

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

HANSHOW AMERICA INC. and HANSHOW TECHNOLOGY CO., LTD.  
Petitioner,

v.

SES-IMAGOTAG GMBH,  
Patent Owner.

---

Case No. IPR2024-00188  
U.S. Patent No. 11,405,669

---

**PATENT OWNER'S PRELIMINARY RESPONSE**

## TABLE OF CONTENTS

|      |                                                                                                                                                                          |    |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| I.   | INTRODUCTION .....                                                                                                                                                       | 1  |
| II.  | BACKGROUND .....                                                                                                                                                         | 3  |
| A.   | Overview of the Technology.....                                                                                                                                          | 3  |
| B.   | Overview of the ’669 Patent.....                                                                                                                                         | 4  |
| C.   | Prosecution History of the ’669 Patent. ....                                                                                                                             | 7  |
| D.   | Asserted Prior Art References.....                                                                                                                                       | 9  |
| 1.   | Swafford.....                                                                                                                                                            | 9  |
| 2.   | Masumoto.....                                                                                                                                                            | 11 |
| 3.   | Kipp.....                                                                                                                                                                | 14 |
| 4.   | Takashi .....                                                                                                                                                            | 16 |
| III. | PETITIONER HAS NOT ESTABLISHED A REASONABLE<br>LIKELIHOOD OF SUCCESS IN SHOWING THAT ANY CLAIM<br>IS UNPATENTABLE .....                                                  | 17 |
| IV.  | INSTITUTION SHOULD BE DENIED ON ALL GROUNDS.....                                                                                                                         | 19 |
| A.   | The Petition fails to specify where the “communication stage”<br>can be found in the asserted prior art. ....                                                            | 19 |
| B.   | Masumoto does not teach all of limitation [1.3]. ....                                                                                                                    | 24 |
| 1.   | Masumoto’s Master Display Does Not Transmit Video<br>Playback Progress-Data as Recited in [1.3b].....                                                                    | 24 |
| 2.   | Masumoto’s Master Display Does Not Determine<br>Whether It Is in a Synchronous or Asynchronous<br>Playback Progress with the Other Devices as Recited in<br>[1.3c]. .... | 27 |
| 3.   | Masumoto’s Non-Master Displays Do Not Receive<br>Progress Data or Determine Whether They Are in a                                                                        |    |

Synchronous or Asynchronous Playback Progress with  
the Other Devices as Recited in [1.3c]. .....29

V. GROUND 1: PETITIONER FAILS TO SHOW THAT A POSITA  
WOULD HAVE REASON TO MODIFY SWAFFORD TO  
INCLUDE THE FEATURES OF MASUMOTO .....31

VI. GROUND 2: PETITIONER FAILS TO SHOW THAT A POSITA  
WOULD HAVE REASON TO MODIFY MASUMOTO WITH KIPP  
AND TAKASHI .....37

VII. THERE IS NO GOOD CAUSE FOR A PRE-INSTITUTION REPLY .....41

VIII. CONCLUSION.....42

## TABLE OF AUTHORITIES

|                                                                                                            | Page(s)    |
|------------------------------------------------------------------------------------------------------------|------------|
| <b>FEDERAL CASES</b>                                                                                       |            |
| <i>ActiveVideo Networks, Inc. v. Verizon Comms., Inc.</i><br>694 F.3d 1312 (Fed. Cir. 2012) .....          | 23, 40, 41 |
| <i>Adidas AG v. Nike, Inc.</i> ,<br>963 F.3d 1355 (Fed. Cir. 2020) .....                                   | 37         |
| <i>Advanced Lighting Concepts, LLC v. Mate LLC</i> ,<br>IPR2023-01266, Paper 9 (Feb. 13, 2024) .....       | 19         |
| <i>Arendi S.A.R.L. v. Apple Inc.</i> ,<br>832 F.3d 1355 (Fed. Cir. 2016) .....                             | 19         |
| <i>Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.</i> ,<br>821 F.3d 1359 (Fed. Cir. 2016) .....  | 23         |
| <i>KSR Int'l Co. v. Teleflex Inc.</i> ,<br>550 U.S. 398 (2007) .....                                       | 18         |
| <i>Millennium Pharms., Inc. v. Sandoz Inc.</i> ,<br>862 F.3d 1356 (Fed. Cir. 2017) .....                   | 19         |
| <i>Netflix, Inc. v. DivX, LLC</i> ,<br>84 F.4th 1371 (Fed. Cir. 2023) .....                                | 23         |
| <i>Ontel Prods. Corp. v. Guy A. Shaked Invs. Ltd.</i> ,<br>IPR2020-01703, Paper 10 (Feb. 4, 2021) .....    | 41         |
| <i>SMIC, Ams. v. Innovative Foundry Techs., LLC</i> ,<br>IPR2020-00837, Paper 13 (Oct. 9, 2020) .....      | 18         |
| <i>United Servs. Auto. Ass'n v. Auto Telematics Ltd.</i> ,<br>IPR2023-00770, Paper 10 (Nov. 7, 2023) ..... | 19         |
| <i>Xerox Corp. v. Bytemark, Inc.</i> ,<br>IPR2022-00624, Paper 9 (Aug. 24, 2022) .....                     | 36, 40, 41 |

**FEDERAL STATUTES**

35 U.S.C. § 103 .....18

35 U.S.C. § 314.....3, 18, 27

**REGULATIONS**

37 C.F.R. § 42.104 .....19

### LISTING OF CHALLENGED CLAIMS

| Reference | Claim limitation                                                                                                                                                                                                                                                                                              |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [1.0]     | A video playback system (1), comprising                                                                                                                                                                                                                                                                       |
| [1.1]     | a number of playback devices (6A, 6B) to playback a video on their screens (5),                                                                                                                                                                                                                               |
| [1.2]     | each playback device (6A, 6B) comprises a memory to store video data (9) representing said video,                                                                                                                                                                                                             |
| [1.3a]    | and a communication stage to communicate data with each other, wherein the devices (6A, 6B) are designed:                                                                                                                                                                                                     |
| [1.3b]    | to transmit video playback progress-data via the communication stage to the other device (6B, 6A); and,                                                                                                                                                                                                       |
| [1.3c]    | to determine based on the received progress data whether it is in a synchronous or asynchronous playback progress with the other devices (6B, 6A);                                                                                                                                                            |
| [1.4]     | wherein the display devices (6A, 6B) are designed to display product information or product price related information by means of virtual electronic shelf labels displayed within a section of a screen's (5) display area overlapping with a video content or substituting a video content of said section. |
| [2.0]     | The system (I) <sup>1</sup> according to claim 1,                                                                                                                                                                                                                                                             |
| [2.1]     | comprising a video distribution server (7) for distribution of the video data (9) to the devices (6A, 6B), in particular the entire video data (9) of a video upfront to playback start at the devices (6A, 6B).                                                                                              |
| [3.0]     | The system (1) according to claim 1,                                                                                                                                                                                                                                                                          |
| [3.1]     | wherein the devices (6A, 6B) are designed to determine independently from a video distribution server (7) which distributed the video data (9) to the devices (6A, 6B) that they are in a synchronous or asynchronous playback progress.                                                                      |
| [4.0]     | The system (1) according to claim 1,                                                                                                                                                                                                                                                                          |

---

<sup>1</sup> Patent Owner notes this dependently-claimed element reflects a typographical error in the patent language; the “system (I)” identified by Roman numeral refers to the same “system (1)” identified by Western Arabic numeral in independent claim limitation [1.0].

|        |                                                                                                                                                                                                                                                                                                                                                |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [4.1]  | wherein the devices (6A, 6B) are designed: to playback compressed video data (9) that are structured in frames labeled by frame numbers, and to utilize a frame number that labels the frame that is currently played back as the progress-data to be transmitted.                                                                             |
| [5.0]  | The system (I) <sup>2</sup> according to claim 4,                                                                                                                                                                                                                                                                                              |
| [5.1]  | wherein each device (6A, 6B) is designed to compare a frame number received with a frame number of the frame currently played back at the device (6A, 6B) and to determine an asynchronous playback progress if the difference in the frame numbers compared with each other exceeds a pre-determined threshold value.                         |
| [6.0]  | The system (1) according to claim 1,                                                                                                                                                                                                                                                                                                           |
| [6.1]  | wherein each device (6A, 6B) is designed to repeatedly transmit the progress-data, preferred in a periodic manner, more preferred every second.                                                                                                                                                                                                |
| [7.0]  | The system (1) according to claim 1,                                                                                                                                                                                                                                                                                                           |
| [7.1]  | wherein each device is designed to broadcast adjustment data for adjusting the playback progress of the devices (6A, 6B) over its communication stage if it detects an asynchronous playback progress.                                                                                                                                         |
| [8.0]  | The system (1) according to claim 7,                                                                                                                                                                                                                                                                                                           |
| [8.1]  | wherein each device (6A, 6B) is designed to embed the adjustment data in a synchronization command.                                                                                                                                                                                                                                            |
| [9.0]  | “The system (1) according to claim 8,                                                                                                                                                                                                                                                                                                          |
| [9.1]  | wherein each device (6A, 6B) is designed to receive the adjustment data and to adjust its playback progress according to the adjustment data, in particular to continue its playback of compressed video data that are structured in frames labeled by frame numbers with the frame number received in the broadcast of the adjustment data.   |
| [10.0] | The system (1) according to claim 7,                                                                                                                                                                                                                                                                                                           |
| [10.1] | wherein each device (6A, 6B) is designed: to receive the adjustment data; and to adjust its playback progress according to the adjustment data, in particular to continue its playback of compressed video data that are structured in frames labeled by frame numbers with the frame number received in the broadcast of the adjustment data. |
| [11.0] | The system (1) according to claim 1,                                                                                                                                                                                                                                                                                                           |
| [11.1] | wherein the communication stage is designed to use UDP multicast                                                                                                                                                                                                                                                                               |

---

<sup>2</sup> See *supra* note 1.

|        |                                                                                                                                                                                          |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | data packets for the communication.                                                                                                                                                      |
| [12.0] | The system (1) according to claim 1,                                                                                                                                                     |
| [12.1] | wherein each display device (6A, 6B): comprises its screen (5) or a number of screens (5), or is connected to its external screen (5) or a number of screens (5) to be controlled by it. |
| [13.0] | The system (1) according to claim 1,”                                                                                                                                                    |
| [13.1] | wherein said screen (5) is designed to realize a shelf rail (4) or part of it, or to cover a front of a shelf rail (4) or a part of it to which it is attachable.                        |
| [14.0] | The system (1) according to claim 1,                                                                                                                                                     |
| [14.1] | wherein the system realizes a video playback enabled electronic shelf label system.                                                                                                      |
| [15.0] | A use of the system (1) according to claim 1 as video playback enabled electronic shelf label system for the playback of synchronized video content for a number of shelf rails (4),     |
| [15.1] | wherein each of said shelves rails (4) is realized by a screen (5) or carries a screen (5).                                                                                              |

## I. INTRODUCTION

Petitioner challenges the patentability of claims 1–15 (of which only claim 1 is independent) of U.S. Patent No. 11,405,669 (Ex. 1001, “the ’669 Patent”). For Ground 1, Petitioner offers a combination of Swafford and Masumoto, and for Ground 2, Petitioner offers a combination of Masumoto, Kipp, and Takashi. Neither ground establishes a reasonable likelihood that any claim of the ’669 Patent is invalid for, at least, three reasons.

First, Petitioner fails to address the requirement of a “communication stage” in limitation [1.3]. Claim limitation [1.3a]<sup>3</sup> recites that the playback devices comprise “*a communication stage to communicate data with each other,*” and [1.3b] recites “wherein the devices (6A, 6B) are designed: to transmit video playback progress-data *via the communication stage* to the other device (6B, 6A).” Yet, the Petition does not address this requirement in either ground. Neither ground points to—or offers explanation of—where the supposed communication stage can be found in any of its references, eliding the claims’ requirement of a “communication

---

<sup>3</sup> Except for limitation [1.3], Patent Owner adopts Petitioner’s element numbering and paragraphing for simplicity (*see* Petition iv). Patent Owner breaks [1.3] into three separate elements, namely [1.3a], [1.3b], and [1.3c] as shown in Patent Owner’s claim listing above.

stage” altogether. And aside from regurgitating the claim limitations and offering conclusions that they are met, neither the Petition nor the supporting expert declaration even use the term “communication stage,” much less explain where the required “communication stage” can be found.

Second, Petitioner misapplies the asserted art. For both grounds, Petitioner relies on Masumoto to teach claim limitation [1.3]. But Masumoto discloses a fundamentally different system than that recited in the '669 Patent and indisputably does not teach [1.3]. This is so because while claim limitation [1.3] requires “playback devices” that are designed to “transmit video playback progress-data” to the other playback device and “to determine based on the received progress data whether it is in a synchronous or asynchronous playback,” Masumoto teaches a centralized system with a single “master display” that controls timing. Ex. 1005 (“Masumoto”), [0076], [0088], [0099], [0108]. The single master display “calculates a desired frame number” for all of the displays it controls and does not transmit its video playback-progress data to the other displays. *Id.*, [0108]; *see also id.*, [0081], [0088], [0099], [0110], [0113], [0117], FIG. 9. Petitioner does not mention—much less explain—when or how Masumoto’s master display transmits its own frame number or determines whether it is in sync with other displays as required by [1.3], because it does no such thing. As both Grounds 1 and 2 rely on Masumoto for this claim limitation, both necessarily fail.

Third, Petitioner offers little more than bare conclusions to support its supposed motivations to combine Swafford with Masumoto, or Masumoto with Kipp and Takashi. These references address fundamentally different technology, and the Petition offers no evidence of why a POSITA would be motivated to combine these disparate references to teach all of the limitations of any claim of the '669 Patent.

The Petition fails to establish a reasonable likelihood that Petitioner will prevail as to at least one claim under 35 U.S.C. § 314(a). The Board should, therefore, deny institution.

## **II. BACKGROUND**

### **A. Overview of the Technology.**

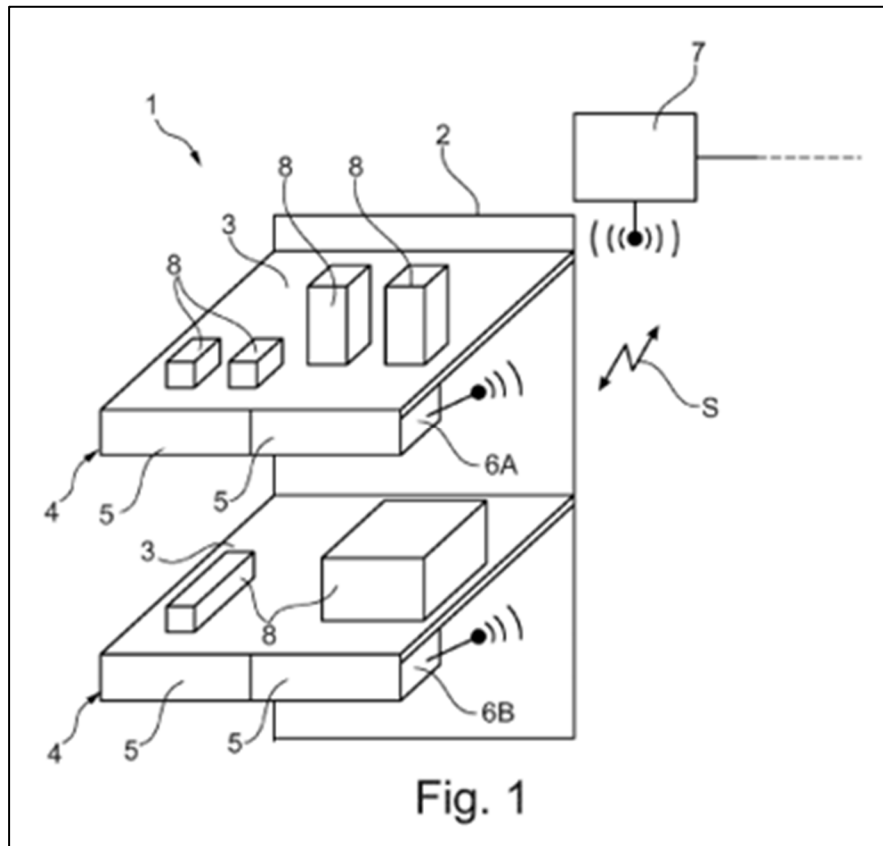
In retail stores, goods are displayed on shelves; the front of the shelves (*i.e.*, rails) may include labels displaying information about the goods (*e.g.*, price). For example, a grocery store shelf containing eggs might include a label on the shelf rail identifying the brand of eggs, the number of eggs in each carton, and the price of each carton. If the store decides to instead display cheese in this location, the existing label for eggs on the shelf rail would be replaced with a new label providing information about the cheese now in that location.

Electronic shelf label systems are used in place of traditional shelf labels in retail stores. Ex. 1001, 4:44–48. Electronic shelf labels display the information

traditionally printed on paper labels and can be updated automatically. They can also display advertising through images and video to enhance the shopping experience. But this requires synchronizing the display of the electronic shelf labels. At the time of the '669 invention, existing playback systems used a hub-and-spoke type system to synchronize video. Such systems streamed “just in time” video to devices and synchronized the playback of that video using a “highly precise and system wide timing signal” from the server or “synchronized clock signal” from “within the playback devices.” *Id.*, 1:20–36. These prior systems had significant drawbacks, including expensive implementation hardware, high bandwidth requirements, and reliance on precise server-synchronized clock signals to ensure the server-streamed video buffers correctly. *Id.*

#### **B. Overview of the '669 Patent.**

The '669 Patent approached the problem differently than the prior art by enabling a simpler “video playback enabled electronic shelf label system” and process. Ex. 1001, 1:44–60, 1:66–2:11. In an exemplary system disclosed in the '669 Patent, the system initially communicates a video from server 7 to paired playback devices 6A, 6B installed on retail shop shelf rails 4. *Id.*, 5:32–36. Each of 6A and 6B contain their own memory, video screens 5, and a “communication stage” as depicted in the figure below:



In an exemplary system, playback devices 6A, 6B download video from the server over a communication channel, then cease communications with the server and repurpose the communication channel for communicating playback progress data between playback devices (*e.g.*, 6A and 6B). *Id.*, 2:22–33. The playback devices “independently” determine “that they are in a synchronous or asynchronous playback progress” with other playback devices. *Id.*, 8:29–33.

Whereas prior art systems relied on a centralized system to determine playback device synchronicity, the '669 Patent describes that each device does this. As the '669 Patent puts it, “each device [is] designed to compare a frame number

received” from another device “with a frame number of the frame currently played back at the device and to determine an asynchronous playback progress if the difference in the frame numbers compared with each other exceeds a pre-determined threshold value.” *Id.*, 2:54–59.

In contrast to the asserted prior art, the '669 Patent describes how the playback devices determine whether they are in synchronous or asynchronous playback. The playback devices 6A and 6B “attend the lapse of ... its own clock” and “transmit” its own “playback progress-data, which represent the frame number of the correctly used frame in the respective device 6A, 6B” after the lapse has passed. *Id.*, 5:49–53. Importantly, the '669 Patent describes this exchange as mutual, explaining that “transmission of the playback progress-data of the device 6A is received at the device 6B and vice versa.” *Id.*, 5:53–55. Each of the devices then “compare[s] the received frame number with the frame number currently in use in its *own* playback process” to determine whether the frames, and thus the playback, are in sync (for example, whether “a difference [in playback] of more than two frames” exists). *Id.*, 5:56–63. If, for example, device 6A detects “asynchronous playback progress” first, it sends out a “synchronization command” that “defines the frame number at which playback shall continue” to the other devices. *Id.*, 3:43–50, 6:14–16. The synchronization command “instructs” the other devices to resume playback at the defined frame number. *Id.*, 3:43–50.

**C. Prosecution History of the '669 Patent.**

The '669 Patent issued after several rounds of substantive prior-art rejections. In a first Office Action, the Examiner used a single prior-art reference (Asami (EP2461582-A1), entered into the prosecution history at Ex. 1002, 162-188) to reject all original claims using both anticipatory and obviousness type grounds. Ex. 1002, 145–54. Then-Applicant responded only with arguments, leaving the claims written in their original filed form. *Id.*, 136–44. Specifically, Applicant argued the pending claims required bidirectional communication because they recited the devices communicating with each other and transmitting video playback progress data to the other device. *Id.*, 137, 140–41. Applicant traversed Asami, arguing it did not disclose such bidirectional communication, and instead operated according to a master/non-master principal with one device (second playback device 20) as the master and all other devices (all first playback devices 10) as the non-masters. *Id.*, 141-42.

The Examiner found Applicant's arguments "persuasive," but entered a new ground of rejection (Asami and Oh (US2017/0098431-A1)). *Id.*, 114-15. The Examiner specifically relied on Oh as teaching "to determine based on the received progress-data whether it is in a synchronous or asynchronous playback process with other devices." *Id.*, 116–17.

Applicant again maintained its originally-filed claims, but added new claim 17 to combine subject matter from claims 1 and 14 that the Examiner indicated

would be allowable. *Id.*, 108, 111-12, 131-32. The Examiner allowed claim 17 but continued to reject the other pending claims as obvious. *Id.*, 61-72. Applicant canceled pending independent claim 1 and pending dependent claim 14 and amended the other pending claims to depend directly or indirectly from allowable claim 17. *Id.*, 55-59. In his Notice of Allowance, the Examiner stated the “[p]rior art of record fails to teach or reasonably suggest where each playback device transmits the playback progress data to the other device to determine whether the device is synchronous or asynchronous with the other device where the product information is displayed as virtual shelf labels within a section of a screens display area overlapping with video content or substituting a video content of a section of the screen, when taking the claim as a whole.” *Id.*, 14–16.

Independent claim 17 issued as independent claim 1, from which claims 2–15 depend. *Id.*, 152. The ’669 Patent claims a system of video playback devices, each able to execute transmitting, receiving, and determining functions as recited with respect to playback devices 6A and 6B in claim 1:

- [1.0] A video playback system (1), comprising
- [1.1] a number of playback devices (6A, 6B) to playback a video on their screens (5),
- [1.2] *each playback device (6A, 6B) comprises* a memory to store video data (9) representing said video,

[1.3a] and a *communication stage to communicate data with each other, wherein the devices (6A, 6B) are designed:*

[1.3b] *to transmit video playback progress-data via the communication stage to the other device (6B, 6A); and,*

[1.3c] *to determine based on the received progress data whether it is in a synchronous or asynchronous playback progress with the other devices (6B, 6A);*

[1.4] wherein the display devices (6A, 6B) are designed to display product information or product price related information by means of virtual electronic shelf labels displayed within a section of a screen's (5) display area overlapping with a video content or substituting a video content of said section.

Ex. 1001, 8:7–23.<sup>4</sup>

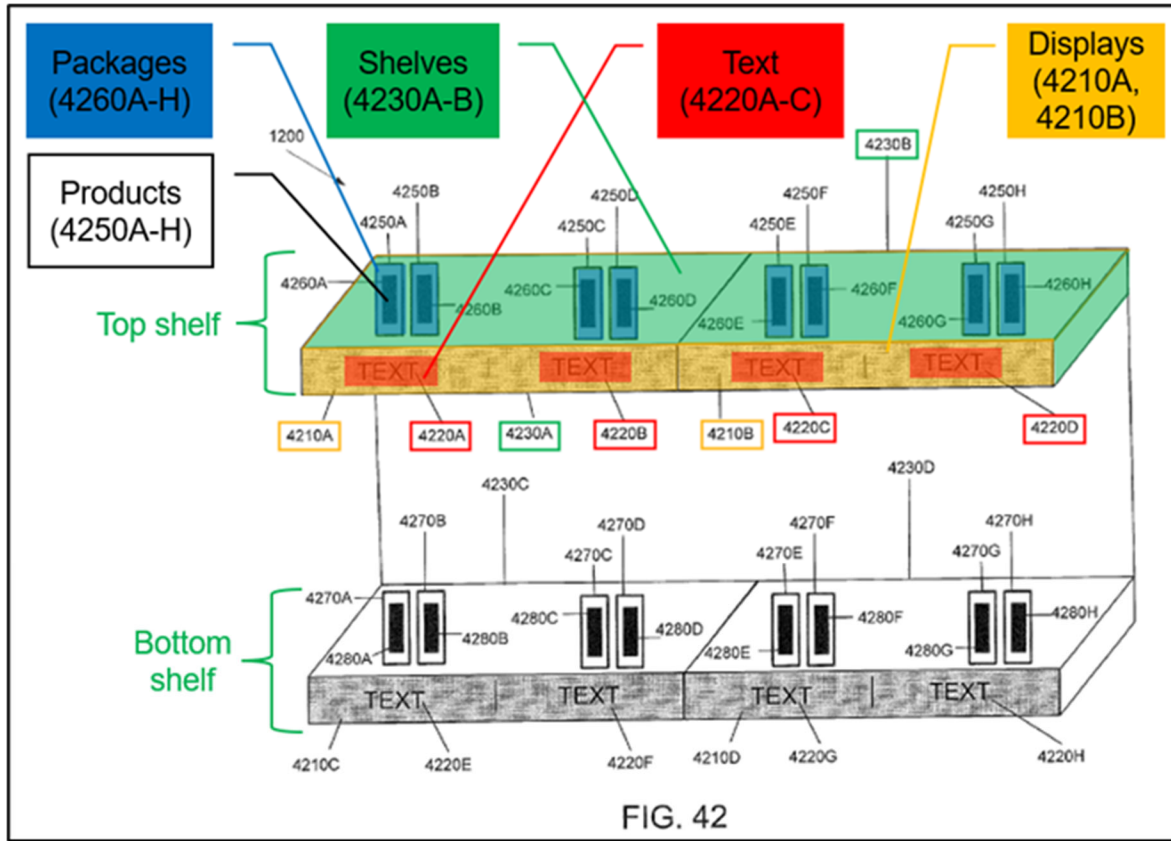
**D. Asserted Prior Art References.**

**1. Swafford**

Swafford discloses a system with a “streaming video ... apportioned among displays on electronic label devices and packages,” which “simultaneously output a different portion of the streaming video.” Ex. 1004, Abstract. Swafford’s system of “communicating and distributing content” is shown in Fig. 42 (annotated below).

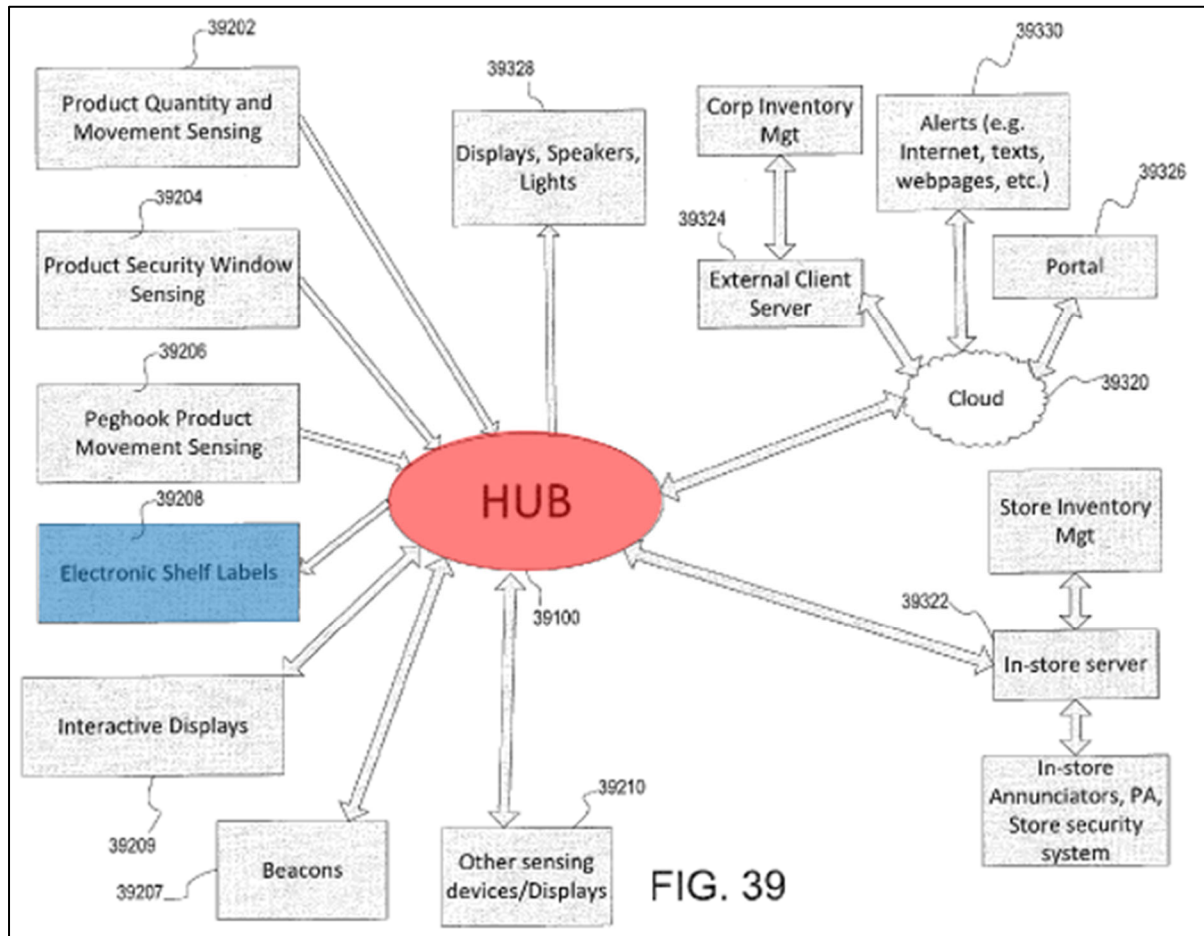
---

<sup>4</sup> All emphasis added unless otherwise noted.



As shown in Fig. 42, a top shelf includes displays 4210A–B affixed to the shelves. Product information (text 4220A–D) is shown on the displays. The shelves hold products 4260A–H, which are encapsulated in packages 4250A–H. *Id.*, Fig. 42, [0377]–[0381]. The bottom shelf is described similarly. *Id.*

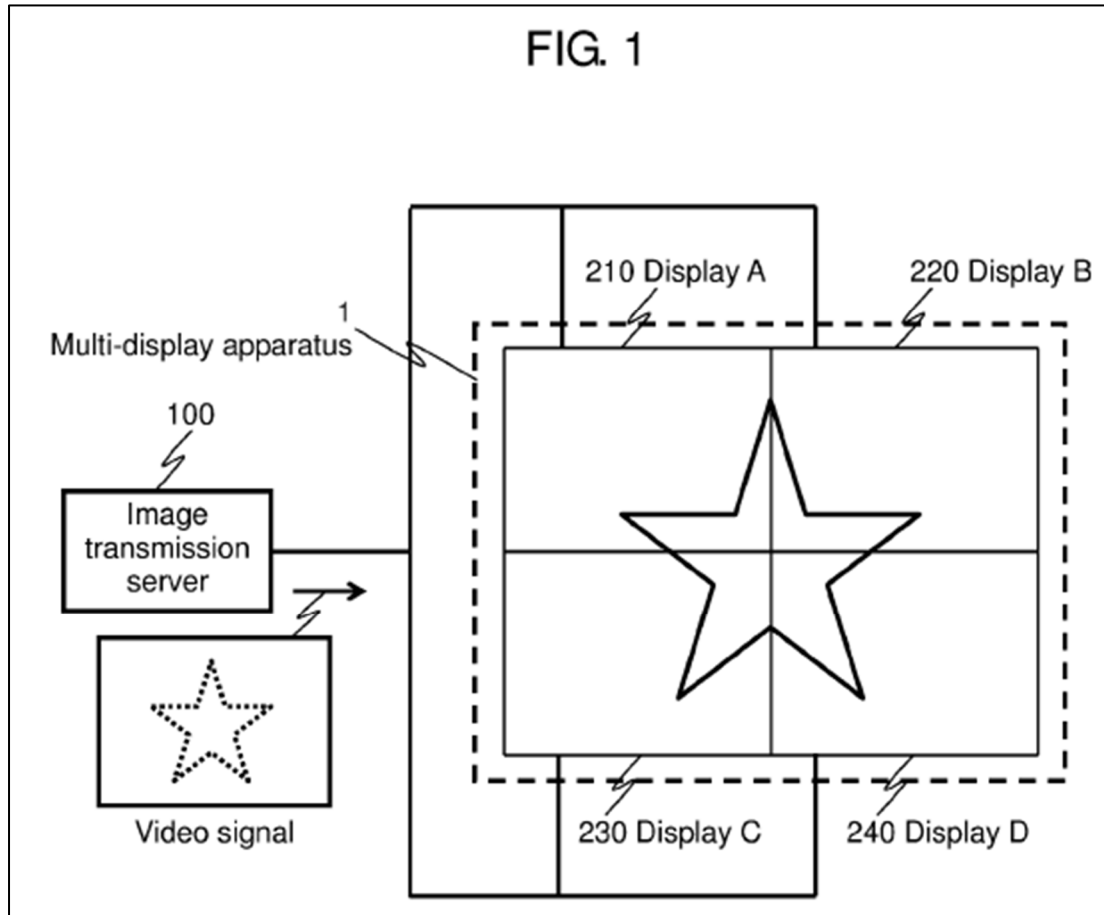
Information is communicated to displays 4210A–B using the “network and hub” architecture of Fig. 39 (reproduced below)—similar to the art over which the Examiner allowed the claims, as discussed above. *Id.*, Fig. 39, [0382]. As shown in Fig. 39 (below), the hub communicates data between end-point devices, and does not use bi-directional communication. *Id.*, [0350].



## 2. Masumoto

Masumoto comes from a very different field than Swafford. Whereas Swafford was concerned with various small-sized displays for shelf and product labels, Masumoto concerns synchronization of large displays—“multi-display apparatus for displaying a single image.” Ex. 1005, Abstract. Masumoto’s large display apparatus 1 uses an image transmission server 100 to transmit a video signal to component displays 210–240. Each component display “cuts out and displays a

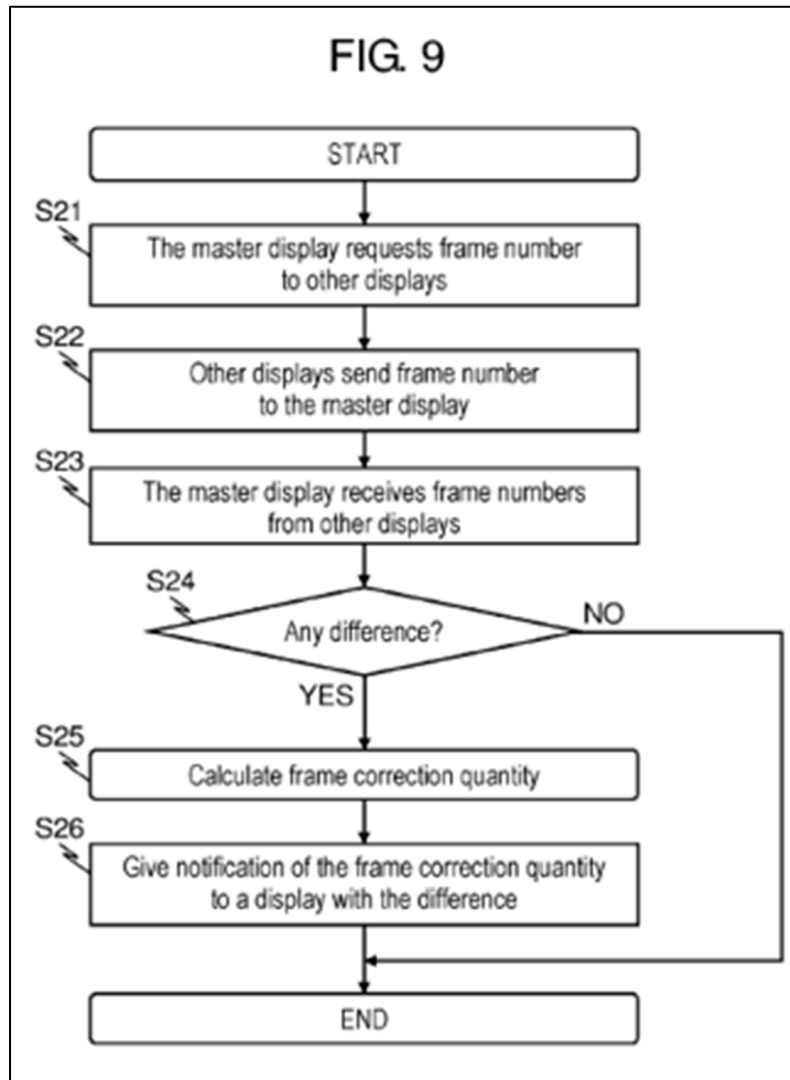
portion in charge from the received image” sent to all four displays. *Id.*, Fig. 1 (below), [0039].



Because Masumoto’s apparatus displays one image using multiple displays, it must “match ... image display timings and image display positions of the entire image by connecting an image transmission server and multiple displays to a network.” *Id.*, [0015]. Coordinating the timing requires the displays (*e.g.*, 210) to communicate “specific information” including time stamp and frame at that time to a “controller” 214 of a separate display. *Id.*, [0017], [0107]–[0108].

But unlike the '669 Patent and similar to the art over which the '669 Patent was allowed, Masumoto's timing information is communicated in only one direction—from displays to a “master display” requesting timing information from the other displays. *Id.*, [0108]. Much like the hub in Swafford, Masumoto's multi-display system determines which display serves in the master-display role before operating using a “rule in advance.” Under the “rule in advance” system, the master display is designated by measuring which display has the “highest processing capability” (*e.g.*, CPU load rate). *Id.*, [0120]–[0121], [0124]. Masumoto discloses that “only one master display can be set in multi-display apparatus 1.” *Id.*, [0124]. The master display system “match[es] display timings of all [non-master] displays at a desired original timing of the video signal [from the master display], without adjusting the displays to a display with the slowest display timing.” *Id.*, [0126].

Because the master display controls the timing of the other displays, frame information flows only in a one direction—to the master display. As depicted in Fig. 9 (below), the designated master display makes a unidirectional request for frame numbers from other displays (step S21), each of which sends that information to the master display (step S22). The master display uses the information received from the other displays to calculate whether to send a correction to the sending display (step S24-S26). *Id.*, Fig. 9 (below), [0108]–[0119].

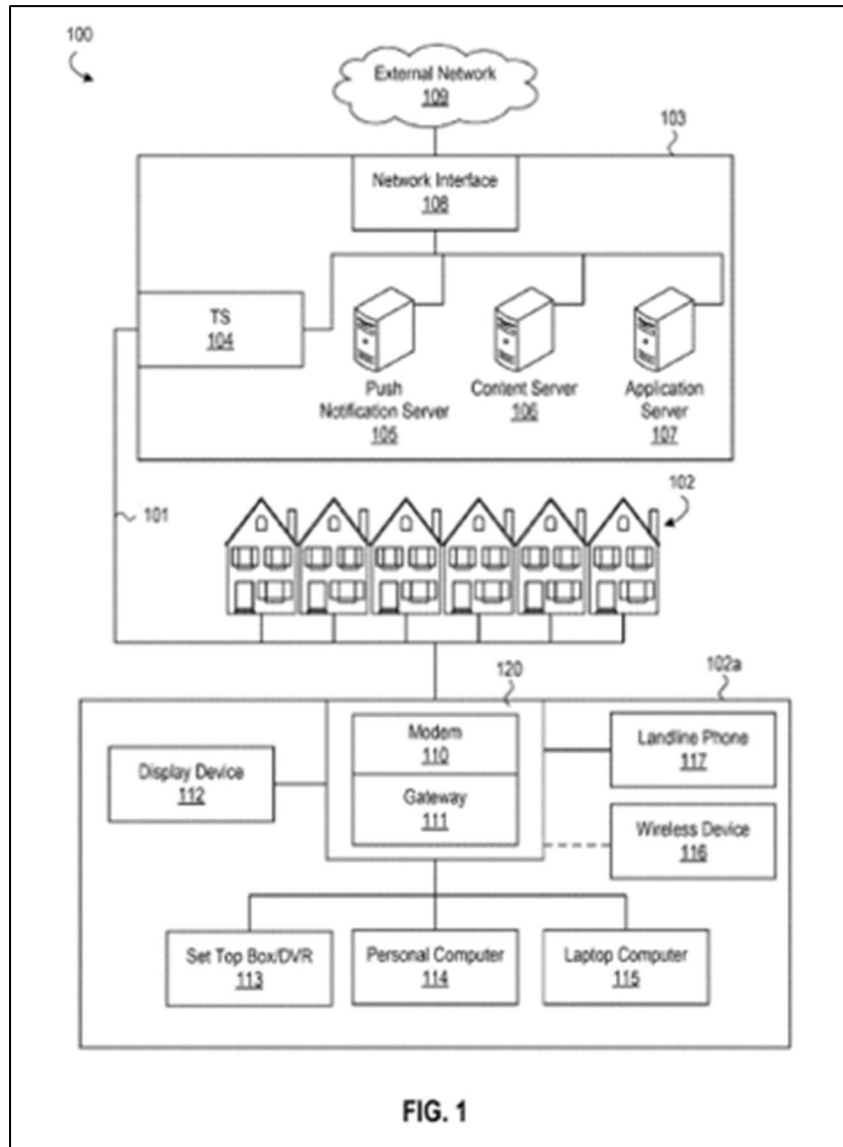


### 3. Kipp

Kipp discloses a system for synchronizing playback of “segmented video content across multiple video playback devices.” Ex. 1006, Abstract. Kipp describes a problem that “[p]layback devices may connect to an IP video server at slightly different times and thus receive the portions of video content at different times,” resulting in playback that is “out of sync” when that video content is intended to be played back “in real time” from a “stream.” *Id.*, [0002]. As depicted in Fig. 1

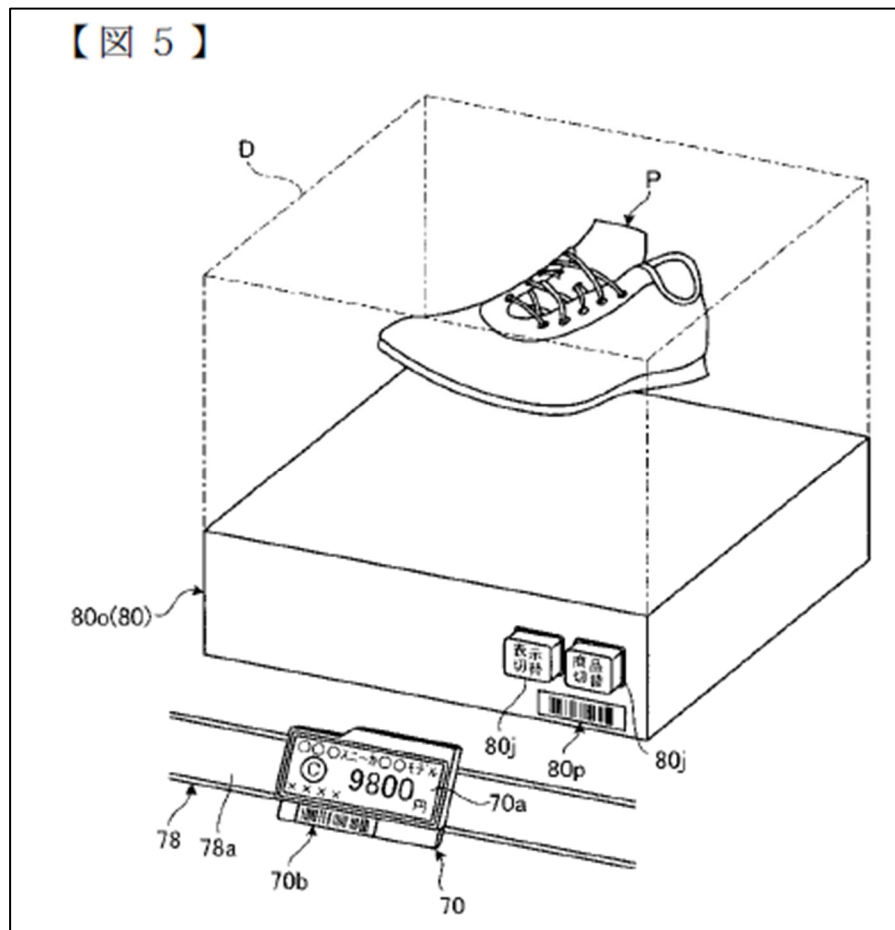
(below), Kip is concerned with ensuring that the same program will be heard at the same time over a phone call connecting two different locations—such as “sports bars, classrooms, meeting rooms ... hotels, apartment buildings, [and] residences.”

*Id.*, [0036].

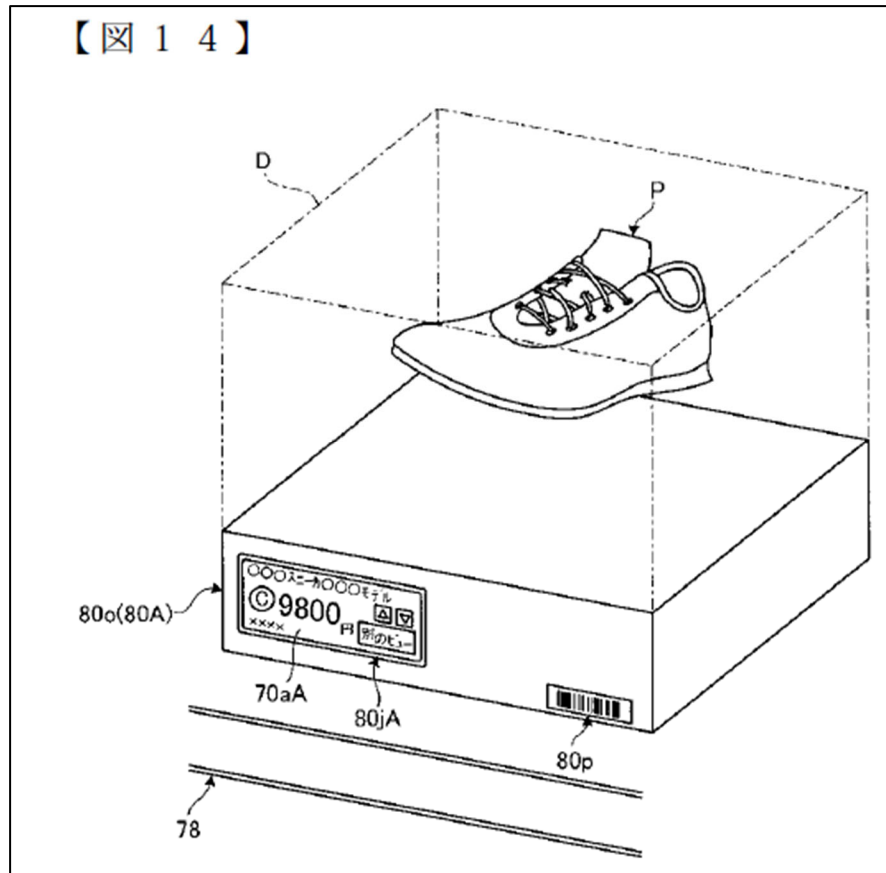


#### 4. Takashi

Takashi discloses a “merchandise information display system.” Ex. 1008, Abstract. The system includes an image display terminal 80 with display area D for displaying a three-dimensional image of merchandise. *Id.*, [0020]. The image—a shoe for example—is shown above a separate shelf tag terminal 70 affixed to a shelf 78 for displaying the name and price information of the merchandise. *Id.*, [0019]–[0020]. This system is shown in Figure 5 (below). Ex. 1007, Fig. 5 (original Japanese application document); Ex. 1008, [0019]–[0020] (English translation).



Takashi also discloses that the two-part system includes display portion 70a, which “mainly displays text information about the merchandise,” while “display portion D serv[es] as a second display portion ... larger than the first display portion 70A ... [that] displays images about the merchandise.” *Id.*, [0051], Fig. 14 (below).



### III. PETITIONER HAS NOT ESTABLISHED A REASONABLE LIKELIHOOD OF SUCCESS IN SHOWING THAT ANY CLAIM IS UNPATENTABLE

“Petitioner bears the burden on institution of demonstrating a reasonable likelihood that it will prevail in showing the unpatentability of at least one claim. ... Petitioner must file a Petition that, among other requirements ‘identif[y] ... the

evidence that supports the grounds for the challenge to each claim.” *SMIC, Ams. v. Innovative Foundry Techs., LLC*, IPR2020-00837, Paper 13 at 13–14 (Oct. 9, 2020) (citing 35 U.S.C. §§ 314(a) and 312(a)(3)). Here, the Board should deny institution of *inter partes* review under 35 U.S.C. § 314(a) because Petitioner has not met its burden to demonstrate a reasonable likelihood that it will prevail as to any challenged claim based on the information contained within the Petition.

The Petition presents only obviousness grounds. Petition 2–3. A claim is invalid under 35 U.S.C. § 103(a) as obvious only if “the differences between the subject matter sought to be patented 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 the POSITA.<sup>5</sup> *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). An obviousness determination must be based on four factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indica of nonobviousness. *Id.* (citing *Graham v. John Deere Co. Kan. City*, 383 U.S. 1, 17–18 (1996)). A party alleging obviousness is “required to place themselves in the minds of those of ordinary skill

---

<sup>5</sup> For purposes of this POPR only, Patent Owner applies Petitioner’s articulation of the level of skill in the art. Patent Owner reserves the right to further address this issue if this IPR is instituted.

in the relevant art *at the time the invention was made*, to determine whether that which is now plainly at hand would have been obvious at such earlier time.” *Millennium Pharms., Inc. v. Sandoz Inc.*, 862 F.3d 1356, 1367 (Fed. Cir. 2017). When a limitation is missing from the asserted prior-art references, this gap cannot be filled simply by blanket assertions of common sense and “this is particularly true where the missing limitation goes to the heart of an invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362-63 (Fed. Cir. 2016). Here, Petitioner has not met this burden for any challenged claim under any ground of unpatentability (Grounds 1 or 2) as discussed in detail in Sections IV–VII, below.

#### **IV. INSTITUTION SHOULD BE DENIED ON ALL GROUNDS**

##### **A. The Petition fails to specify where the “communication stage” can be found in the asserted prior art.**

The burden was on Petitioner to specify where each and every element can be found in the prior art. As 37 C.F.R. § 42.104(b)(4) states, “[t]he petition must *specify* where each element of the claim is found in the prior art patents or printed publications relied upon.” But the Petition fails to specify where the recited “communication stage” can be found in any of the asserted prior art for either ground. As such, institution should be denied. *See, e.g., Advanced Lighting Concepts, LLC v. Mate LLC*, IPR2023-01266, Paper 9 at 1, 21–24 (Feb. 13, 2024) (denying institution where Petitioner failed to specify where each element of the claim is found in the prior art relied upon); *see also United Servs. Auto. Ass’n v. Auto*

*Telematics Ltd.*, IPR2023-00770, Paper 10 at 30, 33 (Nov. 7, 2023) (denying institution because “the fact remains that neither [Petitioner’s expert] nor the Petition sufficiently explains how specific disclosures in [the prior art references] would be incorporated or implemented in the combination asserted by Petitioner”).

There is only a single independent claim challenged in the Petition—all other claims depend from claim 1. Claim 1 recites that the playback devices comprise, among other things, a “communication stage” and that the playback devices “transmit video playback progress-data via the communication stage.” The “communication stage” limitations can be found in the Petition’s limitation number [1.3], and as numbered here, in [1.3a] and [1.3b].

For both Grounds, the Petition claims that Masumoto discloses [1.3]. *See*, Petition 25 (“Swafford does not explicitly disclose that ‘the devices (6A, 6B) are designed to transmit video playback progress-data via the communication stage to the other device (6B, 6A).’ This modification would be obvious in view of Masumoto.”), 65–66 (“... Element [1.3], Masumoto teaches that the displays can communicate data with each other and are designed to transmit specific information of a video signal displayed on the display....”). The only meaningful discussion of limitation [1.3] is in Ground 1 at pages 25–27 of the Petition. Ground 2 incorporates the Ground 1 discussion. *Id.*, 65–66. Yet, in the roughly two pages of discussion for limitation [1.3], the Petition never even uses the term “communication stage.” *Id.*,

25–27. The Petition does not map the specific requirement of a “communication stage” to any particular disclosure in Masumoto, nor does the Petition describe how Masumoto would render the addition of a “communication stage” to Swafford (or any other reference) obvious.

The Petition quotes Masumoto’s discussion of a “communication unit” and a “controller,” but fails to map the “communication stage” to either of these disclosures. *Id.* This failure is critical because it means that both grounds necessarily fail.

For Ground 1, the Petition asserts that it would have been obvious to modify Swafford with Masumoto, but because Petitioner does not specify any particular element of Masumoto as the “communication stage,” it is impossible to know how Swafford would be modified by Masumoto. Would Swafford use the “communication unit”? The “controller”? Neither? Both? How would the devices of Swafford be modified for either (or both) of these components? Would it matter to the Swafford device if the “controller” but not the “communication unit” were included or vice versa? The Petition answers none of these questions.

Ground 2 is even worse. In Ground 2, the Petition never makes explicit how the various divergent art would be combined, and that is especially problematic here. The Petition announces that Masumoto teaches limitation [1.3] without saying whether (or how) Kipp would be modified by Masumoto’s teachings, whether (or

how) Masumoto would be modified by Kipp, or whether some other combination is relevant. Since the Petition never maps Masumoto's disclosure to the "communication stage" requirement and never actually explains what its proffered combination is, it is impossible to know how Petitioner contends the various prior-art references would be modified to accommodate a "communication stage." Petitioner had the obligation to specifically identify what teachings would be used or modified in each of these references and to explain why such modifications would have been obvious. By refusing to even discuss the "communication stage," it fails to do this.

Nor does Petitioner's expert declaration help. Petitioner's expert largely parrots the discussion in the Petition, adding essentially no expert analysis and simply restating the Petition's legal analysis for [1.3]. *See* Ex. 1003 ¶¶71-85, 176-77. Like the Petition, the expert never uses the term "communication stage" in any analysis, and never specifically identifies a "communication stage" in Masumoto. *See id.* Like the Petition, the declaration quotes Masumoto at length, but provides no material analysis of the limitation and never links these quotes to the "communication stage." *See id.*

Because the Petitioner and its expert have failed to *specify* where the communication stage is found in Masumoto, how any of the asserted art would be modified to address this limitation, or how any such modifications would have been

obvious to a POSITA, institution should be denied. Indeed, “the Board should also not have to decode a petition” and “[a] petitioner may not rely on a vague, generic, and/or meandering petition and later fault the Board for failing to understand what the petition really meant.” *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023) (precedential). In fact, institution would force the Board to draw conclusions that the Petition itself did not draw. For instance, to institute, the Board would have to identify a “communication stage” in Masumoto, even though Petitioner has not. Further, the Board would be forced to guess at which of the components Petitioner asserts meets the “communication stage” limitations. Avoiding such guesswork is the purpose of the requirement that the petition “identify *with particularity* the evidence that supports the grounds for the challenged to each claim.” *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016) (precedential) (quoting 35 U.S.C. § 312(a)(3) (2010), § 37 C.F.R. 42.104(b)(4)-(5)) (internal quotations omitted); *see also ActiveVideo Networks, Inc. v. Verizon Comms., Inc.* 694 F.3d 1312, 1327–28 (Fed. Cir. 2012) (precedential) (holding “generic” testimony that “fails to explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does*” insufficient to prove obviousness) (emphasis in original).

**B. Masumoto does not teach all of limitation [1.3].**

The Petition relies on Masumoto to teach limitation [1.3] for both grounds. Petition 25–27, 65–66. As shown below, Masumoto is a fundamentally different type of system, and as a result, does not teach the limitation for three reasons: (1) Masumoto's master display does not transmit video play-back progress data; (2) Masumoto's master display does not determine whether it is in synchronous or asynchronous playback progress with the other devices; and (3) Masumoto's non-master displays do not receive progress data or determine whether they are in synchronous or asynchronous playback with the other devices.

**1. Masumoto's Master Display Does Not Transmit Video Playback Progress-Data as Recited in [1.3b].**

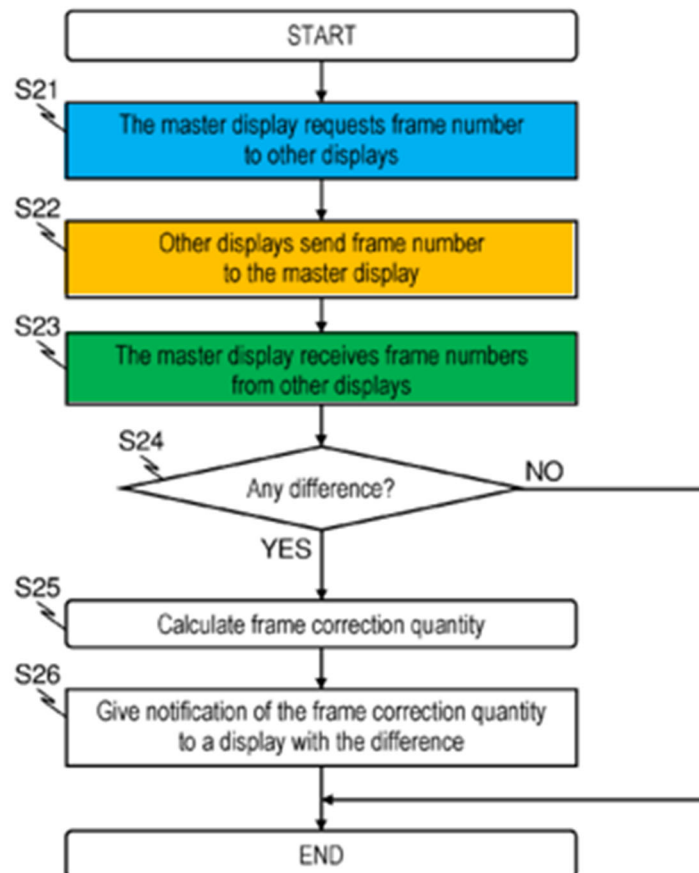
Limitation [1.3b] requires the playback devices to “to transmit video playback progress-data via the communication stage to the other device (6B, 6A).” But Masumoto discloses a centralized playback synchronization system where a “master display<sup>6</sup>” “calculates a desired frame number” and notifies other non-master display devices whether to correct their own frame number based on the calculation. Masumoto, [0110], [0113]. Masumoto's master display does not *transmit* video playback progress-data, as recited in claim 1. Instead, the master display device only

---

<sup>6</sup> The Petition also refers to the master display by the “controller” of the master display. Petition 25–26, 34.

receives “specific information” (alleged playback-progress data, *see* Petition 25–27, 65–66) from non-master display devices. Masumoto, [0108], [0110], [0120], FIG. 9 (right). Masumoto explains that when display D240 is the “master display,” non-master displays A210-C230 “send a frame number of the video in each display” to master display D240 in step S22 of FIG. 9. Masumoto, [0108], [0110], FIG. 9. Annotated Figure 9 (below) shows the receiving operation of the “master display” (green, S23) and the frame number transmitting function of the non-master display(s) (orange, S22).

FIG. 9



As shown in annotated Figure 9, the master display only receives the frame number from other devices; it does not transmit its own frame number to any other devices. This is confirmed because the master display also makes a request for the frame numbers from the non-master displays at step S21 (blue), but no similar request is made to the master display from the other displays, and the Petition offers no evidence to the contrary.

Despite Masumoto's express disclosure of different operational roles for the master and non-master displays, Petitioner conflates them. Specifically, Petitioner concludes that "Masumoto discloses that *the displays* transmit video playback progress-data, such as the frame number or the time stamp, between each other to determine synchronization/asynchronization." Petition 26. Petitioner's assumption that all of the displays operate the same and that the master display receives playback progress from non-master displays *and transmits its own* playback progress-data to non-master displays is incorrect and unsupported.

Masumoto discloses there is only "one display" device that serves as the master display in operation. Masumoto, [0108], [0120]. That master display performs particular operations not performed by the other displays, as shown in Figure 9. Masumoto explains that "display A210 to display D240 determines itself to be a mas[t]er display *if the measurement result of its own processing capacity is the highest, and not a master display if not the highest.*" Masumoto, [0124]. Thus,

only one display device serves as the master display. Only this device receives specific video signal information, such as frame numbers and time stamps, from the other display devices—and only non-master devices transmit the specific video signal information. Masumoto, [0108], [0110], FIG. 9. The system does not work the other way around with the master display sending its data to the other displays.

This is exactly contrary to limitation [1.3b], which recites that both devices 6A *and* 6B “are designed: to transmit video playback progress-data ... and, to determine based on the received progress data whether it is in a synchronous or asynchronous playback progress with the other devices (6B, 6A).” Ex. 1001, 8:7–14. Accordingly, Masumoto does not disclose that its “master display” transmits playback progress-data, and, therefore, does not disclose element [1.3b]. Masumoto therefore cannot render obvious claim 1 and the Petition fails to meet its burden under § 314(a).

**2. Masumoto’s Master Display Does Not Determine Whether It Is in a Synchronous or Asynchronous Playback Progress with the Other Devices as Recited in [1.3c].**

Limitation [1.3c] recites that each playback device “determine[s] based on the received progress data whether *it* is in a synchronous or asynchronous playback progress with the other devices.” Ex. 1001, 8:15–17. But Masumoto’s system is fundamentally different in that the master display does not determine whether *it* is

in synch with the other displays. Instead, the master display requires the other displays to synch with it.

Masumoto's master display "calculates a desired frame number at specific time" and "compares its calculation result with the frame number received" from other displays. Masumoto, [0113], FIG. 9 (Step S23). The master display then sends "notice of correction" to a non-master display "when the specific information *received* [from the non-master display] differs from specific information of a video signal that is supposed to be displayed" according to the calculation. *Id.*, [0017], [0113]–[0117]. That is, only Masumoto's master display makes a determination regarding synchronization, and it is the wrong type of determination. Masumoto's master display determines whether the received information from the non-master displays is asynchronous with the "calculated" "desired" frame number. The "desired" frame number is a theoretical value—not a frame number of the video displayed on the master display. *Id.*, [0113]–[0117], FIG. 9. The master display, thus, only determines if any of the non-master displays have deviated by an unacceptable amount from the desired theoretical frame number at a particular time, not whether the master device itself is in synchronous or asynchronous playback with any of the non-master displays. Thus, Masumoto's master device does not "determine based on the received progress data whether *it* is in a synchronous or asynchronous

playback progress *with the other devices*,” as recited in element [1.3c]. Ex. 1001, 8:15–17.

**3. Masumoto's Non-Master Displays Do Not Receive Progress Data or Determine Whether They Are in a Synchronous or Asynchronous Playback Progress with the Other Devices as Recited in [1.3c].**

Masumoto also fails to disclose that the non-master devices determine whether they are synchronous or asynchronous with any other device. Masumoto, [0113]–[0117], [0120], FIG. 9. As explained above, only the master display receives the frame numbers from other devices and only the master display determines whether any devices are out of sync with the desired frame number and sends a notification of correction when warranted. *Id.*, [0113]–[0117], [0120], FIG. 9. So, although the non-master devices transmit their frame numbers to the master display (as illustrated in Figure 9), they do not *receive* frame numbers (alleged playback progress-data, *see* Petition 25–27, 65–66 ) *from* the other display devices. Nor can the non-master displays determine based on received frame numbers whether they are in a synchronous or asynchronous playback progress because they never receive such data from the other devices, including the master display. *See* Masumoto, [0110], [0113], [0117]–[0118], FIG. 9. Petitioner has not offered any suggestion to the contrary.

It does not matter that Masumoto discloses that the master display can change, because the system makes a determination in advance as to which of the displays will be the master display. Masumoto describes a “rule in advance” system, where the master display is designated by measuring which display has the “highest processing capability” (*e.g.*, CPU load rate). *Id.*, [0120]–[0121], [0124]. That the identity of the master display can change makes no difference because there can only be one master display at a time. *Id.*, [0125].

The '669 Patent's playback devices as described in the specification and recited in claim 1 operate differently than those in Masumoto. The '669 playback devices “independently” determine “that they are in a synchronous or asynchronous playback progress” with other playback devices. Ex. 1001, 2:29–33. Each playback device is “designed to compare a frame number received” from another device “with a frame number of the frame currently played back at the device and to determine an asynchronous playback progress if the difference in the frame numbers compared with each other exceeds a pre-determined threshold value.” *Id.*, 2:54–59. Each playback device 6A and 6B transmits its own playback progress data after a tracked lapse of its own clock. *Id.*, 5:49–53. This is a bidirectional exchange because the “transmission of the playback progress-data of the device 6A is received at the device 6B and *vice versa*.” *Id.*, 5:53–55. This is in contrast to the master/non-master architecture of Matsumoto where no single device is designed to *both*

“transmit video playback progress-data” *and* “determine based on the received progress data whether it is in a synchronous or asynchronous playback progress with the other devices,” as required by [1.3].

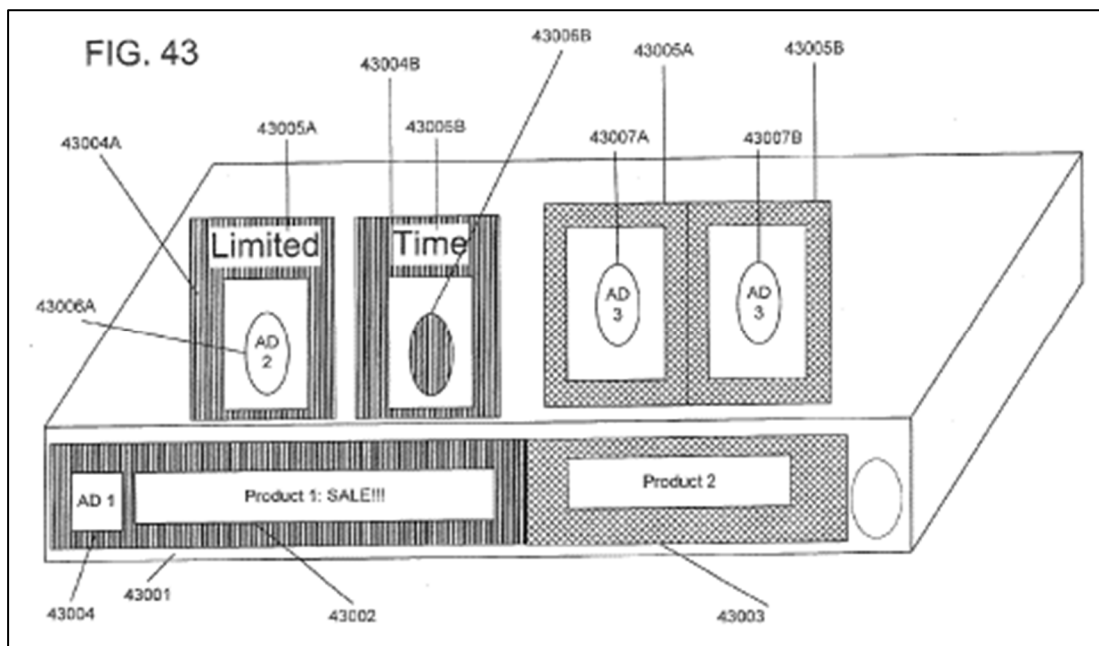
Accordingly, Petitioner has not sufficiently shown Masumoto discloses that any of the non-master display devices determine “based on received playback progress data whether *it* is in synchronous or asynchronous playback progress with other devices,” as recited in claim limitation [1.3c], much less how this determination is made in response to receipt of progress data transmitted in claim limitation [1.3b], above. *Id.*, 8:15-17. For at least these reasons, Masumoto does not disclose claim element [1.3c] and therefore cannot render obvious claim 1 or dependent claims 2-15 in Grounds 1 or 2.

**V. GROUND 1: PETITIONER FAILS TO SHOW THAT A POSITA WOULD HAVE REASON TO MODIFY SWAFFORD TO INCLUDE THE FEATURES OF MASUMOTO**

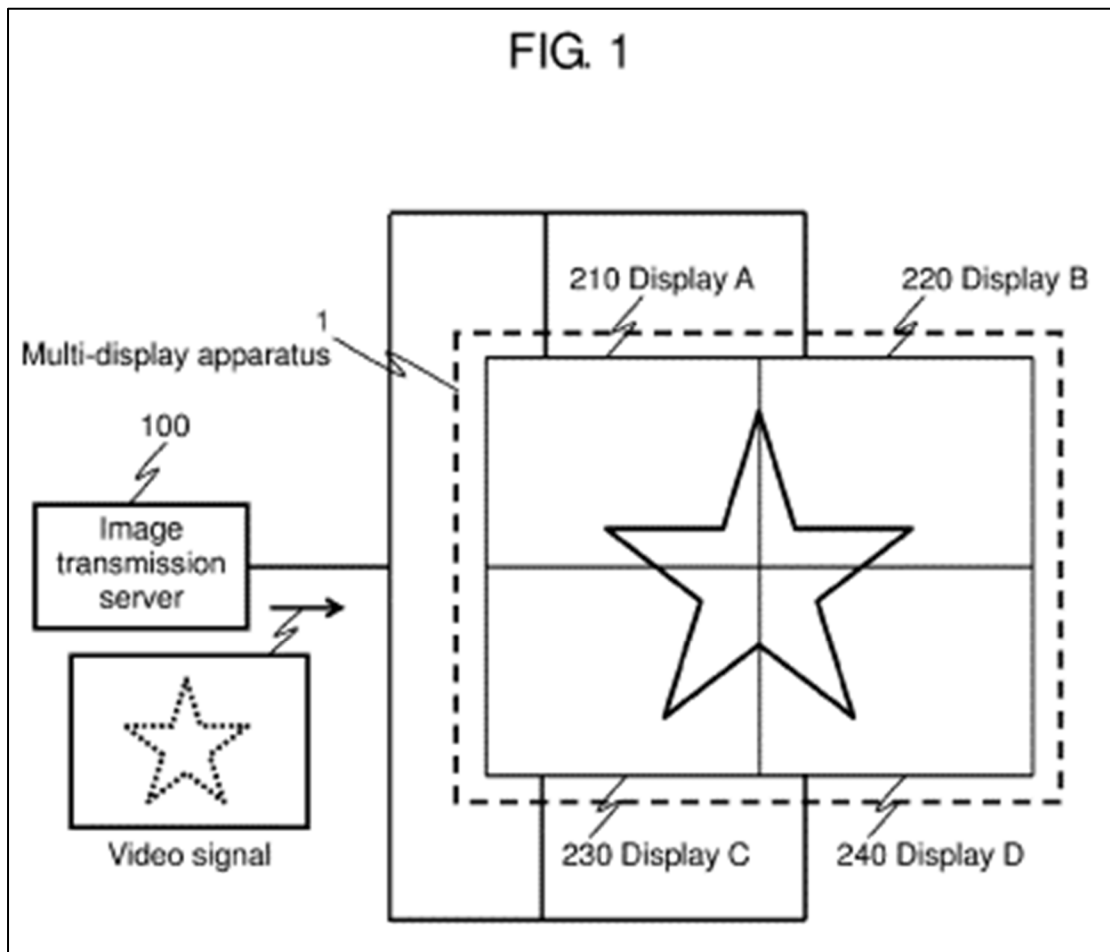
In Ground 1, Petitioner and its expert assert a POSITA would have had several reasons to combine Swafford with Masumoto. Petition 51–56. But none are sufficient for institution because they are conclusory and unsupported. Petitioner has not provided any articulated reasoning with rational underpinning to support the combination of Swafford and Masumoto.

Petitioner says that “Swafford and Masumoto are designed to achieve the same goal to synchronize a video across multiple displays.” Petition 52. This is

incorrect. The displays contemplated by Swafford and Masumoto are fundamentally different and involve different considerations. Swafford relates to a “merchandizing display” with “a continuous display formed by electronic displays embedded along product shelves and on the packages.” Ex. 1004, Abstract. Swafford’s merchandizing displays “can be provided with any number of displays.” *Id.*, [0388]. As shown in Figure 43 (below), these continuous displays may each have a wide but very short aspect ratio, and they may be attached to each other lengthwise, effectively making them even wider. Further, Swafford contemplates displaying video “on the packages” themselves. *Id.*, Abstract. The packages shown in Fig. 43 have a completely different aspect ratio than the shelf labels and include a different number of pixels per screen.



Masumoto, on the other hand, contemplates “video wall systems and signage systems,” such as what one might see in a sports bar or displaying a fast-food menu. Ex. 1005, [0148]. In Masumoto, the video server “sends same video signal to each of display A210 to display D240 simultaneously.” *Id.*, [0039]. “Each of display A210 to display D240 cuts out and displays a portion in charge from the received image. By combining four displays A210 to D240, a single image is displayed.” *Id.* This is shown in Fig. 1 (below).



The only “specific information” Masumoto adds to its video signal is a “time stamp,” “frame number,” or “time sample”; Masumoto discloses nothing related to adjusting to the differing aspect ratios or differing numbers of pixels per screen because Masumoto assumes the displays are all the same. *Id.*, [0107].

The two references, thus, are not directed to the same goal. Masumoto involves simple video processing using uniform displays and a network server to expand the size of a streaming video from covering one screen to covering four, whereas Swafford pieces together streaming video segments having different widths and heights. Petitioner has not shown a POSITA would have had any motivation to use Masumoto to improve upon Swafford, as they are directed to fundamentally different problems.

Petitioner also claims that Swafford’s “express objective” was to “simultaneously output a different portion of the streaming video,” and that satisfying that objective would have motivated a POSITA to combine Swafford and Masumoto. Petition 52 (citing Ex. 1004, [0423]). This is also incorrect. Indeed, Swafford already satisfies this objective by providing “a system for forming a continuous display along” electronic label devices positioned along product shelves. Ex. 1004, [0423]. Petitioner never explains why a POSITA would be motivated to look outside Swafford to solve a problem Swafford expressly solves.

Nor is Petitioner correct when it says that there was “a well-recognized need in synchronizing video displays—a need for low bandwidth and simple, inexpensive hardware.” Swafford expressly discloses that his systems can be implemented with “off-the-shelf” components. *Id.*, [0257]. Thus, Swafford itself belies Petitioner’s supposed well-recognized need.

The only evidence Petitioner offers to explain why a POSITA would have modified Swafford with Masumoto relies on hindsight and two references *besides* Swafford and Masumoto—Yamada (Ex. 1010) and Kipp (Ex. 1006). Petition 53–54. Petitioner explains why Yamada solves a similar problem as the ’669 Patent, *not* why it or Kipp describes why a POSITA would combine Swafford and Masumoto. *Id.* Further inapposite to an explanation of the Swafford-Masumoto combination, Yamada is a system for streaming video to multiple “video information reproduction devices.” Ex. 1010, [0100]–[0101]. Kipp discloses similar, streaming video to “multiple premises 102 (e.g., businesses, homes, consumer dwellings, etc.).” *See* Kipp, Ex. 1006, [0028]. These references have nothing to do with electronic shelf labels, and certainly do not demonstrate any well-recognized need.

Petitioner points out that both Swafford and Masumoto discuss LCD displays. Petition 54-55 (citing Ex. 1004, [0330]; Ex. 1005, [0040]). This does not matter either because the examples Petitioner offers for ways to improve the LCD screens have nothing to do with the LCD screens themselves. For instance, Petitioner points

to the ability to have “different displays communicate with each other to synchronously display a video.” *Id.* But that has nothing to do with whether the display is an LCD or anything else. Nor does the fact that Masumoto’s displays may “transmit[] specific information of a video signal displayed on the display at specific time, using frame numbers as the specific information, broadcasting the frame correction quantity to implement synchronization, loading the video data upfront to play, transmitting the video data as compressed data, transmitting the specific information repeatedly, [and] embedding the frame correction quantity in a synchronization command.” *Id.*, 55. These supposed improvements have nothing to do with the LCD screens, and thus, these cannot constitute motivations to improve Swafford’s LCD with Masumoto’s LCD.

Petitioner’s expert’s analysis is no better. The expert simply parrots the analysis in the petition, providing no material explanation at all. Petition 52–56 (citing “First” through “Fourth” motivations for combination), *with* Ex. 1003, ¶¶152–58 (parroting the “First” through “Fourth” motivations for combination). *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15–16 (Aug. 24, 2022) (precedential) (affording expert opinion little to no weight or probative value when it replicates the flawed analysis of the petition *verbatim* and fails to “cite to any additional supporting evidence or provide any technical reasoning to support” the opinion).

Even assuming Swafford and Masumoto do share some “structural similarity”—which they do not—this does not sufficiently support Petitioner’s alleged motivation to combine. “The obviousness inquiry does not merely ask whether a skilled artisan could combine the references, but instead asks whether ‘they would have been motivated to do so.’” *Adidas AG v. Nike, Inc.*, 963 F.3d 1355, 1358–60 (Fed. Cir. 2020) (citation omitted). Therefore, even though two references may be compatible because they discuss similar structure or techniques, that does not resolve “fundamental differences between the references” that show the prior art is otherwise not obvious to combine. *Id.*

Petitioner fails to show that a POSITA would have been motivated to combine Swafford and Masumoto. As such, Ground 1 fails.

**VI. GROUND 2: PETITIONER FAILS TO SHOW THAT A POSITA WOULD HAVE REASON TO MODIFY MASUMOTO WITH KIPP AND TAKASHI**

Petitioner provides seven different rationales for combining Masumoto with Kipp and Takashi. Petition 82–87. All are flawed.

First, Petitioner asserts it would have been obvious to combine Masumoto with Kipp because “Masumoto and Kipp are designed to achieve the same goal to synchronize a video across multiple displays.” Petition 83. That is incorrect. Masumoto contemplates “video wall systems and signage systems,” such as what one might see in a sports bar. Ex. 1005, [0148]. Masumoto is directed toward a

“multi-display apparatus for displaying a single image by combining a plurality of displays.” Ex. 1005, Abstract, [0148]. By contrast, Kipp, is directed toward “reproduction of video content” for synchronized playback at “multiple premises,” such as when people at different households want to watch a live sporting event on Amazon Prime. Ex. 1006, [0004], [0028].

Second, Petitioner argues it would have been obvious to combine Masumoto and Kipp due to a “well-recognized need in a business premise – a need for synchronously providing clients with promotional information or advertisement.” Petition 83. To support this supposedly “well-recognized need,” Petitioner again impermissibly cites the ’669 Patent. *Id.* Petitioner also cites Kipp for the propositions that “playback devices deployed to a common location (e.g., a sports bar, a residence, etc.) may synchronize” and advertisements may “playback on multiple digital billboards,” (Ex. 1006 [0023], [0124]), and Clontz for the proposition that “the shelf may be implemented with ‘connected’ or ‘unconnected-displays.’ ‘Connected’ means that displays that run the same ads all the time” (Ex. 1009, [0032]). But none of these citations support the proposition that there was a “well-recognized need” as the Petition alleges. Petition 83–84.

Third, similar to Ground 1, Petitioner argues there is a “structural similarity between Kipp’s displays and Masumoto’s displays,” such that a “POSITA would have recognized, from Kipp’s teaching, that it would improve Masumoto’s similar

device (i.e., displays).” Petition 84-85. This is also incorrect. In Kipp, “[t]he display devices 206 may be any type of device configured to receive a video signal and output visual images corresponding to that video signal.” Ex. 1006, [0041]. Petitioner does not explain how a POSITA would look at a reference describing “any type of device” and recognize an improvement that could be applied to a specific type of device, and in particular, to reach an electronic shelf label. But even giving Petitioner the benefit of the doubt, the Petition does not explain how Kipp improved a display device in such a way that it would have been obvious to improve a display device in Masumoto in the same way, or how that would result in the electronic shelf labels described in the ’669 patent.

Fourth, Petitioner argues a POSITA would have been “readily able to combine” the three references “with an expectation of success,” stating it would have been “routine.” Petition 85. But Petitioner fails to explain how combining Masumoto’s big-screen video synchronization techniques with Takashi’s electronic shelf tag system and Kipp’s multi-premise streaming system would have been routine or would come with an expectation of success. Petitioner and its expert offer nothing beyond bare conclusions for this point. *Id.*; Ex. 1003, ¶228.

Fifth, Petitioner argues a “POSITA reading Masumoto and Kipp naturally would have looked to Tak[a]shi for additional details regarding how to display advertisement contents in a business premise such as a retail store” due to a

“universal, obvious goal of all such systems to display promotion content related to the premise where the systems are located.” Petition 85. But Petitioner’s argument is just that: argument. Petitioner fails to offer factual support or evidence, instead the Petition points to conclusory expert opinion that “bears no relation to any specific combination of prior art elements,” much less combining the elements “*in the way the claimed invention does.*” *ActiveVideo Networks, Inc. v. Verizon Comms., Inc.* 694 F.3d 1312, 1327–28 (Fed. Cir. 2012) (emphasis original). Like *ActiveVideo*, the explanation of the Petitioner’s expert is flawed because it is generic. *Compare* Petition 85 (a “POSITA reading Masumoto and Kipp naturally would have looked to Tak[a]shi” to realize a “universal, obvious goal of all such systems”), *with ActiveVideo*, 694 F.3d at 1327–28 (finding the expert’s opinion that a POSITA “wanted to build something better...more efficient, cheaper...that had more features...[and] more attractive to your customers” to be “generic” and therefore insufficient for supporting a determination of obviousness); *see also Xerox Corp.*, Paper 12 at 14–16.

Sixth, Petitioner alleges a POSITA would have understood “that to *attract* customers,” ““provide additional information to a customer or to attract a customer’s attention’), designing other promotion contents to substitute a part of advertisement video is a commonly used promotional strategy in a business premise, e.g., a retail store.” Petition 86. It is not clear what Petitioner is proposing here, or which pieces

of prior art should be modified, or how. But needless to say, this proposed motivation to combine fails because it does not clearly articulate the proposal, which pieces of prior art should be modified or how. *See ActiveVideo*, 694 F.3d at 1328 (finding the expert's opinion that a POSITA "wanted to build something better...more efficient, cheaper...that had more features...[and] more *attractive to your customers*" to be "generic" and therefore insufficient for supporting a determination of obviousness); *Xerox Corp.*, Paper 12 at 15–16.

Finally, Petitioner alleges it "is a universal, obvious goal of all such systems to attract customers' attention" and that a "POSITA reading Masumoto and Kipp would have been motivate[d] to apply the shelf tag terminal 70 and the image display terminal 80/80A to the combination of Masumoto and Kipp." Petition 86. But this reasoning amounts to the same flawed, generic rationale as discussed above. *See ActiveVideo*, 694 F.3d at 1329; *Xerox Corp.*, Paper 12 at 15–16.

## **VII. THERE IS NO GOOD CAUSE FOR A PRE-INSTITUTION REPLY**

In view of the deficiencies in the Petition discussed above, Petitioner might seek to file a pre-institution reply. But there would be no good cause for a pre-institution reply. All of Patent Owner's arguments above address the merits of the Petition, and Petitioner could have—and should have—addressed these issues in the Petition itself. Petitioner would have no good cause to bolster the merits of its Petition in a pre-institution reply. *See, e.g., Ontel Prods. Corp. v. Guy A. Shaked*

*Invs. Ltd.*, IPR2020-01703, Paper 10 at 2 (Feb. 4, 2021) (denying reply for “subjects that Petitioner should have developed in its Petition”).

### **VIII. CONCLUSION**

For all the above reasons, Petitioner has not met its burden of establishing a reasonable likelihood of success in showing that at least one claim is unpatentable as obvious over the cited art, and Patent Owner respectfully requests the Board deny institution.

Respectfully submitted,

Dated: February 22, 2024

By: / Jessica C. Kaiser /  
Jessica C. Kaiser  
Reg. No. 58,937  
Lead Counsel for Patent Owner

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), I, Jessica C. Kaiser, certify that **PATENT OWNER'S PRELIMINARY RESPONSE** contains 9,155 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

Dated: February 22, 2024

By: / Jessica C. Kaiser /  
Jessica C. Kaiser, Reg. No. 58,937

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6(e), I certify that on February 22, 2024, a copy of **PATENT OWNER'S PRELIMINARY RESPONSE** was served upon the below-listed counsel by electronic mail:

Hao Tan  
haotan@archlakelaw.com

Shen Wang  
shenwang@archlakelaw.com

Dated: February 22, 2024

By: / Jessica C. Kaiser /  
Jessica C. Kaiser  
Reg. No. 58,937  
Lead Counsel for Patent Owner