

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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**SAMSUNG ELECTRONICS CO., LTD., AND  
SAMSUNG ELECTRONICS AMERICA, INC.**

Petitioners

v.

**MAXELL, LTD.**  
Patent Owner

*Inter Partes* Review No.: IPR2025-01308  
U.S. Patent No. 11,277,650

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

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| 1012        | "Wearable Sensing for Dynamic Management of Dense Ubiquitous Media," Laibowitz, M., Gong, N-W., and Paradiso, J.A., in the Proc. of the Sixth International Workshop on Wearable and Implantable Body Sensor Networks (BSN 2009), Berkeley, CA, June 3-5, 2009.              |
| 1013        | "Metaphor and Manifestation – Cross Reality with Ubiquitous Sensor/Actuator Networks," Lifton, J., Laibowitz, M., Harry, D., Gong, N.W., Mittal, M. and Paradiso, J.A., IEEE Pervasive Computing Magazine, July-September 2009 (Vol. 8, No. 3).                              |
| 1014        | "Experiences and Challenges in Deploying Potentially Invasive Sensor Systems for Dynamic Media Applications," Gong, N-W., Laibowitz, M., and Paradiso, J.A., in Proc. of the Cloud-Mobile Convergence for Virtual Reality Workshop (CMCVR 2010), Waltham MA, March 20, 2010. |
| 1015        | "Dynamic Privacy Management in Pervasive Sensor Networks," Gong, N-W., Laibowitz, M., and Paradiso, J.A., in Proc. of Ambient Intelligence (AmI) 2010, Malaga, Spain, 25-29 October 2010.                                                                                    |
| 1016        | "Multimedia Content Creation using Societal-Scale Ubiquitous Camera Networks and Human-Centric Wearable Sensing," Laibowitz, M., Gong, N-W., and Paradiso, J.A., in Proc. of ACM Multimedia 2010, Florence Italy, 25-29 October 2010.                                        |
| 1017        | "Gestures Everywhere: A Multimodal Sensor Fusion and Analysis Framework for Pervasive Displays," Nicholas Gillian, Sara                                                                                                                                                      |

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|             | Pfenninger, Spencer Russell, and Joseph Paradiso, in Proceedings of the International Symposium on Pervasive Displays, Copenhagen, June 2014.                                          |
| 1018        | Musical Zoo, Vimeo (Feb. 12, 2016), <a href="https://vimeo.com/155157756">https://vimeo.com/155157756</a> .                                                                            |
| 1019        | Channarukul, S., McRoy, S.W., and Ali, S.S., "MULTIFACE: multimodal content adaptations for heterogeneous devices," in proc. of ICMI '04, October 13, 2004.                            |
| 1020        | Robertson, S., Whaton, C., Ashworth, C., and Franzke, M., "Dual Device User Interface Design: PDAs and Interactive Television," in Proc. of the CHI '96 Conference, April 13-18, 1996. |
| 1021        | Lippman, A. and Kermode, R., "Media Banks: Entertainment and the Internet", IBM Systems Journal, Vol. 35, No. 3&4, 1996.                                                               |
| 1022        | Spinner. Responsive Environments.<br><a href="https://resenv.media.mit.edu/#Projects#spinner">https://resenv.media.mit.edu/#Projects#spinner</a> .                                     |
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| 1038        | IPR2024-00828, Paper 50 (Order Denying Patent Owner's Motion to Submit Supplemental Information)                                                                         |
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## **I. INTRODUCTION**

Patent Owner's Response (POR) fails because it depends entirely on the declaration of Dr. Pachamanov, and Dr. Pachamanov's deposition testimony confirms that his positions are untenable. On claim construction, Dr.

Pachamanov's deposition testimony confirmed that his construction would require the claimed system to operate in the precise manner the specification identifies as the problem to be eliminated, thereby excluding the '650 patent's own preferred embodiments. On the prior art, Dr. Pachamanov's deposition admissions regarding content granularity and device-specific processing foreclose Patent Owner's arguments that Shindo, Sasaki, and Futa fail to disclose the claimed limitations. Confronted with express disclosures from the prior art at deposition, Dr. Pachamanov was forced to retreat from key positions in his declaration. As demonstrated below, the Challenged Claims are unpatentable over each of the asserted grounds.

## **II. CLAIM CONSTRUCTION**

### **A. "a [second/third] display displaying the content"**

Patent Owner (PO) never expressly proposes a construction of "a [second/third] display displaying the content." Instead, PO and Dr. Pachamanov implicitly construed the claim in the context of applying it to prior art. *Google LLC v. EcoFactor, Inc.*, 92 F.4th 1049, 1056 (Fed. Cir. 2024) (finding that Board

performed implicit claim construction even though Board stated it was not engaging in claim construction). That implied construction placed requirements on this limitation that amount to a construction that is plainly incorrect. These requirements are:

(1) “‘the content’ displayed on the ‘second display’ [of a subsidiary terminal] is the same as what is displayed on the first display” (POR, 31; EX2014, ¶111); and

(2) the content displayed on the second display of a subsidiary terminal must be “one concurrently displayed program content” on first display of the main terminal (POR, 27-29; EX2014, ¶106).<sup>1</sup>

Dr. Pachamanov confirmed the temporal requirement at deposition. He testified that “the second display displays one of the contents simultaneously” and that it “displays one of the contents on the second display, yes, while the contents is present on the first display.” EX1044, 38:16-17, 38:24-39:1. He confirmed that subtitle data also “must be displayed concurrently on the main device.” EX1044, 123:13-23. Together, these two requirements mean that whatever content appears

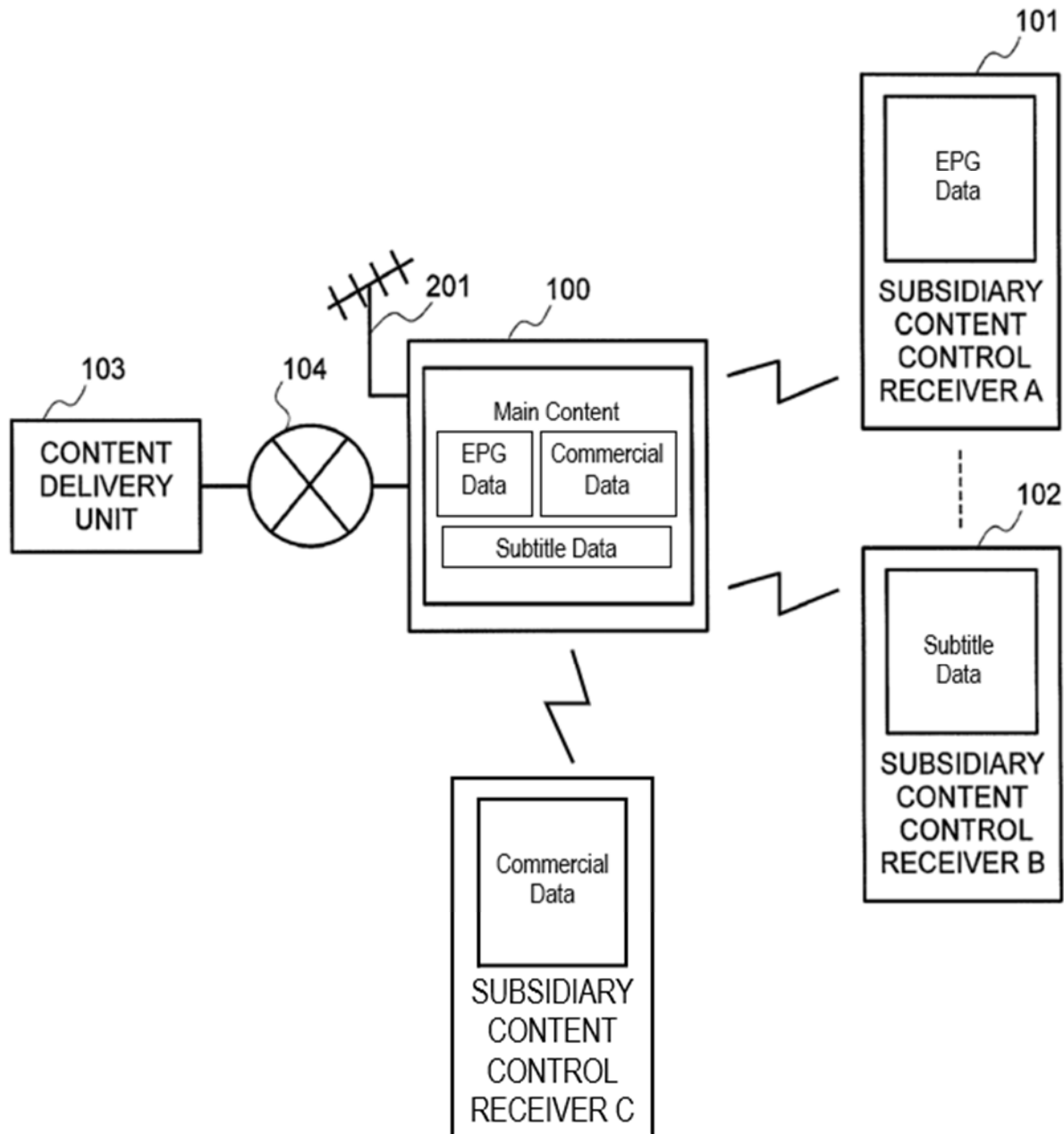
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<sup>1</sup> These two requirements are referred to herein as “Dr. Pachamanov’s construction.”

on a subsidiary terminal's display must be the same content that is concurrently displayed on the main terminal's first display.

Consider what this means in a system with multiple subsidiary terminals: under Dr. Pachamanov's construction, if subsidiary terminal A displays EPG data, that EPG data must be concurrently displayed on the main terminal's first display; if subsidiary terminal B displays subtitle data, that subtitle data must also be concurrently displayed on the main terminal's first display; and, if subsidiary terminal C displays commercial information, that commercial information must likewise be concurrently displayed on the main terminal's first display. The main terminal's first display must therefore concurrently show all of the content (i.e., the movie, the EPG data, the subtitle data (and presumably the video corresponding to the subtitle data), and the commercial information) at the same time:

**FIG.1** (Annotated)



EX1001, FIG. 1 (annotated). This problem only gets worse if additional subsidiary terminals are added. Dr. Pachamanov confirmed such in his deposition. When asked about a system where EPG1 is sent to subsidiary device 1, EPG2 to subsidiary device 2, and EPG3 to subsidiary device 3, he confirmed that all three

must be displayed on the main display at the same time, and that “[t]hat’s what the...claim requires.” EX1044, 114:19-24.

Dr. Pachamanov’s construction results in the precise system the ’650 patent was designed to improve upon by reducing clutter on the main terminal display. The specification identifies this problem explicitly: “if the main content and the subsidiary content are simultaneously displayed on a television receiver that is a typical receiving [main] terminal unit, each display area used to display each content becomes narrower, and accordingly it becomes relatively difficult for a user to view each content.” EX1001, 1:37-41. The entire purpose of the ’650 patent’s invention is to move subsidiary content off the main display and onto subsidiary terminals so that the main display is freed from clutter – not clutter the main terminal with subsidiary content as Dr. Pachamanov requires.

No disclosed embodiment, however, shows the system operating in the manner Dr. Pachamanov’s construction requires. To the contrary, every embodiment describes a system designed to avoid that result: the main terminal displays main content while subsidiary content is distributed to individual subsidiary terminals. The main terminal “displays the movie that is the main content” while a subsidiary terminal separately displays EPG data. EX1001, 4:19-29, 4:36-46 (“[T]he whole family members can enjoy video by use of the main content receiving display unit 100” while “it is possible to individually enjoy the

subsidiary content by use of the subsidiary content control receiver that can be possessed by each family member.”), 13:64-67.

As such, under Dr. Pachamanov's construction, a system that does exactly what the patent actually discloses—separating subsidiary content from the main display—fails to satisfy limitation [1j], because the subsidiary content is not displayed concurrently on the main display. As a result, Dr. Pachamanov's construction thus excludes the '650 patent's preferred embodiments.

Thus, Dr. Pachamanov's construction does not merely lack support in the specification; it requires the claimed system to operate in the precise manner the specification identifies as the problem to be eliminated.

Moreover, the plain language of the claim imposes no concurrent display requirement. Limitation [1j] recites only “a second display displaying the content.” It does not require that the content be displayed “concurrently,” “simultaneously,” or “while” the first display shows it, and no other language in claim 1 ties the operation of the second display temporally to the operation of the first display. Dr. Pachamanov conceded as much, acknowledging that “concurrently” is “more or less assumed from...the disclosure of Claim 1, the specific words in Claim 1.” EX1044, 86:14-16 (emphasis added). The plain language says nothing about what the main terminal's first display must show at the same time, and neither PO nor

Dr. Pachamanov identify any lexicography or disavowal that would support a concurrency limitation.

Therefore, the requirement that PO attempts to inject into the claim via its implicit construction, that “the content” displayed on the second/third display must be concurrently displayed on the first display, contradicts the specification, is not in the plain language of the claims, and therefore must be rejected.

### **B. Content**

PO further takes reference-specific positions on what qualifies as “one of the contents,” each calibrated to exclude the prior art at issue. Against Shindo, PO alleges that “one of the contents” must be “one concurrently displayed program content”—an entire program—and on that basis dismisses Shindo’s replays and highlights as mere portions of a broadcast. POR, 27-29; EX2014, ¶106. Against Sasaki, PO alleges that “one of the contents” must be “one electronic newspaper in its entirety,” and on that basis dismisses Sasaki’s segments as incomplete. POR, 45-46; EX2014, ¶147. In each instance, the threshold is set at precisely the level needed to exclude the reference under consideration.

Dr. Pachamanov’s deposition testimony forecloses both positions. He admitted that content has no minimum granularity. A single frame of video, he testified, “could be content...because it’s data.” EX1044, 100:11-15. Content “could be any of these things” depending on the level of abstraction. EX1044,

108:12-16. “[C]ontents’ could be any kind of data.” EX1044, 58:17-18, 45:10-11.

If a single frame of data qualifies as content, there is no principled basis for requiring “one of the contents” to be an entire program in one reference and an entire newspaper in another as alleged by PO and Dr. Pachamanov.

### **III. SHINDO RENDERS OBVIOUS THE CHALLENGED CLAIMS**

PO does not dispute that Shindo discloses a main display device and mobile information terminals, that the main device transmits program content to those terminals, or that the terminals display what they receive. PO’s opposition reduces to three contentions, each of which fails: (1) that Shindo’s replays and highlights are not “the contents;” (2) that Shindo does not satisfy the limitations because the transmitted content is not concurrently displayed on the main device; and (3) that Shindo “blindly” transmits content without associating particular content with particular devices. The first contention depends on the unreliable granularity positions addressed above in Section II(B); the second depends on the concurrent-display requirement addressed above in Section II(A); and the third is foreclosed by Shindo’s express disclosure and Dr. Pachamanov’s deposition testimony.

#### **A. Shindo’s Replays and Highlights Are “One of the Contents”**

PO contends that Shindo’s replays and highlights cannot be “one of the contents” required by limitations [1i], [4j] because they are “portions” or

“reconstructed” versions of a program rather than an entire program. POR, 28-29; EX2014, ¶106. That contention fails for two independent reasons.

First, the “entirety” requirement on which the contention rests is part of Dr. Pachamanov’s improper implied construction that the Board should reject for the reasons discussed above in Section II(A). The claim recites “one of the contents,” not “one entire program.” The Petition maps “one of the contents” to “one or more scenes of program content,” i.e., a sub-program unit, not an entire program. Pet. 17, 20. Dr. Pachamanov admitted that content has no minimum granularity: a single frame of video “could be content...because it’s data.” EX1044, 100:11-15. A replay or highlight, which comprises multiple frames and scenes of program content already displayed, is content under any reading consistent with that testimony. Shindo describes the replays and highlights as program content extracted from the broadcast and transmitted to the mobile terminal for display. EX1004, ¶¶33-38; Pet. 17-21. That is “one of the contents” and all that is required by the claims.

Second, PO’s “reconstruction” argument, that replays are generated from the program content rather than transmitted in unaltered form, does not change the analysis. A replay or highlight is assembled from the same program content that Shindo receives, accumulates, and uses; it consists of a subset of the frames and scenes of that program content. EX1004, ¶¶33-38; Pet. 19-21. Rearranging or

extracting a portion of that content does not transform it into something other than content. As Dr. Pachamanov admitted, content extends to the most granular level: a single frame “could be content...because it’s data.” EX1044, 100:11-15. A replay built from those frames remains content at every level, regardless of how the frames are selected or ordered. PO’s label of “reconstruction” describes how Shindo assembles the content; it does not establish that the assembled product ceases to be “one of the contents.”

PO’s arguments regarding limitations [1i], [4j] fail for at least these reasons.

**B. Shindo Need Not Concurrently Display the Transmitted Content on the Main Device**

PO contends that Shindo does not meet limitations [1j], [4k], and [4m] because the replay or highlight displayed on a mobile terminal is not concurrently displayed on the main device. POR, 29-32; EX2014, ¶¶108-112. This contention rises and falls with Dr. Pachamanov’s concurrent display construction, which is incorrect for the reasons set forth above in Section II(A). The claim requires only that the subsidiary terminal display the content routed to it; it imposes no requirement that the same content be concurrently displayed on the main device. As the Petition demonstrated, Shindo discloses that the mobile information terminal receives the transmitted program content and displays it on its display unit. EX1004, ¶¶42, ¶49, ¶53; Pet. 21-22. That satisfies the limitations. PO offers no

argument that Shindo fails these limitations under the correct construction, and there is none because Shindo's mobile terminals display the content they receive.

PO's arguments regarding limitations [1j], [4k], and [4m] fail for at least these reasons.

**C. Shindo Does Not “Blindly” Transmit Content; It Processes and Routes Content to Specific Terminals Using Terminal ID**

PO's remaining contention is that Shindo “blindly” transmits the same content “in a wholesale fashion” to every terminal sharing a mode, and therefore does not associate particular content with particular devices as required by limitations [1i]-[1k], [4i]-[4j], [4o]-[4p]. POR, 15, 25-26, 34; EX2014, ¶88, ¶103, ¶116. Shindo's express disclosure and Dr. Pachamanov's own testimony refute that characterization.

For starters, Shindo does not transmit an undifferentiated stream to all terminals. Before transmitting, the accumulation video processing unit “inquires of the mobile information terminal management unit 106 about the information of the mobile information terminal A, and processes the stream according to the mobile information terminal,” adapting it to that terminal's “display size=2.5, resolution=345×456, and encode=mpeg4,” and then “sends the stream to the mobile information terminal A according to the terminal information.” EX1004, ¶49; Pet. 22, 31-32. The content sent to a given terminal is thus processed for that terminal and transmitted to that terminal based on that terminal's stored

information. Dr. Pachamanov admitted this at deposition, acknowledging that Shindo “processes the stream according to the mobile information terminal” and prepares the content to send to the device. EX1044, 132:1-133:6. This is device-specific processing and transmission, which is the opposite of “blind.” Notably, this is the same type of operation the ’650 patent describes, with the main terminal acquiring the subsidiary terminal’s resolution and processing capabilities and converting the content to match before transmission. EX1001, 4:58-5:5; 7:46-52.

Confronted with paragraph 49 of Shindo at deposition, Dr. Pachamanov retreated from his “blind transmission” theory in his declaration. Whereas his declaration asserted that Shindo transmits content “in a wholesale fashion” without regard to the receiving terminal (EX2014, ¶88, ¶116), he conceded at his deposition that “blindly” referred only to how Shindo selects content for transmission and not to how the content is processed and transmitted. EX1044, 147:24-149:7 compared with 129:20-24. He acknowledged that the processing and transmission steps are, in fact, performed for the specific terminal based on that terminal’s information. That concession removes the foundation for the argument attempting to characterize Shindo as being different from the claimed invention.

PO also contends that Shindo cannot satisfy the “association information” limitations because terminal ID 20 “is not used for any comparison and has no significance” and is “never referred to in any association functions.” POR, 23-24,

38; EX2014, ¶100, ¶135. This is entirely incorrect. As the Petition explained, the association information is the trigger information, index information, and management information working in conjunction to associate a particular device with particular content. Pet. 17-21. The management information includes terminal ID 20, and Shindo uses that terminal ID when the main device sends content to the terminals: the system determines, by reference to the management information for a given terminal, whether that terminal has requested a supported mode, and then transmits the corresponding content to that terminal. EX1004, ¶20, ¶28, ¶¶33-40, ¶57, FIGS. 4, 7, 9; Pet. 17-21. Terminal ID 20 is also part of management information 19, which provides accumulation video processing unit 104 with information related to the display size, resolution, and encoding schema associated with a given terminal ID 20. EX1004, ¶49, ¶40; Pet. 20-21, 25-27. Terminal ID 20 is therefore not “irrelevant;” it is the device-specific identifier through which the management information is maintained and the content is directed to the correct terminal.

PO's arguments regarding limitations [1i]-[1k], [4i]-[4j], [4o]-[4p] fail for at least these reasons.

#### **IV. SASAKI RENDERS OBVIOUS THE CHALLENGED CLAIMS**

PO's opposition to Ground 2 rests on three contentions: that the Petition does not identify a controller configured to store association information; that

Sasaki's content segments are not "one of the contents;" and that Sasaki's delimiter information is not the claimed "association information." POR, 41-53; EX2014, ¶¶141-163. Each fails.

**A. The Petition Identifies CPU 101—Not the Display Controller—as the First Controller**

Regarding limitations [1h]/[4i], PO contends that "while there is disclosure of a 'display controller' in Sasaki, Petitioner does not point to any evidence of a controller that is configured to store association information." POR, 41-42; EX2014, ¶143. This mischaracterizes the Petition. The Petition identifies CPU 101—not display controller 104—as the claimed first controller. Pet. 41-43. The Petition demonstrated that CPU 101 controls transmission and reception with the PDAs, stores device-specific terminal identification information, stores content identification information, and stores delimiter information. Pet. 41-48; EX1006, ¶¶52-53, ¶55, ¶57 ¶¶64-65, ¶68, ¶70, ¶72, ¶¶77-78, ¶¶99-100, ¶124, ¶¶126-130, ¶¶138-139, ¶142. Display controller 104 is referenced in the Petition only as a component connecting a display; it was never mapped to any claim limitation. Pet. 41. PO's contention attacks an argument the Petition did not make.

**B. Sasaki's Content Segments Are "One of the Contents"**

Regarding limitations [1h]-[1i], [4i]-[4j], PO contends that "one of the contents" must be "one electronic newspaper in its entirety—not a shortened version," and on that basis argues that Sasaki's segments (articles, paragraphs,

chapters, or lines of an electronic newspaper) cannot satisfy the limitation. POR, 43-46; EX2014, ¶¶146-148. This contention depends on the same unsupported entirety requirement addressed above in Section II(B). As the Petition explained, Sasaki's CPU 101 uses delimiter information to transmit "one of the contents (e.g., lines of an electronic newspaper)" to a PDA. Pet. 46-49. Dr. Pachamanov admitted that content has no minimum granularity: a single frame of video "could be content...because it's data." EX1044, 100:11-15. If a frame is content, then an article, paragraph, chapter, or line of an electronic newspaper is content. Dr. Pachamanov offered no principled basis for requiring "one of the contents" to be an entire newspaper while simultaneously admitting that content extends to the level of a single frame of data. The Board should disregard this position for the reasons set forth in Section II(B).

Moreover, even under Dr. Pachamanov's flawed construction, Sasaki renders this limitation obvious. Sasaki contemplates that even though a type of content such as a newspaper or novel may be divided into sections for sequential transmission due to memory limitations of the receiving device, the entire work can be eventually be downloaded. *E.g.*, EX1006, ¶142 ("the user of the PDA 2 can receive all the information distributed, even if the content as a whole is larger than the free memory capacity"); ¶74 ("in the case of a novel, when a user finishes reading a page, he or she will usually want the next page to be delivered"). This is

similar to the way in which video is streamed, which Dr. Pachamanov admitted involves sending successive portions of video to a recipient as previous portions are read from the recipient's input buffer and displayed to the user. EX1044, 106:16-107:17.

**C. Sasaki's Delimiter Information Is the Claimed Association Information**

Regarding limitations [1h]-[1j], [4i]-[4j] PO contends that Sasaki's delimiter information is merely a "bookmark" for managing the PDA's limited storage capacity and does not function as the claimed "association information." POR, 16-17, 41-49; EX2014, ¶¶90, ¶¶144-155. This contention conflates the purpose of the stored information with its structure. The claim requires that the first controller store "association information for transmitting one of the contents to one of the subsidiary terminals" and that the association information "defines that one of the contents identified by the content information is associated with one of the device specific ID information."

Sasaki's delimiter information satisfies this structural requirement. As the Petition demonstrated, CPU 101 stores delimiter information "for each terminal identification information of each PDA 2" in correspondence with the "content identification information" of the content previously distributed to that PDA. EX1006, ¶¶52-53, ¶57, ¶72, ¶¶77-78, ¶¶129-139, ¶142; Pet. 46-49. The system "stores and manages the delimiter information in association with the content

identification information and the distribution requester identification information such as the terminal identification information of the PDA 2.” EX1006, ¶142. This is a stored association between the delimiter on the one hand and both the content (identified by content identification information) and a specific device (identified by terminal identification information) used to determine what content to transmit next to that device. That is what the claim requires.

In particular, limitation [1i] requires that “the association information defines that one of the contents identified by the content information is associated with one of the device specific ID information.” The '650 Patent does not define “association information.” At best, the specification illustrates the concept with the table structure in Figure 8, which associates subsidiary terminals with request information and IP addresses. EX1001, 14:51-16:3, FIG. 8. Sasaki's delimiter information satisfies this requirement. Sasaki expressly discloses that “the terminal distribution server device stores the delimiter information...in association with distribution request source identification information such as the terminal identification information...of the personal digital assistant.” EX1006, ¶19. The delimiter information is thus stored in correspondence with both the content identification information (identifying the content) and the terminal identification information (the device-specific ID), such that the delimiter information defines the association between the two. EX1006, ¶77, ¶139, ¶142

PO's observation that Sasaki uses this mapping to manage storage constraints rather than to personalize content distribution is irrelevant to the claim analysis. The claim recites "association information for transmitting one of the contents to one of the subsidiary terminals." It does not recite "association information for personalizing content." If the stored information associates identified content and a device-specific terminal identification, which Sasaki's delimiter information does, the limitation is satisfied regardless of why the association exists. PO reads a purpose limitation into the claim that the claim does not contain. Moreover, managing the content distribution for a particular terminal's storage constraints is a form of personalization.

PO's arguments regarding limitations [1h]-[1j], [4i]-[4j] fail for at least these reasons.

## **V. FUTA RENDERS OBVIOUS THE CHALLENGED CLAIMS**

PO's opposition to Ground 3 rests on three contentions: that Futa's judgment tables are not the claimed "association information"; that there is no motivation to combine Futa and McClellan; and that the combination lacks the "dynamic cross-routing" required by claim 4. POR, 59-70; EX2014, ¶¶185-215. Each fails.

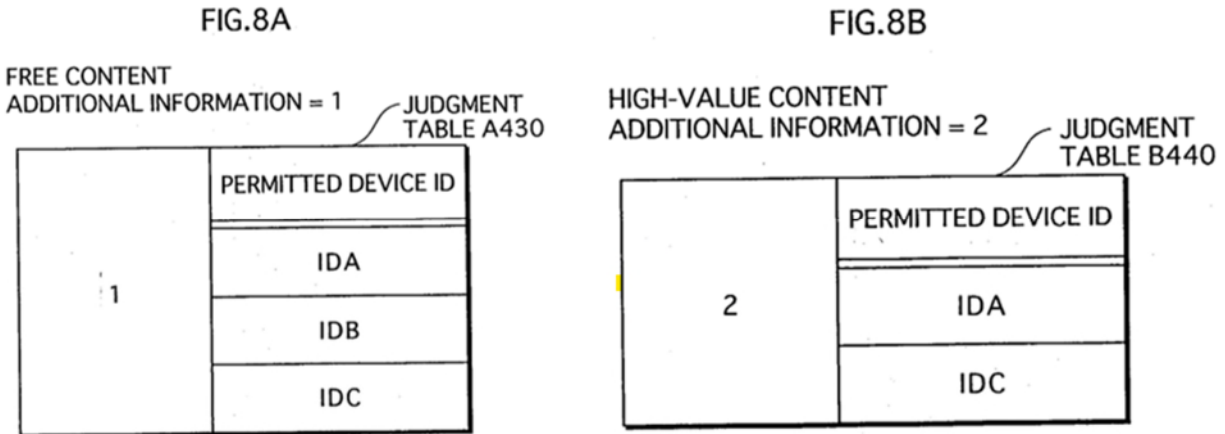
### **A. Futa's Judgment Tables Are the Claimed Association Information**

Regarding limitation [1h]-[1j], [4i]-[4j], PO contends that Futa's judgment tables are merely "permission/authorization filter[s]" that check whether a device

is allowed to receive a category of content, and do not constitute the claimed

“association information.” POR, 59-63; EX2014, ¶¶188-194. This contention fails for the same reason identified in connection with Sasaki: PO conflates the purpose of the stored information with its structure.

The judgment tables store device IDs in correspondence with content categories. Table A stores device IDs permitted to receive content with additional information “1”; table B stores device IDs permitted to receive content with additional information “2.” EX1009, ¶169, ¶171, ¶¶176-180, ¶¶205-207, ¶¶211-212, FIG. 11; Pet. 73-76. When content is requested, the communication controlling unit 407 reads the additional information from the content, selects the corresponding judgment table, and determines whether the requesting device's ID is included. EX1009, ¶¶211-212; Pet. 74-76. This is a stored mapping between content (identified by additional information) and devices (identified by device ID) that determines whether content is transmitted to a particular device. The claim requires “association information” that “defines that one of the contents identified by the content information is associated with one of the device specific ID information.” Futa's judgment tables define exactly that:



EX1009, FIGS. 8A-8B (showing a content category (e.g., free content, high value content), identified by additional information (e.g., 1, 2), is associated with specific device IDs (e.g., IDA, IDB, IDC) stored in the table (judgment table A430, B440).

PO characterizes Futa as a “blind permission authorization filter.” POR, 63. This is the same mischaracterization PO applied to Shindo, which it labeled “blind transmission.” In both cases, PO uses the label “blind” to obscure the disclosed device-specific routing. The claim does not require that the association information serve any particular purpose beyond defining the association between content and device ID for purposes of transmission. Futa’s judgment tables serve that function. PO’s arguments regarding limitations [1h]-[1j], [4i]-[4j] fail for at least these reasons.

## **B. Motivation to Combine Futa and McClellan**

PO contends that McClellan is non-analogous art and that a person of ordinary skill would not have been motivated to combine it with Futa. POR, 19,

59. As noted in the Petition, McClellan discloses a set-top box integrated into a television. Pet. 63-65. Set-top boxes are in the same field as the '650 patent's content receiving system: both involve television systems that receive content and deliver it to a display. EX1001, 1:24-26 ("Part of the present invention relates to technologies for receiving video content through two-way broadcasting, for example, through a digital broadcast wave and/or a network."); EX1010, Abstract ("A set top box for digital audio/video interactive decoding in an interactive television system is disclosed"). Modifying Futa's system by moving its components (broadcast receiving device 10, data-communication controlling device 40) into a television system (as taught by McClellan) is a predictable combination of known components yielding a predictable result: a television that includes an integrated set-top box. Pet. 64-65. PO offers no analysis to the contrary.

**C. Limitations [1j], [4k], [4m], [4o], and [4p] Are Met**

PO's arguments on limitations [1j], [4k], and [4m] depend on the concurrent display construction rejected in Section II(A). POR, 66-69. Under the correct construction, these limitations are satisfied because the subsidiary terminals display the content routed to them. Pet. 76, 86.

PO further contends that Futa's judgment table is a "static permission filter" incapable of the "dynamic cross-rout[ing]" required by limitations [4o] and [4p].

POR, 69; EX2014, ¶215. But the judgment tables do route different content to different devices. Table A associates certain device IDs with content category 1; table B associates certain device IDs with content category 2; a device whose ID appears in both tables may receive both categories; a device whose ID appears in only one may receive only that category. EX1009, ¶¶169-172, ¶¶178-180. The result is that different content is routed to different devices based on stored mappings, which is what limitations [4o] and [4p] require. The claim does not impose a dynamic reversibility requirement, and PO identifies no such language in the claim.

PO's remaining arguments on claims 2-4 depend on the same deficiencies in claim 1 and fail for the same reasons. Pet. 82-86.

## **VI. PATENT OWNER'S ATTACK ON DR. PARADISO IS WITHOUT MERIT**

PO devotes two pages to arguing that Dr. Paradiso is biased because Samsung is a "member company" of the MIT Media Lab, contributing an annual fee. POR at 11-13. This argument is without merit. Samsung is one of many institutional members funding the Media Lab as a whole. Dr. Paradiso testified that member companies fund "research at the Media Lab as a whole" and not his individual research or personal compensation. EX2016, 13:23-15:10. PO identifies no evidence that Samsung directed or influenced Dr. Paradiso's retention in this proceeding.

The Board should evaluate Dr. Paradiso's opinions on their technical merits.

PO's bias argument is a distraction from the substantive deficiencies in its own expert's analysis as confirmed by Dr. Pachamanov's deposition testimony, set forth above.

## **VII. PATENT OWNER WAIVED ARGUMENTS BY FAILING TO ADDRESS THEM**

Under 37 C.F.R. § 42.23(a), a patent owner's failure to address an argument raised in a petition results in waiver of any opposition to that argument. The POR selectively contested only certain claim limitations under each ground while leaving substantial portions of the Petition's analysis entirely unaddressed. The Board should deem those unaddressed arguments waived and find the corresponding limitations met by the prior art as set forth in the Petition.

### **A. Claim Construction of "First Controller," "Second Controller," "Third Controller"**

The Petition argued that the terms "first controller," "second controller," and "third controller" in Claims 1 and 4 do not invoke means-plus-function because they do not recite "means," and should therefore receive their plain and ordinary meaning. Pet. 4; EX1002, ¶¶55-57. PO does not contest this construction. POR, 6-11 (addressing only "a [second/third] display displaying the content"). Patent Owner has therefore waived any argument that these terms should be construed as

means-plus-function limitations or given any construction other than their plain and ordinary meaning.

**B. Ground 1 (Shindo): Uncontested Limitations**

Under Ground 1, PO contested only limitations [1i], [1j], and [1k] of Claim 1, and limitations [4j] through [4p] of Claim 4. POR, 20-41. PO did not contest the Petition's showing on the following Claim 1 limitations: [1pre] (contents reproducing system), [1a] (main terminal), [1b] (plurality of subsidiary terminals), [1c] (storage storing contents), [1d] (first display displaying the contents), [1e] (first controller controlling transmission/reception), [1f] (store device specific ID information), [1g] (store content information), [1h] (store association information), and [1l] (main terminal determines connection and transmits content based on association information). PO has waived any opposition to the Petition's demonstration that Shindo discloses each of these limitations.

PO also did not contest the Petition's showing on Claim 4 limitations [4pre] through [4i]. These limitations were demonstrated based on the same disclosures as the corresponding Claim 1 limitations. PO has waived any opposition to the Petition's demonstration that Shindo discloses these Claim 4 limitations.

**C. Ground 2 (Sasaki): Uncontested Limitations**

Under Ground 2, PO contested only limitations [1h], [1i], [1j], and [1l] of Claim 1. POR, 41-58. Patent Owner did not contest the Petition's showing on the

following Claim 1 limitations: [1pre], [1a], [1b], [1c], [1d], [1e], [1f], [1g], and [1k] (second controller controlling transmission/reception with the main terminal).

Patent Owner has waived any opposition to the Petition's demonstration that Sasaki discloses each of these limitations.

For Claim 4 under Ground 2, Patent Owner contested limitations [4i], [4j], [4k], [4m], [4o], and [4p]. POR, 53-58. PO did not contest the Petition's showing on limitations [4pre] through [4h], [4l], or [4n]. PO has waived any opposition to those uncontested Claim 4 limitations.

**D. Ground 3 (Futa and McClellan): Uncontested Limitations**

Under Ground 3, Patent Owner contested only the motivation to combine, limitations [1h], [1i], and [1l] of Claim 1, and limitations [4i], [4j], [4o], and [4p] of Claim 4. POR, 59-70. Patent Owner did not contest the Petition's showing on the following Claim 1 limitations: [1pre], [1a], [1b], [1c], [1d], [1e], [1f], [1g], [1j], and [1k]. Patent Owner has waived any opposition to the Petition's demonstration that the Futa-McClellan combination discloses each of these limitations.

For Claim 4 under Ground 3, Patent Owner did not contest the Petition's showing on limitations [4pre] through [4h], [4k] through [4n]. Patent Owner has waived any opposition to those uncontested Claim 4 limitations.

In sum, across all three grounds, Patent Owner elected to contest only a narrow subset of the Petition's claim limitation analyses. The Board should treat all

unaddressed limitations as conceded and find each met by the prior art as demonstrated in the Petition.

## VIII. CONCLUSION

All Challenged Claims should be found unpatentable.

Dated: July 2, 2026

Respectfully submitted,

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**CERTIFICATE OF WORD COUNT**

Pursuant to 37 C.F.R. § 42.24(d), Petitioners certify that this Reply includes 5,053 words, as measured by Microsoft Word, exclusive of the table of contents, mandatory notices under § 42.8, certificates of service, word count, claim listing, and exhibits.

Date: July 2, 2026

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**CERTIFICATE OF SERVICE**

The undersigned certifies pursuant to 37 C.F.R. §§ 42.6(e) and 42.105 that on July 2, 2026, a true and correct copy of the Petitioner's Reply was served by emailing a copy of the same (by agreement) to the following attorneys for the Patent Owner:

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A courtesy copy was sent to the below counsel via electronic mail:  
maxell-samsung-service@mayerbrown.com and  
PTABInbound@mayerbrown.com.

Dated: July 2, 2026

Respectfully Submitted,

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