

United States District Court,  
N.D. Illinois, Eastern Division.

**ROWE INTERNATIONAL CORP. and Arachnid, Inc,**  
Plaintiffs.

v.

**ECAST, INC., Rock-Ola Manufacturing Corp., and View Interactive Entertainment Corp,**  
Defendants.

**May 17, 2007.**

**Background:** Patent owner and assignee brought action against competitor alleging infringement of patents involving computer jukeboxes and computer jukebox networks. Competitor counterclaimed alleging infringement of its patent. Court set forth to construe disputed patent claims.

**Holdings:** The District Court, Kennelly, J., held that:

- (1) phrase, "song selection means," meant keyboard that was separate from display actuatable by user for generating signal representing song selected from plurality of songs stored in jukebox;
- (2) phrase, "means for permitting a user to select at least one song," meant keyboard that was separate from display actuatable by user for generating signal representing song selected from plurality of songs stored in jukebox;
- (3) phrase, "catalog file," meant file that included information identifying song and location of digital data representing song in computer memory;
- (4) phrase, "communication interface," meant point at which data was received by or sent from jukebox from, or to, central management station;
- (5) phrase, "processing means," meant being responsive to digital data representing at least one song, data representing one or more identifying characteristics of individual song, and data from which size of digital song could be determined, received by said communication interface to control storage of said digital song to update said jukebox;
- (6) phrase, "digital song data," meant digital data representing at least one song;
- (7) phrase, "song identity data," meant data that identified song; and
- (8) corresponding structure for processing means in patent had to be more than microprocessor.

Claims construed.

5,341,350, 5,355,302, 5,781,889, 5,848,398, 6,381,575, 6,397,189, 6,598,230, 6,970,834. Construed.

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## ***MEMORANDUM OPINION AND ORDER***

**KENNELLY, District Judge.**

Rowe International Corp. and Arachnid, Inc. have sued Ecast, Inc., Rock-Ola Manufacturing Corp., and View Interactive Entertainment Corp. claiming that they have infringed six patents owned by Arachnid and licensed to Rowe: U.S. Patent Nos. 5,355,302, 5,781,889, 6,397,189, 6,381,575, 5,848,398, and 6,970,834 (the Arachnid patents). Rowe also asserts that defendants have infringed U.S. Patent No. 6,598,230. Ecast has counterclaimed against AMI Entertainment, Inc. for infringement of U.S. Patent No. 5,341,350. The case is before the Court for construction of disputed language in the claims of these patents. The Court held a claim construction hearing on April 6, 2007.

### **Background**

Each of the patents at issue in this case involves computer jukeboxes and computer jukebox networks. Prior to the development of computer jukebox systems, conventional jukeboxes contained vinyl records, compact discs, or digital music files that users could select by paying a fee and pressing a button. These systems required the jukebox to house all the songs available for selection, thereby requiring the jukebox operator to visit each jukebox to update the music available. The operator also would visit the jukeboxes to collect money, information regarding how often songs were played, and other data. The song selections necessarily were limited by the storage space available at each jukebox.

The computer jukeboxes that are the subject of the patents at issue in this case each have a central management station that can distribute digital music to multiple jukeboxes. The central management station also stores advertisements and other information that can be transmitted to the jukeboxes. The computer jukebox system also allows the jukeboxes to store certain songs (for example, those that are frequently played), so that they do not have to be transmitted from the central management station repeatedly. In addition, the central management station can collect data regarding the songs being played, fees collected, etc., thereby eliminating the need for an operator to regularly visit each computer jukebox.

### **Discussion**

[1] [2] Construing the patent claims is the first step in a patent infringement case. *See Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1373 (Fed.Cir.2004). Claim construction is a question of law for the Court to decide. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed.Cir.1995).

[3] [4] [5] A court begins the analysis by examining the claim language itself. *See Hockerson-Halberstadt, Inc. v. Avia Group Intern., Inc.*, 222 F.3d 951, 955 (Fed.Cir.2000). The claim term's ordinary and customary meaning, as understood by persons skilled in the relevant technology, serves as the default meaning. *See id.* The Court may also consider additional intrinsic evidence, which includes the other parts of the patent, and the prosecution history of the patent, and extrinsic evidence, namely evidence that is not inherent in the patent itself.

[6] Apart from the claim language, the most important type of intrinsic evidence is the specification. The specification consists of "a written description of the invention, and of the manner and process of making and using it" and a description of "the best mode contemplated by the inventor of carrying out his invention," followed by "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. s. 112. The specification "is always highly relevant to the claim construction analysis ... it is the single best guide to the meaning of a disputed term." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed.Cir.2005) ( *en banc* ) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)).

The Federal Circuit has repeatedly emphasized that the claims of a patent "must be construed so as to be consistent with the specification." *Merck & Co. v. Teva Pharmaceuticals USA, Inc.*, 347 F.3d 1367, 1371 (Fed.Cir.2003). The court has also stated that it is important to bear in mind that " 'the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.' " *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed.Cir.2005) (quoting *Renishaw PLC v. Marposh SpA*, 158 F.3d 1243, 1250 (Fed.Cir.1998)). This "full understanding" can be obtained, the court has indicated, only by careful review of the inventor's written description of the invention in the specification.

[7] [8] The written description does not limit the scope of the invention as described in the patent claim, because it sometimes describes just one way of practicing the invention—the "preferred embodiment" of the invention. *See Phillips*, 415 F.3d at 1323; *see* 35 U.S.C. s. 112. A patent applicant is not required to put into the written description section every conceivable embodiment of his invention. *SunRace Roots Enterprise Co. v. SRAM Corp.*, 336 F.3d 1298, 1305 (Fed.Cir.2003); *Rexnord Corporation v. The Laitram Corporation*, 274 F.3d 1336, 1344 (Fed.Cir.2001).

[9] For this reason, the Federal Circuit has cautioned that it is improper for a court to "import[ ] limitations from the specification into the claims absent a clear disclaimer of claim scope." *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1373 (Fed.Cir.2007). The "clear disclaimer" requirement is satisfied only if there is "a clear disclosure that the patentee intended the claims to be limited as shown." *MBO Laboratories, Inc. v. Becton Dickinson & Co.*, 474 F.3d 1323, 1334 (Fed.Cir.2007); *Phillips*, 415 F.3d at 1323. In other words, a court cannot deviate from the ordinary meaning of a claim term simply by pointing to the written description or the identification of the "preferred embodiment" contained in the written description. *Teleflex, Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 1325 (Fed.Cir.2002).

[10] Another important source of intrinsic evidence is the prosecution history of the patent. Like the specification, "the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Phillips*, 415 F.3d at 1317. Though often not as clear as the specification, the prosecution history can show "whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

[11] [12] The Federal Circuit has authorized judges to rely on extrinsic evidence if the Court "deems it helpful in determining 'the true meaning of language used in the patent claims.'" *Id.* at 1318 (citing *Markman*, 52 F.3d at 980). The court has emphasized, however, that extrinsic evidence is "less significant than the intrinsic record" "in determining the meaning of the patent claims. *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed.Cir.2004)). Extrinsic evidence includes "all evidence external to the patent and prosecution history, including expert and inventor

testimony, dictionaries, and learned treatises." Markman, 52 F.3d at 980 (citation omitted). Extrinsic evidence, however, must be considered in the context of the intrinsic evidence. Phillips, 415 F.3d at 1319. Moreover, the Federal Circuit has noted that flaws are inherent in each type of extrinsic evidence, e.g., dictionary definitions and expert testimony, and courts must assess that evidence accordingly. Id.

[13] [14] Dictionaries may be used in claim interpretation, but only to "assist in understanding the commonly understood meaning of words," Phillips, 415 F.3d at 1322, and the Court must take care to "scrutinize the intrinsic evidence in order to determine the most appropriate definition." Atofina v. Great Lakes Chemical Corp., 441 F.3d 991, 996 (Fed.Cir.2006) (quoting Free Motion Fitness, Inc. v. Cybex International, Inc., 423 F.3d 1343, 1348-49 (Fed.Cir.2005)). In Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576 (Fed.Cir.1996), the court stated that expert testimony about the meaning of claim terms may properly be used "only to help the court come to the proper understanding of the claims" and "may not be used to vary or contradict the claim language" or to "contradict the import of other parts of the specification." Id. at 1584. The court, however, has approved the use of expert testimony to explain how persons working in the relevant technological or scientific field would understand the meaning of terms used in the patent. Merck & Co. v. Teva Pharmaceuticals USA, Inc., 347 F.3d 1367, 1372 (Fed.Cir.2003). In Phillips, the Federal Circuit reconfirmed that "expert testimony can be useful to a court ... to provide background on the technology at issue, to explain how an invention works, to ensure ... the court's understanding of the technical aspects of the patent ..., or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." Phillips, 415 F.3d at 1318. Conversely, however, expert testimony that is "conclusory"-in other words, unexplained or unsupported-is "not useful to a court," and courts likewise should not rely on expert testimony that contradicts the intrinsic evidence. Id. With these standards in mind, the Court turns to the construction of the disputed terms in the patents at issue in this case.

## 1. '302 patent

[15] The parties dispute the construction of five terms in the ' 302 patent, four in claim 1 and one in claim 3. Claim 1 discloses

"[a] computer jukebox ... comprising *song selection means actuatable by a user for generating a signal representing a song selected from a plurality of songs stored in said jukeboxes*; a programmable computer memory storing digital data representing each selectable song stored in said jukebox and a *catalog file* including data for each stored song representing the identity of said song and the location in said computer memory of the digital data representing said song; a *communication interface for receiving said digital song data, said song identity data and said storage space data* ... and ... processing means responsive to a song selection signal for accessing said digital data representing a selected song from said computer memory to apply said song data to said digital to analog converter and *said processing means being responsive to digital song data, song identity data and storage space data received by said communication interface to control the storage of said digital song data to update said jukebox.*"

Opening Brief, Ex. 1 at 8:44-9:8 (emphasis added). Claim 3 discloses a "computer jukebox as recited in claim 1 *wherein said communication interface includes a modem.*" FN1 Id. at 9:16-17 (emphasis added).

FN1. The Court has italicized the disputed claim terms throughout this opinion.

**a. "song selection means"**

[16] [17] Both parties agree that "song selection means actuatable by a user" is written in means-plus-function form. "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure ... in support thereof, and such claim shall be construed to cover the corresponding structure ... described in the specification and equivalents thereof." 35 U.S.C. s. 112, para. 6. To construe a claim written in means-plus-function form, the Court must identify the function recited in the claim and then identify the corresponding structure set forth in the written description that performs that particular function. *See* Globetrotter Software v. Elan Computer Group, 236 F.3d 1363, 1368 (Fed.Cir.2001). A disclosed structure "qualifies as 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed.Cir.2005).

Plaintiffs contend that the recited function is "generating a signal representing a song selected from a plurality of songs stored in said jukebox." They contend that the structure is "one or more keys" because it is disclosed in the specification. The specification states that "one or more selection keys" are used to provide a user with an interactive interface to the computer jukebox. Opening Brief, Ex. 1 at 5:44-49. Plaintiffs argue that the term "keys" includes any type of key that can generate a signal, including a physical key on a keyboard or a virtual key on a visual touchscreen. Defendants agree with plaintiffs' recitation of the function. They contend, however, that the corresponding structure in the specification is "keys on a keyboard," which they argue cannot include keys on a visual touchscreen as proposed by plaintiffs.

The '302 patent specification does not teach that the invention can employ a visual touchscreen. The patent, therefore, does not "clearly link [ ] or associate[ ]" keys on a visual touchscreen with the agreed function. *See* *Default Proof*, 412 F.3d at 1298. Rather, the specification always identifies the term "selection keys" with the "keyboard" disclosed in figure 1, which is "a block diagram of the computer jukebox system of the present invention." *See* Opening Brief, Ex. 1 at 2:54-55; 5:42-51; 7:19-26. The Court agrees with defendants that figure 1 illustrates that the "keyboard" and "display" are separate items that are connected to the central processing unit by a bus. They are not, as plaintiffs contend, the same thing. Moreover, the specification always identifies "selection keys" as separate from the display. For example, the specification teaches that

[u]sing the bus 124, the processing circuit 121 also controls a visual display 125, one or more selection keys 123 and a coin bill detector 126 to provide the user with an interactive interface to the jukebox 13. The keys 123 provide signals representing user inputs such as displayed song selection. The display 125 displays alpha numeric information as well as pictorial graphics to interface with the user.

*Id.*, Ex. 1 at 5:44-51. In short, the specification teaches that the visual display and selection keys are separate components of the invention.

Plaintiffs contend that even though the '302 patent does not disclose a visual touchscreen, the Court should look at claim 1 of the '398 patent, which does. Claim 1 of the '398 patent includes the phrase "song selection means displayed on said visual screen." *Id.*, Ex. 5 at 9:55-59. Defendants point out that the '398 patent is not part of the '302 patent or its prosecution history and thus cannot provide "corresponding structure" for a means-plus-function element in the '302 patent. *See* *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1166-68 (Fed.Cir.2004). Even were it permissible to look at the '398 patent to construe "song selection means" in the '302 patent, the disclosure of a visual touchscreen in the '398 patent does not support the construction

proposed by plaintiffs. To the contrary, it merely highlights that the inventors knew how to claim a video touchscreen but chose not to do so in the '302 patent.

[18] In sum, the Court construes "song selection means" in the '302 patent as "a keyboard that is separate from the display actuable by a user for generating a signal representing a song selected from a plurality of songs stored in the jukebox." The same construction applies to the term "means for permitting a user ... to select at least one song ..." in claims 1 and 7 of the '889 patent.

#### **b. "catalog file"**

[19] The digital jukebox described in the '302 patent includes "a *catalog file* including data for each stored song representing the identity of said song and the location in said computer memory of the digital data representing said song." Opening Brief, Ex. 1 at 5:18-19 (emphasis added). The specification states that it includes seven fields: title, classification (genre), song address (where the song is stored in the jukebox), song size, graphics address, graphics size, and play count. *Id.* at fig. 2; 2:56-58. Plaintiffs contend that "catalog file" means "a file that includes information associated with songs." Opening Brief at 7. Defendants contend that catalog file should be construed as "a data structure made up of song records, with each song record having the fields set forth in Figure 2." Resp. Brief at 6. In other words, defendants contend that the catalog file must include, for each song, data in each of the seven fields. Plaintiffs argue that the claim does not require that there be data in each field or category for each song.

Defendants' proposed construction amounts to an impermissible attempt to read the preferred embodiment in figure 2 as a limitation of the claim. *Nazomi Comm., Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1369 (Fed.Cir.2005). The plain language of the claim shows that the catalog file need have only two of the fields depicted in figure 2: "the identity of said song and the location in said computer memory of the digital data representing said song." Opening Brief, Ex. 1 at 8:55-58. Defendants' proposed construction disregards the claim language itself, which is the first place to look when construing disputed terms. *See Hockerson-Halberstadt*, 222 F.3d at 955. The Court therefore construes the term "catalog file" as "a file that includes information identifying a song and the location of the digital data representing the song in the computer memory." The same construction applies to the term "catalog file" in claims 2 and 10 of the '889 patent.

#### **c. "communication interface"**

[20] The computer jukebox has a "communication interface for receiving" data from the central management system. Opening Brief, Ex. 1 at 8:59-61. Plaintiffs contend that this term means "a connection between components that allows communication from one component to the other." *Id.* at 8. Defendants contend that the term means "the point at which data is received by or sent from the jukebox from or to the central management station." Resp. Brief at 8. Defendants' construction would limit the communication interface to one that permits point-to-point communication between the jukeboxes and the central management station without intervening routing.

Defendants are again improperly attempting to read a limitation into the claim from the specification. They rely on the testimony of their expert, Dr. Sigurd Meldal, to argue that a person of ordinary skill in the art would understand that the communication interface is a point-to-point system because the central management system and the jukebox "use respective modems ... to maintain serial communication on the transmission link" and the transmission link "may be a cable system such as a public or private telephone lines or the like." Resp. Brief, Ex. F at para. 37-40. However, as plaintiffs' expert, Dr. Bradley Dickinson, points out, a skilled artisan would understand that communication networks between computers

do not require fixed transmission paths. Rather, "cable and telephone modems are regularly used to connect remote devices through multiple interconnections using networks that are not point-to-point." Reply Brief, Ex. 21 at para. 32.

The Court need not base its construction on the experts' opinions, however, because it is plain that defendants rely too heavily on the diagram in figure 1 to the exclusion of the actual claim language. The fact that the diagram in figure 1 shows a line between the modem in the jukebox and modem in the central management system does not mean that intervening devices such as repeater stations, routers, firewalls, and nodes cannot be utilized. The specification also describes embodiments that routinely use intervening routing devices, such as cable and telephone systems. Opening Brief, Ex. 1 at 3:30-32. Moreover, to the extent that figure 1 shows the limitation inferred by defendants, it is part of the specification. *Space Sys./Loral, Inc. v. Lockheed Martin Corp.*, 405 F.3d 985, 987 (Fed.Cir.2005) (written description requirement in specification includes "[w]ords, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.") (citation omitted). A limitation from the specification may not be imported into the claim in these circumstances. *MBO Labs.*, 474 F.3d at 1334. The Court therefore construes "communication interface" as "the point at which data is received by or sent from the jukebox from or to the central management station." The same construction applies to the term "communication interface" in patents '889, '189, '575, '398, and '834.

#### **d. "processing means"**

[21] The '302 patent discloses "*processing means being responsive to digital song data, song identity data and storage space data received by said communication interface to control the storage of said digital song data to update said jukebox.*" Opening Brief, Ex. 1 at 8:67-9:8 (emphasis added). The parties agree that "processing means" is a means-plus-function claim. The parties also agree that the function disclosed in the claim is "being responsive to digital song data, song identity data and storage space data received by said communication interface to control the storage of said digital song data to update said jukebox." They dispute, however, how the disclosed function should be construed. The dispute centers on the proper construction of the terms "digital song data," "song identity data," and "storage space data."

[22] Plaintiffs contend that "digital song data" is digital data representing at least one song. Defendants contend that "digital song data" means "the digital representations of a plurality of songs." Resp. Brief at 11. Defendants base their proposed construction on the preamble of claim 1, which discloses "[a] computer jukebox capable of being up upon the receipt of digital data representing a plurality of songs ...." Opening Brief, Ex. 1 at 8:44-46. Plaintiffs argue that the language in the preamble merely describes an obvious characteristic of a jukebox: it receives data for multiple songs.

The Court adopts plaintiffs' construction of "digital song data." As plaintiffs point out, the specific claim limitation at issue is directed to "processing means responsive to *a* song selection signal for accessing said digital data representing *a* selected song," not a "plurality of songs." Id. at 8:67-68 (emphasis added). The language in the preamble quite clearly describes the computer jukebox's ability to receive data for multiple songs; it does not describe a limitation on "digital song data."

[23] Plaintiffs contend that "song identity data" should be given its ordinary meaning: data that identifies a song. Defendants contend that "song identity data" means a song record having all seven fields set forth in figure 2 (title, classification, song address, etc.). Figure 2, however, is not part of the claim language. Moreover, defendants have offered no appropriate basis to import this limitation into the claim. Defendants

point to independent claims in the '575 patent that disclose "song identity data" to support their proposed construction; they claim that in that patent, "song identity data" must include all seven data fields. As explained below in the construction of terms in the '575 patent, however, the Court does not construe "song identity data" to require that every song record include data in each of the seven fields in figure 2. Defendants have not demonstrated that "song identity data" should be given anything other than its plain meaning. The Court adopts plaintiffs' construction of "song identity data."

Plaintiffs contend that "storage space data" means "data from which the size of the digital song can be determined." Opening Brief at 9. Defendants' proposed construction is similar, but it includes a limitation that the song size be expressed in bytes. FN2 In support, defendants point to a description of "song size field" in a preferred embodiment as "containing the number of bytes in length of the compressed digital data ...." *Id.*, Ex. 1 at 3:54-56. As stated earlier, it is impermissible to import a limitation from the specification to the claim in these circumstances. *Nazomi Comm.*, 403 F.3d at 1369. Though "storage space data" may be expressed in bytes, there is no limitation in the claim that prevents it from being expressed in some other unit of measurement.

FN2. A byte is eight bits. It is the amount of memory space needed to store one character. Douglas Downing & Michael Covington, *Dictionary of Computer and Internet Terms* at 70 (9th ed.2006).

Defendants contend that Arachnid further limited claim 1 during the prosecution history to overcome an objection to patentability based on the prior art. Defendants contend that Arachnid "expressly disavowed computer jukeboxes in which the songs are stored in 'fixed-size blocks.'" Resp. Brief at 12 (citing Ex. I at 4-5). Arachnid told the patent examiner that a prior art patent referred to as the Sidi patent

does not disclose or suggest a computer jukebox having a communication interface for receiving 'storage space data' as recited in claims 1-5. Nor does Sidi disclose or suggest a processing means responsive to 'storage space data received by said communication interface to control the storage of said digital song data to update said jukebox' as recited in claims 1-5. Rather, the Sidi system stores the data in 'blocks which are fixed in size and fairly large.' [ ] Since songs are of different lengths, the use of fixed sized blocks as disclosed in Sidi invariabl[y] results in wasted memory space. By contrast, the use of 'storage space data' as claimed in claims 1-5 allows the processing means accesses to perform memory management functions when new songs are added to the computer memory, thereby optimizing the available storage space in the memory ... In view of the above, claims 1-5 are believed allowable over Sidi .... Claim 6 depends from claim 1 and is believed allowable over Sidi for the reasons discussed above.

Resp. Brief, Ex. I at 4-5, 9. Arachnid contends that it did not disclaim blocks of a fixed size when it distinguished its invention from Sidi because the Sidi patent discloses blocks of a fixed size only at the central server, not at the jukebox. Arachnid is correct that the Sidi patent discloses the use of hard disks for storage of large fixed size blocks only at the central server. It also discloses the use of "two buffer memories of equal capacity ..." on outlet cards that are incorporated within the server. FN3 *Id.*, Ex. H at 1:62-64. The buffer memories in the Sidi patent receive data from a direct memory access channel server in the server, which in turn is connected to the hard disk. The buffer memories are controlled by an auxiliary processor in the outlet unit that enables the memories to alternate between emptying and filling with data at a high speed. *Id.* at 1:62-2:2. The data in the buffers is then transferred to the outlets (akin to the jukeboxes in the patents-in-suit). The Sidi patent does not disclose how data is stored once it reaches the outlets.

FN3. A buffer is a temporary memory location for data in transit from one device to another device; it is usually credited with making negotiations easier between devices of two different speeds. *See Dictionary of Computer and Internet Terms, supra*, at 66-67.

It is easy to see how Arachnid's argument to the examiner has caused confusion. Indeed, Arachnid attempted to distinguish its invention from the Sidi patent because of its use of "storage space data" as opposed to Sidi's use of "blocks which are fixed in size and fairly large." Resp. Brief, Ex. I at 4-5, 9. A clearer way to distinguish the present invention from Sidi would have been to explain to the examiner that the present invention includes a means to efficiently store large amounts of data on the jukebox terminals ("storage space data"), in contrast to the Sidi patent, which does not address how data sent from the server and received by the outlets is stored.

[24] A disclaimer during the prosecution of a patent must be clear and unambiguous before it can be used to limit the scope of a claim. *See Invitrogen Corp. v. Biocrest Mfg. L.P.*, 327 F.3d 1364, 1367 (Fed.Cir.2003). Because Sidi does not disclose how data is stored at the outlets, Arachnid could not have clearly and unambiguously disclaimed how such data is stored by distinguishing its invention from Sidi. Therefore, the Court declines to find such a disclaimer. The Court construes the function of the "processing means" as "being responsive to digital data representing at least one song, data representing one or more identifying characteristics of an individual song, and data from which the size of the digital song can be determined, received by said communication interface to control the storage of said digital song to update said jukebox."

[25] Plaintiffs contend that the corresponding structure for the processing means is a "microprocessor," because the specification teaches that "[t]he processing circuit 121 controls the operation and flow of data into and out of the jukebox," and the processing circuit includes a microprocessor. *See Opening Brief, Ex. 1* at 5:42-44; figure 1. Defendants contend that the structure cannot be a microprocessor because "in a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm." *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1348-49 (Fed.Cir.1999). *See also Harris Corp. v. Ericsson, Inc.*, 417 F.3d 1241, 1253-54 (Fed.Cir.2005) ("[a] computer-implemented means-plus-function term is limited to the corresponding structure disclosed in the specification and equivalents thereof, and the corresponding structure is the algorithm."). They argue, therefore, that the corresponding structure is a microprocessor utilizing the algorithm disclosed in the specification for using song size to control storage. *See Opening Brief, Ex. 1* at 6:16-34.

Plaintiffs do not respond in their briefs to defendants' argument regarding the proposed structure, other than by dropping a footnote describing defendants' position as "curious." Reply Brief at 3 n. 3. At the claim construction hearing, plaintiffs pointed the Court to a district court decision, *Metrologic Instr., Inc. v. PSC, Inc.*, No. 99-4876, 2004 WL 2851955 (D.N.J. Dec. 13, 2004), to support their argument that *WMS Gaming* and *Harris* do not apply to cases in which the algorithm is not the point of novelty of the patent-in-suit. *Metrologic* does not, however, cite any precedent for its holding that a microprocessor is sufficient structure if the algorithm is not a point of novelty. Nor do *WMS Gaming* or *Harris*, two Federal Circuit cases addressing microprocessors as structure, suggest such an exception to the principle they establish. In any event, plaintiffs have not established that the software process taught in the '302 patent is not a point of novelty. To the contrary, the manner in which songs are downloaded and stored in the computer jukebox appears to be a very important facet of the invention.

The Court concludes that WMS Gaming and Harris require that the structure corresponding to the disclosed function be more than a microprocessor; it must be the algorithm disclosed in the specification that runs on the microprocessor. The Court has reviewed the specification and concludes that the portion of the specification cited by defendants identifies the only potential algorithm to control storage of a digital song downloaded to a jukebox taught in the '302 patent.FN4

FN4. Plaintiffs do not contest that this portion of the specification identifies the appropriate algorithm.

[26] In sum, the Court construes the structure of "processing means" as:

a microprocessor that utilizes the song size data according to the following specific process: the central management system downloads to the jukebox the song records of both the song to be replaced and the replacement song. The jukebox then replaces the song record in the catalog file. Thereafter, the jukebox identifies available storage space in the storage unit based on the song size field of the new song, and writes the beginning address into the song address field. After this is complete, the central management system downloads the compressed digital data of the song to the jukebox. The jukebox then receives and writes the data into the song library.

See Opening Brief, Ex. 1 at 6:19-34, fig. 4B. The same construction applies to the term "processing means ..." in the '889 and '398 patents.

**e. "modem"**

[27] Claim 3 discloses a "computer jukebox as recited in claim 1 *wherein said communication interface includes a modem.*" Opening Brief, Ex. 1 at 9:16-17 (emphasis added). Plaintiffs contend that "modem" means "a connection between components that allows communication from one component to the other that includes a device that modulates and demodulates signals." *Id.* at 11. Defendants contend that modem is limited to "a telephone modem connected to a modem on the central management system through a leased or dial-up telephone line." Resp. Brief, Ex. E at 2.

Nothing in the claim or specification supports defendants' proposed construction. The claim refers only to a "modem," and the language in the specification upon which defendants rely states that the transmission link "may be a cable system such as public or private telephone lines or the like." *Id.*, Ex. 1 at 3:30-32.

In addition, defendants' proposed construction would render the words "such as" and "or the like" superfluous. *Id.* If the patentees wanted to include the limitation proposed by defendants, they easily could have written that the transmission link "was a public or private telephone line." Moreover, skilled artisans would understand that a "modem" could include a telephone dial-up modem, cable modem, ADSL modem, etc. See Dictionary of Computer and Internet Terms, *supra*, at 326 ("a device that encodes data for transmission over a particular medium, such as telephone lines, coaxial cables, fiber optics, or microwaves."). See also Reply Brief, Ex. 21 at para. 33 (modems can be "dial-up modems, cable modems, or any modem suitable for the transmission link.").

For these reasons, the Court construes "modem" as used in the claim as "a connection between components that allows communication from one component to the other that includes a device that modulates and

demodulates signals." This construction also applies to the term "modem" in the '189, '398, and ' 834 patents.

## 2. '889 patent

[28] The parties dispute three terms from the '889 patent, one in claim 1 and two in claim 4. Claim 1 discloses

[a]n improved computer jukebox for playing songs selected by users of the computer jukebox from a library of songs that have been digitally compressed and stored in the computer jukebox, where the selectable songs stored in the computer jukebox are capable of being updated upon the receipt of compressed song digital data, which represents at least one song, as well as song identity data, which represents the identity of each such song, the computer jukebox comprising ... *means for decompressing compressed song data.*

Opening Brief, Ex. 2 at 8:19-27, 44 (emphasis added). Claim 4 discloses

[t]he computer jukebox as recited in claim 3 wherein the graphics digital data represent *song associated pictorial graphics*; and wherein when no song is playing on the computer jukebox, the processing means operates the display means in a *user attract mode* so that a song associated graphics images, corresponding to song digital data stored in the computer memory, are displayed on the display means.

Id. at 9:14-20 (emphasis added).

### a. "means for decompressing"

The parties agree that claim 1 is a means-plus-function claim. Plaintiff contends that the function should be construed as "decompressing compressed song digital data," which is the exact term used in the claim. Defendants contend that the function should be construed as "converting a compressed audio file back to its original size." These are similar constructions, though defendants' proposed construction includes a proposed limitation (the file is converted back to its original size) that plaintiffs contend is technically incorrect. *See* Reply Brief, Ex. 21 at para. 26. Plaintiffs' expert opines that files can lose certain information during compression. Upon decompression, the lost information is not restored. Id.

The specification offers no guidance regarding the parties' competing constructions. Defendants offer no reason why this particular claim term requires any further definition beyond the language used in the claim. After all, the claim language itself is the first place to look to construe a claim. *See* Hockerson-Halberstadt, 222 F.3d at 955. The Court therefore construes the term as "decompressing compressed song digital data."

[29] Plaintiffs contends that the structure corresponding to this function is "a software algorithm or decompression circuit, and equivalents thereof." Opening Brief at 12. Defendants contend that the structure is an adaptive delta pulse code modulation (ADPCM) algorithm corresponding to the particular ADPCM algorithm used for compression. Resp. Brief, Ex. E at 2. They point to language in the specification that describes an ADPCM compression circuit. Because no other decompression means is specifically identified, defendants contend that the only possible decompression means is an ADPCM algorithm.

Defendants ignore, however, the next two sentences in the specification, which state that "[o]ther compression schemes may also be used. The compression circuit might also be fully replaced by a software algorithm which is executed by the host computer." Opening Brief, Ex. 2 at 4:9-12. In short, the

specification quite clearly does not limit decompression to an ADPCM algorithm as defendants contend. Because other compression schemes may be used, a person of average skill in the relevant field would understand that a corresponding decompression scheme must also be available. The Court therefore construes the term as "a software algorithm or decompression circuit."

**b. "song associated pictorial graphics"**

[30] Plaintiffs contend that the term "song associated pictorial graphics" means "visual images associated with songs." Opening Brief at 13. Defendants contend that the term means "graphics that are linked by the song record to a particular song." Resp. Brief, Ex. E at 2.

Plaintiffs base their proposed construction on standard definitions of "pictorial" and "graphic." "Pictorial," they contend, means "suggesting or conveying visual images," and "graphic" means "[a]ny computer-generated pictures produced on a screen, paper, or film ... [g]raphics range from simple line or bar graphs to colorful and detailed images." Opening Brief at 13. They also contend that "song associated" needs no interpretation because it simply means something associated with a song.

Defendants' proposed construction is based on language in the specification stating that the "graphics address field" in the catalog "contain[s] the beginning address in the bulk storage unit of the compressed digital data of a graphics image, if any, to be associated with the song." *Id.*, Ex. 2 at 3:48-51. The Court disagrees that this language in the specification "defines" the term as defendants suggest. Rather, defendants' proposed construction is an effort to import into the claim a limitation from a preferred embodiment, which is inappropriate in this situation. The Court construes the term as meaning "visual images associated with songs." The same construction applies to the term "song associated pictorial graphics" in the '189 patent.

**c. "user attract mode"**

[31] Claim 4 discloses that "the processing means operates the display means in a *user attract mode* so that a song associated graphics images, corresponding to song digital data stored in the computer memory, are displayed on the display means." Opening Brief, Ex. 2 at 9:17-20 (emphasis added). Plaintiffs contend that the term "user attract mode" means "a mode when the jukebox is not in selection mode." *Id.* at 13.

Defendants contend that the term means "a mode that occurs only if no song selection is playing in which the processor randomly selects the starting address of graphics data from available song records in the song catalog and displays those graphics on the visual display; the processor then randomly selects another starting address of available graphics data and the cycle repeats." Resp. Brief, Ex. E at 2. This term also appears in claim 4 of the '189 patent, and claims 1, 6, 15, and 22 of the '575 patent.

Claim 4 of the '889 patent discloses that "when no song is playing on the computer jukebox, the processing means operates the display means in a user attract mode so that a song associated graphics images, corresponding to song digital data stored in the computer memory, are displayed on the display means." Opening Brief, Ex. 2 at 9:16-20. The same is true in claim 4 of the '189 patent, which states that "when no song is playing on the computer jukebox, to generate a user attract mode wherein song associated graphic images are shown on the display." The same limitation does not appear in the '575 patent.

[32] Defendants contend that the term should be construed identically in all the patents in which it appears because the specification in the '889 patent discloses that "if ... a song selection is being played when the block 161 is encountered, the attract mode sequencing does not occur." *Id.* at 6:52-54; *see also* 9:15-18. If defendants' construction were adopted, however, the "no song being played" limitation in the '889 and '189

patents would be superfluous. Such a result is impermissible. *See* Curtiss-Wright Flow Control Corp. v. Velan, Inc., 438 F.3d 1374, 1380-81 (Fed.Cir.2006); *see also* Phillips, 415 F.3d at 1314-15. Therefore, the term "user attract data" in the '889 and '189 patents means "a mode when the jukebox is not in selection mode." The '575 patent does not include the specification language that defendants contend requires that "user attractdata" be limited to data displayed when no song is being played. In the '575 patent, therefore, the term "user attract data" also means "a mode when the jukebox is not in selection mode."

### 3. '189 patent

[33] The parties dispute two terms in the '189 patent. Claims 1 and 7 disclose "*selection keys* responsive to a selection of a song to be played on the computer jukebox from the song identity information displayed on the display." Opening Brief, Ex. 3 at 8:38-40 (emphasis added). Claim 1 also discloses "a processor connected to a memory ... wherein the memory further includes instructions for ... *causing the processor to have the display show at least one of user attract data and information that identifies the song for which digital song data is stored in the data storage ...*". Id. at Certificate of Correction (emphasis added).

#### a. "selection keys"

Defendants contend that the term "selection keys" in claims 1 and 7 of the '189 patent means "keys on a keyboard; the keyboard is separate from the display." Resp. Brief, Ex. E at 2. They argue, as they did with regard to the construction of "song selection means" in the '302 patent, that the patent identifies "selection keys" as the keyboard depicted on figure 1. The term "selection keys" in the '189 patent is not, however, expressed in means-plus-function format like the term "song selection means" in the '302 patent. It is therefore unnecessary to look to the specification of the '189 patent for corresponding structure, and it is impermissible to limit the claim term to specific preferred embodiments shown in the specification. Phillips, 415 F.3d at 1323.

The term "selection keys" in the '189 patent should be given its plain and ordinary meaning, as informed by the specification. The specification teaches that the selection keys are used by the user to select a song. Opening Brief, Ex. 3 at 5:32-35 ("[t]he keys 123 provide signals representing user inputs such as displayed song selection."). The Court therefore construes the term "selection keys" as "keys that allow a user to select a song" and declines to limit the claim term to keys on a keyboard separate from the display.

#### b. "causing the processor to have the display"

[34] Plaintiffs contend that the term "*causing the processor to have the display show at least one of user attract data and information that identifies the song for which digital song data is stored in the data storage ...*" means that "the processor is capable of having the display show ... at least one type of data that is used in the user attract mode to attract users to use the jukebox; and information that identifies the songs for which digital song data is stored in the data storage." Opening Brief at 16. Defendants contend that the term means "causing the jukebox to operate in 'user attract mode' and to display information that identifies the songs which are stored in the jukebox." Resp. Brief, Ex. E at 2. Their dispute involves the construction of the term "user attract data."

Plaintiffs contend that "user attract data" means any data used during "user attract mode." The Court has construed "user attract mode" in the '189 and '889 patents to be "a mode when the jukebox is not in selection mode." *See* Section 2(c) *supra*. As they argued with respect to the construction of "user attract mode," defendants contend that "user attract data" is limited to graphics. Some claims using the phrase "user

attract data" include a limitation to graphics, but others do not. *See, e.g.*, Opening Brief, Ex. 3 at 8:34-37, 52-54, 9:22-24. Construing the term as always limited to graphics would impermissibly read the former limitation into the latter. *See* Teleflex, Inc., 299 F.3d at 1325. The Court therefore adopts plaintiffs' construction.

#### 4. '575 patent

[35] The parties dispute three terms from claim 1 of the '575 patent. The patent discloses

[a] computer jukebox for playing songs transferred to and stored in the computer jukebox, the computer jukebox comprising ... an associated song record, the *song record including song identity data comprising at least one of a song title, a song category, song address, song size, graphics address, graphics size, and play count* ... a *song selector* for determining from the song selections a selected digitized song to be played on the computer jukebox ... *a processor operative to present on the display at least one of a user attract mode and song selections based on song identity data* ...

Opening Brief, Ex. 4 at 8:19-44 (emphasis added).

##### a. "song record"

Plaintiffs contend that the term "song record" should be interpreted to mean that there must be information regarding at least one of the following categories: song title, song category, song address, song size, graphics address, graphics size, and play count. Defendants contend that the term means that the song record must include at least one piece of information for each of those fields.

The patent teaches that for any single song, the song record can only have a maximum of one record for each category. For example, a song can only have one title, category, etc. *See* Opening Brief, Ex. 4 at 3:41-55. Defendants' proposed construction would therefore render superfluous the claim's use of the words "at least one of." In other words, if "song record" required information in each of the seven categories as defendants propose, the claim would not need the phrase "at least one of." Rather, it would describe "a song record including song identity data comprising a song title, a song category, song address ... [etc.]".

Defendants contend that SuperGuide Corp. v. DirecTV Enters., Inc., 358 F.3d 870, 884-86 (Fed.Cir.2004), requires that the term be construed to require at least one piece of information in every field. SuperGuide, however, did not state a universal rule for construction of the phrase "at least one of." Rather, SuperGuide was fact-specific; the court's construction of the term was consistent with the specification of the patent in that case. *Id.* at 887. In the present case, defendants' proposed construction would render claim language superfluous and would be inconsistent with the specification, which teaches that, at least sometimes, certain fields may be blank. Opening Brief, Ex. 4 at 3:50-51 ("graphics address field" is used for "a graphic image, *if any*, to be associated with a song.") (emphasis added). The Court therefore adopts plaintiffs' proposed construction.

##### b. "song selector"

[36] The term "song selector" in claim 1 of the '575 patent is similar to the term "selection keys" in the '189 patent, which the Court construed to mean "keys that allow a user to select a song." The term "song selector" is similarly straightforward and should be given its ordinary meaning. Defendants contend, however, that "song selector" should be limited to a "keyboard that is separate from the display." They

argue that there is no disclosure that supports a broader construction in any of the patents at issue in this case.

Defendants overlook, however, that the patent applicants utilized different terminology in the various patents to describe how a user selects a song. The '302 patent disclosed "song selection means" in a means-plus-function format (in which the corresponding structure is a keyboard); the '189 patent disclosed "selection keys." The term "song selector" is broader than both of these other terms; there is no corresponding structure to identify, and, on its face, the term is not limited to keys. The Court sees no reason to limit "song selector" to the examples shown in the specification and therefore construes the term to mean "a device that allows a user to select a song."

**c. "a processor operative to present on the display"**

[37] The Court has already construed "user attract mode," "at least one of," and "song identity data." See Sections 1(d), 2(c) & 4(a) *supra*. The parties agree that "processor," as used in the '575 patent, is the microprocessor in the computer jukebox shown as item 121A on figure 1. Consistent with those constructions, the Court adopts plaintiffs' construction of the term "a processor operative to present on the display at least one of a user attract mode and song selections based on song identity data."

**5. '398 patent**

The parties dispute the construction of two terms in claim 1 of the '398 patent. The patent discloses "[a] computer jukebox capable of receiving and storing digital data representing a plurality of advertisements, *data representing the identity of each of said advertisements*, and *data representing when and the number of times each of said advertisements is to be run ...*." Opening Brief, Ex. 5 at 9:49-51 (emphasis added).

**a. "data representing the identity ..."**

Plaintiffs contend that the term "data representing the identity of each of said advertisements" is clear and describes data that identifies an advertisement. Defendants point to language in the specification that states, "[t]he downloading and storing of advertisements is completed by the same apparatus and method as described above in connection with FIGS. 1 through 5." *Id.* at 9:34-36. Figures 1 through 5 refer to the downloading, storing, and use of digitized songs. They argue that "data representing the identity of each of said advertisements" is analogous to "data representing the identity of each of said songs," which appears in claim 1 of the '302 patent, and must be construed the same way. They contend that the proper construction of "data representing the identity of each of said advertisements" requires data from each of the seven fields in figure 2 of the '398 patent.

The Court rejects defendants' proposed construction. First, as explained earlier, Section 1(b) *supra*, song data does not need to include information in each of the fields in figure 2. Rather, it need only include data in one or more of the fields. Second, figure 2 quite clearly relates only to song record; it says as much on the diagram. If the inventors had intended figure 2 to apply to other data such as advertisements, they would have labeled the diagram differently.

For these reasons, plaintiffs' proposed construction is not inconsistent with the specification. The language in the specification stating that advertisements are downloaded and stored using the same method "described above in connection with FIGS. 1 through 5" appears to be nothing more than a general statement that teaches how advertising data fits into the overall scheme of the computer jukebox and computer jukebox

network. In any event, the limitations proposed by defendants are not part of the claim language. Even if the specification included such limitations (which it does not), it would be impermissible to import them into the claim. The Court construes "data representing the identity of each of said advertisements" as "data that identifies each advertisement." The term has the same meaning in the '834 patent.

**b. "data representing when and number of times"**

[38] Plaintiffs contend that the term "data representing when and number of times each of said advertisements is to be run" means "data associated with an advertisement that provides ... a period of time within which, or event in relation to which, the advertisement will be run; and permits a calculation of the frequency an advertisement is run within a given period." Opening Brief at 22. Defendants contend that the proper construction is "data representing the time of day and how many times each of said advertisements is to be run." Resp. Brief, Ex. E at 3. They argue that "when" means "the time of day" and "the number of times" means "how many times a day" based on language in the specification which states, "the header [which is downloaded with the advertisement] contains information about the advertisement including how many times a day the advertisement should be run and at what times." Opening Brief, Ex. 5 at 9:4-8.

The Court sees no proper basis to read into the claim the limitations proposed by defendants. One meaning of the word "when" is "at or during the time that." Opening Brief, Ex. 15. This common definition plainly makes sense in the context of the claim.

Defendants' attempt to define "when" as "time of day" fails; they are again trying to import limitations from a preferred embodiment into the claim. Moreover, the specification teaches that "when" can refer to a time related to an event, not merely a time of day. Opening Brief, Ex. 5 at 2:48-51, 9:38-42. Similarly, "the number of times" is not limited to "how many times a day."

Defendants correctly point out, however, that the claim language is forward-looking. It limits the data to that which shows when, in the future, an advertisement is to run. *See id.* at 9:51-54 ("data representing when ... each of said advertisements *is to be run*") (emphasis added). Plaintiffs' proposed construction is backward-looking, and would allow the data to include information regarding when advertisements *were* run ("the central management system can track the total number of times each advertisement *was actually run* ..."). *Id.* at 23 (emphasis added). Claim terms must be construed as they are used in the context of the claim itself. Phillips, 415 F.3d at 1313. The claim language is not broad enough to allow the backward-looking data proposed by plaintiffs. The Court, therefore, construes "data representing when and number of times ..." as "data associated with an advertisement that provides a period of time within which, or event in relation to which, the advertisement will be run and permits a calculation of the frequency an advertisement will be run within a given period." The term has the same meaning in the '834 patent.

**6. '834 patent**

[39] The parties dispute two terms in the '834 patent. Claim 3 discloses "a computer jukebox network comprising ... [a] computer jukebox including a processor and a data storage unit, said *data storage unit having a song storage location storing song data and an advertisement storage location receiving advertisement data* ...." Opening Brief, Ex. 6 at 10:28-43. Claim 10 discloses "[a] computer jukebox receiving and storing advertisement data ...." *Id.* at 11:22-27.

**a. "data storage unit having"**

The parties dispute centers on the word "location." Plaintiffs contend that "location" means the place in the memory where information is stored. In other words, information is stored in a directory of folders or subfolders designated for particular types of data. Reply Brief, Ex. 21 at para. 22-24. Defendants contend that the claim requires song and advertising data to be stored at "separate structural location," *i.e.*, a different physical location. Resp. Brief at 25. They base their contention on language in the specification stating that "[t]he advertisement data is stored at a separate location on the storage unit 93 so that they can be easily located and tracked." Opening Brief, Ex. 6 at 9:11-12. Defendants do not offer any evidence to support their contention that a person of ordinary skill in the field would understand that a separate "location," as described in the specification, means a separate *physical* location.

The Court concludes that a person of ordinary skill in the field would understand that items stored in separate locations within a computer's memory are divided into folders and subfolders. The Court therefore adopts plaintiffs' proposed construction.

#### **b. "advertisement data"**

The term "advertisement data" appears in claims 3, 4, 7, 10, and 12 of the '834 patent and claims 1 and 8 of the '398 patent. In each instance, the term is coupled with an additional limitation, for example, at least one advertisement, a plurality of advertisements, and at least one time for the advertisement to be run. *See* Opening Brief, Ex. 6 at 10:30-31, 43-44, 62-63, 11:8-9, 34-12:3; Ex. 5 at 9:49-54, 10:5-6. Plaintiffs contend, therefore, that the term "advertising data" must always be construed in light of how the term is used in each individual claim. They argue that the only generalization that can be drawn regarding "advertising data" is that it includes "data representing one or more advertisement or data representing one or more characteristics of an advertisement." *Id.* at 25.

Defendants point to the specification and abstract of the '834 patent to support their contention that "advertisement data" means "digital data representing the identity of each advertisement and the number of times and when (in the day) each of the advertisements is to be run." Resp. Brief at 25. Specifically, the abstract of the '834 patent states that "[t]he advertisement data represents an identity of each of the plurality of advertisements, and data representing times for each of the advertisements to be run." Opening Brief, Ex. 6 at Abstract. The specification states that

[a]lso downloaded with the advertisements is digital data representing the identity of each advertisement, the number of times, and when each of the advertisements is to be run. The advertisement data is stored at a separate location on the storage unit 93 so that they can be easily located and tracked.

*Id.* at 9:8-12.

Construing "advertisement data" in the fashion suggested by defendants in all claims—regardless of the additional limitations disclosed in certain claims—would read particular phrases out of the patent. For example, claim 1 includes a limitation regarding "when and the number of times" the advertisements are to run. Defendants' proposed construction would render that language superfluous, a result not permitted. *See* *Curtiss-Wright Flow Control Corp.*, 438 F.3d at 1380-81; *see also* *Phillips*, 415 F.3d at 1314-15. The Court therefore adopts plaintiffs' proposed construction.

#### **7. '230 patent**

[40] The parties dispute four terms in the '230 patent. Claim 1 discloses

[a] multimedia box network comprising ... an *operator group* including at least one multimedia box linked to said main data server ... a *peripheral management station* connected to said main data server by a second link ... said peripheral management station including a computer connected to said operator group by a *third data link* over which *data for servicing and/or programming of said at least one multimedia box* can be transferred from said peripheral management station.

Opening Brief, Ex. 7 at 6:50-68 (emphasis added).

#### **a. "operator group"**

Plaintiffs contend that "operator group" means "at least one multimedia box, where a multimedia box can be a jukebox." *Id.* at 26. They base their proposed construction on the claim language that states that an "operator group" includes "at least one multimedia box" and the specification that alternatively describes the multimedia box as a jukebox. *See e.g., id., Ex. 7 at 4:35-65.* Defendants contend that "operator group" means "a group of one or more multimedia boxes operated by an operator." *Resp. Brief, Ex. E at 3.* They base their proposed construction on language in the specification stating that

a certain number of jukeboxes is operated and serviced by one operating company in each case so that these jukeboxes represent one operator group 22. Each operator group 22 has a management station 30 allocated to it, which is linked in each case via ISDN line 3 in a star-shaped structure to the individual jukeboxes 20 of one operator group 22.

Opening Brief, Ex. 7 at 4:65-5:3. Defendants also point to a sentence in plaintiffs' brief that defines "jukebox operator" as "an individual or company that typically owned a number of jukeboxes at various locations." *Id.* at 2.

Neither parties' proposed construction is particularly helpful. Plaintiffs' proposed construction essentially construes "operator group" as one or more jukeboxes. Such a definition ignores the specification entirely. Defendants' proposed construction, which utilizes the term it seeks to define, is confusing. Because "operator group" does not appear to have any particular meaning to a person of ordinary skill in the field, the Court must construe the term in light of the specification. The Court therefore construes "operator group" as "one or more jukeboxes managed and serviced by one entity."

#### **b. "peripheral management station"**

[41] Plaintiffs contend that "peripheral management station" as used in the '230 patent means "a device, separate from the main data server, that allows the servicing or managing of at least one multimedia box without the need for physical presence at the multimedia box." Opening Brief at 26. Defendants contend that plaintiffs' proposed construction is overly broad and that the prosecution history and specification show that the "peripheral management station" must be a computer that is used to manage and service jukeboxes.

Though the claim does not define the "peripheral management station" as a computer, it does state that the station "includes a computer." *Id., Ex. 7 at 6:63.* Moreover, figure 1 describes the "peripheral management station" as a "JukeBox Management PC," and it depicts the station as a desktop personal computer. A construction of "peripheral management station" as a computer would not, as plaintiffs argue, import limitations from the specification into the claim. The claim language itself indicates that, at the very least, the "peripheral management station" includes a computer. And because "peripheral management station"

apparently does not have any particular meaning to a person with ordinary skill in the field, the Court must construe the term in light of the specification. The specification reflects that the "central management station" includes a computer.

The parties also dispute whether the "central management station" is "used to" service the jukeboxes, or whether it "allows" the servicing of the jukeboxes. It is difficult to see the difference between these proposed constructions, and the parties' references to language in the specification do not provide much clarity. On the whole, however, the specification indicates that the purpose of the invention is to provide a means for multiple computer jukeboxes to be serviced from decentralized locations. *Id.*, Ex. 7 at 1:55-58. This can be accomplished only if the central management station does the servicing. The Court therefore adopts defendants' proposed construction.

### **c. "third data link"**

[42] Plaintiffs contend that "third data link" means "a third communications link that is either a separate link or a combination of the first and second links." Opening Brief at 27. They point to the specification, which describes the "third data link" in two forms. First, the "third data link" can directly connect between the peripheral management station and the jukebox. *Id.*, Ex. 7 at 5:1-4. Second, the "third data link" can indirectly connect to the jukebox by utilizing a link between the main data server and the jukebox (the first link) and a link between peripheral management station and the main data server (the second link). *Id.* at 6:8-14. In this embodiment, the main data server acts as a switch for data flowing between the peripheral management station and the jukebox. *Id.*, Ex. 7 at 3:43-46 ("the main server receives a corresponding connection call from the management station and switches this through to the corresponding ISDN line.").

Defendants contend that plaintiffs' construction is incorrect because the specification states that the third data link must allow uninterrupted communication between the peripheral management station and the jukebox and because plaintiffs, while prosecuting the patent, distinguished prior art by arguing to the examiner that the third data link must carry different information from the first and second data link. They contend, therefore, that the third data link must allow uninterrupted communication between the peripheral management station and the jukebox. Defendants base their proposed construction on the requirement in one embodiment that the first and second data links be connected in a series, and their expert's opinion that devices connected in series provide uninterrupted communication. Resp. Brief, Ex. F at para. 56. Plaintiffs' expert disagrees, opining that a person with ordinary skill in the field would not understand that a serial connection requires uninterrupted communication. Reply Brief, Ex. 21 at para. 41. Defendants also point to the description of a preferred embodiment in the specification, which states that "the information on the multimedia box connected in each case is available directly without any additional data transmission being required." Opening Brief, Ex. 7 at 2:62-65.

The Court need not rely on the conflicting testimony of the experts to construe this term. The claims do not limit the third data link to one allowing uninterrupted communication, and the portion of the specification cited by defendants does not require such a construction. The specification simply does not say that the communication must be "uninterrupted," as defendants contend. Rather, the preferred embodiment cited by defendants relates to the storage of data on the management station, not whether the third data link allows uninterrupted communication.

The Court also rejects defendants' contention that the third data link must carry different information from the first and second data links. They argue that plaintiffs disclosed such a limitation to the examiner to

overcome prior art. But defendants have taken this portion of the prosecution history out of context. The prosecution history reveals that plaintiffs were explaining to the examiner the function of the three different data links. They did not say that the third link-when physically comprised of the first and second links in series-must carry information different than the first and second link. Resp. Brief, Ex. N. at 12-13. Indeed, such a construction makes no sense. It would prevent one of the preferred embodiments (using the first two connections in series to form the third) from falling within the scope of the claims. Such a construction would be incorrect. *See* MBO Lab., 474 F.3d at 1333 ("[A] claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct.") (citation omitted). When the third data link is comprised of the first two links, obviously there must be overlap among them. The Court therefore construes "third data link" as "a third communications link that is either a separate link or a combination of the first and second links."

#### **d. "data for servicing and/or programming"**

[43] Plaintiffs contend that the term "data for servicing and/or programming of said at least one multimedia box" should be given its plain and ordinary meaning: "data used to service and/or program one or more multimedia boxes." Opening Brief at 28. Defendants' proposed construction is "data exclusively transferred over the third data link to service and program the multimedia box." Resp. Brief at 29.

Defendants base their proposed construction on the same arguments used to support their proposed construction of the phrase "third data link." As described above, *see* Section 7(c) *supra*, the Court has rejected defendants' proposed construction of that term. The claim cannot be limited to allowing servicing and programming data to travel only over the third communication link when a preferred embodiment of the third link is composed of the first and second link in series.

In addition, defendants' proposed construction would unnecessarily import limitations that do not appear in the claim. The claim says that the third data link "can" carry data for servicing and programming. Opening Brief, Ex. 7 at 6:65. It does not define the data as being carried only over the third link. Finally, as described above, plaintiffs did not adopt this limitation during prosecution. *See* Section 7(c) *supra*. The Court construes the term as meaning "data used to service and/or program one or more multimedia boxes."

#### **8. '350 patent**

[44] Defendant Ecast asserts the '350 patent against AMI Entertainment, Inc. The parties dispute four terms in claim 1, which discloses

[a]n improved jukebox which is connected with a central music store by way of a data telecommunications line suitable for the transmission of audio information, the jukebox including ... *an input keyboard* ... wherein the improvement comprises: *an intermediate memory is provided for the audio information picked up over the data telecommunications line; a memory is provided for frequent[ly] played musical selections;* a central computer is provided which processes user data for the individual jukeboxes and *the jukebox connected with the central computer includes an operator code unit which permits access to the central computer and the corresponding user data ....*

Opening Brief, Ex. 18 at 4:65-5:19 (emphasis added).

#### **a. "an input keyboard"**

AMI contends that "an input keyboard" means "an interface for selecting a song to be played." Opening Brief at 32. It contends that there is no limitation upon the form the input keyboard can take, and that the specification "expressly contemplates that the input keyboard may be an electronic keyboard with depressible keys or a touchscreen" because it teaches that "the input keyboard may also be replaced by a touchscreen." Resp. Brief, Ex. 18 at 4:26-28. Ecast argues that the specification language cited by AMI actually differentiates an input keyboard from a touchscreen. In other words, because the specification discloses that a touchscreen is an alternative to an input keyboard, an input keyboard cannot be a touchscreen.

The specification repeatedly teaches that the keyboard is distinct from the screen. For example, "[i]nput/output unit 20 is connected by way of a line 22 with a viewing screen 24 which constitutes the display ... moreover, input/output unit 20 is connected by way of a line 26 with an input keyboard 28." *Id.* at 4:13-20. "The selection instructions fed in by way of the input keyboard are displayed on viewing screen 24 ...." *Id.* at 4:20-21. "This jukebox includes a housing 40 which is provided with a viewing screen 24 and an input keyboard 28." *Id.* at 4:50-53. In addition, figures 1 and 2 both depict the keyboard as separate from the viewing screen. For these reasons, construing the input keyboard to be the screen would be inconsistent with the specification.

The specification's teaching that the input keyboard can be replaced by a touchscreen appears to mean exactly what it says: instead of an input keyboard, the device can utilize a touchscreen. That is not the same thing as saying that the input keyboard can *be* a touchscreen. Nor does it mean that the patentee claimed such an invention. If AMI wanted the claim to include a visual touchscreen and a keyboard, it easily could have said so.

For these reasons, the Court construes "an input keyboard" as used in claim 1 of the '350 patent to mean "a hardware device consisting of a number of mechanical buttons (keys) which the user presses to input characters to a computer."

**b. "an intermediate memory is provided for the audio information picked up over the data communications line"**

[45] AMI contends that "an intermediate memory ..." means that "electronic storage media is included in the jukebox to temporarily store musical selections received from the central music store over the data telecommunications line." Opening Brief at 32. The parties' dispute centers on whether the intermediate memory must be physically separate from memory used to store frequently played songs.

The claims disclose that intermediate memory and memory for frequently played songs are two different things and serve two different purposes. The specification also teaches that the two memories are "separate." *Id.*, Ex. 18 at 2:63-67. It does not say, however, that the memories must be "physically separate" as Ecast argues. Nor does the claim include or suggest such a limitation. The intermediate memory may be physically separate from the memory for frequently played songs, or it may be a separate area on the same memory device ( *e.g.*, a partition or subfolder).

The Court therefore construes "an intermediate memory ..." to mean that "electronic storage media is included in the jukebox to temporarily store musical selections received from the central music store over the data telecommunications line."

**c. "memory is provided for [frequently] played musical selections"**

[46] The parties agree that the Court's construction of "an intermediate memory ..." controls the construction of "memory is provided for [frequently] played musical selections." Based on the construction of intermediate memory, this term means that "an electronic storage medium is provided for frequently played musical selections."

**d. "the jukebox ... includes an operator code"**

[47] The parties are in agreement regarding the proper construction of the term "the jukebox ... includes an operator code." The Court construes "the jukebox ... includes an operator code ..." as "the jukebox connected with the central computer includes a device at the jukebox that allows secured access to the central computer and the user data that is stored at the central computer."

**Conclusion**

The disputed claim terms are construed in accordance with the conclusions set forth in this Memorandum Opinion and Order.

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