

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS, INC. and LG ELECTRONICS U.S.A., INC.,
Petitioner,

v.

MULTIMEDIA TECHNOLOGIES PTE. LTD.,
Patent Owner.

IPR2024-00353
Patent 9,055,254 B2

Before ST. JOHN COURTENAY III, MICHAEL R. ZECHER, and
SHARON FENICK, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner, LG Electronics, Inc. and LG Electronics U.S.A., Inc. (collectively, “LG”), filed a corrected Petition requesting an *inter partes* review (“IPR”) of claims 1–4, 6, 8–10, 12–17, and 19 of U.S. Patent No. 9,055,254 B2 (Ex. 1001, “the ’254 patent”). Paper 3 (“Pet.”). Patent Owner, Multimedia Technologies Pte. Ltd. (“Multimedia”), filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). Based on the authority delegated to us by the Director under 37 C.F.R. § 42.4(a), we may not institute an IPR unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2023). Taking into account Multimedia’s Preliminary Response, we conclude that the information presented in the Petition establishes that there is a reasonable likelihood that LG would prevail in demonstrating at least one of claims 1–4, 6, 8–10, 12–17, and 19 of the ’254 patent is unpatentable. Pursuant to § 314, we hereby institute an *inter partes* review as to these claims of the ’254 patent.

A. Real Parties in Interest (“RPIs”)

The Petition identifies LG Electronics, Inc. and LG Electronics U.S.A., Inc. as RPIs. Pet. 133. Multimedia identifies itself as the only RPI. Paper 4 (Multimedia’s Mandatory Notices), 2.

B. Related Matters

The parties indicate that the ’254 patent is the subject of the following two district court cases: (1) *Multimedia Technologies Pte. Ltd. v. LG Electronics Inc.*, No. 2:22-cv-00494 (E.D. Tex. filed Dec. 23, 2022); and (2) *Multimedia Technologies Pte. Ltd. v. Vizio, Inc.*, No. 2:23-cv-00124

(E.D. Tex. Filed Mar. 24, 2023). Pet. 133; Paper 4, 2. In addition to this Petition, LG filed the following three other petitions challenging related patents owned by Multimedia: (1) *LG Electronics, Inc. v. Multimedia Technologies Pte. Ltd.*, IPR2024-00351, Paper 1 (PTAB Dec. 20, 2023) (challenging claims 1–6, 11–16, 21, and 22 of U.S. Patent No. 9,510,040 B2); (2) *LG Electronics, Inc. v. Multimedia Technologies Pte. Ltd.*, IPR2024-00352, Paper 1 (PTAB Dec. 20, 2023) (challenging claims 1–14 of U.S. Patent No. 9,247,174 B2); and (3) *LG Electronics, Inc. v. Multimedia Technologies Pte. Ltd.*, IPR2024-00354, Paper 1 (PTAB Dec. 22, 2023) (challenging claims 1–18 of U.S. Patent No. 10,419,805 B2)). Paper 4, 2.

C. The '254 Patent

The '254 patent, titled “On Screen Method and System for Changing Television Channels,” issued from U.S. Patent Application No. 13/968,884, filed on August 16, 2013. Ex. 1001, codes (54), (21), (22). The '254 patent has an extensive priority chain of provisional applications that includes a claim of priority to U.S. Provisional Patent Application No. 61/684,672 (“the '672 application”), which was filed on August 17, 2012. *Id.* at code (60).

The '254 patent generally relates to “[a] method, system, and executable instructions . . . that receive a request to change a programming channel.” Ex. 1001, code (57). This process begins with displaying “an on screen channel changer” on a television screen that includes an “electronic program guide (‘EPG’),” together with “a number input bar,” so that a user may change the channel by employing a remote control to enter “a channel selection based on the digits using the on screen channel changer.” *Id.* According to the '254 patent, “[a] Smart TV [television] is generally

conceived as a device that integrates access to the Internet and Web 2.0 features into television sets.” *Id.* at 1:50–52. The ’254 patent, however, states that “most Smart TV’s have yet to provide seamless and intuitive user interfaces for navigating and/or executing the various features of the Smart TV” and, as a result, “there are still issues with the consolidation of features and the presentation of these features in Smart TVs.” *Id.* at 1:56–61.

The ’254 patent ostensibly addresses these issues with smart TVs by providing “intuitive user interfaces . . . with seamless user interaction capability.” Ex. 1001, 1:65–66. Figure 27 of the ’254 patent, reproduced below, illustrates a series of partial screenshots of a television screen according to one embodiment. *Id.* at 11:17–18.

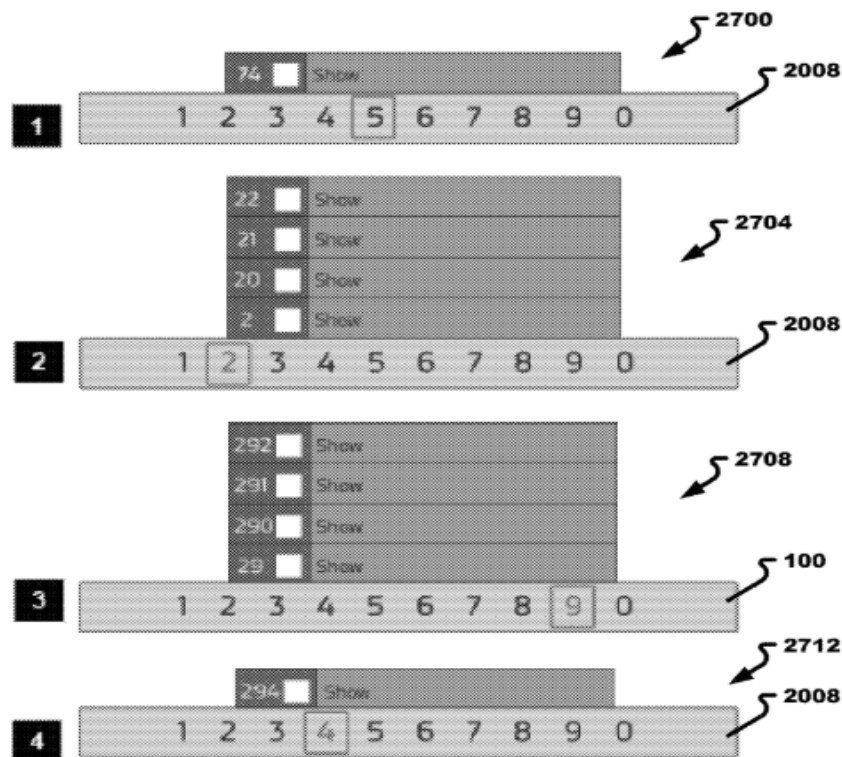


FIG. 27

Figure 27 illustrates a series of partial screenshots where the first partial screenshot depicts on screen channel changer 2700 with an in-focus indicator that defaults to the number “5” on input bar 2008. *Id.* at 36:27–29. If the user first selects the number “2” on number input bar 2008, the second partial screenshot depicts updating on screen channel changer 2704 to reflect the next three available channels that begin with the number “2.” *Id.* at 36:38–41. If the user proceeds to select the number “9” on number input bar 2008, the third partial screenshot depicts updating on screen channel changer 2708 to reflect the next three available channels that begins with the number “29.” *Id.* at 36:49–52. Finally, if the user proceeds to select the number “4” on number input bar 2008, the fourth partial screenshot depicts updating on screen channel changer 2712 to reflect the only available channel (i.e., channel “294”). *See id.* at 36:55–61. At any point, selecting an available channel in the on screen channel changer will automatically change the channel and dismiss the on screen channel changer. *Id.* at 36:41–43, 36:52–54, 36:61–64.

Figure 7 of the ’254 patent, reproduced below, illustrates an exemplary handheld remote control that interacts with television 100. Ex. 1001, 10:39–41, 22:58–59.

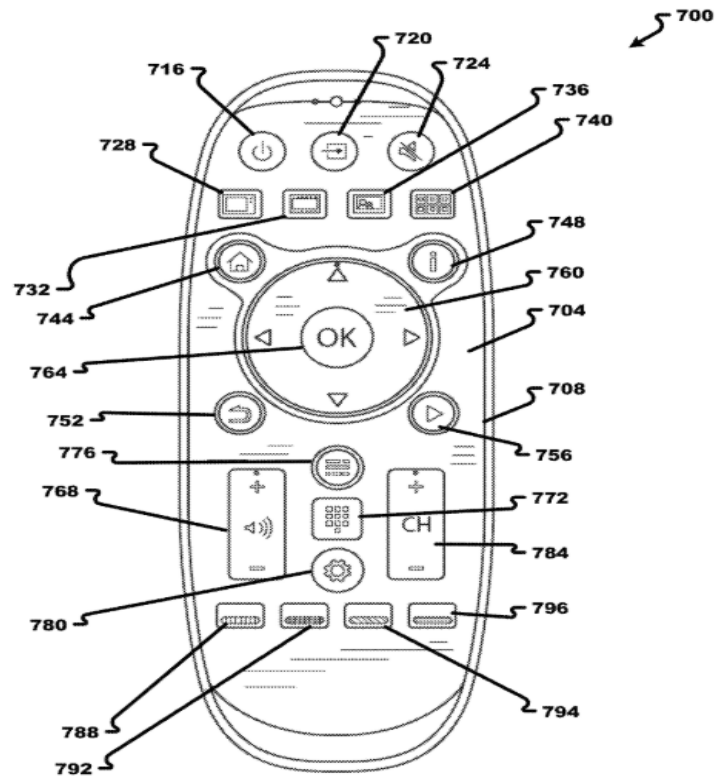


Fig. 7

Figure 7 illustrates remote control 700 that includes, among other things, media center button 736, application center button 740, global panel button 744, and application panel button 748 that, when selected, provide the user with different information and/or display panels. *Id.* at 24:1–25:10.

D. Challenged Claims

Of the challenged claims, claims 1, 8, and 14 are independent. Independent claim 1 is directed to “[a] method,” independent claim 8 is directed to “[a] television,” and independent claim 14 is directed to “[a] tangible and non-transient computer readable medium, comprising microprocessor executable instructions that, when executed, are configured to perform [certain] operations.” Ex. 1001, 39:28–40:2, 41:4–47, 42:32–67. Claims 2–4 and 6 directly depend from independent claim 1, claims 9, 10,

12, and 13 directly depend from independent claim 8, and claims 15–17 and 19 directly depend from independent claim 14. *Id.* at 40:3–18, 40:39–45, 41:48–61, 42:14–31, 43:1–22, 44:17–24. Independent claim 1 is illustrative of the challenged claims and is reproduced below.

1. A method, comprising:

receiving, wirelessly by at least one of an infrared and radio frequency module of a television and from a remote control, a request to change a programming channel;

displaying, by a microprocessor executable application framework and on a television screen, an on screen channel changer, the displayed on screen channel changer comprising electronic program guide (“EPG”) information and a number input bar comprising digits, wherein the digits range from 0 to 9;

receiving, by the application framework and from the remote control, a channel selection based on digits selected by a user using the remote control and the number input bar of the on screen channel changer, wherein the user selects the digits using non-numeric keys of the remote control; and

changing, by the application framework, to the selected channel, wherein the remote control comprises:

a media center button that, when selected, provides, by the television screen, displayed information regarding one or more of groupings of music, groupings of videos, groupings of photographs, and internal and external computational devices, the computational devices comprising one or more of personal computers, laptops, tablet computers, wireless phones, and removable computer readable media;

an application center button that, when selected, provides, by the television screen, displayed information regarding pre-installed and downloaded software applications, wherein the downloaded software applications comprise one or more of a web browser, settings control, and content search algorithms;

an application panel button that, when selected, displays, by the television screen, an application panel, wherein the

application panel comprises an information panel regarding a selected (pre-installed or previously downloaded) application icon; and

a global panel button that, when selected, provides the user, via one or more panels or windows displayed by the television screen, with access to one or more of silos, notifications, a web browser system settings, and information associated therewith.

Id. at 39:28–40:2.

E. Asserted Prior Art References

LG relies on the prior art references set forth in the tables below.

Name¹	Reference	Dates	Exhibit Nos.
Kim	US 2012/0054794 A1	published Mar. 1, 2012; filed Mar. 9, 2011	1005
Bae	KR 10-2010-0134423	published Dec. 23, 2010; filed June 15, 2009	1007, 1008 (English translation)
Coburn	US 2010/0079681 A1	published Apr. 1, 2010; filed Sept. 30, 2008	1009

Printed Publication	Exhibit No.
“WD TV [®] Live Hub [™] Media Center User Manual” (Dec. 2010) ² (“WD-Manual”).	1006 (Parts 1–3)

¹ For clarity and ease of reference, we only list the first named inventor.

² To support its argument that WD-Manual was available publicly at least as of December 2010, LG introduces a Declaration of Nathaniel E. Frank-White, a Records Request Processor at the Internet Archive (Ex. 1012), together with two documents indicating WD TV Live Hub was available for purchase by the public at least as of October 2010 (Exs. 1020, 1024), a document indicating WD-Manual was available in over 22 languages at least as of December 2010 (Ex. 1022), and a document indicating that the WD-Manual was available to interested members of the public (Ex. 1023).

F. Asserted Grounds of Unpatentability

LG challenges claims 1–4, 6, 8–10, 12–17, and 19 of the '254 patent based on the asserted grounds of unpatentability set forth in the table below. Pet. 13–131.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–4, 8–10, 13–17	103(a) ³	Kim, WD-Manual, Bae
6, 12, 19	103(a)	Kim, WD-Manual, Bae, Coburn

II. ANALYSIS

A. Discretionary Denial Arguments Under § 314(a)

1. Parties Arguments

LG contends that we should not exercise our discretion to deny the Petition under § 314(a), primarily because LG stipulates “that if instituted, [LG] will not pursue in District Court the specific grounds asserted here, or on any other ground that was raised or could have been reasonably raised in this IPR.” Pet. 131 (citing Interim Procedure for Discretionary Denials in AIA Post-grant Proceedings with Parallel District Court Litigation at 3, *available at* https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf. (“Director Memo”)). In its Preliminary Response, Multimedia contends that we should exercise our discretion to deny the Petition under § 314(a)

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the '254 patent claims the benefit of the '672 application, which was filed before this date, the pre-AIA version of § 103 applies. Ex. 1001, code (60).

because, among other reasons, LG failed to file a stipulation consistent with the holding set forth in *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A) (“*Sotera*”). Prelim. Resp. 2–17. After Multimedia filed its Preliminary Response, we granted LG authorization to file a “Notice of *Sotera* Stipulation,” asserting that a stipulation according to *Sotera* was entered in the district court case where LG is a party. Ex. 1025.

2. *Fintiv* Analysis

It is well-settled that institution of an IPR is discretionary. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he [U.S. Patent and Trademark Office] is permitted, but never compelled, to institute an IPR proceeding.”); 35 U.S.C. § 314(a) (“The Director *may not* authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” (emphasis added)). In *Fintiv*, the Board discussed potential applications of *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential), as well as a number of other cases dealing with discretionary denial under § 314(a). *Fintiv* identifies a non-exclusive list of six factors parties may consider addressing, particularly where there is a related district court case involving the same patent and whether such a case provides any basis for discretionary denial. *Fintiv* at 5–16. Those factors include the following:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;

2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Id. at 5–6.

On June 21, 2022, the Director issued interim guidance in the form of a memo that further clarifies how we should approach analyzing the *Fintiv* factors. *See* Director Memo. Notably, the Director stated that “the PTAB [Patent Trial and Appeal Board] will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any ground that could have been reasonably raised before the PTAB.” Director Memo at 3. With this interim guidance in mind, we decline to exercise our discretion to deny institution of this proceeding under *Fintiv* because LG filed a *Sotera* stipulation in both this proceeding and the district court case where LG is a party. Pet. 131; Ex. 1025.

In its Preliminary Response, Multimedia contends that LG fails to provide a proper *Sotera* stipulation because LG did not file its stipulation in the U.S. District Court for the Eastern District of Texas, which is handling

the two parallel district court cases. Prelim. Resp. 10–14. We do not agree with Multimedia’s argument.

As an initial matter, we do not share Multimedia’s view that a *Sotera* stipulation must be filed in the two parallel district court cases. *See* Prelim. Resp. 10–14. This same argument was raised previously in another proceeding before the Board. *See Taiwan Semiconductor Mfg. Co. Ltd. v. Alidouble, Inc.*, IPR2023-00369, Paper 7 at 10 (PTAB July 12, 2023) (Institution Decision) (declining to discount petitioner’s stipulation because petitioner did not file it in the district court). In *Taiwan Semiconductor*, patent owner urged the Board to exercise discretion to deny institution under § 314(a) in light of a parallel district court litigation because, in part, petitioner had not filed the stipulation in the district court. *Id.* at 9. The Board disagreed and found that the Director Memo does not require that such a stipulation be filed in the district court, only that the petitioner “stipulate[]” or “present[] a stipulation.” *Id.* (citing Director Memo at 3, 7). We agree with the Board’s reasoning in *Taiwan Semiconductor* case. That is, the Director Memo only requires that LG “stipulate[]” or “present[] a stipulation,” and it does not lay out a requirement for a petitioner to file the stipulation in the district court case where it is a party. Director Memo at 3, 7.

In any event, even if we were to agree with Multimedia’s argument, LG filed a “Notice of *Sotera* Stipulation” in the district court case where LG is a party. Ex. 1025. This Notice states the following:

[LG] hereby stipulates, consistent with the stipulation made by the [p]etitioner in *Sotera* that, if the PTAB institutes an IPR in response to [LG’s] petition against [Multimedia’s] U.S. Patent No. 9,055,254 (IPR2024-00353), [LG] will not pursue in this

litigation the grounds raised or any other grounds that could have reasonably been raised before the PTAB in that instituted proceeding.

Id. at 2–3. Consequently, the purpose of LG’s *Sotera* stipulation has been achieved here because it “mitigates any concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions.” *Sotera*, Paper 12 at 19 (citing *Sand Revolution II, LLC v. Cont’l Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020) (Decision Granting Request for Rehearing) (informative)).

B. Claim Construction

In this IPR, claim terms are construed using the same claim construction standard as in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2023). That is, claim terms generally are construed in accordance with their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, in view of the specification and the prosecution history pertaining to the patent at issue. *See id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc).

In its Petition, LG contends that, “for purposes of the grounds presented herein, no [claim] term requires express construction.” Pet. 11. Despite this contention, LG proposes that we construe the following two claim terms: (1) “at least one,” as recited in each of claims 1, 3, 8, 9, 13, 14,

and 16; and (2) “silos,” as recited in each of claims 1, 8, and 14.⁴ *Id.* at 11–12. Beginning with the claim term “at least one,” LG contends that “each of the expressions ‘at least one of A, B, and C,’ ‘at least one of A, B, or C,’ ‘one or more of A, B, and C,’ ‘one or more of A, B, or C’ and ‘A, B, and/or C’ means ‘A alone, B alone, C alone, A and B together, A and C together, B and C together, or A, B, and C together.’” *Id.* (citing Ex. 1001, 3:27–34; Ex. 1003 (Declaration of Andrew Lippman, Ph.D.) ¶¶ 39–41). Turning to the claim term “silos,” LG contends that the ’254 patent explicitly defines a silo as “a logical representation of an input, source, or application.” *Id.* at 12 (quoting Ex. 1001, 5:56–6:3) (citing Ex. 1003 ¶¶ 42, 43). In its Preliminary Response, “[Multimedia] does not dispute [LG’s] statement[s] on claim construction for purposes of [its] Preliminary Response.” Prelim. Resp. 27 (citing Pet. 11).

Based on the preliminary record, there is no readily discernible controversy between the parties that requires us to construe any claim terms at this time. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we 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))).

⁴ LG proposes a construction for the claim term “silo,” but we take this opportunity to note that each of claims 1, 8, and 14 actually recite the claim term “silos.” Ex. 1001, 39:65–40:2 (claim 1), 41:43–47 (claim 8), 42:63–67 (claim 14).

*C. Obviousness Over the Combined Teachings of
Kim, Bae, and WD-Manual*

LG contends that claims 1–4, 8–10, and 13–17 of the ’254 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Kim, Bae, and WD-Manual. Pet. 14–119. LG contends that the combined teachings of Kim, Bae, and WD-Manual account for the subject matter of each challenged claim, and provides reasoning as to why a person of ordinary skill in the art would have been prompted to modify the teachings of these references. *Id.* LG also relies on the testimony of Dr. Lippman to support its positions. *See* Ex. 1003.

Based on the preliminary record, we determine that LG has shown that there is a reasonable likelihood that it would prevail in demonstrating at least one of claims 1–4, 8–10, and 13–17 of the ’254 patent is unpatentable. We begin our analysis with the principles of law that generally apply to an asserted ground based on obviousness, followed by an assessment of the level of skill in the art, next we provide overviews of Kim, Bae and WD-Manual, and then we address the parties’ contentions with respect to independent claims 1, 8, and 14.

1. Principles of Law

A claim is unpatentable under § 103(a) 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 obviousness or non-obviousness (i.e., secondary considerations, such as commercial success, long-felt but unsolved needs, failure of others, etc.).⁵ *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds based on obviousness with the principles we identify above in mind.

2. *Level of 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 having 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).

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed.

⁵ At this stage in the proceeding, Multimedia does not present arguments or evidence of secondary considerations. *See* Prelim. Resp.

Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.* at 696–97.

For purposes of institution, there is sufficient evidence in the record that enables us to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of Dr. Lippman, LG argues the following:

[a] person of ordinary skill in the art . . . in the field of the ’254 patent, as of its earliest possible filing date of August 17, 2012, would have been someone knowledgeable and familiar with the television display technology that is pertinent to the ’254 patent. A [person of ordinary skill in the art] would have had a bachelor’s degree in Electrical Engineering, Software Engineering, or Computer Engineering, or equivalent training, and approximately two years of experience working in the field of television systems and networking, human-computer interaction, or related technologies. Lack of professional experience can be remedied by additional education, and vice versa.

Pet. 10–11 (citing Ex. 1003 ¶ 19). For the limited purposes of its Preliminary Response, “[Multimedia] adopts [LG’s] definition of a person of ordinary skill in the art.” Prelim. Resp. 27 (citing Pet. 10–11). To the extent necessary, we adopt LG’s assessment of the level of skill in the art because it is consistent with the ’254 patent and the asserted prior art.

3. Overview of Kim

Kim generally relates to “[a] multifunctional display device and method of controlling the same.” Ex. 1005, code (57). Kim discloses image display apparatus 100 (e.g. a smart TV) that includes, among other things, user input interface 150, controller 170, display 180, and remote controller

200. *Id.* ¶¶ 38, 65, Figs. 2, 6. Controller 170 controls display 180 by using remote controller 200 to provide input or control signals to user input interface 150. *Id.* ¶¶ 87, 94, Fig. 6; *see also id.* ¶ 167, Fig. 13 (illustrating controlling display 180 by using pointer 205 representing movement of remote controller 200). For example, “user input interface 150 may receive various user input signals such as power-on/off signal, a channel selection signal, and a screen setting signal from . . . remote controller 200.” *Id.* ¶ 86, Fig. 6.

Figure 19 of Kim, reproduced below, illustrates an exemplary home screen display according to one embodiment. Ex. 1005 ¶¶ 21, 192.

FIG. 19

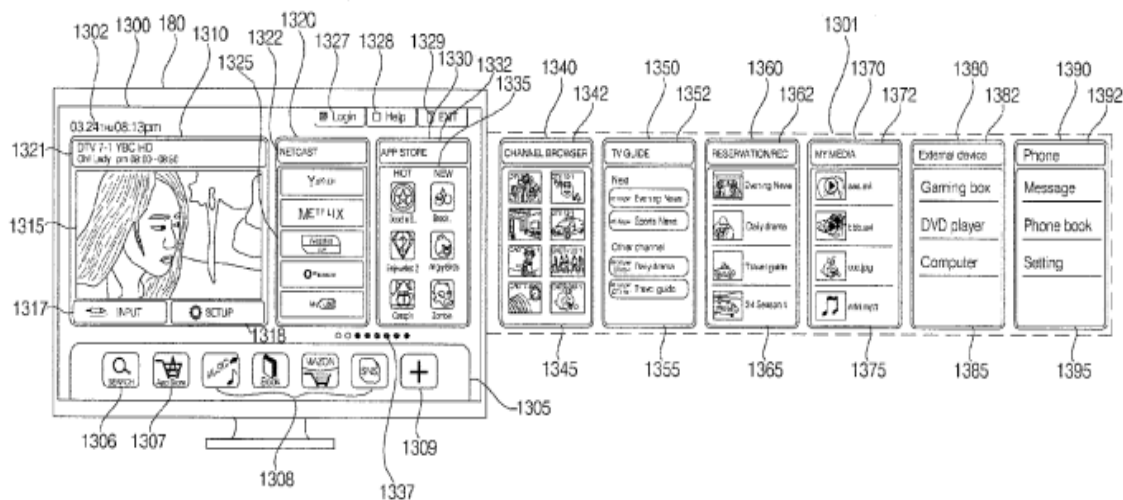


Figure 19 illustrates display 180 that includes home screen 1300 displaying three card objects: (1) card object 1310 named BROADCAST, (2) card object 1320 named NETCAST, and (3) card object 1330 named APP STORE. *Id.* ¶¶ 192, 193, 195. Hidden area 1301 includes additional card objects, such as CHANNEL BROWSER card object 1340 and TV GUIDE

card object 1350, which a user may shift or scroll to on display 180 to replace card objects 1310, 1320, or 1330. *Id.* ¶ 196.

4. Overview of Bae

Bae generally relates to “a device and method that allows users to easily search for and select a plurality of broadcasting channels.” Ex. 1008 ¶ 6. Figure 3 of Bae, reproduced below, illustrates an exemplary channel search screen. *Id.* ¶ 22.

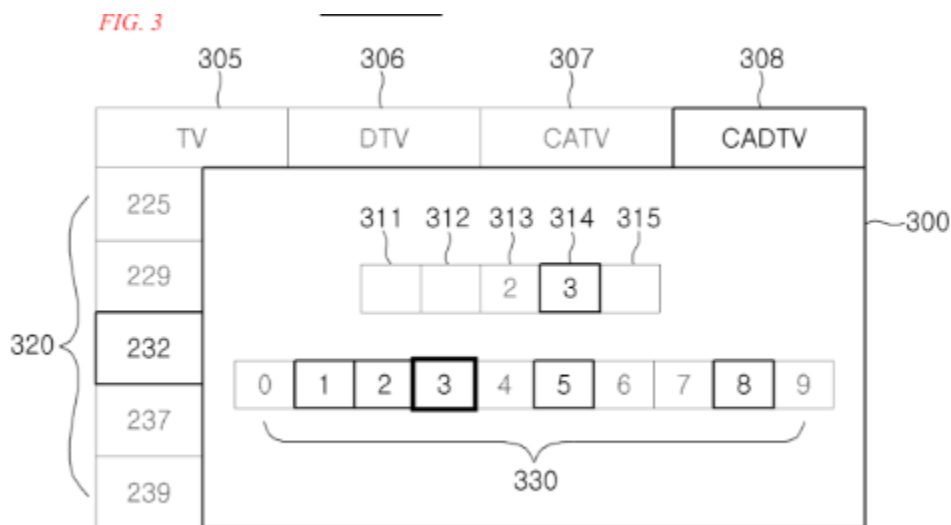


Figure 3 illustrates channel search screen 300 that includes, among other things, channel number selection window 330 that allows a user to change the channel by selecting “numbers 0 to 9 . . . using left and right keys or number keys” located on user input unit 130. *Id.* ¶ 23; *see also id.* ¶ 17 (“user input unit 130 is a means for receiving request commands from the user, and receives channel search commands, channel change commands, volume up/down commands, etc. input from the user”).

5. Overview of WD-Manual

WD-Manual discloses a “user manual [that] provides step-by-step instructions for installing and using [a] new media center” called WD TV

Live Hub Media Center. Ex. 1006, 5.⁶ WD-Manual further discloses using a remote control to “navigate the Home screen, browse for media files, enable playback options, and customize the system settings.” *Id.* at 25. The figure, reproduced below, illustrates a remote control used to operate WD TV Live Hub Media Center. *Id.* at 11.

⁶ Each page in WD-Manual includes two different page numbers both located in the bottom, right-hand corner of each page in Exhibit 1006. For citation purposes to WD-Manual, LG refers to the native page numbers in its Petition, whereas Multimedia refers to the page numbers inserted by LG in its Preliminary Response. *Compare* Pet. 15–16 (citing Ex. 1006, 5–6), *with* Prelim. Resp. 24 (citing Ex. 1006, 9). Going forward, all references to the WD-Manual should refer to the native page numbers. We use the same citation format in this Decision.

Remote Control



CAUTION: Do not expose the batteries or the remote control with batteries installed to excessive heat (direct sunlight, fire, etc.).

1. Infrared transmitter
2. POWER
3. Subtitle
4. PREV (track), STOP, NEXT (track)
5. Back (last screen)
6. Navigation buttons, OK
7. Previous Page
8. MUTE
9. Alpha-numeric keys
10. SEARCH
11. HOME
12. Audio
13. REV, PAUSE/PLAY, FF
14. Options
15. Next Page
16. Setup
17. Shortcut/function keys
18. EJECT (safe removal of attached storage)



Note: For additional information, see "Using the Remote Control" on page 25.

This figure illustrates a remote control that includes, among other things, “[u]ser assignable shortcut/function keys” A, B, C, and D that have certain default settings, but the settings are customizable. *Id.* at 26; *see also id.* at 138 (disclosing “Remote Settings,” including how “[t]o change the functions” of shortcut/function keys A, B, C, and D).

6. Claims 1, 8, and 14

For purposes of consistency and added clarity, we address each limitation of independent claims 1, 8, and 14 in turn by relying on the bracketed annotations provided by LG in the Petition. *See* Pet. 25–104, 111–118. The preamble of independent claim 1 recites [1.0]— “[a] method, comprising[.]” Ex. 1001, 39:28. To the extent the preamble should be

treated as limiting, LG contends that Kim, Bae, and WD-Manual, either individually or collectively, teach a “method” because Kim discloses a “display device and a method of controlling the same,” Bae discloses a “method in a video display device,” and WD-Manual “provides step-by-step instructions” for using a “media center” with a “remote control.” Pet. 25–26 (quoting Ex. 1005, code (57) (emphasis omitted), then quoting Ex. 1008⁷ ¶ 9 (emphasis omitted), then quoting Ex. 1006, 4, 25–26 (emphasis omitted)) (citing Ex. 1003 ¶¶ 84–89).

The first step of independent claim 1 recites limitation [1.1]— “receiving, wirelessly by at least one of an infrared and radio frequency module of a television and from a remote control, a request to change a programming channel.” Ex. 1001, 39:29–31. LG contends that Kim teaches this limitation because it discloses television 100 that receives signals from remote controller 200 using “RF [radio frequency] communication and IR [infrared] communication.” Pet. 26–27 (quoting Ex. 1005 ¶ 86) (citing Ex. 1005 ¶¶ 12, 38, 87, 172, 173, Figs. 6, 14). LG further argues that Kim teaches that its television 100 receives “a channel switch command” from remote controller 200. *Id.* at 28 (quoting Ex. 1005 ¶ 174). Similarly, LG argues that Bae teaches a television that receives “channel change commands . . . from the user.” *Id.* (quoting Ex. 1008 ¶ 17) (citing Ex. 1008 ¶ 11).

⁷ Throughout its Petition, LG cites to both the Korean publication of Bae (Ex. 1007) and the certified English translation (Ex. 1008). For simplicity and ease of reference, we changed LG’s citations to Bae to reference only the certified English translation.

The second method step of independent claim 1 recites limitation [1.2]—“displaying, by a microprocessor executable application framework and on a television screen, an on screen channel changer, the displayed on screen channel changer comprising electronic program guide (‘EPG’) information and a number input bar comprising digits, wherein the digits range from 0 to 9.” Ex. 1001, 39:32–37. LG contends that Kim in combination with Bae teaches this limitation. *See* Pet. 29–39. LG argues that Kim teaches the claimed “displaying . . . an on screen channel changer” because Kim discloses an on screen display (“OSD”) controlled by OSD generator 340 of controller 170 that generates and displays card objects on Kim’s home screen, which include, among other things, CHANNEL BROWSER card object 1340 and TV GUIDE card object 1350. *Id.* at 29–31 (citing Ex. 1005 ¶¶ 60, 90, 94, 95, 104, 105, 133, 137, 193, 196, 205–207, 213, Figs. 5, 6; Ex. 1003 ¶¶ 99–104).

LG further argues that Kim teaches the claimed “microprocessor executable application framework and on a television screen” because it discloses controlling how images are displayed on display 180 by using controller 170 that implements a software “platform architecture.” Pet. 31–37 (quoting Ex. 1005 ¶ 144) (citing Ex. 1005 ¶¶ 89, 90, 92, 133, 143, 156, 160, 162, 166, Figs. 2, 6, 10–12; Ex. 1001, 18:7–13, 18:58–65, Fig. 4; Ex. 1003 ¶¶ 105–115). Lastly, LG argues that Kim teaches the claimed “EPG information” because Kim discloses CHANNEL BROWSER card object 1340 having “a thumbnail list of broadcast channels 1345” and TV GUIDE card object 1350 having a “program list.” *Id.* at 37 (quoting Ex. 1005 ¶ 207) (citing Ex. 1005 ¶¶ 133, 137, 193). LG turns to Bae as teaching the claimed “number input bar comprising digits, wherein the digits

range from 0 to 9,” because Bae discloses an on screen channel changer that displays a number input bar with digits 0–9. *Id.* at 37–38 (citing Ex. 1008 ¶¶ 18, 23, Fig. 3; Ex. 1003 ¶¶ 121, 122).

Turning to rationale to combine, LG argues that a person of ordinary skill in the art would have been motivated to combine Bae’s number input bar with Kim’s on screen channel changer (i.e., either CHANNEL BROWSER card object 1340 or TV GUIDE card object 1350) for the following reasons: (1) using Bae’s technique would “enable[] a user to identify a specific channel number without searching or scrolling through an EPG”; and (2) Bae’s technique enables certain functionality already contemplated by Kim, such as Kim’s remote controller 200 having input tools “other than” a keypad. Pet. 24 (quoting Ex. 1005 ¶ 175) (citing Ex. 1008 ¶ 23; Ex. 1003 ¶ 81). According to LG, “applying Bae’s known input bar technique to Kim’s known television and remote control system . . . would have yielded the predictable result of having an on screen channel changer that allows channel searching[,] but also includes a number input bar so that a user can switch channels on Kim’s television [100] by identifying a specific channel number and without regard to the remote control inputs, including one without a keypad.” *Id.* at 24–25 (citing Ex. 1003 ¶ 82); *see also id.* at 38 (arguing the same). LG asserts that there would have been a reasonable expectation of success in making this proposed combination because “it predictably uses Bae’s number input bar for its intended purpose of allowing a user to easily change channels on a television via a user interface, which is the desired functionality in Kim.” *Id.* at 25 (citing Ex. 1003 ¶ 83).

The third method step of independent claim 1 recites limitation [1.3]—“receiving, by the application framework and from the remote control, a channel selection based on digits selected by a user using the remote control and the number input bar of the on screen channel changer, wherein the user selects the digits using non-numeric keys of the remote control.” Ex. 1001, 39:38–43. Relying on its arguments and evidence for limitations [1.1] and [1.2], LG contends that Kim in combination with Bae teaches limitation [1.3] because Kim discloses receiving user inputs from remote controller 200, Kim discloses a microprocessor executable application framework that controls content displayed on display 180 of television 100 based on user inputs from remote controller 200, and Kim and Baer collectively teach displaying an on screen channel changer that includes a number input bar with digits 0–9. Pet. 39. LG argues that Kim in combination with Bae teaches the claimed “user selects the digits using non-numeric keys of the remote control” because Kim discloses that remote controller 200 includes “arrow keys and an OK key” (i.e. non-numeric keys). *Id.* (quoting Ex. 1005 ¶ 187). Similarly, Bae disclose “using left and right keys” (i.e., non-numeric keys) to select digits from the number input bar. *Id.* (quoting Ex. 1008 ¶ 23 (emphasis omitted)).

The fourth method step of independent claim 1 recites limitation [1.4]—“changing, by the application framework, to the selected channel.” Ex. 1001, 39:44–45. Relying on its arguments and evidence for limitations [1.1] and [1.2], LG contends that Kim in combination with Bae teaches limitation [1.4] because Kim discloses receiving channel switch commands from remote controller 200, and Kim discloses a microprocessor executable application framework that controls content displayed on display 180 of

television 100 based on user inputs from remote controller 200. Pet. 40. LG argues that Bae teaches the claimed “changing . . . to the selected channel” because Bae discloses that, after the user inputs digits via the number input bar, performing “the switch to the corresponding channel.” *Id.* (quoting Ex. 1008 ¶ 26) (citing Ex. 1008, Fig. 2).

The first wherein clause of independent claim 1 recites limitation [1.5]—“wherein the remote control comprises[.]” Ex. 1001, 39:45. Relying on its arguments and evidence for limitations [1.1]–[1.4], LG contends that Kim in combination with Bae teaches limitation [1.5] because they each disclose controlling content displayed on a television based on user inputs from a remote controller. Pet. 40. LG also contends that WD-Manual teaches this limitation because it discloses a remote control that includes buttons that, when selected, display specific types of content or information on a television. *Id.* at 40–42 (citing Ex. 1006, 5, 11, 25–26, 138). Notably, LG argues that WD-Manual’s remote control may assign specific functionality to certain keys, which includes programming shortcut/function keys A, B, C, and D to display certain content, such as Music, Video, or Services. *Id.* at 42–43 (citing Ex. 1006, 26, 138 Ex. 1003 ¶ 137). In addition, LG argues that WD-Manual discloses other remote control features, such as an Options button and a Home button. *Id.* at 43–44 (citing Ex. 1006, 25; Ex. 1003 ¶ 138).

Turning to rationale to combine, LG contends that a person of ordinary skill in the art would have been motivated to combine the teachings of Kim and WD-Manual because they “disclose using a remote control to access and display media content via a television and because they are intended to work together.” Pet. 18 (citing Ex. 1003 ¶ 63). As one example,

LG argues that Kim’s remote controller 200 may “include various input tools other than those set forth herein, such as a scroll key, a jog wheel, or another appropriate user input device.” *Id.* at 20 (quoting Ex. 1005 ¶ 175). According to LG, WD-Manual provides additional “input tool features, including different dedicated and customizable remote control buttons, for controlling a television’s multimedia functionality.” *Id.* (citing Ex. 1006, 11, 25–26, 138–139). LG asserts that combining the teachings of Kim and WD-Manual amounts to combining the known functionality provided by WD-Manual’s “remote control features” with Kim’s television 100 “according to known methods to yield the predictable result of [a television] that incorporates functionality that could otherwise be separately implemented.” *Id.* at 21 (citing Ex. 1003 ¶¶ 69–73). In addition, LG asserts that the proposed combination would have been the application of a known technique (i.e., WD-Manual’s “remote control features”) to a known device (i.e., Kim’s “television” 100) “to yield the predictable result of a television that incorporates multimedia functionality that could otherwise be separately implemented.” *Id.* (citing Ex. 1003 ¶ 74).

The remote control of limitation [1.5] comprises four buttons as recited in limitations [1.5.1] through [1.5.4]. The first button of independent claim 1 recites limitation [1.5.1]—

a media center button that, when selected, provides, by the television screen, displayed information regarding one or more of groupings of music, groupings of videos, groupings of photographs, and internal and external computational devices, the computational devices comprising one or more of personal computers, laptops, tablet computers, wireless phones, and removable computer readable media.

Ex. 1001, 39:56–53. LG contends that, based on its proposed construction of the claim term “one or more,” the asserted prior art satisfies this limitation if it teaches any item in the list. Pet. 45. With this in mind, LG contends that Kim in combination with WD-Manual teaches limitation [1.5.1] because WD-Manual discloses assigning or programming any one of shortcut/function keys A, B, C, and D to display specific types of (1) media content, such as music, videos, photos; or (2) device information, such as local drives that represent internal computational devices and universal serial bus drives that represent external computational devices (e.g., laptop computers, portable phones, etc.). Pet. 44–68 (citing Ex. 1006, 9, 11, 24, 28, 32, 36–37, 48, 55–56, 62, 70, 138; Ex. 1005 ¶¶ 76–80, 85, 123, 196, 205, 209–212, Fig. 19; Ex. 1011, 672, 879, 1121; Ex. 1013 ¶ 83; Ex. 1003 ¶¶ 140–184)

The second button of independent claim 1 recites limitation [1.5.2]—“an application center button that, when selected, provides, by the television screen, displayed information regarding pre-installed and downloaded software applications.” Ex. 1001, 39:54–56. Relying on its arguments and evidence for limitations [1.5], LG contends that Kim, Bae, and WD-Manual each teach displaying content on a television based on user inputs from a remote controller, and WD-Manual teaches remote control buttons that, when selected, display specific types of media content or device information on the television. Pet. 69. LG further argues that WD-Manual teaches the claimed “application center button” because it discloses assigning or programming any one of shortcut/function keys A, B, C, and D to display specific types of services, which may include software applications such as Netflix, Facebook, Flickr, Pandora, etc. *Id.* at 69–71 (citing Ex. 1006, 28,

76–77, 138; Ex. 1003 ¶¶ 186–188). LG also argues that Kim discloses the following two examples of using remote controller 200 to display an application panel that provides access to software applications that are both pre-installed and downloaded: (1) “controller 170 may control display of applications or a list of applications that are available in the image display apparatus”; and (2) “a list of applications 660 in the image display apparatus may be displayed.” *Id.* at 72–74 (quoting Ex. 1005 ¶ 99, then quoting Ex. 1005 ¶ 184) (citing Ex. 1005 ¶¶ 100, 158, 163, 185, Figs. 16, 34; Ex. 1001, 24:17–22; Ex. 1003 ¶¶ 189–194).

The second wherein clause of independent claim 1 recites limitation [1.5.2.1]—“wherein the downloaded software applications comprise one or more of a web browser, settings control, and content search algorithms.” Ex. 1001, 39:57–59. LG reiterates that, based on its proposed construction of the claim term “one or more,” the asserted prior art satisfies this limitation if it teaches any item in the list. Pet. 74. Relying on its arguments and evidence for limitations [1.5.2], LG contends that Kim teaches the claimed “downloaded software applications” because it discloses various software application that come pre-installed on television 100. *Id.* LG then argues that Kim teaches the web browser and setting control applications, as well as “content search algorithms” such as Metflix or MyTube (which, according to Dr. Lippman, a person of ordinary skill in the art would have understood these two applications to reference Netflix and YouTube, respectively) that allow the user to search for media content. *Id.* at 74–76 (citing Ex. 1005 ¶¶ 82, 157, 159, Fig. 44; Ex. 1010, 2:22–25; Ex. 1003 ¶¶ 199–207, 209). LG also argues that WD-Manual teaches downloading applications that

allow the user to search for content, such as iTunes. *Id.* at 76–77 (citing Ex. 1006, 150; Ex. 1014; Ex. 1003 ¶¶ 210, 211).

The third button of independent claim 1 recites limitation [1.5.3]—“an application panel button that, when selected, displays, by the television screen, an application panel, wherein the application panel comprises an information panel regarding a selected (pre-installed or previously downloaded) application icon.” Ex. 1001, 39:60–64. Relying on its arguments and evidence for limitations [1.5], LG reiterates that Kim, Bae, and WD-Manual each teach displaying content on a television based on user inputs from a remote controller, and WD-Manual teaches remote control buttons that, when selected, display specific types of media content or device information on the television. Pet. 77–78. Relying on its arguments and evidence for limitations [1.2], [1.5.2], and [1.5.2.1], LG contends that Kim and WD-Manual each teach accessing pre-installed and previously downloaded software applications. *Id.* at 78. LG then argues that WD-Manual and Kim each teach the claimed “application panel button” because: (1) WD-Manual’s “Options” button, when selected, displays an application panel that identifies various options; and (2) Kim’s “OK” button, when selected, displays an application panel with an information window that includes information about pre-installed and previously downloaded applications. *Id.* at 78–90 (quoting Ex. 1006, 11, then quoting Ex. 1005 ¶ 187) (citing Ex. 1006, 11, 25, 29, 57, 66, 68, 77, 91, 150; Ex. 1005 ¶¶ 247, Fig. 25; Ex. 1001, 22:56–23:67, 24:56–25:4; Ex. 1003 ¶¶ 216–239).

The fourth button of independent claim 1 recites limitation [1.5.4]—“a global panel button that, when selected, provides the user, via one or more panels or windows displayed by the television screen, with

access to one or more of silos, notifications, a web browser system settings, and information associated therewith.” Ex. 1001, 39:65–40:2. LG contends that Kim and WD-Manual each teach the claimed “global panel button.” *See* Pet. 90–103. According to LG, (1) Kim teaches this button because it discloses a home key that, when selected, displays a home screen with multiple panels and windows containing different information or content, such as (a) silos representative of an input (e.g., an externally connected device), live TV, or content providers, (b) notifications in the form of incoming phone call-related information, and (c) a setup object panel that provides access to web browser system settings; and (2) WD-Manual teaches this button because it discloses a “HOME” button that, when selected, displays a home screen with panels that provide access to silos representative of an input (e.g., an externally connected device), file system, and a video on demand service (e.g. Netflix). Pet. 90–103 (quoting Ex. 1006, 11) (citing Ex. 1005 ¶¶ 63, 85, 94, 192, 200, 210–212, 282, Fig. 19; Ex. 1006, 11, 25, 62, 70, 76, 77, 79; Ex. 1001, 5:57–67, 29:58–59, 30:60–65; Ex. 1003 ¶¶ 241–245, 250, 251, 253, 254, 256–262).

Independent claim 8 includes essentially the same limitations as independent claim 1, except the preamble of independent claim 8 recites “[a] television, comprising[],” and the body of independent claim 8 recites “a television screen.” *Compare* Ex. 1001, 41:4–47 (claim 8), *with id.* at 39:28–40:2 (claim 1). For the most part, LG contends that the same arguments and evidence it provides to explain how the combined teachings of Kim, Bae, and WD-Manual account for all the limitations of independent claim 1 equally apply to the limitations of independent claim 8. Pet. 111–115. Turning to the unique recitation of the preamble of independent

claim 8, LG argues that, to the extent the preamble should be treated as limiting, the combined teachings of Kim, Bae, and WD-Manual account for a television. *Id.* at 111–112 (citing Ex. 1005, Fig. 6; Ex. 1003 ¶¶ 303–305). LG then argues that Kim teaches the claimed “television screen” because it discloses television 100 that includes display 180 for displaying “still image or moving picture.” *Id.* at 112–113 (quoting Ex. 1005 ¶ 92) (citing Ex. 1005, Fig. 6; Ex. 1003 ¶¶ 306, 307).

Independent claim 14 includes the same limitations as independent claim 1, except the preamble of independent claim 14 recites “[a] tangible and non-transient computer readable medium, comprising microprocessor executable instructions that, when executed are configured to perform operations comprising[.]” *Compare* Ex. 1001, 42:32–67 (claim 14), *with id.* at 39:28–40:2 (claim 1). LG contends that the same arguments and evidence it provides to explain how the combined teachings of Kim, Bae, and WD-Manual account for all the limitations of independent claim 1 equally apply to the limitations of independent claim 14. Pet. 116–118. Notably, LG argues that, to the extent the unique recitation of the preamble of independent claim 14 should be treated as limiting, Kim in combination with Bae teaches the features recited therein for the same reasons LG identifies above with respect to limitation [1.2]. *Id.* at 116.

Based on the preliminary record, we discern no deficiency in LG’s characterizations of Kim, Bae, WD-Manual, and the general background knowledge in the art, or in LG’s reasoning as to why a person of ordinary skill in the art would have been prompted to modify these references. In addition, for purposes of institution, we are persuaded by Dr. Lippman’s testimony concerning the relevant disclosures in Kim, Bae, WD-Manual.

At this stage of the proceeding, Multimedia presents the following two arguments: (1) LG does not identify any motivation to combine Bae's on screen number selection window with WD-Manual's remote control; and (2) WD-Manual does not enable reassignment of its shortcut/function keys and, therefore, it cannot be used to teach the claimed "media center button" and "application center button." Prelim. Resp. 28–33. We address these arguments in turn.

a. Rationale to Combine

In its Preliminary Response, Multimedia contends that Bae and WD-Manual provide "antithetical teachings" because Bae teaches an on screen channel number selection window 330 that allows the user to select corresponding numbers using left and right arrow keys, whereas WD-Manual teaches a remote control that uses numerical input keys for channel changing with no indication of on screen channel changing functionality. Prelim. Resp. 29–30 (citing Ex. 1006, 11; Ex. 1008 ¶ 23). According to Multimedia, these disclosures in Bae and WD-Manual "teach away from each other" because they "provide[] the same numerical channel changing outcome, but they do so in diametrically opposed ways." *Id.* at 30. Multimedia argues that "[LG] makes no attempt to reconcile these teachings," but rather only attempts to identify reasons to combine the teachings of Kim with those of Bae and WD-Manual, without "ever mentioning a reason to combine Bae with WD-Manual." *Id.* at 30–31. Lastly, Multimedia asserts that LG's reliance on WD-Manual's "remote control features" to teach the specific claimed buttons "indicates a need to identify the reasons a [person of ordinary skill in the art] would have been

motivated to combine WD-Manual's remote control with that of Bae.” *Id.* at 31 (citing Pet. 21, 40–104).

Based on the preliminary record, we are not persuaded by Multimedia's arguments because they mischaracterize LG's proposed obviousness ground based on the combined teachings of Kim, Bae, and WD-Manual. Contrary to Multimedia's arguments, LG does not propose to combine Bae's on screen channel number selection window 330 that allows the user to select corresponding numbers using left and right arrow keys with WD-Manual's remote control that uses numerical input keys for channel changing. Instead, LG seeks to modify Kim's television 100 and remote controller 200 in at least two ways: (1) by modifying Kim's CHANNEL BROWSER card object 1340 or TV GUIDE card object 1350 to include Bae's on screen channel number selection window 330 so that the user may change the channel by selecting corresponding numbers using left and right arrow keys, and (2) by modifying Kim's remote controller 200 to include WD-Manual's remote control features, including, among other things, assigning or programming any one of the shortcut/function keys A, B, C, and D to display specific types of media content or device information. *See, e.g.*, Pet. 26–27 (arguing that Kim's television 100 and remote controller 200 teach the claimed “television” and “remote control,” respectively), 37–38 (arguing that Kim's CHANNEL BROWSER card object 1340 and TV GUIDE card object 1350 are each capable of displaying Baer's number input bar with digits 0–9, thereby providing on screen channel changing functionality), 41–44 (arguing that Kim's remote controller 200 may incorporate WD-Manual's remote control features, including, among other things, shortcut/function keys A, B, C, and D that

may be assigned to display specific types of media content or device information).

In any event, the “mere disclosure of alternative designs does not teach away.” *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). A reference does not teach away if it merely expresses a general preference for an alternative invention but does not “criticize, discredit, or otherwise discourage” investigation into the claimed invention. *Fulton*, 391 F.3d at 1201. When combining references to establish obviousness, the appropriate consideration is whether the proposed combination would work for its intended purpose, not whether the proposed combination is inconsistent with the stated goal of one of the references, as Multimedia argues. *See* Prelim. Resp. 30; *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009). Furthermore, “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR*, 550 U.S. at 417 (citation omitted).

To the extent Multimedia argues that LG’s reasons to combine the relevant teachings of Kim with those of Bae and WD-Manual are deficient, we determine, on the preliminary record, that LG has made a sufficient showing regarding the proposed combination. *See* Prelim. Resp. 31 n.4. At this stage in the proceeding, Multimedia merely offers attorney argument that Kim’s remote controller 200, which may include “other appropriate user input device[s],” is a generic statement that an improvement is possible, but it does not suffice to incorporate the specific features of Bae or WD-Manual.

Id. (quoting Ex. 1005 ¶ 175); *cf. In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (explaining that attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value). Based on the preliminary record, LG has presented sufficient arguments and evidence for purposes of institution that would support the following: (1) modifying Kim’s CHANNEL BROWSER card object 1340 or TV GUIDE card object 1350 to include Bae’s on screen channel number selection window 330 so that the user may change the channel by selecting corresponding numbers using left and right arrow keys; and (2) modifying Kim’s remote controller 200 to include WD-Manual’s remote control features, including, among other things, assigning or programming any one of the shortcut/function keys A, B, C, and D to display specific types of media content or device information. *See* Pet. 18–25; Ex. 1005 ¶¶ 38, 60, 86, 90, 115, 127, 174, 175, 177, 188, 192–217, 283, Figs. 7, 8, 22, 38; Ex. 1006, 5–7, 11, 25–26, 138–139; Ex. 1008 ¶ 23; Ex. 1003 ¶¶ 63–83.

b. Whether WD-Manual is a Non-Enabling Reference

In its Preliminary Response, Multimedia contends that WD-Manual discloses a remote control including four shortcut/function keys with certain default settings. Prelim. Resp. 33 (citing Ex. 1006, 11). Multimedia argues that, although WD-Manual discloses reassigning its shortcut/function keys to perform other media functions, “[WD-Manual] provides minimal details as to how such a change is accomplished.” *Id.* (citing Ex. 1006, 138). Multimedia then asserts that a person of ordinary skill in the art would not have understood that WD-Manual’s “minimalist disclosure . . . enable[s] the reassignment of these shortcut keys” such that it would render obvious the claimed “media center button” and “application center button.” *Id.*

Based on the preliminary record, do not agree with Multimedia’s argument that WD-Manual must provide an enabling disclosure to teach the claimed “media center button” and “application center button.” It is well settled that “a non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103[(a)].” *Symbol Techs., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991). Moreover, even if we were to assume that WD-Manual’s disclosure of reassigning its shortcut/function keys A, B, C, and D to perform other media functions is deficient in some way, controlling case law mandates that WD-Manual “must be considered for everything it *teaches* by way of technology.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985).

c. Summary

In summary, LG has shown a reasonable likelihood that it would prevail on its assertions that the subject matter of independent 1, 8, and 14 would have been obvious over the combined teachings of Kim, Bae, and WD-Manual.

7. Claims 2–4, 9, 10, 13, and 15–17

Because LG has demonstrated a reasonable likelihood of success in demonstrating that at least one claim of the ’254 patent is unpatentable, we institute on all challenged claims and all grounds raised in the Petition. *See* 37 C.F.R. § 42.108(a) (2023). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of dependents claims 2–4, 9, 10, 13, and 15–17 under this asserted obviousness ground. Nevertheless, we separately address certain dependent claims to provide additional guidance to the parties.

As one example, claim 2 depends from independent claim 1, and further recites “wherein the EPG information corresponds to multiple programs and/or channels, wherein the EPG information comprises, for each program, airtime, program name, program channel, and program description.” Ex. 1001, 40:3–6. Claims 15 recites the same limitation, but it depends from independent claim 14. *Id.* at 43:1–5.

LG contends that Kim teaches this additional limitation of dependent claim 2 because its EPG information corresponds to multiple programs and channels. Pet. 104–105 (citing Ex. 1005, Fig. 22; Ex. 1003 ¶ 265). LG argues that a “user may readily obtain information regarding the displayed broadcast image 1315 through the information object 1321,” and “information object 1321 . . . may include a channel number (DTV7-1), a channel name (YBC HD), the title of a broadcast program (‘Oh! Lady’), and an airtime (8:00-8:50 PM) for the broadcast program.” *Id.* at 105 (quoting Ex. 1005 ¶ 199). Relying on the testimony of Dr. Lippman, LG asserts that a person of ordinary skill in the art would have found it obvious that the aforementioned information could be readily obtained “for the channels and programs presented in [Kim’s CHANNEL BROWSER card object 1340 and TV GUIDE card object 1350] to better inform the user when selecting a channel or program for viewing.” *Id.* at 105–106 (citing Ex. 1003 ¶ 267). LG contends that the same arguments and evidence it provides to explain how the combined teachings of Kim, Bae, and WD-Manual account for the limitation of dependent claim 2 equally applies to the limitation of dependent claim 15. *Id.* at 118.

Based on the preliminary record, LG’s arguments and supporting evidence with respect to dependents claims 2–4, 9, 10, 13, and 15–17 are

sufficient for purposes of institution. At this stage of the proceeding, Multimedia does not address separately LG's arguments and supporting evidence as to how the combined teachings of Kim, Bae, and WD-Manual account for the additional limitations of these dependent claims. *See* Prelim. Resp. 28–33. When considering LG's un rebutted arguments and supporting evidence, LG has demonstrated a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 2–4, 9, 10, 13, and 15–17 would have been obvious over the combined teachings of Kim, Bae, and WD-Manual.

*D. Obviousness Over the Combined Teachings of
Kim, Bae, WD-Manual, and Coburn*

LG contends that claims 6, 12, and 19 of the '254 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Kim, Bae, WD-Manual, and Coburn. Pet. 119–131. LG contends that the combined teachings of Kim, Bae, WD-Manual, and Coburn account for the subject matter of each challenged claim, and provides reasoning as to why a person of ordinary skill in the art would have been prompted to modify the teachings of these references. *Id.* LG also relies on the testimony of Dr. Lippman to support its positions. *See* Ex. 1003.

Based on the preliminary record, we determine that LG has shown that there is a reasonable likelihood that it would prevail in demonstrating that claims 6, 12, and 19 of the '254 patent are unpatentable. We begin our analysis with an overview of Coburn, and then we address the parties' contentions with respect to these challenged claims.

1. Overview of Coburn

Coburn generally relates to “user interfaces in television receiver devices” and, in particular, to “providing graphical adjustment and control of numeric, alphanumeric and/or other symbol-based features provided by a television receiver device.” Ex. 1009 ¶ 1. More specifically, Coburn discloses that, “[a]s the viewer enters the first few digits of the channel number,” the television display “may be updated as appropriate to present channels . . . that correspond to the initially-entered data.” *Id.* ¶ 46. Coburn also discloses a user controlling and moving a “cursor” using “input devices,” such as “joysticks,” to select “numeric, alpha-numeric or other symbol[s]” on the television display. *Id.* ¶¶ 16, 17, 25.

2. Claims 6, 12, and 19

Once again, because LG has demonstrated a reasonable likelihood of success in demonstrating that at least one claim of the ’254 patent is unpatentable, we institute on all challenged claims and all grounds raised in the Petition. *See* 37 C.F.R. § 42.108(a) (2023). Therefore, at this stage of the proceeding, it is not necessary for us to provide an assessment of dependents claims 6, 12, and 19 under this asserted obviousness ground. Nevertheless, we separately address these dependent claims challenged under this asserted obviousness ground to provide additional guidance to the parties.

Claim 6 depends from independent claim 1, and further recites “[6.1] wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits and [6.2] wherein the remote control further comprises a moveable joystick that, when manipulated by the user,

causes a displayed image on the screen to be displaced a proportional amount.” Ex. 1001, 40:39–45 (LG’s bracketing added). Claims 12 and 19 recite essentially the same limitations, but they depend from independent claims 8 and 14, respectively. *Id.* at 42:14–20, 44:17–24.

LG contends that the combined teachings of Kim, Bae, and Coburn account for limitation [6.1]—“wherein, as the user selects each digit, the application framework updates the EPG information to include only those programs and/or channels selectable from the selected digits []”—because Kim’s controller 170 employs an application framework that updates EPG information based on user interaction, Bae discloses updating selectable channel information as the user selects each sequential digit, and Coburn discloses a technique that predictably narrows the channel identifiers displayed based on the user selecting numbers sequentially. Pet. 123–127 (citing Ex. 1005 ¶¶ 267, 269; Ex. 1008, code (57), ¶ 7, Fig. 3; Ex. 1009 ¶ 46, Fig. 4; Ex. 1003 ¶¶ 362–370). LG then contends that the combined teachings of Kim and Coburn account for limitation [6.2]—“ wherein the remote control further comprises a moveable joystick that, when manipulated by the user, causes a displayed image on the screen to be displaced a proportional amount”—because Kim’s remote controller 200 may include any “appropriate input device,” and Coburn discloses moving a cursor on a television display relative to the movement of a two-dimensional input device, such as a joystick. *Id.* at 127–130 (quoting Ex. 1005 ¶ 175) (citing Ex. 1009 ¶¶ 16, 20 25, 55, Fig. 3; Ex. 1017 ¶¶ 28, 33, 47, 48, Fig. 5; Ex. 1018, 1083; Ex. 1001, 25:63–26:24; Ex. 1003 ¶¶ 371–383)

Turning to rationale to combine, LG contends that a person of ordinary skill in the art would have been motivated to apply Coburn’s

technique that predictably narrows the channel identifiers displayed based on the user selecting numbers sequentially to the combination of Kim, Bae, and WD-Manual. Pet. 120–121 (citing Ex. 1003 ¶ 353). LG argues that applying Coburn to the combination of Kim, Bae, and WD-Manual in this way “would improve the Kim-Bae on screen channel changer (e.g., which includes virtual numeric characters displayed on the screen) because Coburn enables the user input to ‘be processed in a predictive manner.’” *Id.* at 121 (quoting Ex. 1009 ¶ 46) (citing Ex. 1003 ¶ 356). According to LG, combining Coburn’s relevant teachings with those of Kim and Bae “would yield the predictable result of providing an easy and intuitive interface that allows a user to drill down to the media content (e.g., [EPG] content) that is available and selectable as the user enters each digit of the channel number.” *Id.* at 121–122 (citing Ex. 1003 ¶ 356). LG asserts that there would have been a reasonable expectation of success in making this proposed combination “because it would have been simply combining a known technique for filtering displayed content based on user input, where each of Kim and Bae already describes updating the displayed content in response to user input.” *Id.* at 122 (citing Ex. 1003 ¶ 357).

In addition, LG contends that, because Kim already discloses various ways of generating user input, including by “manipulation of . . . pointer 205,” it would have been obvious to implement Coburn’s joystick in the combination of Kim, Bae, and WD-Manual. Pet. 12 (quoting Ex. 1005 ¶ 223) (citing Ex. 1005 ¶ 187). LG argues that using Coburn’s joystick to control Kim’s pointer or cursor 205 on television 100 would result in the following:

(i) [it would] have yielded the predictable result of allowing Kim's pointer [205] to be controlled via joystick; (ii) [it would] have the added benefit of improving the usability of a remote control without a numeric keypad; and (iii) [there would have been] a reasonable expectation of success because it would have been simply combining a known technique (e.g., moving a joystick to displace a cursor) with a known system that already accounts for different input device types for moving a cursor.

Id. (citing Ex. 1003 ¶¶ 350–360).

Based on the preliminary record, LG's arguments and supporting evidence with respect to dependent claims 6, 12, and 19 are sufficient for purposes of institution. At this stage of the proceeding, Multimedia does not address separately LG's arguments and supporting evidence as to how the combined teachings of Kim, Bae, WD-Manual, and Coburn account for the additional limitations of these dependent claims, nor does Multimedia dispute LG's rationale to combine the relevant teachings of these references. *See* Prelim. Resp. 33. When considering LG's unrebutted arguments and supporting evidence, LG has demonstrated a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 6, 12, and 19 would have been obvious over the combined teachings of Kim, Bae, WD-Manual, and Coburn.

III. CONCLUSION

Taking into account Multimedia's Preliminary Response, we conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that LG would prevail in challenging at least one of claims 1–4, 6, 8–10, 12–17, and 19 of the '254 patent as unpatentable. Accordingly, we institute an IPR as to all challenged claims and all the grounds raised in the Petition. *See* 37 C.F.R. § 42.108(a) (2023). At this

stage of the proceeding, we have not made a final determination with respect to the construction of any claim term or the patentability of the challenged claims.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), an IPR is hereby instituted as to all of the challenged claims and all of the grounds raised in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of a trial; the trial will commence on the entry date of this decision.

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