable based on the following grounds of unpatentability:

Claims 1–11, 18–21, 24, 27, 28, 30–38, 45–48, 51, 54, 73, and 74 under 35 U.S.C. § 103(a) as obvious over WinAmp, Irman Web Pages, and Altec Lansing Manual; and

Claims 12–17, 39–44, 62, 63, 67–70, and 76 under 35 U.S.C. § 103(a) as obvious over WinAmp, Irman Web Pages, Altec Lansing Manual, and Looney.

IV. ORDER

For the reasons given, it is

ORDERED that, based on a preponderance of the evidence, claims 1–21, 24, 27, 28, 30–48, 51, 54, 62, 63, 67–70, 73, 74, and 76 of U.S. Patent No. 8,401,682 B2 are held unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude is granted-in-part; page seven of Exhibit 1011 is excluded; and

FURTHER ORDERED that, because this is a final written decision, 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.

PETITIONER:

SDI Technologies, Inc.

C/O
Matthew B. Lowrie
Aaron W. Moore
Foley & Lardner LLP
111 Huntington Avenue,
Boston, MA 02199
mlowrie-PTAB@foley.com
amoore-PTAB@foley.com

PATENT OWNER:

Bose Corporation

C/O
Dorothy P. Whelan, Reg. No. 33,814
Karl Renner
Mark Hebert
3200 RBC Plaza
60 South Sixth Street
Minneapolis, MN 55402
whelan@fr.com
axf@fr.com
hebert@fr.com