

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS, INC., LG ELECTRONICS U.S.A., INC., AND VIZIO, INC.
Petitioners

v.

MULTIMEDIA TECHNOLOGIES PTE. LTD.,
Patent Owner

IPR2024-00354¹
U.S. Patent No. 10,419,805 B2

**PETITIONER'S REPLY
TO PATENT OWNER'S RESPONSE**

¹ VIZIO, Inc. filed a petition in IPR2024-00699 and was joined as a petitioner in this proceeding.

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PETITIONER'S EXHIBIT LIST

Ex.1001	U.S. Patent No. 10,419,805 to Shoykher
Ex.1002	Prosecution History of U.S. 10,419,805
Ex.1003	Declaration of Dr. Andrew Lippman under 37 C.F.R. § 1.68
Ex.1004	<i>Curriculum Vitae</i> of Dr. Lippman
Ex.1005	U.S. Patent Publication No. 2013/0263184A1 to Melnychenko et al. ("Melnychenko")
Ex.1006	U.S. Patent Publication No. 2012/0054794A1 to Kim et al. ("Kim")
Ex.1007	U.S. Patent Publication No. 2007/0226268A1 to Chen ("Chen")
Ex.1008	U.S. Patent No. 9,008,190 to Lee et al. ("Lee-1")
Ex.1009	U.S. Patent No. 9,398,339 to Lee et al. ("Lee-2"),
Ex.1010	U.S. Patent No. 8,893,184 to Ferren et al. ("Ferren")
Ex.1011	U.S. Patent Publication No. 2013/0057764A1 to Choi et al. ("Choi")
Ex.1012	U.S. Patent Publication No. 2013/0031592A1 to Choi et al.
Ex.1013	U.S. Patent Publication No. 2009/0257738A1 to Park et al.
Ex.1014	U.S. Patent Publication No. 2013/0152135A1 to Hong et al.
Ex.1015	U.S. Patent Publication No. 2005/0283800A1 to Ellis et al.
Ex.1016	U.S. Patent No. 6,665,869 to Ellis et al.
Ex.1017	Claim Comparison Chart
Ex.1018	U.S. Patent Publication No. 2013/0176415 to Kim et al.
Ex.1019	Notice of <i>Sotera</i> Stipulation of Defendants LG Electronics Inc. and LG Electronics USA, Inc.; <i>Multimedia Technologies PTE. LTD. v. LG Electronics Inc. and LG Electronics USA, Inc.</i> ; 2:22-CV-00494; U.S.

	District Court for the Eastern District of Texas Marshall Division
Ex.1020 (NEW)	Second Declaration of Dr. Andrew Lippman under 37 C.F.R. § 1.68
Ex.1021 (NEW)	Deposition Transcript of Rajev Surati, Ph.D.
Ex.1022 (NEW)	Brief for Intervenor—Director of the United States Patent and Trademark Office, <i>Lynk Labs, Inc. v. Samsungs Elecs. Co., Ltd.</i> , U.S. Court of Appeals for the Federal Circuit, Appeal No. 23-2346, Dkt. 36, March 3, 2024
Ex.1023 (NEW)	U.S. Patent Publication No. 2006/0212902A1 to Seo et al. (“Seo”)
Ex.1024 (NEW)	U.S. Patent Publication No. 2009/0083811A1 to Dolce et al. (“Dolce”)

I. Introduction

Multimedia's Patent Owner Response ("Resp.," Paper 19) presents meritless arguments that rely on numerous unrecited and unsupported claim limitations. None of the facts developed since institution change the Board's original findings. For the reasons discussed in the Petition ("Pet.," Paper 1) and as confirmed below, the Board should find all Challenged Claims unpatentable.

II. Claim Construction

A. *"Pre-defined format" and "uniform format" (all challenged claims)*

The Board in the Institution Decision ("Inst. Dec.," Paper 9) considered the scope and meaning of "*pre-defined format*" and "*uniform format*," and encouraged the parties to present arguments and evidence regarding these terms. Inst. Dec., 16-17, 28-29.

1. The Board should apply Petitioner's scope and meaning as to these terms.

Limitation [1.2.1] recites "*organizing...the data according to a **pre-defined format** corresponding to each of the plurality of subservices.*" Limitation [1.2.2] recites that "*the **pre-defined format** comprises one of a VOD data model, an EPG*

data model and a media data model.” The ’805 patent uses the term “pre-defined format”² in the following passages:

EPG information embedded with content feeds may contain limited information that are *ordered in a pre-defined format* (i.e., the *order* of other relevant information such as title, time, description, and/or other information about the programming).

Ex.1001, 30:1-5.

Process 1600 next organizes the requested media and /or data according to a *pre-defined* format as content 1630...The content provider modules will need to process the received media and/or data...and organize such media and/or data into a *pre-defined format* for use by the relevant applications 416.

Ex.1001, 34:49-60. Dr. Lippmann, after reviewing the ’805 patent’s disclosure, testifies that “a POSITA would have understood that the scope and meaning of the term ‘*pre-defined format*,’ as used in the claim and the ’805 patent, refers to the order of data or metadata in a pre-defined format.” Ex.1020, ¶10. The ’805 patent provides that the information in the data (e.g., EPG metadata) “such as title, time, description, and/or other information about the programming” is ordered in a pre-

² The term also appears in the “Summary” section of the specification (Ex.1001, 2:29-30, 2:53-58, 2:66-3:4), which largely mirrors the claim language and does not provide guidance on the meaning of this term. Ex.1020, ¶11.

defined format in the content feed so that the information can be processed at the device receiving the content feed. Ex.1001, 30:1-5; *see also id.*, 30:8-15 (describing source plugins as organizing the information received from the content feed), 28:56-60 (source plugins gather data from external sources). Ex.1020, ¶10. Dr. Lippmann further explains that “[t]he specification does not impose any requirements on the ordering that requires narrowing the claim scope.” Ex.1020, ¶10.

Limitation [1.2.4] recites “*each of the VOD data model, EPG data model, and media data model provide **a uniform format** for the plurality of subservices.*” Multimedia does **not** dispute that the prior art teaches a “*uniform format*” in [1.2.4]. *See generally* Resp. Thus, for the purposes of this proceeding, the term “*uniform format*” does not require express construction. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Nevertheless, at the Board's request, Petitioner addresses the scope of this term. The '805 patent uses the term “uniform format” in the following passage:

The data models provide **uniform formats** for the respective subservices (i.e., VOD subservice 1420, EPG subservice 1424, and media subservice 1428) and/or the internal content provider modules 1416 which interface with applications 416.

Ex.1001, 33:25-30. As Dr. Lippmann explains, “the '805 patent does not appear to ascribe any specific meaning to the term ‘uniform format’ and the passage does not

limit the scope of this term to require a plurality of uniform formats.” Ex.1020, ¶13. “As such, a POSITA would ascribe to the claim term its ordinary and customary meaning. For example, consistent with my first Declaration, the prior art expressly teaches a ‘uniform format,’ which is within the scope of the ’805 patent’s claims.” Ex.1020, ¶13 (citing Ex.1003, ¶¶179-180 (showing how Chen teaches a “uniform format”)).

2. The Board should reject Multimedia’s baseless analysis.

Multimedia asserts that “*pre-defined format*” “refers to the format of the VOD data model, EPG data model, and media data model having a format that is defined prior to the organizing step (i.e., ‘pre-defined’ prior to the organizing step)” and that the claim requires “**at least three ‘pre-defined formats.’**” Resp., 20. Based on the order of terms in [1.2.1] (“*organizing...the data according to a pre-defined format...*”), Petitioner agrees that the data has a pre-defined format before the organizing step. However, Multimedia’s argument that [1.2.1] requires “**at least three ‘pre-defined formats’**” is an improper attempt to import limitations. Multimedia, for alleged support, cites various passages that do not use the term “pre-defined format” or provide guidance on what this term means. Resp., 20-21 (citing Ex.1001, 29:63-67, 30:32-41); Ex.2010, ¶69; Ex.1020, ¶¶14-16. Multimedia ignores passages (also cited by the Board) that actually use the term “pre-defined format.” *See generally* Resp., 20-21. Likewise, Multimedia’s expert

admits that his declaration did not consider relevant passages of the '805 patent that address “pre-defined format.” Ex.1021, 72:20-73:8.

Instead of explaining what “*a pre-defined format*” (**singular** form) means with respect to descriptions in the '805 patent, Multimedia adds a new requirement: there must be “**at least three ‘pre-defined formats.’**” Resp., 20. The Board should reject Multimedia's incomplete and unhelpful analysis on the scope and meaning of “*a pre-defined format.*” Ex.1020, ¶¶16-17.

The Board should also reject Multimedia's assertion that the scope of “*uniform format*” in [1.2.4] requires different uniform formats. Resp., 21-22. Multimedia points to the '805 patent's disclosure that “data models provide uniform formats for the respective subservices (i.e., VOD subservice 1420, EPG subservice 1424, and media subservice 1428 [in Fig. 14]),” and asserts that “**‘uniform format’ does not mean that all three ‘pre-defined formats’ share a uniform format.**” Resp., 21-22 (citing Ex.1001, 30:32-41). Notably, Multimedia's expert admitted that the claim does not require a 1:1 correspondence between each “*uniform format*” and the recited subservices such that there are three different “uniform format[s].” Ex.1021, 99:9-14.

Petitioner notes that the Board already considered and rejected this argument. The Board correctly found that [1.2.4] is “broad enough to encompass a **consistent or uniform format** for each of the VOD data model, EPG data model,

and media data model.” Inst. Dec., 32 (citing Ex.1001, 30:46-51). The Board should again decline Multimedia’s invitation to redraft the claims based on disclosed embodiments. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (“[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.”) (citing, e.g., *Nazomi Communications, Inc. v. ARM Holdings, PLC*, 403 F.3d 1364, 1369 (Fed. Cir. 2005) (claims may embrace “different subject matter than is illustrated in the specific embodiments in the specification”).

As Dr. Lippman explains, “[a] POSITA would not understand the claim as requiring three pre-defined formats or three uniform formats.” Ex.1020, ¶17. Rather, “both claim limitations are presented in singular form (*‘a pre-defined format’* and *‘a uniform format’*).” Ex.1020, ¶17. Dr. Lippmann testifies that “[n]othing in the ’805 patent specification or surrounding claim language requires reading limitations from a described preferred embodiment.” Ex.1020, ¶17. Therefore, “a POSITA would understand that the claim scope encompasses one or more pre-defined format and one or more uniform format.” Ex.1020, ¶17; *see also KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000) (“[A]n indefinite article ‘a’ or ‘an’ ...carries the meaning of ‘one or more’ in open-ended claims containing the transitional phrase ‘comprising.’”).

Therefore, the Board should reject Multimedia's improper attempt to "import into [the] claim limitations that are not part of the claim." *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004); *see also EPOS Techs. Ltd. v. Pegasus Techs. Ltd.*, 766 F.3d 1338, 1341 (Fed. Cir. 2014).

B. "Media metadata personalized for a user" (claims 4 and 13)

The Board should construe "*media metadata personalized for a user*" according to its plain and ordinary meaning as "media metadata that has been personalized for a user," and reject Multimedia's proposed construction, which imports limitations from the specification into the claims. *Superguide*, 358 F.3d at 875; *EPOS Techs.*, 766 F.3d at 1341; Ex.1020, ¶19.

Limitation [4.0] recites that "*the media data provider is configured to provide media metadata personalized for a user.*"³ Multimedia argues that "*media metadata personalized for a user*" requires a construction that "the content of the metadata is personalized for a user." Resp., 14. This construction is wrong at least because [4.0] does not recite "***the content*** of the metadata [being] personalized for a user." Ex.1020, ¶20. As Multimedia's expert admitted, [4.0] does not require "the content" or "***the content*** of the metadata [being] personalized for a user."

³ Limitation [13.0] has the same feature. *See* Ex.1017.

16	Q. Okay. So if we are going with your first
17	sentence in paragraph 54 which adds the word "content,"
18	where do you see the word "content" in claim 4?
19	A. There is no word "content" in claim 4.
20	Q. Okay. So if we are going with your second
21	sentence in paragraph 54, which says the metadata
22	content of the same media is personalized, i.e.
23	different for each user, where do you see that in claim
24	4?
25	A. Don't see it.

Ex.1021, 125:16-126:2.

Multimedia goes even further to argue that its construction is correct because if “the content of [the] metadata does not change” or “the metadata content is still the same between []two users,” then it is not personalized for the user. Resp., 14. Multimedia’s expert claimed that for metadata to be “*personalized*,” it must be edited.

12	Q. I just want to know, are you saying that the
13	metadata has to be edited in order to be personalized?
14	A. I am.
15	Q. Okay. So you are saying that in order to be
16	personalized there has to be a specific requirement that
17	the metadata is edited?
18	A. Yeah.

Ex.1021, 178:12-18. This construction must be rejected. There is no embodiment in the '805 patent—and Multimedia has not identified any—where metadata for

two different users must be changed or edited to be different and therefore “*personalized*” for a user. Ex.1020, ¶21. Multimedia’s expert admitted that claims 4 and 13 do not require metadata to be different for two different users to be “*personalized*,” and that there is no embodiment in the specification to support this requirement. Ex.1021, 145:22-146:17.

Moreover, Multimedia’s proposed construction improperly excludes embodiments that do not support Multimedia’s narrow construction. “A claim construction that does not encompass a disclosed embodiment is rarely, if ever, correct.” *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1320 (Fed. Cir. 2005). With reference to Fig. 14, Multimedia cites two portions of the specification that describe media data provider 1416b “generat[ing] the personalized metadata” from media collected by media subservice 1428. Resp., 14-15 (citing Ex.1001, 31:26-41 and 34:61-35:8). Based on these two portions, Multimedia argues that “[i]n all cases, the ’805 Patent **consistently** discloses that personalized media metadata is generated from other received metadata.” Resp., 16. Multimedia’s argument is wrong. First, limitation [4.0] does not recite “generating” personalized metadata for a user, a fact Multimedia’s expert admitted. Ex.1020, ¶23.

16	Q. So at the end of the paragraph you cite a
17	sentence and you emphasize this sentence which talks
18	about generating the personalized media metadata, right?
19	A. That's right.
20	Q. Okay. So do you see the word "generating" or
21	"generate" in claim 4 at all?
22	A. Doesn't appear to be.

Ex.1021, 133:16-22.

21	Q. You said earlier that the concept of
22	generating, though, is not in the claim?
23	A. I agree with that.

Id., 134:21-23.

Second, the '805 patent discloses an embodiment where personalized metadata is merely stored, without any discussion of being “generated.” See Ex.1001, 33:61-67. Accordingly, Multimedia is improperly excluding embodiments to support its construction. Ex.1020, ¶24.

Lastly, Multimedia incorrectly argues that Dr. Lippman indicated in his deposition that “Multimedia’s construction was a ‘possible meanings of these words.’”⁴ Resp., 16 (citing Ex.2012, 31:4-18). This argument is incorrect. First,

⁴ Multimedia cites *Phillips*, 415 F.3d at 1327, for a proposition that is not at issue in this proceeding. Resp., 16. In *Phillips*, the Federal Circuit indicated that in

Multimedia mischaracterized Dr. Lippman's testimony. Dr. Lippmann indicated that he would "have to consider what all possible meanings of those words could be" when asked whether a favorite channel list "is personalized to a user, or...the metadata is personalized for the user." Ex.2012, 31:4-18, 30:3-24. Second, Dr. Lippman did not agree that Multimedia's construction was a "possible meaning[] of those words," because Multimedia's counsel did not propose its construction to Dr. Lippman. Resp., 16; *see generally* Ex.2012, 29:9-32:15.

C. "Media sources of the TV" (claims 6 and 14)

The Board should construe "*media sources of the TV*" according to its plain and ordinary meaning, and reject Multimedia's proposed construction, which improperly imports limitations from the specification into the claims. *Superguide*, 358 F.3d at 875; *EPOS Techs.*, 766 F.3d at 1341; Ex.1020, ¶¶26-31.

Limitation [6.0] recites that "*the media browser is configured to provide a real-time view of **media sources of the TV** and maintain a list of connected **media sources of the TV**.*"⁵ Claim 6 does not recite any specific type of "media sources of the TV." Nevertheless, Multimedia argues that "*media sources of the TV*" must

limited circumstances when there is "ambiguity" in a claim, the court may construe the claim to preserve its validity. *Id.* There is no "ambiguity" at issue here.

⁵ Limitation [14.0] has the same feature. *See* Ex.1017.

include the VOD subservice, EPG subservice, and media subservice of claim 1.

Resp., 17-19. Multimedia's proposed construction is wrong for three reasons.

First, claim 6 does not recite that the "*media sources of the TV*" must include the VOD subservice, EPG subservice, and media subservice of claim 1.

Ex.1020, ¶28. Multimedia's expert admitted this.

16	Q. Okay. And that is in paragraph 60 of your
17	declaration?
18	A. I think that's correct.
19	Q. Do you see that that characterization about
20	media sources of the TV must at least comprise a VOD
21	subservice source, an EPG subservice source, and a media
22	subservice source anywhere in claim 6?
23	A. I don't. It is not explicit.

Ex.1021, 159:16-23.

12	Q. And can you identify the specific language in
13	claim 6 that requires media sources of the TV to have to
14	comprise -- must comprise VOD subservice source, an EPG
15	subservice source, and a media subservice source?
16	A. There is nothing specific in there, explicit
17	saying that.

Id., 167:12-17. Therefore, Multimedia's proposed construction improperly imports unrequired limitations. Ex.1020, ¶28.

Second, the term "*media sources of the TV*" is not preceded by the article "the" to refer back to claim 1. Therefore, the term "*media sources of the TV*" in

claim 6 has no antecedent basis and does not further define any “subservice” in claim 1. Multimedia cites Ex.1001, 28:46-55, 31:42-50, and 29:3-23 to support its argument that the “subservices” recited in claim 1 may be “media sources.” Resp., 17-19. However, none of these cited portions suggests that “media sources” must include a VOD subservice, an EPG subservice, and a media subservice, as Multimedia proposes. The specification does not define a “media source” as requiring a VOD subservice, an EPG subservice, and a media subservice. Ex.1020, ¶29.

Third, Multimedia's construction is improper because it excludes embodiments where media sources are connected to an intelligent TV 100, such as a DVD player 168a, BluRay player 168b, portable media devices 168c, smart phones 168d, tablet devices 168e, personal computer 168f, external cable boxes 168g, etc. Ex.1001, 13:3-18 (describing external hardware devices 168 in Fig. 1B connected to Intelligent TV 100 via a wired 108 or wireless 112 connection), 30:16-31 (describing external hardware devices 168 that may be connected to the Intelligent TV). Multimedia's expert admitted that he did not consider these media sources. Ex.1021, 164:13-166:20; Ex.1020, ¶30.

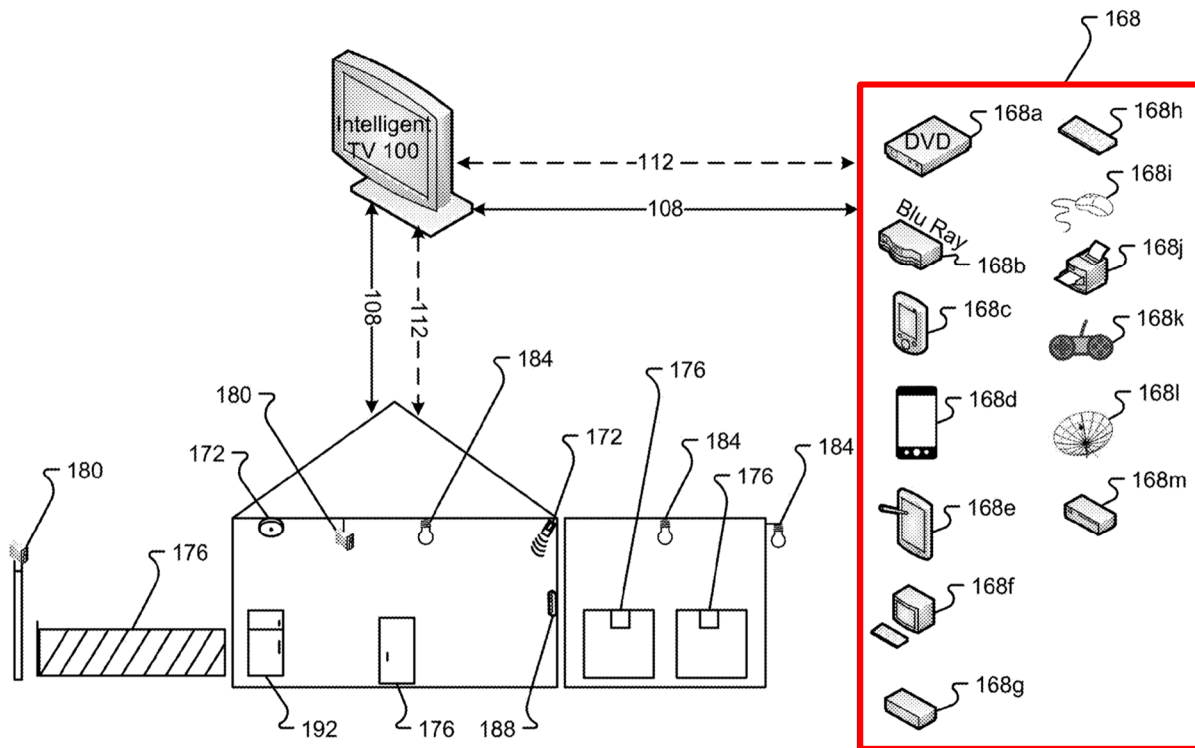


Fig. 1B

Ex.1001, Fig. 1B (annotated); Ex.1020, ¶30.

Therefore, Multimedia's assertion that "*media sources of the TV*" must include VOD subservice, EPG subservice, and media subservice of claim 1 is improper and should be rejected. The Board should construe "*media sources of the TV*" according to its plain and ordinary meaning as including any media source that may be connected to the TV. Ex.1020, ¶31.

III. Ground 1: Claims 1, 11, and 17 are Obvious in View of Melnychenko and Chen

The Petition explained how the independent claims are obvious. Multimedia only disputes limitation [1.2.1] and does not specifically address the other

limitations in its Patent Owner Response. *See generally* Resp., 24-34. For the reasons discussed below, Multimedia's arguments fail.

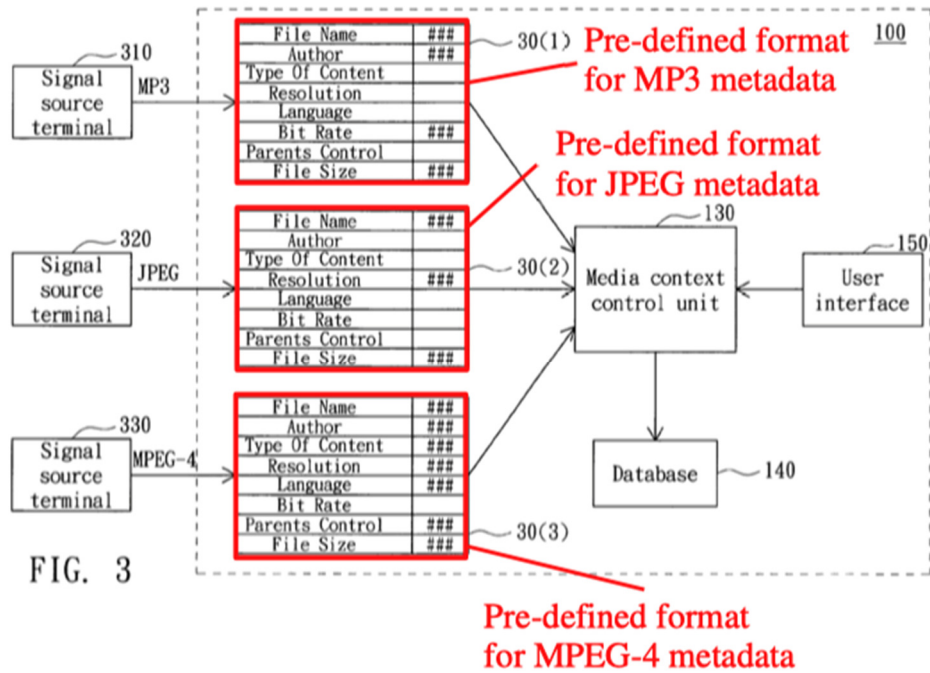
A. Limitation [1.2.1] “organizing...the data according to a pre-defined format corresponding to each of the plurality of subservices” is obvious.⁶

The Petition fully addressed this limitation. Pet., 32-42. In its analysis, Petitioner explained that “Melnychenko discloses providing (1) EPG content and related metadata, (2) VOD content and related metadata, and (3) media content and related metadata” and how these teachings render obvious a “*VOD subservice*,” an “*EPG subservice*,” and a “*media subservice*,” as recited in limitation [1.1.2], and that these correspond to “*the plurality of subservices*” in limitation [1.2.1]. Pet., 28-30. The Petition further cited to the combination with Chen, and explained that Chen in the context of Figure 3 discloses that metadata data is organized in three metadata tables 30(1), 30(2) and 30(3), each of which have a specific order for the same fields (e.g., File Name, Author, Type of Content, Resolution, etc.). Pet., 33-36.

Chen's Figure 3, reproduced below, illustrates this concept where metadata from different sources is organized into metadata tables (e.g., MP3 metadata table

⁶ Claims 11 and 17 are substantially similar to claim 1. *See* Ex.1017 (claim comparison chart).

30(1), JPEG metadata table 30(2), and MPEG-4 metadata table 30(3)). Pet., 33-35; Ex.1007, [0020].



Ex.1007, Fig. 3 (annotated).

Ex.1003, ¶¶ 74, 147

As Dr. Lippmann explains, “[i]n Figure 3, MP3 metadata table 30(1), JPEG metadata table 30(2), and MPEG-4 metadata table 30(3) are illustrated to be organized in a ‘*pre-defined format*,’ because the relevant fields in the columns are organized in the following order: (1) File Name; (2) Author; (3) Type of Content; (4) Resolution; (5) Language; (6) Bit Rate; (7) Parents Control; and (8) File size.” Ex.1020, ¶35; Pet. 33-35; Ex.1007, [0019]-[0020], Fig. 3; Ex.1003, ¶¶147-148. Thus, the order of the metadata table is “*pre-defined*” in each of metadata tables 30(1)-30(3). Ex.1007, [0020] (describing the metadata tables 30(1)-30(3) each

having a specific order indicated by the order of the columns of data shown in Figure 3); Ex.1020, ¶35. Consistent with the Petition, Dr. Lippmann further explains that “although metadata tables 30(1), 30(2), and 30(3) may include different metadata (as indicated by symbol “####”) (Ex.1007, [0020]), the metadata that is present in each table is ordered in the pre-defined format corresponding to the order of the relevant fields.” Ex.1020, ¶36; Pet. 33-35; Ex.1003, ¶¶149-150. Multimedia's expert confirmed that the information in Chen's metadata table 30(1), metadata table 30(2), and metadata table 30(3) is organized in the specific order as illustrated. Ex.1021, 116:11-120:11.

Consistent with its interpretation (which, as discussed above, is improper) Multimedia argues that “*organizing the data according to a pre-defined format corresponding to each of the plurality of subservices*” “explicitly require[s] organizing the received data according to **pre-defined formats corresponding to each of the three types** of subservices.” Resp. 24-29. Multimedia's contention is based on the assertion that in the '805 patent there is a “VOD data model 1404 for the VOD subservice 1420, EPG data model 1408 for the EPG subservice 1424, and media data model 1412 for the media source 1428.” Resp. 26-27. This argument is meritless.

The Board should reject Multimedia's argument, since it merely recasts arguments that the Board preliminarily considered and rejected. In the Institution

Decision, the Board rejected Multimedia's similar argument asserting that "Petitioner's focus on Chen's disclosure of creating tables of metadata formatted into a singular format within a single database effectively reads this disclosed embodiment out of the scope of the claims of the '805 Patent." Inst. Dec. 31-32 (citing *Phillips*, 415 at 1323). On that record, the Board properly declined to limit the claims to a particular embodiment. Inst. Dec. 32. Nothing developed since institution warrants any deviation from that understanding. The Board should again decline Multimedia's invitation to redraft claims. *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011) (the Federal Circuit "repeatedly and consistently has recognized that courts may not redraft claims.").

As indicated above, Multimedia incorrectly construes "*a pre-defined format*" to mean "**three pre-defined formats.**" Resp. 20. Even under this incorrect construction, the combination of Melnychenko and Chen as presented in the Petition renders this obvious. As shown in the Petition, it would have been obvious to organize the EPG subservice, VOD subservice, and media subservice, as taught by Melnychenko, according to pre-defined formats. Pet., 34-37. Specifically, the metadata in each of the tables for EPG, VOD, and media subservices would be organized in a "*pre-defined format*," because they include different metadata as indicated by symbol "###." Ex.1007, [0020]; Pet., 34-35; Ex.1020, ¶37; Ex.1003, ¶¶149-150.

Additionally, Multimedia argues that “Chen does not organize the data from each type of subservice source (VOD, EPG, or media) according to a pre-defined format corresponding to that subservice source type (VOD, EPG, or media).” Resp. 29. Multimedia contends that “Chen does not teach organizing MP3 files from a VOD subservice any differently from MP3 files from a media subservice and thus cannot suggest organizing data according to a pre-defined format corresponding to the types of subservices as claimed” and that “a POSITA would at most organize files received from each subservice according to a format based on the type of the file.” Resp. 32. This argument fails.

Multimedia's argument improperly argues Chen separately, when the Petition relied on a combination of references. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“[n]onobviousness cannot be established by attacking references individually where the [challenge] is based upon the teachings of a combination of references.”). As noted above, the Petition explained that Melnychenko renders obvious a “*VOD subservice*,” an “*EPG subservice*,” and a “*media subservice*” as illustrated in exemplary Figure 9B (modified and annotated). Pet., 28-30. Multimedia and its expert do not contest that Melnychenko teaches the claimed “*subservices*.” See generally Resp., 24-34; Ex.1021, 106:17-107:3 (reproduced below).

23	Q.	Okay.	The petition, however, relies on
24			Melnychenko for teaching the subservices?
25	A.	Sure.	
1	Q.	Okay.	I just -- and you haven't disputed that,
2			right?
3	A.	No.	

The Petition explained how the **combination** of Melnychenko and Chen renders obvious this limitation, explaining that “Melnychenko’s metadata tables (implemented per Chen) would include additional fields for metadata corresponding to Melnychenko’s content, including VOD content, TV/EPG content, and media content.” Pet. 36; *see also* Pet. 34-37. The Petition also provided reasons to combine, which Multimedia does not contest. Pet., 13-18.

Moreover, Multimedia’s assertion that Chen is only organizing data according to file types is wrong on the technology. Resp., 31. The Petition, supported by Dr. Lippmann’s testimony, explained that “[a] POSITA would have understood that **Chen’s teachings represent a general technological principle** and are not limited to the exemplary content of MP3, JPEG, and MPEG-4.” Pet. 35; Ex.1003, ¶151; Ex.1020, ¶38; Ex.1007, [0009] (generally applying the teachings to “plural types of media data.”), [0011] (“...non-limiting embodiments”), [0019] (“The types of media operable to the set top box of the invention is not limited.”), [0022] (“While the invention has been described by

way of example...the invention is not limited thereto.”). Chen provides example sources including “a video on demand (VoD)” and “a digital TV program, or a cabled TV program.” Ex.1007, claim 6; *see also* Ex.1007, [0018]-[0019], [0022].

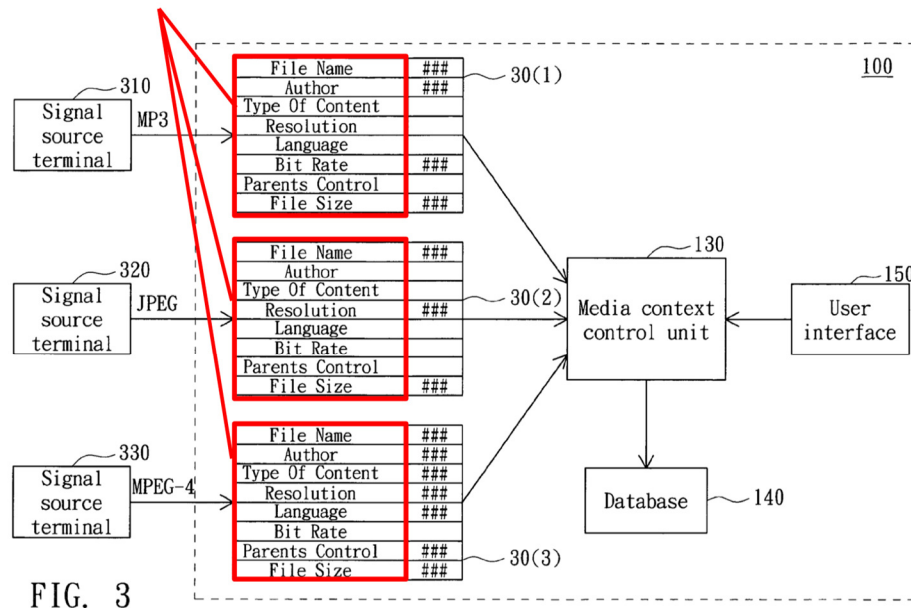
As Dr. Lippman explains, “these services provide data streams and not files, as Multimedia incorrectly asserts.” Ex.1020, ¶38; Ex.1006, [0063] (image display apparatus uses real-time stream protocol for streaming content), [0142] (EPG received as “input stream signal” including “broadcasting information specifying the start time, end time, etc. of scheduled broadcast TV or radio programs”); Ex.1023, [0017]-[0018], [0026]-[0027], Fig. 16C (EPG is streamed content); Ex.1024, [0068]-[0069] (VOD content is streamed content); Ex.1005, [0032], [0037] (Internet media content is streamed content).

B. Limitation [1.2.4] “*each of the VOD data model, EPG data model, and media data model provide a uniform format for the plurality of subservices*” is obvious.

Multimedia does not contest that limitation [1.2.4] is obvious except to allege that the Petition did not show that Chen's metadata tables teach both a “*pre-defined format*” and “*uniform format*.” *See generally* Resp., 32-34. Multimedia is wrong. As shown in the Petition and Section III.A above, the metadata in the prior art is organized in a “*pre-defined format*.” In addition, the prior art metadata tables have a “*uniform format*” because each includes the **same fields** even if they

populate different metadata (indicated by symbol “###”). Pet., 43-45; Ex.1003, ¶¶179-181; Ex.1007, [0020].

The tables have the same fields



Metadata tables 30(1)-30(3) have uniform format.

Ex.1007, Fig. 3 (annotated).

Pet., 44; Ex.1003, ¶180

IV. Ground 2: Claims 1, 11, and 17 are also obvious over Melnychenko, Chen, Kim, and Lee-1

Multimedia does not specifically address (and therefore concedes) the obviousness of claims 1, 11, and 17 in Ground 2. *See generally* Resp.

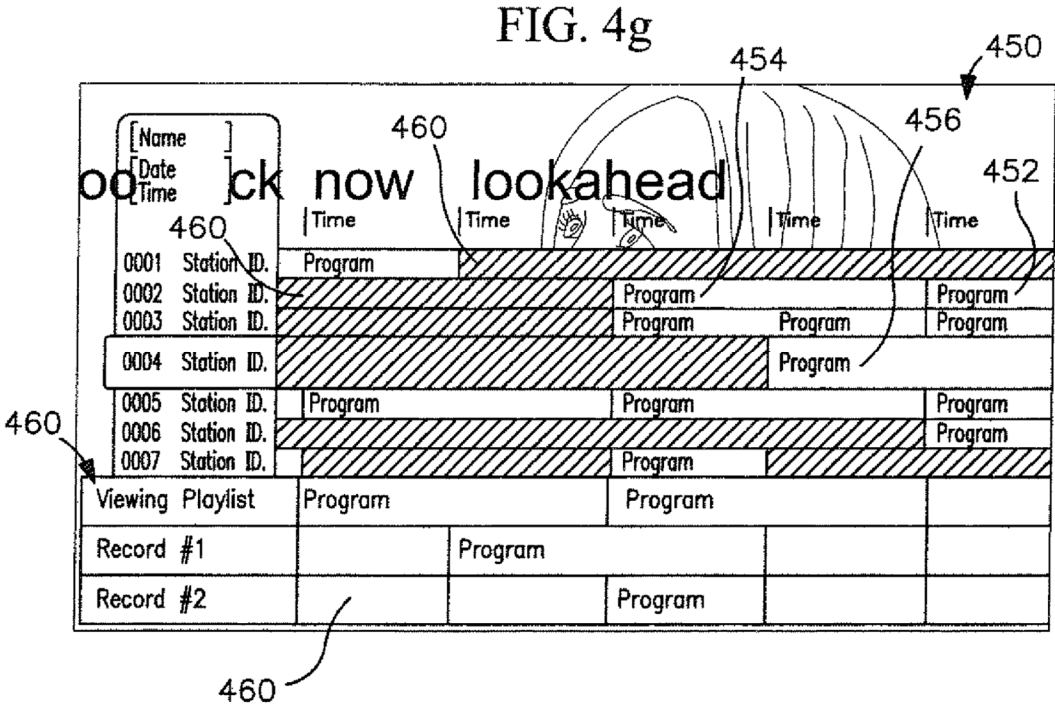
V. Ground 2: Claims 3 and 12 are obvious over Melnychenko, Chen, Kim, and Lee-1

As shown in the Petition, Melnychenko, Chen, Kim and Lee-1 render obvious “serv[ing] one or more applications of the TV with EPG information in a

read-only format,” as recited in claims 3 and 12. Pet., 70-72. Multimedia’s arguments for claims 3 and 12 lack merit and mischaracterize the Petition.

First, contrary to Multimedia’s argument, the Petition did not assert that “Kim’s EPG information could not be edited.” Resp., 43-44. As explained in the Petition, Kim teaches that metadata for EPG information “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.” Pet., 71 (quoting Ex.1006, [0199]). Dr. Lippman explained that a POSITA would understand that the above-identified information “is served in a read-only format because its purpose is to provide information to the user about the broadcast program currently displayed and therefore may not be edited.” Ex.1003, ¶281 (citing Ex.1006, [0199], [0142]); Pet., 71-72. Multimedia appears to be suggesting that Kim must provide that *all* EPG information may not be edited. Claims 3 and 12 do not require that *all* EPG information must be read-only. As explained by Dr. Lippman, “[i]t would be obvious to serve certain types of EPG information, such as the channel number, channel name, broadcast program title, and airtime disclosed in Kim (Ex.1006, [0199]), in a read-only format because that EPG information (e.g., channel number...) is designated by the broadcast provider as static information that should not be editable.” Ex.1020, ¶41; Ex.1003, ¶281.

Second, Multimedia argues that the “state of the art” suggests that EPG information may be edited, but this is based on an incorrect understanding of Donoghue (Ex.2013). As shown in Fig. 4g, Donoghue discloses displaying “a personalized [electronic programming guide] EPG 450” that “can be populated only by recommended content” based on the user’s profile. Ex.2013, 33:33-45. For example, darker or lighter shaded areas 452, 454, 456 may be used to display EPG information based on the user’s interests, and patterned blocks 460 are used if there is no EPG information to display. *Id.*, 33:39-53, 34:9-15. Donoghue thus discloses that the *display* of information in the EPG may be edited, not that the underlying EPG information is edited. Therefore, Multimedia’s own “state of the art” evidence does not support its argument that EPG information is edited. Ex.1020, ¶42.



Ex.2013, Fig. 4g.

Multimedia’s expert also cited another portion of Donoghue describing that “[v]arious permutations and mechanisms for generating, adding and editing metadata will be recognized by those skilled in the art.” Ex.2013, 37:5-25; Ex.2010, ¶161. However, this portion of Donoghue is not specifically directed to EPG metadata, and thus does not suggest that it was “desirable” for a user to edit EPG metadata as proposed by Multimedia’s expert. Ex.2010, ¶161; Ex.1020, ¶43.

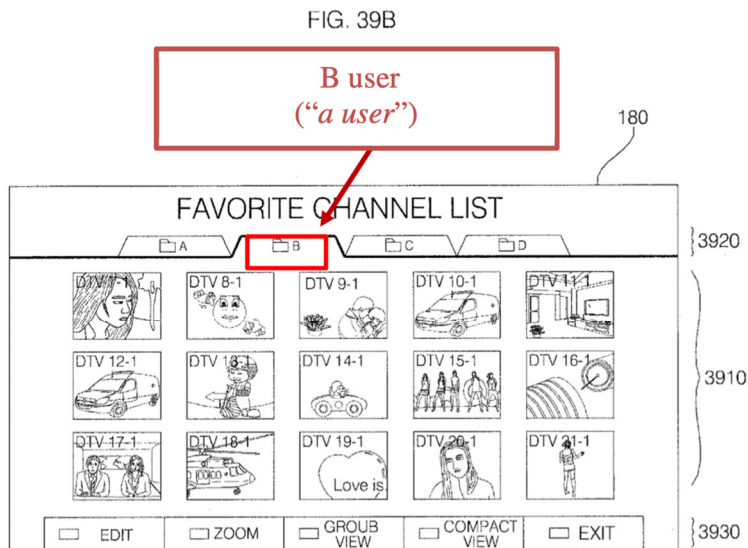
VI. Ground 3: Claims 4 and 13 are obvious over Melnychenko, Chen, Kim, Lee-1, and Lee-2

Claims 4 and 13 recite that “*the media data provider is configured to provide media metadata personalized for a user.*” The Petition showed that claims 4 and 13 are obvious over Melnychenko, Chen, Lee-1, and Lee-2. Pet., 75-79.

Multimedia's arguments for claim 4 are based entirely on its incorrect construction for "*media metadata personalized for a user.*" Resp., 34; Ex.1021, 140:9-142:1 (Dr. Surati's prior art arguments are based on claim construction arguments). If the Board rejects Patent Owner's improper construction of "*media metadata personalized for a user*" (it should), then Patent Owner has not contested (and therefore conceded) the unpatentability of claims 4 and 13 under the plain and ordinary meaning of "*media metadata personalized for a user*" as "media metadata that has been personalized for a user." See Section II.B.

The Petition shows that Kim's OSD generator teaches the claimed "*media data provider*" of claims 2 and 4. Pet., 67-68. For example, Kim's OSD generator generates a Channel Browser card object 1340 (see Fig. 19) that includes thumbnails corresponding to "pre-stored user channels (e.g., [a] favorite list)." Ex1006, [0206]; Pet., 68, 76, 55-56. Multimedia did not contest that Kim's OSD generator teaches the claimed "*media data provider.*" As shown in the Petition, Kim's OSD generator providing metadata such as thumbnail images for user-selected favorite channels, as taught by Lee-2, provides "*media metadata personalized for a user,*" because the metadata is personalized for that user. Pet., 76-78; Ex.1003, ¶¶325-329.

As shown in Fig. 39B below, Lee-2 (Ex.1009)⁷ teaches a favorite channel list personalized for a user (e.g., B user). Ex.1009, 41:47-55 (favorite channel list displayed in channel list area 3910). The user's favorite channel list includes channel information (metadata) about the user's favorite channels. Ex.1009, 39:57-63. The favorite channel settings are "*personalized for [the] user*" because they are configured by the user in the channel setup menu 3930 shown in Fig. 39B below. Ex.1009, 41:61-67; Pet., 76-77; Ex.1003, ¶¶325-327.

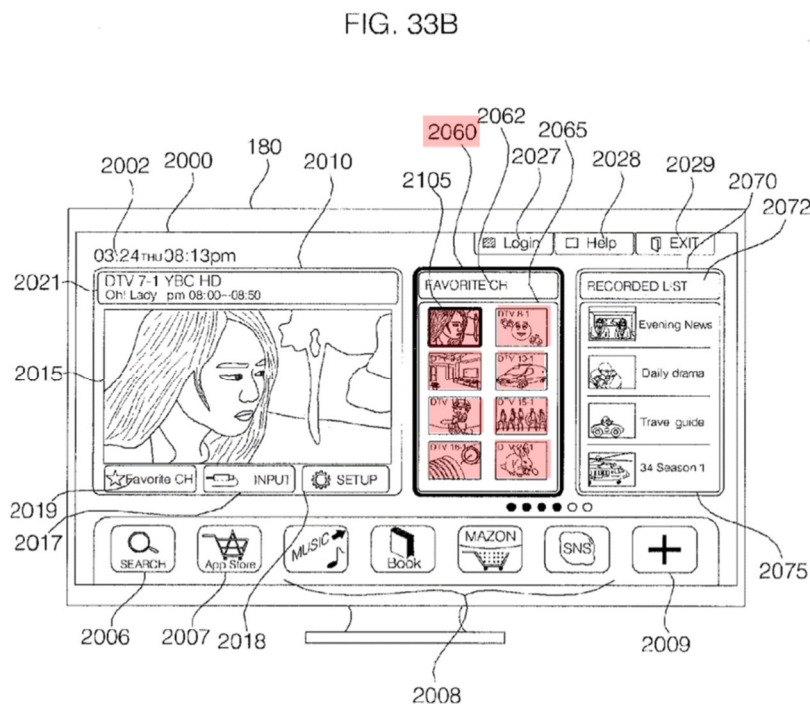


Ex.1009, Fig. 39B (annotated).

Pet., 77; Ex.1003, ¶325

⁷ Ground 3 of the Petition contains a typographical error identifying Lee-2 as Ex.1010. In this Reply, Lee-2's annotated drawings are reproduced from Dr. Lippman's declaration, which identifies Lee-2 as Ex.1009.

With reference to Fig. 33B below, Lee-2 displays a Favorite Channel card object 2060 that displays personalized metadata (e.g., channel information and thumbnails) based on user-selected favorite channels. Ex.1009, 17:56-64, 42:59-61; Pet., 77-78; Ex.1003, ¶¶326-327.



Ex.1009, Fig. 33B (annotated).

Pet., 78; Ex.1003, ¶327

Multimedia's expert admitted that if different users select different favorite channels, the metadata for those users will be different.

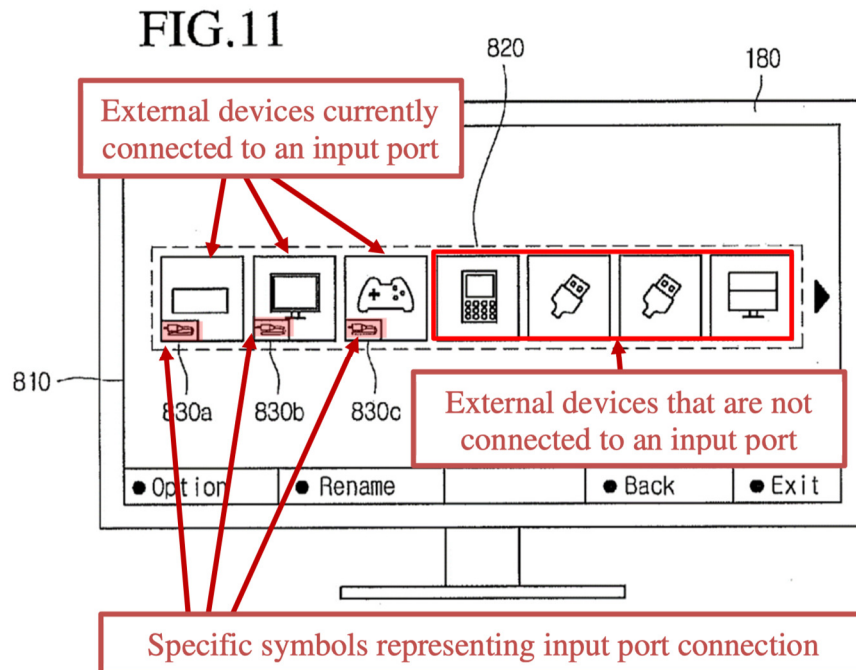
6	Q. Okay. And there are different channels shown
7	based on our selection, correct?
8	A. Sure.
9	Q. Okay. And if the different -- if there are
10	different channels shown aren't there different metadata
11	corresponding to the different channels?
12	A. So there is -- yeah, two different channels
13	would have different metadata.

Ex.1021, 154:12-155:13.

Therefore, even under Patent Owner's improper construction, different users selecting different favorite channels would be provided with different metadata.

VII. Ground 5: 6 and 14 are obvious over Melnychenko, Chen, Kim, Lee-1, and Choi

Claims 6 and 14 recite that “*the media browser is configured to provide a real-time view of media sources of the TV and maintain a list of connected media sources of the TV.*” The Petition showed that claims 6 and 14 are obvious over Melnychenko, Chen, Lee-1, and Choi. Pet., 83-88, 90. For example, as shown in Choi's Fig. 11 below, it was known to provide a real-time view of external devices that are currently connected to an input port of the TV, represented in a list of icons 820 with specific symbols 830a-830c indicating input port connections. Ex.1011, [0250]; Ex.1003, ¶¶347-349.



Ex.10011, Fig. 11 (annotated).

Pet., 85; Ex.1003, ¶349

Multimedia's arguments for claims 6 and 14 are based entirely on its improper construction that "*media sources of the TV*" must include the VOD subservice, EPG subservice, and media subservice of claims 1 and 10. Resp., 38, 40-41. This construction is wrong. *See* Section II.C. Multimedia has not presented any argument for claims 6 and 14 that is directed to the plain and ordinary meaning of the term "*media sources of the TV*" as including any media source that may be connected to the TV.

VIII. The Cited Prior Art References are “Printed Publications” under 35 U.S.C. § 311(b)

Melnychenko and Choi are both published U.S. patent applications and qualify as prior art under pre-AIA 35 U.S.C. § 102(e)(1) because both were filed before the '805 patent's earliest provisional filing date of August 17, 2012.⁸ *See* Ex.1005 (filed March 28, 2012); Ex.1011 (filed June 28, 2012).

Multimedia's assertion that these references are not “printed publications” under 35 U.S.C. § 311(b) because they were *published* after the priority date of the '805 patent is contrary to established law. Resp. 22-24. The Office's briefing before the Federal Circuit recognizes that published patent applications qualify as “printed publications” under pre-AIA § 102(e)(1) and AIA § 311(b) as of the applications' *filing dates*, not their date of publication. Ex.1022, 2-3, 15-19. Per § 102(e)(1), these references are “printed publications” because they were both “an application for patent, published under section 122(b), by another *filed* in the United States before the invention by the applicant for patent.” 35 U.S.C. § 102(e)(1); *see also Samsung Elecs Co., Ltd. v. Lynk Labs, Inc.*, IPR2022-00149,

⁸ Multimedia did not meet its burden to show that '805 patent is entitled to its provisional date. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1379 (Fed. Cir. 2015).

Paper 33 at 11 (June 26, 2023). Section 311(b) refers to § 102 and thus includes published patent applications under § 102(e)(1). Multimedia's reliance on *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1368, 1370 (Fed. Cir. 2019) (cited in Resp., 23) is inapposite, because *Infobridge* does not address published patent applications.

IX. Conclusion

The Board should find Challenged Claims 1-18 unpatentable.

Respectfully submitted,

Dated: December 3, 2024
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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner hereby certifies, in accordance with and reliance on the word count provided by the word-processing system used to prepare this Reply, that the number of words in this paper is 5,215.

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CERTIFICATE OF SERVICE

The undersigned certifies that, in accordance with 37 C.F.R. § 42.6(e),
service was made on Multimedia as detailed below.

Date of service December 3, 2024

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Documents served **PETITIONER'S REPLY TO PATENT OWNER'S
RESPONSE; Exhibits Ex.1020 – Ex.1024.**

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