****NOT FOR PRINTED PUBLICATION****

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION

PERSONAL AUDIO, LLC,	§	
	§	
Plaintiff,	§	
	§	CIVIL ACTION No. 9:09CV111
v.	§	
	§	
APPLE, INC.,	§	JUDGE RON CLARK
	§	
Defendant.	§	
	§	

ORDER Re: APPLE'S MOTIONS FOR JMOL

Plaintiff Personal Audio, LLC ("Personal Audio") brought suit against Defendant Apple, Inc. ("Apple") alleging infringement of two patents directed toward an audio program player that will play a sequence of audio program files and accept commands from the user to skip forward or backward in the sequence. At trial, the jury found that the asserted claims of U.S. Patent No. 6,199,076 ("the '076 patent") and U.S. Patent No. 7,509,178 ("the '178 patent") were infringed, and did not find that any of the asserted claims are invalid. Before the court are Defendant Apple's motions for judgment as a matter of law ("JMOL"), made on the record at trial. For the following reasons, these motions are granted in part and denied in part.

I. BACKGROUND

The two patents-in-suit stem from the same application and share a common specification. They are directed toward an audio program player that will play a sequence of audio program segments or files and accept commands from the user to skip forward or backward in the sequence. A "sequencing file," which is "received" or "downloaded" from

outside the player, defines the sequence of audio program files, i.e. the order in which the files will be played or what file comes next when the user issues a command to skip forward or backward in the sequence. In some claims, the audio program files themselves are also downloaded from outside the player.

At trial, Personal Audio asserted claims 1, 3, and 15 of the '076 patent and claims 1, 6, 13, and 14 of the '178 patent. The accused products included various generations of Apple's iPod Classic, iPod Mini, and iPod Nano product lines, which were divided into eight representative groups for presentation to the jury. The jury found that all eight accused product groups infringed all of the asserted claims, and did not find that any asserted claim is invalid. [Doc. #470, Jury Verdict Form at 2-7.] The jury then found that a lump sum was the appropriate form of royalty in this case, and awarded a lump sum royalty of $8 million to Personal Audio. [Doc. #470 at 8, 10.]

Apple made approximately twenty-three motions for JMOL on the record at trial, many with sub-parts applying the same or similar arguments to similar limitations appearing in different patent claims. Parties are required to preserve error by making timely and proper motions for JMOL. However, given the time restraints placed on district courts by the size of their dockets, error is not preserved when a potentially meritorious motion, worthy of serious consideration, is buried in a mound of trivia. For example, Apple moved for JMOL on a point to which it had previously stipulated. *See infra* Part III.B.6.

Accordingly, in order to focus the court's attention on the truly important issues, the court asked Apple to identify what it considered to be its "top four" motions for JMOL. [*See* Trial Tr. p. 2076, l. 6 to p. 2077, l. 9; *id.* at p. 2231, l. 1 to p. 2232, l. 11]; Apple identified

five of its motions for JMOL that it considered to be "priorities." [*See* Trial Tr. p. 2230, l. 16 to p. 2239, l. 24.] The court will first address those motions identified by Apple as its primary motions for JMOL.

II. JMOL STANDARD OF REVIEW

Generally, a motion for JMOL is granted when there is no legally sufficient evidentiary basis for a reasonable jury to find for the party on an issue on which that party has been fully heard. Fed. R. Civ. P. 50(a)(1); *Reeves v. Sanderson Plumbing*, 530 U.S. 133, 150, 120 S. Ct. 2097, 2110 (2000). In entertaining a motion for JMOL, the court must review all of the evidence in the record, drawing all reasonable inferences in favor of the nonmoving party. *Reeves*, 530 U.S. at 150, 120 S. Ct. at 2110.

The court may not make credibility determinations or weigh the evidence. *Id.* Thus, although the court should review the record as a whole, it must disregard all evidence favorable to the moving party that the jury is not required to believe. *Id.* The court should give credence to the evidence favoring the nonmovant as well as "evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that evidence comes from a disinterested witness." *Id.*

Entry of JMOL is appropriate only if the jury's verdict is unsupported by substantial evidence or premised on incorrect legal standards. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1369-70 (Fed. Cir. 2010) (citing *Cambridge Toxicology Group v. Exnicios*, 495 F.3d 169, 179 (5th Cir. 2007)); *see also Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1357 (Fed. Cir. 2010) (Federal Circuit reviews district court's grant of JMOL under law of the regional circuit).

III. DISCUSSION

A. Apple's Top Five Motions for JMOL

1. Motion for JMOL of Noninfringement of '178 Patent With Respect to "Communications Port for Downloading from One or More Server Computers" Claim Limitations (All Accused Products)

Apple moved for JMOL of noninfringement of the '178 patent on the basis that the accused products do not meet the "communications port for downloading from one or more server computers" limitations.[1] [*See* Trial Tr. p. 1845, ll. 9-12; *id.* at p. 1849, ll. 4-12; *id.* at p. 1849, l. 20 to p. 1850, l. 23; *id.* at p. 2230, ll. 20-22; *id.* at p. 2232, l. 19 to p. 2233, l. 17.] The court's construction of the "communications port for downloading" terms specifies that the transfer of files from the "one or more server computers" to the player occurs "upon a request by the player," and that "request" means "a communication to initiate the transfer." [Doc. #430, Order on Mot. for Summ. J. at 15-16.] Apple argued that the accused products do not infringe because they do not, under the doctrine of equivalents,[2] download files upon a request by the player. [*See* Trial Tr. p. 1849, l. 20 to p. 1850, l. 23.] The court **GRANTED** this motion on the record at trial. [Trial Tr. p. 3252, l. 1 to p. 3254, l. 16.]

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[1] Attached as Appendix A to this order is a document entitled "Patent Claims Asserted by Plaintiff," which contains the language of all asserted claims, with the individual claim limitations numbered. This document was provided to the jurors in their juror notebooks for reference. Counsel and witnesses referred to claim elements by these numbers throughout the trial. Throughout this order, the court will use the numbering from Appendix A to refer to the various claim limitations. The "communications port for downloading" limitations are limitations number 1.a and 14.e of the '178 patent.

[2] The court held at the summary judgment stage that the accused products do not literally meet the "communications port for downloading" limitations. [*See* Doc. #430 at 11-16.]

2. Motion for JMOL of Noninfringement With Respect to "Means Responsive" Claim Limitations (All Accused Products[3])

Apple moved for JMOL of noninfringement of claims 1, 3, and 15 of the '076 patent and claims 6 and 14 of the '178 patent on the basis that the accused products do not contain structures identical or equivalent to the algorithmic structures identified by the court as corresponding to the "means responsive" limitations.[4] [*See* Trial Tr. p. 1812, ll. 3 to p. 1817, l. 20; *id.* at p. 1833, l. 24 to p. 1838, l. 17; *id.* at p. 1842, l. 2 to 1845, l. 5; *id.* at p. 2234, l. 4 to p. 2236, l. 5.]

a. Applicable Infringement Law

To prove infringement, the patentee must show by a preponderance of the evidence that the accused product embodies all of the limitations of the asserted claim. *Amgen Inc. v. F.*

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[3] Apple initially made several motions for JMOL of noninfringement specifically directed toward representative product group one, the iPod Classic Generation 3. [*See* Trial Tr. p. 1807, ll. 8-10 (making motions for JMOL with respect to iPod Classic Generation 3); Doc. #469, Jury Instructions at 8 (identifying representative product groups).] Apple later requested that its various motions for JMOL of noninfringement as to specific means-plus-function limitations be applied to all of the representative product groups; the court agreed that it would take those motions as directed toward all of the accused product groups. [*See* Trial Tr. p. 1830, l. 20 to p. 1833, l. 17.] The "chart" referred to by Apple and the court on pages 1830 to 1833 of the trial transcript is a document entitled "'076 and '178 Patent Claim Terms," and is attached as Appendix B to this order. This document contains the court's claim constructions and was provided to the jurors for their reference throughout the trial.

[4] In making this motion for JMOL, Apple specifically referred to limitations number 1.f, 3.a, and 14.e of the '076 patent [*see* Trial Tr. p. 1812, ll. 3-6; *id.* at p. 1838, ll. 1-6; *id.* at p. 1834, ll. 10-16] and limitations number 14.l and 14.m of the '178 patent [*see* Trial Tr. p. 1842, ll. 2-5; *id.* at p. 1844, ll. 6-8]. Apple later stated that the "means responsive" limitations "appear[] over and over again throughout the claims," and "permeate[] . . . all of the claims." [*See* Trial Tr. p. 2234, ll. 11-12; *id.* at p. 2235, ll. 23-25.] While Apple did not specifically identify them on the record, limitations number 15.a of the '076 patent and numbers 4.a, 6.a, and 14.n of the '178 patent are also "means responsive" limitations for which the corresponding structure includes the three-step algorithm that Apple alleges is not present in the accused products.

Hoffman-La Roche Ltd., 580 F.3d 1340, 1374 (Fed. Cir. 2009). For a means-plus-function limitation such as those at issue here, a structure in an accused device meets the claim limitation if it "performs the claimed function in substantially the same way to achieve substantially the same result as the corresponding structure described in the specification." *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1267 (Fed. Cir. 1999). Structural equivalence for a means-plus-function limitation is met if the differences between the corresponding structure in the specification and the structure in the accused product are insubstantial. *Id.*

"The individual components, if any, of an overall structure that corresponds to the claimed function are not claim limitations. Rather, the claim limitation is the overall structure corresponding to the claimed function." *Id.* at 1268. "[S]tructures with different numbers of parts may still be equivalent under § 112, ¶ 6, thereby meeting the claim limitation." *Id.* To deconstruct the corresponding structure described in the specification into component parts in order to analyze equivalents is incorrect. *Id.* Whether an accused device infringes a means-plus-function limitation as an equivalent is a question of fact. *Id.*

b. Claim Construction and Evidence Presented at Trial

With respect to the "means responsive" terms at issue, the court's claim construction identifies a three-step algorithm as part of the structure corresponding to the functions of responding to "Skip" and "Back" commands:

(1) scanning forward or backward in the sequencing file to locate the next Selection_Record of the appropriate LocType;

(2) resetting the CurrentPlay variable to the record number of that Selection_Record; and

(3) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.

[*See* Doc. #358, Order on Mot. for Reconsideration at 12-24.]

Apple argues that Dr. Almeroth did not demonstrate that the accused products utilize an algorithm that is insubstantially different from the three-step algorithm identified by the court as corresponding to the "responding" functions. [*See* Trial Tr. p. 1812, l. 9 to p. 1813, l. 15.] Specifically, Apple argues that (1) the accused products do not perform the step of scanning the sequencing file to locate the next Selection_Record of the appropriate LocType [*see* Trial Tr. p. 1812, l. 16-18; *id.* at p. 1817, ll. 10-12]; (2) the database in the accused products that Personal Audio asserts is equivalent to the claimed sequencing file does not contain any field equivalent to LocType [*see* Trial Tr. p. 1812, l. 21 to p. 1813, l. 10; *id.* at p. 1817, ll. 10-12]; and (3) during playback, the accused products do not access the database alleged to be equivalent to the claimed sequencing file and Selection_Records from the accused players' persistent storage, but rather from the players' RAM, or working memory [*see* Trial Tr. p. 1813, l. 16 to p. 1814, l. 21].

At, trial, Dr. Almeroth testified to the following with respect to the algorithms for performing the functions claimed in the "means responsive" limitations:

- Representative product group one, the iPod Classic Generation 3, stores playlists composed of Selection_Records that are all of the same LocType, namely "P" or "program files"; in other words, iPod playlists are simply an ordered list of ProgramIDs that identify songs and an order for playback. [*See* Trial Tr. p. 804, l. 18 to p. 806, l. 17.] Because all of the items in an iPod playlist are of the same type, it is unnecessary for the software code to contain a "LocType" character in each playlist record. [Trial Tr. p. 807, l. 24 to p. 808, l. 10.] A playlist composed of an ordered list of programs all of the same type is insubstantially different from a list composed of programs of different LocTypes. [Trial Tr. p. 807, ll. 2-11];

- The iPod Classic Generation 3 contains software code that "scans" for the next playable program segment. [Trial Tr. p. 807, ll. 12-23; *id.* at p. 808, l. 11-20; *id.* at

p. 813, l. 2 to p. 814, l. 15 (describing “PlayerNext” and “PlayerStopInternal” functions and “while” loop utilized for finding next song in playlist)];

– The iPod Classic Generation 3 contains software code that resets a variable called “index” or “track index” to the index value of the next record in the playlist. [Trial Tr. p. 815, l. 5 to p. 817, l. 17 (describing “PlayerGetNextPlaylistTrack” function)];

– The iPod Classic Generation 3 contains software code that utilizes a “Persistent ID” or “PID” to fetch and play program segments from the product’s mass storage device. [Trial Tr. p. 814, l. 16 to p. 815, l. 4 (“PlaylistItem” contains data about songs in playlist, including “PID”)];

– The overall software algorithm on the iPod Classic Generation 3 performs steps equivalent to the three-step algorithm identified by the court as the algorithmic structure corresponding to the function of responding to a “Skip” command in limitation number 1.f of the ‘076 patent. [Trial Tr. p. 818, l. 18 to p. 819, l. 2];

– Accused product groups two through eight contain software very similar to the software on the iPod Classic Generation 3. [Trial Tr. p. 909, l. 9 to p. 911, l. 19.] The algorithms present in accused product groups two through eight are very similar to the algorithms present in accused product group one, and a structure corresponding to limitation 1.f of the ‘076 patent is present in all eight representative product groups. [Trial Tr. p. 912, l. 7 to p. 921, l. 4 (discussing algorithms and differences in source code between product groups)];

– Structures corresponding to limitations number 14.e of the ‘076 patent and 4.a and 14.l of the ‘178 patent, which are also directed toward means for responding to a “Skip” command, are present in all eight representative product groups, for the same reasons described with respect to limitation number 1.f of the ‘076 patent. [Trial Tr. p. 973, l. 21 to p. 975, l. 24.] Structures corresponding to limitations number 3.a and 15.a of the ‘076 patent and 6.a, 14.m, and 14.n of the ‘178 patent, which are directed toward means for responding to a “Back” command, are present in all eight representative product groups, for similar reasons described with respect to the limitations directed toward responding to a “Skip” command. [Trial Tr. p. 977, l. 8 to p. 987, l. 13 (discussing software present in accused products for performing function of responding to “Back” commands)]; and

– In summary, for all of the detailed reasons discussed in the above-noted testimony, the differences between the algorithms construed by the court as corresponding to the “means responsive” limitations and the algorithms utilized by the accused products are insubstantial. [Trial Tr. p. 2707, l. 19 to p. 2708, l. 15].

c. Discussion

The jury was instructed that "[a] structure is considered to be '**equivalent**' to a structure that I have defined for you if a person having ordinary skill in the art, as I have defined that person for you, would have considered the differences between the structure I have defined for you and the substitute structure to be 'insubstantial' *at the time the patent issued*," and further that

> [t]he individual components, if any, of an overall structure that I have defined for you as corresponding to a claimed function are not claim limitations. You should not deconstruct a structure that I have defined for you into component parts in order to analyze structural equivalents. A substitute structure with a different number of component parts may still be a structural equivalent . . . .

[Doc. #469 at 19, 20.]

The "scanning" and "LocType" components of the court's claim constructions are merely component parts of the overall three-step algorithm described in the patents' specification for performing the claimed functions of responding to "Skip" and "Back" commands. With respect to Apple's first two arguments, that the accused products do not "scan" the sequencing file to locate the next record of the appropriate LocType, and that the playlist records in the accused products do not contain any field equivalent to "LocType," the court finds that Dr. Almeroth's testimony provides sufficient evidence to support the jury's finding that the accused products do contain algorithmic structures that are insubstantially different from the overall structure described in the patents' specification as corresponding to the "means responsive" limitations.

Apple's third argument is that the accused products are noninfringing because during playback they access playlists from working memory rather than from persistent storage. Limitations separate from the "means responsive" limitations at issue here, e.g. '178 patent

limitation 1.b, describe that the claimed player must include a memory unit or "means for storing" the claimed sequencing file. However, nothing in the language of the "means responsive" limitations or in the court's constructions of those limitations requires that, after being stored persistently in the player's memory unit, the sequencing file must always be accessed from persistent storage during playback. And even if it did, the jury could have simply concluded that loading the sequencing file into working memory for access during playback is insubstantially different from accessing the sequencing file from persistent storage during playback.

The court concludes that sufficient evidence supports the jury's finding that the accused products include algorithmic structures that perform the claimed functions and are insubstantially different from the three-step algorithm described in the patents' specification for performing those functions. Accordingly, Apple's motion for JMOL of noninfringement with respect to the "means responsive" claim limitations is **DENIED**.

3. Motion for JMOL of Noninfringement With Respect to Algorithmic Structure Corresponding to "Means for Continuously Reproducing" Claim Limitations (All Accused Products[5])

Apple moved for JMOL of noninfringement of claims 1 and 3 of the '076 patent and claims 1, 6, and 13 of the '178 patent on the basis that the accused products do not contain structures identical or equivalent to the algorithmic structures identified by the court as corresponding to the "means for continuously reproducing" limitations.[6] [*See* Trial Tr. p. 1807, ll. 11 to p. 1808, l. 1; *id.* at p. 1810, l. 15 to p. 1812, l. 1; *id.* at p. 2236, l. 10 to p. 2237, l. 12.]

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[5] *See supra* note 3.

[6] These are limitations number 1.d of the '076 patent and number 1.e of the '178 patent. [*See* Trial Tr. p. 1807, ll. 12, 18; *id.* at p. 1841, ll. 4-17.]

The applicable law on infringement of means-plus-function claim limitations is set out in Part III.A.2, *supra*.

a. Claim Construction and Evidence Presented at Trial

With respect to the "continuously reproducing" terms at issue, the court's claim construction identifies a three-step algorithm as part of the structure corresponding to the function of continuously reproducing program segments in an endless loop in the order established by the sequencing file:

> (1) beginning playback with the program segment identified by the ProgramID contained in the Selection_Record specified by the CurrentPlay variable;
>
> (2) when the currently playing program segment concludes, incrementing the CurrentPlay variable by one, and fetching and playing the program segment identified by the ProgramID contained in the next Selection_Record in the sequencing file; and
>
> (3) repeating step (2) until the last Selection_Record in the sequencing file is reached, which resets the CurrentPlay variable to "1" to begin the playing sequence again with the first Selection_Record in the sequencing file.

[*See* Doc. #358 at 12, 16-17.]

Apple argues that Dr. Almeroth did not demonstrate that the accused products utilize an algorithm that is insubstantially different from the three-step algorithm identified by the court as corresponding to the "continuously reproducing" function. [*See* Trial Tr. p. 2237, ll. 8-12.] Specifically, Apple argues that (1) Dr. Almeroth did not specifically address the portion of the court's construction regarding incrementing the CurrentPlay variable and going from one Selection_Record in the sequencing file to the next [Trial Tr. p. 1810, ll. 18-25]; and (2) Dr. Almeroth did not introduce evidence sufficient to support a finding that the software code utilized by the accused products to return to the first song in a playlist and begin the playing

sequence again is equivalent to the algorithmic structure defined by the court, i.e. the step of resetting the CurrentPlay variable to "1" [Trial Tr. p. 2236, l. 10 to p. 2237, l. 12].

At, trial, Dr. Almeroth testified to the following with respect to the algorithms for performing the function of "continuously reproducing":

- Representative product group one, the iPod Classic Generation 3, contains software code that begins playback with the song identified by a variable called "index"; "index" contains the numerical index value of a particular record in a playlist. [Trial Tr. p. 782, l. 17 to p. 786, l. 14 (describing "SelectSong," "GetIndexedSongPlayState," and "PlayCurrentSelection" functions); *id.* at p. 795, ll. 7-12.] The "PlayCurrent Selection" function in the iPod code uses the "index" variable to play the song selection identified by the current index number. [Trial Tr. p. 786, ll. 4-14];

- A function called "PlayerDone" executes whenever the currently playing song ends; "PlayerDone" calls another function called "PlayerNext" in order to go on to the next song in a playlist. [Trial Tr. p. 788, l. 13 to p. 790, l. 13.] "PlayerNext" increments the "index" value by one to get to the next "PlaylistItem." [Trial Tr. p. 794, ll. 1-16 (describing "nextTrackItem" and "PlayerGetNextPlaylistTrack" function).] The "index" number points to a "PlaylistItem" that holds, among other things, the "Persistent ID" or "PID" used to fetch and play the song in that PlaylistItem from the iPod's memory. [Trial Tr. p. 791, l. 4 to p. 792, l. 17];

- The above-described software on the iPod Classic Generation 3 performs an algorithm that is equivalent to the three-step algorithm identified by the court as the algorithmic structure corresponding to the "continuously reproducing" function in limitation number 1.d of the '076 patent. [Trial Tr. p. 798, l. 6 to p. 800, l. 13];

- Accused product groups two through eight contain software very similar to the software on the iPod Classic Generation 3. [Trial Tr. p. 909, l. 9 to p. 911, l. 19.] The algorithms present in accused product groups two through eight are very similar to the algorithms present in accused product group one, and a structure corresponding to limitation 1.d of the '076 patent is present in all eight representative product groups. [Trial Tr. p. 912, l. 7 to p. 921, l. 4 (discussing algorithms and differences in source code between product groups)];

- A structure corresponding to limitation number 1.e of the '178 patent, which is directed toward a "processor for continuously delivering . . . audio program files . . . to said audio output unit," is present in all eight representative product groups, for the same reasons described with respect to limitation number 1.d of the '076 patent. [Trial Tr. p. 969, l. 8 to p. 971, l. 1].

b. Discussion

The court rejects Apple's first argument, that Dr. Almeroth did not introduce specific evidence with respect to incrementing the CurrentPlay variable and going from one Selection_Record in the sequencing file to the next. As outlined above, Dr. Almeroth testified that the "PlayerNext" function on the iPod Classic Generation 3 (and similar functions on representative product groups two through eight) increments the "index" value by one to get to the next "PlaylistItem," and the "Persistent ID" in that "PlaylistItem" is used to fetch and play the next song in the playlist. The jury could easily have concluded that these steps are equivalent to incrementing the CurrentPlay variable by one and fetching and playing the audio program file identified by the ProgramID contained in the next Selection_Record in the sequencing file as described in the specification of the patents-in-suit.

Apple's second argument—that Personal Audio presented insufficient evidence demonstrating that the software code utilized by the accused products to return to the first song when the end of a playlist is reached is equivalent to the algorithmic structure described in the patents' specification for beginning the playing sequence again when the end of the sequencing file is reached—presents a close question. The issue demonstrates the difficulties that are often encountered by both court and counsel when trying to present a case involving technically complex claim limitations and voluminous amounts of source code to a jury in a clear and understandable manner.

Dr. Almeroth testified that endless loop playback occurs in the accused products when the products' "repeat all" mode is enabled [Trial Tr. p. 1346, ll. 16-23; *see also id.* at p. 817, l. 25 to p. 818, l. 17], but he did not clearly explain how the "repeat all" mode is actually implemented

in the software code on the accused products. It could be argued that without a clear explanation of the way in which the accused products begin the playing sequence again after the last song in a playlist has concluded, the jury did not have a sufficient basis to find that the algorithm in the accused products for continuously reproducing program segments in an endless loop is equivalent to the algorithmic structure described in the patents' specification as corresponding to that function.

But, Personal Audio's summary exhibits do contain an explanation of how the software in the accused products implements the "repeat all" mode. [*See* PX 771A at 5; PX 772A at 5; PX 773A at 5; PX 774A at 5; PX 775A at 4-5; PX 776A at 5; PX 777A at 5; PX 778A at 4; PX 779A at 7; PX 780A at 7; PX 781A at 5-6.] While these summary exhibits are not themselves evidence, the jury was instructed that they could be used as "a guide to Dr. Almeroth's testimony and [to] point you to the relevant underlying exhibits that have been admitted." [Doc. #469 at 6.] And the summary exhibits point to particular functions within the accused products' source code, which was admitted as evidence and available for the jury's review.[7] [*See* PX 712 at 32, l. 3127; PX 713 at 235, l. 1145; PX 714 at 61, l. 1130; PX 715 at 95, l. 1190.] Further, Dr. Almeroth testified about how the accused players increment from one playlist item to the next using the

[7] Although source code exhibits are in evidence only for representative product groups one [PX 713], five [PX 714], six [PX 715], and eight [PX 712], Dr. Almeroth testified that the source code for the various accused products could be categorized into essentially three groups: "Player.c" source code utilized by representative product groups one through four; "TPodMediaPlayer.cpp" source code utilized by representative product groups six through eight; and a hybrid between "Player.c" and "TpodMediaPlayer.cpp" utilized by representative product group five, the iPod Nano Generation 2. [*See* Trial Tr. p. 909, l. 9-22.] He testified that the "Player.c" type code used in representative product groups one through four was "very, very similar" across all four groups [Trial Tr. p. 910, l. 18 to p. 911, l. 8], and likewise that the hybrid and "TpodMediaPlayer.cpp" type code used in representative product groups five through eight was "very similar across all of those groups" [Trial Tr. p. 911, ll. 9-16].

"GetNextPlaylistTrack" function, the same source code function that evaluates which of the "repeat" modes is on. [*See, e.g.*, Trial Tr. p. 793, l. 13 to p. 794, l. 16; *id.* at p. 813, l. 13 to p. 818, l. 17; PX 713 at 96, ll. 4125-4127 (within "PlayerNext" function, comment "Find the next song in the playlist that actually plays or is selected," calling function "PlayerGetNext PlaylistTrack"); PX 713 at 195, ll. 4037-4039 (within "PlayerGetNextPlaylistTrack" function, comment "Find the next song in the playlist that is selectable," calling function "GetNextPlaylist Track"); PX 713 at 235, ll. 1134-1153 (within "GetNextPlaylistTrack" function, performing checks to determine if "RepeatOff," "RepeatOneTrack," or "RepeatAllTracks" modes are on).]

To infringe, the accused products need not perform an algorithm identical to the algorithm described in the patents' specification, or even an algorithm containing an identical number of steps, but they must perform some algorithm that, overall, is insubstantially different from the algorithmic structure described in the patents' specification for performing the "continuously reproducing" function. Dr. Almeroth testified that he had reviewed all of the relevant algorithms in the accused products' source code, and in his opinion, they were equivalent to the algorithm described in the patents. [*See* Trial Tr. p. 798, l. 6 to p. 800, l. 13; *id.* at p. 912, l. 7 to p. 921, l. 4; *id.* at p. 969, l. 8 to p. 971, l. 1.] While Dr. Almeroth did not explicitly explain how the products' "repeat all" mode is implemented in the software, the relevant portions of the source code were in the record for the jury to evaluate and compare to the algorithm that the court construed as corresponding to the "continuously reproducing" function.

It may be debated whether performing a "check" to see which of the "repeat" modes is on when incrementing the "index" value from one "PlaylistItem" to the next, as occurs in the

accused products, is insubstantially different from a playlist in which the last Selection_Record in the list simply contains the value "1" to reset the CurrentPlay index and begin the playing sequence again, as occurs in the algorithm described in the patents' specification. But that is a fact question, and drawing all reasonable inferences in Personal Audio's favor, the court finds that there was sufficient evidence for the jury to find that the algorithm in the accused products for continuously reproducing program segments in an endless loop is equivalent to the algorithmic structure described in the patents' specification for performing that function. Accordingly, Apple's motion for JMOL of noninfringement with respect to the algorithmic structure corresponding to the "means for continuously reproducing" claim limitations is **DENIED**.[8]

4. Motion for JMOL on Damages Because Mr. Nawrocki Improperly Included Profits Attributable to iTunes in His Opinion

Apple moved for JMOL on damages, arguing that Personal Audio's damages expert, James Nawrocki, had improperly included in his analysis damages attributable to iTunes, a non-accused product. [*See* Trial Tr. p. 1869, ll. 3-18; *id.* at p. 1871, l. 14 to p. 1872, l. 3; *id.* at p. 2237, l. 14 to p. 2238, l. 2.]

[8] The court notes that were it to grant this motion for JMOL, the result would be a finding of noninfringement of claims 1 and 3 of the '076 patent and claims 1, 6, and 13 of the '178 patent. The jury's finding of infringement of claim 15 of the '076 patent, which does not contain a "means for continuously reproducing" limitation with algorithmic structure, would not be affected. Because the jury's verdict of infringement of claim 15 of the '076 patent would remain, and the parties' damages experts did not alter their damages analyses based on infringement of particular claims within the patents-in-suit, the jury's damages verdict of an $8 million lump sum royalty would not be altered even if the court were to grant JMOL of noninfringement with respect to the "means for continuously reproducing" limitations.

At trial, Mr. Nawrocki opined that damages should be in the form of a per unit running royalty of $0.90 per infringing product sold. [*See* Trial Tr. p. 1393, ll. 2-3.] This was based on his analysis that, of Apple's projected profit of $32.70 to $34.70 per unit at the time of the hypothetical negotiation, approximately $0.63 to $1.34 was attributable to the patented features at issue. [*See* Trial Tr. p. 1469, l. 6 to p. 1470, l. 4; *id.* at p. 1471, l. 19 to p. 1486, l. 3.] Applying this $0.90 per unit running royalty rate to the 93,795,429 accused Apple units sold through June 2010 resulted in an ultimate opinion that Personal Audio should receive damages in the amount of $84.4 million. [*See* Trial Tr. p. 1392, l. 19 to p. 1393, l. 4; *id.* at p. 1486, ll. 12-15.] However, the jury did not accept Mr. Nawrocki's opinion, instead awarding damages in the form of a lump sum royalty, as advocated by Apple's damages expert Keith Ugone. [*See* Doc. #470 at 8, 10.]

a. Applicable Damages Law

"A party challenging a jury damages verdict 'must show that the award is, in view of all the evidence, either so outrageously high or so outrageously low as to be unsupportable as an estimation of a reasonable royalty.'" *Spectralytics, Inc. v. Cordis Corp.*, — F.3d —, Nos. 2009-1564 & 2010-1004, 2011 WL 2307402, at *7 (Fed. Cir. June 13, 2011) (quoting *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1554 (Fed. Cir. 1995) (en banc)). The court "must scrutinize the evidence carefully to ensure that the 'substantial evidence' standard is satisfied, while keeping in mind that a reasonable royalty analysis 'necessarily involves an element of approximation and uncertainty.'" *Id.* (quoting *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1336 (Fed. Cir. 2009)).

b. Discussion

As set out in the court's Order Re: Lump Sum Damages, the jury's choice of a lump sum award is supported by substantial evidence, and the $8 million amount is not outrageously low. [*See* Doc. #492 at 15-20.] However, the $8 million amount is higher than the $5 million amount upon which Dr. Ugone opined at trial. Apple may argue that the $8 million awarded by the jury is too high. To the extent that Apple argues the jury reached this higher number by improperly attributing value to iTunes, the court denies Apple's motion for JMOL for the following reasons.

As noted in the court's Order Re: Lump Sum Damages, Mr. Nawrocki's explanation of the portion of Apple's projected profits from the accused products that was, in his opinion, attributable to the patented features might have been understood to include value contributed by iTunes, which operates on a computer separate from the accused products. [*See* Doc. #492 at 5-6.]

However, Mr. Nawrocki's testimony could also be understood as simply using data about users' utilization of the "syncing" feature of the iTunes software as a gauge for the importance to users of the ability to download playlists to the accused products, or as a gauge for how often users actually use the accused products to download playlists. [*See* Trial Tr. p. 1451, ll. 13-17 ("So, what I used these surveys to do is to look at how much playlists were used in conjunction with the amount of times that they were sync'd back to the computer."); *id.* at p. 1561, l. 22 to p. 1562, l. 5 (according to surveys, syncing is one of the most used features of the iTunes software, "[s]o, this is one of the types of considerations for how often the iPod is sunk [sic] by people in terms of the uses").] And, the ability to receive or download a "sequencing file"

specifying an order of audio files for playback from outside the claimed player is a patented feature. *See, e.g.*, '076 patent, col. 46, ll. 18-20; '178 patent, col. 45, l. 62 to col. 46, l. 3.

The jury's verdict must be upheld unless there is no legally sufficient evidentiary basis for a reasonable jury to find as the jury did. *Brady v. Houston Indep. Sch. Dist.*, 113 F.3d 1419, 1422 (5th Cir. 1997). Setting aside Mr. Nawrocki's testimony about iTunes, as the jury evidently did when it rejected Mr. Nawrocki's apportionment analysis in favor of Dr. Ugone's lump sum opinion, other evidence in the record supports the $8 million amount awarded by the jury:

- Apple promoted the ability to download playlists in a 2001 press release for the first iPod [Trial Tr. p. 1417, ll. 11-23];
- A 2004 Apple survey showed that playlists were one of the most frequently-used ways that users accessed their music on the iPod Classic and iPod Mini [Trial Tr. p. 1438, l. 16 to p. 1440, l. 16]; and
- A 2005 Apple survey showed the frequency that users downloaded playlists and other content to their iPod devices, including the fact that 95% of iPod Classic and iPod Mini users sync their devices to the computer at least once a month [Trial Tr. p. 1443, ll. 4-25].

It was uncontested that Apple had already sold over 93 million accused units [*see* Doc. #469 at 8], and Mr. Nawrocki testified that Apple continues to sell millions more every quarter [Trial Tr. p. 1392, l. 23 to p. 1393, l. 1; *id.* at p. 1403, ll. 7-23]. Based on Dr. Ugone's testimony, the jury was aware that selection of lump sum as the form of reasonable royalty would give Apple a fully paid up license to not only continue its ongoing and future sales of the accused products in suit, but also to incorporate the patented technology into new products. [*See* Trial Tr. p. 2350, l. 17 to p. 2352, l. 9; *id.* at p. 2457, l. 12 to p. 2458, l. 7.]

Drawing all reasonable inferences in favor of Personal Audio, the jury could have concluded based on the evidence in the record that the patented features were important to

consumers, and that an upward departure from the $5 million amount advocated by Dr. Ugone was necessary to adequately compensate Personal Audio in the form of a lump sum royalty. The jury selected the form of reasonable royalty advocated by Apple, to a large extent mooting arguments over Mr. Nawrocki's use of iTunes data in apportioning the amount of Apple's per unit profits attributable to the patented features. Although the jury awarded somewhat more than the amount espoused by Apple's damages expert, the jury's $8 million lump sum award is supported by substantial evidence in the record as a whole and is not outrageously high. Accordingly, Apple's motion for JMOL on damages on the basis that Mr. Nawrocki improperly included damages attributable to iTunes in his analysis is **DENIED**.

5. Motion for JMOL on Damages Because Personal Audio May Not Request a Running Royalty Equal to 100% of the Per Unit Profit Attributable to the Patented Features

Apple moved for JMOL that Personal Audio was not entitled to a running royalty equal to 100% of the per unit profit attributable to the patented features. [*See* Trial Tr. p. 1864, l. 13 to p. 1866, l. 6; *id.* at p. 1866, l. 23 to p. 1867, l. 16; *id.* at p. 2238, l. 4 to p. 2239, l. 24.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1866, ll. 7-22; *id.* at p. 1867, ll. 17-24.]

B. <u>Apple's Remaining Eighteen Motions for JMOL</u>

As stated earlier, when a potentially valid point is included among a smorgasbord of motions for JMOL, it provides the trial court with no realistic opportunity to evaluate possible error, and should be considered waived. However, on appeal, competent counsel will normally present only a few points, and it is the appellate court that decides what points of error it will consider and whether or not those points have been adequately preserved at trial. The court therefore states its rulings on the remaining eighteen motions made by Apple.

6. Motion for JMOL of Lack of Ownership and to Dismiss for Lack of Standing

Apple moved for JMOL that Personal Audio is not the owner of the '076 patent, arguing that "[t]he most recent indication of ownership in the record is an appeal brief . . . signed by Mr. Call [in] 2000, indicating that Gotuit Media is the real party in interest and the assignee of the then pending application that resulted in the '076 patent." [Trial Tr. p. 1798, ll. 12-21.] Apple also moved for JMOL that Personal Audio is not the owner of the '178 patent, arguing that "[t]he most recent evidence in the record is an assignment from Gotuit Media to Gotuit Audio in 2006." [Trial Tr. p. 1798, l. 25 to p. 1799, l. 18.] Based on this motion for JMOL, Apple also moved to dismiss the case pursuant to Federal Rule of Civil Procedure 12(h)(3). [Trial Tr. p. 1798, ll. 21-23; *id.* at p. 1799, ll. 18-19.]

The court **DENIED** this motion on the record at trial, because Apple stipulated in the Joint Final Pretrial Order that (1) "[t]he ['076] patent was . . . ultimately assigned to Personal Audio, LLC" [Doc. #440 at 5]; (2) "[t]he ['178] patent was . . . ultimately assigned to Personal Audio, LLC" [Doc. #440 at 5]; and (3) "Personal Audio LLC owns all rights to, and interests in , the asserted patents" [Doc. #440 at 6]. [Trial Tr. p. 1800, ll. 4-12; *id.* at p. 1800, l. 24 to p. 1801, l. 6.]

7. Motion for JMOL of No Indirect Infringement (All Accused Products)

Apple moved for JMOL of no indirect infringement of any asserted claim. [Trial Tr. p. 1801, ll. 13-22.] The court **DENIED** this motion as moot on the record at trial, because Personal Audio did not assert indirect infringement. [Trial Tr. p. 1802, l. 10 to p. 1803, l. 1.]

8. Motion for JMOL of No Direct Infringement (All Accused Products)

Apple moved for JMOL of no direct infringement of any asserted claim, arguing that Personal Audio did not prove that any of the accused products infringe as sold by Apple. [*See* Trial Tr. p. 1803, l. 8 to p. 1806, l. 19.] Specifically, Apple argued that (1) as sold, the accused products do not contain any playlists, audio program segments, or Selection_Records stored on the devices [Trial Tr. p. 1804, l. 7 to p. 1805, l. 1]; (2) as sold, the "repeat all" mode on the accused devices is not enabled [Trial Tr. p. 1806, ll. 8-19]; and (3) as sold, the headphones and USB cable are not connected to the accused devices [Trial Tr. p. 1805, ll. 5-16; *id.* at p. 1806, ll. 3-5]. The court rejected the same or similar arguments when it denied Apple's motion for summary judgment of noninfringement. [*See* Doc. #430 at 21-24.] The court rejects those arguments again here for the same reasons.

a. Receiving and Storing a Sequencing File and Audio Program Files

Apple argues that the accused iPod products do not directly infringe the asserted claims because as sold, the accused products do not contain any playlists or audio program files. The claim limitations relating to playlists and audio program files are directed toward either functionally defined means, e.g. "means for storing" or "means for receiving" a sequencing file and audio program files, or toward components with specific purposes, e.g. "memory unit for storing" or "communications port for downloading" a sequencing file and audio program files:

- "means *for storing* a plurality of program segments," '076 patent, col. 46, l. 15 (emphasis added) ('076 limitation 1.a);
- "means *for receiving and storing*" a sequencing file, '076 patent, col. 46, ll.18-19 (emphasis added) ('076 limitation 1.b);

– "a mass storage device *for storing* a plurality of . . . audio program segments . . . and further *receiving and storing* a file of data establishing a sequence," '076 patent, col. 47, l. 40 to col. 48, l. 1 (emphasis added) ('076 limitation 14.a);

– "a communications port . . . *for downloading* a plurality of . . . audio program files and a separate sequencing file," '178 patent, col. 45, ll. 61-64 (emphasis added) ('178 limitation 1.a);

– "a digital memory unit . . . *for persistently storing* said . . . audio program files and said separate sequencing file," '178 patent, col. 45, ll. 65-67 (emphasis added) (''178 limitation 1.b);

– "a memory unit *for storing* . . . a plurality of audio program files . . . and at least one . . . sequencing file," '178 patent, col. 48, ll. 4-9 (emphasis added) ('178 limitations 14.b and 14.d); and

– "a communications port *for downloading* at least some of said audio program files and said . . . sequencing file," '178 patent, col. 48, ll. 11-13 (emphasis added) ('178 limitation 14.e).

"[T]o infringe a claim that recites capability and not actual operation, an accused device 'need only be capable of operating' in the described mode." *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1204 (Fed. Cir. 2010) (quoting *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821, 832 (Fed. Cir. 1991)); *see also Fantasy Sports Props., Inc. v. Sportsline.com, Inc.*, 287 F.3d 1108, 1117-18 (Fed. Cir. 2002). "[I]n every infringement analysis, the language of the claims, as well as the nature of the accused product, dictates whether an infringement has occurred." *Fantasy Sports*, 287 F.3d at 1118.

The court finds that the language of the claim limitations at issue here simply requires that the claimed player have the capability to receive and store a sequencing file and audio program files. The claim language does not require that any playlists or audio files actually be stored on a player in order for that player to be infringing. To infringe, the accused products need only have structures or components capable of operating as described in the claims, i.e. capable

of performing the recited functions of receiving and storing a sequencing file and audio program files. *See Finjan*, 626 F.3d at 1204-05.

'178 patent claim 9, from which asserted claim 13 depends, and '178 patent claim 14 contain the additional limitation that the sequencing file defines a sequence of audio files that have been selected based on the user's preferences:

- "wherein each audio program file in said collection specified by said sequencing file is selected in accordance with program preference data or program selections accepted from said listener to define a playback session that is personalized to the preferences of said listener," '178 patent, col. 47, ll. 27-32 ('178 limitation 9.a);

- "wherein at least some of said . . . audio program files . . . are selected by said server computer based on data describing the preferences of or past requests submitted by said listener," '178 patent, col. 47, ll. 63-66 ('178 limitation 13.a); and

- "said audio program files in said collection specified by said . . . sequencing file being selected by or on behalf of said listener to produce a personalized playback session," '178 patent, col. 48, ll. 18-21 ('178 limitation 14.f).

Dr. Almeroth testified that the creation of playlists is done via Apple's iTunes software, which operates on a separate computer from the accused iPod devices and is not itself an accused product. [*See, e.g.*, Trial Tr. p. 967, l. 19.] With respect to playlists personalized based on a user's preferences, Dr. Almeroth testified about "Smart" and "Genius" playlists. [*See* Trial Tr. p. 999, ll. 4-15 ("Smart" playlist is one created based on user criteria, e.g. "top rated songs"; "Genius" playlist is one created based on a specific song selected by the user, e.g. "songs that are similar or like this Frank Sinatra song").] At first glance, it might appear that the claim limitations reciting selection of programming based on user preferences are directed toward features or capabilities that are performed outside of the player itself, features that in the case of Apple are performed by Apple's iTunes software.

However, the asserted claims are directed toward a "player," *see, e.g.*, '178 patent, col. 45, l.60, and not, for instance, toward a "system" that might include both a player and the "one or more server computers" that compile the sequencing file, and from which the player downloads the sequencing file. *See Fantasy Sports*, 287 F.3d at 1118 ("[T]he language of the claims . . . dictates . . . ."). As discussed above, the asserted claims require only that the player have the capability to receive and store a sequencing file and audio program files. In the case of '178 patent claims 13 and 14, the player must have the capability to receive and store a specific type of sequencing file, namely one that has been compiled based on user preferences.

With respect to the claim limitations reciting a "communications port" or "means for receiving," Dr. Almeroth testified that these limitations are present in the accused iPod products in the form of a communications port to which a FireWire or USB cable is connected. [Trial Tr. p. 727, l. 2 to p. 746, l. 21; *id.* at p. 949, ll. 15-21; *id.* at p. 949, l. 19 to p. 953, l. 23.] With respect to the claim limitations reciting a "memory unit" or "means for storing," Dr. Almeroth testified that these limitations are present in the accused products in the form of either a hard disk drive or a NAND flash drive, depending on the specific product at issue. [Trial Tr. p. 902, l. 11 to p. 904, l. 16; *id.* at p. 921, l. 8 to p. 923, l. 19; *id.* at p. 937, l. 18 to p. 941, l. 17; *id.* at p. 948, l. 6 to p. 949, l. 12.] With respect to the claim limitations directed toward selection of programming based on user preferences, Dr. Almeroth testified that the accused products are specifically programmed to receive, store, and play "Smart" and "Genius" playlists, i.e. playlists compiled based on user preferences. [*See, e.g.*, Trial Tr. p. 998, ll. 16-25; *id.* at p. 1000, ll. 4-9; *id.* at p. 1001, ll. 10-12.]

The jury was instructed that "[a] claim limitation that describes the capability for doing something is present in an accused product if the accused product includes components or structures capable of operating as described in the claim, even if a user never actually operates the product in the manner described." [Doc. #469 at 14.] The court concludes that Dr. Almeroth's testimony provides sufficient evidence to support the jury's finding that the accused products do in fact include components or structures capable of operating as described in the claims. Accordingly, Apple's motion for JMOL of no direct infringement on the basis that, as sold, the accused products do not contain any playlists, audio program segments, or Selection_Records is **DENIED**.

b. "Repeat All" Mode

The court's construction of the "continuously reproducing" terms[9] specifies that, when the end of the sequencing file is reached, the playing sequence begins again with the first Selection_Record in the sequencing file [Doc. #358 at 12, 16-17]; in other words, "continuously" reproducing program segments means that playback continues in an endless loop [*see* Doc. #358 at 24-31]. According to Dr. Almeroth, endless loop playback occurs in the accused products when the products' "repeat all" mode is enabled. [Trial Tr. p. 1346, ll. 16-23.] Apple argues that the accused products are noninfringing because the "repeat all" mode is not enabled when the products are sold. [Trial Tr. p. 1806, ll. 8-19.]

This same argument was rejected by the Federal Circuit in both *Fantasy Sports* and *Finjan*. In *Fantasy Sports,* the court held that software for playing fantasy football could infringe

[9] The "continuously reproducing" terms are limitations number 1.d of the '076 patent and 1.e of the '178 patent.

a claim directed toward a "computer for playing football," notwithstanding the fact that users had to configure the software in order to play the infringing games. *See* 287 F.3d at 1117-18. The court explained that "although a user must activate the functions programmed into a piece of software by selecting those options, the user is only activating means that are already present in the underlying software." *Id.* at 1118. Similarly, in *Finjan*, the court found that the defendants' software modules infringed asserted system and apparatus claims directed toward software components with specific purposes, notwithstanding the fact that the infringing modules were locked or disabled when sold. *See* 626 F.3d at 1203-05. The court explained that the asserted claims "describe capabilities without requiring that any software components be 'active' or 'enabled,'" and that program code for performing the claimed functions existed in the accused products when sold, even if that code was turned off—"in the same way that an automobile engine for propulsion exists in a car even when the car is turned off." *Id.* at 1204-05.

As in *Fantasy Sports* and *Finjan*, in this case the software for operating in the "repeat all" mode is present in the underlying software on the accused iPod products when sold, although the user must enable that mode by selecting the "repeat all" option. Dr. Almeroth testified that the accused devices are "specifically programmed to support [the 'repeat all'] mode" [Trial Tr. p. 1347, ll. 4-5], and that "repeat all" could be enabled or disabled simply by selecting the "repeat" option on the "settings" menu of the accused devices [Trial Tr. p. 830, l. 24 to p. 831, l. 2; *see also id.* at p. 1347, ll. 10-15].

The court concludes that Dr. Almeroth's testimony provides sufficient evidence to support the jury's finding that code for performing the claimed function at issue exists in the accused products when sold. Accordingly, Apple's motion for JMOL of no direct infringement

on the basis that, as sold, the "repeat all" function on the accused devices is not enabled is **DENIED**.

c. Connection of Headphones and USB Cable

Dr. Almeroth testified at trial that certain claim limitations were met in the accused products by the headphones that accompany the iPod products when sold,[10] and also by the FireWire or USB cable that accompanies the iPod products when sold.[11] Apple argues that the accused iPod products do not directly infringe because the headphones and FireWire or USB cable are not connected to the accused devices when the devices are sold. [Trial Tr. p. 1805, ll. 5-16; *id.* at p. 1806, ll. 3-5.]

"[I]f a device is designed to be altered or assembled before operation, the manufacturer may be held liable for infringement if the device, as altered or assembled, infringes a valid patent." *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1556 (Fed. Cir. 1995) (citing *Paper Converting Mach. Co. v. Magna-Graphics*, 745 F.2d 11, 19 (Fed. Cir. 1984) (sale of parts ready for assembly and with no useful noninfringing purpose is sale of "completed" infringing machine)); *see also Mass Engineered Design, Inc. v. Ergotron, Inc.*, 633 F. Supp. 2d 361, 376-77 (E.D. Tex. 2009) (finding sufficient evidence to support jury verdict of direct infringement of claim element requiring "pair of electronic displays" where accused

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[10] The limitations relating to headphones are the "continuously reproducing" limitations, limitations number 1.d of the '076 patent and 1.e of the '178 patent; limitation number 14.c of the '076 patent, which claims "output means for producing audible sounds"; and limitation number 1.c of the '178 patent, which claims "an audio output unit including at least one speaker or headset for reproducing said audio program files in audible form."

[11] The limitations relating to the FireWire or USB cable are the "means for receiving" limitation, limitation number 1.b of the '076 patent; and the "communications port for downloading" limitations, limitations number 1.a and 14.e of the '178 patent.

products were bundled and shipped with two displays and packaged with directions on how to mount the displays).

Dr. Almeroth testified that the iPod products are sold with a set of headphones, and that the iPod user guides instruct users to plug the headphones into the headphones port on the iPod devices. [Trial Tr. p. 762, l. 6 to p. 763, l. 4; *id.* at p. 969, l. 8 to p. 972, l. 5; *see also id.* at p. 1796, ll. 5-12 (testimony of Jesse Boettcher, Apple computer scientist); PX 108 at 44 (iPod Classic Generation 3 User's Guide); PX 103 at 55 (iPod Classic Generation 6 Features Guide).] Likewise, there was trial testimony that the iPod products are sold with a FireWire or USB cable, and that users are instructed to plug the cable into the iPod's communications port. [*See* Trial Tr. p. 906, ll. 16-17 (Almeroth testimony); *id.* at p. 952, l. 22 to p. 953, l. 13 (Almeroth testimony); *id.* at p. 1794, l. 17 to p. 1796, l. 4 (Boettcher testimony); *see also* PX 103 at 10-11 (iPod Classic Generation 6 Features Guide).]

The jury was instructed that "if a product is sold or packaged with components that are intended to be attached or connected before operation, the product may infringe if, when the components are attached or connected as instructed, the product includes all the limitations of the claim." [Doc. #469 at 14.] The court concludes that sufficient evidence supports the jury's finding that the headphones and FireWire or USB cable sold with the accused products are intended to be attached or connected before operation, and that the accused iPod products infringe when those components are attached or connected as instructed. Accordingly, Apple's motion for JMOL of no direct infringement on the basis that, as sold, the headphones and FireWire or USB cable are not connected to the accused devices is **DENIED**.

9. Motion for JMOL of Noninfringement With Respect to Means-Plus-Function Limitations Requiring Sound Card as Corresponding Structure (All Accused Products[12])

The court's constructions of certain means-plus-function limitations require "[a] sound card that includes a digital to analog converter" as corresponding structure.[13] [*See, e.g.*, Doc. #292 at 35 (construing "processing means for translating . . . audio program segments into analog audio signals").] Apple moved for JMOL of noninfringement of claims 1, 3, and 15 of the '076 patent and claims 1, 6, and 13 of the '178 patent on the basis that the accused products do not contain a structure identical or equivalent to a sound card. [*See* Trial Tr. p. 1808, l. 3 to p. 1810, l. 12; *id.* at p. 1839, ll. 5-12; *id.* at p. 1841, ll. 4-24.] Apple argues that Dr. Almeroth only offered a conclusory opinion regarding whether a digital-to-analog converter chip, the structure utilized by the accused products, is equivalent to a sound card. [Trial Tr. p. 1808, ll. 3-16.] The applicable law on infringement of means-plus-function claim limitations is set out in Part III.A.2, *supra*.

At, trial, Dr. Almeroth testified to the following with respect to the "sound card" structure at issue:

- A sound card with a digital to analog converter is a piece of hardware that converts songs stored on a computer's hard drive from a digital format, i.e. "1s and 0s," into an analog signal, i.e. "the electricity in the wire going to the speaker," that can be reproduced into audible air vibrations via headphones or speakers. [Trial Tr. p. 757, l. 14 to p. 758, l. 11];

[12] *See supra* note 3.

[13] These limitations are the "continuously reproducing" limitations, limitations number 1.d of the '076 patent and 1.e of the '178 patent, and limitation number 14.d of the '076 patent, which claims "processing means for translating . . . audio program segments into analog audio signals." [*See* Trial Tr. p. 1807, ll. 12, 18; *id.* at p. 1839, ll. 2-12; *id.* at p. 1841, ll. 4-17.]

– Representative product group one, the iPod Classic Generation 3, contains a chip, i.e. a piece of computer hardware that goes onto a circuit board, that has a "digital signal processor" that performs digital-to-analog conversion. [Trial Tr. p. 758, ll. 12-22.] The chip has "a codec that's used for doing the decoding from the digital into the analog." [Trial Tr. p. 759, ll. 16-19.] The codec "is the chip that is the sound card." [Trial Tr. p. 759, ll. 20-21];

– As of 2001, the year the '076 patent issued, a person of ordinary skill in the art would consider the digital-to-analog converter chip present in the iPod Classic Generation 3 to be identical or equivalent to the "sound card that includes a digital to analog converter" required as part of the structure corresponding to the "continuously reproducing" function in limitation number 1.d of the '076 patent. [Trial Tr. p. 761, l. 24 to p. 762, l. 5; *see also id.* at p. 1367, l. 1 to p. 1368, l. 4 (*Hardware Design Guide* reference cited in patents' specification, *see* '076 patent, col. 4, ll. 51-54, describes that sound card could be "specifically a board" or could be "a kind of chip that goes on a board")];

– All eight accused product groups contain a digital-to-analog converter chip that is identical or equivalent to a "sound card that includes a digital to analog converter," thus meeting that requirement of claim limitations 14.d of the '076 patent and 1.e of the '178 patent in addition to claim 1.d of the '076 patent. [Trial Tr. at p. 924, l. 3 to p. 927, l. 18 (noting that various iPod models contain various chips which could be of different kinds and sizes but "[t]he important part is even though the chips were different, they still performed the functions of the digital-to-audio version [sic]"); *see also* Trial Tr. p. 969, l. 11 to p. 971, l. 1].

Apple argues that Dr. Almeroth did not sufficiently testify regarding whether any differences between a digital-to-analog converter chip and a sound card are insubstantial. However, Dr. Almeroth did not spend significant time discussing such differences, because his testimony was essentially that a digital-to-analog converter chip *is* a sound card. *Compare* Trial Tr. p. 757, l. 14 to p. 758, l. 11 (sound card with digital to analog converter is hardware that converts songs from digital format into analog signal), *with id.* at p. 758, ll. 12-22 (sound card in accused players "*is a chip* . . . that does the digital-to-analog conversion," and chip is hardware (emphasis added)), *and id.* at p. 759, ll. 17-21 (codec that performs digital to analog conversion

"is the chip *that is the sound card*" (emphasis added)).] And, Dr. Almeroth did state that any differences such as the size of the chip were unimportant. [*See* Trial Tr. p. 926, ll. 1-7.]

The court concludes that Dr. Almeroth's testimony provides sufficient evidence to support a finding that the accused products include a structure, namely a digital-to-analog converter chip, that is identical to or insubstantially different from the required structure of a "sound card that includes a digital to analog converter." Accordingly, Apple's motion for JMOL of noninfringement with respect to the means-plus-function limitations requiring a sound card as corresponding structure is **DENIED**.

10. Motion for JMOL of Noninfringement With Respect to "Means for Receiving" Claim Limitation in the '076 patent (All Accused Products[14])

Apple moved for JMOL of noninfringement of claims 1 and 3 of the '076 patent on the basis that the accused products do not contain a structure identical or equivalent to one of the structures identified by the court as corresponding to the "means for receiving" limitation.[15] [*See* Trial Tr. p. 1818, l. 1 to p. 1824, l. 24.] The applicable law on infringement of means-plus-function claim limitations is set out in Part III.A.2, *supra*.

a. Claim Construction and Evidence Presented at Trial

The court's claim construction identifies several alternative structures as corresponding to the function of "receiving" a sequencing file:

> (1) A conventional high speed data modem and modem dial up driver software for connecting via conventional dial up telephone SLIP or PPP TCP/IP series data communication link to an Internet service provider which provides access to the Internet;

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[14] *See supra* note 3.

[15] The "means for receiving" limitation is limitation number 1.b of the '076 patent.

(2) An ISDN or cable modem link for connecting to an Internet service provider which provides access to the Internet;
(3) Cellular radio, cellular phone, or satellite links;
(4) A radio or infrared link for connecting to a local communications server computer linked to the Internet;
(5) A place in which a replaceable media, such as an optical disk cartridge, may be inserted into the player; or
(6) A direct link implemented using the Cellular Digital Packet Data (CDPD) service for providing access to the Internet using the TCP/IP protocol.

[Doc. #258 at 30.]

Apple argues that Dr. Almeroth did not identify any structure that is identical or equivalent to one of the structures set forth in the court's claim construction. [Trial Tr. p. 1818, ll. 7-12.] Specifically, Apple argues that (1) Dr. Almeroth did not present sufficient evidence that a FireWire or USB connection is structurally equivalent to "a radio or infrared link for connecting to a local communications server computer linked to the Internet" [Trial Tr. p. 1818, l. 12 to p. 1823, l. 12]; and (2) Dr. Almeroth did not demonstrate that the port on the accused products to which a FireWire or USB cable is connected is "specifically adapted" for the function of "receiving" [*see* Trial Tr. P. 1823, l. 23 to p. 1824, l. 24].

At, trial, Dr. Almeroth testified to the following with respect to the "means for receiving" limitation:

- The communications port on the iPod has the capability to connect via a USB cable to a separate computer running Apple's iTunes software, and to receive playlists transferred from the separate iTunes computer. [Trial Tr. p. 732, ll. 12-18.] This capability of the iPod's communications port to connect via USB to a separate computer corresponds to an infrared link's capability to "connect[] to a local communications server computer linked to the Internet" as described in the court's claim construction. [Trial Tr. p. 731, l. 5 to p. 732, l. 18];

- An infrared port, like communications port on the iPod products, is also used for data transfer, and there are a lot of similarities between an infrared port and the communications port used by the iPod. [Trial Tr. p. 733, ll. 2-7.] Although an infrared

port uses a wireless link while the iPod products use a wired FireWire or USB link, that difference is insubstantial. [Trial Tr. p. 733, ll. 8-24];

– As of 2001, the year the '076 patent issued, a person of ordinary skill in the art would consider a FireWire or USB link to be equivalent to an infrared link for the purpose of connecting to a local computer and receiving a sequencing file. [Trial Tr. p. 733, l. 25 to p. 734, l. 7.] A Cirrus Logic document dated December 1999 contains specifications for a chip similar to another Cirrus Logic chip that Apple engineers had considered for use in the iPod Classic Generation 1; this document describes that the chip in question can "be connected to industry standard USB slave devices" and "can support rapid transfer of compressed audio data over a USB interface," and also describes that the chip "includes a built-in . . . IrDA . . . encoder/decoder that can be used to drive an infrared communication interface to download the data." [PX 759 at 3.] In Dr. Almeroth's opinion, the fact that the chip in question had both a USB and an infrared link that could each be used to transfer data supports his conclusion that USB and infrared links would be considered interchangeable or equivalent in 2001. [Trial Tr. p. 734 to p. 740, l. 19; *see also id.* at p. 740, l. 20 to p. 743, l. 16 (discussing PX 760, PortalPlayer document dated February 2001)];

– The software in an iPod device is specifically programmed to connect to an iTunes computer, which can act as a local communications server that is in turn connected to the Internet. [Trial Tr. p. 743, l. 17 to p. 745, l. 23];

– The above-described capability of the iPod Classic Generation 3 to connect via a USB cable to an iTunes computer that can connect to the Internet meets the "receiving" structure required by limitation number 1.b of the '076 patent. [Trial Tr. p. 746, ll. 12-20];

– All generations of Apple's iPod products utilize either a FireWire or USB connection for data transfer; all eight representative product groups utilize a USB connection. [Trial Tr. p. 728, l. 4 to p. 731, l. 4 (iPod Classic Generations 1 and 2 utilize a FireWire connection, while iPod Classic Generations 3 through 6, iPod Mini Generations 1 and 2, and iPod Nano Generations 1 through 5 utilize a USB connection); *see also id.* at p. 925, ll. 4-14 (FireWire and/or USB interface present on all accused devices)].

b. Discussion

With respect to Apple's first argument, that Dr. Almeroth did not present sufficient evidence that a FireWire or USB connection is structurally equivalent to "a radio or infrared link for connecting to a local communications server computer linked to the Internet," Apple asserts

that the USB 2.0 connection present in the accused products is after-arising technology that was not available at the time of the '076 patent's issuance in 2001 [Trial Tr. p. 1818, ll. 20-21]; that there are substantial differences between an infrared connection and a USB connection with respect to the speed of data transfer, including that fact that infrared speeds increased dramatically from the time the '076 patent was filed in 1996 and the time it issued in 2001 [Trial Tr. p. 1821, l. 8 to p. 1822, l. 3]; and that structural equivalence to "a radio or infrared link for connecting to a local communications server computer linked to the Internet" requires that the substitute structure in the accused product "derive data from the Internet," which the accused products' USB connection does not do [Trial Tr. p. 1822, l. 15 to p. 1823, l. 12].

Regarding the availability of USB 2.0 at the time of the '076 patent's issuance, Anthony Fadell, the Apple engineer who led the team that designed the first iPod, testified that while the USB 2.0 standard was not widely adopted until 2003-2004, it "was created around the 2001-2002 time frame." [Trial Tr. p. 1137, ll. 5-7.] The USB 2.0 specification document that was introduced by Apple's technical expert, Stephen Wicker, is dated April 27, 2000, almost a year prior to the '076 patent's March 2001 issue date. [DX 427.] The jury was instructed that a structural equivalent "must have been available technology at the time the patent issued." [Doc. #469 at 19.] Based on Mr. Fadell's testimony and the USB 2.0 specification document, there is sufficient evidence from which the jury could have found that USB 2.0 was available technology in 2001. Mr. Fadell's testimony that the standard was not widely adopted until 2003-2004 is merely a fact that the jury could have considered and weighed in deciding whether a person of ordinary skill in the art would have considered the USB 2.0 to be equivalent to an infrared link in 2001.

Regarding differences in the speed of data transfer, Mr. Fadell testified that when USB 2.0 was first created, it transferred data at approximately the same speed as USB 1.0, one to five megabits per second ("Mbps"). [Trial Tr. p. 1136, ll. 10-16; *id.* at p. 1137, ll. 11-14.] According to Mr. Fadell's testimony, the Nomad Jukebox, an audio player that was already on the market by April 2001, i.e. just over a month after the issuance of the '076 patent, utilized a USB 1.0 connection and transferred data at a rate of 3.2 Mbps. [Trial Tr. p. 1156, ll. 10-12; DX 261 at 1, 12.] Mr. Fadell testified that in 2001, an infrared connection would take up to thirty to thirty-two hours to transfer the same amount of data that a USB 1.0 connection could transfer in three to three-and-a-half hours. [Trial Tr. p. 1156, ll. 18-24.]

However, Dr. Almeroth testified that by mid 1996, i.e. before the '076 patent application was filed, high speed infrared connections existed that could transfer data at one to four Mbps. [Trial Tr. p. 1364, l. 16 to p. 1365, l. 2; PX 346 at 13.] The jury was instructed on how to evaluate whether differences between two structures are insubstantial. [Doc. #469 at 19-20.] The jury was entitled to weigh the competing testimony regarding the speed of data transfer in a USB 2.0 versus an infrared connection, and to evaluate the credibility of Dr. Almeroth and Mr. Fadell. The court finds that sufficient evidence supports the jury's determination that, with respect to transfer speed, the two structures would have been considered insubstantially different by a person of ordinary skill in the art in March 2001.

Regarding connection to the Internet, Apple errs in asserting that "[t]he limitation says that you have to derive data from the internet." [Trial Tr. p. 1822, ll. 15-16.] What the claim limitation requires is a structure that performs that claimed function of "receiving" a sequencing file, and that is identical to or insubstantially different from one of the structures described in the

patents' specification for performing that function. True, the infrared structure from the patents' specification that Personal Audio relies upon does specify "a[n] . . . infrared link *for connecting to a local communications server computer linked to the Internet*." But the court declines to hold as a matter of law that any substitute structure that does not link to the Internet cannot be an equivalent structure. Further, Dr. Almeroth did in fact testify that the iTunes computer to which the iPod products connect via a USB cable can act as a local communications server that is connected to the Internet. [Trial Tr. p. 743, l. 17 to p. 745, l. 23.]

Apple's final argument is that Dr. Almeroth did not demonstrate that the communications port on the accused products to which a FireWire or USB cable is connected is "specifically adapted" for the function of "receiving" a sequencing file; it's a "generic" port that could be used for any number of things. [Trial Tr. at p. 1823, l. 24 to p. 1824, l. 24.] Although he did not point to any specific source code, Dr. Almeroth did testify that the software in an iPod device is specifically programmed to connect to an iTunes computer. [Trial Tr. p. 743, l. 17 to p. 745, l. 23.] And there was evidence that the iPod products are sold with a FireWire or USB cable, and users are instructed to plug the cable into the iPod's communications port. [*See* Trial Tr. p. 906, ll. 16-17; *id.* at p. 952, l. 22 to p. 953, l. 13; *id.* at p. 1794, l. 17 to p. 1796, l. 4; *see also* PX 103 at 10-11.] The court finds that there is sufficient evidence in the record to support a finding that the communications port on the accused product is "for" the purpose of receiving a sequencing file and other data.

In sum, drawing all reasonable inferences in favor of Personal Audio, the court concludes that sufficient evidence supports the jury's finding that the USB connection in the accused iPod products is structurally equivalent to the infrared link described in the patents' specification as

corresponding to the function of "receiving" a sequencing file. Accordingly, Apple's motion for JMOL of noninfringement with respect to the "means for receiving" limitation in the '076 patent is **DENIED**.

11. Motion for JMOL of Noninfringement With Respect to "Means for Accepting Control Commands" Claim Limitation in the '076 patent (All Accused Products[16])

Apple moved for JMOL of noninfringement of claims 1 and 3 of the '076 patent on the basis that the accused products do not contain a structure identical or equivalent to one of the structures identified by the court as corresponding to the "means for accepting control commands" limitation.[17] [*See* Trial Tr. p. 1825, ll. 1-9.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1825, ll. 10-14.]

12. Motion for JMOL of Noninfringement With Respect to "Means for Storing" Claim Limitation in the '076 patent (iPod Nano Products)

Apple moved for JMOL of noninfringement of claims 1 and 3 of the '076 patent on the basis that the iPod Nano products, which utilize NAND flash memory rather than a hard disk, do not contain a structure identical or equivalent to one of the structures identified by the court as corresponding to the "means for storing" limitation.[18] [*See* Trial Tr. p. 1825, l. 16 to p. 1826,

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[16] *See supra* note 3.

[17] In making this motion for JMOL, Apple specifically referred to limitation number 1.c of the '076 patent. [*See* Trial Tr. p. 1825, ll. 1-2.] While Apple did not specifically identify limitation number 14.b of the '076 patent on the record, the court identified the same corresponding structures for that limitation, "input means for accepting control commands." [*See* Doc. #292, Order on Mot. for Summ. J. at 15-16.]

[18] In making this motion for JMOL, Apple specifically referred to limitation number 1.a of the '076 patent, "means for storing a plurality of program segments." [*See* Trial Tr. p. 1825, ll. 16-17.] While Apple did not specifically identify limitation number 1.b of the '076 patent on the record, the court identified the same corresponding structures for that limitation, "means for . . . storing a file of data establishing a sequence." [*See* Doc. #258, Order Construing Claim Terms at 30.]

l. 24.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1826, l. 25 to p. 1827, l. 10.]

13. Motion for JMOL of No Infringement Under the Doctrine of Equivalents With Respect to the '076 Patent (All Accused Products)

Apple moved for JMOL of no infringement under the doctrine of equivalents with respect to the '076 patent. [*See* Trial Tr. p. 1827, ll. 11-16.] The court **GRANTED** this motion as agreed on the record at trial. [*See* Trial Tr. p. 1827, ll. 17-25.]

14. Motion for JMOL of Noninfringement Because Personal Audio Did Not Specifically Address Each and Every Claim Limitation as to Each Representative Product Group Individually (Representative Product Groups Two Through Eight)

At trial, Dr. Almeroth first presented his infringement opinion with respect to infringement of '076 patent claim 1 by representative product group one, the iPod Classic Generation 3. [*See* Trial Tr. p. 700, l. 7 to p. 832, l. 4.] He then outlined what he believed were the relevant differences between the eight groups of representative products, and how those differences affected his opinion with respect to infringement of '076 patent claim 1 by representative product groups two through eight. [*See* Trial Tr. p. 832, l. 7 to p. 838, l. 3; *id.* at p. 897, l. 16 to p. 929, l. 3; *see also id.* at p. 1007, l. 12 to p. 1026, l. 2.] He then went through the other asserted claims of the patents-in-suit, outlining which claim limitations were the same or similar to the limitations of '076 patent claim 1, which limitations were different from or not present in '076 patent claim 1, and why, in his opinion, all eight accused product groups infringe claims 3 and 15 of the '076 patent and claims 1, 6, 13, and 14 of the '178 patent. [*See* Trial Tr. p. 929, l. 4 to p. 1007, l. 11.]

Apple moved for JMOL of noninfringement of all asserted claims with respect to accused products other than the iPod Classic Generation 3, arguing that Dr. Almeroth's testimony did not

provide sufficient evidence to support a finding of infringement as to representative product groups two through eight because Dr. Almeroth did not specifically address each and every claim limitation as to each of the representative product groups individually. [*See* Trial Tr. p. 1828, ll. 1-20; *id.* at p. 1829, ll. 10-24.] The court **DENIED** this motion for JMOL on the record at trial. [Trial Tr. p. 1828, l. 21 to p. 1829, l. 9; *id.* at p. 1829, l. 25 to p. 1830, l. 19.]

15. Motion for JMOL of No Literal Infringement of the '178 Patent (All Accused Products)

Apple moved for JMOL of no literal infringement of the '178 patent. [*See* Trial Tr. p. 1839, l. 18 to p. 1840, l. 5.] The court **GRANTED** this motion on the record at trial for the reasons stated in the court's order on Apple's summary judgment motion on this issue. [*See* Trial Tr. p. 1840, ll. 6-9; *see also* Doc. #430 at 11-16 (holding that accused products do not literally meet "communications port for downloading" limitations, limitations number 1.a and 14.e of the '178 patent).]

16. Motion for JMOL of Prosecution History Estoppel With Respect to "Communications Port for Downloading from One or More Server Computers" Claim Limitations in the '178 Patent

Prior to trial, Apple moved for summary judgment of noninfringement of the '178 patent on the basis that the accused products do not literally meet the "communications port for downloading from one or more server computers" limitations,[19] and the doctrine of prosecution history estoppel barred Personal Audio from asserting infringement under the doctrine of equivalents ("DoE"). [*See* Doc. #326, Def.'s Primary Mot. for Summ. J. at 12-15.] The court found that the accused products do not literally embody the claim limitations at issue, but also

[19] These are limitations number 1.a and 14.e of the '178 patent.

found that prosecution history estoppel did not preclude Personal Audio from asserting infringement under the DoE. [*See* Doc. #430 at 11-19.]

At trial, Apple renewed its prosecution history estoppel argument, moving for JMOL of noninfringement of the '178 patent on the basis that prosecution history estoppel barred Personal Audio from asserting infringement under the DoE. [*See* Trial Tr. p. 1849, ll. 13-16.] The court **DENIED** this motion on the record at trial for the same reasons stated in the court's order on Apple's summary judgment motion. [Trial Tr. p. 1849, ll. 17-19.]

17. Motion for JMOL that the Patents-in-Suit Are Not Entitled to a Priority Date Earlier than the Filing Date of October 2, 1996

Apple moved for JMOL that Personal Audio had not demonstrated that the patents-in-suit are entitled to a priority date any earlier than the date the '076 patent application was filed, October 2, 1996. [*See* Trial Tr. p. 1853, ll. 9-12.] Personal Audio later agreed that, in light of the prior art that Apple had introduced, Personal Audio was not asserting a priority date earlier than October 2, 1996. [*See* Trial Tr. p. 2769, l. 21 to p. 2770, l. 16; *id.* at p. 2835, l. 17 to p. 2836, l. 9.] Accordingly, this motion for JMOL is **DENIED** as moot.

18. Motion for JMOL of Failure to Mark

Apple moved for JMOL that Personal Audio is not entitled to damages prior to June 5, 2001 because the Gotuit entities, which Apple asserted had a license to the patents-in-suit, did not mark their SongCatcher product, which Apple asserted embodied the claims of the '076 patent, with the '076 patent number. [*See* Trial Tr. p. 1855, l. 18 to p. 1857, l. 2.] This motion is **DENIED** for the same reasons the court granted Personal Audio's motion for JMOL that no Gotuit entity was required to mark the SongCatcher product. [*See* Trial Tr. p. 2556, l. 11 to p. 2561, l. 24.]

19. Motion for JMOL that October 2001 Is Not the Correct Hypothetical Negotiation Date

At trial, both parties' damages experts relied on a hypothetical negotiation date of October 2001, the date when the iPod Classic Generation 1 was released. [*See* Trial Tr. p. 1412, ll. 11-14 (Nawrocki); *id.* at p. 2355, ll. 19-21 (Ugone).] Apple moved for JMOL that October 2001 is not the correct hypothetical negotiation date, arguing that Personal Audio did not prove that the iPod Classic Generation 1, which was not an accused product,[20] infringes the patents-in-suit. [*See* Trial Tr. p. 1858, l. 12 to p. 1859, l. 11; *id.* at p. 1860, ll. 1-7.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1859, ll. 19-24; *id.* at p. 1860, l. 8]; *see also Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 870 (Fed. Cir. 1993) (hypothetical negotiation occurs when infringement first began, even if 35 U.S.C. § 286 limits period for which damages may be recovered).

While Dr. Almeroth did not did not specifically address each and every claim limitation with respect to the iPod Classic Generation 1, he did discuss that product at various points during his testimony, noting similarities and differences between iPod Classic Generations 1 and 2 and the first accused product, the iPod Classic Generation 3. [*See, e.g.*, Trial Tr. p. 897, ll. 18-23 (stating he analyzed iPod Classic Generations 1 and 2 in addition to the eight representative groups of accused products); *id.* at p. 727, l. 2 to p. 734, l. 7 (opining that FireWire connection used in iPod Classic Generations 1 and 2 and USB connection used in iPod Classic Generations 3 and later are structures equivalent to "infrared link for connecting to a local communications server computer linked to the Internet"); *id.* at p. 911, ll. 17-19 (iPod Classic

[20] iPod Classic Generations 1 and 2 were not accused products because Personal Audio's ability to recover damages for infringement by those products was barred by the 35 U.S.C. § 286 six-year limitation on damages.

Generations 1 and 2 contain software algorithms "very similar" to those contained in representative product groups one through four); *id.* at p. 926, ll. 22-25 (iPod Classic Generations 1 through 6 all used digital-to-analog converter chip).]

20. Motion for JMOL of Insufficient Evidence to Support Damages in the Form of a Running Royalty

Apple moved for JMOL on damages, arguing that there was not sufficient evidence to support Mr. Nawrocki's opinion that a running royalty, as opposed to a lump sum royalty, was the appropriate form of damages. [*See* Trial Tr. p. 1860, l. 9 to p. 1861, l. 3.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1861, l. 4 to p. 1862, l. 17.]

21. Motion for JMOL on Damages Because Mr. Nawrocki Improperly Relied on the Entire Market Value Rule

Apple moved for JMOL on damages, arguing that Mr. Nawrocki improperly relied on the entire market value rule by "testif[ying] as one of the checks in his analysis that his damages number would be 3 percent of the total iPod profits." [*See* Trial Tr. p. 1862, l. 19 to p. 1863, l. 4.] To the extent that this motion is not mooted by the jury's choice to award a lump sum royalty rather than a running royalty, it is denied for the following reasons.

In *Uniloc USA, Inc. v. Microsoft Corp.*, the Federal Circuit held that an expert may not use the entire market value of a product as a "check" to determine whether his or her total royalty figure is reasonable by comparing the royalty figure to a defendant's total revenue from an accused product. *See* 632 F.3d 1292, 1318-21 (Fed. Cir. 2011). When the patented component does not create the basis of customer demand for the accused product, accenting the fact that a calculated royalty amounts to only a small percentage of a defendant's entire revenue from the accused product improperly "lend[s] legitimacy to the reasonableness" of an expert's damages

calculation. *Id.* at 1320-21. Accordingly, in its order on Apple's motion to exclude Mr. Nawrocki's testimony, the court cautioned Personal Audio that "Mr. Nawrocki will not be permitted to reference Apple's $40 billion in revenue from sales of the accused products as a 'check' on the reasonableness of his recommended damages award." [Doc. #416 at 33 n.13.]

As previously discussed, Mr. Nawrocki testified at trial that damages should be a per unit running royalty of $0.90 per infringing product sold, based on his analysis that, of Apple's projected profit of $32.70 to $34.70 per unit at the time of the hypothetical negotiation, approximately $0.63 to $1.34 was attributable to the patented features. [*See* Trial Tr. p. 1393, ll. 2-3; *id.* at p. 1469, l. 6 to p. 1470, l. 4; *id.* at p. 1471, l. 19 to p. 1486, l. 3.] On cross-examination, Apple's counsel questioned Mr. Nawrocki as follows:

> Q. So, you gave Apple what Apple contributed; and you gave Personal Audio 100 percent of the profits for the patented invention; is that right?
> A. Well, it's a range; and it's the midpoint of that range. But I didn't further whittle it down. That's correct.
> Q. So, sometimes that midpoint is higher than and more than 100 percent royalty; and sometimes it's just under that?
> A. I wouldn't say 100 percent royalty. 100 percent royalty, if you're using that term correctly, that would be in this instance $327. That's not what I'm asking for. I'm asking for a 90-cent royalty. 100 percent royalty on the 327-dollar sale price would be a 327-dollar royalty. That's not what I'm asking for.
> Q. But it's a 100 percent of the value of the patent, right? You can't get damages on what Apple contributed; is that right?
> A. Well, whether or not you can get damages or not, that's another matter. I haven't calculated damages. I have apportioned to Apple basically approximately 97 percent of the profits. This represents approximately 3 percent of the profits.

[Trial Tr. p. 1533, l. 6 to p. 1534, l. 3.]

This testimony by Mr. Nawrocki was not a violation of *Uniloc* or of the court's *Daubert* order. In *Uniloc*, the plaintiff's expert "checked" his total royalty amount by comparing it to the defendant's $19 billion in total revenue from the accused products, and then "accented his point

by reference to a prepared pie chart, showing Microsoft's $19.28 billion in revenue with a 2.9% sliver representing his calculated royalty rate." 632 F.3d at 1318. Uniloc's counsel further "exacerbated the situation" on cross-examination of the defendant's damages expert by eliciting testimony that the defendant's proposed damages figure amounted to only 0.000035% of its total revenue from the infringing products, implying a relationship between the entire market value of the accused products and the patent. *Id.* at 1320-21. The district court found that the expert's use of the $19 billion total revenue figure was "irrelevant," had "taint[ed]" the jury's damages award, and that "[t]he $19 billion cat was never put back into the bag." *Id.* at 1319-20. The district court ordered a conditional new trial on damages, which the Federal Circuit upheld stating that "[t]he disclosure that a company has made $19 billion dollars in revenue from an infringing product cannot help but skew the damages horizon for the jury, regardless of the contribution of the patented component to this revenue." *Id.* at 1320.

Unlike the expert in *Uniloc*, and in accordance with this court's *Daubert* order, Mr. Nawrocki did not mention the amount of Apple's total revenue from the accused products or compare that amount to his recommendation of $84.4 million in damages. Rather, he simply stated that his apportionment of $0.63 to $1.34 per unit as attributable to the patented features amounted to approximately three percent of Apple's per unit profit from the accused products. The brief exchange that occurred on cross-examination is distinguishable from the situation in *Uniloc*, where the defendant's total revenue amount was intentionally highlighted and emphasized by the plaintiff pervasively throughout the trial.

The court does not find that Mr. Nawrocki's statement that he apportioned approximately ninety-seven percent of Apple's per unit profit to Apple and three percent to the patented

features "skewed the damages horizon" for the jury or taints the jury's damages award. This is evidenced by the fact that the jury did not follow Mr. Nawrocki's opinion, but rather awarded damages in the form of the lump sum royalty advocated by Apple's damages expert, and in the amount of $8 million, far less than the $84.4 million advocated by Mr. Nawrocki. As discussed in Part III.A.4, *supra*, the jury's award is supported by substantial evidence and is not outrageously high. Accordingly, Apple's motion for JMOL on damages on the basis that Mr. Nawrocki improperly relied on the entire market value rule is **DENIED**.

22. Motion for JMOL on Damages Because Mr. Nawrocki Did Not Rely on Credible or Reliable Evidence to Support His Opinion

Apple moved for JMOL on damages, arguing that Mr. Nawrocki did not rely on credible or reliable evidence to support his opinion. [*See* Trial Tr. p. 1867, l. 25 to p. 1868, l. 13.] To the extent that this motion is not mooted by the jury's rejection of Mr. Nawrocki's running royalty opinion in favor of Dr. Ugone's lump sum opinion, it has already been **DENIED** on the record at trial. [Trial Tr. p. 1868, l. 14 to p. 1869, l. 2.]

23. Motion for JMOL on Damages Because Mr. Nawrocki Improperly Based His Analysis of the Portion of Apple's Profits Attributable to the Patented Features on the Extent of Consumers' Use of Those Features

Apple moved for JMOL on damages, arguing that, because the asserted claims are apparatus and not method claims, it was improper for Mr. Nawrocki to base his apportionment of Apple's profits attributable to the patented features on customer usage data. [*See* Trial Tr. p. 1872, ll. 5-24.] The court **DENIED** this motion on the record at trial. [Trial Tr. p. 1872, l. 25 to p. 1873, l. 6.]

IV. CONCLUSION

For the foregoing reasons, Apple, Inc.'s motions for judgment as a matter of law made on the record at trial are hereby **GRANTED IN PART** and **DENIED IN PART**. The results of the court's rulings with respect to infringement and damages are as follows:

(1) JMOL of noninfringement of claims 1, 6, 13, and 14 of the '178 patent on the basis that the accused products do not meet the "communications port for downloading from one or more server computers" limitations, because there is no legally sufficient evidentiary basis from which the jury could have found that the transfer of files to the accused players occurs "upon a request by the player," i.e. upon "a communication to initiate the transfer" as required by the court's claim construction;

(2) denial of JMOL of noninfringement of claims 1, 3, and 15 of the '076 patent; and

(3) denial of Apple's motions for JMOL on damages.

So **ORDERED** and **SIGNED** this **19** day of **August, 2011.**

Ron Clark, United States District Judge

Appendix A

Patent Claims Asserted by Plaintiff

'076 PATENT CLAIMS

****ONLY claims 1, 3, and 15 are asserted by Plaintiff. Claim 2 is included because claim 3 refers to it. Claim 14 is included because claim 15 refers to it.****

Claims **1**, **3**, and **15** are apparatus claims. Each limitation or requirement of this claim may be referred to as an "element."

Note that **bolded claim terms** have been defined by the court and will be included in a separate chart of claim term definitions. **Bolded and underlined claim terms** are terms that have been defined by the court and that are also part of a larger phrase that has been defined by the court.

Claim No.	Claim Language
1	A **player** for reproducing **selected audio program segments** comprising, in combination:
1.a	**means for storing a plurality of program segments**, each of said program segments having a beginning and an end,
1.b	**means for receiving and storing a file of data establishing a sequence** in which said program segments are scheduled to be reproduced by said player,
1.c	**means for accepting control commands from a user of said player**,
1.d	**means for continuously reproducing said program segments in the order established by said sequence in the absence of a control command**,
1.e	**means for detecting a first command indicative of a request to skip forward**, and
1.f	**means responsive to said first command for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which follows said currently playing program in said sequence**.

Claim No.	Claim Language
2	A **player** as set forth in claim 1 further comprising
2.a	**means for detecting a second command indicative of a request to skip backward**, and
2.b	**means responsive to a single one of said second commands for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of said currently playing program**.

Claim No.	Claim Language
3	A **player** as set forth in claim 2 further comprising
3.a	**means responsive to the detection of two consecutive ones of said second commands for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment**.

Claim No.	Claim Language
14	A **programmed digital computer** for reproducing audio programs, said computer comprising, in combination:
14.a	a mass storage device for storing a plurality of digitally recorded audio program segments, each of said segments having a beginning and an end, and further receiving and storing a **file of data establishing a sequence** in which said program segments are scheduled to be played,
14.b	**input means for accepting control commands from a user**,
14.c	**output means for producing audible sounds in response to analog audio signals**,
14.d	**processing means for translating said digitally recorded audio program segments into analog audio signals delivered to said output means for reproducing said recorded program segments in a form audible to said user**,
14.e	**processing means responsive to a first one of said control commands for discontinuing the translation of the currently playing program segment and instead continuing the translation at the beginning of the next program segment in said sequence**, and
14.f	**processing means responsive to a second one of said control command for discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of said currently playing program**.

Claim No.	Claim Language
15	A **programmed digital computer** for reproducing audio programs as set forth in claim 14 further comprising
15.a	**means responsive to two consecutive ones of said second control commands for discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of a program segment which precedes said currently playing program in said sequence**.

‘178 PATENT CLAIMS

****ONLY claims 1, 6, 13, and 14 are asserted by Plaintiff. Claims 2, 3, 4, and 5 are included because claim 6 refers to them. Claim 9 is included because claim 13 refers to it.****

Claims **1**, **6**, **13**, and **14** are apparatus claims. Each limitation or requirement of this claim may be referred to as an “element.”

Note that **bolded claim terms** have been defined by the court and will be included in a separate chart of claim term definitions. **Bolded and underlined claim terms** are terms that have been defined by the court and that are also part of a larger phrase that has been defined by the court.

Claim No.	Claim Language
1	An **audio program player** comprising:
1.a	**a communications port for establishing a data communications link for downloading a plurality of separate digital compressed audio program files and a separate sequencing file from one or more server computers**,
1.b	a digital memory unit coupled to said communications port for persistently storing said separate digital compressed audio program files and said separate **sequencing file**, said **sequencing file** containing data specifying an ordered sequence of a **collection** of said separate digital compressed audio program files,
1.c	an audio output unit including at least one speaker or headset for reproducing said audio program files in audible form perceptible to a listener,
1.d	one or more manual controls for accepting commands from said listener, and
1.e	**a processor for continuously delivering a succession of said audio program files in said collection to said audio output unit in said ordered sequence specified by said sequencing file in the absence of a program selection command from said listener, and for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener**.

Claim No.	Claim Language
2	The **audio program player** as set forth in claim 1 further comprising
2.a	a display screen for displaying a scrollable listing describing each of said separate digital compressed audio program files in said **collection** displayed in said ordered sequence specified by said **sequencing file**
2.b	wherein said listener-selected audio program file is chosen by said listener by employing one or more of said manual controls to accept a program selection command from said listener to select one of said audio program files described on said scrollable listing for immediate reproduction by said audio output unit.

Claim No.	Claim Language
3	The **audio program player** as set forth in claim 2
3.a	wherein said display screen provides a visible indication of said currently playing audio program file in the **collection** of programs specified by said **sequencing file** and described on said scrollable listing.

Claim No.	Claim Language
4	The **audio program player** as set forth in claim 3
4.a	**wherein said processor responds to a skip forward program selection command accepted from said listener by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently audio program file in said ordered sequence specified by said sequencing file.**

Claim No.	Claim Language
5	The **audio program player** as set forth in claim 4
5.a	**wherein said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file**.

Claim No.	Claim Language
6	The **audio program player** as set forth in claim 5
6.a	**wherein said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said <u>sequencing file</u>.**

Claim No.	Claim Language
9	The **audio program player** as set forth in claim 1
9.a	wherein each audio program file in said **collection** specified by said **sequencing file** is selected in accordance with program preference data or program selections accepted from said listener to define a playback session that is personalized to the preferences of said listener.

Claim No.	Claim Language
13	The **audio program player** as set forth in claim 9
13.a	wherein at least some of said separate digital compressed audio program files downloaded from said server computer are selected by said server computer based on data describing the preferences of or past requests submitted by said listener.

Claim No.	Claim Language
14	An **audio program player** for automatically playing a **collection** of audio program files selected by a listener, said player comprising, in combination:
14.a	a memory unit for storing:
14.b	(a) a plurality of audio program files,
14.c	(b) program description data including displayable text describing each of said audio program files, and
14.d	(c) at least one **separately stored playback session sequencing file** which specifies an ordered sequence of a **collection** of said plurality of audio program files,
14.e	**a communications port for downloading at least some of said audio program files and said playback session sequencing file from said one or more server computers**, at least some of said audio program files downloaded from said one or more server computers being selected by said listener from a library of audio program files available from said one or more server computers, and
14.f	said audio program files in said **collection** specified by said **playback session sequencing file** being selected by or on behalf of said listener to produce a personalized playback session,
14.g	one or more controls for accepting input commands from said listener,
14.h	a display screen for presenting a visual menu listing to said listener containing displayable text describing some or all of the audio program files in said **collection** specified by said **sequencing file**,
14.i	an audio playback unit for automatically and continuously reproducing said audio program files in said **collection** in the ordered sequence specified by said **playback session sequencing file** in the absence of a control command from said listener, and
14.j	**a processor for executing one or more utility programs to perform control functions in response to said input commands from a user, said functions including:**

14.k	**(a) in response to a first one of said input commands designating a selected audio program file described on said visual menu listing for causing said audio playback unit to discontinue the reproduction of the currently playing audio program file in said ordered sequence and to instead continue the reproduction at the beginning of said selected audio program file,**
14.l	**(b) in response to a second one of said control commands for discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence specified by said playback session sequencing file,**
14.m	**(c) in response to a third one of said control commands accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file, and**
14.n	**(d) in response to said third one of said control commands accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence specified by said playback session sequencing file.**

Appendix B

‘076 AND ‘178 PATENT CLAIM TERMS

Remember that Plaintiff has only asserted certain claims. These are numbered in **bold** (for example: claim **1**). The terms defined below may also appear in other claims that are referred to by an asserted claim. For example, claim **3** of the ‘076 patent refers to claim 1 and claim 2 of the ‘076 patent. The term “file of data establishing a sequence” is shown below as appearing in claim **3**. This term is actually found in claim **1**.

This is true for the following claims of the patents-in-suit: (1) claim **3** of the ‘076 patent refers to claim 2, which refers to claim **1** of the ‘076 patent; (2) claim **15** of the ‘076 patent refers to claim 14 of the ‘076 patent; (3) claim **6** of the ‘178 patent refers to claim 5, which refers to claim 4, which refers to claim 3, which refers to claim 2, which refers to claim **1** of the ‘178 patent; and (4) claim **13** of the ‘178 patent refers to claim 9, which refers to claim **1** of the ‘178 patent.

TERM	**DEFINITION OR FUNCTION/STRUCTURE**	**PATENT AND CLAIM(S) WHERE TERM APPEARS**
“Player”	**Definition:** A device that reproduces sound from digital audio content.	‘076 Patent: claims **1** and **3**
“Selected audio program segments”	**Definition:** Audio program segments that have been chosen by or for a user.	‘076 Patent: claims **1** and **3**
“Means for storing a plurality of program segments”	This is a means-plus-function limitation. **Definition:** The **function** is “storing a plurality of program segments.” The **structure** corresponding to the “storing” function can be the following structures and equivalents thereof: 1. A data storage system consisting of both high speed RAM storage and a persistent mass storage device, such as a magnetic disk memory; or 2. A replaceable media, such as an optical disk cartridge.	‘076 Patent: claims **1** and **3**
“Means for receiving and storing a file of data establishing a sequence”	This is a means-plus-function limitation. **Definition:** The **function** is “receiving and storing a file of data establishing a sequence.” The **structure** corresponding to the “receiving” function can be the following structures and equivalents thereof: 1. A conventional high speed data modem and modem dial up driver software for connecting via conventional dial up telephone SLIP or PPP TCP/IP series data communication link to an Internet service provider which provides access to the Internet;	‘076 Patent: claims **1** and **3**

	2. An ISDN or cable modem link for connecting to an Internet service provider which provides access to the Internet; 3. Cellular radio, cellular phone, or satellite links; 4. A radio or infrared link for connecting to a local communications server computer linked to the Internet; 5. A place in which a replaceable media, such as an optical disk cartridge, may be inserted into the player; or 6. A direct link implemented using the Cellular Digital Packet Data (CDPD) service for providing access to the Internet using the TCP/IP protocol.	
"File of data establishing a sequence"	**Definition:** A file of data that identifies the order in which audio program segments are to be played and that may contain information about the sequence of events that occur during playback.	'076 Patent: claims **1**, **3**, and **15**
"Means for accepting control commands from a user of said player"	This is a means-plus-function limitation. **Definition:** The **function** is "accepting control commands from a user." The **structure** corresponding to the "accepting" function can be the following structures and equivalents thereof: 1. A microphone, sound card, and conventional speech recognition software; 2. A keyboard; 3. A pointing device such as a mouse, trackball, or touchpad; or 4. A hand controller connected by a infrared link to the player computer.	'076 Patent: claims **1** and **3**
"Means for continuously reproducing said program segments in the order established by said sequence in the absence of a control command"	This is a means-plus-function limitation. **Definition:** The **function** is "continuously reproducing said program segments in the order established by said sequence in the absence of a control command." The **structure** corresponding to the "continuously reproducing" function is the following structure and equivalents thereof: A sound card that includes a digital to analog converter; headphones or one or more speakers; and a general purpose computer programmed to perform the algorithm that is	'076 Patent: claims **1** and **3**

	illustrated in the flow chart of Figure 3 at items 233, 235, 237, 239, and 261 and more fully described at column 12, line 16 to column 13, line 11 and column 34, line 28 to column 35, line 44. Specifically, this algorithm includes the following steps: (1) beginning playback with the program segment identified by the ProgramID contained in the Selection_Record specified by the CurrentPlay variable; (2) when the currently playing program segment concludes, incrementing the CurrentPlay variable by one and fetching and playing the program segment identified by the ProgramID contained in the next Selection_Record in the sequencing file; (3) repeating step (2) until the last Selection_Record in the sequencing file is reached, which resets the CurrentPlay variable to "1" to begin the playing sequence again with the first Selection_Record in the sequencing file.	
"Means for detecting a first command indicative of a request to skip forward"	This is a means-plus-function limitation. **Definition:** The **function** is "detecting a first command indicative of a request to skip forward." The **structure** corresponding to the "detecting" function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 261, 262, and 275. Specifically, this algorithm includes the following steps: (1) determining whether input from the means for accepting control commands is a command using an "if-then-else" programming construct; and (2) if the input is a command, using a "branch" programming construct to select one of the player's available commands, which include a "Skip" command, for execution.	'076 Patent: claims **1** and **3**
"Means responsive to said first command for discontinuing the reproduction of the currently playing program segment and instead	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Skip' command, discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which follows said currently playing program in said sequence." The **structure** corresponding to the claimed function is the	'076 Patent: claims **1** and **3**

continuing the reproduction at the beginning of a program segment which follows said currently playing program in said sequence"	following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 21 to 25 and column 34, line 28 to column 35, line 48. Specifically, this algorithm includes the following steps: (1) scanning forward in the sequencing file to locate the next Selection_Record of the appropriate LocType; (2) resetting the CurrentPlay variable to the record number of that Selection_Record ; and (3) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.	
"Means for detecting a second command indicative of a request to skip backward"	This is a means-plus-function limitation. **Definition:** The **function** is "detecting a second command indicative of a request to skip backward." The **structure** corresponding to the "detecting" function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 261, 262, and 278. Specifically, this algorithm includes the following steps: (1) determining whether input from the means for accepting control commands is a command using an "if-then-else" programming construct; and (2) if the input is a command, using a "branch" programming construct to select one of the player's available commands, which include a "Back" command, for execution.	'076 Patent: claim **3**
"Means responsive to a single one of said second commands for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of said currently playing	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a single 'Back' command, discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of said currently playing program." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15,	'076 Patent: claim **3**

program”	lines 49 to 59. Specifically, this algorithm includes the following steps: (1) if the currently playing program segment has played for a predetermined amount of time, resetting the playback position to the beginning of the program segment; and (2) playing the program segment from its beginning.	
“Means responsive to the detection of two consecutive ones of said second commands for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment”	This is a means-plus-function limitation. **Definition:** The **function** is “in response to two consecutive ‘Back’ commands, discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment.” The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269, 235, 261, 262, and 278 and more fully described at column 15, lines 49 to 59 and column 34, line 28 to column 35, line 53. Specifically, this algorithm includes the following steps: (1) in response to a first “Back” command, if the currently playing program segment has played for a predetermined amount of time, resetting the playback position to the beginning of the program segment and playing the program segment from its beginning; (2) in response to a second “Back” command, if the currently playing program segment has not yet played for said predetermined amount of time, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType; (3) resetting the CurrentPlay variable to the record number of that Selection_Record; and (4) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.	‘076 Patent: claim **3**
“Programmed digital computer”	**Definition:** A computer that consists of one or more associated processing units and that is controlled by internally-stored programs.	‘076 Patent: claim **15**
“Input means for accepting control commands from a	This is a means-plus-function limitation. **Definition:** The **function** is “accepting control commands	‘076 Patent: claim **15**

user”	from a user.” The **structure** corresponding to the “accepting” function can be the following structures and equivalents thereof: 1. A microphone, sound card, and conventional speech recognition software; 2. A keyboard; 3. A pointing device such as a mouse, trackball, or touchpad; or 4. A hand controller connected by a infrared link to the player computer.	
“Output means for producing audible sounds in response to analog audio signals”	This is a means-plus-function limitation. **Definition:** The **function** is “producing audible sounds in response to analog audio signals.” The **structure** corresponding to the “producing” function can be the following structures and equivalents thereof: 1. One or more speakers; or 2. Headphones.	‘076 Patent: claim **15**
“Processing means for translating said digitally recorded audio program segments into analog audio signals delivered to said output means for reproducing said recorded program segments in a form audible to said user”	This is a means-plus-function limitation. **Definition:** The **function** is “translating said digitally recorded audio program segments into analog audio signals delivered to said output means for reproducing said recorded program segments in a form audible to said user.” The **structure** corresponding to the “translating” function is the following structure and equivalents thereof: A sound card that includes a digital to analog converter and directs the converted analog audio signals to headphones or one or more speakers.	‘076 Patent: claim **15**
“Processing means responsive to a first one of said control commands for discontinuing the translation of the currently playing program segment and instead continuing the translation at	This is a means-plus-function limitation. **Definition:** The **function** is “in response to a ‘Skip’ command, discontinuing the translation of the currently playing program segment and instead continuing the translation at the beginning of the next program segment in said sequence.” The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the	‘076 Patent: claim **15**

the beginning of the next program segment in said sequence"	algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 21 to 25 and column 34, line 28 to column 35, line 48. Specifically, this algorithm includes the following steps: (1) scanning forward in the sequencing file to locate the next Selection_Record of the appropriate LocType; (2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.	
"Processing means responsive to a second one of said control command for discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of said currently playing program"	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Back' command, discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of said currently playing program." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 49 to 59. Specifically, this algorithm includes the following steps: (1) if the currently playing program segment has played for a predetermined amount of time, resetting the playback position to the beginning of the program segment; and (2) playing the program segment from its beginning.	'076 Patent: claim **15**
"Means responsive to two consecutive ones of said second control commands for discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of a program segment which precedes said currently playing program in	This is a means-plus-function limitation. **Definition:** The **function** is "in response to two consecutive 'Back' commands, discontinuing the translation of the currently playing program and instead continuing the translation at the beginning of a program segment which precedes said currently playing program in said sequence." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269, 235, 261, 262, and 278 and more fully described at column 15, lines 49 to 59 and column 34, line 28 to column 35, line 53. Specifically, this algorithm includes the	'076 Patent: claim **15**

said sequence”	following steps: (1) in response to a first “Back” command, if the currently playing program segment has played for a predetermined amount of time, resetting the playback position to the beginning of the program segment and playing the program segment from its beginning; (2) in response to a second “Back” command, if the currently playing program segment is near its beginning, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType; (3) resetting the CurrentPlay variable to the record number of that Selection_Record; and (4) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.	

TERM	DEFINITION OR FUNCTION/STRUCTURE	PATENT AND CLAIM(S) WHERE TERM APPEARS
"Audio program player"	**Definition:** A device that reproduces sound from digital audio content.	'178 Patent: claims **1**, **6**, **13**, and **14**
"A communications port for establishing a data communications link for downloading"	**Definition:** A port for establishing a connection between the player and a network.	'178 Patent: claims **1**, **6**, and **13**
"Downloading a plurality of separate digital compressed audio program files and a separate sequencing file from one or more server computers"	**Definition:** Transferring a plurality of separate digital compressed audio program files and a separate sequencing file from the memory of one or more separate computers to the memory of the player upon a request by the player. "Request" means a communication to initiate the transfer.	'178 Patent: claims **1**, **6**, and **13**
"Sequencing file"	**Definition:** A file of data that identifies the order in which audio program segments are to be played and that may contain information about the sequence of events that occur during playback.	'178 Patent: claims **1**, **6**, and **13**
"Collection"	**Definition:** One or more.	'178 Patent: claims **1**, **6**, **13**, and **14**
"A processor for continuously delivering a succession of said audio program files in said collection to said audio output unit in said ordered sequence specified by said sequencing file in the absence of a program selection command from said listener"	This is a means-plus-function limitation. **Definition:** The **function** is "continuously delivering a succession of said audio program files in said collection to said audio output unit in said ordered sequence specified by said sequencing file in the absence of a program selection command from said listener." The **structure** corresponding to the "continuously delivering" function is the following structure and equivalents thereof: A sound card that includes a digital to analog converter and a general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 233, 235, 237, 239, and 261 and more fully described at column 12, line 22 to column 13, line 16 and column 34, line 19 to column 35, line 32. Specifically, this algorithm	'178 Patent: claims **1**, **6**, and **13**

	includes the following steps: (1) beginning playback with the audio program file identified by the ProgramID contained in the Selection_Record specified by the CurrentPlay variable; (2) when the currently playing audio program file concludes, incrementing the CurrentPlay variable by one and fetching and playing the audio program file identified by the ProgramID contained in the next Selection_Record in the sequencing file; (3) repeating step (2) until the last Selection_Record in the sequencing file is reached, which resets the CurrentPlay variable to "1" to begin the playing sequence again with the first Selection_Record in the sequencing file.	
"A processor . . . for discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection in response to a program selection command from said listener"	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Go' command, discontinuing the reproduction of the currently playing audio program file and instead continuing the reproduction at the beginning of a listener-selected one of said audio program files in said collection." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 14, lines 25 to 26; column 14, lines 35 to 39; and column 34, line 19 to column 35, line 52. Specifically, this algorithm includes the following steps: (1) resetting the CurrentPlay variable to the record number of the listener-selected Selection_Record; and (2) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record.	'178 Patent: claims **1**, **6**, and **13**
"Wherein said processor responds to a skip forward program selection command accepted from said listener by discontinuing the reproduction of said currently playing audio program file and	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Skip' command, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence specified by said sequencing file." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the	'178 Patent: claim **6**

instead continuing the reproduction at the beginning of that audio program file which follows said currently audio program file in said ordered sequence specified by said sequencing file"	algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 25 to 29 and column 34, line 19 to column 35, line 35. Specifically, this algorithm includes the following steps: (1) scanning forward in the sequencing file to locate the next Selection_Record of the appropriate LocType; (2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record.	
"Wherein said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file"	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Back' command accepted at a time when said currently playing audio program file has played for at least a predetermined amount of time, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file." The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has played for a predetermined amount of time, resetting the playback position to the beginning of the audio program file; and (2) playing the audio program file from its beginning.	'178 Patent: claim **6**
"Wherein said processor responds to a skip backward program selection command accepted from said listener at a time when said currently playing audio program file has not yet played for said	This is a means-plus-function limitation. **Definition:** The **function** is "in response to a 'Back' command accepted at a time when said currently playing audio program file has not yet played for said predetermined amount of time, discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said sequencing file."	'178 Patent: claim **6**

predetermined amount of time for discontinuing the reproduction of the currently playing program segment and instead continuing the reproduction at the beginning of a program segment which precedes the currently playing program segment in said ordered sequence specified by said sequencing file"	The **structure** corresponding to the claimed function is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63 and column 34, line 19 to column 35, line 40. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has not yet played for said predetermined amount of time, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType; (2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the program segment identified by the ProgramID contained in the new Selection_Record.	
"Separately stored"	**Definition:** The playback session sequencing file is stored separately from the audio program files.	'178 Patent: claim **14**
"Playback session sequencing file"	**Definition:** A file of data that identifies the order in which audio program segments are to be played and that may contain information about the sequence of events that occur during playback.	'178 Patent: claim **14**
"A communications port for downloading"	**Definition:** A port for establishing a connection between the player and a network.	'178 Patent: claim **14**
"Downloading at least some of said audio program files and said playback session sequencing file from said one or more server computers"	**Definition:** Transferring at least some of said audio program files and said playback session sequencing file from the memory of one or more separate computers to the memory of the player upon a request by the player. "Request" means a communication to initiate the transfer.	'178 Patent: claim **14**
"A processor for executing one or more utility programs to perform control functions in response to said input commands	This is a means-plus-function limitation. **Definitions:** The **functions** are "(a) in response to a 'Go' command designating a selected audio program file described on said visual menu listing, causing said audio playback unit to discontinue the reproduction of the currently playing audio program file in said ordered sequence and to instead continue the	'178 Patent: claim **14**

from a user, said functions including: (a) in response to a first one of said input commands designating a selected audio program file described on said visual menu listing for causing said audio playback unit to discontinue the reproduction of the currently playing audio program file in said ordered sequence and to instead continue the reproduction at the beginning of said selected audio program file, (b) in response to a second one of said control commands for discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence specified by said playback session sequencing	reproduction at the beginning of said selected audio program file; (b) in response to a 'Skip' command, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of that audio program file which follows said currently playing audio program file in said ordered sequence; (c) in response to a 'Back' command accepted at a time when said currently playing audio program file has played for at least a predetermined amount of time, discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file; and (d) in response to a 'Back' command accepted at a time when said currently playing audio program file has not yet played for said predetermined amount of time, discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program file which precedes the currently playing program segment in said ordered sequence." The **structure** corresponding to function (a) is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 14, lines 25 to 26; column 14, lines 35 to 39; and column 34, line 19 to column 35, line 52. Specifically, this algorithm includes the following steps: (1) resetting the CurrentPlay variable to the record number of the user-selected Selection_Record; and (2) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record. The **structure** corresponding to function (b) is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 25 to 29 and column 34, line 19 to column 35, line 35. Specifically, this algorithm includes the following steps: (1) scanning forward in the sequencing file to locate the next Selection_Record of the appropriate LocType;	

file, (c) in response to a third one of said control commands accepted from said listener at a time when said currently playing audio program file has played for at least a predetermined amount of time by discontinuing the reproduction of said currently playing audio program file and instead continuing the reproduction at the beginning of said currently playing audio program file, and (d) in response to said third one of said control commands accepted from said listener at a time when said currently playing audio program file has not yet played for said predetermined amount of time for discontinuing the reproduction of the currently playing program file and instead continuing the reproduction at the beginning of that audio program	(2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record. The **structure** corresponding to function (c) is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has played for a predetermined amount of time, resetting the playback position to the beginning of the audio program file; and (2) playing the audio program file from its beginning. The **structure** corresponding to function (d) is the following structure and equivalents thereof: A general purpose computer programmed to perform the algorithm that is illustrated in the flow chart of Figure 3 at items 269 and 235 and more fully described at column 15, lines 53 to 63 and column 34, line 19 to column 35, line 40. Specifically, this algorithm includes the following steps: (1) if the currently playing audio program file has not yet played for said predetermined amount of time, scanning backward in the sequencing file to locate the previous Selection_Record of the appropriate LocType; (2) resetting the CurrentPlay variable to the record number of that Selection_Record; and (3) fetching and playing the audio program file identified by the ProgramID contained in the new Selection_Record.	

file which precedes the currently playing program segment in said ordered sequence specified by said playback session sequencing file”		