

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIVERSAL ELECTRONICS, INC.,
GEMSTAR TECHNOLOGY (QINZHOU) CO. LTD.,
GEMSTAR TECHNOLOGY (YANGZHOU) CO. LTD.,
C.G. DEVELOPMENT LTD., UNIVERSAL ELECTRONICS BV,
UEI BRASIL CONTROLES REMOTOS LTDA., and
CG MÉXICO REMOTE CONTROLS, S. de R.L. de C.V.,
Petitioner,

v.

ROKU, INC.,
Patent Owner.

IPR2022-00818
Patent 8,378,875 B2

Before PATRICK M. BOUCHER, SHARON FENICK, and
RUSSELL E. CASS, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

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

In response to a Petition (Paper 2, “Pet.”) filed by Universal Electronics Inc., Gemstar Technology (Qinzhou) Co. Ltd., Gemstar Technology (Yangzhou) Co. Ltd., C.G. Development Ltd., Universal Electronics BV, UEI Brasil Controles Remotos Ltda., and CG México Remote Controls, S. de R.L. de C.V. (collectively “Petitioner”), we instituted an *inter partes* review of claims 1–5, 8–11, and 14 of U.S. Patent No. 8,378,875 B2 (Ex. 1001, “the ’875 patent”). Paper 11 (“Inst. Dec.”). Roku, Inc. (“Patent Owner”) filed a Response (Paper 15, “PO Resp.”), to which Petitioner filed a Reply (Paper 18, “Reply”), and Patent Owner filed a Sur-reply (Paper 21, “Sur-reply”). An oral hearing was held with the parties, and a copy of the transcript was entered into the record.¹ Paper 28 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the record before us, Petitioner has shown, by a preponderance of the evidence, that claims 1–5, 8–10, and

¹ Patent Owner objected to Petitioner’s demonstrative slides 45 and 68 as presenting a new argument that was not previously made with respect to challenged claims 2 and 10. Paper 27; *see* Paper 26 (Petitioner’s demonstratives), 45, 68. At the oral hearing, we reserved ruling on the objections. Tr. 5:23–6:3. Both slides reproduce the same portions of Exhibits 1002 and 1025, with the statement that “A press and hold for an auto-scan or brand-scan is admitted prior art.” Paper 26, 45, 68. As explained below, we do not reach the predicate position upon which the objections are based. *See* Tr. 5:8–11 (Petitioner stating that “this Board only needs to resolve this objection if it accepts Roku’s claim construction argument that the claims cover a press and hold of a single button, but that they do not cover pressing multiple buttons to present that argument in the alternative. So, if you reject that argument, you don’t even have to resolve the objection.”). We accordingly dismiss the objections as moot.

14 are unpatentable. Petitioner has not shown, by a preponderance of the evidence, that claim 11 is unpatentable.

I. BACKGROUND

A. *The '875 Patent*

1. *Overview*

The '875 patent “relates to a method of programming [a universal remote control], e.g., by using brand- and code-set identifiers.” Ex. 1001, 1:7–10. In summarizing the related art, the '875 patent identifies three of “[t]he most popular ways” that were known for configuring a universal remote control to work with consumer electronics equipment. *Id.* at 1:12–23. First, “[e]nter[ing] a code-set from the manual.” *Id.* at 1:24–39. With this technique, a user enters a programming mode by pressing some key combination on the universal remote control and enters a codeset identifier found in a manual for the user’s device brand and type. *Id.* at 1:26–34. If that codeset does not work satisfactorily, the user can try another codeset found in the manual for that device brand and type. *Id.* at 1:34–39.

Second, “[a]uto-scan.” *Id.* at 1:50–65. After entering a different key combination, the user optionally selects the device type to search for (such as by pressing the “TV” or “DVD” button on the universal remote control), and then presses a key that initiates an auto-scan. *Id.* at 1:53–56. The universal remote control then iterates through all codesets for the selected device until the target consumer electronics device reacts. *Id.* at 1:57–60. The user then presses or releases a button to accept the codeset. *Id.* at 1:60–63.

Third, “[b]rand-search.” *Id.* at 2:6–13. This technique is similar to auto-scan, but limited to certain brands of consumer electronics devices. *Id.* at 2:12–13. After the user presses a certain key to begin the procedure, the user enters a brand identifier, rather than entering a codeset identifier as in the manual process. *Id.* at 2:7–9. The user then presses the device button on the universal remote control, e.g. “TV, DVD, Sat, [or] AMP,” which initiates an auto-scan only for the codesets for the identified brand. *Id.* at 2:10–13.

According to the ’875 patent, there were disadvantages with each of these prior-art techniques, including the tediousness of manual lookups and the length of time to complete an auto-scan. *Id.* at 1:40–49, 1:66–2:3, 2:15–30. “The main improvement” described by the ’875 patent to avoid such disadvantages “is to combine the ‘Brand-id’ (as used in the Brand-search method) with the ‘Code-set-id’ (as used in the ‘manual code-set-id selection’ method).” *Id.* at 2:66–3:1.

Figure 5 of the '875 patent is reproduced below.

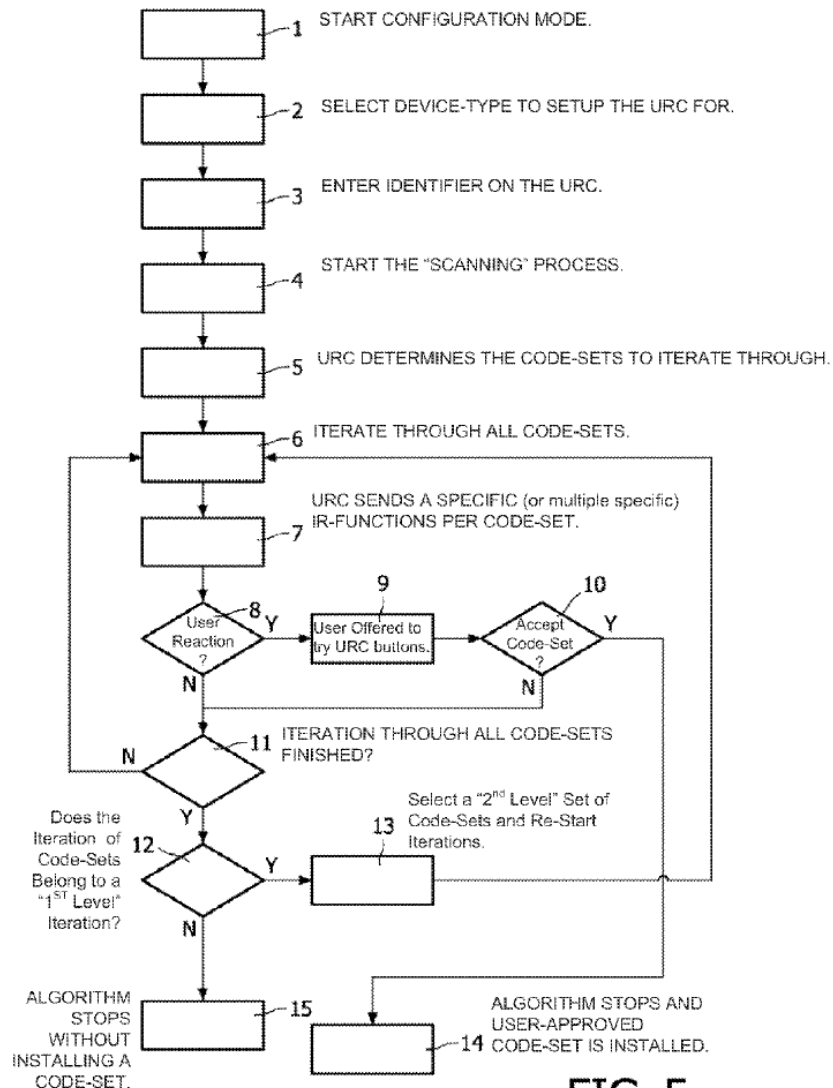


FIG. 5

Figure 5 is a flow diagram for a method of configuring a universal remote control as described by the '875 patent. *Id.* at 5:21–22. After entering a configuration mode at step 1 by pressing a setup key or pressing certain multiple keys simultaneously, the user selects the device type for the equipment to be set up, such as “TV, VCR, DVD, Sat, Amp, ...” *Id.* at 6:7–15. The user looks up the brand-id or the single code-set-id in the instructions for use of the universal remote control at step 3. *Id.* at 6:21–23.

“[T]o the user all these appear to be ‘Brand-ids’” because “the brand-ids . . . are actually a pointer to a list of code-set-ids for a certain brand/device-type combination” while other identifiers “are actually code-set-ids.” *Id.* at 6:23–24, 5:34–38.

After the user starts the scanning process at step 4 by pressing a button on the universal remote control, the universal remote control determines which codesets to iterate through at step 5. *Id.* at 6:28–32. If the identifier entered by the user was a pointer to a set of codesets, the software iterates through all of those codesets at step 6; or if the identifier was a specific codeset only, the method proceeds with only that single codeset. *Id.* at 6:32–35. “During the iteration, the universal remote control sends specific (or multiple specific) IR-functions per code-set” at step 7. *Id.* at 6:35–37. If there is a user reaction, as checked at step 8, the user is offered to try the buttons of the universal remote control at step 9, such that steps 7–9 “together form the step of testing said remote control code-sets.” *Id.* at 6:37–38, 6:46–49. If the user indicates at step 10 that the current codeset is accepted, that codeset is installed at step 14. *Id.* at 6:50–52. If there is no user reaction, or if the user does not accept the codeset at step 10, the scanning process continues by going to step 11 until all codesets have been tried. *Id.* at 6:40–41, 6:52–54. The remaining portions of the flow diagram may perform a further iteration with a “second-level” set of codesets if no codeset was found. *Id.* at 6:55–67.

The ’875 patent notes that, “[o]ften, the scanning process will find multiple code-sets that trigger a reaction on the [consumer electronics] equipment.” *Id.* at 7:38–39. This is a result of overlap between multiple codesets, with the patent providing an example of “for code-set X the Power,

digits and Teletext works ok, but volume does not, while for code-set Y the Power, digits and volume work but Teletext does not.” *Id.* at 7:39–43.

Accordingly, it is “very practical” for a user to indicate, for a given codeset, which codes work and which do not. *Id.* at 7:43–45. This allows the universal remote control to “combine the working codes of multiple code-sets into a new ‘custom configuration’ code set, which contains functions from multiple code-sets.” *Id.* at 7:45–48.

2. Illustrative Claims

Challenged independent claims 1 and 11 are representative of the challenged claims, and are reproduced below.

1. A method for setting up a Remote Control that includes a keyboard, a processor, a memory, and a transmitter, the method comprising the steps of:
 - entering, via the keyboard and processor, a configuration mode;
 - accepting, via the keyboard and processor, an identifier-entry; and
 - scanning, via the processor and memory, though [*sic*] remote control code-sets in a database stored in the memory of the Remote Control, wherein the step of scanning comprises:
 - in case that the identifier-entry is a brand-identifier that identifies a brand, (i) iterating, via the processor and memory, through the remote control code-sets corresponding to the brand and (ii) testing said remote control code-sets by sending, via the transmitter, to a Consumer Electronic device for a given iteration, one or more specific control code functions of a corresponding remote control code-set, and
 - in case that the identifier-entry is a code-set-identifier that identifies a single remote control code-set which in [*sic*] not pointed to by a brand-identifier, testing the single remote control code-set corresponding to the code-set-identifier by sending, via the transmitter, to the Consumer Electronic

device one or more specific control code functions of the corresponding single remote control code-set.

Id. at 9:24–50.

11. A method for setting up a Remote Control that includes a keyboard, a processor, a memory, and a transmitter, the method comprising the steps of:

entering, via the keyboard and processor, a configuration mode;

scanning, via the processor and memory, though [*sic*] remote control code-sets in a database stored in the memory of the Remote Control;

testing, via the keyboard, if individuals [*sic*] keys of a code set send, via the transmitter, correct codes and receiving, via the keyboard, user-feedback on the correct and/or incorrect working of the tested keys;

replacing, via the processor and memory, non-working codes with codes from at least a further remote control code-set; and

combining, via the processor and memory, correct working codes from the scanned remote control code-sets into a new custom configuration code set and installing, via the processor and memory, the combined correct working codes of the new custom configuration code set for use by the remote control.

Id. at 10:28–48.

B. Evidence

Petitioner relies on the following references:

Wouters	WO 03/083801	Oct. 9, 2003	Ex. 1009
Verzulli	WO 00/70577	Nov. 23, 2000	Ex. 1010

Radio Shack Phone Up 4 Remote Control Owner’s Manual (Ex. 1014) (“RadioShack”)

In addition, Petitioner relies on Declarations by Henry Houh, Ph.D. Exs. 1002, 1027. Dr. Houh was cross-examined by Patent Owner, and a transcript of his deposition was entered into the record. Ex. 2015. Patent Owner relies on Declarations by Ravin Balakrishnan, Ph.D. Exs. 2002, 2012. Dr. Balakrishnan was cross-examined by Petitioner, and a transcript of his deposition was entered into the record. Ex. 1062.

The parties also address various pieces of evidence that relate to whether Petitioner sufficiently establishes that RadioShack qualifies as “a printed publication” within the meaning of 35 U.S.C. § 102.² We discuss that evidence in detail below.

C. Instituted Grounds of Unpatentability

Petitioner challenges, and we instituted review of, claims 1–5, 8–11, and 14 on the following grounds. Pet. 22; Inst. Dec. 37.

Claim(s) Challenged	35 U.S.C. §	References
11	103(a)	Wouters, Verzulli
1–5, 8–10, 14	103(a)	RadioShack
1–5, 8–10, 14	103(a)	RadioShack, Verzulli

D. Real Parties in Interest

The parties identify only themselves as real parties in interest. Pet. 74–75; Paper 4, 2.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C §§ 102 and 103. The ’875 patent resulted from a PCT application filed on March 5, 2007, and that entered the national stage on March 6, 2009. Ex. 1001 at codes (22), (86). We accordingly apply the pre-AIA version of §§ 102 and 103 herein.

E. Related Matters

Both parties identify the following related matters as involving the '875 patent: (1) *Roku, Inc. v. Universal Electronics Inc.*, No. 8:21-cv-00658 (C.D. Cal.); and (2) *Certain Televisions, Remote Controls, and Components Thereof*, Inv. No. 337-TA-1263 (USITC) (“the related ITC Investigation”). Pet. 75; Paper 4, 2.

II. ANALYSIS

A. Legal Principles

A claim is unpatentable for obviousness under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are “such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness, i.e., secondary considerations.³ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

Additionally, the obviousness inquiry typically requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated

³ The parties do not address objective indicia of nonobviousness, which accordingly do not form part of our analysis.

reasoning with some rational underpinning to support the legal conclusion of obviousness”)); *see In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016) (citing *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006)).

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The “person of ordinary skill in the art” is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998). “This legal construct is akin to the ‘reasonable person’ used as a reference in negligence determinations” and “also presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan.” *Id.* (citing *In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1993)).

In the related ITC Investigation, Petitioner proposed that a person of ordinary skill in the art

would have had a bachelor’s degree that involved coursework in interface design and computer programming, for example, electrical engineering, computer engineering, computer science, industrial engineering, physics, or a similar degree, and at least one year of real-world work experience in the field of user interfaces, or human machine interface, or software programming. Additional education might substitute for some

of the experience, and substantial experience might substitute for some of the educational background.

Ex. 1007, 20. Patent Owner proposed that a person of ordinary skill in the art “would have had a bachelor’s degree in electrical engineering, computer science, or equivalent degree with two years of work experience relating to communications or consumer electronics.” *Id.* at 19–20. The Administrative Law Judge in the related ITC Investigation found the parties’ proposals “very similar,” and noted that each required “a bachelor’s degree in, *inter alia*, electrical engineering and computer science, and at least one or two years of experience in similar areas.” *Id.* at 20. According to the Administrative Law Judge, “[i]t is expected that the differences among the definitions will have little, if any, effect on the claim construction analysis,” such that both proposals were considered appropriate. *Id.*

We agree with this assessment, and the parties do not specifically advocate for one articulation over the other in this proceeding. *See* Pet. 8 (Petitioner asserting that “[t]he Challenged Claims are unpatentable under both proposed levels”); PO Resp. 5 (Patent Owner stating its “position that the challenged claims are unpatentable under either proposed level of ordinary skill”).

We adopt Patent Owner’s proposed statement of the level of ordinary skill as advanced in the related ITC Investigation. But we note that we would reach the same ultimate conclusion that Petitioner shows, by a preponderance of the evidence, that all challenged claims are unpatentable were we to adopt Petitioner’s proposal instead.

C. Claim Construction

The Board uses “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b) (2019); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). The specification may reveal a special definition given to a claim term by the patentee. *Phillips*, 415 F.3d at 1316. If an inventor acts as his or her own lexicographer, the definition must be set forth in the specification with reasonable clarity, deliberateness, and precision. *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998).

1. Constructions in the related ITC Investigation

In the related ITC Investigation, the parties agreed to the construction of certain terms, and the Administrative Law Judge ruled on others after a *Markman* hearing. *See* PO Resp. 5. The agreed constructions are as follows:

Claim Term	Agreed Construction
“though” in the phrases “scanning, via the processor and memory, <i>though</i> remote control code-sets” (emphasis added) (claims 1, 10, 11) and	through ⁴

⁴ “The parties agreed that the word ‘though’ in claims 1, 10, 11, and 14 is a clerical error and should be understood as ‘through.’” Ex. 1007, 4 (citations omitted).

Claim Term	Agreed Construction
“scanning <i>though</i> remote control code-sets” (emphasis added) (claim 14)	
“in case that the identifier-entry is a brand-identifier . . . and in case that the identifier-entry is a code-set-identifier”	Must be capable of performing both/either conditional step as opposed to a system/method that could only perform one of the two conditional steps
“means for entering a configuration mode”	Construed as a means-plus-function term under 35 U.S.C. § 112 ¶ 6 <u>Function</u>: entering a configuration mode <u>Structure</u>: keyboard 40 as shown in Figure 7 and as described at 9:7–8 and 6:7–11 of the ’875 patent, and equivalents thereof

Ex. 1007, 4; Pet. 8–9; PO Resp. 5 (Patent Owner agreeing that “[t]hose constructions are set out in the Petition”). Petitioner states that it “applied these agreed constructions” in the Petition, and Patent Owner also states that it “applies the agreed constructions” in its Response. Pet. 8; PO Resp. 6. We adopt these constructions.

The terms construed by the Administrative Law Judge (“ALJ”) after a *Markman* hearing are as follows:

Claim Term	ALJ Construction
“a configuration mode . . . accepting . . . scanning” (claims 1, 10, 14)	entering “a configuration mode,” “accepting” an identifier entry, and “scanning” through remote control code-sets

Claim Term	ALJ Construction
“a configuration mode . . . scanning . . . testing . . . replacing . . . combining” (claim 11)	entering “a configuration mode,” “scanning,” “testing,” “replacing,” and “combining”
“identifier-entry” (claims 1, 9, 10, 14)	entry of an identifier
“means for accepting an identifier entry” (claim 14)	Construed as a means-plus-function term under 35 U.S.C. § 112 ¶ 6 <u>Function</u>: accepting an identifier-entry <u>Structure</u>: a numerical or SMS keyboard
“means for scanning through remote control code-sets” (claim 14)	Construed as a means-plus-function term under 35 U.S.C. § 112 ¶ 6 <u>Function</u>: scanning through remote control code-sets <u>Structure</u>: processor and computer program, with the algorithm as described in 6:28–67, as also shown in Figure 5, steps 4–15 (step 9 being optional)

Ex. 1008; Pet. 9–11; PO Resp. 5 (Patent Owner agreeing that “[t]hose constructions are set out in the Petition”). Petitioner states that it “do[es] not set forth or advocate for any specific construction of these terms in th[e] Petition” but that “the Challenged Claims are unpatentable under all of the previous proposed constructions.” Pet. 11. Patent Owner states that it “applies . . . the constructions made by the ALJ, unless otherwise noted.” PO Resp. 5–6. In light of the parties’ agreement in the related ITC

Investigation, and our agreement with these constructions, we adopt them for this Decision.

2. *Other Constructions*

The parties address the construction of certain other phrases that appear in the claims, namely an aspect of the “scanning” limitations of independent claims 1 and 14; and, relatedly, an aspect of the “enabling” step of dependent claim 4. Pet. 11–16; PO Resp. 6–7. With respect to the “scanning” limitations of independent claims 1 and 14, Patent Owner concedes that, in the related ITC Investigation, the Administrative Law Judge’s Initial Determination “ruled, contrary to [Patent Owner’s proposal], and consistent with Petitioners’ proposal, that ‘the claims do not exclude user input during the scanning and iterating.’” PO Resp. 6–7 (citing Ex. 2007, 106). In this proceeding, Patent Owner “is not arguing . . . that claims 1 and 14 ‘exclude user input during scanning and iterating,’” and accordingly posits that “the Board need not resolve this claim construction issue to make a determination as to the validity of the challenged claims of the ’875 patent.” *Id.* at 6.

But as we discuss below in the context of claim 2, *infra* § II.E.2., Patent Owner argues that user input interrupts the recited “iterating.” See PO Resp. 45 (“[T]he iteration *stops* every time a key on the remote is pressed and a code is transmitted.”). This position is inconsistent with Patent Owner’s acquiescence to a construction in which “the claims do not exclude user input during the scanning and iterating.” We accordingly find it necessary to provide an express construction and address fully the parties’ arguments, and we do so.

With respect to the “enabling” step of dependent claim 4, Patent Owner presents its claim-construction arguments in the context of applying the asserted art to the limitation. *See* PO Resp. 7 (Patent Owner stating that it “fully addresses this issue below in its discussion of the validity of claim 4”). We agree that the nuances of the parties’ dispute are best appreciated in that context, and we accordingly also address the claim-construction aspects of the parties’ dispute when analyzing the sufficiency of Petitioner’s unpatentability showing with respect to claim 4 below.

We otherwise do not find it necessary to construe any other term for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Scope and Content of the Prior Art

1. Wouters

Wouters “relates to a remote control device” that “enable[s] the user to control functions of a device to be controlled via the remote control.” Ex. 1009, 1:2–5. Wouters explains that, “[d]ue to limited code set storage possibilities, numerous look-a-like device code sets are combined into one remote control code set,” such that “the user is confronted with certain buttons (object keys) of a code set that might not have the desired effect on the device (no effect or wrong behavior).” *Id.* at 1:18–22. A user therefore “has the possibility to try out, using the remote control, all of the proposed preset code sets and pick the one that fits best.” *Id.* at 1:24–25. But in some

instances “none of the proposed preset code sets includes all IR or RF codes for all features of the device and, as a result, the user cannot make full use of the capabilities of the device he/she is trying to control while using the remote control.” *Id.* at 1:25–28. Wouters accordingly discloses a remote control that “enables a user to pick IR or RF codes from different code sets to be combined in a single mode” so that the “user himself compiles a code set in such a way that all of the features of his device . . . can be controlled.” *Id.* at 2:18–21.

Figure 1 of Wouters is reproduced below.

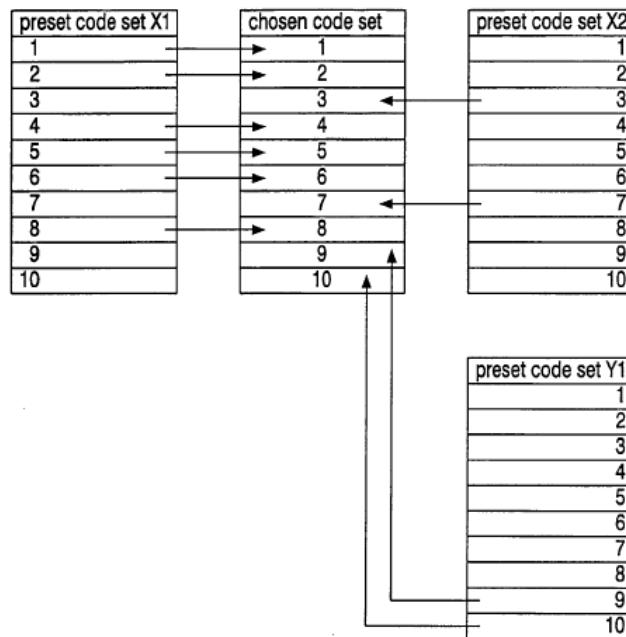


FIG. 1

Figure 1 schematically illustrates that the remote control includes several preset IR or RF codesets, namely codesets X1, X2, and Y1. *Id.* at 6:29–32. After a process for combining data from multiple preset codesets into a single codeset (the “chosen code set”), “the object keys 1, 2, 4, 5, 6 and 8 are linked to data (commands) from the preset code set X1, the object keys 3

and 7 are linked to data (commands) from the code set X2, and the object keys 9 and 10 are linked to data (commands) from the code set Y1.” *Id.* at 7:7–11. The “chosen code set” is thus “a compilation, compiled by the user, in which data from the preset code sets X1, X2 and Y1 are combined in a single code set.” *Id.*

2. Verzulli

Verzulli “relates generally to a programmable, universal remote control, and more particularly to a programmable, universal remote control in which manufacturer and model numbers of electronic devices to be controlled are stored in the remote control.” Ex. 1010, 1:9–12. Figure 3 of Verzulli is reproduced below.

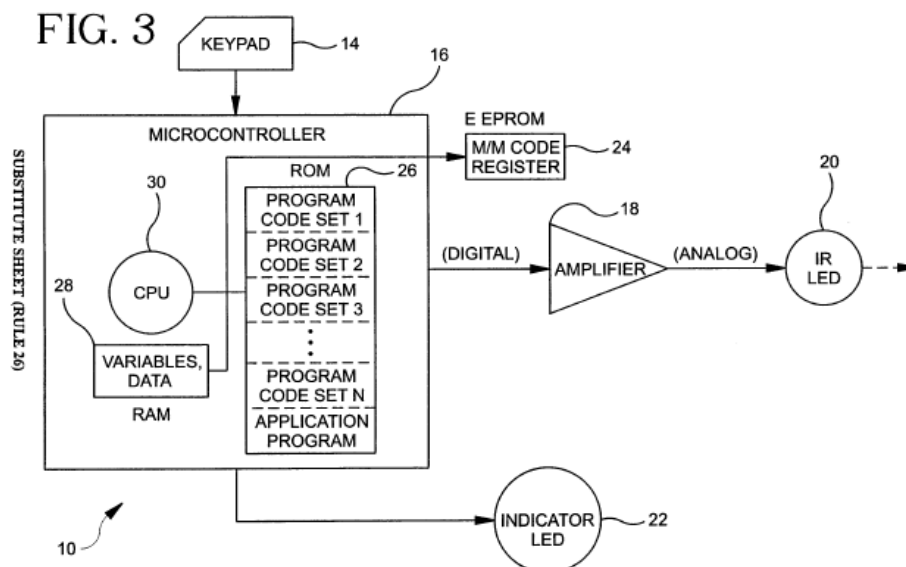


Figure 3 is “a block diagram of a programmable, universal remote control” that includes, among other components, keypad 14; “a processing circuit, microprocessor, application specific integrated circuit (ASIC), programmable logic device, or microcontroller 16”; read-only memory

(EEPROM) 24; random-access memory 28; central processing unit 30; and infrared light emitting diode 20. *Id.* at 7:3–4, 9:1–5.

3. *RadioShack*

a. *Disclosure*

RadioShack is an owner’s manual for the Phone Up 4 Remote Control, which “lets you operate almost any infrared device in your home from a distance,” including a TV, VCR, and cable converter. Ex. 1014, 2.⁵ RadioShack discloses three methods for setting up the Phone Up 4 Remote Control. *See id.* at 10–11, 32, 36–37.

First, a version of brand search may be initiated when the user presses the device key corresponding to the device the user wants to configure for remote control (“VCR, AUX, TV, or CBL”), and then holds down the “SETUP” key until the red light blinks twice. *Id.* at 10. The user then enters a four-digit code that corresponds to the brand of the device to be controlled. *Id.* The user sends a test code to the device by pressing “PWR” and, if the device does not respond, “press[ing] the numbers 1 through 9 and 0, one at a time,” to try other codesets associated with the entered brand. *Id.* When the device responds, the user presses “SETUP” to confirm selection and installation of that codeset. *Id.* If the device still does not respond after trying all codesets for that brand, the user may press “CHAN ^” to try codesets associated with other brands. *Id.* at 11.

Second, the user may use device codes to configure the remote control by pressing the device key and holding “SETUP,” after which the user enters

⁵ When citing to RadioShack, we cite to its original pagination, rather than to the Bates numbers added by Petitioner.

“9 8 4,” followed by the four-digit individual codeset for the device.
Id. at 36. If a test of the “PWR” key is successful, the user presses “SETUP” to “lock in the code.” *Id.* at 37.

Third, a manual code search may be used in which the user again presses the device key and holds “SETUP,” this time followed by entering “9 9 1” and slowly alternating between pressing “PWR” and the device key. *Id.* at 32. When the device responds, the user immediately presses “SETUP” to lock in the device code. *Id.*

b. Whether RadioShack is a Printed Publication

Patent Owner contends that, “as a threshold matter, Petitioners have failed to show that RadioShack was publicly accessible before either the priority date or the critical date of the ’875 patent.” PO Resp. 29.

“[T]herefore,” Patent Owner argues, Petitioner has “failed to show that RadioShack qualifies as prior art under 35 U.S.C. § 102(a) or (b).” *Id.* (citing *Corning Optical Commc ’ns LLC v. Dali Wireless, Inc.*, IPR2021-00762, Paper 37 at 27 (PTAB Oct. 11, 2022)). Petitioner treats the critical date of the ’875 patent as March 15, 2006, for § 102(a) prior art, and treats the critical date as March 5, 2006, for § 102(b) prior art. Pet. 5; *see* Ex. 1001 codes (22), (30). Patent Owner does not dispute these dates.

Whether a reference qualifies as a “printed publication” is a legal conclusion based on underlying factual findings. *Nobel Biocare Servs. AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1375 (Fed. Cir. 2018) (citing *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1356 (Fed. Cir. 2018)). The underlying factual findings include whether the reference was publicly

accessible. *Id.* (citing *In re NTP, Inc.*, 654 F.3d 1279, 1296 (Fed. Cir. 2011)).

i. Petitioner's Evidence

(1) Evidence Filed with the Petition

Petitioner's evidence can be organized into two basic groups, evidence that was filed concurrent with the original Petition and evidence that was filed with the Reply, i.e., after we instituted trial. The former includes indicia on the RadioShack document itself, as well as testimony by Daniel Tonks. Exs. 1013, 1014. With respect to the document's indicia, Petitioner observes that RadioShack bears a 1996 copyright notice and additionally includes a date of "July 19, 1999." Pet. 19; Ex. 1014. These dates are both well before the March 2006 critical dates.

Mr. Tonks is "the founder and operator of the website RemoteCentral.com." Ex. 1013 ¶ 1. Mr. Tonks testifies that RemoteCentral.com was "[f]ounded in 1998" and "quickly grew to be the internet's preeminent source for universal remote control information and community for both home users and Custom Installers." *Id.* "It has been featured in numerous publications such as The New York Times, USA Today, The Wall Street Journal, and Wired." *Id.* In addition, in January 2013, "CE Pro Magazine named [Mr. Tonks] as one of the 20 most influential people in the Custom Electronics industry during the past 20 years." *Id.*

Mr. Tonks supports Petitioner's reliance on RadioShack by testifying that the document "is an accurate copy of what is available on RemoteCentral.com as 151917-manual.zip, internally archived as 15-

1917.pdf.” Ex. 1013 ¶ 3. Mr. Tonks “can confirm that this file was obtained directly from a Radio Shack-owned website in 2004” and that “[i]t was not provided through a third party.” *Id.* Petitioner also provides a copy of upload details to RemoteCentral.com as Exhibit 1015, which corroborates Mr. Tonks’s testimony.

Relying on this evidence, the Petition reasons that this evidence confirms that “RadioShack was publicly available on a RadioShack website by at least 2004,” and that “RadioShack was published and publicly available on RemoteCentral.com as of April 30, 2004.” Pet. 19 (citing Ex. 1013 ¶ 3). Patent Owner criticizes this reasoning because “the petition fails to provide any evidence showing RadioShack was publicly *accessible*,” and “evidence of *availability*—even public availability—is not evidence of ‘public *accessibility*.’” PO Resp. 31–32 (quoting *Schlumberger Technology Corp. v. Integrated Drive Systems LLC*, IPR2018-00604, Paper 40 at 16 (PTAB Sept. 3, 2019)).

We agree with Patent Owner that the correct test is public *accessibility* rather than public *availability*. See Inst. Dec. 21 (“Board precedent instructs us that, ‘at the institution stage, the petition must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent and therefore that there is a reasonable likelihood that it qualifies as a printed publication.’”) (quoting *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential)). Nevertheless, we determined during the preliminary stage of this proceeding that Petitioner’s initial evidence was sufficient to meet the standard we apply in determining whether to institute *inter partes* review.

Id. But, at the same time, we advised the parties that “[t]he issue of whether RadioShack is a printed publication would benefit from further development at trial.” *Id.*

(2) Evidence Filed with the Reply

With its Reply, Petitioner filed a Supplemental Declaration by Dr. Houh, Ex. 1027, as well as additional evidence to address whether RadioShack is a printed publication: (1) a Supplemental Declaration by Mr. Tonks, Ex. 1028; (2) various articles that mention Mr. Tonks and/or the RemoteCentral.com web site, Exs. 1029, 1030, 1033–1039, 1041, 1043; (3) an academic article that refers to the RemoteCentral.com web site, Ex. 1031; (4) a textbook that refers to the RemoteCentral.com web site, Ex. 1032; (5) various patents that identify documents from the RemoteCentral.com web site as references cited, Exs. 1049, 1051–1061; (6) the prosecution history of a patent in which the Examiner cited remote-control manuals from the RemoteCentral.com website as a basis for rejection, Ex. 1050, 34–45; and (7) evidence that the RemoteCentral.com web site was indexed by Google at least as early as 2004, Ex. 1044.⁶

According to Patent Owner, Petitioner’s evidence filed with its Petition is insufficient to show that a person of ordinary skill in the art,

⁶ Petitioner also filed evidence to authenticate each of piece of additional evidence, and Patent Owner does not dispute the authenticity of Petitioner’s evidence filed with Petitioner’s Reply. Exs. 1028, 1042, 1065–1066; *see* Sur-reply 6 (Patent Owner acknowledging that “[t]wo of the new declarations, EX1065-66 are largely being used to authenticate the dates of those articles”); Tr. 39:24–40:11 (Patent Owner agreeing that Petitioner’s authentication evidence is sufficient), 62:22–63:12 (Petitioner identifying authentication evidence).

“looking for prior art to the ’875 patent, would have arrived at the RemoteCentral.com website,” and that “[m]ost” of Petitioner’s evidence filed with Petitioner’s Reply “appear[s] designed to fill in this evidentiary gap.” Sur-reply 5. Patent Owner urges that “[t]he Board should not consider these 29 new exhibits [i.e., Exs. 1029–1039, 1041⁷–1043, 1049–1061, 1065, and 1066] as evidence that a [person of ordinary skill in the art] would have been aware of the RemoteCentral.com website.” *Id.* at 6.

The issue of whether to consider Petitioner’s additional evidence is addressed squarely by the principles set forth in *Hulu*, which addresses the standards at the institution stage and during the trial for evaluating evidence proffered to show asserted art qualifies as a printed publication. Specifically, after a petitioner has presented “evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent,” such that trial is instituted, “some limited opportunities exist for the petitioner to present new evidence later.” *Hulu* at 13–14. These “limited opportunities” include “in a reply to the patent owner response,” provided that the additional evidence is “responsive to the prior briefing” and provided that the additional evidence does not require “completely reopen[ing] the record, by, for example, changing theories after filing a petition.” *Id.* at 14–15.

Although Patent Owner contends that “[t]his is not an example of permissible rebuttal evidence, but rather a belated attempt to fill a gap in the evidence in the Petition,” we disagree. *See* Sur-reply 6. Rather, the

⁷ Patent Owner appears to refer incorrectly to Exhibit 1040 instead of Exhibit 1041 when identifying “articles allegedly referring to RemoteCentral.com.” *See* Sur-reply 5–6.

progression within the instant proceeding comports well with the *Hulu* framework. During the preliminary proceeding, Petitioner came forth with “evidence sufficient to establish a reasonable likelihood that [RadioShack] was publicly accessible before the critical date of the challenged patent,” just as *Hulu* demands. *Hulu* at 13; Inst. Dec. 23 (“[W]e determine that Petitioner’s showing regarding public accessibility of RadioShack is sufficient under the standard we apply at this stage of the proceeding.”). Patent Owner challenges RadioShack’s status as a printed publication in its Response, just as *Hulu* contemplates. *Hulu* at 15; PO Resp. 28–41. And Petitioner submits additional evidence that replies to that challenge without changing its theory that RadioShack qualifies as a printed publication by virtue of its accessibility on the RemoteCentral.com web site and in light of date indicia on RadioShack itself.⁸ See *Hulu* at 15–16; Reply 7–13.

Moreover, in determining that Petitioner’s additional evidence directed at RemoteCentral.com is properly considered, we are further mindful of the Federal Circuit’s endorsement that “the petitioner in an inter partes review proceeding may introduce new evidence after the petition stage if the evidence is a legitimate reply to evidence introduced by the patent owner.” *Anacor Pharm., Inc. v. Iancu*, 889 F.3d 1372, 1830–81 (Fed.

⁸ In its Reply, Petitioner also relies on evidence of publication of RadioShack on Radio Shack’s own public website and on “a third location,” hifi-remote.com. Reply 14. As we discuss below, we determine that the presence of RadioShack on RemoteCentral.com is sufficient to qualify RadioShack as a printed publication. We therefore do not reach the issue of whether presence on either the Radio Shack web site or on hifi-remote.com is an improper new theory raised by Petitioner in its Reply. See Tr. 8:13–9:23 (Petitioner discussing whether reliance on hifi-remote.com presents a different theory than set forth in the Petition).

Cir. 2018); *see also Vidstream LLC v. Twitter, Inc.*, 981 F.3d 1060, 1065 (Fed. Cir. 2020) (“The Board denied VidStream’s Motion to Exclude, holding that it was appropriate to permit Twitter to respond to VidStream’s challenge [to the status of Bradford as a printed publication] by providing additional evidence to establish the Bradford publication date. We conclude that the Board acted appropriately, for the Board permitted both sides to provide evidence concerning the reference date of the Bradford book, in pursuit of the correct answer.”).

We accordingly give due weight to Petitioner’s additional evidence of RadioShack’s accessibility on the RemoteCentral.com web site.

ii. Whether RadioShack was Publicly Accessible on RemoteCentral.com

“Because there are many ways in which a reference may be disseminated to the interested public, ‘public accessibility’ has been called the touch-stone in determining whether a reference constitutes a ‘printed publication’” *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1356 (Fed. Cir. 2018) (quoting *In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986)). A reference is considered “publicly accessible” if it was “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.” *Id.* at 1355–56 (citing *In re Wyer*, 655 F.2d 221, 226 (CCPA 1981)). Petitioner treats this requirement as having two aspects, namely (1) whether a person of ordinary skill could reasonably have found RemoteCentral.com and (2) whether such a skilled artisan could reasonably have found RadioShack on RemoteCentral.com. Reply 8–13; *see also* Tr. 33:25–34:8 (Patent Owner asserting that there are two aspects to the

analysis on public accessibility: “The first is whether a [person of ordinary skill in the art] would have known to arrive at the website containing the prior art reference. The second one is . . . , [a]ssuming the [person of ordinary skill in the art] would have done so, would the [person of ordinary skill in the art], exercising reasonable diligence, have located the prior art reference on the site? And these are separate and distinct requirements, and if you fail one of them, the document is not publicly accessible.”).

With respect to the first aspect, Petitioner relies on Mr. Tonks’s testimony and “numerous documents [that] corroborate that a [person of ordinary skill in the art] could have found RemoteCentral.com,” including “the New York Times, USA Today, Wall Street Journal, Kiplinger’s, and more.” Reply 8 (citing Pet. 19; Ex. 1013 ¶ 1; Ex. 1028 ¶¶ 11–16; Exs. 1033–1039; Ex. 1041; Ex. 1043; Ex. 1065 ¶¶ 10–29; Ex. 1066, 29–31; Ex. 1062, 14:13–17:19, 18:10–18). Petitioner also notes that “RemoteCentral.com has been written about by academics in the field,” been cited by “[a]t least a dozen U.S. Patents,” and been used by a U.S. Patent Examiner who “located RemoteCentral.com and rejected claims based on remote control manuals stored there as of March 2005.” *Id.* at 8–9 (citing Ex. 1031; Ex. 1040; Ex. 1049–1061, Ex. 1066, 5–7; Ex. 1062, 60:6–61:9).

We find Petitioner’s evidence sufficient to establish that a person of ordinary skill could reasonably have found RemoteCentral.com. Although Patent Owner disputes the sufficiency of Petitioner’s evidence for this aspect, that position is principally grounded in Patent Owner’s argument that we should not consider Petitioner’s Reply evidence. *See* Sur-reply 6. Indeed, Patent Owner agreed at the oral hearing that Petitioner’s Reply evidence, if considered, is sufficient. Tr. 34:18–35:1 (Patent Owner stating,

“[s]o, if you accept that evidence, new evidence in then I think, you’re right, I think it would not be the case, that it would meet that requirement”).

We accordingly next focus our attention on the second aspect, which considers whether a person of ordinary skill could reasonably have located the Radio Shack reference after having arrived at the RemoteCentral.com site. Petitioner relies on a number of pieces of evidence, some of which are more relevant to the first aspect of Petitioner’s argument, and to which we therefore give little weight in our evaluation of the second aspect. For example, Petitioner relies on an Examiner’s citation of “the ‘Universal Remote Control Manuals’ on RemoteCentral.com as of March 2005 as a basis for rejection.” Reply 11 (citing Ex. 1050, 34–45; Ex. 1049; Ex. 1027 ¶¶ 127–128). Although we agree with Petitioner that “[t]he patent examiner was able to locate RemoteCentral.com,” it is not apparent from the nature of the Examiner’s Office Action that, as Petitioner concludes, the Examiner “then use[d]” the manuals on the web site “in rejecting pending claims.” *See id.* Rather, the Examiner appears to have relied on the structure of the RemoteCentral.com web site, and we do not discern that the Examiner retrieved a specific manual whose content was applied in a rejection. *See* Ex. 1050, 37 (Examiner relying on RemoteCentral.com for “a website that contains a list of files for remote codes stored as make/model of the remote control”).

More pertinent to Petitioner’s arguments regarding the location of RadioShack on the website is the evidence that relates to the ability of a person of ordinary skill in the art to identify and retrieve specific manuals from the RemoteControl.com web site, including Mr. Tonks’s testimony. *See* Pet. 19 (citing Ex. 1013); Reply 10–11, 14 (citing Exs. 1013, 1028). We

note that no cross-examination testimony of Mr. Tonks was entered into the record, and that Mr. Tonks's testimony otherwise stands unrebutted. *See* Tr. 8:6–7 (Petitioner referring to “the unrebutted declaration of Mr. Tonks who personally downloaded RadioShack from RadioShack's website”).

Mr. Tonks testifies that “[o]ne of [his] main goals for RemoteCentral.com was to provide a single and reliable place where the public *could find* information about how different remote controls work, including the Radio Shack Phone Up 4 Remote Control, and how to program those different remote controls for use.” Ex. 1028 ¶ 4 (emphasis added). “That is why,” Mr. Tonks adds, he “organized the site to allow a visitor to search remote controls by brand and model.” *Id.* ¶ 5. “At least as of 2004,” which precedes RadioShack's critical date, “a user could navigate RemoteCentral.com by brand and by model or could use a search bar to search for model and title of the manual,” as illustrated with the screen shot shown in Exhibit 1045. *Id.* In addition, Mr. Tonks testifies that he

employed simple but effective search engine optimization techniques for the era. This included keyword-rich URLs, plentiful backlinks both internally and from trustworthy external sites, descriptive page titles, coding entirely in clean machine-readable HTML, utilizing static page URLs that endeavored to never change, as well as enhancing its trusted status with search engines as a long-time single-owner domain

that was never a source of email spam or commercial marketing efforts.

Id. ¶ 7.

The Universal Remote Control Manuals index on RemoteCentral.com, captured on June 3, 2004, is reproduced below. Ex. 1045; Ex. 1066, 1–2, 16–17.



In addition to showing the search box for “Model/Title,” the Universal Remote Control Manuals index page shows that “[w]hen RadioShack was posted to RemoteCentral.com, there were 28 brands from which the public could select,” a number that Mr. Tonks confirms “is accurate based on [his] own personal knowledge.” Reply 11; Ex. 1028 ¶ 17. Selecting the “Radio Shack” link retrieves links to 40 specific manuals, with a link to the RadioShack reference appearing as the third entry on the first page. Reply 11; Ex. 1046; Ex. 1028 ¶ 18. According to Petitioner, a person of ordinary skill in the art, “exercising reasonable diligence, could have followed the instructions in multiple articles to go to RemoteCentral.com and find Radio Shack remote control manuals,” including the RadioShack reference. Reply 11 (citing Ex. 1027 ¶¶ 124–126).

Patent Owner counters that “Petitioner’s arguments . . . are based on asking the wrong question.” Sur-reply 7. According to Patent Owner, “[t]he question is not whether a [person of ordinary skill in the art] who already knows the brand and the model number of the RadioShack device could find the manual.” *Id.* Instead, Patent Owner characterizes the relevant question as “whether a [person of ordinary skill in the art] looking for relevant prior art would have found the RadioShack reference using reasonable diligence without prior knowledge of that reference.” *Id.* (citing *Corning Optical Commc’ns LLC v. Dali Wireless, Inc.*, IPR2021-00762, Paper 37 at 26 (PTAB Oct. 11, 2022)). And Patent Owner suggests that the answer to such a question is to be found in the degree to which the reference has been

“meaningfully indexed.” *Id.* (citing *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 773 (Fed. Cir. 2018)).

There is no question that indexing of a reference is a “relevant factor” in determining public accessibility, particularly of “library-based references,” but it is not “a necessary condition for a reference to be publicly accessible.” *Voter Verified, Inc. v. Election Systems & Software, Inc.*, 698 F.3d 1374, 1380 (Fed. Cir. 2012) (citing *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986); quoting *In re Lister*, 583 F.3d 1307, 1312 (Fed. Cir. 2009)). Rather, indexing “is but one among many factors that may bear on public accessibility” and “indexing is no more or less important in evaluating the public accessibility of online references than for those fixed in more traditional, tangible media.” *Id.* Indeed, *Acceleration Bay*, which Patent Owner cites in its briefing, and which it identified as “very much on point” with this proceeding, emphasized that “[t]he test for public accessibility is not ‘has the reference been indexed?’” Sur-reply 7; Tr. 41:16–17; *Acceleration Bay*, 908 F.3d at 774. Rather, the Court “explained that where indexing is concerned, whether online or in tangible media, the ‘ultimate question is whether the reference was “available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.”’” *Acceleration Bay*, 908 F.3d at 774 (quoting *Voter Verified*, 698 F.3d at 1380).

In this instance, we have a number of additional facts before us that distinguish from *Acceleration Bay*. For example, *Acceleration Bay* had “no evidence as to how many reports were in the Library’s database” at the relevant time, such that the evidence “suggest[ed] that an artisan might have located [the reference] by skimming through potentially hundreds of titles in

the same year, with most containing unrelated subject matter, or by viewing all titles in the database listed by author, when the authors were not particularly well known.” *Id.* (citations omitted). In contrast, Petitioner presents specific, uncontroverted evidence that a person of ordinary skill in the art could have easily navigated to the index for universal remote-control manuals on RemoteCentral.com, and that the number of manuals on the site at the relevant time was relatively modest.

The searching capabilities of RemoteCentral.com are also not to be discounted. While full-text searching was clearly not possible, both experts support Mr. Tonks’s testimony that model and title searches were possible, such that “a search of ‘Radio Shack’ and ‘Phone’ would have resulted in finding the Radio Shack Phone Up 4 Remote Control Manual.” Ex. 1028 ¶ 5; Ex. 1027 ¶ 131 (Dr. Houh testifying that, “[a]side from searching by brand, a [person of ordinary skill in the art] would have also located RadioShack on RemoteCentral.com by searching by title”); Ex. 2002 ¶ 71 (Dr. Balakrishnan describing search capability, and noting that “[e]ven today, RemoteCentral.com does not appear to allow full-text searching”).

The Federal Circuit has recognized that the availability of title searches may weigh in favor of finding a reference to be publicly accessible. *Lister*, 583 F.3d at 1315 (cited by Reply 12). Patent Owner seeks to distinguish *Lister* as having facts that “were quite different” because the titles of articles held by the databases discussed in *Lister* were more descriptive than the titles of the manuals held by RemoteCentral.com. Sur-reply 8. Although this appears generally to be accurate, it does not render the title searches worthless. That is, we agree with Petitioner that “[t]his is not the situation where the website was indexed only by author or

year, and the search function was shown to produce *no* results.” Reply 12–13 (citing *Acceleration Bay*, 908 F.3d at 773). Thus, the model and title search capability of RemoteCentral.com supports a conclusion that a person of ordinary skill in the art, having arrived at the RemoteCentral.com website could have located specific manuals, including RadioShack.⁹

We thus determine that Petitioner shows, by a preponderance of the evidence, that (1) a person of ordinary skill in the art could reasonably have found RemoteCentral.com; and (2) once having found RemoteCentral.com, such a skilled artisan could have used the site’s search capabilities to locate specific prior art. We accordingly conclude that Petitioner sufficiently

⁹ We give little weight to Petitioner’s argument that “RemoteCentral.com was indexed by Google at least as early as 2004,” such that a person of ordinary skill in the art “could have searched keywords on Google and located RadioShack on RemoteCentral.com.” *See id.* at 13. Petitioner does not sufficiently develop this argument, and Patent Owner identifies a number of weaknesses with it. *See* Sur-reply 8–11.

Mr. Tonks testifies that he “can personally confirm that by at least 2004, RemoteCentral.com, and more specifically the Radio Shack Phone Up 4 Remote Control manual on RemoteCentral.com, had been indexed by Google so that people could easily search for and find manuals such as the Radio Shack Phone Up 4 Remote Control manual on RemoteCentral.com.” Ex. 1028 ¶ 8. But we agree with Patent Owner that this statement is conclusory and insufficiently corroborated to be accorded significant weight. Sur-reply 9–10. For example, Mr. Tonks provides no explanation of what he did to “personally confirm” such indexing, and the record does not clearly establish what functionality such indexing would have permitted. *See* Tr. 20:4–18 (Petitioner stating at the oral hearing, “I don’t want to speculate. What we have is we have presented the declaration of Daniel Tonks. In terms of what actually would have happened in 2004, I couldn’t say for certain. . . . In terms of what specific keywords you would have to use, I don’t think we have the data for that.”).

shows that RadioShack was publicly accessible before the challenged claims' critical date, and is therefore prior art to those claims.

*E. Claims 1–5, 8–10, and 14:
Obviousness over RadioShack*

Petitioner challenges claims 1–5, 8–10, and 14 as unpatentable under 35 U.S.C. § 103(a) over RadioShack. Pet. 37–69.

1. Independent Claim 1

a. Structural Limitations of the “Remote Control”

For the “keyboard,” “processor,” “memory,” and “transmitter” of the “Remote Control” recited in independent claim 1, Petitioner relies on: (1) an illustration of RadioShack’s Phone Up 4 Remote Control that includes a keyboard, Ex. 1014, 6; (2) RadioShack’s disclosure that the Phone Up 4 is “preprogrammed,” *id.* at 2, such that a person of ordinary skill in the art would have understood that such preprogramming requires a processor; (3) RadioShack’s disclosure that the Phone Up 4 includes a “library,” *id.* at 32, which a person of ordinary skill in the art would have understood to be stored in a memory; and (4) RadioShack’s disclosure of infrared operation of the Phone Up 4 to control devices, *id.* at 2, 32, which a person of ordinary skill in the art would have understood as requiring a transmitter.¹⁰ Pet. 37–40. Petitioner supports these identifications, which are not disputed by

¹⁰ These recitations are included in the preamble. Because Petitioner makes a sufficient showing that a person of ordinary skill in the art would understand RadioShack to meet these recitations, we need not decide whether the preamble is limiting.

Patent Owner, with testimony by Dr. Houh. *See* Ex. 1002 ¶¶ 171–180. We find Petitioner’s identifications sufficient.

b. “entering”

Independent claim 1 requires “entering, via the keyboard and processor, a configuration mode.” Ex. 1001, 9:27–28. Petitioner contends that RadioShack discloses this step by teaching the user, during the brand search, to press a device key (“VCR, AUX, TV, or CBL”) followed by the “SETUP” key until the red light on the remote control blinks twice. Pet. 42 (citing Ex. 1014, 10). Petitioner alternatively identifies a similar procedure for device-code configuration as summarized above. *Id.* (citing Ex. 1014, 36).

Patent Owner does not dispute Petitioner’s showing. We determine that Petitioner’s showing is sufficient under either of the procedures Petitioner identifies.

c. “accepting”

The claim also requires “accepting, via the keyboard and processor, an identifier-entry.” Ex. 1001, 9:29–30. For this step, Petitioner identifies the user input of a four-digit manufacturer’s code during the brand search or, alternatively, entry of the four-digit device code during the device search. Pet. 45. In either instance, these identifications are consistent with the Administrative Law Judge’s construction of “identifier-entry” in the related ITC Investigation, which we have adopted. *See id.* at 46.

Patent Owner does not dispute Petitioner’s showing. We determine that Petitioner’s showing is sufficient.

d. “scanning”

The claim recites “scanning, via the processor and memory, through remote control code-sets in a database stored in the memory of the Remote Control.” Ex. 1001, 9:31–33. For this step, Petitioner identifies RadioShack’s procedure of pressing “PWR” and then “the numbers 1 through 9 and 0, one at a time,” to see whether the device to be controlled responds. Pet. 46. This identification is sufficient for this aspect of the “scanning” step, and Patent Owner does not dispute its sufficiency.

The “scanning” step also includes substeps that apply for different instances of the “identifier entry.” The first set of substeps applies “in case that the identifier-entry is a brand-identifier that identifies a brand,” in which case “scanning” comprises “(i) iterating, via the processor and memory, through the remote control code-sets corresponding to the brand and (ii) testing said remote control code-sets by sending, via the transmitter, to a Consumer Electronic device for a given iteration, one or more specific control code functions of a corresponding remote control code-set.” Ex. 1001, 9:35–42. For these substeps, Petitioner relies on the user’s testing of “PWR” and “the numbers 1 through 9 and 0” as part of RadioShack’s brand search. Pet. 49–50.

The second set of substeps applies “in case that the identifier-entry is a code-set-identifier that identifies a single remote control code-set which [is] not pointed to by a brand-identifier,” in which case “scanning” comprises “testing the single remote control code-set corresponding to the code-set-identifier by sending, via the transmitter, to the Consumer Electronic device one or more specific control code functions of the corresponding single remote control code-set.” Ex. 1001, 9:43–50. For

these substeps, Petitioner relies on RadioShack's disclosure of device codes that are not associated with a manufacturer that has a manufacturer code, and specifically points to "Dae Ryung (0008), Everquest (0015), and Goldstar (0144)" device codes. Pet. 50–52; Ex. 1014, 13, 37.

Patent Owner does not dispute Petitioner's showing for the "scanning" step, including for the two substeps. We determine that Petitioner's showing is sufficient.¹¹

e. Summary

Because Petitioner makes a sufficient showing for each of the structural limitations of the recited "Remote Control," and makes a sufficient showing for each step of the recited method, we conclude that Petitioner demonstrates by a preponderance of the evidence that claim 1 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

2. Claim 2

Claim 2 depends from independent claim 1 and recites that "the iteration through remote control code-sets corresponding to the brand continues (i) until a user approval of a remote control code-set is entered, via the keyboard, or (ii) until all the remote control code-sets corresponding to

¹¹ In its Reply, Petitioner addresses various arguments that Patent Owner presented in its Preliminary Response directed at the "iterating" substep of independent claim 1. Reply 14–19. But those arguments are not made by Patent Owner in its Response and we deem them waived. *See generally* PO Resp.; Paper 12 ("Patent Owner is cautioned that any arguments not raised in the response may be deemed waived."). We accordingly do not address Petitioner's Reply arguments directed at the "iterating" substep.

the brand have been tested.” Ex. 1001, 9:51–55. Petitioner contends that both alternatives are disclosed by and/or would have been obvious over RadioShack. Pet. 53.

With respect to the first alternative, that the iteration continues “until a user approval of a remote control code-set is entered,” Petitioner points to RadioShack’s direction that, “[i]f your device turns off, press SETUP to lock in the code.” *Id.*; Ex. 1014, 10. Patent Owner disputes Petitioner’s showing by directing our attention to embodiments in the ’875 patent in which “(1) the user starts the iteration by pressing a button, and the remote transmits codes continually until the user approves the code-set by pressing another button,” or “(2) the user starts the iteration by pressing and *holding* a button, and the remote transmits codes continually until the user approves the code-set by *releasing* that same button.” PO Resp. 46 (citing Ex. 2012 ¶ 94); *see* Ex. 1001, 6:28–25. Although we agree that this is an accurate description of embodiments described by the ’875 patent, limiting “the iteration” recited in claim 2 to such embodiments would be inconsistent with the construction in which “the claims do not exclude user input during the scanning and iterating” that Patent Owner has chosen not to contest, and which we have adopted. *See supra* § II.C.2.

The differences in the parties’ positions may be more fully understood with reference to Figure 5 of the ’875 patent, reproduced above. The relevant portion of the drawing, i.e., the portion that illustrates iteration through different codesets, is described as follows:

The [universal remote control] determines the code-sets to iterate through (step 5). If the entered ID was a pointer to a set of code-sets, the software iterates through all these codesets (step 6). If the entered ID was a specific Code-set-id only, the

list will only contain that single Code-set and proceed (step 6). During the iteration, the [universal remote control] sends a specific (or multiple specific) IR-functions per code-set (step 7). In step 8 it is checked if there is a user reaction. If there is no user reaction, the algorithm waits a certain time. *Then it is checked if the iteration through the code-sets is finished (step 11).* If this is not the case the iteration is continued (step 6). The next code-set is retrieved and specific (or multiple specific) IR-functions is/are sent. When there is a user reaction (by pressing a key or by releasing the pressed key) or when the last IR-code is sent, the iteration stops.

Ex. 1001, 6:31–45 (emphasis added). Because the final sentence of this description refers to the iteration “stop[ping]” when “there is a user reaction,” Patent Owner contends that the iteration stops at step 8. PO Resp. 45. Although Patent Owner supports this contention with testimony by Dr. Balakrishnan, it cannot be reconciled with the ’875 patent’s repeated reference to the iteration stopping at step 11. Ex. 2012 ¶ 92; Ex. 1001, 6:39–40 (“Then it is checked if the iteration though the code-sets is finished (step 11).”), 6:55–57 (“In step 12 the algorithm checks if the iteration, that was finished in step 11, was an iteration of code sets belonging to a brand (‘first level’ iteration.”), 6:65–67 (“If in step 12 the algorithm determines that the iteration, that was finished in step 11, was a second-level iteration, the algorithm stops without installing a code-set (step 15).”).

Particularly in light of our adopted construction that “the claims do not exclude user input during the scanning and iterating,” we disagree with Patent Owner’s position that “the iteration *stops* every time a key on the remote is pressed and a code is transmitted[, and] if another key (e.g., 0 to 9) is pressed . . . , the remote *re-starts* the iteration.” See PO Resp. 45. Rather, Petitioner’s more straightforward position that the iteration simply continues

until the user indicates approval is more consistent with the intrinsic evidence and is supported by Dr. Houh’s testimony. Ex. 1002 ¶ 233; Ex. 1027 ¶¶ 180–190.

With respect to the second alternative, that the iteration continues “until all the remote control code-sets corresponding to the brand have been tested,” Petitioner points to the same disclosure of RadioShack and relies on Dr. Houh’s testimony that a person of ordinary skill in the art “would understand the process tests all codesets corresponding to the brand” because RadioShack instructs the user to try the Manual Code Search “[i]f your device still does not respond.” Pet. 53–54 (citing Ex. 1014, 10–11); Ex. 1002 ¶ 234. Patent Owner also disputes the sufficiency of Petitioner’s showing for this alternative by constructing a hypothetical example in which the setup procedure ends after a user “steps through PWR and numbers 0 through 9 three times” without the device turning off. PO Resp. 47. But as Petitioner points out, “no brand has more than 33 codesets,” i.e., the number of iterations of Patent Owner’s hypothetical. Reply 20–21 (citing Ex. 1014, 37–48). Thus, as Dr. Houh testifies, “there is never a situation where the user stops iterating without having tried all of the codesets.” Ex. 1027 ¶ 192.

For the reasons expressed above, we determine that Petitioner makes a sufficient showing with respect to both of the claim’s alternatives. We accordingly conclude that Petitioner demonstrates, by a preponderance of the evidence, that claim 2 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

3. Claim 3

Claim 3 depends from claim 1 and recites an additional “step of checking, via the processor, memory, and keyboard, for user approval of a remote control code-set and installing, via the processor and memory, the user approved remote control code-set for use by the Remote Control.”

Ex. 1001, 9:56–60. For this step, Petitioner identifies RadioShack’s instruction to a user that “[i]f your device turns off, press ‘SETUP’ to lock in the code.” Pet. 54 (citing Ex. 1014, 10). Supported by Dr. Houh’s testimony, Petitioner reasons that a person of ordinary skill in the art “would understand that the remote checks if the user presses ‘SETUP’ on the keyboard to approve and install the codeset in the memory of the [universal remote control], and that the processor executes the programming instructions.” *Id.* (citing Ex. 1002 ¶ 236).

Alternatively, Petitioner identifies a further instruction in RadioShack that the user press the “PWR” key to see whether the device turns off. *Id.* (citing Ex. 1014, 37). Because RadioShack instructs that “[i]f the device turns off, press SETUP to lock in the code,” Petitioner reasons that a person of ordinary skill in the art “would understand that the user presses ‘SETUP’ on the keyboard to approve of and install the codeset in the memory of the [universal remote control], and that the processor executes the programming instructions.” *Id.* (citing Ex. 1002 ¶ 137). Petitioner supports this reasoning with testimony by Dr. Houh. Ex. 1002 ¶ 137.

These disclosures are sufficient, and Patent Owner does not dispute that they meet the additional limitation of claim 3. We conclude that Petitioner shows, by a preponderance of the evidence, that claim 3 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

4. Claim 4

Claim 4 depends from independent claim 1 and recites three substeps for the “step of testing a remote control code-set” recited in the independent claim. Ex. 1001, 9:61–10:3. First, claim 4 requires “sending, via the transmitter, a remote control signal of the remote control code-set” and “checking, via the processor, memory, and keyboard, for a user reaction.” *Id.* at 9:64–67. For these substeps, Petitioner identifies RadioShack’s setup and locking procedures discussed above, and Patent Owner does not dispute that these procedures meet these limitations. Pet. 55–57 (citing Ex. 1014, 10, 37; Ex. 1002 ¶¶ 240–247).

Patent Owner disputes Petitioner’s showing only for the third substep, which recites, “in case of a user reaction, enabling, via the processor, memory, and transmitter, to test keys of the Remote Control for the remote control code-set.” Ex. 1001, 10:1–3. According to Petitioner, this substep is met by RadioShack “when it teaches that if ‘some of the keys do not function for your device, you might be able to find a better device code. (See “Using Device Codes” on Page 36).” Pet. 57. From this disclosure, and supported by Dr. Houh’s testimony, Petitioner reasons that a person of ordinary skill in the art “would thus understand RadioShack teaches the user that after pressing SETUP to install the code in either ‘Setting Up Your Phone Up 4’ or ‘Using Device Codes’ (i.e., user reaction), the user will then be enabled to test the keys of the code-set through normal operation of the remote.” *Id.* (citing Ex. 1002 ¶ 249).

Patent Owner disputes Petitioner’s reasoning on two bases. First, Patent Owner contends that RadioShack’s disclosure is too limited because the statement identified by Petitioner “says nothing about testing, or

enabling the remote to test additional keys, much less when, why or how such testing would be done.” PO Resp. 53–54. But Petitioner also relies on Dr. Houh’s testimony about the inferences a person of ordinary skill in the art would draw from such a statement, and we find those inferences reasonable. *See* Ex. 1002 ¶ 249.

Second, Patent Owner argues that the structure of claims 1 and 4 is such that claim 4’s recitation of “enabling . . . to test keys of the Remote Control” must be in addition to the “testing” recited in independent claim 1 and that, after such additional testing, the remote control must iterate to the next untested codeset. PO Resp. 54–55. According to Patent Owner, this is a consequence of the “testing” substep of independent claim 1 (which corresponds to the “testing” step further limited by dependent claim 4) being recited as part of iterating through brand codesets. *Id.* Dr. Houh specifically disagrees with Patent Owner’s reasoning, characterizing the “testing” substep of independent claim 1 as “wholly distinct and separate” from the “iterating” substep. Ex. 1002 ¶ 119.

Patent Owner’s argument is unpersuasive for the same reasons that the Administrative Law Judge in the related ITC Investigation characterized a similar argument as “unavailing.” Ex. 1025, 111. As the ALJ found,

“Enabling . . . testing” in claim 4 does not require specific testing beyond that which a user does every day with a remote control. Keys are routinely pushed to test and determine whether a desired result occurs (the remote control works), and testing is part of the routine of setting up a remote control. The claims do not require testing of particular codesets in a particular order. Like claim 1, embodiments from the specification about testing cannot be imported into the claim.

Id. at 133. We conclude that Petitioner shows, by a preponderance of the evidence, that claim 4 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

5. Claim 5

Claim 5 depends from independent claim 1 and recites the additional step of “accepting, via the keyboard and processor, a device type entry.” Ex. 1001, 10:4–6. For this limitation, Petitioner relies on RadioShack’s instruction to “Press the device key for the type of remote you are replacing (VCR, AUX, TV, or CBL).” Pet. 59; Ex. 1014, 10; *see also id.* at 37. Patent Owner does not dispute this identification, which we determine is sufficient.

We conclude that Petitioner shows, by a preponderance of the evidence, that claim 5 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

6. Claim 8

Claim 8 depends from independent claim 1 and recites that “a numbering convention is used to distinguish between brand-identifiers and code-set-identifiers.” Ex. 1001, 10:16–18. RadioShack provides separate instructions for configuring a remote control with a brand identifier and with a codeset identifier. For the former, after pressing the device and SETUP keys, the user enters the four-digit brand identifier. Ex. 1014, 10–11. For the latter, the user presses “9 8 4” after pressing the device and SETUP keys, and then enters the four-digit codeset identifier. *Id.* at 36. Petitioner contends that the “9 8 4” prefix to distinguish a codeset identifier from a

brand identifier meets, or would have rendered obvious, the recited “numbering convention.” Pet. 59–60.

Patent Owner disputes the sufficiency of Petitioner’s showing because the distinction between brand identifiers and codeset identifiers is not part of the identifiers themselves: “But both manufacturers’ and device codes are numbered exactly the same way—they are both four-digit numbers, all of which start with an initial ‘0,’ followed by three digits which appear unconnected to whether the number is associated with a brand or a device.” PO Resp. 60. But the claim does not require that the recited “numbering convention” be embodied by the identifiers themselves. *See Reply 23* (Petitioner stating that Patent Owner “provides no support for its construction that the ‘numbering convention’ must be within the code-set-identifier itself”). Patent Owner’s argument is thus not commensurate with the scope of the claim.

Petitioner’s identification of the sequence “9 8 4” to distinguish between brand identifiers and codeset identifiers is sufficient. We accordingly conclude that Petitioner shows, by a preponderance of the evidence, that claim 8 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

7. Claim 9

Claim 9 depends from independent claim 1 and recites that “the identifier-entry is a ‘wild card’ code, and upon detecting, via the processor and keyboard, that the ‘wild card’ code is entered, scanning further comprises iterating through all code sets for at least a device type.” Ex. 1001, 10:19–23. For this limitation, Petitioner identifies RadioShack’s

instruction for a manual code search in which the sequence “9 9 1” is entered by a user, followed by alternate pressing of the “PWR” button and device key. Pet. 61; Ex. 1014, 32. “For example, if you are searching for the code to operate your TV,” RadioShack instructs, “[e]ach time you press TV, the Phone Up 4 advances to the next code in the library.” Ex. 1014, 32. Petitioner identifies the “9 9 1” sequence that initiates such behavior as the recited “‘wild card’ code,” and reasons that the universal remote control iterates through all codesets for the device type in view of RadioShack’s explanation that, “[b]ecause of the large number of codes in the Phone Up 4’s library, this procedure can take several minutes.” Pet. 61; Ex. 1014, 32.

Petitioner’s identification of this disclosure is sufficient, and Patent Owner does not dispute that it meets the limitation recited in claim 9. We conclude that Petitioner shows, by a preponderance of the evidence, that claim 9 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

8. Claim 10

Claim 10 depends from independent claim 1 and recites “A non-transitory computer-readable medium embodied with a computer program that comprises computer program code executable by a processor to perform the steps of setting up a Remote Control of claim 1.” Ex. 1001, 10:24–27. Petitioner addresses claim 10 by observing that the remote control described by RadioShack has a “Phone Up 4 memory” that can download updated device codes and has multiple setup methods. Pet. 62 (citing Ex. 1014, 2, 10–11, 32, 34, 36–37). Supported by Dr. Houh’s testimony, Petitioner reasons that a person of ordinary skill in the art “would have understood that in order to provide these features RadioShack necessarily discloses a

memory (*i.e.*, non-transitory computer-readable medium) embodied with a computer program that comprises computer program code executable by a processor.” *Id.* (citing Ex. 1002 ¶ 271).

Patent Owner disputes the sufficiency of Petitioner’s showing because, according to Patent Owner, “claim 10 requires that the steps of claim 1 be able to be performed by a processor, not by the user.” PO Resp. 62. Patent Owner recognizes our construction that “the claims do not exclude user input during the scanning and iterating,” but contends that “claim 10 is a dependent claim that imposes additional restrictions on base claim 1, including a restriction on the ‘iterating’ step—specifically, that a ‘processor’ must ‘perform the steps . . . of claim 1,’ which includes the ‘iteration’ sub-step.” *Id.* at 63; *see id.* at 6.

It is apparent that the processor alone is incapable of performing all of “the steps of setting up a Remote Control of claim 1,” as claim 10 recites. Indeed, Patent Owner’s expert acknowledged on cross-examination that the keyboard and memory are needed to perform claim 1’s steps of “entering, via the keyboard processor,” “accepting, via the keyboard and processor,” “scanning, via the processor and memory,” and “testing . . . , via the transmitter.” Ex. 1062, 28:12–31:4. Patent Owner recognizes this and would selectively like to exclude only *the user* from participating in performing the recited steps, but not to exclude participation by “other components in the remote.” Sur-reply 24. There is no basis in the claim for such a selective exclusion. Rather, claim 10 appears to be a relatively routine claim meant to cover a different statutory class of invention, but otherwise to be coextensive in scope with claim 1.

We conclude that Petitioner shows, by a preponderance of the evidence, that claim 10 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

9. Claim 14

Independent claim 14 is an apparatus claim directed to a “Remote Control” that recites elements using means-plus-function language that correspond to the steps recited in independent claim 1. *Compare* Ex. 1001, 9:24–50 *with id.* at 10:55–11:7. Petitioner presents an analysis that identifies structure within RadioShack that corresponds to the respective “means for” elements, but otherwise relies on its analysis of independent claim 1 in identifying the functions performed by such identified structure. Pet. 63–69.

Patent Owner does not dispute Petitioner’s analysis of independent claim 14, which we have reviewed. Petitioner’s structural identifications comport with our construction of the “means for” limitations, *supra* § II.C.1., such that we conclude that Petitioner shows, by a preponderance of the evidence, that independent claim 14 is unpatentable under 35 U.S.C. § 103(a) over RadioShack.

F. Claims 1–5, 8–10, and 14: Obviousness over RadioShack and Verzulli

Petitioner challenges claims 1–5, 8–10, and 14 as unpatentable under 35 U.S.C. § 103(a) over RadioShack and Verzulli. Pet. 37–69. Petitioner presents its analysis under this ground coextensively with its challenge of the same claims as unpatentable for obviousness over RadioShack alone. *Id.* Petitioner explains that a person of ordinary skill in the art “would

understand that RadioShack discloses the hardware limitations of a processor, a memory, and a transmitter.” *Id.* at 40. Nevertheless, Petitioner alternatively relies on Verzulli “[t]o the extent RadioShack does not disclose these limitations,” contending that a person of ordinary skill in the art “would have been motivated to combine RadioShack Phone Up 4 Manual with Verzulli at least because the RadioShack Phone Up 4 Manual and Verzulli both relate to the same subject matter: methods of configuring a [universal remote control].” *Id.* at 40–41. Petitioner elaborates that a person of ordinary skill in the art would have been readily able to implement the Verzulli hardware in RadioShack, and would have been able to implement the programming methods described by RadioShack using the flow charts of Verzulli. *Id.* at 41–42.

Dr. Houh’s testimony supports Petitioner’s alternative reliance on Verzulli for the structural limitations of a processor, a memory, and transmitter. Ex. 1002 ¶¶ 181–191. Patent Owner does not dispute Petitioner’s analysis for the RadioShack-Verzulli combination separate from its arguments directed at Petitioner’s analysis relying on RadioShack alone. *See* PO Resp. 41–64; Tr. 58:12–14 (Patent Owner stating at oral hearing that “[w]e don’t need to say much about Verzulli. Petitioner uses Verzulli to attempt . . . to find undisputed structural limitations, so it doesn’t really add anything to the analysis.”).

Petitioner’s identification of undisputed structural limitations in Verzulli is sufficient, as is its explanation for combining such structural elements with the methods described by RadioShack discussed above. We accordingly conclude that Petitioner shows, by a preponderance of the

evidence, that claims 1–5, 8–10, and 14 are unpatentable under 35 U.S.C. § 103(a) over RadioShack and Verzulli.

*G. Claim 11:
Obviousness over Wouters and Verzulli*

Petitioner challenges independent claim 11 as unpatentable under 35 U.S.C. § 103(a) over Wouters and Verzulli. For the recited “keyboard,” “processor,” “memory,” and “transmitter” of the “Remote Control,” Petitioner contends either that (1) a person of ordinary skill in the art would understand that Wouters’s remote control includes such structural elements, or (2) “it would have been obvious to a [person of ordinary skill in the art] to combine Wouters with Verzulli to use a keyboard, processor, memory, [and] transmitter, and to teach these limitations.” Pet. 25 (citing Ex. 1002 ¶¶ 130–139).

Patent Owner does not dispute this, nor does Patent Owner dispute Petitioner’s identification of steps performed by Wouters that meet the “entering,” “scanning,” and “testing” limitations. In brief, Petitioner makes the following undisputed contentions: (1) Wouters discloses the step of “entering, via the keyboard and processor, a configuration mode” through its teaching that a user may select a device by pressing a button on home panel of the remote control, which then provides an option to adjust the remote control to operate with a particular brand, Pet. 28 (citing Ex. 1009, 8:5–15); (2) Wouters discloses the step of “scanning, via the processor and memory, through remote control code-sets in a database stored in the memory of the Remote Control” by teaching a user instructing the remote control to scan through the code sets by following on-screen instructions to navigate to

another codeset for a brand, *id.* at 30 (citing Ex. 1009, 10:1–7); and (3) Wouters discloses the step of “testing, via the keyboard, if individual[] keys of a code set send, via the transmitter, correct codes and receiving, via the keyboard, user-feedback on the correct and/or incorrect working of the tested keys” by describing a “Try” mode in which, after the user has selected a particular codeset, the user selects individual keys to test and is further prompted if the key works correctly, *id.* at 31–32 (citing Ex. 1009, 9:12–20).

Patent Owner instead disputes Petitioner’s showing with respect to the “replacing” and “combining”/“installing” steps. We focus our analysis on the latter, which requires “combining, via the processor and memory, correct working codes from the scanned remote control code-sets into a new custom configuration code set and installing, via the processor and memory, the combined correct working codes of the new custom configuration code set for use by the remote control.” *See* Ex. 1001, 10:43–48. Petitioner contends that this step is met by Wouters, which “discloses that when all the keys are assigned from various codesets and the user completes the programming process thus combining codes from multiple codesets into a new customized codeset, the customized code set combination can be saved as a new custom configuration codeset.” Pet. 35.

The difficulty in Petitioner’s position arises, according to Patent Owner, because “[t]he claim language shows that the ‘combining’ and ‘installing’ steps must be done in that order—‘combining’ the codes first, and then ‘installing’ them—because ‘installing . . . **the combined correct working codes**’ refers back to the antecedent ‘**combining . . . correct working codes**’ in the previous step.” PO Resp. 21 (citing *Wi-Lan, Inc. v. Apple, Inc.*, 811 F.3d 455, 462 (Fed. Cir. 2016); Ex. 2012 ¶ 60) (alterations

by Patent Owner). Dr. Balakrishnan's testimony supports this understanding as consistent with the specification of the '875 patent. Ex. 2012 ¶¶ 60–62. Notably, Petitioner also does not dispute that this is a correct understanding of the plain language of the claim. *See* Sur-reply 4 (Patent Owner observing that Petitioner does not dispute that the limitation “requires ‘combining’ working codes into a new custom code-set, followed by ‘installing’ the combined custom code-set” and that Petitioner does “not claim that the Wouters installation process satisfies the ‘combining’ and ‘installing’ limitations”). Instead, Petitioner replies that Patent Owner “misses the key disclosure of Wouters that states: ‘**After activation** of all object keys (or as many object keys as the user wishes to install), **the chosen code set is finished**. Preferably, **the remote control device comprises a fixer . . . to fix the chosen code set (i.e. enter it into the RC code set data base)** and give it a name.’” Reply 5 (quoting Ex. 1009, 10:16–20) (alterations by Petitioner).

Petitioner's reliance on Wouters's “fixer” as meeting the requirement of “installing . . . the combined correct working codes of the new custom configuration code set” is insufficiently supported by the evidence before us. As Patent Owner correctly observes, Wouters's “fixer” “follows the installation of codes” on an individual basis as a user tests for working codes one at a time. Sur-reply 4; *see* PO Resp. 23. Wouters's entire discussion of its “fixer” is encompassed by the following:

This iterative procedure will lead to activation (installing) of all object keys, or at least as many objects keys as the user wishes to install, said object keys also having the functions the user wishes said keys to have. After activation of all object keys (or as many object keys as the user wishes to install), the chosen code set is finished. Preferably, the remote control device

comprises a fixer (which may be hardware or software or a combination thereof) to fix the chosen code set (i.e. enter it into the RC code set data base) and give it a name ('user1,' for instance). When the remote control malfunctions (for instance, when the batteries have been exhausted), the user may easily reinstall the chosen code set by choosing 'user1' from the proposed list or immediately selecting 'user1'. When reinstalling, the remote control will preferably start the process by proposing the previously chosen code sets (user1, user2, etc.).

Ex. 1009, 10:14–24.

This discussion is clear that operation of the “fixer” occurs after all keys (or at least as many as the user wishes) are installed, and that the “fixer” has two functions—to enter the chosen codeset into a database and to name it. *See id.* We agree with Patent Owner that this insufficiently supports Petitioner’s implication that the “fixer” performs the recited installation of the working codes of the new custom configuration codeset. *See* Sur-reply 4 (Patent Owner asserting that “Wouters’ ‘fixer’ does not perform a second installation”). Neither of the two functions Wouters identifies as performed by the “fixer” amounts to an installation, which would, in any event, appear superfluous after installing all of the working codes of the new custom configuration codeset on an individual basis.

Because Petitioner does not show that this limitation is met in its proposed combination of references, we conclude that Petitioner does not

show, by a preponderance of the evidence, that independent claim 11 is unpatentable under 35 U.S.C. § 103(a) over Wouters and Verzulli.¹²

III. CONCLUSION¹³

The table below summarizes our conclusions as to the challenged claims.

Claims	35 U.S.C. §	Reference(s) /Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
11	103(a)	Wouters, Verzulli		11
1–5, 8–10, 14	103(a)	RadioShack	1–5, 8–10, 14	
1–5, 8–10, 14	103(a)	RadioShack	1–5, 8–10, 14	
Overall Outcome			1–5, 8–10, 14	11

¹² Because we conclude that Petitioner does not make a sufficient showing with respect to the “combining”/“installing” limitation, we need not specifically resolve the parties’ dispute with respect to the “replacing” limitation. Nevertheless, we note that, in our view, Patent Owner has the better position with respect to that limitation also. Specifically, the more compelling understanding of the “replacing” limitation is that the “non-working codes” it recites are the codes tested in the “testing” limitation and found to be non-working. *See* PO Resp. 20; Sur-reply 2. Petitioner’s argument under such an interpretation of the claim is lacking because it insufficiently identifies replacement of an installed code after a test identifies it as non-working. *See* Reply 4–5.

¹³ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

It is

ORDERED that, based on a preponderance of the evidence, claims 1–5, 8–10, 14 of U.S. Patent No. 8,378,875 B2 have been shown to be unpatentable;

ORDERED that, based on a preponderance of the evidence, claim 11 of U.S. Patent No. 8,378,875 B2 has not been shown to be unpatentable; 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.

IPR2022-00818
Patent 8,378,875 B2

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