

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNIFIED PATENTS INC.,  
Petitioner,

v.

DIGITAL STREAM IP, LLC,  
Patent Owner.

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Case IPR2016-01749  
Patent 6,757,913 B2

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Before MICHAEL J. FITZPATRICK, STACEY G. WHITE, and  
MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Unified Patents Inc. (“Petitioner”) filed a Petition (Paper 3, “Pet.”) requesting *inter partes* review of claims 1–4, 6–13, 20, and 22 of U.S. Patent No. 6,757,913 B2 (Ex. 1001, “the ’913 patent”). We instituted an *inter partes* review of all the challenged claims because Petitioner demonstrated a “reasonable likelihood” of prevailing on “at least 1 of the claims challenged in the petition.” Paper 10 (“Inst. Dec.”); *see* 35 U.S.C. § 314(a).

After institution of trial, Digital Stream IP, LLC (“Patent Owner”) filed a Patent Owner Response (Paper 15, “PO Resp.”), and Petitioner filed a Reply (Paper 19, “Pet. Reply”).

We have jurisdiction under 35 U.S.C. § 6(b). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4, 6–13, 20, and 22 of the ’913 patent are unpatentable. Petitioner has not, however, made such a showing with respect to claims 2 and 3. This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

## II. BACKGROUND

### A. *Related Proceedings*

Patent Owner identifies one pending federal district court case involving the ’913 patent: *Digital Stream IP LLC v. Sirius XM Radio Inc.*, No. 1:18-cv-00087 (D. Del.). Paper 21, 2.

The parties previously identified four other federal district court cases involving the ’913 patent. Pet. 1; Paper 5, 2. According to Patent Owner, those “litigations have been terminated.” Paper 21, 2.

*B. The '913 Patent*

The '913 patent describes a system for local wireless transmission and reception of digital audio and program information. Ex. 1001, at [54], 4:67–5:1. Figure 1, which is reproduced below, illustrates such a system.

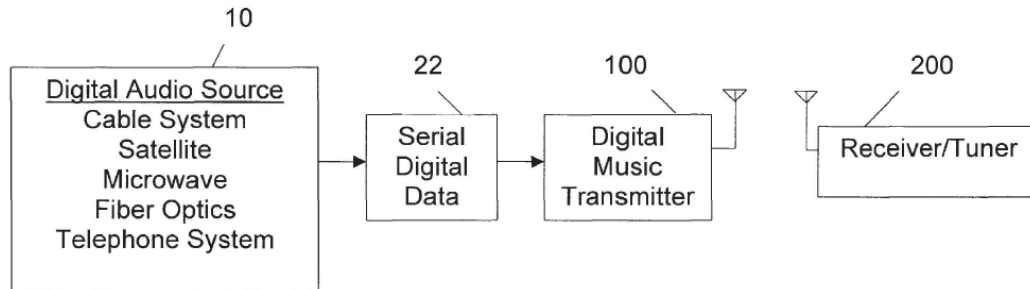


Fig. 1

In particular, Figure 1 is a schematic representation of a transmitter and receiver/tuner system. *Id.* at 3:48–50. Digital data distribution system 10 outputs to transmitter 100 serial digital data stream 22, which contains a plurality of digital audio and program information signals. *Id.* at 4:16–20, 5:1–5. The digital audio signal may be encoded with music, while the program information signal may be encoded with information about the composer, the track title, the artist, and the associated album. *Id.* at 2:60, 8:9–12. Transmitter 100 converts the digital audio and program information signals into digital RF carrier frequencies and broadcasts them to multiple devices, including receiver/tuner 200. *Id.* at 5:5–12.

An example of a receiver/tuner is shown in Figure 3, which is reproduced below.

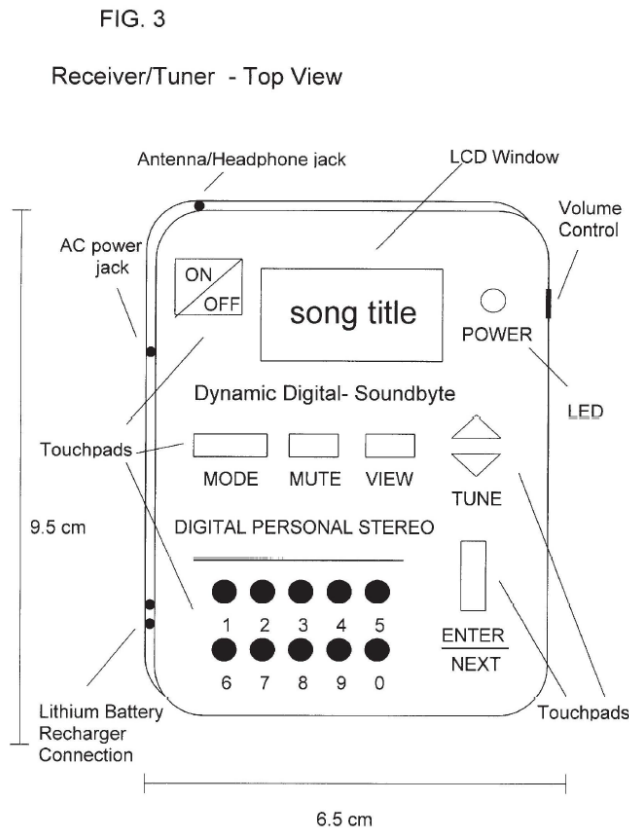


Figure 3, above, is a top plan view of a receiver/tuner. *Id.* at 3:54–56. A user can press the number keys to select one of the digital audio and program information channels transmitted by transmitter 100. *Id.* at 7:29–33. Once the user makes a selection, the receiver/tuner electronically outputs the selected audio and displays the corresponding program information for the selected audio track. *Id.* at 5:13–15.

### C. Illustrative Claim

Claims 1 and 20 are independent claims. Each of claims 2–4, 6–13, and 22 depends from one of claims 1 and 20. Claim 1 is illustrative of the subject matter at issue, and is reproduced below.

1. A wireless digital audio transceiver for receiving a locally broadcast digital audio signal wherein the digital audio signal

comprises a plurality of carrier waves to carry digital audio data and audio program information, the transceiver comprising:

- a user interface to enable a user to select digital audio data from a plurality of digital audio data within the digital audio signal;
- a tuner operably coupled to the user interface to tune to a frequency associated with a carrier wave containing the selected digital audio data;
- a demodulator coupled to the tuner to extract the selected digital audio data and the audio program information from the carrier wave; and
- a digital to analog converter to convert the selected digital audio data into an analog signal and to send the analog signal to an output for playback to the user.

#### *D. The Instituted Grounds*

Petitioner asserts in its Petition two grounds based on obviousness under 35 U.S.C. § 103. Pet. 3, 10, 46. We instituted *inter partes* review on all the challenged claims and on both asserted grounds. Inst. Dec. 6, 11, 15. The instituted grounds are as follows.

References	Basis	Claims Challenged
Schotz <sup>1</sup> and Rovira <sup>2</sup>	§ 103	1–3, 6–13, 20, and 22
Kostreski <sup>3</sup> and Streck <sup>4</sup>	§ 103	1, 2, 4, 6, 7, 9, and 10

In support of the instituted grounds, Petitioner relies on two declarations of Daniel Stark (Exs. 1006, 1013).

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<sup>1</sup> Schotz, U.S. Patent No. 5,491,839, issued Feb. 13, 1996 (Ex. 1002).

<sup>2</sup> Rovira, U.S. Patent No. 5,406,558, issued Apr. 11, 1995 (Ex. 1003).

<sup>3</sup> Kostreski, U.S. Patent No. 5,651,010, issued July 22, 1997 (Ex. 1004).

<sup>4</sup> Streck, U.S. Patent No. 5,101,499, issued Mar. 31, 1992 (Ex. 1005).

### III. ANALYSIS

#### A. *Real Party-In-Interest*

We first address Patent Owner's contention that the Petition should be dismissed "for [Petitioner's] failure to prove it is the sole real party in interest." *See* PO Resp. 49.

Petitioner certifies in its Petition that Unified Patents is the real party-in-interest. Pet. 1. With regard to that certification, Petitioner submitted Exhibit 1012, which is titled "Petitioner's Voluntary Interrogatory Responses." During a conference call that we held on June 14, 2017, with counsel for each party and Mr. Kevin Jakel of Unified Patents, Patent Owner requested to cross-examine Mr. Jakel on his testimony set forth in Exhibit 1012. Petitioner declined to voluntarily produce Mr. Jakel for a deposition on the theory that Exhibit 1012 is not an affidavit within the meaning of 37 C.F.R. § 42.51(b)(1)(ii), which provides for the cross-examination of affiants as part of routine discovery. Contrary to Petitioner's position, however, we found that Exhibit 1012 constitutes an affidavit. Paper 13, 2. We further authorized Petitioner to file a motion to withdraw Exhibit 1012 in its entirety in lieu of producing Mr. Jakel for cross-examination. *Id.* That same day, Petitioner filed a Motion to Withdraw Exhibit 1012 (Paper 14), and we granted that Motion (*see* Paper 16).

Patent Owner now contends that we should "view [Petitioner's] assertions [regarding real party-in-interest] as nothing more than unsupported attorney argument, and certainly not evidence." PO Resp. 53. As support, Patent Owner explains that "35 U.S.C. § 312(a)(2) places the burden of identifying all real parties in interest on the petitioner and that the ultimate burden of persuasion always remains with the petitioner." *Id.* at 51

(citing *Atlanta Gas Light Co. v. Bennett Regulator Guards, Inc.*, Case IPR2013-00453, at 7 (PTAB Feb. 23, 2015) (Paper 91)). Patent Owner further explains that Exhibit 1012 was the “only evidence” that Petitioner offered in support of its assertions regarding real party-in-interest, and, “[w]ith [Petitioner] now having withdrawn [Exhibit 1012], there is no evidence supporting [Petitioner’s] real party in interest contentions.” *Id.* at 50–51.

In its Reply, Petitioner counters that it “gained a rebuttable presumption of accuracy when it submitted a mandatory notice identifying real party-in-interest,” and that “[t]he burden of production now falls on the Patent Owner to provide sufficient rebuttal **evidence** that reasonably brings into question Petitioner’s identification of the real parties-in-interest.” Pet. Reply 18 (citing *Atlanta Gas*, Paper 88, 9). In that regard, Petitioner asserts that “Patent Owner has not identified any evidence or reasoning here suggesting that Unified’s certification of [real party-in-interest] is incorrect.” *Id.* at 17. According to Petitioner, this is different than *Atlanta Gas* because the patent owner in that case “*did* proffer sufficient evidence that parties, other than those identified as real party-in-interest, possessed sufficient control over the relevant IPR proceeding.” *Id.* at 20.

We agree with Petitioner. Although Petitioner bears the burden of correctly identifying the real parties-in-interest, “[w]e generally accept the petitioner’s identification of real parties-in-interest at the time of filing the petition.” *See Zerto, Inc. v. EMC Corp.*, Case IPR2014-01254, at 6 (PTAB Mar. 3, 2015) (Paper 35) (citing Office Patent Trial Practice Guide, 77 Fed. Reg. 48,680, 48,695 (Aug. 14, 2012)). Here, Petitioner identifies in its Petition the real party-in-interest: “Pursuant to 37 C.F.R. § 42.8(b)(1),

Unified Patents Inc. (‘Unified’ or ‘Petitioner’) certifies that Unified is the real party-in-interest.” Pet. 1. Such identification gives rise to a rebuttable presumption that Petitioner has complied with its obligation to identify all real parties-in-interest. *See Zerto* at 6–7.

Patent Owner recognizes that “it [is] incumbent on the patent owner to come forward with some rebuttal evidence.” PO Resp. 52. In response to Petitioner’s identification of the real party-in-interest, Patent Owner contends that “this is not an instance where a petitioner’s certification in a petition can be taken at face value” because “evidence proffered by [Petitioner] in support of its position was withdrawn deliberately.” *Id.* at 53. We do not, however, require evidence beyond a petitioner’s identification of real parties-in-interest in the absence of rebuttal evidence that such identification is erroneous or incomplete. Petitioner’s withdrawal of Exhibit 1012 from the record does not constitute such rebuttal evidence.

In view of the foregoing, we find that the circumstances here do not raise sufficient doubt about whether Petitioner has satisfied its obligation to name all real parties-in-interest. Therefore, we determine that the Petition should not be dismissed on this basis.

### *B. Claim Construction*

For an *inter partes* review, we construe claims in an unexpired patent by applying the broadest reasonable interpretation in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Under that standard, 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). A “claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer,” however, and clearly set forth a definition of the claim term in the specification. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

Petitioner proposes an express construction for the claim term “transceiver.” Pet. 10. Patent Owner does not propose an express construction for any claim term. *See generally* PO Resp. In light of the parties’ arguments, we determine that no term requires express interpretation to resolve any controversy in this proceeding.

### *C. Obviousness over Schotz and Rovira*

Petitioner argues that claims 1–3, 6–13, 20, and 22 would have been obvious over Schotz and Rovira. Pet. 10–45. With respect to this ground, Patent Owner argues patentability of *only* claims 2, 3, and 22. PO Resp. 26–45. For the reasons explained below, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 6–13, 20, and 22 would have been obvious over Schotz and Rovira. Regarding claims 2 and 3, however, we determine that Petitioner has not demonstrated by a preponderance of the evidence that these claims would have been obvious over Schotz and Rovira.

#### *1. Schotz*

Schotz describes a transmitter/receiver system such as the one shown in Figure 1, which is reproduced below.

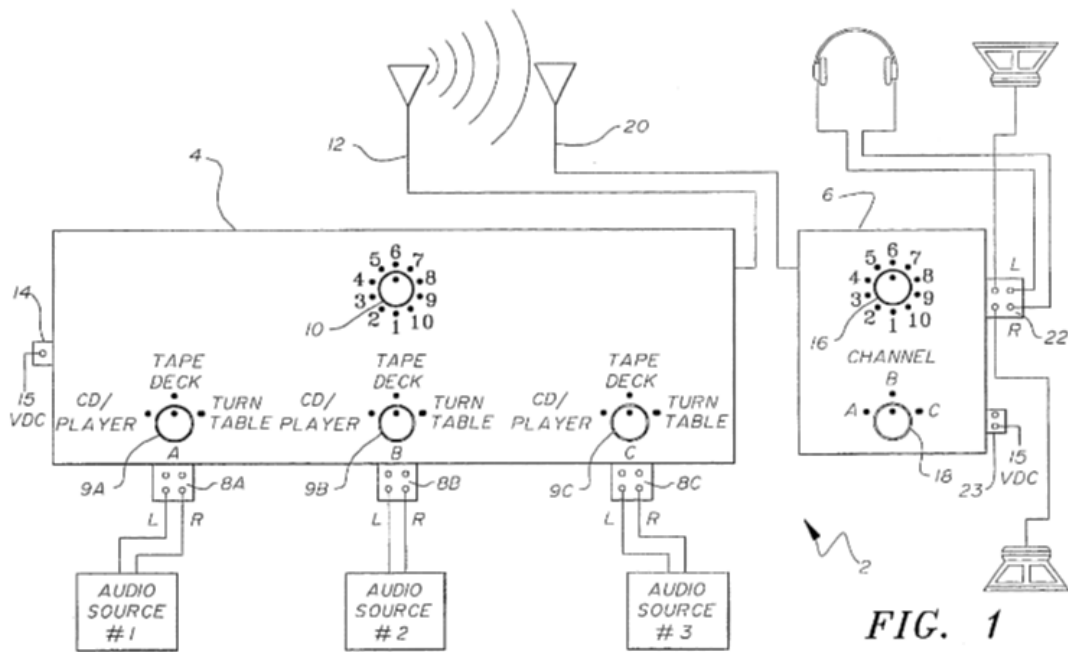


FIG. 1

Figure 1 shows a transmitter/receiver system with transmitter 4 and receiver 6. After receiving left and right audio signals from audio sources #1, #2, and #3, transmitter 4 transmits a combined audio signal to receiver 6. Ex. 1002, 3:50–52, 4:9–10. The combined audio signal is composed of three distinct channel carrier frequencies. *Id.* at 4:25–32. Schotz's system provides for ten groups of three distinct carrier frequencies. *Id.* at 4:33–35, tbl.II. A user may select one of the ten groups by setting transmitter and receiver house code select switches 10, 16 to the same setting, and then further select one of the three carrier signals in that group by setting channel select switch 18. *Id.* at 4:36–41. Once the user completes a selection, receiver 6 processes the selected signal and converts it into the original audio source's left and right audio signals. *Id.* at 4:43–47. Audio output connection 22 provides the user with left and right audio output of the selected channel. *Id.* at 4:9–11.

## 2. *Rovira*

Rovira describes a system for communicating program data signals that are combined with digital data signals. Ex. 1003, at [57] (Abstract). The system receives and compresses a plurality of digital audio signals, multiplexes them with program data signals such as title, track, artist, record label, and year, and then transmits the combined signals to a receiving station. *Id.* The receiving station demultiplexes the signals and sends them to a user's digital music tuner. *Id.* The tuner further demultiplexes and decodes the signals so that the digital audio signals can be converted into analog signals and output for listening, while the corresponding program data signals are communicated to the user. *Id.*

## 3. *Independent Claim 1*

Independent claim 1 recites a “wireless digital audio transceiver” that receives a “digital audio signal compris[ing] . . . digital audio data and audio program information.” For this limitation, Petitioner relies on both Schotz and Rovira. For example, Petitioner directs us to where Schotz describes receiver 6. Pet. 19–20 (citing Ex. 1002, Fig. 1). Relying on declaration testimony of Mr. Stark, Petitioner explains that Schotz's receiver “is a device that can receive a signal and output a signal, thereby providing the claimed transceiver.” *Id.* (citing Ex. 1006 ¶ 84). Petitioner also directs us to where Rovira teaches providing digital audio signals from CD players along with program data such as title, track, artist, publisher, composer, song identification, and play time information blocks for each song on a CD. Pet. 20–21 (citing Ex. 1003, 4:55–58, 6:5–8). Based on the record before us, we

find that Schotz teaches the recited “transceiver” and that Rovira teaches the recited “digital audio signal.”

Claim 1 further recites a “user interface to enable a user to select digital audio data from a plurality of digital audio data within the digital audio signal.” For this limitation, Petitioner relies on Schotz, identifying Schotz’s channel select switch 18 as a “user interface.” *Id.* at 23. As support, Petitioner directs us to where Schotz describes a system that transmits and receives an audio signal made up of three distinct carrier frequencies. *Id.* at 20 (citing Ex. 1002, 4:25–33, 4:36–48, Fig. 1). A user may select one of the three carrier signals by setting a 3-position channel select switch 18. *Id.* at 22–23 (citing Ex. 1002, 4:39–42, Fig. 1). Based on the record before us, we agree that Schotz teaches the recited “user interface.”

Claim 1 further recites a “tuner operably coupled to the user interface to tune to a frequency associated with a carrier wave containing the selected digital audio data.” For this limitation, Petitioner identifies Schotz’s channel frequency synthesizer as a “tuner.” Pet. 24 (citing Ex. 1002, 7:45–54). Schotz teaches that the channel frequency synthesizer uses frequency data to generate the tuning voltage necessary to generate the particular carrier frequency for a channel. Ex. 1002, 7:40–54. Based on the record before us, we agree that Schotz teaches the recited “tuner.”

Claim 1 further recites a “demodulator coupled to the tuner to extract the selected digital audio data and the audio program information from the carrier wave.” For this limitation, Petitioner first identifies Schotz’s second user-selectable means as a “demodulator.” Pet. 26 (citing Ex. 1002, 2:53–57). Schotz teaches that the second user-selectable means enables the user

to select a desired carrier frequency of a selected group to be demodulated so that the user can hear the audio signal extracted by the demodulation.

Ex. 1002, 2:53–57. Petitioner notes that “Schotz, however, does not explicitly disclose a demodulator coupled to the tuner to extract the *audio program information* from the carrier wave.” Pet. 26. For this aspect of the limitation, Petitioner directs us to Rovira, which teaches providing demodulator 125 coupled to tuner 110. *Id.* (citing Ex. 1003, 8:27–33, Fig. 5). Based on the record before us, we are persuaded that the asserted combination of Schotz and Rovira teaches the recited “demodulator coupled to the tuner to extract the selected digital audio data and the audio program information from the carrier wave.”

Lastly, claim 1 recites a “digital to analog converter to convert the selected digital audio data into an analog signal and to send the analog signal to an output for playback to the user.” For this limitation, Petitioner relies on Rovira, identifying digital to audio converter 160 as a “digital to analog converter.” Pet. 28 (citing Ex. 1003, 8:49–53). Based on the record before us, we find that Rovira teaches the recited “digital to analog converter.”

In addition to showing that the asserted combination of Schotz and Rovira teaches each of the recited claim limitations, Petitioner must provide “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). In that regard, Petitioner directs us to Rovira’s teaching that “it is highly desirable to communicate program content information” because “having such information as music title, composer, artist and record label is vital” to music lovers. Pet. 16 (citing Ex. 1003, 1:30–32, 2:5–10); *see also* Ex. 1003,

1:32–35 (“Frustration of customers, and possible loss of revenue due to subscription cancellation can occur if a subscriber has no method of knowing the title, composer or artist of the particular selection of music.”). Petitioner argues it, thus, would have been obvious to modify Schotz’s system to incorporate a signal that includes both audio data and program data, as taught by Rovira. Pet. 17; *see also, e.g., id.* at 21 (“[O]ne would have been motivated to (1) modify Schotz’s transmitter 4 to transmit the digital audio signal of Rovira . . . and (2) modify Schotz’s receiver 6 to receive this digital audio signal.”); *id.* at 23 (“[T]his modification would result in Schotz’s user interface switch 18 selecting the digital audio data . . . within the digital audio signal [of Rovira].”); *id.* at 25 (“It would have been obvious to utilize the tuner 110 of Rovira in Schotz for [tuning] to frequencies that Schotz is receiving based on its use of Rovira’s digital audio signal. . . . Schotz is essentially doing this already, *i.e.*, tuning to a frequency associated with audio data.”); *id.* at 27 (“[I]t would have been obvious to modify Schotz to utilize Rovira’s disclosed demodulator 125 to extract the selected digital audio data and the audio program information from the carrier wave, as taught by Rovira.”); *id.* at 28–29 (“It would have been obvious to modify Schotz to include the digital to analog converter 160 disclosed in Rovira. . . . The receiver 6 of Schotz would necessarily need a digital to analog converter when using the digital signals disclosed in Rovira so that the user can hear the selected music.”).

We are persuaded by Petitioner’s reasoning, including specifically the quoted material in the preceding string citation to the Petition, for modifying Schotz’s system to include Rovira’s signal as well as various components for processing such a signal. *See Kahn*, 441 F.3d at 988. We note that “[a]

person of ordinary skill is also a person of ordinary creativity, not an automaton,” and, in modifying Schotz’s system to include Rovira’s signal, would have made any necessary additional modifications such that Schotz’s system could process appropriately Rovira’s signal. *See KSR*, 550 U.S. at 421.

Patent Owner does not present any arguments with respect to claim 1. *See generally* PO Resp. In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over Schotz and Rovira.

#### 4. *Dependent Claim 2*

Claim 2 depends from claim 1 and recites that “the transceiver is portable.” As discussed above with respect to claim 1, we find that Schotz’s receiver 6 corresponds to the recited “transceiver.” Petitioner argues that “the receiver 6 shown in Figure 1 of Schotz is a portable device” because it “may be used with headphones, which are often associated with portable devices.” Pet. 30 (citing Ex. 1002, 2:42–43). Petitioner also points out that “the receiver may be separated from the transmitter by a distance of 10 to 300 feet,” and argues additionally that “[t]his varying distance discloses or at least suggests the portability of the receiver, due to the user being able to place the receiver 6 at various positions within the transmitting distance.” *Id.* (citing Ex. 1002, at [57]). In support of its arguments, Petitioner relies on the declaration testimony of Mr. Stark. *Id.* (citing Ex. 1006 ¶ 109).

Patent Owner makes several arguments. For example, Patent Owner argues that “[Petitioner] makes no contention that headphones are used *exclusively* with portable devices and, further, ignores Schotz’s teaching that

receiver 6 is also used with loudspeakers in a wired arrangement,” which “is *not* commonly associated with portable devices.” PO Resp. 44.

In its Reply, Petitioner counters that “the use of loudspeakers does not teach away from portability.” Pet. Reply 5. Relying on the declaration testimony of Mr. Stark, Petitioner contends that a skilled artisan “would have understood that the alleged portable devices in the ’913 patent, including the ‘portable disc player, a portable bookshelf stereo, a portable radio/tape player’ could have been used with a loudspeaker.” *Id.* at 4–5 (citing Ex. 1013 ¶ 5). In addition, Petitioner notes that “Patent Owner provides no expert testimony to support why *Schotz’s* disclosure of headphones would not *at least teach or suggest* a portable device.” *Id.* at 5.

Although we agree with Petitioner that loudspeakers can be used with portable devices, we also agree with Patent Owner that headphones are not used only with portable devices. *See also* Pet. 30 (“the receiver 6 may be used with headphones, which are *often* associated with portable devices”) (emphasis added). As such, we find that Petitioner has not met its burden of showing that *Schotz’s* receiver is portable. *See* 35 U.S.C. § 316(e).

Patent Owner further argues that “because *Schotz* indicates that receiver 6 may be separated from transmitter 4 by distances of 10 to 300 feet, this is simply a teaching regarding where the receiver must be located relative to the transmitter.” PO Resp. 44. According to Patent Owner, “[o]nce so situated, there is no suggestion that the receiver is moveable, i.e., portable within the disclosed range.” *Id.* at 45.

In response, Petitioner reiterates its argument that the “varying distance discloses or at least suggests the portability of the receiver due to the user being able to place the receiver 6 in various positions within



transmitting distance.” Pet. Reply 6. Petitioner adds that “Patent Owner has provided no expert testimony to counter this, and has failed to establish anything contrary to the Board’s finding [in its Institution Decision] with respect to the portable limitation.” *Id.*

We are not persuaded by Petitioner’s argument and evidence. Schotz teaches that “[t]he receiver, separated from the transmitter by a distance of 10 to 300 feet, receives the combined signal.” Ex. 1002, at [57]. As Patent Owner points out, this is “a teaching regarding where the receiver must be located relative to the transmitter.” PO Resp. 44. That Schotz’s receiver and transmitter are separated by a distance of 10 to 300 feet does not mean that either device is portable, let alone that the receiver (as opposed to the transmitter) is portable. Neither Petitioner nor its declarant explains persuasively why the varying distance suggests the portability of the receiver. Accordingly, we find that Petitioner has not met its burden of showing that Schotz’s receiver is portable.

Lastly, Patent Owner argues that Schotz’s “receiver 6 receives power via a +15VDC power connector,” and that “[a] wired power supply, such as that used by Schotz’s receiver 6, without an alternative battery power supply is not typically associated with a ‘portable’ device.” PO Resp. 44. In its Reply, Petitioner responds that Patent Owner improperly interprets “the term ‘portable’ as requiring an alternative battery supply.” Pet. Reply 2. We agree with Petitioner in this regard. The term “portable” does not require an alternative battery supply. *See id.* at 3–4. As discussed above, however, we still find that Petitioner has not met its burden of showing that Schotz’s receiver is portable.

In view of the foregoing, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 2 would have been obvious over Schotz and Rovira.

### 5. *Dependent Claim 3*

Claim 3 depends from claim 1 and recites that “the transceiver is handheld.” As discussed above with respect to claim 1, we find that Schotz’s receiver 6 corresponds to the recited “transceiver.” Petitioner argues that, “due to the size of the receiver 6, shown in Figure 1 of Schotz, one of ordinary skill in the art would understand that the device can be held in a user’s hand.” Pet. 30. As support, Petitioner relies on the declaration testimony of Mr. Stark. *Id.* (citing Ex. 1006 ¶ 111).

In response, Patent Owner argues that “[Petitioner] does not explain *what* in [Figure 1] that would lead one of ordinary skill in the art to understand that the device can be held in a user’s hand, other than to call out ‘the size of the receiver 6.’” PO Resp. 30; *see also id.* at 33 (“[Mr. Stark] did not, for example, say *why* a person of ordinary skill would come to that conclusion. He did not identify features of the drawings that suggest it, nor did he cite anything in the specification that would educate a reader as to the size or nature of the receiver 6.”). According to Patent Owner, “the ‘size’ of receiver 6 in Schotz’s Fig. [1] is indiscernible because patent drawings are not to scale.” *Id.* at 31 (citing *Hockerson-Halberstadt, Inc. v. Avia Group Int’l*, 222 F.3d 951, 956 (Fed. Cir. 2000)). Patent Owner points out that “[Petitioner] cites nothing in the figure itself or the specification of Schotz that could be construed as a scale” or “that describes the size of receiver 6.” *Id.*

Petitioner counters that “Figure 1 [of Schotz] is not being relied on for determining precise dimensions of the receiver 6—which would be improper—but rather what it at least suggests to a [skilled artisan] with respect to the general size of the receiver 6 and the configuration of the disclosed device.” Pet. Reply 9. According to Petitioner, a skilled artisan “would have understood that [Schotz’s] channel select switch 18 is in the form of a hand knob to be twisted by the user’s fingers to make the selection.” *Id.* Petitioner contends that, “[b]ased on the illustrated size of the receiver’s 6 knobs coupled with the intention for them to be twisted by a user’s fingers, the receiver 6 would have at least suggested to a [skilled artisan] that it could be handheld.” *Id.*; *see also id.* at 11 (“When looking at the size of the hand knobs on the receiver 6, one would have understood that *Schotz* is at least suggesting, in this figure and in the specification, that the receiver 6 could be handheld.”). As support, Petitioner relies on the declaration testimony of Mr. Stark. *Id.* at 9, 11 (citing Ex. 1013 ¶¶ 7–8).

We are not persuaded by Petitioner’s argument. Petitioner has not directed us to any evidence indicating that Schotz’s drawings are drawn to scale. As Petitioner acknowledges, it therefore would be improper to rely on Schotz’s drawings for determining the dimensions of receiver 6. *See* Pet. Reply 9. Petitioner nonetheless relies on Figure 1 of Schotz as evidence about the size of receiver 6. For instance, Petitioner argues in its Petition that “due to the size of the receiver 6, *shown in Figure 1 of Schotz*, one of ordinary skill in the art would understand that the device can be held in a user’s hand.” Pet. 30 (emphasis added). In its Reply, Petitioner further argues that “[b]ased on the *illustrated size* of the receiver’s 6 knobs . . . , the receiver 6 would have at least suggested to a [skilled artisan] that it could be

handheld.” Pet. Reply 9 (emphasis added). Petitioner also argues in its Reply that, “[w]hen *looking at the size* of the hand knobs on the receiver 6, one would have understood that *Schotz* is at least suggesting, in this figure and in the specification, that the receiver 6 could be handheld.” *Id.* at 11 (first emphasis added). Such “arguments based on drawings not explicitly made to scale in issued patents are unavailing.” *See Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005). Accordingly, we find that Petitioner has not met its burden of showing that Schotz’s receiver is handheld.

In view of the foregoing, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 3 would have been obvious over Schotz and Rovira.

#### 6. *Dependent Claims 6–13*

Claim 6 depends from claim 1 and recites that the “digital audio signal contains multiple programs each including digital audio data and program information.” Claim 7, which depends from claim 6, further recites a “demultiplexer.” For these limitations, Petitioner directs us to where Rovira teaches “separat[ing] the single data stream into six channels containing 5.6 Mbps digital audio and program data each. These six channels contain five stations each.” Pet. 31 (citing Ex. 1003, 7:58–62). Petitioner also directs us to where Rovira describes “demultiplexer 143 which separates the 5.6 Mbps data stream to select one of five stereo pairs of digital audio signals.” *Id.* at 32 (citing Ex. 1003, 9:15–18). Petitioner argues that Rovira’s stations correspond to the recited “programs.” *Id.* In addition, Petitioner explains that “it would have been obvious to implement the demultiplexer 143 of

Rovira in the receiver 6 of Schotz for the same reason noted by Rovira, namely, to separate out the selected digital audio data.” *Id.* at 32 (citing Ex. 1003, 9:15–18). Based on the record before us, we are persuaded that claims 6 and 7 would have been obvious over Schotz and Rovira.

Claim 8, which depends from claim 7, requires that “the user interface includes a switch electrically coupled to the demultiplexer for selection of one of the programs.” For this limitation, Petitioner argues that “Schotz discloses that the user interface includes a switch for selection of one of the programs.” *Id.* at 33. In support of its argument, Petitioner directs us to where Schotz teaches that the user may select one of three carrier signals by setting 3-position channel select switch 18. *Id.* (citing Ex. 1002, 4:39–42). As discussed above with respect to claim 1, we find that Schotz’s channel select switch 18 corresponds to the recited “user interface.” Petitioner further explains “it would have been obvious to electrically couple the switch 18 of Schotz to [Rovira’s] demultiplexer for the same purpose disclosed in Rovira, namely, to select one of the stereo pairs of digital audio signals.” *Id.* Based on the record before us, we are persuaded that claim 8 would have been obvious over Schotz and Rovira.

Claim 9 depends from claim 6 and further recites a “digital signal processor.” Claim 10, which depends from claim 9, requires the processor “to perform demultiplexing.” Claim 11, which also depends from claim 9, requires the processor “to perform decryption.” For these limitations, Petitioner identifies Rovira’s ASIC 140 as a “digital signal processor.” *Id.* at 34 (citing Ex. 1003, 8:45–50, 8:57–59, Fig. 5). Petitioner explains that ASIC 140 processes digital signals, providing digital audio output to interface 170 and to digital to analog converter 160. *Id.* (citing Ex. 1003,

8:45–50). Petitioner also points out that ASIC 140 includes demultiplexer 143 as well as decrypting circuit 145. *Id.* at 35–36 (citing Ex. 1003, 9:15–19); *see also* Ex. 1003, Fig. 6. Petitioner argues that “[i]t would have been obvious to modify the receiver 6 in Schotz to include the digital signal processing functions contained in the ASIC 140 of Rovira,” explaining that such “modification would yield the predictable result of assisting with processing the digital audio signal.” Pet. 34. Based on the record before us, we are persuaded that claims 9–11 would have been obvious over Schotz and Rovira.

Claim 12 depends from claim 1 and recites a “processor.” Claim 13, which depends from claim 12, requires the processor “to receive from the demodulator the program information and [to] provide[] the program information to the user interface in a displayable format.” For these limitations, Petitioner identifies Rovira’s microprocessor 150 as a “processor.” *Id.* at 36. Petitioner explains that “the microprocessor’s 150 functions include controlling the ASIC 140 and other housekeeping functions for the system of Figure 5.” *Id.* (citing Ex. 1003, 8:57–59). Referring to its argument with respect to claim 9, Petitioner further explains that “it would have been obvious to incorporate the ASIC 140 of Rovira into the receiver 6 [of] Schotz,” and also that “it would have been obvious to include the microprocessor 150 that controls the ASIC 140.” *Id.* at 36–37. In addition, Petitioner explains that “[t]he demodulator 125 sends the program information to the ASIC 140, which then sends the program information to the front panel interface [] so that it can be displayed.” *Id.* at 38 (citing Ex. 1003, 8:31–39, 8:59–63, Fig. 5). According to Petitioner, “[o]ne of ordinary skill in the art would have found it obvious to utilize

[Rovira's] demodulator 125 and microprocessor 150 for the same purpose disclosed in Rovira, namely, to provide a way for receiving the program information and providing it to the display of [Schotz's] receiver, after the receiver 6 is modified to include the display.” *Id.* Petitioner adds that “[i]t would have been obvious to one of ordinary skill in the art to modify the receiver device 6 of Schotz to include a display for showing music information, such as, for example, a song title or station.” *Id.* at 17. Based on the record before us, we are persuaded that claims 12 and 13 would have been obvious over Schotz and Rovira.

Patent Owner does not present any arguments with respect to claims 6–13. In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that these claims would have been obvious over Schotz and Rovira.

#### *7. Independent Claim 20*

Claim 20 recites limitations similar to those recited in claim 1. For example, claim 20 recites a “radio frequency signal carr[ying] digital audio data and program information corresponding to [a] selected digital audio program.” Claim 20 also recites a digital audio player comprising a “user interface,” a “tuner,” a “demodulator,” and a “digital to analog converter.” For these limitations, Petitioner relies mostly on its arguments with respect to claim 1. *See* Pet. 39–42, 44. Based on the record before us, we find Petitioner’s arguments persuasive.

Claim 20, unlike claim 1, additionally recites a “processor coupled to the user interface to demultiplex the digital audio data in response to the selected digital audio program to separate program information from audio

data.” For this limitation, Petitioner identifies Rovira’s microprocessor 150 as a “processor.” Pet. 42. Petitioner explains that microprocessor 150 is “coupled to a user interface in the form of a ‘front panel interface 100’ and ‘remote control receiver 195,’” and that its “functions include controlling the ASIC 140.” *Id.* (citing Ex. 1003, 8:57–59, Fig. 5). Similar to its argument discussed above with respect to claim 13, Petitioner explains that “[i]t would have been obvious to one of ordinary skill in the art to modify the receiver device 6 of Schotz to include a display for showing music information, such as, for example, a song title or station.” *Id.* at 17, 42. In addition, similar to its argument discussed above with respect to claim 9, Petitioner explains that “it would have been obvious to incorporate the ASIC 140 of Rovira into the receiver 6 [of] Schotz,” and also that “it would have been obvious to include the microprocessor 150 that controls the ASIC 140.” *Id.* at 42. Petitioner points out that Rovira’s ASIC 140 includes demultiplexer 143, which “separates the 5.6 Mbps data stream to select one of five stereo pairs of digital audio signals.” *Id.* at 43 (quoting Ex. 1003, 9:16–18). The “signal is then separated in signal separator 148 where program data is sent to microprocessor in/out circuit 149 while audio data is sent and decoded in circuit 147.” *Id.* (quoting Ex. 1003, 9:19–23). Based on the record before us, we are persuaded that Rovira teaches the recited “processor.” We also are persuaded by Petitioner’s reasoning for modifying Schotz’s system to include Rovira’s ASIC 140, microprocessor 150, and front panel interface.

Patent Owner does not present any arguments with respect to claim 20. *See generally* PO Resp. In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 20 would have been obvious over Schotz and Rovira.



8. *Dependent Claim 22*

Claim 22 depends from claim 20 and recites that “the user interface includes a display to display program information corresponding to a digital audio program.” For this limitation, Petitioner reiterates its previous argument that “it would have been obvious to modify the receiver 6 of Schotz to include a display to display program information,” as discussed above with respect to claims 13 and 20. Pet. 45; *see also id.* at 17 (“[i]t would have been obvious to one of ordinary skill in the art to modify the receiver device 6 of Schotz to include a display for showing music information, such as, for example, a song title or station.”). Petitioner relies on the declaration testimony of Mr. Stark. *Id.* at 45 (citing Ex. 1006 ¶ 152); *see also id.* at 17 (citing Ex. 1006 ¶ 78). For the reasons given above, we are persuaded by Petitioner’s argument. Namely, we find that Rovira’s front panel interface teaches a “display,” and that it would have been obvious to add Rovira’s front panel interface to Schotz’s system so that the user can view music information.

Patent Owner responds by noting that “Mr. Stark cites Rovira at 3:38–48 as ‘further disclos[ing] the benefit of providing the display in a wireless user device,’” and pointing out that the “passage in Rovira is actually discussing the benefit of providing a display in a ‘remote unit,’ and not in a digital audio player.” PO Resp. 39. According to Patent Owner, “[n]either Mr. Stark nor [Petitioner] offers any rationale for a person of ordinary skill to . . . incorporate the display in the unit having the user interface to provide selection of a digital audio program from a plurality of digital audio programs.” *Id.* at 40.

Patent Owner’s focus on whether Schotz’s receiver 6 is a “remote unit” disregards Rovira’s broader teaching of providing a display to communicate music information to a user. Ultimately, “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *Id.* As Petitioner points out, Rovira expressly teaches that, “[t]o lovers of music, having such information as music title, composer, artist and record label is vital,” and, without the information, “[i]t can be a frustrating experience” for the user. Ex. 1003, 2:5–10 (cited by Pet. 16). Petitioner explains that it is for this reason a skilled artisan would have added Rovira’s display to Schotz’s system. Pet. 16–17. Contrary to what Patent Owner argues, we find that this explanation provides sufficient rationale for why a skilled artisan would have added Rovira’s display to Schotz’s system. As such, we find that Patent Owner does not adequately rebut Petitioner’s argument and evidence.

In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 22 would have been obvious over Schotz and Rovira.

#### *D. Obviousness over Kostreski and Streck*

Petitioner argues that claims 1, 2, 4, 6, 7, 9, and 10 would have been obvious over Kostreski and Streck. Pet. 46–67. With respect to this ground, Patent Owner argues patentability of *only* claim 2. PO Resp. 46–49. For the reasons explained below, we determine that Petitioner has demonstrated by a

preponderance of the evidence that claims 1, 4, 6, 7, 9, and 10 would have been obvious over Kostreski and Streck. Regarding claim 2, however, we determine that Petitioner has not demonstrated by a preponderance of the evidence that this claim would have been obvious over Kostreski and Streck.

1. *Kostreski*

Kostreski describes a system for distributing RF channels, each carrying a digital transport stream with data relating to multiple television programs. Ex. 1004, 1:6–12, 7:46–51. The programs contain audio, video, and closed captioning information. *Id.* at 7:52–54.

A diagram of Kostreski's system is shown in Figure 7, which is reproduced below.

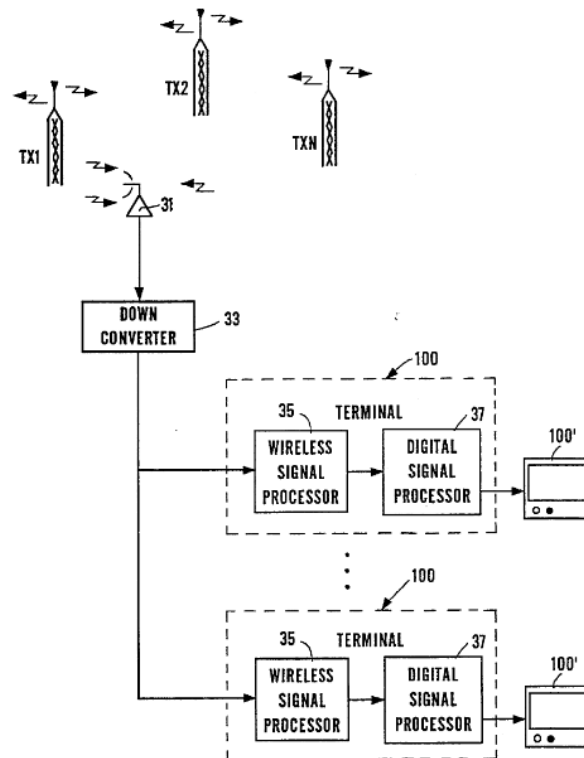


FIGURE 7

Figure 7, above, shows the functional elements of the system's receiver portion, which may be located at a user's home. *Id.* at 6:29–31, 12:60–61. Each of transmitters TX1 through TXN simultaneously broadcasts a combined ultra high frequency (UHF) signal containing all the RF channels to receiving antenna 31. *Id.* at 6:47–48, 13:4–13. Receiving antenna 31 supplies the combined signal to block downconverter 33, which converts the signal down to the video channel band. *Id.* at 13:28–32. Block downconverter 33 supplies the down-converted combined signal via a coaxial cable to one or more terminal devices 100, which are located at various places throughout the user's home. *Id.* at 13:32–36. Each terminal device 100 includes an infrared receiver that responds to user input signals from a remote control device. *Id.* at 16:1–3. The user may input a command to select a broadcast program. *See id.* at 16:15–17. Once the user makes a selection, wireless signal processor 35 processes the selected channel to recover the digital transport stream carried in that channel. *Id.* at 13:36–39. Digital signal processor 37 processes data packets for the selected program from the stream to produce signals to drive TV 100'. *Id.* at 13:40–42. TV 100' presents the program to the user as a standard audio/visual output. *Id.* at 13:43–45.

## 2. *Streck*

*Streck* describes a wireless local television transmission system. Ex. 1005, at [57] (Abstract). *Streck's* system eliminates the necessity for any kind of physical interconnections, such as coaxial cables. *Id.* at 3:17–21; *see id.* at 1:39–45 (identifying problems arising from the use of coaxial cables).

### 3. *Independent Claim 1*

As discussed above with respect to obviousness over Schotz and Rovira, claim 1 is directed to a “wireless digital audio transceiver” that receives a “digital audio signal compris[ing] . . . digital audio data and audio program information.” Here, Petitioner relies primarily on Kostreski. *See* Pet. 55–64. For example, Petitioner identifies Kostreski’s terminal 100 as a “transceiver.” *Id.* at 57. Terminal 100 receives a signal containing multiple RF channels, each channel carrying digital data representing four programs. *Id.* (citing Ex. 1004, 9:57–58, 5:18–32, 13:31–33). The programs contain video and audio information, as well as data information for closed captioning. *Id.* at 58 (citing Ex. 1004, 7:52–54). Petitioner also identifies Kostreski’s infrared receiver 145 as a “user interface,” tuner 201 as a “tuner,” DEMOD as a “demodulator,” and each of digital to analog converters 135 as a “digital to analog converter.” *Id.* at 59–64; *see also* Ex. 1004, Figs. 7–9.

According to Petitioner, Kostreski’s terminal 100 is arguably not “wireless,” as recited in the preamble of claim 1. Pet. 55. Petitioner notes that terminal 100 includes a wireless signal processor, but Petitioner also points out that Kostreski’s system uses a coaxial cable to deliver the signal. *Id.* at 52 (citing Ex. 1004, 13:32–39), 56 (citing Ex. 1004, Fig. 7). Thus, for the “wireless” aspect of the transceiver, Petitioner relies additionally on Streck, which provides a system for the wireless local broadcasting of video signals. *Id.* at 52–56; Ex. 1005, 3:17–22 (cited by Pet. 53).

Petitioner argues that it would have been obvious to combine the teachings of Kostreski and Streck. Pet. 53. Petitioner explains that Streck teaches that using a wired system can often result in a tangled web of coaxial

cables connected between signal splitters, A-B switches, cable select boxes, VCRs, and TV sets. Pet. 52–53 (citing Ex. 1005, 1:38–50). Petitioner further argues that “one would have been motivated to implement the wireless teachings of Streck in the system of Kostreski” in order “to avoid needing to use coaxial cables to distribute the received signal to user devices located throughout the home.” *Id.* at 53, 55. Based on the record before us, we are persuaded by Petitioner’s reasoning for modifying Kostreski’s system to provide a wireless terminal based on Streck’s teachings. *See Kahn*, 441 F.3d at 988.

Patent Owner does not present any arguments with respect to claim 1. In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that claim 1 would have been obvious over Kostreski and Streck.

#### 4. *Dependent Claim 2*

Claim 2, which depends from claim 1, recites that “the transceiver is portable.” For this limitation, Petitioner directs us to where Kostreski teaches that its “terminal connects to an associated television set.” Pet. 64 (citing Ex. 1004, 13:40–41). Relying on the declaration testimony of Mr. Stark, Petitioner argues that “one of ordinary skill in the art would understand that the terminal 100, shown in figure 7 of Kostreski[,] is portable.” *Id.* (citing Ex. 1006 ¶ 202). Petitioner further notes that Kostreski’s terminal, as modified in view of Streck, “would not hinder the portability of the terminal [], and would actually increase its portability due to not requiring a coaxial cable connection.” *Id.*

Patent Owner counters that “[Petitioner] offers no explanation, and none is provided by Mr. Stark, as to *why* connection to a television set necessarily requires or means that a ‘terminal’ as described by Kostreski is portable.” PO Resp. 46. Patent Owner also points out that “Streck teaches the use of wireless communications between a source of a television signal and a terminal, but there is no suggestion that adopting such teachings would eliminate the need to connect, by a wired connection, the terminal to the television[] set, as taught by Kostreski.” *Id.* at 48. According to Patent Owner, wired connections “are not typically associated with ‘portable’ devices.” *Id.* at 47.

In its Reply, Petitioner contends that “[t]he use of a wired connection between the terminal 100 [*i.e.*, the claimed transceiver] and television set in *Kostreski* does not affect portability.” Pet. Reply 7. Relying on the declaration testimony of Mr. Stark, Petitioner explains that “many past and modern portable devices involve wired headphones, wired speakers, and wired modular features.” *Id.* at 6 (citing Ex. 1006 ¶¶ 108–109; Ex. 1013 ¶ 6). Petitioner also reiterates its argument that a skilled artisan “would have understood that the wireless capabilities of the modified terminal 100 would have also promoted portability.” *Id.* at 7 (citing Ex. 1013 ¶ 6).

Although we recognize that portable devices can be used with wired components, we agree with Patent Owner that Petitioner does not explain sufficiently why, in *Kostreski*, the fact that the terminal is connected to a television set means that the terminal is portable. *See also* Pet. Reply 6 (“*many* past and modern portable devices involve wired headphones, wired speakers, and wired modular features”) (emphasis added). Further, even if the wireless capabilities of the terminal would have promoted its portability,

as Petitioner urges (*see* Pet. 64; Pet. Reply 7), such capabilities by themselves do not translate to portability. For example, cell towers with wireless capabilities are not portable. Based on the record before us, we find that Petitioner has not met its burden of showing that Kostreski's terminal, as modified in view of Streck, is portable based on its connection to a television set or based on its wireless capabilities. *See* 35 U.S.C. § 316(e).

In view of the foregoing, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 2 would have been obvious over Kostreski and Streck.

*5. Dependent Claims 4, 6, 7, 9, and 10*

Claim 4 depends from claim 1 and further recites “a decompression module to decompress the selected digital audio data.” For this limitation, Petitioner directs us to where Kostreski teaches that “MPEG audio decoder 131 decompresses received audio packets to produce left and right digitized stereo signals.” Pet. 65 (citing Ex. 1004, 14:41–42). Based on the record before us, we are persuaded that claim 4 would have been obvious over Kostreski and Streck.

Claim 6 depends from claim 1 and recites that the “digital audio signal contains multiple programs each including digital audio data and program information.” Claim 7, which depends from claim 6, further recites a “demultiplexer.” For these limitations, Petitioner directs us to where Kostreski teaches that “each of the multiplexed channels carries a multiplexed stream of digital data representing a plurality of programs,” where “television type programs contain video and audio information, and may include data information, e.g.[,] for closed captioning and the like.”



Pet. 65–66 (citing Ex. 1004, 5:18–23, 7:52–54). Petitioner also directs us to where Kostreski teaches that audio/video processor 125 of terminal 100 includes MPEG system demultiplexer 127. *Id.* at 66 (citing Ex. 1004, 14:17–32); *see also* Ex. 1004, Fig. 8. Based on the record before us, we are persuaded that claims 6 and 7 would have been obvious over Kostreski and Streck.

Claim 9 depends from claim 6 and further recites a “digital signal processor.” Claim 10, which depends from claim 9, requires the processor “to perform demultiplexing.” For these limitations, Petitioner identifies Kostreski’s digital audio/video signal processor 125 as a “digital signal processor.” *Id.* at 66 (citing Ex. 1004, 14:13–17, Fig. 8). Kostreski teaches that processor 125 “produces digital uncompressed audio and video signals from the audio and video MPEG encoded packets received from the network through the interface module 101.” Ex. 1004, 14:13–17. Petitioner further points out that processor 125 includes MPEG system demultiplexer circuitry 127. *Id.* at 67 (citing Ex. 1004, 14:22–26). Based on the record before us, we are persuaded that claims 9 and 10 would have been obvious over Kostreski and Streck.

Patent Owner does not present any arguments with respect to claims 4, 6, 7, 9 and 10. In view of the foregoing, we determine that Petitioner has demonstrated by a preponderance of the evidence that these claims would have been obvious over Kostreski and Streck.

#### IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner has demonstrated by a preponderance of the evidence that: (1) claims 1, 6–13,

20, and 22 are unpatentable under 35 U.S.C. § 103 as obvious over Schotz and Rovira; and (2) claims 1, 4, 6, 7, 9, and 10 are unpatentable under 35 U.S.C. § 103 as obvious over Kostreski and Streck. Petitioner has not shown by a preponderance of the evidence that claims 2 and 3 are unpatentable.

#### V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1, 4, 6–13, 20, and 22 of the '913 patent are *unpatentable*;

FURTHER ORDERED that claims 2 and 3 are not unpatentable on the record presented; and

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

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