

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TOYOTA MOTOR CORPORATION,  
Petitioner,

v.

BLITZSAFE TEXAS, LLC,  
Patent Owner.

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Case IPR2015-00421  
Patent 7,489,786 B2

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Before JAMESON LEE, THOMAS L. GIANNETTI, and HUNG H. BUI,  
*Administrative Patent Judges.*

LEE, *Administrative Patent Judge.*

DECISION  
Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

## I. INTRODUCTION

### A. *Background*

On December 30, 2015, Petitioner filed a Corrected Petition (Paper 3, “Pet.”) to institute *inter partes* review of claims 1, 2, 4–8, 10, 13, 14, 23, 24, 44, 47, 57, 58, 60–65, 86, 88–92, 94, 97, and 98 of U.S. Patent No. 7,489,786 (Ex. 1101, “the ’786 patent”). On April 22, 2016, Patent Owner filed a Preliminary Response (Paper 10, “Prelim. Resp.”).

To institute an *inter partes* review, we must determine that the information presented in the Petition shows “that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Having considered both the Petition and the Preliminary Response, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail in establishing the unpatentability of claims 44 and 47. Petitioner has not, however, shown a reasonable likelihood that it would prevail in establishing the unpatentability any other claim. We institute an *inter partes* review of claims 44 and 47 of the ’786 patent.

### B. *Related Matters*

The parties indicate that the ’786 patent was asserted in five infringement actions before the United States District Court of the Eastern District of Texas and two infringement actions before the United States District Court for the District of New Jersey. Pet. 1–2, Paper 5, 1–2. The ’786 patent also is involved in IPR2016-00422. Related Patent 8,155,342 B2 is involved in IPR2016-00118, IPR2016-00418, and IPR2016-00419.

*C. The '786 Patent*

The '786 patent is titled “Audio Device Integration System.” Ex. 1001 (54). “One or more after-market audio devices, such as a CD player, CD changer, MP3 player, satellite receiver, DAB receiver, or the like, is integrated for use with an existing OEM or after-market car stereo system, wherein control commands can be issued at the car stereo and responsive data from the audio device can be displayed on the stereo.” *Id.* at Abstr. The '786 patent describes:

Control commands generated at the car stereo are received, processed, converted into a format recognizable by the audio device, and dispatched to the audio device for execution. Information from the audio device, including track, disc, song, station, time, and other information, is received, processed, converted into a format recognizable by the car stereo, and dispatched to the car stereo for display thereon.

*Id.* Additional auxiliary sources also may be integrated together, and “a user can select between the [audio] device or the one or more auxiliary input sources by issuing selection commands through the car stereo.” *Id.* A docking station for docking a portable audio or video device for integration with the car stereo. *Id.* Figures 2A–2C are reproduced below:

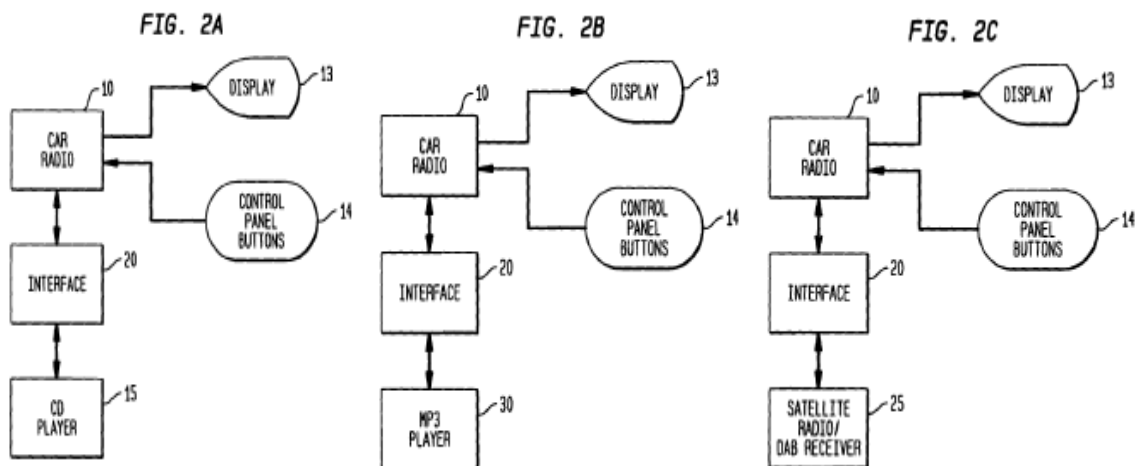


Figure 2A illustrates an embodiment integrating a CD player with the car stereo; Figure 2B illustrates an embodiment integrating a MP3 player with a car stereo; and Figure 2C illustrates an embodiment integrating a satellite or DAB receiver with a car stereo. *Id.* at 3:14–23. A more versatile embodiment is shown in Figure 1:

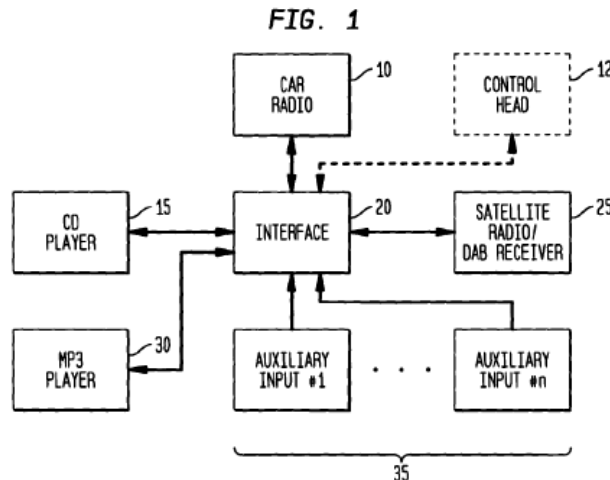


Figure 1 illustrates an embodiment integrating a CD player, a MP3 player, a satellite radio or DAB receiver, and a number of auxiliary input sources with a car stereo. *Id.* at 3:12–13. As shown in the above Figures, central to the '786 patent is an “interface” positioned between the car stereo and the audio device(s) and auxiliary input(s) being integrated.

With regard to Figure 2B, the '786 patent describes:

The interface 20 allows data and audio signals to be exchanged between the MP3 player 30 and the car radio 10, and processes and formats signals accordingly so that instructions and data from the radio 10 are processable by the MP3 player 30, and vice versa. Operational commands, such as track selection, pause, play, stop, fast forward, rewind, and other commands, are entered via the control panel buttons 14 of car radio 10, processed by the interface 20, and formatted for execution by the MP3 player 30. Data from the MP3 player, such as track, time, and song information, is received by the interface 20, processed thereby, and sent to the radio 10 for display on display 13. Audio from

MP3 player 30 is selectively forwarded by the interface 20 to the radio 10 for playing.

*Id.* at 6:11–24. Similar description is provided with respect to Figures 2A and 2C. *Id.* at 5:49–55, 6:35–43.

Claims 1, 44, 57, 86, and 92 are independent. Claim 1 is directed to a system that connects an after-market audio device as well as one or more auxiliary input sources to a car stereo. In particular, claim 1 recites a first connector electrically connectable to a car stereo, a second connector electrically connectable to an after-market device, and a third connector electrically connectable to one or more auxiliary input sources. *Id.* at 21:33–38. Claim 1 also recites an interface connected between the first and second electrical connectors, and that the interface includes a microcontroller pre-programmed to execute:

- a first pre-programmed code portion for remotely controlling the after-market audio device using the car stereo by receiving a control command from the car stereo through said first connector in a format incompatible with the after-market audio device, processing the received control command into a formatted command compatible with the after-market audio device, and transmitting the formatted command to the after-market audio device through said second connector for execution by the after-market audio device;
- a second pre-programmed code portion for receiving data from the after-market audio device through said second connector in a format incompatible with the car stereo, processing the received data into formatted data compatible with the car stereo, and transmitting the formatted data to the car stereo through said first connector for display by the car stereo; and
- a third pre-programmed code portion for switching to one or more auxiliary input sources connected to said third electrical connector.

*Id.* at 21:44–64.

Claim 57 is directed to a system including an interface that connects a portable MP3 player to a car stereo. Claim 86 is directed to a system including an interface that connects an after-market video device to a car stereo. Claim 92 is directed to a system including an interface that connects a portable audio device with a car stereo. Claims 57, 86, and 92 each require the generation, within an interface, of a device presence signal that is transmitted to the car stereo to maintain the car stereo in an operational state. Claims 57, 86, and 92 are reproduced below:

57. An audio device integration system comprising:
- a first electrical connector connectable to a car stereo;
  - a second electrical connector connectable to a portable MP3 player external to the car stereo
  - an interface connected between said first and second electrical connectors for transmitting audio from a portable MP3 player to a car stereo, said interface including a microcontroller in electrical communication with said first and second electrical connectors,
- said microcontroller pre-programmed to execute:
- a first pre-programmed code portion for generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state; and
  - a second pre-programmed code portion for remotely controlling the MP3 player using the car stereo by receiving a control command from the car stereo through said first electrical connector in a format incompatible with the MP3 player, processing the control command into a formatted control command compatible with the MP3 player, and transmitting the formatted control command to the MP3 player through said second electrical connector for execution by the MP3 player.

*Id.* at 26:13–37.

86. A device for integrating video information for use with a car stereo, comprising:

a first electrical connector connectable to a car stereo;  
a second electrical connector connectable to an after-market video device external to the car stereo;

an interface connected between said first and second electrical connectors for transmitting video information from the after-market video device to the car stereo, the interface including a microcontroller in electrical communication with said first and second electrical connectors, said microcontroller pre-programmed to execute:

a first pre-programmed code portion for generating a device presence signal and transmitting the signal to the car stereo through said first electrical connector to maintain the car stereo in an operational state responsive to signals generated by the after-market video device.

*Id.* 28:40–56.

92. An audio device integration system comprising:

a car stereo;

a portable audio device external to the car stereo;

an interface connected between the car stereo and the portable audio device, the interface including a microcontroller pre-programmed to execute:

first pre-programmed means for generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state;

second pre-programmed means for remotely controlling the portable audio device using the car stereo by receiving a control command from the car stereo in a format incompatible with the portable audio device, processing the control command into a formatted control command compatible with the portable audio device, and

transmitting the formatted control command to the portable audio device for execution thereby; and  
means for transmitting audio from the portable audio device to the car stereo.

*Id.* at 29:11–31.

Claim 44 is directed to an apparatus for docking a portable device for integration with a car stereo. We reproduce claim 44 in the portion of our analysis below specifically discussing claim 44.

*D. Evidence Relied Upon*

Petitioner relies on the following references:<sup>1</sup>

Reference		Date	Exhibit
Lau	International Pub. No. WO 01/67266 A1	Sept. 13, 2001	Ex. 1103
JP '954 <sup>2</sup>	Jap. Pub. App. No. H7–6954	Jan. 31, 1995	Ex. 1106
XR-C5120	SONY® 3-865-814-11(1) Operating Instructions, Model No. XR-C5120 /4890	1999	Ex. 1108
XA-C30	SONY® 9-923-535-11 Source Selector Service Manual XA-C30	March, 1996	Ex. 1109
Bhogal	U.S. Patent No. 6,629,197 B1	Sept. 30, 2003	Ex. 1110

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<sup>1</sup> For certain alleged grounds of unpatentability, Petitioner also relies on what it refers to as “known bus technology.” Hereinafter, we refer to that material as “KBT.” We understand Petitioner to have presented KBT as common knowledge and routine skill within the level of ordinary skill in the art that does not require citation of any particular reference.

<sup>2</sup> All citations to specific content of JP'954 refer to its English Translation (Ex. 1107).



Petitioner also relies on the Declaration of Thomas G. Matheson, Ph.D. Ex. 1115.

*E. The Asserted Grounds*

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	Basis	References
57, 58, 60, 64, 86, 88, 90, 91, 92, 94, and 97	§ 103(a)	JP '954 and Lau
61, 62, and 63	§ 103(a)	JP '954, Lau, and XR-C5120
65, 89, and 98	§ 103(a)	JP '954, Lau, and KBT
1, 2, 4, 7, 8, 13, 14, and 23	§ 103(a)	JP '954, XR-C5120, and XA-C30
5 and 24	§ 103(a)	JP '954, XR-C5120, XA-C30, and KBT
6 and 10	§ 103(a)	JP '954, XR-C5120, XA-C30, and Lau
44 and 47	§ 103(a)	JP '954, Lau, and Bhogal
57, 86, and 92	§ 103(a)	JP '954, Lau, and Bhogal <sup>3</sup>

## II. ANALYSIS

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art;

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<sup>3</sup> Petitioner identifies this alleged ground of unpatentability simply as “obvious in view of Bhogal.” Pet. 57. However, a plain reading of Petitioner’s analysis on pages 57–59 of the Petition reveals that the alleged ground actually is that of obviousness over JP '954, Lau, and Bhogal. Also, although Petitioner labels this ground as directed to claims 57 and 86, a plain reading of the Petitioner’s analysis reveals that it is intended to apply to claims 57 and 92. We have restated the applicable claims as 57, 86, and 92.

(2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based on more than one reference also must articulate sufficient reasoning with rational underpinnings to combine teachings. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007).

With regard to the level of ordinary skill in the art, we determine that no express finding is necessary, on this record, and that the level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

A. *Claim Construction*

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, No. 15–446, 2016 WL 3369425, at \*12 (U.S. June 20, 2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Consistent with the rule of broadest reasonable interpretation, claim terms also are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

“Claims are not interpreted in a vacuum, but are part of and are read in light of the specification.” *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 810 F.2d 1113, 1116 (Fed. Cir. 1987). Although it is improper to read a

limitation from the specification into the claims, *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993), the claims still must be read in view of the specification of which they are a part. *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1347 (Fed. Cir. 2004).

If a limitation of an embodiment described in the specification is not necessary to give meaning to a claim term, it would be “extraneous” and should not be read into the claim. *See Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988). If the applicants for a patent desire to be their own lexicographer, the purported definition must be set forth in either the specification or prosecution history. *See CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). Such a definition must be set forth with reasonable clarity, deliberateness, and precision. *See Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998); *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). However, only terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

1. “portable”

Independent claim 44 recites a portable device. Independent claim 57 recites a portable MP3 player. Independent claim 92 recites a portable audio device. Petitioner proposes that the term “portable” be construed the way it has been construed by the district court in related actions involving the ’786 patent, i.e., “capable of being moved about.” Pet. 13–14 (citing Ex. 1112). Patent Owner argues that Petitioner’s proposed construction is unreasonably

broad because it “improperly broadens the plain meaning of the term to include anything which can be moved, no matter how large or unwieldy.” Prelim. Resp. 9. Patent Owner asserts that one with ordinary skill in the art could readily understand the plain meaning of the term “portable,” and that no further construction is necessary. *Id.*

We agree with Patent Owner that Petitioner’s proposed construction is unreasonably broad. In the Specification of the ’786 patent, the term “portable” is used to modify devices that can be integrated with a car stereo through an interface. In that context, not every device that is capable of being moved is reasonably deemed portable. Few items, if any, simply cannot be moved, given appropriate tools and persistent effort. Thus, the term must be read in context within its application environment. In that regard, we note that certain objects, although heavy and large, may be deemed portable, such as freight containers and emergency generators.

It may be that the term requires no express construction, and simply would be understood by one with ordinary skill in the art. We note that even the ’786 patent itself and Bhogal, both using the term “portable” in their written description, do not provide a definition therefor. Nevertheless, an express construction is helpful to this proceeding. We construe “portable,” in the context of the ’786 patent, as meaning *capable of being carried by a user*.

## 2. “interface”

Of all challenged claims, claims 1, 44, 57, 86, and 92 are independent, and each recites an “interface.”

Claims 1, 57, and 86 require the interface to be connected between a first electrical connector and a second electrical connector, where the first

connector is connectable to a car stereo and the second connector is connectable to an after-market audio device (claim 1), a portable MP3 player (claim 57), or an after-market video device (claim 86). Claim 92 requires the interface to be connected between the car stereo and a portable audio device. Claim 44 recites a docking portion that mates with a portable device, and an interface that is connected to the car stereo as well as to a data port that communicates with the docking portion.

Also, claim 57 recites that the interface is “for transmitting audio from a portable MP3 player to a car stereo”; claim 86 recites that the interface is “for transmitting video information from the after-market video device to the car stereo”; claim 1 recites that the interface is “for channeling audio signals to the car stereo from the after-market audio device”; claim 44 recites an interface for “channeling audio from the portable device to the car stereo”; and claim 92 recites that the interface includes a microcontroller pre-programmed to execute “means for transmitting audio from the portable audio device to the car stereo.”

Petitioner proposes the proper construction of “interface” is “a microcontroller that is functionally and structurally separate component from the car stereo, which integrates an after-market device with a car stereo,” and notes that that is the construction determined by the district court in related actions involving the ’786 patent. Pet. 12–14. For several reasons, the proposal is unpersuasive. First, as is noted by Patent Owner, even if the interface is deemed “functionally and structurally separate” from the car stereo, the proposed construction is incomplete in that it omits any requirement of separation or distinctness of the interface from the portable or after-market device connected thereto. Prelim. Resp. 8–9. Second, the

proposed construction is too narrow by specifying that the interface “integrates an after-market device with a car stereo.” We note that the Specification of the ’786 patent provides a special definition for “integration” or “integrated.” Ex. 1101, 4:47–52. We discern no reason to import limitations into a claim if they are unnecessary to accord meaning to the claim.

Third, the proposed construction is too narrow by requiring the interface to be a microcontroller. In the Specification of the ’786 patent, the term “interface” is described as including not only a microcontroller but also several discrete components, such as resistors, diodes, capacitors, transistors, oscillators, amplifiers, and multiplexers, shown in various embodiments of Figures 3A, 3B1–3B2, 3C1–3C2, and 3D. Ex. 1101, 9:8–20, 10:19–33, 11:4–18, 11:59–67. Thus, the term “interface” itself is not limited to a microcontroller. In that regard, we note that if the interface itself is construed as a microcontroller, as Petitioner proposes, then the additional claim language reciting that the interface includes a microcontroller would serve no meaningful purpose.

With regard to an “interface,” the Specification states:

Thus, as can be readily appreciated, the interface 20 of the present invention allows for the integration of a multitude of devices and inputs with an OEM or after-market car radio or stereo.

Ex. 1101, 5:33–36.

As mentioned earlier, the interface 20 of the present invention allows for a plurality of disparate audio devices to be integrated with an existing car radio for use therewith.

*Id.* at 6:4–7.

Data from the MP3 player, such as track, time, and song information, is received by the interface 20, processed thereby, and sent to the radio 10 for displaying on display 13. Audio from the MP3 player 30 is selectively forwarded by the interface 20 to the radio 10 for playing.

*Id.* at 6:19–24. Thus, the Specification refers to the interface receiving information from an audio device and forwarding information to the car stereo, and to the interface allowing integration of a plurality of disparate audio devices with a car radio.

During prosecution, the Applicants of the '786 patent distinguished U.S. Patent 6,993,615 B2 (“Falcon”),<sup>4</sup> in part by arguing that the reference failed to disclose an interface connected between a car stereo and an external audio source. Ex. 1102, 0267. Specifically, in distinguishing the invention from Falcon, Applicants stated: “[Falcon’s graphical user interface] is an entirely different concept than the interface of the present invention, which includes a physical interface device connected between a car stereo system and an external audio source (e.g., a plurality of auxiliary input sources).”

*Id.*

Construing the term “interface” in light of the Specification, other language in the claims, as well as the prosecution history noted by Petitioner, we determine that—*interface is a physical unit that connects one device to another and that has a functional and structural identity separate from that of both connected devices.*

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<sup>4</sup> Falcon discloses a portable computing device connectable to a car stereo through an interface configurable within the portable computing device. Ex. 3001, Abstr.

In the specific context of claims 1 and 86, the connected devices are the car stereo and an after-market device. In the specific context of claims 44, 57, and 92, the connected devices are the car stereo and a portable device. Each of claims 1, 44, 57, 86, and 92 further requires the interface to include a microcontroller.

3. “*device presence signal*”

Each of claims 57 and 86 requires within the interface a microcontroller having a first pre-programmed code portion “for generating a *device presence signal* and transmitting the signal to the car stereo to maintain the car stereo in an operational state.” (Emphasis added). Claim 92 requires within the interface a microcontroller pre-programmed to execute “first pre-programmed means for generating a *device presence signal* and transmitting the signal to the car stereo to maintain the car stereo in an operational state.” (Emphasis added). A description of “device presence signal” is contained in the Specification in the discussion of an embodiment that is for connecting a CD player to the car stereo:

Beginning in step 110, a signal is generated by the present invention indicating that a CD player/changer is present, and the signal is continuously transmitted to the car stereo. Importantly, this signal prevents the car stereo from shutting off, entering a sleep mode, or otherwise being unresponsive to signals and/or data from an external source.

Ex. 1001, 12:29–35. All other disclosed embodiments, whether they are for connecting an MP3 player or an auxiliary device to the car stereo, refer back to the above-quoted description of the device presence signal. *Id.* at 13:15–18, 13:62–65, 14:48–51, 15:35–38, 16:12–15, 16:57–60.

Petitioner proposes that the term “device presence signal” be construed the way it has been construed by the district court in related



actions involving the '786 patent, i.e., “transmission of a continuous signal indicating an audio device is present.” Pet. 13 (citing Ex. 1112). Patent Owner has not proposed a construction. For two reasons, we do not adopt Petitioner’s proposed construction.

First, the proposed construction is too narrow because continuous transmission is not necessary to accord meaning to the term. The manner of transmission simply reflects how the signal is transmitted and does not change what the signal was generated and intended to accomplish and actually accomplishes. The Specification also does not put continuous transmission in the same category of importance as the requirements in the italicized portion of the above-quoted text.

Second, in claims 57 and 86, the device presence signal is generated and transmitted by the interface that is connected between the first and second electrical connector, where the first electrical connector is connectable to a car stereo and the second electrical connector is connectable to a portable MP3 player (claim 57) or an after-market video device (claim 86). Claim 57 recites that the interface is for transmitting audio from the portable MP3 player to the car stereo, and claim 86 recites that the interface is for transmitting video information from the after-market video device to the car stereo. In claim 92, the device presence signal is generated and transmitted by the interface that is connected between the car stereo and the portable audio device. Claim 92 further includes, within the interface, a means for transmitting audio from the portable audio device to the car stereo. In the context of these claims, the device the presence of which is signaled by the interface is that device which connects to the interface to

communicate with the car stereo. Petitioner's proposed construction does not make that clear.

On the record before us, we construe "device presence signal," as *a signal indicating that an audio device (claim 57) or video device (claim 86) or portable audio device (claim 92), other than the car stereo, is connected to the interface.*

*B. Alleged Obviousness of Claims 57, 58, 60, 64, 86, 88, 90, 91, 92, 94, and 97 over JP '954 and Lau*

We have reviewed the Petition and the Preliminary Response, and determine that Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of claims 57, 58, 60, 64, 86, 88, 90, 91, 92, 94, and 97 as obvious over JP '954 and Lau.

*1. JP '954*

JP '954 is directed to solving the problem of equipment incompatibility, in the environment of automotive audio equipment, between a main unit made by one company and a CD changer made by another company. Ex. 1101, Abstr. Specifically, JP '954 describes the disadvantages associated with prior art systems as follows:

When installing an audio device in a vehicle on the occasion of a vehicle purchase, it is common for a so-called "basic" main unit to be installed. If one were to subsequently attempt to add a CD changer capable of automatically changing and playing a plurality of loaded CDs, prior to now it would have been necessary to purchase and install a model produced by the same manufacturer as the "basic" main unit, as the format of signals connecting the respective devices vary from manufacturer to manufacturer. Furthermore, if a user had installed both of these devices produced by the same manufacturer, and at a later point wished to upgrade the main unit to, for example, a model produced by company A, it would have been necessary for the

same reason to also purchase a new CD changer made by company A.

*Id.* (0002). JP '954 describes its objective as: “to make it possible to add a CD changer made by company B to a main unit made by company A, as well as to add a CD changer made by company A to a main unit made by company B.” *Id.* (0003). JP '954 achieves that objective by providing an interface unit as noted below:

(PROBLEM) Provide an interface unit for automotive audio equipment that renders possible the addition of a CD changer made by company B to a main unit made by company A as well as the addition of a CD changer made by company A to a main unit made by company B.

*Id.* Abstr. JP '954 summarizes its interface unit as follows:

(MEANS FOR SOLVING) The [interface] unit is constituted by splitting signals into three systems, namely a control system, audio system and power system, and providing a conversion circuit for each of these systems.

*Id.* Figure 1 of JP '954 is reproduced below:

(Fig. 1)

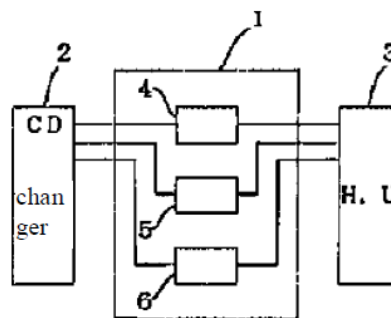


Figure 1 illustrates a block diagram of the structure of the audio system according to JP '954. *Id.* (0006). Interface unit 1 “converts the format of the signal that links the CD changer 2 and the main unit 3, etc.” *Id.*

Interface unit 1 links main unit 3 and CD changer 2, and is provided with control system conversion portion 4, audio system conversion portion 5, and power conversion portion 6. *Id.* at Abstr. Control conversion portion 4 is for the bus line, clock control signal, etc.; audio conversion portion 5 is for the audio signal; and power conversion portion 6 is for the power supply. *Id.* (0006).

Figure 2 of JP '954 is reproduced below:

(Fig. 2)

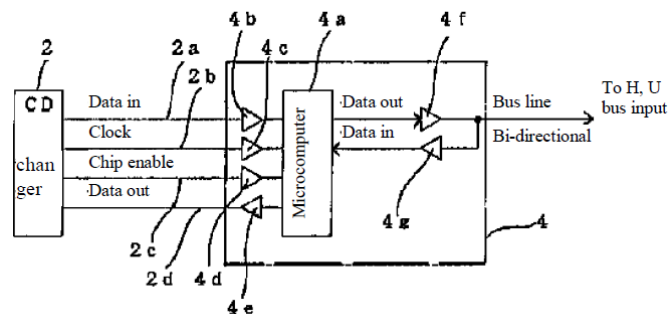


Figure 2 illustrates control system conversion portion 4. *Id.* (0007).

Microcomputer 4a is provided to convert and unify different signal formats between the CD changer and the main unit. *Id.*

Figure 4 is reproduced below:

(Fig. 4)

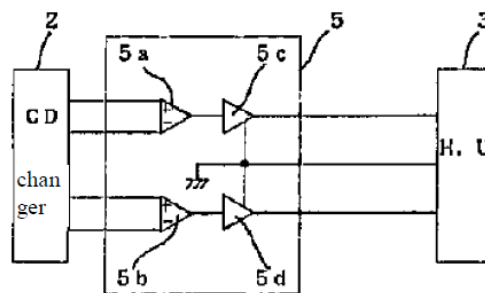


Figure 4 illustrates audio system conversion portion 5. *Id.* (0011). It includes differential amplifiers 5a and 5b and amplifiers 5c and 5d. *Id.*

JP '954 states: “[a]lthough one embodiment example was described above, to expand the range of available inter-company format conversions, a switch can be provided on the microcomputer 4a to enable application to various models using a connection adapter between the CD changer and main unit. *Id.* (0010).

## 2. *Lau*

*Lau* is titled “Vehicle Sound System,” and states that “there is a need for an improved automobile audio system that does not require cassettes or compact discs, can be used with reusable media and can play music downloaded from a computer or other device.” Ex. 1103 (54), 2:24–26. *Lau* indicates that pre-existing portable solid state music players that store music downloadable from a computer are unsatisfactory for use with an automobile stereo. *Id.* at 3:1–11. For instance, it is explained that all of the controls are on the portable player, and thus, a driver is unable to use the controls of the car stereo to control the music player. *Id.* at 3:12–16.

Figure 1 of *Lau* is reproduced below:

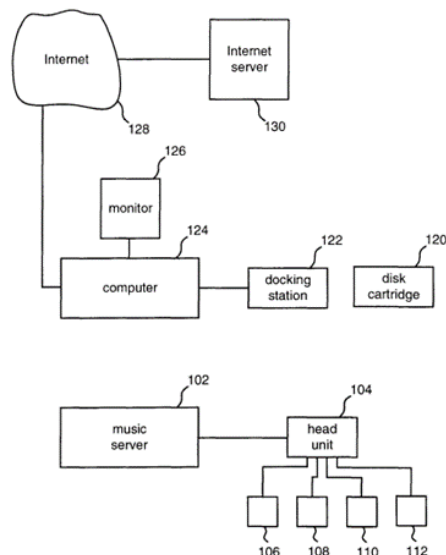


Fig. 1

Figure 1 illustrates an embodiment of Lau's vehicle sound system. *Id.* at 5:18. Head unit 104 is a standard automobile head unit and is connected to speakers 106, 108, 110, and 112. *Id.* at 7:17–20. Music server 102 is an audio/visual server and emulates a disc changer. *Id.* at 7:12–14. Lau explains that music server 102 is not an actual disc changer but only acts like a disc changer would act, based on communications to and from the unit. *Id.* at 7:14–17. Music server 102 communicates with head unit 102. *Id.* at 7:19. Lau describes that music server 102 may be mounted in the trunk of a car and head unit 104 is mounted in the dash board. *Id.* at 8:21–24.

Disk cartridge 120 can be inserted by a user either into music server 102 or docking station 122 connected to computer 124. *Id.* at 8:16–21. Computer 124 is a standard personal computer and is connected to Internet 128. *Id.* at 8:4–11. Internet server 130 is available through the Internet for downloading tracks and information about tracks, and in one embodiment, tracks are songs. *Id.* at 8:11–15. After a user downloads tracks onto disk cartridge 120, the cartridge is removed from docking station 122 and inserted into music server 102, and then the user can use head unit 104 to access and play tracks on the cartridge. *Id.* at 8:20–26.

3. *Claims 92, 94, and 97*

Claim 92, as reproduced above, includes several elements in the format of a “means”:

- first pre-programmed means for generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state;
- second pre-programmed means for remotely controlling the portable audio device using the car stereo by receiving a control command from the car stereo in a format incompatible with the portable audio device, processing the control

command into a formatted control command compatible with the portable audio device, and transmitting the formatted control command to the portable audio device for execution thereby; and

means for transmitting audio from the portable audio device to the car stereo.

Claim 94 depends from claim 92 and claim 97 depends from claim 94.

Paragraph 6 of 35 U.S.C. § 112 states:<sup>5</sup>

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The above-quoted recitations of claim 92 presumptively set forth elements under 35 U.S.C. § 112, ¶ 6, and are construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc).

The Board's trial rules require the Petition to identify the corresponding structure, material, or acts corresponding to each claimed function. Specifically, 37 C.F.R. § 42.104(b)(3) governs the content of a petition with respect to claim construction and provides: "[w]here the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. § 112 [¶ 6], the construction of the

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<sup>5</sup> Paragraphs 1 through 6 of § 112 were renamed as paragraphs (a) through (f) when § 4(c) of the Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA") took effect on September 16, 2012. Because the patent application resulting in the '786 patent was filed before the effective date of the AIA, we refer to the pre-AIA version of § 112.

claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function.”<sup>6</sup>

37 C.F.R. § 42.104(b)(3).

The “construction” referred to by 37 C.F.R. § 42.104(b)(3) is the construction proposed by the Petitioner, one that Petitioner believes is the correct construction under applicable law and should apply in the involved proceeding. Here, Petitioner did not comply with 37 C.F.R. § 42.104(b)(3).

For each means-plus-function recitation in claim 92, Petitioner provided the construction of the United States District Court for the District of New Jersey. Pet. 15–19. However, Petitioner does not take ownership of the district court’s constructions by indicating, in some way, that it agrees with, proposes, or adopts the construction of this district court. Indeed, for two means-plus-function elements, i.e., (1) first pre-programmed means for generating a device presence signal (“generating means”), and (2) first pre-programmed means for . . . transmitting the [device presence] signal to the car stereo to maintain the car stereo in an operational state (“transmitting means”), Petitioner asserts that the district court’s constructions are incorrect. Pet. 16–17. For the transmitting means, Petitioner does offer its own construction as is required by 37 C.F.R. § 42.104(b)(3). Pet. 17. But for the generating means, Petitioner does not offer its construction by identifying corresponding structure, material, or acts in the Specification. Instead, for the transmitting means, Petitioner asserts that there is no

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<sup>6</sup> Structure disclosed in the specification is corresponding structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim. *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1334 (Fed. Cir. 2004); *Cardiac Pacemakers, Inc. v. St. Jude Med.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002).



corresponding structure, material, or acts in the Specification of the '786 patent, and characterizes the means-plus-function element as indefinite. Pet. 15.

Without expressly identifying a ground of unpatentability based on indefiniteness under 35 U.S.C. § 112, ¶ 2, Petitioner nonetheless has mounted, effectively, a challenge of claims 92, 94, and 97 as indefinite under 35 U.S.C. § 112, ¶ 2. We note that if there is no corresponding structure, material, or acts in the specification for a means-plus-function claim element, the claim is indefinite under 35 U.S.C. § 112, ¶ 2. *See In re Dossel*, 115 F.3d 942, 946 (Fed. Cir. 1997). Except for a narrow exception explained in *In re Katz*, 639 F.3d 1303, 1316 (Fed. Cir. 2011), concerning generic functions performed by a general purpose computer, such as “processing,” “receiving” and “storing,” a computer-implemented means-plus-function element is indefinite unless the specification discloses the specific algorithm used by the computer to perform the recited function. *Eon Corp. IP Holdings LLC v. AT&T Mobility LLC*, 785 F.3d 616, 621–23 (Fed. Cir. 2015); *Function Media, LLC v. Google, Inc.*, 708 F.3d 1310, 1318 (Fed. Cir. 2013); *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009); *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359 (Fed. Cir. 2008); *Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008); *Aristocrat Technologies Australia Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328 (Fed. Cir. 2008). Petitioner may not, however, in an *inter partes* review, assert a ground of unpatentability based on indefiniteness under 35 U.S.C. § 112, ¶ 2. *See* 35 U.S.C. § 311(b).

In any event, with regard to alleged obviousness of claims over prior art, because Petitioner has not identified structure, material, and acts in the

Specification of the '786 patent that correspond to the generating means of claim 92. Therefore, Petitioner has not accounted for how such unidentified structure, material, and acts would have been met by the prior art.

Accordingly, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of claims 92, 94, and 97 as obvious over JP '954 and Lau.

4. *Claims 57 and 86*

Each of claims 57 and 86 requires the microcontroller within the interface to execute a first pre-programmed code portion “for generating a device presence signal and transmitting the signal to the car stereo.” We have construed “device presence signal” as *a signal indicating that an audio device (claim 57) or video device (claim 86) or portable audio device (claim 92), other than the car stereo, is connected to the interface.*

Petitioner identifies head unit 3 in Figure 1 of JP '954 as the car stereo recited in claims 57 and 86, interface unit 1 in Figure 1 of JP '954 as the interface recited in claims 57 and 86, and microcomputer 4a in Figure 2 of JP '954 as the microcontroller recited in claims 57 and 86. Pet. 20, 26, 29. However, Petitioner does not contend that microcomputer 4a of JP '954 generates a device presence signal, much less transmit such a signal to the head unit. Instead, Petitioner identifies Lau as providing an interface including a microcontroller that generates a device presence signal and sends it to a car stereo, and asserts that in light of Lau's disclosure, it would have been obvious to one with ordinary skill in the art to do the same with the microcontroller of JP '954. Pet. 22–24. For reasons discussed below, we are not sufficiently persuaded that Lau discloses generation of a “device presence signal” within what Petitioner regards as the “interface” in Lau or

transmission of such a “device presence signal” to a car stereo.

Lau’s music server 102 is not the same kind of device as interface unit 1 of JP ’954. In Lau, what Petitioner regards as the portable MP3 device of claim 57 and the after-market video device of claim 86 is processor 302 (Pet. 26), and it is located in music server 102 and part and parcel with controller 320 which Petitioner regards as the interface (Pet. 26). Processor 302, as the purported portable or after-market device, is not just “connectable” to the interface through a connector as is recited in claims 57 and 86. Rather, it is always connected to controller 320. Ex. 1103, 21:18–22:4. This fixed configuration is illustrated in Lau’s Figure 6:

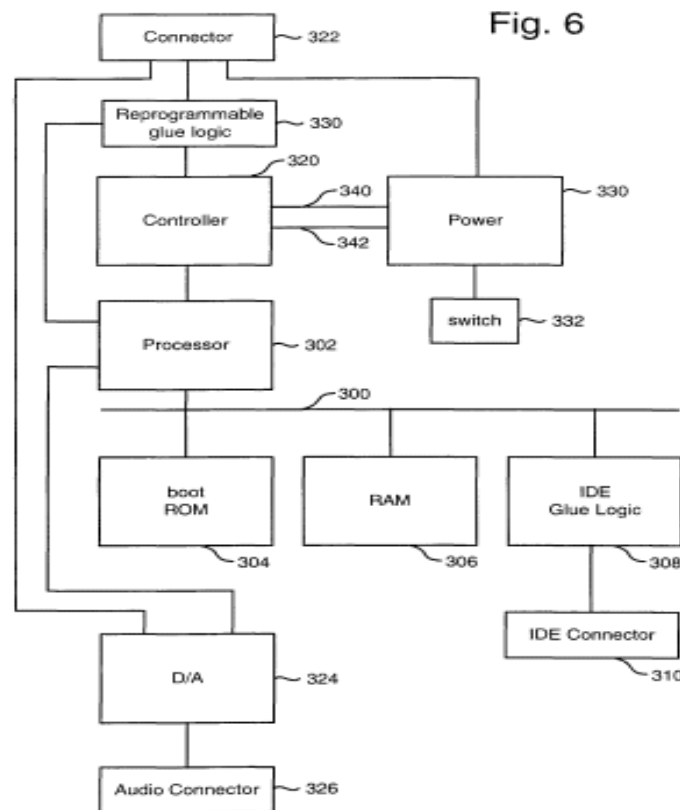


Figure 6 is a block diagram of one embodiment of the components within music server 102 shown in Figure 1. Ex. 1103, 5:23–24. Controller 320’s generating a signal to convey to a car stereo that processor 302 is connected

to it has little meaning, if any, and Petitioner has not sufficiently shown that that task is performed in Lau.

Petitioner explains that in Lau, it is disclosed that if music server 102 is connected to a car stereo that is Sony Model XR-C5120, then certain signals are required for normal operation, citing the testimony of Dr. Matheson (Ex. 1115 ¶¶ 89–90). Pet. 22–23. Petitioner further explains:

Lau teaches that controller 320 is programmed to perform a state machine in order to emulate a CD changer connected to a particular type of head unit (e.g., Sony Model XR-C 5120). In the “dormant state” when the music server is not in a “play state,” controller 320 is programmed to respond to packets sent by head unit 104 with corresponding response packets (*i.e.*, packet 7 in response to receiving packet 5, and packet 8 in response to receiving packet 6). *See* Lau at Fig. 11.

Pet. 23. Figure 11 of Lau is reproduced below:

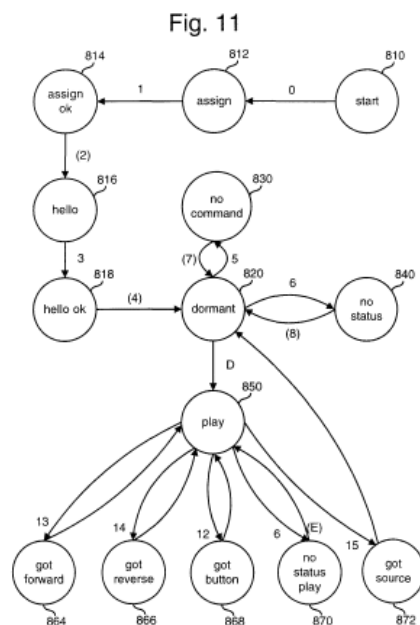


Figure 11 illustrates a state diagram for controller 320 within music server 102. Ex. 1103, 6:4.

Nothing in the above-noted explanations indicates that packet 7 or packet 8 sent by controller 320 conveys the message that a portable or after-market device is connected to controller 320. Petitioner asserts that the purpose of the response packets is to inform the car stereo of the presence of the CD changer while playback is not occurring, and that the response packets indicate an audio device is present. Pet. 24. Dr. Matheson's testimony is the same. Ex. 1115 ¶ 92. These assertions, however, are not accompanied by citation to the disclosure of Lau and are not adequately supported by the portions of Lau Petitioner does discuss, which we have addressed above.

Importantly, it is the connection of a separate portable or after-market device to the interface that must be conveyed by a device presence signal and not just the presence of any audio device such as the entirety of music server 102 itself or processor 302 which is fixedly configured with controller 320. As discussed above, processor 302 is not a portable or after-market device that is connected to controller 320 as the claimed interface. In that regard, Petitioner's explanations are deficient and the cited testimony of Dr. Matheson adds no meaningful explanation. Accordingly, Petitioner has not sufficiently shown that Lau discloses generating a device presence signal and transmitting it to the car stereo.

For the foregoing reasons, Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of either claim 57 or claim 86 as obvious over JP '954 and Lau.

5. *Claims 58, 60, 64, 88, 90, and 91*

Each of claims 58, 60, 64, 88, 90, and 91 depends directly or indirectly from either claim 57 or 86. The deficiencies noted above with regard to claims 57 and 86 carry through to the claims depending therefrom. Accordingly, Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of claims 58, 60, 64, 88, 90, and 91 as obvious over JP '954 and Lau.

C. *Alleged Obviousness of Claims 57, 86, and 92 over JP '954, Lau, and Bhogal*

This alleged ground of unpatentability adds Bhogal to the combined teachings of JP '954 and Lau which we have already discussed above. Bhogal is added to buttress the combined teachings of JP '954 and Lau with respect to the claim limitations requiring a “portable” device, and does not cure the deficiencies of the Petition, already addressed above, with regard to claims 57, 86, and 92. Accordingly, Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of any of claims 57, 86, and 92 as obvious over JP '954, Lau, and Bhogal.

D. *Alleged Obviousness of Claims 61–63 over JP '954, Lau, and XR-C5120*

Each of claims 61, 62, and 63 depends from claim 60. Claim 60 depends from claim 57. The deficiencies of Petitioner's assertions with respect to claims 57 and 60, discussed above, are not cured by Petitioner's application of the disclosure of XR-C5120 to the combined teachings of JP '954 and Lau. Accordingly, Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of any of claims 61, 62, and 63 as obvious over JP '954, Lau, and XR-C5120.

*E. Alleged Obviousness of Claims 65,  
89, and 98 over JP '954, Lau, and KBT*

Claim 65 depends from claim 64 which depends from claim 57. Claim 89 depends from claim 88 which depends from claim 86. Claim 98 depends from claim 97 which depends from claim 92. The deficiencies of Petitioner's assertions with respect to claims 57, 64, 86, 88, 92, and 97, discussed above, are not cured by Petitioner's application of KBT to the combined teachings of JP '954 and Lau. Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of any of claims 65, 89, and 98 as obvious over JP '954, Lau, KBT.

*F. Alleged Obviousness of Claims 1, 2, 4, 7, 8, 13,  
14, and 23 over JP '954, XR-C5120 and XA-C30*

We have reviewed the Petition and the Preliminary Response, and determine that Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of any of claims 1, 2, 4, 7, 8, 13, 14, and 23 over JP '954, XR-C5120, and XA-C30.

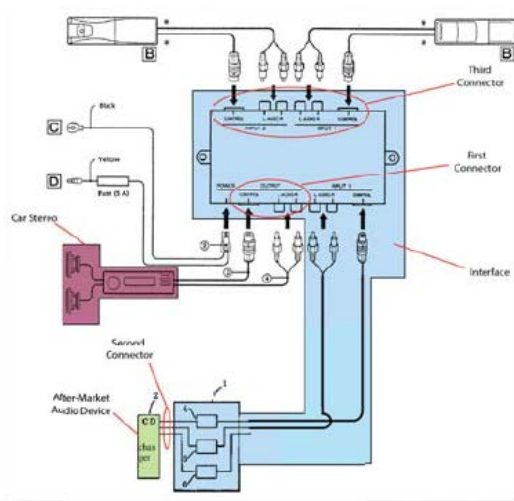
*1. Claim 1*

As compared to claim 57, claim 1 (a) recites an after-market audio device rather than a portable MP3 player, (b) does not require the generation or transmission of a device presence signal, (c) adds a third connector that is electrically connectable to one or more auxiliary input sources external to the car stereo and the after-market audio device, (d) adds a code portion in the microcontroller within the interface, that is "for switching to one or more auxiliary input sources connected to the third electrical connector," and (f) adds a code portion in the microcontroller within the interface, that is "for receiving data from the after-market audio device through said second connector in a format incompatible with the car stereo, processing the

received data into formatted data compatible with the car stereo, and transmitting the formatted data to the car stereo through said first connector for display by the car stereo.”

For the addition of the third connector and the code portion for switching to one or more auxiliary input sources, Petitioner relies on XR-C5120 and XA-C30. Pet. 42–46. XR-C5120 is the Operating Instructions for Sony’s model XR-C5120 car stereo. Ex. 1108. It lists as optional equipment: “Source selector XA-C30.” *Id.* at 18. As noted above, for this decision we use the identification “XA-C30” to refer to the service manual of Sony’s Source Selector XA-C30 (Exhibit 1109). The service manual discloses how the source selector may be connected between a car stereo and multiple input sources. Ex. 1109, 2–3.

Petitioner illustrates its combination of Sony’s Source Selector XA-C30 with the car audio system of JP ’954 as follows:



*Composite of Sony XA-C30 and JP '954 Figure 1*

Pet. 44. The Figure is a block diagram of the audio system of JP ’954 with the addition of the source selector disclosed in XR-C30. Each of first,



second, and third connectors as recited in claim 1 is illustrated in the above-reproduced Figure, together with the parts to which they are connected.

With respect to claim 1's requirement of a microcontroller having a code portion "for remotely controlling the after-market audio device," Petitioner points to microcomputer 4a within control conversion portion 4 of interface unit 1. Pet. 45. With respect to claim 1's requirement of a microcontroller having a code portion "for switching to one or more auxiliary input sources connected to said third electrical connector," Petitioner asserts: "The Sony XA-C30 Source Selector's microcontroller contains 4K Bytes of program ROM that inherently must be pre-programmed in order for the microcontroller to function." Pet. 45–46.

The analysis is incomplete because Petitioner has not shown that microcomputer 4a within control conversion portion 4 of interface unit 1 of JP '954 is the same microcontroller as the microcontroller within the Sony Source Selector XA-C30. Claim 1 requires the same microcontroller to include a code portion "for remotely controlling the after-market audio device," and another code portion "for switching to one or more auxiliary input sources connected to said third electrical connector." The Sony Source Selector XA-C30 is separate from and does not include interface unit 1 of JP '954. A block diagram of the Sony Source Selector XA-C30, as shown in XA-C30, is reproduced below:

## Connections

### Precautions

- Before making any connection, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the yellow power input leads only after all other leads have been connected.

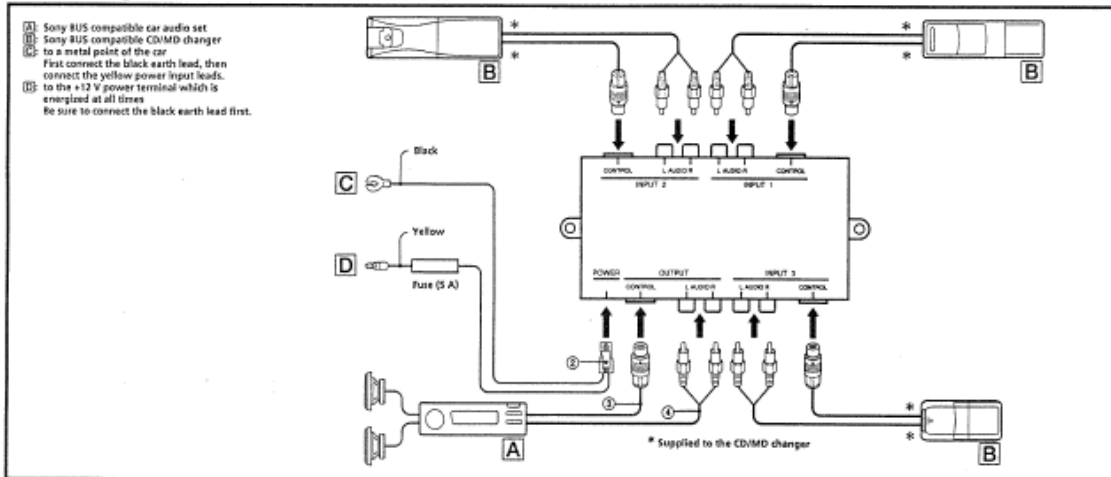
- Be sure to connect the unit's ground wire securely to a metal point of the car. A loose connection may cause the unit to malfunction.

#### Notes

- If your car has an on-board computer or navigation system installed, disconnecting the car battery's negative terminal can erase their memories. In such a case, make sure that all the connections except the yellow power input cord are complete before reconnecting the yellow power input cord.

- This unit is compatible with the CDX-65RF, CDX-71RF and XM-535RF, but it is not compatible with the CDX-65RF, CDX-51RF or CDX-51RF hi-fidelity units.

### Connection diagram



Ex. 1109, 2. The above Figure illustrates a connection diagram for Sony's Source Selector XA-C30.

With respect to claim 1's requirement of a microcontroller having a code portion "for receiving data from the after-market audio device through said second connector in a format incompatible with the car stereo, processing the received data into formatted data compatible with the car stereo, and transmitting the formatted data to the car stereo through said first connector for display by the car stereo," Petitioner points to microcomputer 4a within control conversion portion 4 of interface unit 1. Pet. 45. We are unpersuaded, because, as we discussed above, control conversion portion 4 in interface unit 1 is for communicating and converting control signals, not any data for display on a car stereo, such as song title and artist information.

### 2. Claims 2, 4, 7, 8, 13, 14, and 23

Each of claims 2, 4, 7, 8, 13, 14, and 23 depends directly from claim 1. The deficiencies discussed above with regard to claim 1 carry through to

these dependent claims. Petitioner has not shown a reasonable likelihood that it would prevail in establishing unpatentability of any of claims 2, 4, 7, 8, 13, 14, and 23 as obvious over JP '954, XR-C5120, and XA-C30.

*G. Alleged Obviousness of Claims 5 and 24  
over JP '954, XR-C5120, XA-C30, and KBT*

Claim 5 depends from claim 1. Claim 24 depends from claim 23 which depends from claim 1. The deficiencies of Petitioner's assertions with respect to claims 1 and 23, discussed above, are not cured by Petitioner's application of KBT to the combined teachings of JP '954, XR-C5120, and XA-C30. Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of either claim 5 or claim 24 as obvious over JP '954, XR-C5120, XA-C30, and KBT.

*H. Alleged Obviousness of Claims 6 and 10  
over JP '954, XR-C5120, XA-C30, and Lau*

Claims 6 and 10 each depends from claim 1. The deficiencies of Petitioner's assertions with respect to claim 1 are not cured by Petitioner's application of Lau to the combined teachings of JP '954, XR-C5120, and XA-C30. Thus, Petitioner has not shown a reasonable likelihood that it would prevail in establishing the unpatentability of either claim 6 or claim 10 as obvious over JP '954, XR-C5120, XA-C30, and Lau.

*I. Alleged Unpatentability of Claims 44  
and 47 as Obvious over JP '954, Lau, and Bhogal*

*1. Bhogal*

Bhogal is titled "Method and System for Storing Digital Audio Data and Emulating Multiple CD-Changer Units." Ex. 1110 (54). It relates to a method and apparatus for enhancing storage and playback of digital audio

data. *Id.* at 1:9–11. With regard a problem that it addresses, Bhogal describes:

Typically, CD-changer units and car stereo units are designed so that they are compatible only if they are made by the same manufacturer. In other words, CD-changers and car stereos usually have a proprietary interface, and no industry standard currently exists for interfacing different makes of CD-changers and car stereos.

*Id.* at 4:57–62. To solve that problem, Bhogal provides a digital audio unit that can emulate the operation of multiple CD-changers. *Id.* at 3:10–13.

Regarding which one of many CD-changer to emulate, Bhogal describes:

In one case, the digital audio unit can detect a control signal for a CD-changer unit and then automatically select the type of CD-changer unit to be emulated based on the detected control signal. In a second case, the digital audio unit can receive a user selection for selecting a type of CD-changer unit to be emulated. The softcopy digital audio files stored within the digital audio unit are thereby accessed through the controls and commands for a CD-changer unit.

*Id.* at 3:13–20. Figure 2 of Bhogal is reproduced below:

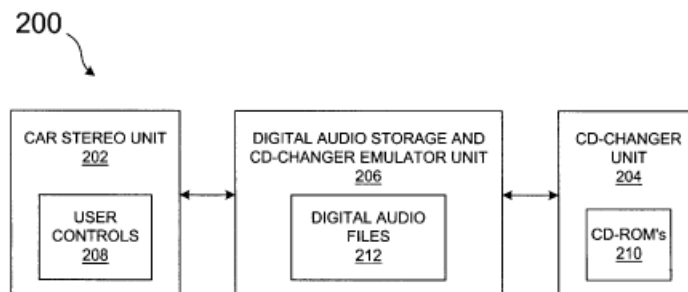


FIG. 2

Figure 2 illustrates an embodiment of Bhogal's audio system. *Id.* at 3:31–33. Emulator 206 is connected between car stereo 202 and actual CD-changer 204. *Id.* at 5:11–16. Emulator 206 contains digital audio files 212, organized as virtual CD-ROMs, that may be accessed by a user through the car stereo. *Id.* at 5:39–42. Bhogal describes that, in one embodiment, “the

emulator unit may be positioned in an independent *docking station* that accepts portable electronics, possibly in a standard manner such that the docking station also accepts other types of MP3 players.” *Id.* at 5:61–64 (emphasis added). When the emulator is not in the docking station, the car stereo and the actual CD-exchanger may operate together. *Id.* at 5:65–67.

Bhogal describes that, in a preferred embodiment, emulator 206 is a portable device. *Id.* at 6:18–21. Bhogal also describes that the emulator may connect to a personal computer in many different ways, including by use of “serial, Universal Serial Bus (USB), or parallel I/O connections, in a manner similar to that found on other types of commercially available portable digital audio devices.” *Id.* at 6:32–40.

2. *Claim 44*

Claim 44 is reproduced below:

44. An apparatus for docking a portable device for integration with a car stereo comprising:

- a storage area remote from a car stereo for storing the portable device;

- a docking portion within the storage area for communicating and physically mating with the portable device;

- a data port in communication with the docking portion, the data port connectable with a device for integrating the portable device with the car stereo; and

- an interface connected to said data port and to the car stereo, said interface channeling from the portable device to the car stereo said interface including a microcontroller in electrical communication with the portable device through said data port and the car stereo, said microcontroller pre-programmed to execute first program code for remotely controlling the portable device using the car stereo by processing control commands generated by the car stereo in a format

incompatible with the portable device into formatted control commands compatible with the portable device, and dispatching formatted control commands to the portable device for execution thereby.

Ex. 1101, 25:1–22.

Petitioner relies on Bhogal for its teaching about the use of a docking station that accepts portable electronics, with the rest of the claim elements being met by “JP ’954 (as combined with Lau)” or “JP ’954 in view of Lau.” Pet. 37, 39. Petitioner, however, does not explain within the section of the Petition discussing claim 44, how JP ’954 is modified in view of Lau or combined with Lau in the context of the obviousness assertion of claim 44. In that regard, Patent Owner asserts: “it is impossible to determine how Petitioner would modify the JP ’954 and Lau references to achieve the portable device and interface of the claim.” Prelim. Resp. 28.

We determine that because the discussion in the Petition of claim 44 immediately follows the discussion of the ground of unpatentability against other claims based on the combination of JP ’954 and Lau, Petitioner reasonably has conveyed, for claim 44, how JP ’954 would be modified in view of Lau, i.e., the same way JP ’954 and Lau are combined in the ground of unpatentability based on JP ’954 and Lau. Specifically, Petitioner asserts that in view of Lau it would have been obvious to one with ordinary skill in the art to substitute, in the system of JP ’954, a portable MP3 player for CD changer 2. Pet. 21.

In short, Petitioner proposes that it would have been obvious to one with ordinary skill in the art to substitute a portable MP3 player for CD changer 2 in JP ’954, and to connect that portable MP3 player to Interface Unit 1 of JP ’954 through a docking station. According to Petitioner, the

resulting combination meets the subject matter of claim 44. We are sufficiently persuaded by Petitioner's contentions.

Petitioner asserts that one with ordinary skill in the art would have used Bhogal's docking station in JP '954 because "the addition of a docking station would provide predictable ease of use in an automotive AV system." Pet. 39. That assertion is supported by the testimony of Dr. Matheson. Ex. 1115 ¶¶ 119, 123. We note that in the combined system of JP '954 and Lau, as noted above, a portable MP3 player has been substituted in for CD changer 2, and that Bhogal describes its emulator unit as a portable device (Ex. 1110, 6:18–21). Thus, the portable MP3 player in JP '954 would benefit from the convenience and ease of use provided by being removably placed in a docking station the same way Bhogal's emulator 206 would benefit from the convenience and ease of use provided by being removably placed in a docking station.

We also are sufficiently persuaded that one with ordinary skill in the art would have known to substitute a portable MP3 player for CD changer 2 of JP '954. Petitioner persuasively notes that Lau's music server 102 provides songs in MP3 format to head unit 104 (car stereo), and thus, is a MP3 player being emulated as a CD changer. Pet. 21 (citing Ex. 1103, 21:18–22:4). Specifically, Lau describes: "The music player is software for playing the particular music under consideration. For example, if the music is stored in MP3 format, the music player is a MP3 music player that can read, decode, and play MP3 files." *Id.* at 21:25–22:1. Thus, Lau discloses the desirability of connecting MP3 players to a car stereo, at least no less than that of connecting a CD changer to a car stereo. As for the portable aspect of an MP3 player, Petitioner accounts for that through the testimony

of Dr. Matheson, who testifies that “portable MP3 players were commonly available in the market.” Ex. 1115 ¶ 86.

We are sufficiently persuaded that the combined structure of JP ’954, Lau, and Bhogal, as discussed above, satisfies all limitations of claim 44. For instance, the portable MP3 player would be the portable device recited in the claim; Bhogal’s docking station would be the docking portion recited in the claim; and the MP3 player would be physically mating with the docking station as is required in the claim. Also, interface unit 1 of JP ’954 would be the interface recited in the claim, and the docking station as the claimed docking portion would be electrically connected to interface unit 1 of JP ’954 through a data port. We agree with Petitioner that “data port” is sufficiently broad to cover “electronic contact” through which data passes from one device to another. Pet. 38 (citing Ex. 1115 ¶ 120). The docking station necessarily would be in a storage area remote from the car stereo. As shown in Figure 1 of JP ’954, interface unit 1 also would be connected to head unit 3 which is the car stereo.

According to claim 44, the interface must include a microcontroller that communicates with the portable device as well as the car stereo. That is the case with interface unit 1 of JP ’954 in the system according to the combined teachings of JP ’954, Lau, and Bhogal. As shown in Figure 2 of JP ’954, microcontroller 4a within control system conversion portion 4 of interface unit 1 of JP ’954 is in electrical communication with CD changer 2 (now replaced by portable MP3 player), as well as with the head unit.

Claim 44 requires the microcontroller to be pre-programmed to execute first program code portion for remotely controlling the portable device using the car stereo by (1) processing control commands generated by



the car stereo in a format incompatible with the portable device into formatted control commands compatible with the portable device, and (2) dispatching formatted control commands to the portable device for execution thereby. Petitioner identifies microcomputer 4a in JP '954 as such a microcontroller. Pet. 39. Petitioner explains that microcomputer 4a is pre-programmed for remotely controlling CD changer 2 (replaced by portable MP3 player in the combined teachings of JP '954, Lau, and Bhogal) using the car stereo by converting control commands sent from head unit 3 into a format compatible with the portable MP3 player and transmitting them to the portable MP3 player for execution thereby. *Id.* The argument is supported by the testimony of Dr. Matheson. Ex. 1115 ¶ 124.

Figure 2 of JP '954 is reproduced below:

(Fig. 2)

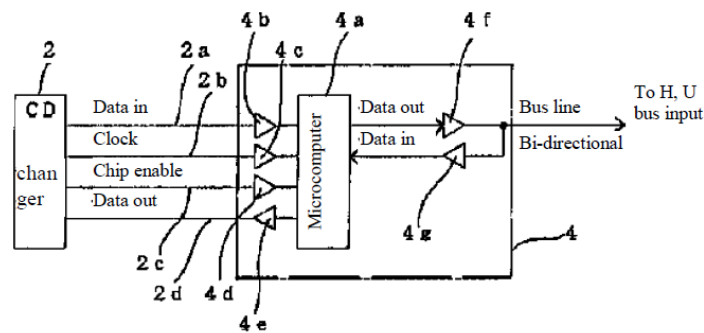


Figure 2 illustrates control system conversion portion 4 of interface unit 1 of JP '954. Ex. 1107 (0007). Microcomputer 4a is provided to convert and unify different signal formats between the CD changer and the main unit.

*Id.* JP '954 summarizes its interface unit 1 as follows:

(MEANS FOR SOLVING) The [interface] unit is constituted by splitting signals into three systems, namely a control system, audio system and power system, and providing a conversion circuit for each of these systems.

*Id.* Abstr. JP '954 describes its objective as: “to make it possible to add a CD changer made by company B to a main unit made by company A, as well as to add a CD changer made by company A to a main unit made by company B.” *Id.* (0003).

Patent Owner asserts that Petitioner does not explain how control system conversion portion disclosed in JP '954 “could possibly convert data from an MP3 player or remotely control the MP3 player.” Prelim. Resp. 19. In that regard, Petitioner asserts: “to the extent that JP '954 discloses anything, that disclosure only relates to CD-changer technology.” *Id.* These arguments are unpersuasive. A patent disclosure need not expressly describe, specifically, what would have been known to one with ordinary skill in the art, insofar as the making and using of the claimed invention is concerned. *See Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1463 (Fed. Cir. 1984). Moreover, on this record, the evidence does not establish that technology relating to control of CD changers is very much different from that relating to control of portable MP3 digital audio devices. Patent Owner may, after institution of trial, explore such issues by submitting evidence in that regard.

On this record, we determine that Petitioner has shown a reasonable likelihood that it would prevail in establishing the unpatentability of claim 44 as obvious over JP '954, Lau, and Bhogal.

### 3. *Claim 47*

Claim 47 depends from claim 44 and further recites: “wherein the data port comprises an RS-232 or Universal Serial Bus (USB) port.” Petitioner asserts that Bhogal describes its emulator unit as being coupled to the docking station in a “standard manner.” Pet. 55 (see Ex. 1110, 5:61–64).

Petitioner further asserts that Bhogal describes the emulator unit as being connectable to a personal computer, identifies various possibilities for the manner of connection, and refers to such manner as “similar to that found on other types of commercially available portable digital audio devices.” *Id.* (citing Ex. 1110, 6:32–37). In particular, Bhogal identifies such connections on commercially available portable digital audio devices as including “serial, universal Serial Bus (USB), or parallel I/O.” Ex. 1110, 6:34–37. It is also undisputed that “RS-232” refers to a serial bus. As such, we are sufficiently persuaded that one with ordinary skill in the art, in light of Bhogal, would have known to use a RS-232 or USB connection as a data port connecting to the docking station.

Petitioner has shown a reasonable likelihood that it would prevail in establishing the unpatentability of claim 47 as obvious over JP ’954, Lau, and Bhogal.

### III. CONCLUSION

Petitioner has not demonstrated a reasonable likelihood that it would prevail in establishing the unpatentability of any of claims 1, 2, 4–8, 10, 13, 14, 23, 24, 57, 58, 60–65, 86, 88–92, 94, 97, and 98 of the ’786 patent. Petitioner has, however, demonstrated a reasonable likelihood that it would prevail in establishing the unpatentability of claims 44 and 47 as obvious over JP ’954, Lau, and Bhogal. We have not made a final determination with respect to the patentability of any claim or the construction of claim.

III. ORDER

It is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to claims 44 and 47 of the '786 patent on the ground of obviousness over JP '954, Lau, and Bhogal;

FURTHER ORDERED that no other ground of unpatentability, with respect to any claim, is instituted for trial; and

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

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