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I. BACKGROUND

The '786 Patent is titled "Audio Device Integration System," and relates "to an audio device integration system for integrating after-market components such as satellite receivers, CD players, CD changers, MP3 players, Digital Audio Broadcast (DAB) receivers, auxiliary audio sources, and the like with factory-installed (OEM) or after-market car stereo systems." '786 Patent at 1:7–12. The '786 Patent was filed on December 11, 2002, and issued on February 10, 2009.

Claim 1 of the '786 Patent is an exemplary claim and recites the following elements (disputed term in italics):

1. An audio device integration system comprising:
 - a first connector electrically connectable to a car stereo;
 - a second connector electrically connectable to an after-market audio device external to the car stereo;
 - a third connector electrically connectable to one or more auxiliary input sources external to the car stereo and the after-market audio device;
 - an interface connected between said first and second electrical connectors for channeling audio signals to the car stereo from the after-market audio device, 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 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.

The '342 Patent is titled "Multimedia Device Integration System," and relates "to a multimedia device integration system for integrating after-market components such as satellite receivers, CD players, CD changers, digital media devices (e.g., MP3 players, MP4 players, WMV players, Apple iPod devices, portable media centers, and other devices), Digital Audio Broadcast (DAB) receivers, auxiliary audio sources, video devices (e.g., DVD players), cellular telephones, and other devices for use with factory-installed (OEM) or after-market car stereo and video systems." '342 Patent at 1:20–28. The '342 Patent is a continuation-in-part of the '786 Patent. The '342 Patent was filed on June 27, 2006, and issued on April 10, 2012.

Claim 49 of the '342 Patent is an exemplary claim and recites the following elements (disputed term in italics):

49. A multimedia device integration system, comprising:
an *integration subsystem* in communication with a *car audio/video system*; and
a first wireless interface in communication with said *integration subsystem*, said first wireless interface establishing a wireless communication link with a second wireless interface in communication with a portable device external to the *car audio/video system*,
wherein said *integration subsystem* obtains, using said wireless communication link, information about an audio file stored on the portable device, transmits the information to the *car audio/video system* for subsequent display of the information on a display of the *car audio/video system*, instructs the portable device to play the audio file in response to a user selecting the audio file using controls of the *car audio/video system*, and receives audio *generated by the portable device* over said wireless communication link *for playing on the car audio/video system*.

II. APPLICABLE LAW

A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry. . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because

claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the

specification and thus is less useful for claim construction purposes.” *Id.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court recently explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015).

B. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”² *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”) “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M*

² Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

Innovative Props. Co. v. Tredegar Corp., 725 F.3d 1315, 1326 (Fed. Cir. 2013); *see also Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) (“When the prosecution history is used solely to support a conclusion of patentee disclaimer, the standard for justifying the conclusion is a high one.”).

Although a statement of lexicography or disavowal must be exacting and clear, it need not be “explicit.” *See Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1364 (Fed. Cir. 2016) (“a patent applicant need not expressly state ‘my invention does not include X’ to indicate his exclusion of X from the scope of his patent”). Lexicography or disavowal can be implied where, *e.g.*, the patentee makes clear statements characterizing the scope and purpose of the invention. *See On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006) (“[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope.”). Nonetheless, the plain meaning governs “[a]bsent implied or explicit lexicography or disavowal.” *Trs. of Columbia Univ.*, 811 F.3d at 1364 n.2.

C. 35 U.S.C. § 112(6) (pre-AIA) / § 112(f) (AIA)³

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a “means . . . for performing a specified function” and that an act may be claimed as a “step for performing a specified function.” *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms,

³ Because the applications resulting in the ’786 Patent and ’342 Patent were filed before September 16, 2012, the effective date of the America Invents Act (“AIA”), the Court refers to the pre-AIA version of § 112.

and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372 (Fed. Cir. 2015) (§ 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure” (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014))); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”); *Masco Corp.*, 303 F.3d at 1326 (§ 112, ¶ 6 does not apply when the claim includes an “act” corresponding to “how the function is performed”); *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (§ 112, ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’”) (quotation marks and citation omitted).

When it applies, § 112, ¶ 6 limits the scope of the functional term “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. “The first step . . . is a determination of the function of the means-plus-function limitation.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). “[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof.” *Id.* A “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.” *Id.* The focus of the “corresponding structure” inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is “clearly linked or associated with the [recited] function.” *Id.* The corresponding structure “must include all structure that actually performs the recited function.” *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112, ¶ 6 does not permit “incorporation of structure from the written description beyond that necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function. *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The corresponding structure is not a general purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

III. LEVEL OF ORDINARY SKILL IN THE ART

It is well established that patents are interpreted from the perspective of one of ordinary skill in the art. *See Phillips*, 415 F.3d at 1313 (“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.”). The Federal Circuit has advised that the “[f]actors that may be considered in determining the level of skill in the art include: (1) the educational level of the inventors; (2) the type of problems encountered in the art; (3) prior art solutions to those problems; (4) the rapidity with which innovations are made; (5) sophistication of the technology; and (6) education level of active workers in the field.” *Env’tl*

Designs, Ltd. v. Union Oil Co. of California, 713 F.2d 693, 696 (Fed. Cir. 1983). “These factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art.” *Daiichi Sankyo Co. Ltd. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).

Plaintiff contends that “a person of ordinary skill in the art covered by the asserted patents would have a 4-year degree in Electrical Engineering (EE) or Computer Science (with course work in or a working understanding of EE and/or ME), and at least 2 years’ experience designing or analyzing electronic devices with interfaces, including integration of components for such devices and experience with media communication in the context of automotive applications.” (Dkt. No. 89 at 5). Plaintiff further contends that “[e]xtensive experience and technical training may substitute for educational requirements, while advanced education might substitute for experience.” (*Id.*). Defendants contend that “[a] ‘person having ordinary skill in the art’ at the time of the alleged invention would have had at least a Bachelor’s degree in electrical engineering or equivalent degree and at least two years of experience in signal processing and/or electronic system design, or would have at least four years of experience in signal processing and/or electronic system design.” (Dkt. No. 92 at 8) (citing Dkt. No. 92-4 at ¶ 16).

Having considered the parties’ proposals, and the factors that may be considered in determining the level of skill in the art, the Court finds that a person of ordinary skill in the art would have a Bachelor’s degree in electrical engineering or equivalent degree, and at least two years of experience in signal processing and/or electronic system design, which could include experience designing or analyzing electronic devices with interfaces and/or experience with media communication in the context of automotive applications. The Court notes that any differences in the parties’ proposals do not appear to be significant for the purpose of claim construction.

IV. CONSTRUCTION OF AGREED TERMS

The parties agreed to the constructions of the following terms/phrases:

Claim Term/Phrase	Agreed Construction
“integration” / “integrating” (’786 Patent, claims 1, 5, 57, 86)	“Connecting one or more external devices or inputs to an existing car radio or stereo via an interface, processing and handling signals and audio channels, allowing a user to control the devices via the car stereo, and displaying data from the devices on the radio”
“integration” / “integrating” (’342 Patent, claims 49, 50, 53, 54, 56, 66, 70, 73, 74, 77, 78, 79, 80, 94, 97, 99, 102, 103, 106, 113, 120)	“Connecting one or more external devices or inputs to an existing car stereo or video system via an interface, processing and handling signals, audio, and/or video information, allowing a user to control the devices via the car stereo or video system, and displaying data from the devices on the car stereo or video system”
“auxiliary input source” (’786 Patent, claims 1, 14)	“a device that outputs audio by headphone jack or other connector”
“channeling audio signals” / “audio signals . . . are selectively channeled” (’786 Patent, claims 1, 14; ’342 Patent, claims 97, 113, 120)	“receiving and transmitting audio”
“car stereo” (’786 Patent, claims 1, 2, 6, 13, 14, 57, 58, 60, 63, 86, 90, 91)	“All presently existing car stereos and radios, such as physical devices that are present at any location within a vehicle, in addition to software and /or graphically-or display-driven receivers. An example of such a receiver is a software-driven receiver that operates on a universal LCD panel within a vehicle and is operable by a user via a graphical user interface displayed on the universal LCD panel. Further, any future receiver, whether a hardwired or a software/graphical receiver operable on one or more displays, is considered within the definition of the terms ‘car stereo’ and ‘car radio’”
“device presence signal” (’786 Patent, claims 6, 57, 86; ’342 Patent, claims 56, 106)	“a continuously transmitted signal indicating an audio device is present”

“portable” (’786 Patent, claims 57; ’342 Patent, claims 49, 52, 53, 54, 56, 57, 62, 63, 64, 66, 70, 71, 73, 76, 77, 78, 80, 94, 95, 97, 100, 101, 103, 106, 109, 110, 111, 113, 115, 120)	“capable of being moved about
“pre-programmed” (’786 Patent, claims 1, 7, 8, 57, 60, 86, 90, 91)	Plain and ordinary meaning.
“connector electrically connectable to” / “electrical connector” / “connectable” (’786 Patent, claims 1, 2, 4, 5, 57, 86)	Plain and ordinary meaning.
“incompatible with” (’786 Patent, claims 1, 57, 60, 90, 91; ’342 Patent, claims 53, 54, 57, 70, 77, 78, 97, 120)	“not designed to work with”
“channeling audio signals” / “audio signals . . . are selectively channeled” / “channeling audio” / “channels audio” / “channels video” (’786 Patent, claims 1, 14; ’342 Patent, claims 97, 99, 113, 120)	“receiving and transmitting audio” or “receives and transmits [audio/video]”
“maintain . . . in an operational state” (’786 Patent, claims 57, 86)	“preventing the car stereo from shutting off, entering a sleep mode, or otherwise being unresponsive to signals and/or data from an external source”
“maintaining . . . in a state responsive” / “maintain . . . in a state responsive” (’786 Patent, claim 6; ’342 Patent, claims 56, 106)	“preventing the car stereo from shutting off, entering a sleep mode, or otherwise being unresponsive to signals and/or data from an external source”
“interface”	“a device that includes a microcontroller and that is a functionally and structurally separate

(’786 Patent, claims 1, 5, 6, 10, 14, 23, 57, 64, 86, 88)	component from the car stereo, which integrates an external aftermarket device with a car stereo”
“after market [audio/video] device” (’786 Patent, claims 1, 4, 5, 7, 8, 10, 23)	“[audio/video] equipment lacking the specifically designed wiring harness configured for use with the custom designed connectors positioned throughout a vehicle”
“external” (’786 Patent, claims 1, 57, 86; ’342 Patent, claims 49, 73, 97, 120)	“outside and alien to the environment of an OEM or after-market stereo system (and not limited to devices that were not made to work in automobiles)”

(Dkt. No. 95 at 18-26). In view of the parties’ agreement on the proper construction of the identified terms, the Court hereby **ADOPTS** the parties’ agreed constructions.

During the claim construction hearing, the parties agreed to the construction of the following terms/phrases:

Claim Term/Phrase	Agreed Construction
“generated by the portable device . . . for playing on the car audio/video system” (’342 Patent claims 49, 66, 73, 94, 97, 120)	“produced by the portable device, and received by the integration subsystem, as decoded audio signals for playing on the car audio/video system”
“generated by the portable device to the car audio/video system . . . for subsequent playing of the audio on the car audio/video system” (’342 Patent claims 97, 120)	“produced by the portable device, and received by the integration subsystem, as decoded audio signals for playing on the car audio/video system”

The Court preliminarily construed the phrases to mean “produced by the portable device, and received by the integration subsystem, as decoded audio signals for playing on the car audio/video system.” The Court indicated that the preliminary construction required the portable device to produce decoded audio signals, and precluded any further decoding of the audio signals between production by the portable device and reception by the integration subsystem.

Specifically, the Court finds that the patent holder clearly and unambiguously stated in the Toyota IPR and the Hyundai IPR that the audio must be decoded by the portable device, and that the decoded audio must be received by the integration subsystem.⁴

Specifically, in the Toyota IPR the patent holder argued that the “[“audio generated by the portable device”] limitations require that the portable device contain structure that converts the audio file into audio ‘generated’ on the device, *i.e. audio decoded by the portable device*. The claimed integration subsystem requires structure *that receives the generated audio* and relays the audio to the car audio/video system.” (Dkt. No. 89-4 at 28) (emphasis added). Furthermore, in characterizing the prior art, the patent holder stated the following:

Although the disclosure of Clayton uses the term “streaming audio,” Clayton never describes any transfer of audio other than the transfer of “content” between the portable audio device and the wireless adapter 173. “Content” is not audio generated by a portable device, rather it is described by Clayton as “media files, such as MP3 files, other types of audio files, video files, textual music play lists, and other types of files.” *This content is decoded (i.e. converted from data such as MP3 into “generated” audio) only in the “content decoder 446” which is contained within the “wireless adapter 173,” and, therefore, not in the portable device*. Thus, the disclosure cited by Petitioner teaches, at best, a system where audio files are stored on a portable device and sent, as data, to the wireless adapter 173 to be later decoded into generated audio.

(*Id.* at 28-29) (internal citations omitted) (emphasis added), *see also id.* at 33 (arguing that because a “stream decoder” was present in the adaptor rather than in the portable device, the portable device did not “generate” audio, and the wireless adapter did not “receive[] audio generated by the portable device.”). Thus, the patent holder clearly and unambiguously argued that the audio must be decoded by the portable device, and that the decoded audio must be received by the integration subsystem.

⁴ The Toyota IPR is IPR2016-00418, and the Patent Owner’s Preliminary Response is included in the record as Docket No. 89-4. The Hyundai IPR is IPR2016-01476 and the Patent Owner’s Preliminary Response is included in the record as Docket No. 92-18.

In the Hyundai IPR, the patent holder again argued that the prior art failed to disclose decoding audio files on a portable device prior to sending, but instead disclosed transmitting encoded audio “data” that had to be decoded by the receiving device:

Petitioners mischaracterize the A2DP 1.0 because the reference does not actually disclose “audio signals.” Rather, the reference describes audio streams which are defined as streaming audio “data.” *Data is not “generated audio” because such content must be decoded by the receiving device.* Citing to the A2DP 1.0 reference, Petitioners admit that decoding must occur away from the portable device. (Pet. at 72.) However, *the A2DP 1.0 reference only explains that audio data is transmitted in a compressed format (i.e., encoded).* Accordingly, the transfer of data is as *encoded data files* such as MP3 files. *Additional portions in the same section of the A2DP 1.0 reference expressly disclose that the audio stream is in an encoded format at the source SRC and decoded at the sink SNK, which means that audio received at the sink SNK is not generated audio.* Ex. 1009 at 16. *Additionally, the A2DP 1.0 specification describes transferring MP3 files, and not decoding MP3 files on a portable device prior to sending.* (Ex. 1009 at 24.) Thus, A2DP 1.0 does not disclose “audio generated by the portable device” as required by the claims.

(Dkt. No. 92-18 at 28-29) (emphasis added). Accordingly, the Court finds that the patent holder clearly and unambiguously argued that the audio must be decoded by the portable device, and that the decoded audio must be received by the integration subsystem.⁵

The specification also explains that “[a]udio and video signals generated by the portable device 1124 are channeled by the integration subsystem 1132 to the system electronics 1112, for playing through the car system 1110.” ’342 Patent at 35:62–65; *see also id.* at 38:37–40. The specification further states that audio signals generated by the portable device are channeled to the

⁵ In its Decision Denying Institution of *Inter Partes* Review filed by Defendants, the PTAB reached a similar conclusion regarding the scope of the claims:

Finally, whether the portable device requires “decoding” of the “audio file” in order to “play” the “audio file,” is a fact issue that depends on the technology involved in the portable device, not on any express claim requirement. Nevertheless, it suffices, for purposes of this Decision, to resolve the scope of the claim in the sense that *if the integration subsystem either receives an “audio file” or must decode what it receives in order to render “audio” for playing at the car audio/video system, then there is no “audio generated by the portable device” and “for [subsequent] playing [of the audio] at the car audio/video system,” under the plain meaning of the claims.*

Dkt. No. 89-5 at 12 (emphasis added).

car audio/video system using a “wireless link.” *Id.* at 38:37–40. Thus, even though the ’342 Patent does not offer an express definition of “generated by the portable device,” it makes clear that the “audio” generated by the portable device, as recited in the claims, are audio signals. Given this and the patent holder’s statement during the Toyota IPR and the Hyundai IPR, the Court agrees that the disputed phrases should be construed to mean “produced by the portable device, and received by the integration subsystem, as decoded audio signals for playing on the car audio/video system.” Accordingly, the Court **ADOPTS** the parties’ agreed constructions for the phrases “generated by the portable device . . . for playing on the car audio/video system” and “generated by the portable device to the car audio/video system . . . for subsequent playing of the audio on the car audio/video system.”

It should be noted that the adopted construction does not preclude further decoding of other data files by the integration subsystem. Although the patent holder argued that the prior art failed to disclose a system where audio files were at least decoded by the portable device, these arguments were not directed at other data discussed in the specification (*e.g.*, track information, artist information, song title, time information, etc.). Indeed, the specification states that the integration subsystem “receives data generated by the device electronic” and processes the data “into a format compatible with the car system 910.” ’342 Patent at 34:31–38. Thus, the specification indicates that the integration subsystem does some processing of the data after it is received from the portable device. Likewise, the parties agreed during the claim construction hearing that a digital-to-analog conversion that occurs after the integration subsystem receives decoded audio signals is not precluded by the claims.

V. CONSTRUCTION OF DISPUTED TERMS

The parties’ dispute focuses on the meaning and scope of ten terms/phrases in the Asserted

Patents.

1. “code portion” limitations

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“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” (’786 Patent, claim 1)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4C and described at 12:15-14:31, and equivalents thereof.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “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.” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 1.

“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 a 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” (’786 Patent, claim 1)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4G and described at 12:15-17:21, and equivalents thereof.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “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.” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 2.
“a third pre-programmed code portion for switching to one or more auxiliary input sources connected to said third electrical connector” (’786 Patent, claim 1)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: a microprocessor programmed to execute the flow-diagram of ref. no. 198 of Fig. 4D as described in col. 14:43-48, 15:13-23, and 316 of Fig. 5 as described in col. 19:48-52.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “switching to one or more auxiliary input sources connected to said third electrical connector.” <u>Structure:</u> a microprocessor programmed to execute the flow-diagram of ref. no. 198 of Fig. 4D as described in col. 14:43-48, 15:13-23, and 316 of Fig. 5 as described in col. 19:48-52.

“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” / “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” (’786 Patent, claims 57, 86)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4G and described at 12:15-17:21, and equivalents thereof.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “generating a device presence signal and transmitting the signal to the car stereo to maintain the car stereo in an operational state / 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.” <u>Structure:</u> Indefinite for failing to disclose corresponding structure
“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.” (’786 Patent, claim 57)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figure 4B and described at 13:1-48, and equivalents thereof.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “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” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 1.

“a third code portion for receiving data from the MP3 player . . . , processing received data . . . , and transmitting formatted data . . .” (’786 Patent, claim 60)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figure 4B and described at 13:1-48, and the algorithm described at 18:5-61, and equivalents thereof.	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “receiving data from the MP3 player in a format incompatible with the car stereo, processing received data into formatted data compatible with the car stereo, and transmitting formatted data to the car stereo for display thereby” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 2.
“a second code portion for receiving a control signal from the car . . . , processing a received control signal . . . , and transmitting the formatted control signal . . .” (’786 Patent, claim 90)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4C and described at 12:15-14:31, and the algorithm described at 17:22-18:4, and equivalents thereof.	Subject to § 112(6) (pre-AIA). <u>Function:</u> “for receiving a control signal from the car stereo in a format incompatible with the video device, processing a received control signal into a formatted control signal compatible with the video device, and transmitting the formatted control signal to the video device for execution thereby” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 1.

“a third code portion for receiving data from the video device incompatible with the car stereo, processing received data into formatted data compatible with the car stereo, and transmitting formatted data . . .” (’786 Patent, claim 91)	Not subject to 35 U.S.C. § 112, ¶ 6. Plain and ordinary meaning Pursuant to P.R. 4-2(a), if the Court determines that this term is governed by 35 U.S.C. § 112, ¶ 6, Blitzsafe agrees with Defendants’ recitation of the function(s) of this term, and identifies the following exemplary “structure(s), act(s), or material(s)” that may correspond to this term: the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4G and described at 12:15-17:21, and equivalents thereof. (same as previous)	Subject to 35 U.S.C. § 112(6) (pre-AIA). <u>Function:</u> “receiving data from the video device incompatible with the car stereo, processing received data into formatted data compatible with the car stereo, and transmitting formatted data to the car stereo for display thereon.” <u>Structure:</u> a microprocessor programmed to execute the code portion shown in Table 2.
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a) The Parties’ Positions

The parties dispute whether the “code portion” terms are subject to § 112 ¶ 6. If the “code portion” terms are subject to § 112 ¶ 6, the parties dispute the corresponding structure identified in the specification for six of the eight disputed terms, and whether the “code portion” terms relating to “device presence signal” are indefinite for lack of an associated algorithm. Plaintiff argues that none of the “code portion” terms use the word “means,” and it is presumed that § 112(6) does not apply. (Dkt. No. 89 at 19). Plaintiff contends that the ’786 Patent claims an “interface,” which the parties agree should be construed as a structure. (*Id.*). According to Plaintiff, the ’786 Patent discloses a specialized piece of hardware that includes not only a microcontroller, but additional components that enable the interface to perform as claimed. (*Id.* at 20). Plaintiff argues that the code portions are structural because they are part of the structure of the interface that enables it to perform the interface functions. (*Id.*). Plaintiff further contends that the claims

themselves provide that the interface is the structure that contains a microcontroller executing pre-programmed code to perform certain functions. (*Id.* at 21). Plaintiff argues that the code portion limitations themselves are not subject to Section 112(6) because they define the structure of the interface. (*Id.*).

Plaintiff further argues that the '786 Patent specification notes that it is the interface that runs certain code portions that perform the functions claimed. (*Id.*) (citing '786 Patent at 6:1–24). Plaintiff contends that claim 1 explicitly requires “first pre-programmed code portion” to be executed on a microcontroller in the interface, and that the specification notes that “remote control of the MP3 player 30 via radio 10 is provided for via interface 20.” (*Id.* at 22) (citing '786 Patent at 6:7–8). Plaintiff argues that claim 1 explicitly requires “second pre-programmed code portion” to be executed on a microcontroller in the interface, and that the specification notes that that “[d]ata 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.” (*Id.*) (citing '786 Patent at 6:19–22). According to Plaintiff, the claims themselves provide the necessary structure for performing the tasks recited in the “code portion” terms. (*Id.*) (citing Dkt. No. 89-3 at ¶¶ 42-44).

Plaintiff further argues that even if the microcontroller were divorced from the interface and were considered a general purpose computer that lacks structure, one of ordinary skill in the art would recognize that the code portions in the claims recite algorithms that provide sufficient guidance on how to program the microcontroller to perform the claimed operations such that the claims are structural. (*Id.* at 23) (citing Dkt. No. 89-3 at ¶ 49). According to Plaintiff, if the algorithm to be executed on a computer is written in the claim itself, the claim has sufficient structure and is not means-plus-function. (*Id.*). Plaintiff contends that all but one of those “code portion” terms recite an algorithm in the claim that takes those terms out of Section 112(6). (*Id.* at

24) (citing Dkt. No. 89-3 at ¶¶ 49-55). Plaintiff further contends that each of the steps of these algorithms discloses sufficient structure for a person of ordinary skill in the art to be able to provide an operative software program for the specific functions. (*Id.* at 24) (citing Dkt. No. 89-3 at ¶ 56).

Regarding the third code portion of claim 1, Plaintiff argues that one of ordinary skill in the art would be able to program the operation of switching to an auxiliary input source depending on a selection received from a control panel. (*Id.*) (citing Dkt. No. 89-3 at ¶ 65). Plaintiff further contends that the third code portion would nevertheless be a valid and definite means-plus-function claim element because the specification discloses a sufficient algorithm for this code portion. (*Id.*) (citing '786 Patent at 14:43–48, 15:13–23, 19:48–52, Figure 4D (block 198), Figure 5 (element 316)).

In the alternative, Plaintiff argues that even if the code portion were means-plus-function, the specification discloses sufficient corresponding algorithmic and physical structure to render the claims definite. (*Id.* at 25) (citing Dkt. No. 89-3 at ¶¶ 61, 64, 66, 69). Plaintiff contends that the specification of the '786 Patent discloses “sufficient structure in the form of the interface including a microcontroller, resistors, diodes, capacitors, oscillators and connectors shown in Figures 3A-3D, executing the algorithms shown in Figures 4A-4C and described at 12:15-14:31, and the algorithm described at 17:22-18:4, and equivalents thereof.” (*Id.*) (citing Dkt. No. 89-3 at ¶ 51). Plaintiff further contends that “the portion of the specification at 17:22–18:4 discloses an algorithm in prose for receiving a command from the car stereo, processing it into a format compatible with the portable device, and transmitting it to the portable device.” (*Id.*). Plaintiff also argues that for “the code portions for generating and transmitting the device presence signal in claims 57 and 91 the specification discloses structure in the form of the algorithms shown in the '786 Patent at Figures 4A-4G and described at 12:15-17:21.” (*Id.*) (citing Dkt. No. 89-3 at ¶¶ 67-

69).

Defendants respond that the term “code portion” could only have been understood by a person of ordinary skill in the art to recite source “code.” (Dkt. No. 92 at 12) (citing Dkt. No. 92-4 at ¶ 24). Defendants contend that the term is used in the ’786 Patent specification to refer to sample portions of assembly language code shown in Table 1 and Table 2. (*Id.*) (citing ’786 Patent at 17:28–29, 17:63, 18:10–12, 18:51.). According to Defendants, the independent claims merely recite the functions to be accomplished by the code. (*Id.*). Defendants argue that there is no known or conventional structure associated with the simple term “code portion.” (*Id.* at 13) (Dkt. No. 92-4 at ¶ 24). Defendants contend that nothing differentiates one “code portion” from another. (*Id.* at 13).

Defendants also argue that the context of the claims provides no assistance, because the expressed functions are generalized terms applicable to all the electronic arts. (*Id.*). Defendants further argue that merely describing how the microcontroller “is connected to and interacts with the other components of the system, what processes [it] performs, and what structural subcomponents might comprise [it]” is not sufficient to escape § 112(6). (*Id.*) (citing *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1373 (Fed. Cir. 2015)). Defendants contend that nothing in the claims describes how the conversion of incompatible signals to compatible signals is done. (*Id.* at 14). According to Defendants, Plaintiff’s position in this case confirms that “code portion” is a nonce term. (*Id.*) (citing Dkt. No. 92-4 at ¶ 28).

Turning to the “code portion” terms relating to command conversion, Defendants argue that the code disclosed in Table 1 is the correct construction of the term. (*Id.* at 15). Defendants contend that Plaintiff seeks to graft unrelated structure that does not actually perform the recited function onto the claim in an attempt to improperly enlarge the scope of the claims. (*Id.*) (citing

Dkt. No. 92-4 at ¶ 34). According to Defendants, the surrounding text flatly asserts that “a new command that is in a format compatible with the after-market CD player” results from the code. (*Id.*) (citing ’786 Patent at 18:1–2).

Defendants further argues that a skilled artisan would understand that “code portions” for executing certain functions describe the logic of the source code, not circuits illustrated in Figures 3A-D. (*Id.*) (citing Dkt. No. 92-4 at ¶ 30). Defendants argue that the figures do not disclose any logic. (*Id.*) (Dkt. No. 92-4 at ¶ 30). Defendants contend that a person of ordinary skill in the art would have recognized that the “receiving” and “transmitting” functions of the claimed “code portion[s]” are carried out by software and not by wires or other various hardware items. (*Id.* at 16) (citing Dkt. No. 92-4 at ¶¶ 30, 41-45). Defendants argue that the microcontroller ports in Figures 3A-3D are general-purpose input/output ports that must be set up specifically to function as either an input port or an output port before they can input or output anything. (*Id.*) (citing Dkt. No. 92-4 at ¶ 42).

Defendants further argue that the primary purpose of Figures 4A-4C is to show when such conversion is to be done, not how. (*Id.*) (citing Dkt. No. 92-4 at ¶ 31). Defendants contend that Figures 4A-4C provide no more than a mere recitation of function in single boxes. (*Id.*) (citing ’786 Patent at Fig. 4A, box 120, Fig. 4B (step 150), Fig. 4C (step 180); Dkt. No. 92-4 at ¶ 32). Defendants further contend that even if it is determined that some structure is disclosed in these figures, it is insufficient under *WMS Gaming* because it fails to completely perform the recited function. (*Id.* at 17) (citing ’786 Patent 12:59–64; Dkt. No. 92-4 at ¶ 32). Defendants argue that the only portion of the specification that attempts to explain an algorithm for actually executing command conversion is in Table 1. (*Id.* at 17) (citing ’786 Patent at 17:22–61; Dkt. No. 92-4 at ¶ 33). According to Defendants, there is no other place in the specification where even part of an

algorithm for doing the conversion is disclosed. (*Id.* at 18). Finally, Defendants argue that Plaintiff consistently identifies special purpose processors and microcontrollers as the underlying structure when addressing the claims in the invalidity or infringement context. (*Id.*).

Turning to the “code portion” terms relating to data conversion, Defendants argue that the code disclosed in Table 2 is the correct construction of the term. (*Id.*). Defendants contend that Plaintiff seeks to graft more unrelated functional language onto the structure. (*Id.*). Defendants argue that Plaintiff proposes the same structure in connection with these limitations as it did in connection with the command conversion “code portions,” except that it adds Figures 4D-4G and Table 2 (as well as surrounding text). (*Id.* at 18-19). Defendants further argue that there is not a single discussion of how data is processed in the figures and text Plaintiff cites. (*Id.* at 19) (citing ’786 Patent at 12:27, 12:42, 13:14, 13:22, 13:61, and 14:3; Dkt. No. 92-4 at ¶ 36). According to Defendants, the patent is absolutely clear that it is Table 2 that enables the information-conversion function of the claims. (*Id.*) (citing ’786 Patent at 18:5-49; Dkt. No. 92-4 at ¶ 37). Defendants contend that no other portion of the specification discloses even part of an algorithm for converting data. (*Id.* at 19).

Turning to the “code portion” terms relating to “device presence signal,” Defendants argue that there is no algorithm in the ’786 Patent explaining the algorithm that generates a device presence signal. (*Id.*). Defendants contend that the parties’ agreed construction for the term “device presence signal” does not solve the question of what the code portion term means. (*Id.* at 20) (citing Dkt. No. 92-4 at ¶ 40). Defendants argue that none of the figures Plaintiff relies on provides an algorithm. (*Id.*) (citing ’786 Patent at Fig 4A-4G, Fig 11B, Fig 12B). Defendants also argue that the same is true of the functional claim term “for generating a device presence signal and transmitting the signal” (*Id.*).

According to Defendants, a one-step algorithm disclosed in the specification that simply mirrors the claimed function does not constitute sufficient corresponding structure for a computer-implemented function recited in a claim. (*Id.* at 21) (citing *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1316-17 (Fed. Cir. 2012); *In re Amoya*, 656 F.3d 1293, 1298 (Fed. Cir. 2011)). Defendants contend that Plaintiff improperly relies on its expert to fill in the gap in the patent where the device presence algorithm should be. (*Id.* at 21). Defendants argue that this testimony is irrelevant because no algorithm is associated with the “device presence” code portions. (*Id.* at 21) (citing *EON Corp. IP Holdings LLC v. AT & T Mobility LLC*, 785 F.3d 616, 624 (Fed. Cir. 2015)). Finally, Defendants argue that Plaintiff is relying exclusively upon algorithms in source code for infringement, not the arrangement of capacitors and resistors that it cites as the claim structure. (*Id.* at 22).

Plaintiff replies that Defendants have not rebutted the presumption that the “code portion” terms are not means-plus-function claim terms subject to 35 U.S.C. § 112, ¶ 6. (Dkt. No. 94 at 7). Plaintiff argues that the “interface” is indisputably a structure that includes, among other circuits, a specifically programmed microcontroller with specific code portions defined in the claim that define the functionality of the interface as a whole, and not of a generic microcontroller. (*Id.*). Plaintiff contends that the functions of the interface are performed not only by the code portions executed by the microcontroller, but by the ports and other structure of the interface. (*Id.*) (citing Dkt. No. 89-3 at ¶¶ 41-48).

Plaintiff further argues that one of ordinary skill in the art would recognize that the code portions in the claims themselves recite algorithms that provide sufficient guidance on how to program the microcontroller to perform the claimed operations such that the claims are structural. (*Id.* at 8) (citing Dkt. No. 89-3 at ¶ 49). Regarding the first code portion of claim 1, Plaintiff argues that the remainder of the claim term sets forth an algorithm that performs the function of “remotely

controlling.” (*Id.*) (citing Dkt. No. 89-3 at ¶ 50). Plaintiff contends that this algorithm is sufficient to impart structure to the first code portion. (*Id.*) (citing Dkt. No. 89-3 at ¶ 56).

Regarding the code portion terms for “generating a device presence signal,” Plaintiff argues that “generating the device presence signal is the first step in a two-step algorithm for generating and transmitting the device presence signal, which takes these code portions out of Section 112(6).” (*Id.* at 9). Plaintiff further argues that “one of ordinary skill in the art would recognize that generating a device presence signal is a basic operation that involves programming the microcontroller to initiate the circuitry of the interface to generate a device presence signal.” (*Id.*) (citing Dkt. No. 89-3 at ¶ 67).

For the following reasons, the Court finds that the “code portion” limitations are not governed by 35 U.S.C. § 112, ¶ 6, and should be given their plain and ordinary meaning.

b) Analysis

The phrases “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 a 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”

appear in asserted claim 1 of the '786 Patent.

The phrases “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” appear in asserted claim 57 of the '786 Patent. The phrase “a third code portion for receiving data from the MP3 player . . . , processing received data . . . , and transmitting formatted data . . .” appears in asserted dependent claim 60 of the '786 Patent.

The phrase “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” appears in asserted claim 86 of the '786 Patent. The phrase “a second code portion for receiving a control signal from the car . . . , processing a received control signal . . . , and transmitting the formatted control signal . . .” appears in asserted dependent claim 90 of the '786 Patent. The phrase “a third code portion for receiving data from the video device incompatible with the car stereo, processing received data into formatted data compatible with the car stereo, and transmitting formatted data . . .” appears in asserted dependent claim 91 of the '786 Patent.

“It is well settled that [a] claim limitation that actually uses the word ‘means’ invokes a rebuttable presumption that § 112, [¶] 6 applies.” *Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1371 (Fed. Cir. 2003) (quotation omitted). It is also equally understood that “a claim term

that does not use ‘means’ will trigger the rebuttable presumption that § 112, ¶ 6 does not apply.” *Id.* at 1371 (quotation omitted). The presumption against the application of § 112, ¶ 6 may be overcome if a party can “demonstrate[] that the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” *Williamson*, 792 F.3d at 1348 (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)). “The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* at 1349. In determining whether this presumption has been rebutted, the challenger must establish by a preponderance of the evidence that the claims are to be governed by § 112, ¶ 6. *See Apex Inc. v. Raritan Comput. Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003).

Here, there is a rebuttable presumption that § 112, ¶ 6 does not apply because the claim does not recite the word “means.” Therefore, the analysis proceeds in two steps. First, the Court must determine whether the phrase is in means-plus-function form pursuant to 35 U.S.C. § 112, ¶ 6. *See Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014). If the Court determines that the phrase recites a means-plus-function limitation, then the Court proceeds to the next step and attempts “to construe the disputed claim term by identifying the corresponding structure, material, or acts described in the specification to which the term will be limited.” *Id.* (internal quotation marks and citation omitted).

Starting with the first step, Defendants argue that the “code portion” limitations are written using purely functional language and are governed by § 112, ¶ 6. (Dkt. No. 92 at 12). This Court has noted that in many instances, “code,” like “circuit” or “processor,” may connote sufficiently definite structure and is not a “nonce” or “functional” word that is subject to the limitations of § 112, ¶ 6. *Glob. Equity Mgmt. (SA) Pty. Ltd. v. Expedia, Inc.*, 2016 U.S. Dist. LEXIS 177218, at

*96-97 (E.D. Tex. Dec. 22, 2016); *see also Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1299 (Fed. Cir. 2014) (“Requiring traditional physical structure in software limitations lacking the term means would result in all of these limitations being construed as means-plus-function limitations and subsequently being found indefinite.”); *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007-09 (Fed. Cir. 2018) (holding that the district court erred by effectively treating “program” and “user interface code” as nonce words and concluding in turn that the claims recited means-plus-function limitations.). In other words, whether recitation of a “code portion” performing a function is governed by § 112, ¶ 6 depends on whether the code recites the objectives and operation of the device. *See, e.g., Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319-21 (Fed. Cir. 2004) (finding that “circuit [for performing a function]” was sufficiently definite structure because the claim recited the “objectives and operations” of the circuit.).

In the context of the intrinsic evidence, the Court finds that the “code portion” limitations connote sufficiently definite structure to a person of ordinary skill in the art. The parties agree that the claimed “interface” is structure, and that it should be construed to mean “a device that includes a microcontroller and that is a functionally and structurally separate component from the car stereo, which integrates an external aftermarket device with a car stereo.” The embodiments of the ’786 Patent disclose hardware that includes not only a microcontroller, but additional components, such as the ports J1C1, J2A1, X2, RCH and LCH, that enable the interface to perform as claimed. ’786 Patent at 8:31–64. Thus, the claimed device (*i.e.*, the recited “interface”) is sufficiently definite structure. The claim language further indicates that the “code portion” limitations recite the objectives and operation of the device and connote sufficiently definite structure. For example, claim 1 of the ’786 Patent recites the following:

1. An audio device integration system comprising:
a first connector electrically connectable to a car stereo;

- a second connector electrically connectable to an after-market audio device external to the car stereo;
- a third connector electrically connectable to one or more auxiliary input sources external to the car stereo and the after-market audio device;
- an interface connected between said first and second electrical connectors for channeling audio signals to the car stereo from the after-market audio device, 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 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.

'786 Patent at 21:31–64 (emphasis added). As indicated, claim 1 recites that the “interface” is located between and connected to the electrical connectors. Claim 1 further indicates that the interface includes a microcontroller that has been pre-programmed to perform the “code portion” limitations detailed in the remainder of the claims. Specifically, the interface’s objective of “channeling audio signals to the car stereo from the after-market audio device” is accomplished by the code portions operating to receive a control command from the car stereo, processing the control command into a formatted command compatible with the after-market audio device, transmitting the formatted command to the after-market audio device, receiving data from the after-market audio device, processing the received data into formatted data compatible with the car stereo, transmitting the formatted data to the car stereo, and switching to one or more auxiliary input sources. Thus, the words of the claim would be understood by a person of ordinary skill in

the art to have a sufficiently definite meaning as the name for structure.

Similar to claim 1, claim 57 recites an “interface” that is located between and connected to electrical connectors. The interface further includes a microcontroller that has been pre-programmed to perform the “code portion” limitations detailed in the remainder of claim 57, and in dependent claim 60. Thus, the words of the claims would be understood by a person of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. Finally, similar to claims 1 and 57, claim 86 recites an “interface” that is located between and connected to electrical connectors. The interface further includes a microcontroller that has been pre-programmed to perform the “code portion” limitations detailed in the remainder of claim 86, and in dependent claims 90 and 91. Thus, the words of the claims would be understood by a person of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.

The specification further indicates that the “code portion” limitations should not be subject to § 112, ¶ 6. For example, the “first pre-programmed code portion” in claim 1 of the ’786 Patent enables the interface to “remotely control[] the after-market audio device.” Consistent with the claim, the specification states that “*remote control* of the MP3 player 30 via radio 10 is provided for via *interface* 20.” ’786 Patent at 6:7–8 (emphasis added). Furthermore, the specification includes Table 1, which is “a sample code portion . . . for converting control signals from a BMW car stereo into a format understandable by a CD changer” ’786 Patent at 17:28–61.

As another example, the “second pre-programmed code portion” in claim 1 of the ’786 Patent enables the interface to “receiv[e] data from the after-market audio device . . . in a format incompatible with the car stereo,” process that data into formatted data compatible with the car stereo, and transmit that data for display by the car stereo. Consistent with the claim, the specification states that “[d]ata 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.” ’786 Patent at 6:19–22 (emphasis added). Furthermore, the specification includes in Table 2, which is “a sample code portion . . . for converting data from a CD changer into a format understandable by a BMW car stereo:” ’786 Patent at 18:11–49.

Thus, the intrinsic evidence confirms that the recited “code portion” limitations would be understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. *See, e.g., Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007-09 (Fed. Cir. 2018) (“[A] person of ordinary skill in the art could reasonably discern *from the claim language* that the words ‘*program*,’ . . . and ‘*user interface code*,’ . . . are used not as generic terms or black box recitations of structure or abstractions, but rather as specific references to conventional graphical user interface programs or code, existing in prior art at the time of the inventions.”) (emphasis added). Accordingly, the “code portion” limitations are not means-plus-function claim terms subject to 35 U.S.C. § 112, ¶ 6, and should be given their plain and ordinary meaning.

Defendants argue that describing how the microcontroller “is connected to and interacts with the other components of the system, what processes [it] performs, and what structural subcomponents might comprise [it]” is not sufficient to escape § 112(6). (Dkt. No. 92 at 13) (citing *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1373 (Fed. Cir. 2015)). Unlike the “compliance mechanism” in *Media Rights*, the claimed “interface” is structure that includes a pre-programmed microcontroller with specific code portions that define the objectives and operations of the “interface” as a whole. Indeed, the claimed “compliance mechanism” in *Media Rights* was described in purely functional terms and was not a substitute for a structure such as an electrical circuit. Here, the interface and its microcontroller operate as a circuit, with the objectives and operations of the circuit being accomplished by the “code portion” limitations. *See, e.g., Linear*

Tech. Corp. v. Impala Linear Corp., 379 F.3d 1311, 1319-21 (Fed. Cir. 2004) (finding that “circuit [for performing a function]” was sufficiently definite structure because the claim recited the “objectives and operations” of the circuit.).

The Court further notes that the claims in this case are similar to the claim in *Agis Software Dev., LLC v. Huawei Device USA Inc.*, No. 2:17-CV-513-JRG, 2018 U.S. Dist. LEXIS 174041, at *9 (E.D. Tex. Oct. 10, 2018). In *Agis*, the claim included algorithms to be executed in a programmable environment, and the Court found that they did not invoke §112(6) because they include structure. *Id.* at *46-55. Specifically, the claim recited “a device programmed to perform operations comprising” followed by several steps of an algorithm, such as “joining a communications network,” “participating in the group,” “presenting . . . a georeferenced map,” etc. *Id.* The Court found that the claim was not governed by §112(6) because the algorithm supplied sufficient structure. *Id.*

Defendants cite to a case where the Court found that “code for” terms were subject to § 112(6). (Dkt. No. 92 at 14) (citing *Cypress Lake Software, Inc. v. ZTE (USA) Inc.*, 2018 U.S. Dist. LEXIS 143743, at *21 (E.D. Tex. Aug. 23, 2018)). The Court notes that there were a number of disputed “code for” terms in *Cypress Lake*, and the Court not only found that some of the “code for” terms were subject to § 112(6), but also found that other “code for” terms were not subject to § 112(6). *Cypress Lake*, 2018 U.S. Dist. LEXIS 143743, at *64. As discussed above, determining whether § 112, ¶ 6 applies is a two-step process. This process involves a number of factual inquiries into the specifics of each case. Here, the facts of this case indicates that the “code portion” limitations are not subject § 112, ¶ 6.

Defendants also cite to a number of cases to support their proposed structure. *See e.g.*, Dkt. 92 at 15, 16, 21 (citing *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339 (Fed. Cir. 1999);

Blackboard, Inc. v. Desire2Learn Inc., 574 F.3d 1371 (Fed. Cir. 2009); *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302 (Fed. Cir. 2012); *In re Amoya*, 656 F.3d 1293 (Fed. Cir. 2011); *EON Corp. IP Holdings LLC v. AT & T Mobility LLC*, 785 F.3d 616 (Fed. Cir. 2015)). All of these cases addressed terms that were indisputably drafted in means-plus-function format, and were subject to § 112, ¶ 6. As discussed above, the Court finds that Defendants have not rebutted the presumption that § 112, ¶ 6 does not apply. Accordingly, these cases are not applicable to the facts of this case.

In summary, although the presumption against § 112 ¶ 6 is no longer “strong,” it is still a presumption that Defendants must affirmatively overcome. In the context of the intrinsic record, the Court finds that Defendants have not shown that “code portion” limitations should be subject to § 112, ¶ 6. Accordingly, the Court rejects Defendants’ argument that the “code portion” limitations are means-plus-function terms governed by § 112 ¶ 6, and construes these limitations to have their plain and ordinary meaning. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the Parties, and given it its proper weight in light of the intrinsic evidence.

c) Court’s Construction

The “**code portion**” limitations will be given their plain and ordinary meaning.

2. “integration subsystem”

<u>Disputed Term</u>	<u>Plaintiff’s Proposal</u>	<u>Defendants’ Proposal</u>
“integration subsystem”	Not subject to 35 U.S.C. § 112(6) “a subsystem that includes a microcontroller configured to integrate an external device with a car audio/video system”	Subject to 35 U.S.C. § 112(6) (pre-AIA). Indefinite. Alternatively, see functions and structure in the table attached as Dkt. No. 92-14.

a) The Parties’ Positions

The parties dispute whether the term “integration subsystem” should be interpreted as a

means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. Defendants contend that it should, and further contend that the “integration subsystem” term is indefinite because the ’342 Patent fails to disclose sufficient structure corresponding to the claimed functions. In the alternative, Defendants argue that Figure 24 is the only structure relevant to the functions of the “integration subsystem” in the independent claims.

Plaintiff argues that none of the claims of the ’342 Patent use the word “means,” and that Defendants have not overcome the presumption that § 112, ¶ 6 does not apply. (Dkt. No. 89 at 11). Plaintiff contends that one of ordinary skill in the art would have understood that an integration subsystem has a sufficiently definite meaning as the name for structure. (*Id.*) (citing Dkt. No. 89-3 at ¶¶ 25-26). Plaintiff argues that the specification refers to the structure of an integration system as including “an interface,” and describes the structure of the integration subsystem. (*Id.* at 10-11) (citing ’342 Patent at 8:64–9:3, 34:63–35:1, 14:27–59).

Plaintiff further argues that the term “integration system” and/or subsystem was used in the context of car audio/video systems during the relevant timeframe, and one of ordinary skill in the art would have understood these systems to be referring to “interfaces” such as those made by Plaintiff. (*Id.* at 12) (citing Dkt. No. 89-3 at ¶ 26). Plaintiff also argues that the specification describes the “integration subsystem” as containing “circuitry” that includes “the interface disclosed in Figure 3b, and discussed in the specification as including a microcontroller, a multiplexer/demultiplexer, resistors, capacitors, transistors, transformers, amplifiers, and oscillator, and other components.” (*Id.*) (citing ’342 Patent at 14:27–59; 34:63–35:1).

In the alternative, Plaintiff argues that the term “integration subsystem” is not indefinite because Figure 24 describes an algorithm that details the operation of the integration subsystem, and provides sufficiently definite structure for all alleged functions as a whole. (*Id.* at 13) (citing

Dkt. No. 89-3 at ¶¶ 28-34). Plaintiff also argues that the alleged functions can all be accomplished by electrical hardware such as the “wireless communication link.” (*Id.*). Plaintiff further argues that in this instance an algorithm is unnecessary and a description of hardware satisfies the definiteness requirement. (*Id.*). Plaintiff contends that to the extent any alleged functions require an algorithm, these alleged functions are supported by algorithms and specific source code found in the specification. (*Id.* at 14-15) (citing ’342 Patent at 22:7–16, 22:60–67, 15:3–6, 15:8–21, 16:1–5, Figures 4 and 5).

Defendants make a number of arguments in response. Defendants first argue that “system” is a generic, nonce term. (Dkt. No. 92 at 22). Defendants next argue that the specification uses the well-known nonce term, “module,” in place of the term “subsystem.” (*Id.* at 23) (citing ’342 Patent at 5:23, 5:29, 5:30, 5:40, 5:44, 5:50, 5:53, 5:55, 5:59-60, 8:3-30). Defendants also contend that the patentee told the USPTO that “integration subsystem” means the same thing as “module”. (*Id.*) (citing Dkt. No. 92-15 at 10). Defendants further argue that Plaintiff cannot identify the accused integration subsystem without source code or identify what the “integration subsystem” actually is. (*Id.* at 24-25). According to Defendants, if “integration subsystem” were a structural component, Plaintiff would presumably have been able to identify it when it took apart the accused products. (*Id.* at 24). Defendants also argue that the cases cited by Plaintiff were decided before the seminal *Williamson* decision, and thus applied a higher standard for overcoming the non-means-plus-function presumption. (*Id.* at 25).

Finally, Defendants argue that Figure 24 is the only structure relevant to the functions of the integration subsystem in the independent claims. (*Id.* at 27). Defendants contend that Figure 24 merely restates the functions and does not disclose structure corresponding to the functions of the independent claims. (*Id.* at 29). According to Defendants, the one-step algorithms disclosed in

the specification mirror the claimed function, and do not constitute sufficient corresponding structure for a computer-implemented function recited in a claim. (*Id.* at 30). Defendants also argue that the dependent claims recite numerous functions associated with the same “integration subsystem” that are not disclosed in Figure 24. (*Id.* at 28-29). Defendants contend that Plaintiff improperly relies upon its expert to fill in the gap where the algorithmic structure should be disclosed. (*Id.* at 30-31). According to Defendants, “integration subsystem” is a functional claim term governed by 35 U.S.C. § 112(6), and is indefinite because none of the recited functions are supported by disclosed algorithms. (*Id.* at 31).

Plaintiff replies that Defendants ignore the embodiments of the specification and its expert’s testimony that “integration subsystem” is the name of a structure. (Dkt. No. 94 at 4) (citing Dkt. No. 89-3 at ¶¶ 25-26). Plaintiff argues that Defendants’ conclusion that “system” is a nonce term does not prove that “integration subsystem” is a nonce term. (*Id.*). Plaintiff contends that the integration subsystem is described in the specification as having circuitry, and Defendants agree that “interface” is structural. (*Id.*). According to Plaintiff, the integration subsystem is described in the specification as a type structure and not subject to Section 112(6). (*Id.*).

Plaintiff further argues that there is no requirement that the function of every component of the structure be described in detail. (*Id.* at 5). Plaintiff contends that if the specification supports that a claim term is the name of a sufficiently definite structure, the claim term is not governed by Section 112(6). (*Id.*). Plaintiff argues that the written description clearly describes an integration subsystem as having circuitry, including a microcontroller, similar to those disclosed for the interface claimed in the ’786 Patent. (*Id.*) (citing ’342 Patent at 34:63–35). Plaintiff also argues that the illustrations in Defendants’ brief depict structure, and that it does not follow that because further proof is requested, the “integration subsystem” is not the name of a structure. (*Id.*). Plaintiff

further contends that the relevancy of the cases cited by Plaintiff in its opening brief does not depend on the standard for overcoming the presumption that claim terms that do not use “means” are not governed by Section 112(6). (*Id.*). According to Plaintiff, Defendants have not carried their burden to rebut the presumption that “integration subsystem” is the name of structure not subject to § 112(6). (*Id.* at 6).

In the alternative, Plaintiff argues that even if the term “integration subsystem” were determined to be defined solely by its function, Defendants have failed to show by clear and convincing evidence that the claims are invalid under 35 U.S.C. § 112(2). (*Id.*). Plaintiff contends that Defendants ask the Court to ignore the portions of the specification cited by Plaintiff and its expert to show that additional disclosure in the form of structure supplements the teaching of each step of the algorithm. (*Id.*). Plaintiff argues that its expert testified that the algorithm disclosed in Figure 24 is sufficient because one of ordinary skill would have been able to implement the algorithm. (*Id.*). According to Plaintiff, even if “integration subsystem” invokes § 112(6), Figure 24 discloses sufficient corresponding structure. (*Id.* at 7).

For the following reasons, the Court finds that the term **“integration subsystem”** should be construed to mean **“a subsystem that includes a microcontroller configured to integrate an external device with a car audio/video system.”**

b) Analysis

The term “integration subsystem” appears in asserted claims 49, 50, 53, 54, 55, 56, 57, 66, 70, 73, 77, 78, 79, 80, 97, 99, 102, 103, 106, 113, and 120 of the ’342 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the term “integration subsystem” should not be interpreted as a means-plus-function limitation under 35 U.S.C. § 112(6). None of the claims of the ’342

Patent, including those reciting the phrase “integration subsystem,” use the word “means.” The absence of the term “means” creates a presumption against the application of § 112, ¶ 6 that must be overcome by a preponderance of the evidence. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015). Defendants have not overcome the presumption.

Claim 49 recites “an integration subsystem in communication with a car audio/video system,” which is a typical construct for a structural limitation, not a means-plus function limitation. Moreover, the specification describes the structure of the integration subsystem as follows:

The integration subsystem 932 contains circuitry similar to the circuitry disclosed in the various embodiments of the present invention discussed herein, and could include a PIC16F872 or PIC16F873 microcontroller manufactured by Microchip, Inc. and programmed in accordance with the flowchart discussed below with respect to FIG 24.

’342 Patent at 34:63–35:1. The specification further states that the “embodiments of the present invention discussed herein” include, for example, the interface disclosed in Figure 3b and discussed in the specification as including the same 16F872 microcontroller, along with multiplexer/demultiplexer, resistors, capacitors, transistors, transformers, amplifiers, an oscillator and other components. ’342 Patent at 14:27–59, *see also id.* at 27:26–30, 28:14–17, 33:19–22, 35:40–47. Thus, the integration subsystem is described as a discrete structure comprised of multiple structural components, and not as a “black box” like the “distributed learning control module” in *Williamson*. The Federal Circuit has held that “circuitry” connotes structure to those in the electronic arts in the context of § 112 ¶ 6 analysis. *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004) (“Technical dictionaries, which are evidence of the understandings of persons of skill in the technical arts, plainly indicate that the term ‘circuit’ connotes structure.”); *Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003) (“[I]t is clear that the term ‘circuit,’ by itself connotes some structure.”); *Inventio AG v.*

Thyssenkrupp Elevator Ams. Corp., 649 F.3d 1350, 1358 (Fed. Cir. 2011) (“In past cases, we have concluded that a claimed ‘circuit,’ coupled with a description of the circuit’s operation in the claims, connoted sufficiently definite structure to skilled artisans to avoid the application of § 112, ¶ 6.”). Defendants have not established that the integration subsystem, which contains circuitry, fails to connote structure.

Turning to the proper construction, the Court finds that the specification indicates that the “integration subsystem” is a subsystem configured to integrate an external device with a car audio/video system. The specification states that “[t]he multimedia device integration system 540, in the form of a circuit board, is housed within the base portion 530 and performs the integration functions discussed herein for integrating the portable device 520 with an existing car stereo or car video system.” ’362 Patent at 27:26–30. The specification describes the objectives and operations of “integration” as “connecting one or more external devices or inputs to an existing car stereo or video system via an interface, processing and handling signals, audio, and/or video information, allowing a user to control the devices via the car stereo or video system, and displaying data from the devices on the car stereo or video system.” ’362 Patent at 8:64–9:3.

The specification further indicates that the “integration subsystem” includes a microcontroller. *See, e.g.*, ’342 Patent at 34:63–35:1 (“The integration subsystem 932 contains circuitry similar to the circuitry disclosed in the various embodiments of the present invention discussed herein, and could include a PIC16F872 or PIC16F873 microcontroller manufactured by Microchip, Inc. and programmed in accordance with the flowchart discussed below with respect to FIG 24.”). However, unlike the claimed “interface” in the ’786 Patent, the intrinsic evidence does not indicate that the “integration subsystem” has to be a functionally and structurally separate component from the car stereo. Indeed, the ’342 Patent indicates that the “integration subsystem”

can be included in either the portable device or the car stereo. *See, e.g.*, '342 at 34:9–13 (“The portable device 924 includes . . . an integration subsystem or module 932 positioned within the portable device 924.”); '342 at 35:23–25 (“In this embodiment, the integration subsystem 1032 is positioned internally within the car system 1010.”).

Turning to Defendants’ arguments, Defendants first contend that “system” is a generic, nonce term. (Dkt. No. 92 at 22). Defendants err by focusing on the word “system” in isolation from the language and requirements of the claim. The claim term at issue is an “integration subsystem,” not just a “system.” The Federal Circuit highlighted the importance of this distinction in *Welker Bearing*. Specifically, the court noted that the claim only recited a “mechanism,” and that “[n]o adjective endows the claimed ‘mechanism’ with a physical or structural component.” *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. Dec. 15, 2008). As discussed above, the intrinsic evidence indicates that the use of the term “integration subsystem” in the asserted claims includes additional adjectival qualifications, which further identify sufficient structure to perform the claimed functions to one of ordinary skill in the art. *See, e.g.*, '362 Patent at 8:64–9:3.

Defendants next argue that the specification uses the well-known nonce term, “module,” in place of the term “subsystem.” (Dkt. No. 92 at 23). Defendants also contend that the patent holder told the USPTO that “integration subsystem” means the same thing as “module.” (*Id.*). The Court first notes that the term “module” does not appear in the claims. Moreover, the intrinsic evidence indicates that the “integration subsystem” contains circuitry, and that a person of ordinary skill in the art would understand the words of the claim to have a sufficiently definite meaning as the name for structure.

Defendants also argue that Plaintiff cannot identify the accused integration subsystem

without source code or identify what the “integration subsystem” actually is. (Dkt. No. 92 at 24, 25). According to Defendants, if “integration subsystem” were a structural component, Plaintiff would presumably have been able to identify it when it took apart the accused products. (*Id.* at 24). The Court finds that Defendants are conflating the first step of determining whether the phrases are in means-plus-function form pursuant to 35 U.S.C. § 112, ¶ 6, with the second step of attempting “to construe the disputed claim term by identifying the corresponding structure, material, or acts described in the specification to which the term will be limited.” *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014) (internal quotation marks and citation omitted). Here, the intrinsic evidence indicates that the term “integration subsystem” should not be subject § 112, ¶ 6, which means the Court does not proceed to step two of identifying the corresponding structure disclosed in the specification. To the extent that Defendants contend that there is generally a lack of disclosure, such arguments may bear on issues of enablement or written description but do not present any further issue for claim construction.

Defendants also argue that the cases cited by Plaintiff were decided before the seminal *Williamson* decision, and thus applied a higher standard for overcoming the non-means-plus-function presumption. (Dkt. No. 92 at 25). Defendants are correct that the Federal Circuit in *Williamson* concluded that “a heightened burden [for applying Section 112(f)] is unjustified,” and that “characterizing as ‘strong’ the presumption that a limitation lacking the word ‘means’ is not subject to § 112, para. 6” should be abandoned. *Williamson*, 792 F.3d at 1349. However, although the presumption against § 112 ¶ 6 is no longer “strong,” it is still a presumption that Defendants must affirmatively overcome. In the context of this intrinsic record, the Court finds that Defendants have not shown that “integration subsystem” should be subject to § 112, ¶ 6.

Moreover, there is no requirement that the claims must “expressly recite[] circuitry,” as

Defendants contend. (Dkt. No. 92 at 25). For example, the Federal Circuit in *Inventio* found that the recited “modernizing device” functioned “as an electrical circuit that receives signals, processes signals, and outputs signals to other components in the patented system,” and was not subject to § 112, ¶ 6. *Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1358 (Fed. Cir. 2011).⁶ Here, the written description describes an integration subsystem as having circuitry, including a microcontroller, similar to those disclosed for the interface claimed in the ’786 Patent. *See* ’342 Patent at 34:63–35:1.

Finally, Defendants argue that Figure 24 is the only structure relevant to the functions of the integration subsystem in the independent claims. (Dkt. No. 92 at 27). Defendants further contend that Figure 24 merely restates the functions and does not disclose structure corresponding to the functions of the independent claims. (*Id.* at 29). Defendants also argue that the dependent claims recite numerous functions associated with the same “integration subsystem” that are disclosed in Figure 24. (*Id.* at 28-29). As discussed above, determining whether a claim is subject to § 112, ¶ 6, involves a two-step analysis. All of Defendants’ arguments relate to the second step of attempting to identify the corresponding structure after the Court has determined that § 112, ¶ 6 applies. Here, the Court finds that Defendants have not shown that “integration subsystem” should be subject to § 112, ¶ 6. This ends the analysis. Finally, in reaching its conclusion, the Court has considered the extrinsic evidence submitted by the Parties, and given it its proper weight in light of the intrinsic evidence.

⁶ The Court is cognizant that *Inventio* was decided before *Williamson*, and that *Inventio* stated that the presumption flowing from the absence of the term “means” is “a strong one that is not readily overcome.” *Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011). Notwithstanding, the Court is not of the opinion that *Williamson* automatically requires finding that a “circuit” lacks structure without first conducting a fact specific inquiry of the relevant intrinsic evidence. Here, the intrinsic evidence indicates that the recited “integration subsystem” connotes structure and that “the contextual language that describes the objective and operation of the claimed ‘circuit’ conveys the structural arrangement of the circuit’s components and provides additional limiting structure.” *Id.* at 1358.

c) Court's Construction

The Court construes the term **“integration subsystem”** to mean **“a subsystem that includes a microcontroller configured to integrate an external device with a car audio/video system.”**

3. “car audio/video system”

<u>Disputed Term</u>	<u>Plaintiff's Proposal</u>	<u>Defendants' Proposal</u>
“car audio/video system”	Plain and ordinary meaning	“All presently existing car audio and video systems, such as physical devices that are present at any location within a vehicle, in addition to software and/or graphically-or display-driven receivers. An example of such a receiver is a software-driven receiver that operates on a universal LCD panel within a vehicle and is operable by a user via a graphical user interface displayed on the universal LCD panel. Further, any future receiver, whether a hardwired or a software/graphical receiver operable on one or more displays, is considered within the definition of the terms ‘car audio/video systems.’”

a) The Parties' Positions

The parties dispute whether the term “car audio/video system” requires construction. Plaintiff argues that Defendants have not identified an instance in either the specification or file history where the patentee explicitly defined this term or disavowed claim scope related to this term. (Dkt. No. 89 at 26). According to Plaintiff, Defendants identify portions of the specification that define the terms “car stereo” and “car radio.” (*Id.*) (citing ’786 Patent at 5:1–14; ’342 Patent at 9:21–38). Plaintiff argues that the specification does not state that “car audio/video system” is to be used interchangeably with “car stereo” or “car radio.” (*Id.* at 27).

Defendants argue that the “car audio/video system” of the ’342 Patent is analogous to the “car stereo” of the ’786 Patent, and should therefore be similarly construed. (Dkt. No. 92 at 34). Defendants contend that any distinction Plaintiff attempts to draw between a “car stereo” and a

“car audio/video system” will only confuse the jury. (*Id.*). According to Defendants, Plaintiff treats the two terms as interchangeable. (*Id.*).

Plaintiff replies that the term “car audio/video system” should be given its plain and ordinary meaning. (Dkt. No. 94 at 9). Plaintiff argues that Defendants’ contention that the terms “car stereo” and “car audio/video system” are analogous is not a basis to depart from plain and ordinary meaning. (*Id.*).

For the following reasons, the Court finds that the term **“car audio/video system”** should be given its plain and ordinary meaning.

b) Analysis

The term “car audio/video system” appears in asserted claims 49, 50, 51, 53, 54, 56, 57, 66, 70, 73, 74, 75, 77, 78, 94, 97, 106, 113, and 120 of the ’342 Patent. The Court finds that the term is used consistently in the claims and is intended to have the same general meaning in each claim. The Court further finds that the term is unambiguous, is easily understandable by a jury, and should be given its plain and ordinary meaning. Defendants argue that the “car audio/video system” of the ’342 Patent is analogous to the “car stereo” of the ’786 Patent, and should therefore be similarly construed.⁷ (Dkt. No. 92 at 34). However, unlike the term “car stereo,” the specification does not provide a definition of “car audio/video system.” Therefore, there is less reason to construe the term as Defendants propose. Most importantly, the construction proposed by Defendants does not provide any further clarity to the disputed term “car audio/video system.”

⁷ As indicated above in “The Construction of Agreed Terms” Section, the parties agree that the term “car stereo” recited in claims 1, 2, 6, 13, 14, 57, 58, 60, 63, 86, 90, 91 of the ’786 Patent should be construed to mean “[a]ll presently existing car stereos and radios, such as physical devices that are present at any location within a vehicle, in addition to software and /or graphically-or display-driven receivers. An example of such a receiver is a software-driven receiver that operates on a universal LCD panel within a vehicle and is operable by a user via a graphical user interface displayed on the universal LCD panel. Further, any future receiver, whether a hardwired or a software/graphical receiver operable on one or more displays, is considered within the definition of the terms ‘car stereo’ and ‘car radio’”

Indeed, defining “car audio/video” as “all presently existing car audio and video systems” is not helpful to the jury.

During the claim construction hearing, Defendants reiterated that any distinction Plaintiff attempts to draw between a “car stereo” and a “car audio/video system” would confuse the jury. The Court disagrees that the jury would be confused by the plain and ordinary meaning for the term “car audio/video system.” However, to address Defendants’ concern, the Court inquired whether Defendants thought “car stereo” should be given its plain and ordinary meaning. This would provide the same construction for both terms, and thereby resolve Defendants’ issue. Defendants stated that they prefer the parties’ agreed construction for the term “car stereo” over their concern for jury confusion.

c) Court’s Construction

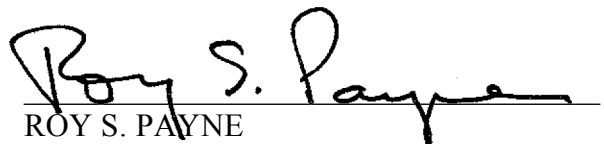
The term “**car audio/video system**” will be given its plain and ordinary meaning.

VI. CONCLUSION

The Court adopts the above constructions. The parties are ordered to not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any part of this opinion, other than the definitions adopted by the Court, in the presence of the jury. However, the parties are reminded that the testimony of any witness is bound by the Court’s reasoning in this order but any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

It is SO ORDERED.

SIGNED this 11th day of December, 2018.


ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE