

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KAWASAKI RAIL CAR, INC.,

Petitioner,

v.

SCOTT BLAIR,

Patent Owner.

Case IPR2017-00117
Patent 6,700,602 B1

Before JAMESON LEE, SCOTT A. DANIELS, and
KEVIN C. TROCK, *Administrative Patent Judges*.

TROCK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and
37 C.F.R. § 42.73

I. INTRODUCTION

Kawasaki Rail Car, Inc., (“Petitioner”) filed a request for an *inter partes* review of claims 1–4 and 6 (the “challenged claims”) of U.S. Patent No. 6,700,602 B1 (Ex. 1001, “the ’602 patent”). Paper 1 (“Pet.”). Scott Blair (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). We instituted an *inter partes* review of claims 1–4 and 6 of the ’602 patent. Paper 11 (“Dec. Inst.”). Patent Owner filed a Patent Owner Response (Paper 13, “PO Resp.”) and Petitioner filed a Petitioner Reply (Paper 17, “Pet. Reply”). Patent Owner filed observations on Mr. Malo’s deposition (Papers 22, 30) and Petitioner filed responses (Papers 33, 41). A hearing was held on January 26, 2018, a transcript of which has been entered into the record (Paper 42, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). We base our decision on the preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). Having reviewed the arguments of the parties and the supporting evidence, we find that Petitioner has demonstrated by a preponderance of the evidence that each of challenged claims, 1–4 and 6 of the ’602 patent, are unpatentable.

A. *The ’602 Patent*

The ’602 patent describes the invention as “a television public service message display, entertainment and advertising system for subway cars, in which television monitors are provided at spaced intervals in subway cars, to display short duration televisual entertainment and advertising features to subway riders.” Ex. 1001, 1:45–50. The ’602 patent explains that the

“invention provides properly positioned television monitors displaying moving images of news items, advertising material and the like, viewable by substantially all riders in the car, and filling their need for visual entertainment during the brief duration of their subway ride.” *Id.* at 1:61–

65. The '602 patent explains:

In a preferred arrangement, the video display monitors have a strong metal frame construction, fixed to the frame of the subway car. The screens are preferably covered with a rigid transparent unit, e.g. of polycarbonate, shaped to coincide with the shape of the internal wall of the subway car at the location of mounting. For example, when the monitor is mounted at the junction of the wall and ceiling of the subway car, where there is commonly provided a concavely curved segment of internal wall, the transparent cover unit is suitably similarly concavely curved, so that it can be mounted as a continuum with the internal walls and blended to contours thereof, with the monitor mounted behind it. The screen is suitably angled downwardly, for best viewing by passengers seated opposite the screen.

Ex. 1001, 3:62–4:8.

B. Challenged Claims of the '602 Patent

Challenged claim 1 is independent. Challenged claims 2–4 and 6 depend from claim 1. Claim 1 is illustrative and is reproduced below.

1. A subway car for mass transportation including longitudinal opposed sidewalls, a ceiling adjoining the sidewalls, a video display system comprising a plurality of video display monitors each having a video screen, and a video signal source unit operatively connected to said monitors,

said monitors being spaced along the length of the car on opposed sides thereof, each of said monitor being mounted at the junction of the sidewall and ceiling, with the screen of the monitor substantially flushed with the adjacent wall surface structure of the car, and directed obliquely downwardly toward

the car seats, so that each video screen is readily visible to passengers in the subway car.

Ex. 1001, 6:31–43.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent, such as the '602 patent, are given their broadest reasonable construction in light of the specification of the patent. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable construction as the standard to be applied for claim construction in *inter partes* reviews). Consistent with that standard, we assign claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention, in the context of the entire patent disclosure. See *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

There are, however, two exceptions: “1) when a patentee sets out a definition and acts as his own lexicographer,” and “2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Moreover, only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner provides constructions for the terms “substantially flushed” and “video signal source unit.” Pet. 9–11. Patent Owner provides

constructions for the terms “substantially flushed,” “video signal source unit,” and “mounted.” PO Resp. 11.

In our Decision on Institution, we did not find it necessary at that point in the proceeding to construe expressly any claim terms or to adopt the construction agreed to by the parties. *See* Dec. Inst. 6. Rather, we applied the terms’ plain and ordinary meanings, as understood by one of ordinary skill in the art in light of the specification. *Id.*

1. “*substantially flushed*”

Petitioner notes that “[d]uring reexamination of the ’602 Patent, the Board construed the term ‘substantially’ to mean ‘to a great extent or degree’ and ‘flush’ to mean ‘a surface exactly even with an adjoining one.’ The Board construed ‘substantially flush’ to mean ‘a surface which is to a great extent even with an adjoining one.’” Pet. 10 (quoting Ex. 2001, 6). Petitioner accepts this construction. *Id.*

Patent Owner notes the same construction but does not indicate whether it finds this construction acceptable. PO Resp. 11. Patent Owner’s Declarant, however, states that this construction “is broadly consistent with the plain meaning of the claim language in light of the specification.” Ex. 2004 ¶ 27.

On the full record now before us, and in the absence of contrary argument by Patent Owner, we construe “substantially flushed” to mean “a surface which is to a great extent even with an adjoining one.” This construction reflects the ordinary and customary meaning of the terms in the context of the entire patent disclosure and is consistent with the construction from the reexamination proceeding.

2. “*video signal source unit*”

Petitioner asserts the term “video signal source unit” is defined expressly in the specification, and should be construed to mean:

player units for playing pre-recorded video material, such as computer-based digital video recorders (including CD-ROM players), video tape players and video disk players, and television receivers for receiving live or pre-recorded broadcast television signals from a remote transmitter and supplying these to the video display monitors mounted in the subway cars.

Pet. 11 (quoting Ex. 1001, 2:15–22). Petitioner asserts the term encompasses video signal source units “located either within the mass transits’ premises or on a remote broadcasting site,” as well as within the subway cars themselves. *Id.* (quoting Ex. 1001, 2:26–34).

Patent Owner does not provide a particular construction for this term in the Patent Owner Response. *See* PO Resp. 11.

Petitioner’s proposed construction provides a set of examples of video signal source units, but such sets of examples are limited and do not provide a good understanding of the full scope of the term. Rather, it merely suggests a limited number devices one of ordinary skill in the art might understand to be a source of video signals.

We construe the term “video signal source unit” to mean “devices recognized by one with ordinary skill in the art as a source of video signals.”

3. “*mounted*”

Petitioner does not provide a construction for the term “mounted” (Pet. 9–11), believing the term “mounted” does not require construction (Pet. Reply 9).

Patent Owner proposes that the term “mounted” be construed to mean “attached to a support.” PO Resp. 11. Patent Owner’s Declarant states that

this construction is consistent with the plain meaning of the claim language in light of the specification. Ex. 2004 ¶ 28.

The '602 specification does not define “mounted,” but does provide some examples of mounting display monitors, such as “the video display monitors have a strong metal frame construction, *fixed to the frame* of the subway car” (Ex. 1001, 3:62–64, emphasis added), and “[t]he enclosure in turn is *secured to the top* of structural pillar 30 and the side of housing 38” (*id.* at 5:23–25, emphasis added).”

The term “mounted” is not a unique or coined term. Its plain and ordinary meaning as would be understood by those skilled in the art in light of the specification applies. Petitioner does not take a position on the meaning of the term “mounted,” but Patent Owner’s Declarant states that “attached to a support” is consistent with the plain meaning of the term “mounted.” Ex. 2004 ¶ 28. We find that the plain and ordinary meaning of the term “mounted” as would be understood by those skilled in the art in light of the specification is “attached, fixed, or secured to a support.”

B. Level of Ordinary Skill in the Art

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

Petitioner argues a person of ordinary skill in the art in the field of the '602 patent is a person who has (1) a Bachelor’s Degree in Mechanical, Industrial, or Aerospace Engineering (or the practical experience equivalent

to those degrees), and (2) an additional 2–3 years of experience in the design of rail cars. Pet. 9 (citing Ex. 101[4] ¶ 23).

In the Patent Owner Response, Patent Owner does not provide or argue a particular level of education, field of study, relevant industry, or years of experience a person of ordinary skill in the art would have had at the time of the '602 patent. See PO Resp. 29–31. We note, however, Patent Owner's Declarant states that, "a person of ordinary skill in the art in the field of the '602 Patent would have (1) a Bachelor's Degree in Engineering, and (2) at least 2–3 years of Engineering experience with rail equipment and/or the design of rail equipment." Ex. 2002 ¶ 28. Moreover, Patent Owner's Declarant states that he "do[es] not disagree with the qualifications recited by Petitioner's expert" as to the qualifications of a person of ordinary skill in the art at the time of the '602 patent. Ex. 2004 ¶ 20.

We find that a person of ordinary skill in the art in the field of the '602 patent is a person who has (1) a Bachelor's Degree in Mechanical, Industrial, or Aerospace Engineering (or the practical experience equivalent to those degrees), and (2) 2–3 years of experience in the design of rail cars.

C. Alleged Grounds of Unpatentability

In the Petition, Petitioner alleged six grounds of unpatentability. The prior art and the statutory basis for the alleged unpatentability for each ground is set out in the table below. In our Decision on Institution, we instituted *inter partes* review on claims 1–4, and 6 of the '602 patent, all the claims alleged unpatentable in the Petition, but not on all alleged grounds of unpatentability. Only the alleged unpatentability of claims 1–4, and 6 as obvious over Namikawa, Sasao, Amano, and Maekawa has been included in this instituted *inter partes* review. Paper 11, 27.

Ground	Claims	Reference(s)	Basis
A	1, 6	Namikawa	§ 102(b)
B	1, 6	Miyajima	§ 102(b)
C	1–4, 6	Namikawa, Sasao, Amano, Maekawa	§ 103
D	1–4, 6	Namikawa, JTOA, Amano, Maekawa	§ 103
E	1–4, 6	Miyajima, Sasao, Amano, Maekawa	§ 103
F	1–4, 6	Miyajima, JTOA, Amano, Maekawa	§ 103

D. Prior Art References

1. Namikawa (Exs. 1004, 1005)¹

Namikawa is directed to a subway car where “a plurality of liquid crystal televisions [] are disposed along the direction of travel on a wall face above each seat [] inside a car [].” Ex. 1005, 6. Figure 1 of Namikawa is shown below.

¹ The cited prior art references, Namikawa, Sasao, Amano, and Maekawa, are foreign language references, each accompanied by a certified English language translation. See Exs. 1004, 1005 (Namikawa); Exs. 1010, 1011 (Sasao); Exs. 1020, 1021 (Amano); and Exs. 1008, 1009 (Maekawa). In each instance, the even exhibit number refers to the foreign language document and the odd exhibit number refers to the English language translation. For convenience, we cite to the English language translations of these references.

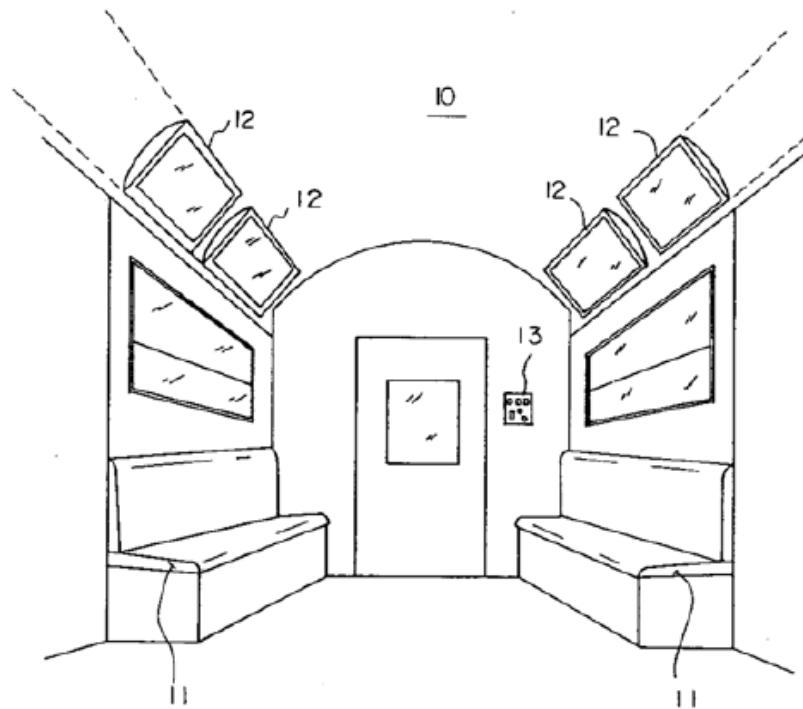


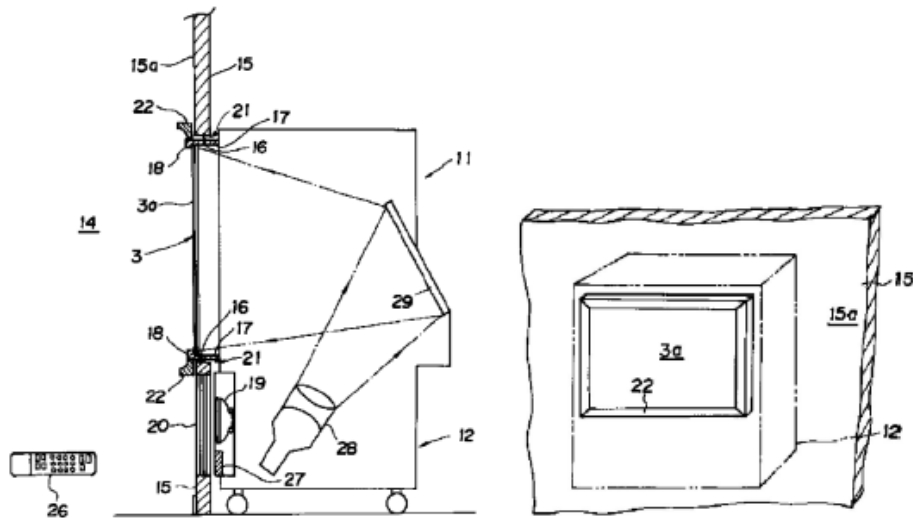
Figure 1 of Namikawa, shown above, depicts an arrangement of television screens inside a rail car.

Namikawa explains that “[e]ach liquid crystal television 12 broadcasts content taken from broadcasting media, such as cable television for example, in other words, programming such as various types of commercials, dramas, and news.” *Id.* at 6. Namikawa further explains that “a passenger sitting in one facing seat can watch the liquid crystal television 12 above another seat and a passenger in the other seat can watch the liquid crystal television 12 above the seat of the one facing seat.” *Id.*

2. Sasao (Exs. 1010, 1011)

Sasao relates to “a display device with which the perceived presence of the cabinet can be entirely eliminated, such that only the necessary image is produced.” Ex. 1011, Abstract. In Sasao, a “display device such as a rear projection television” is “structured so as to be housed at the interior of a

wall.” Ex. 1011 ¶ 1. Sasao shows how to arrange a television behind a wall so that a viewer can only see the screen of the television set. Figures 3 and 4 of Sasao depict such an arrangement and are set out below.



Sasao Figures 3 and 4, shown above, show a cross section and a front view of a rear projection television set behind an opening in a wall, respectively. *Id.*

Sasao explains that “[t]he cabinet 12 itself is disposed behind the wall 15 and cannot be seen from within the room 14,” and “furthermore, as described above, the screen 3 protrudes forward from the cabinet 12 so that the front face 3a of the screen and the wall surface 15a in the room 14 are substantially flush.” *Id.* ¶ 10. Figure 6 of Sasao depicts this arrangement from the perspective of the viewer, and is set out below.

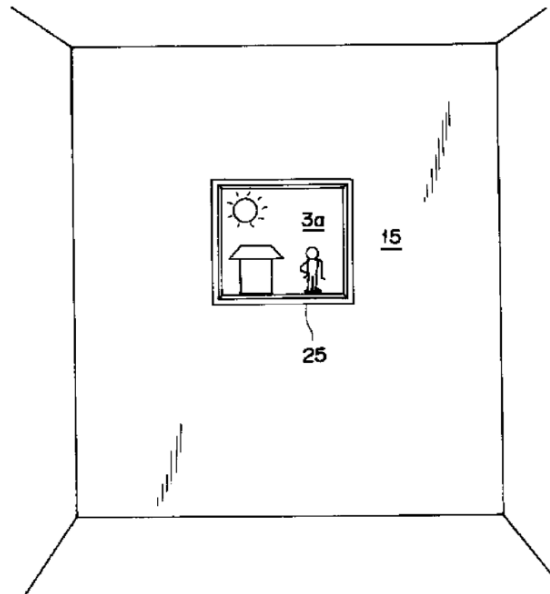


Figure 6 of Sasao, shown above, shows the front view of a visible screen of a projection television set placed behind a wall, from the perspective of a viewer in the room. *Id.* at 5.

3. *Amano (Exs. 1020, 1021)*

Amano is directed to a system for “making use of time in transportation equipment, by installing a display device, which provides nonstandard information to a large indefinite number of people who are using a limited space such as an airplane, train, or bus” Ex. 1021, 1. Amano, for example, shows a transmitter on a vehicle comprising “a video information playback function [], which primarily plays back motion pictures stored on a video disk or a videotape.” Ex. 1021, 3, Fig. 2. Amano also shows a vehicle with display devices and a transmitter for providing information to those display devices from a location not used by passengers, such as the conductor’s cab in a train. Ex. 1021, 2, Figs. 4–6.

4. *Maekawa (Exs. 1008, 1009)*

Maekawa is directed to “a teletext broadcast receiving system for a mobile body, preferably used in installations in mobile bodies such as electric trains.” Ex. 1009, 1. Maekawa explains how “a television receiver installed in an electric train is used in a receiving system that displays teletext broadcasts.” *Id.* at 2. Maekawa explains that “the television receivers [] are thin” and can be “liquid crystal panels or the like.” *Id.*

E. Independent Claim 1

Petitioner contends that independent claim 1 is obvious over the combination of Namikawa, Sasao, Amano, and Maekawa. Pet. 28–34. Patent Owner disagrees. PO Resp. 17–27, 29–40. We address the evidence and arguments presented by the parties and highlight specific issues in further detail below.

1. *“a subway car for mass transportation including . . . sidewalls”*

With respect to the recited limitation in claim 1 “a subway car for mass transportation,” Petitioner relies on Namikawa’s teaching of “a public transport vehicle such as a transit bus or electric train wherein commercials or programming can be broadcast.” Pet. 19 (quoting Ex. 1005, 2–3). Petitioner relies on Figure 1 of Namikawa, which shows “one example of applying the present device to a car in an electric train of [Japan Railways], a subway, or the like.” *Id.* (quoting Ex. 1005, 6). Petitioner also relies on Namikawa’s Figure 1 to teach the recited limitations “longitudinal opposed sidewalls” and “ceiling adjoining the sidewalls.” *Id.* at 20.

Patent Owner does not contest Petitioner’s evidence or arguments that Namikawa teaches this limitation. See PO Resp. 17–21, 25–26.

Petitioner has shown sufficiently that Namikawa's description of "applying the present device to a car in an electric train of [Japan Railways], a subway, or the like" (Ex. 1005, 6) along with Namikawa's Figure 1 teaches the recited limitation "a subway car for mass transportation including longitudinal opposed sidewalls, a ceiling adjoining the sidewalls" of claim 1.

2. *"a video display system . . . connected to said monitors"*

With respect to the recited limitation "a video display system comprising a plurality of video display monitors each having a video screen, and a video signal source unit operatively connected to said monitors," Petitioner relies on Namikawa's teaching that "a plurality of liquid crystal televisions 12 are disposed along the direction of travel on a wall face above each seat 11 inside a car 10." *Id.* at 20, 28 (citing Ex. 1005, 6, Fig. 1). Petitioner also relies on Namikawa's teaching that "[e]ach liquid crystal television 12 broadcasts content taken from broadcasting media, such as cable television for example, in other words, programming such as various types of commercials, dramas, and news." *Id.* at 20–21 (quoting Ex. 1005, 6).

Petitioner alternatively relies upon the combination of Namikawa and Amano or Maekawa to show that it would have been obvious to a person of ordinary skill in the art to employ a video signal source unit to achieve Namikawa's goal of broadcasting programming and commercials to passengers through LCD (liquid crystal display) monitors. *Id.* at 28–30. For this combination, Petitioner relies on Amano's teaching of a vehicle with display devices and a transmitter for providing information to those display devices from a location not used by passengers, such as "the conductor's cab

in a train.” *Id.* at 29 (citing Ex. 1021, 2, Figs. 4–6). Petitioner also relies on Amano’s teaching that the transmitter on the vehicle comprises “a video information playback function 7b, which primarily plays back motion pictures stored on a video disk or a videotape.” *Id.* (quoting Ex. 1021, 3, Fig. 2).

Alternatively, Petitioner relies on Maekawa’s teaching of display devices for trains having “television receivers” and antennas in the vehicle, explaining that “[i]n recent years . . . television receivers have been installed in mobile bodies such as electric trains, and images that were played back by VTRs or the like have been received by these” television receivers. *Id.* at 29–30 (quoting Ex. 1009, 1, Figs. 1–2).

Petitioner argues that it would have been obvious to combine Amano or Maekawa with Namikawa in view of their common goal for displaying electronic and dynamic content to passengers. *Id.* at 30. Petitioner argues it would have been obvious to combine the video disk player of Amano with the video display system of Namikawa, or to combine the television receivers of Maekawa with the video display system of Namikawa. *Id.* (citing Ex. 1014 ¶ 36). Petitioner argues the inclusion of a video signal source unit such as a video disk player taught by Amano or a television receiver/antenna taught by Maekawa in the system taught by Namikawa were known ways to display desired content to passengers. *Id.* (citing Ex. 1014 ¶ 36).

Patent Owner does not contest Petitioner’s evidence or arguments that Namikawa alone teaches the recited limitation or that the combination of Namikawa with Amano or Maekawa teaches this limitation. See PO Resp. 17–27.

Petitioner has shown that Namikawa teaches a plurality of liquid crystal televisions disposed on a wall face above each seat inside a rail car (Ex. 1005, 6, Fig. 1) and that each liquid crystal television displays content from broadcasting media, such as cable television, of various types of commercials, dramas, and news (Ex. 1005, 6). Petitioner has also shown that Amano teaches a vehicle with display devices and a transmitter for providing information to those display devices from a location such as the conductor's cab in a train (Ex. 1021, 2, Figs. 4–6) and a transmitter with a video information playback function that plays back motion pictures stored on a video disk or a videotape (Ex. 1021, 3, Fig. 2).

Petitioner has also shown that Maekawa teaches display devices for trains that have television receivers and antennas, and that such television receivers were installed in electric trains, where images were played back by video tape recorders (VTRs) and received by television receivers for display. Ex. 1009, 1, Figs. 1–2.

We find, on the basis of the evidence and explanation provided by Petitioner, that Namikawa in combination with Amano or Maekawa, teaches the recited limitation “video display system comprising a plurality of video display monitors each having a video screen, and a video signal source unit operatively connected to said monitors” of claim 1.

3. “*monitors . . . on opposed sides,*”

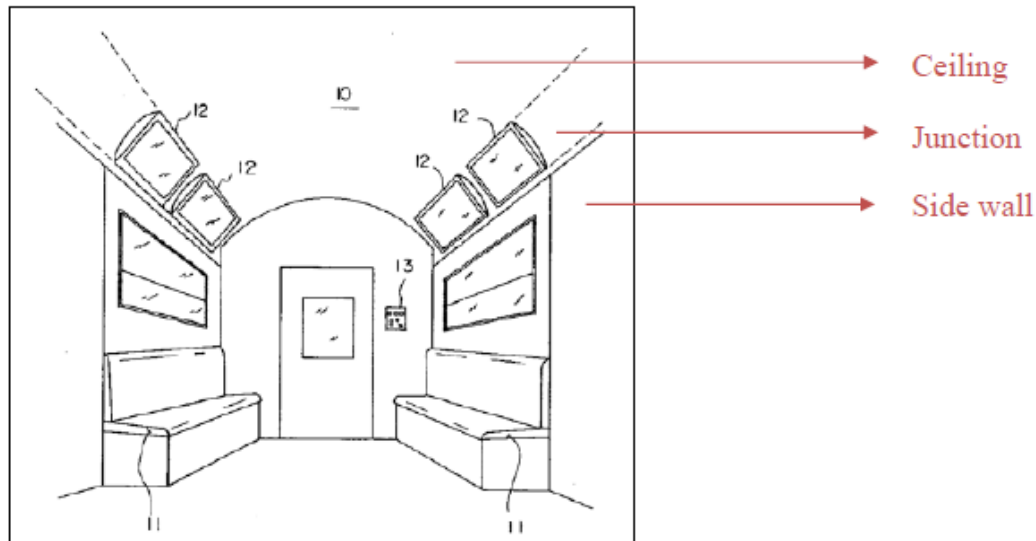
With respect to the recited limitation “monitors being spaced along the length of the car on opposed sides,” Petitioner relies on Figure 1 of Namikawa to show liquid crystal televisions spaced along the length of the car on opposed sides. *Id.* at 21 (citing Ex. 1005, Fig. 1).

Patent Owner does not contest Petitioner's evidence or arguments that Namikawa teaches this limitation. *See* PO Resp. 17–21, 25–26.

Namikawa's Figure 1 shows a series of television monitors mounted above the passenger seats along the length of the car on opposite sides. This is supported by Namikawa's explanation that "a plurality of liquid crystal televisions 12 are disposed along the direction of travel on a wall face above each seat 11 inside a car 10." Ex. 1005, 6, Fig. 1. We find, on the basis of the evidence and explanation provided by Petitioner, that Namikawa teaches the recited limitation "monitors being spaced along the length of the car on opposed sides" of claim 1.

4. *"mounted at the junction of the sidewall and ceiling,"*

With respect to the recited limitation "each of said monitor being mounted at the junction of the sidewall and ceiling," Petitioner relies on Figure 1 of Namikawa to show liquid crystal televisions mounted at the junction of the sidewall and ceiling. *Id.* at 22 (citing Ex. 1005, Fig. 1). Petitioner asserts that the junction in Namikawa is shown as a concavely curved segment extending from the vertical sidewall to the ceiling, which, Petitioner argues, is consistent with the '602 patent's description that "there is commonly provided a concavely curved segment of internal wall" at the junction location. *Id.* (citing Ex. 1001, 4:1–3). Namikawa Figure 1, color annotated by Petitioner, is shown below.



Annotated Namikawa Figure 1, shown above, shows the location of the junction in a rail car, according to Petitioner.

Patent Owner argues that Namikawa teaches monitors mounted on a sidewall, not mounted at the junction of the sidewall and ceiling, as recited in claim 1. PO Resp. 25–26. Patent Owner also argues that Namikawa’s monitor screens are mounted externally on top of the sidewall, and are not mounted substantially flushed with the adjacent wall surface structure as claimed. *Id.*

The ’602 patent explains that “when the monitor is mounted at the junction of the wall and ceiling of the subway car, [] there is commonly provided a concavely curved segment of internal wall.” Ex. 1001 at 4:1–3. Patent Owner’s Declarant testified that “subway cars have a rounded portion at the junction of the sidewall and ceiling to accommodate travel through subway way tunnels which are bored by a machine in a round shape and made to be as small as possible to reduce costs,” and “[i]t would be clear to one of ordinary skill in the art that the ‘junction of the sidewall and the ceiling’ in a subway car is not a single point, but an area between the ceiling

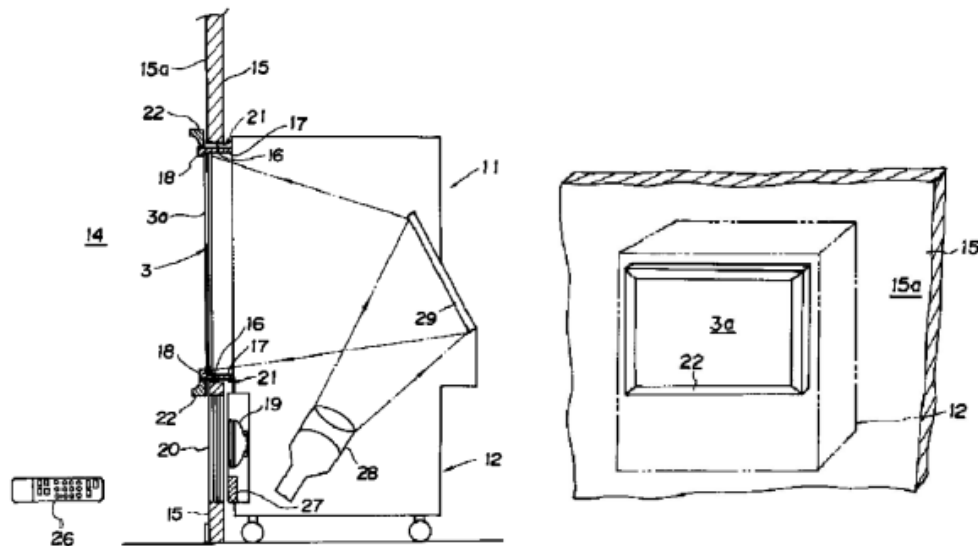
and a sidewall that is curved.” Ex. 2004 ¶¶ 23, 24.

One of ordinary skill in the art reading the claims in light of the specification would understand that the recited limitation of “mounted at the junction of the sidewall and ceiling” in a subway car would cover the case of having a mounting surface of concavely curved segment of internal wall such as the one shown in Namikawa Figure 1. We find, on the basis of the evidence and explanation provided by Petitioner, that Namikawa teaches the recited limitation “each of said monitor being mounted at the junction of the sidewall and ceiling” of claim 1.

5. *“substantially flushed with the adjacent wall surface”*

With respect to the recited limitation “with the screen of the monitor substantially flushed with the adjacent wall surface structure of the car,” Petitioner relies on Namikawa’s Figure 1 to teach this limitation, arguing that the surfaces of flat panel screens depicted in Figure 1 are “to a great extent even with the adjoining walls.” *Id.* at 23.

Petitioner alternatively relies upon the combination of Namikawa and Sasao to teach this limitation. *Id.* at 31. Sasao is directed to “a display device that is structured so as to be housed at the interior of a wall” (Ex. 1011 ¶ 1), such that “only the front face of the image formation part can be seen from within the room” (*Id.* ¶ 8). Figures 3 and 4 of Sasao are shown below.



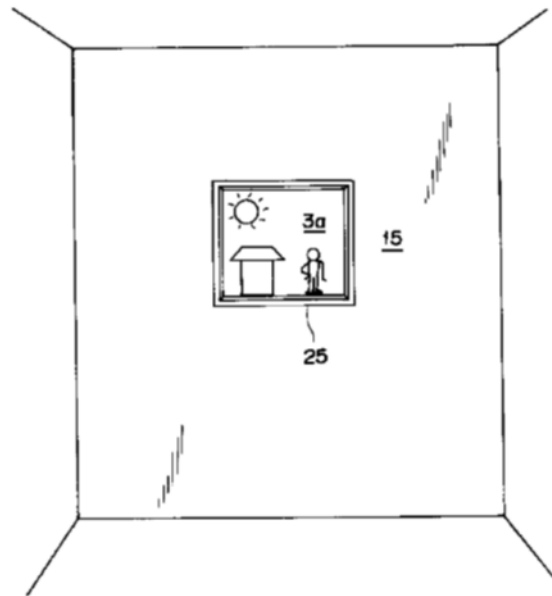
Sasao Figures 3 and 4, shown above, depict a television placed behind a wall such that the front of the display screen is flush with the adjacent wall surface. Ex. 1011 at 2, 5. Sasao teaches that “the screen 3 protrudes forward from the cabinet 12 so that the front face 3a of the screen and the wall surface 15a in the room 14 are *substantially flush*.” *Id.* ¶ 10 (emphasis added).

Petitioner argues that there is motivation to modify Namikawa by placing the screens substantially flushed with the adjacent wall surface. Pet. 33. Petitioner argues that this modification would have conserved space and resulted in a more aesthetically pleasing system. *Id.* (citing Ex. 1014 ¶ 44). Petitioner also argues that this modification would have reduced the potential for vandalism and would have made it easier to clean the screens and the adjacent walls. *Id.* Petitioner further argues that by 1997, flush mounting was the norm in the rail industry and the Federal Railroad Administration (“FRA”) was in the process of enacting regulations that required railcars under FRA jurisdiction to have interior fittings (e.g., TVs) that were either recessed or flush mounted. *Id.* at 33–34 (citing Ex. 1014 ¶

44). In 1997, Petitioner argues, one of ordinary skill in the art would have been aware of all of these reasons, and therefore motivated to place display screens in railcars substantially flush with adjacent surfaces. *Id.* at 34.

Patent Owner argues that Namikawa does not teach or suggest the limitation “screen of the monitor substantially flushed with the adjacent wall surface structure of the car.” PO Resp. 17, 20–21, 25–26. Patent Owner also argues that Sasao is directed to hiding a rear projection cabinet in a room, and is not directed to systems for railway cars. *Id.* at 32–33. Patent Owner argues that there is no teaching or suggestion of any structure for a flush mounted TV monitor system in Sasao that “results in the system being both located at the junction of subway car’s ceiling and sidewall and results in the screen being [] substantially flush with the adjacent wall surfaces.” *Id.* at 33.

Patent Owner, however, does not appear to dispute that Sasao teaches positioning a rear projection television behind a wall so that the screen of the television and the adjacent wall are on an even plane with each other. *See id.* at 21–22. Patent Owner even acknowledges that Sasao teaches “screen 3 protrudes forward from the cabinet 12 so that *the front face 3a of the screen and the wall surface 15a in the room 14 are substantially flush.*” *Id.* at 21 (quoting Ex. 1011 ¶ 10 (emphasis added)). The result of this arrangement, as seen from the perspective of a viewer, is depicted in Figure 6 of Sasao, shown below.



Sasao Figure 6, shown above, shows the front view of a visible screen of a television set placed behind a wall, from the perspective of a viewer in the room. This arrangement positions the television so that the front face of the television screen is substantially flush with the adjacent wall surface. Ex. 1011 ¶ 10, Figs 3–6.

We construed “substantially flushed” to mean “a surface which is to a great extent even with an adjoining one.” *Supra* § II.A.1. Sasao’s aligning the front face of a television screen with an adjacent wall surface so that the front face of the screen and the surface of the adjacent wall are *substantially flush* with each other falls within this meaning. We find, on the basis of the evidence and explanation provided by Petitioner, Sasao’s positioning of a television behind an opening in a wall and aligning the front face of the television screen with the adjacent wall surface in the room so that the screen and the wall are substantially flush with each other teaches the recited limitation “the screen of the monitor substantially flushed with the adjacent

wall surface,” of claim 1. We address the arguments directed to the proposed combination of Namikawa and Sasao below.

6. “*directed obliquely downwardly*”

With respect to the recited limitation in claim 1 “directed obliquely downwardly toward the car seats, so that each video screen is readily visible to passengers in the subway car,” Petitioner relies on Namikawa’s teaching of “a plurality of liquid crystal televisions 12 [] disposed along the direction of travel on a wall face above each seat 11 inside a car 10.” *Id.* at 23 (citing Ex. 1005, 6, Fig. 1). Petitioner relies on Namikawa’s explanation that “[t]he liquid crystal television is assembled in a mounting position for an advertising media using conventional paper.” *Id.* (quoting Ex. 1005, 6). Petitioner also relies on Namikawa’s explanation that “a passenger sitting in one facing seat can watch the liquid crystal television 12 above another seat and a passenger in the other seat can watch the liquid crystal television 12 above the seat of the one facing seat.” *Id.* (quoting Ex. 1005, 6). Petitioner argues that Namikawa’s Figure 1 shows liquid crystal televisions having screens directed obliquely downward toward the car seats so that each screen is readily visible to passengers in the subway car. *Id.* at 23–24 (citing Ex. 1005, Fig. 1).

Patent Owner does not contest Petitioner’s evidence with respect to this limitation. Patent Owner does, however, argue that Sasao’s “screen is in a sidewall (not mounted at the junction of the sidewall and ceiling as claimed) and is flat on the sidewall (not directed obliquely downwardly toward the car seats, so that each video screen is readily visible to passengers in the subway car).” PO Resp. 26. Patent Owner also argues that “Sasao teaches a monitor that is adjusted forward to accommodate a flush

mount of a screen that is flat in a flat wall (not directed obliquely downward).” *Id.* at 30. Patent Owner’s arguments concerning the vertical alignment of Sasao’s screens, however, do not respond to Petitioner’s reliance on Namikawa to teach this limitation.

Namikawa’s Figures 1 and 2 show flat panel televisions mounted above the passenger seats of a rail car oriented downward so that a passenger sitting in one facing seat can watch the liquid crystal television above another seat. We find, on the basis of the evidence and explanation provided by Petitioner, that Namikawa teaches the recited limitation “directed obliquely downwardly toward the car seats, so that each video screen is readily visible to passengers in the subway car,” of claim 1.

7. Motivation to Combine

Petitioner argues “it would have been obvious to a person of ordinary skill in 1997 to place [Namikawa’s] display screens within the subway car’s walls such that the screens are substantially flushed with the adjacent wall surface. Pet. 31 (citing Ex. 1014 ¶ 38). Petitioner argues that Namikawa describes the motivation to conserve space inside a subway car, and teaches the use of televisions in a “flat panel shape” so that “no space inside the car is lost.” *Id.* at 33 (citing Ex. 1005, 6). Petitioner argues the conservation of space, even inches worth, was a major motivation in the railcar industry in 1997. *Id.* (citing Ex. 1014 ¶ 42).

In addition to the conservation of space, Petitioner argues there were at least four other motivations to modify Namikawa with Sasao by placing the screens substantially flushed with the adjacent wall surface. *Id.* First, Petitioner argues, such a modification would have resulted in a more aesthetically pleasing system. *Id.* (citing Ex. 1014 ¶ 44). Second, such a

modification would have reduced the potential for vandalism. *Id.* Third, such a modification would have made it easier to clean the screens and the adjacent walls. *Id.* Fourth, by 1997, flush mounting was the norm in the rail industry and the FRA was in the process of enacting regulations that required railcars under FRA jurisdiction to have interior fittings (e.g., TVs) that were either recessed or flush mounted. *Id.* at 33–34. In 1997, Petitioner argues, one of ordinary skill in the art would have been aware of all of these reasons, and therefore motivated to place display screens in railcars substantially flush with adjacent surfaces.

Patent Owner argues that a person of ordinary skill in the art would not have been motivated to combine Namikawa and Sasao to arrive at the claimed invention. PO Resp. 31–34. Patent Owner argues that such a combination would require Namikawa’s system to be redesigned substantially. *Id.* at 31. Patent Owner also argues that Petitioner’s motivation for combining references to save space or create pleasing aesthetics is contrary to the teachings of these references (*id.* at 34–38), and any motivation to comply with proposed FRA regulations is “complete nonsense” (*id.* at 37). Patent Owner further argues there would not have been any reasonable expectation of success in combining the references. *Id.* at 39–40.

The test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.” *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983). “Combining the teachings of references does not involve an ability to

combine their specific structures.” *In re Nievelt*, 482 F.2d 965 (CCPA 1973).

Moreover, “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). “[T]he [obviousness] analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418. “[A]n analysis of obviousness . . . may include recourse to logic, judgment, and common sense available to the person of ordinary skill in the art that do not necessarily require explication in any reference or expert opinion.” *Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2009).

Here, Patent Owner argues that Namikawa does not disclose any structural details as to how flat panel monitors are mounted, and Sasao does not mention how or why to mount its television anywhere, let alone at the junction of a sidewall and a ceiling. PO Resp. 31–33. Patent Owner’s argument is essentially that a person of ordinary skill in the art at the time of the ’602 patent would not know how to flush mount a flat panel monitor at the junction of the sidewall and ceiling of a subway car and would therefore not be motivated to do so. Patent Owner’s argument, however, fails to take into account the education and experience a person of ordinary skill in the art of the subject matter of the ’602 patent.

A person of ordinary skill in the art in the field of the '602 patent is a person who has (1) a Bachelor's Degree in Mechanical, Industrial, or Aerospace Engineering (or the practical experience equivalent to those degrees), and (2) 2-3 years of experience in the design of rail cars. A person of ordinary skill in the art would have understood Figure 1 of Namikawa to be disclosing the availability of space beyond the wall at the junction of the sidewall and the ceiling to allow for the screen of the monitor to be substantially flushed with the adjacent wall surface structure of the car. Ex. 1025 ¶ 11. Such a person of ordinary skill in the art would have understood how to flush mount a flat panel monitor at the junction of a sidewall and ceiling in a subway car. *Id.* ¶ 17. Systems for mounting televisions in subway cars (whether it be to the interior wall or to structural members in the cavity between the interior wall and the exterior shell) were widely available to persons of ordinary skill in the art in the 1995–1997 timeframe. *Id.* ¶ 16.

With respect to Patent Owner's argument that the references do not support Petitioner's motivation to combine in order to save space, create pleasing aesthetics, or to comply with proposed FRA regulations, we note that "[u]nder the correct [obviousness] analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420. A reason to combine teachings from the prior art "may be found in explicit or implicit teachings within the references themselves, from the ordinary knowledge of those skilled in the art, or from the nature of the problem to be solved." *WMS Gaming, Inc. v. Int'l Game*

Tech., 184 F.3d 1339, 1355 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)).

According to Petitioner's Declarant, in the early 1990's American rail car specifications required that car interiors have "smooth" or "clean" surfaces. Ex. 1014 ¶ 26. This requirement addressed the need to enhance the aesthetics of car interiors as well as to conserve space. *Id.* Achieving a "smooth" or "clean" surface required equipment to be installed either flushed or substantially flushed with the adjacent wall or ceiling panels. *Id.* ¶ 27. Flush or substantially flush mounting was at that time and still is considered to be the norm in the rail industry. *Id.* ¶ 31. Moreover, the FRA had begun working with industry representatives and others to develop passenger equipment safety standards, which ultimately led to a proposed rule in June 1996 that required interior fittings of railcars (e.g., TVs) to be "recessed or flush-mounted." *Id.* ¶ 31. With the introduction of video systems into rail cars during this time period, the requirement for "smooth" or "clean" interior surfaces, along with the proposed FRA regulations, would have motivated those of ordinary skill in the art in the industry to flush or substantially flush mount video systems inside rail cars.

Under *KSR*, "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420. Accordingly, Patent Owner's arguments that the references themselves do not provide support for Petitioner's motivation to combine is unpersuasive.

Finally, Patent Owner asserts there would not have been any reasonable expectation of success in combining the references. PO Resp. 39–40. During the cross-examination of Petitioner's Declarant, Mr. Malo,

Patent Owner asked questions about the available space, or cavity, between the interior and exterior walls of subway cars at the junction of the sidewall and the ceiling, the concerns of overheating monitors, proper ventilation, the dissipation of heat, and fire concerns, among other things. Paper 30, 1–15.

Patent Owner argues that there is no clear fact-based analysis establishing what is being modified and why. *Id.* at 39. For example, Patent Owner argues, “why would it be obvious to modify a monitor mounted on a wall above the seats of a subway car (as in Namikawa)” or “[h]ow could we modify Namikawa to be flush with a curved portion (the junction of the sidewall and the ceiling) according to the teachings of a floor mounted television that teaches moving forward the screen.” *Id.* Patent Owner’s arguments fail to take account of the evidence of record.

The question of “why would it be obvious to modify a monitor mounted on a wall above the seats of a subway car (as in Namikawa)” is answered by the industry requirements in American rail car specifications during that period that required car interiors to have “smooth” or “clean” surfaces. Ex. 1014 ¶ 26. This requirement addressed the need to enhance the aesthetics of car interiors as well as to conserve space. *Id.* Achieving a “smooth” or “clean” surface required equipment to be installed either flushed or substantially flushed with the adjacent wall or ceiling panels. *Id.* ¶ 27.

The answer to the question “[h]ow could we modify Namikawa to be flush with a curved portion (the junction of the sidewall and the ceiling) according to the teachings of a floor mounted television that teaches moving forward the screen” is similarly answered by a review of the evidence of record. For example, Petitioner’s Declarant testifies:

[S]uch a modification [of Namikawa] would have been well within the knowledge and ability of one of skill in the art in the 1995-1997 timeframe. It would not have been difficult for a person of ordinary skill in the art to interchange curved structural pieces of wall with flat structural pieces of wall in Namikawa. Specifically, in 1995-1997 many railcar manufacturers used fiberglass panels at the junction of a sidewall and ceiling because fiberglass panels are light in weight, last for a long time, require low maintenance, and are good insulators. Fiberglass panels can easily be molded into any shape and have the mechanical strength to support many components mounted thereon.

Ex. 1025 ¶ 15.

Moreover, Petitioner's Declarant testified that the cavity space behind the interior wall of Namikawa can include wires and conduits and also provide for ventilation of the televisions (Paper 41, 1–2), and that LCD televisions, such as the ones taught by Namikawa, do not generate much heat and therefore do not require heat to be dissipated through ventilation or other means (*id.* at 7–8, 11–13).

Petitioner's proposed combination of Namikawa's flat panel liquid crystal televisions mounted at the junction of the sidewall and ceiling of a rail car so that the screen is substantially flush with the wall, as taught by Sasao, is the combination of familiar elements according to known methods. Ex. 1025 ¶¶ 15–17. Such a combination does no more than yield predictable results. Patent Owner does not to provide persuasive evidence or argument to the contrary. *See KSR*, 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). In that regard, we credit and are persuaded by the testimony of Mr. Malo, in paragraphs 15–17 of his Supplemental Declaration, explaining why “[o]ne of ordinary skill in the art would have known how to mount Namikawa's televisions to structured

members in the cavity [between the interior wall and the exterior shell of a subway car] such that the television screens would be substantially flushed with the adjacent wall surfaces.” Ex. 1025 ¶¶ 15–17; *see Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

For all the reasons stated above, we are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Sasao, Amano, and Maekawa teaches all the limitations of independent claim 1 arranged as is required by claim 1.

F. Dependent Claims 2–4, 6

1. Dependent Claim 2

Claim 2 depends from claim 1 and adds the limitation “[t]he subway car of claim 1 wherein the video signal source system includes a pre-recorded video transmission program for feeding to display on the monitors of duration about 5-15 minutes.”

Petitioner relies on the combination of Namikawa, Amano, and Maekawa to teach this limitation. Pet. 34–36. Petitioner asserts Namikawa teaches a television receiver, which is explicitly identified in the ’602 patent as being a type of “video signal source unit.” *Id.* at 34 (citing Ex. 1001, 2:19–22). Petitioner asserts Namikawa further teaches that “[e]ach liquid crystal television 12 broadcasts content taken from broadcasting media, such as cable television for example, in other words, programming such as various types of commercials, dramas, and news.” *Id.* (quoting Ex. 1005, 6). Petitioner argues it also would have been obvious to add a video disk player, as taught by Amano, or a television receiver/antenna, as taught by Maekawa, to the system taught by Namikawa in order to display desired content to passengers. *Id.* 34–35.

Petitioner also asserts Maekawa teaches, for use in trains, teletext broadcast programs “displayed at prescribed intervals,” which can be “stored in the memory (47) [and] displayed sequentially in a cycle of several minutes to several dozen minutes.” *Id.* at 35 (quoting Ex. 1009, 6).

Petitioner notes Maekawa further states that although the embodiment described relates to teletext broadcast receiving equipment, “image playback equipment such as a VTR may be provided, and playback images and the teletext broadcast programs maybe be alternatingly displayed.” *Id.* (quoting Ex. 1009, 6).

Petitioner asserts Amano similarly teaches, for use in trains, information for display that can include “text and image information or motion pictures stored on a video disk or a videotape” *Id.* (quoting Ex. 1021, 3). Petitioner notes this stored information is described as having been provided “in advance” to the transportation vehicle. *Id.*

Petitioner argues,

[i]n 1997, content such as commercials and dramas described in Namikawa were far more likely to be delivered through cable television in a “pre-recorded” format as opposed to a “live” format. (Ex. 101[4] at ¶ 54). One of skill in the art would thus have good reason to use “pre-recorded” content, as expressly taught by Maekawa and Amano, in the display system of Namikawa. *Id.*

In addition, in 1997, a duration of about 5-15 minutes was a common length of time for a passenger’s subway trip. (Ex. 101[4] at ¶ 55; *see also* Ex. 1009 at 6 (“[I]n the case of an electric train traveling as a local train in the city center, it will stop for a few tens of seconds to one minute at a station in every two to three minutes of travel”). One of skill in the art would thus have good reason to use a video transmission program of “several minutes to several dozen minutes,” as taught by Maekawa – which includes the claimed “5-15 minutes in duration” – in the

display system of Namikawa to match this common length of time for a passenger's subway trip. (Ex. 1009 at 6; Ex. 101[4] at ¶ 55).

Pet. 35–36.

Patent Owner argues the combination of Namikawa, Sasao, Amano, and Maekawa does not render claim 2 obvious. PO Resp. 27. Patent Owner argues “Namikawa in view of Sasao does not raise a prima facie case that claim 2 is obvious for the same reason the asserted combination does not raise a prima facie case for claim 1.” *Id.* As we noted above with respect to independent claim 1, we are persuaded by a preponderance of the evidence that the combination of Namikawa, Sasao, Amano, and Maekawa teaches all the limitations of claim 1.

Patent Owner also argues that “neither Amano nor Maekawa mention or suggest a video display monitor system that is mounted at the junction of the ceiling and sidewall of the subway car that meets the claim requirements for the position and orientation of the screen.” *Id.* This argument, however, is not responsive to Petitioner's evidence. Petitioner relies on Namikawa and Sasao to teach a video display monitor system mounted at the junction of the ceiling and sidewall of a subway car with the requisite screen position and orientation, not Amano and Maekawa. Petitioner relies on Amano and Maekawa to teach a source of programming to display desired content to passengers.

Namikawa's description of liquid crystal television's that display content taken from broadcasting media, such as cable television programming such as various types of commercials, dramas, and news along with testimony that it would have been obvious to add a video disk player or a television receiver/antenna to the system disclosed in Namikawa and

Maekawa's use in trains of teletext broadcast programs displayed at prescribed intervals that can be stored in the memory and displayed sequentially in a cycle of several minutes to several dozen minutes teaches the limitation "[t]he subway car of claim 1 wherein the video signal source system includes a pre-recorded video transmission program for feeding to display on the monitors of duration about 5-15 minutes" recited by claim 2.

We are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Amano, and Maekawa teaches the recited limitation "[t]he subway car of claim 1 wherein the video signal source system includes a pre-recorded video transmission program for feeding to display on the monitors of duration about 5-15 minutes" of dependent claim 2.

2. Dependent Claim 3

Claim 3 depends from claim 1 and adds the limitation "[t]he subway car of claim 1 wherein the program is repeatable, and includes a series of commercial messages of 30 second–1 minute duration." Petitioner relies on the combination of Namikawa, Amano, and Maekawa to teach this limitation. Pet. 36–37.

Petitioner notes that an object of Namikawa's invention is "to provide a public transport vehicle such as a transit bus or electric train that can broadcast, in the car, commercials and broadcast programming that are taken from broadcasting media." *Id.* at 37 (quoting Ex. 1005, 3–4). Petitioner notes that Namikawa explains that "[w]hile riding, passengers can watch and enjoy, as a form of recreation, programming such as news, dramas, or movies that are broadcast from a liquid crystal television in the car and can ride in a relaxed state. In addition, commercials and programming broadcast

from the liquid crystal televisions can take on various aspects and a broadcast format that is rich in variety can be adopted.” *Id.* (quoting Ex. 1005, 9–10). Petitioner argues a person of ordinary skill in the art would thus understand Namikawa to be teaching the displaying of a “series of commercial messages” typically found in broadcasting media. In addition, in 1997 (and even still today), it was well known that a common length of time for a television commercial message was 30 seconds–1 minute. *Id.* (quoting Ex. 1014 ¶ 57).

Furthermore, Petitioner argues, it would have been obvious to have a “repeatable” program for the pre-recorded content disclosed in Maekawa and Amano. *Id.* Petitioner argues that any program stored in memory or on a video disk is “repeatable” because after the program completes playing once, it can be played again. *Id.* (citing Ex. 1014 ¶ 58).

Patent Owner argues “Namikawa in view of Sasao does not raise a prima facie case that claim 3 is obvious for the same reason the asserted combination does not raise a prima facie case for claim 1. PO Resp. 27–28.

As we noted above with respect to independent claim 1, we are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Sasao, Amano, and Maekawa teaches all the limitations of claim 1. With respect to the limitation of dependent claim 3, Namikawa’s description of a public transport vehicle such as a transit bus or electric train that can broadcast, in the car, commercials and broadcast programming that are taken from broadcasting media, combined with the pre-recorded and repeatable content described by Amano and Maekawa, along with the common knowledge that the length of time for a television commercial message was 30 seconds–1 minute, teaches the limitation “the

program is repeatable, and includes a series of commercial messages of 30 second–1 minute duration,” recited by claim 3.

We are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Amano, and Maekawa teaches the recited limitation “[t]he subway car of claim 1 wherein the program is repeatable, and includes a series of commercial messages of 30 second–1 minute duration” of dependent claim 3.

3. Dependent Claim 4

Claim 4 depends from claim 1 and adds the limitation “[t]he video system subway car of claim 1 which is sound free.” Petitioner asserts the combination of Namikawa, Amano, and Maekawa renders this limitation obvious in view the knowledge of one of skill in the art. Pet. 38.

Petitioner argues that in 1997, video display systems that were sound free or that otherwise could be operated in “mute” mode were widely available, and known to people of ordinary skill in the art. *Id.* (citing Ex. 1014 ¶ 60). In 1997, Petitioner argues, there were many subway systems in the United States where train passengers were informed of the current stop and/or next stop from an audible voice message from a train operator broadcasted over the train’s audio address system. *Id.* (citing Ex. 1014 ¶ 61). If a video display system in the subway cars played sound, Petitioner argues, then passengers might have found it more difficult to hear the announcements of the current stop and/or next stop and end up missing their intended stop. *Id.* Furthermore, Petitioner argues, some passengers may be engaging in activities where they would not wish to listen to the sound of the video display system, i.e., the passengers may be talking, listening to music via headphones, or reading. *Id.* The lack of sound from the video display

system, Petitioner argues, could thus enhance the travel experience, comfort, and satisfaction of the subway system's customers. *Id.* Therefore, Petitioner argues, one of skill in the art would have had good reason to design a video display system for a subway car that is sound free. *Id.*

Patent Owner argues "Namikawa in view of Sasao does not raise a prima facie case that claim 4 is obvious for the same reason the asserted combination does not raise a prima facie case for claim 1." PO Resp. 28. As noted above, we are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Sasao, Amano, and Maekawa teaches all the limitations of claim 1.

Patent Owner also argues that if the video in rail cars were sound free, as Petitioner argues, then the prior art "should have at least mentioned this." *Id.* (citing Ex. 2004 ¶¶ 48–49).

Petitioner's Declarant, however, testified that in 1997, video display systems that were sound free or that otherwise could be operated in "mute" mode were widely available, and known to people of ordinary skill in the art. Ex. 1014 ¶ 60. The lack of sound from a video display system could enhance the travel experience, comfort, and satisfaction of a subway system's customers. *Id.* at ¶ 61. One of skill in the art would have had good reason to design a video display system for a subway car that was sound free. *Id.* This teaches the limitation "[t]he video system subway car of claim 1 which is sound free" recited by claim 4.

We are persuaded that Petitioner has shown by a preponderance of the evidence that the combination of Namikawa, Maekawa, and Amano teaches the recited limitation "[t]he video system subway car of claim 1 which is sound free" of dependent claim 4.

4. *Dependent Claim 6*

Claim 6 depends from claim 1 and adds the limitation “[t]he subway car of claim 1 wherein the video monitors include LCD screens.”

Petitioner asserts that Namikawa teaches this limitation. Pet. 24, 39. Petitioner asserts that Namikawa teaches “a plurality of liquid crystal televisions 12 [] disposed along the direction of travel on a wall face above each seat 11 inside a car 10.” *Id.* at 24 (quoting Ex. 1001, 6; Fig. 1).

In Patent Owner’s Response, Patent Owner does not respond substantively to Petitioner’s arguments and evidence with respect to dependent claim 6.

Namikawa’s description of “a plurality of liquid crystal televisions [] disposed along the direction of travel on a wall face above each seat [] inside a car []” teaches the limitation “[t]he subway car of claim 1 wherein the video monitors include LCD screens” recited by claim 6. We are persuaded that Petitioner has shown by a preponderance of the evidence that Namikawa teaches the recited limitation “[t]he subway car of claim 1 wherein the video monitors include LCD screens” of dependent claim 6.

G. Petitioner’s Motion to Exclude

Petitioner filed a motion to exclude a four-page exhibit (see Exhibit 2006, 325–328) Patent Owner marked as “PO-8” at the deposition of Petitioner’s Declarant, Lowell Malo. Paper 23, 1.

During the Oral Hearing, however, counsel for Petitioner withdrew the Motion to Exclude. Tr. 73–74. Because Petitioner has withdrawn its motion, we dismiss it as moot.

H. SAS INSTITUTE INC. v. IANCU

The Supreme Court issued a decision on April 24, 2018, in *SAS*

Institute Inc. v. Iancu, concerning final written decisions issued by the Board addressing all claims a petitioner challenged in a petition. *SAS Institute Inc. v. Iancu*, No. 16-969, 2018 WL 1914661 (April 24, 2018). To the extent either party believes that the Court’s decision in *SAS Institute* requires additional consideration in this proceeding, the party may file a rehearing request pursuant to 37 C.F.R. § 42.71(d).

III. CONCLUSION

Based on all the evidence of record, we determine that Petitioner has established by a preponderance of the evidence that claims 1–4 and 6 of the ’602 patent would have been obvious under 35 U.S.C. § 103(a) over the teachings of Namikawa, Sasao, Amano, and Maekawa.

IV. ORDER

For the reasons given, it is

ORDERED that claims 1–4 and 6 of the ’602 patent are unpatentable;
and

FURTHER ORDERED that Petitioner’s Motion to Exclude is
dismissed as moot; and

FURTHER ORDERED that parties to the proceeding seeking judicial review of the Final Written Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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