IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

NL GIKEN INC., Plaintiff, v. AMAZON.COM, INC., AMAZON.COM SERVICES LLC, AMAZON WEB SERVICES, INC., and TWITCH INTERACTIVE, INC., Defendants.	Case No. 1:24-cv-00028-MN

DEFENDANTS' INITIAL INVALIDITY CONTENTIONS

NL Giken Exhibit 2009
Amazon v. NL Giken
IPR2025-00050

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I. INTRODUCTION

Pursuant to Sections 6(d) of the Court's Scheduling Order dated June 18, 2024 (Dkt. 32), Defendants Amazon.com, Inc., Amazon.com Services LLC, and Amazon Web Services, Inc., (collectively, "Amazon") and Defendant Twitch Interactive, Inc. ("Twitch") (collectively, "Defendants") respectfully submit these initial invalidity contentions ("Initial Invalidity Contentions") with respect to the claims identified by Plaintiff NL Giken Inc. ("Giken") in its initial infringement contentions.

In its infringement contentions served October 4, 2024, Giken asserted claims 1-3, 5-8, and 10-12 of U.S. Patent No. 10,880,592 (the "'592 Patent"); claims 1-2, 4, 6, and 15 of U.S. Patent No. 8,094,236 (the "'236 Patent"); claims 1, 9-10, and 12-15 of U.S. Patent No. 8,677,391 (the "'391 Patent"); claims 4-6 and 8-14 of U.S. Patent No. 9,319,615 (the "'615 Patent"); and claims 1-12 of U.S. Patent No. 9,948,968 (the "'968 Patent") (collectively, the "Asserted Claims" and "the Asserted Patents"). Defendants contend that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 101, 102, 103, and/or 112. Defendants reserve the right to supplement these Initial Invalidity Contentions pursuant to the Federal Rules of Civil Procedure, the Court's Local Rules, and/or any other order or schedule entered by the Court.

II. PRELIMINARY STATEMENT AND RESERVATION OF RIGHTS

A. No Waiver.

Nothing in these Initial Invalidity Contentions is intended, nor should be construed, as a waiver of any claim construction argument, noninfringement position, or argument under 35 U.S.C. § 112. Defendants' statements herein (including the accompanying claim charts) reflect Defendants' present understanding of the purported scope of the claims as alleged by Giken in its infringement contentions (as best those contentions can be understood in light of their present deficiencies). *Bristol-Myers SquibbCo. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1378 (Fed. Cir.

2001) ("it is axiomatic that that which would literally infringe if later anticipates if earlier"). For the avoidance of doubt, these contentions are not intended to present or argue in favor of any construction of the Asserted Claims, and Defendants expressly reserve the right to present constructions that differ from any construction that may be alleged to underlie these contentions. The Court established separate deadlines for the parties' proposed claim constructions, and Defendants will disclose their proposed constructions accordingly. These Initial Invalidity Contentions do not constitute an acquiescence to Giken's interpretation of any claims to the extent they depart from the plain meaning of the Asserted Claims and from the proper scope of the claims as may be subsequently construed by the Court. Defendants disagree with Giken's apparent positions as to the purported scope of the Asserted Claims to the extent they seek to expand the scope of the Asserted Claims beyond their proper construction and to the extent those apparent positions can be understood from Giken's deficient infringement contentions.

The Asserted Claims have not yet been construed by the Court in this case and, thus, Defendants have not yet had the opportunity to compare the Asserted Claims of the Asserted Patents (as construed by the Court) with the prior art. Defendants reserve the right to amend, supplement, or materially modify its Initial Invalidity Contentions after the claims have been construed by the Court in this case. Defendants also reserve the right to amend, supplement, or materially modify their Initial Invalidity Contentions in response to any claim construction positions that Giken may take. Defendants also reserve the right to assert that a claim is indefinite, not enabled, or fails to meet the written description requirement of 35 U.S.C. § 112 based on any claim construction position Giken may take in this case or based on any claim construction the Court may adopt in this case.

B. No Admission.

Nothing disclosed herein is an admission or acknowledgement that any product accused

of infringement by Giken in its infringement contentions (the "Accused Products"), or any of Defendants' other products or services, infringes any of the Asserted Claims.

Defendants further note that Giken appears to rely upon overly broad constructions of the Asserted Claims. At the same time, Giken's infringement contentions are in most places too general and vague to discern Giken's infringement theories and how exactly Giken contends each Accused Product meets or practices each element of the Asserted Claims. As a result, Defendants have been prejudiced in their ability to prepare these Initial Invalidity Contentions. In addition, Giken's infringement contentions, in many cases, fail to put Defendants on notice of Giken's interpretation of the Asserted Claims, further prejudicing Defendants' ability to identify relevant prior art. In addition, Giken has not properly identified any theories of infringement under the doctrine of equivalents. Defendants have relied on Giken's apparent representation that it has no doctrine of equivalents theories in preparing these Initial Invalidity Contentions, and any attempt by Giken to present an untimely doctrine of equivalents argument would be severely prejudicial to Defendants. To the extent that Giken is later permitted by the Court to amend its contentions to cure the deficiencies of its current contentions or to pursue any currently undisclosed doctrine of equivalents theories, Defendants' expressly reserve the right to supplement or amend these Initial Invalidity Contentions to account for such amendments.

To the extent that any of the prior art references disclose the same functionality or feature of any of the Accused Products, Defendants reserve the right to argue that said feature or functionality does not practice any element of any of the Asserted Claims, and to argue, in the alternative, that if said feature or functionality is found to practice any element of any of the Asserted Claims, then the prior art reference demonstrates that the element is not novel, is obvious, and/or is otherwise not patentable.

Attached are representative claim charts that identify where the elements of the Asserted Claims of the Asserted Patents may be found in the prior art and further identify why those elements are not novel or non-obvious. The references cited in the attached claim charts may disclose the limitations of the Asserted Claims expressly and/or inherently. The suggested obviousness combinations may be presented in conjunction with or in the alternative to Defendants' contentions regarding anticipation. These obviousness combinations should not be construed to suggest that any reference included in any combination is not anticipatory in its own right. Further, to the extent that Giken contends that any of the references identified do not constitute available prior art under 35 U.S.C. § 102, Defendants reserve the right to rely upon other prior art references in the same patent family with substantially identical disclosures as evidence of invalidity based on the same theories as those disclosed below.

C. Reservation of Rights.

Prior art not currently included in this disclosure may become relevant. Defendants are currently unaware of the extent, if any, to which Giken will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendants. Defendants reserve the right to identify other references that would have made the addition of the allegedly missing limitation to the disclosed device or method obvious or show that the allegedly missing limitation would have been known or readily apparent to one of ordinary skill in the art at the time of the invention in light of the disclosure of the prior art at issue. Defendants further reserve the right to rely on any of the references being produced herewith in order to demonstrate the state of art at the alleged times of invention and as evidence of the knowledge of one of ordinary skill in the art in support of any motivations to modify or combine the charted prior art references with other references or knowledge.

Giken has not yet produced other prior art of which it may be aware but is not yet known

to Defendants. Defendants may seek to supplement their Initial Invalidity Contentions with prior art contained in such production once they have had a fair opportunity to review, analyze, and chart such prior art. Defendants reserve the right to amend their Initial Invalidity Contentions with any additional potential prior art known by Giken but not yet disclosed to Defendants.

Defendants provide these Initial Invalidity Contentions only for the claims asserted by Giken but reserve the right to seek invalidation of all claims in each of the Asserted Patents.

D. Ongoing Investigation.

Defendants' discovery and investigation in connection with this lawsuit are ongoing, including discovery from Giken. Thus, these Initial Invalidity Contentions are based on information obtained to date. Defendants expressly reserve the right to amend their disclosures and document production to account for evidence uncovered as their investigations continue. Such amendments include identifying and relying on additional references that may result from Defendants' further searches and analysis. Defendants reserve the right to supplement these contentions in light of any additional prior art of which Giken is aware and did not disclose to Defendants in discovery, or that might be subsequently disclosed by Giken in response to Defendants' discovery requests. Defendants anticipate issuing subpoenas to third parties believed to have knowledge, documentation and/or corroborating evidence concerning some of the prior art listed herein and/or additional prior art. These third parties include, but are not limited to, the authors, employers of authors, inventors, assignees, or former or current employees of assignees, of the references identified in these Initial Invalidity Contentions. For example, Defendants anticipate issuing subpoenas to potential prior artists including but not limited to individuals and entities responsible for the development of prior art systems. Defendants may also commission reverse engineering studies of certain product prior art identified herein. Discovery from these reverse engineering studies likely will reveal information that impacts the disclosures and

contentions herein. Defendants reserve the right to supplement these contentions in light of any newly discovered information produced by these third parties and reverse engineering studies from which Defendants may seek discovery.

III. ANTICIPATION AND OBVIOUSNESS (35 U.S.C. §§ 102 AND 103)

A. Legal Standard.

Under 35 U.S.C. § 102, "[a] patent is invalid for anticipation if a single prior art reference discloses each and every limitation of the claimed invention." *Schering Corp. v. Geneva Pharm., Inc.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003). A prior art reference may anticipate a claim limitation even though the limitation is "not expressly found in that reference." *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999); *Standard Havens Prod., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991) ("An anticipatory reference … need not duplicate word for word what is in the claims."). Instead, "[a]nticipation can occur when a claimed limitation is 'inherent' or otherwise implicit in the relevant reference." *Standard Havens*, 953 F.2d at 1369; *see also Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) ("[A] prior art reference may anticipate without disclosing a feature of the claimed invention if that missing characteristic is necessarily present, or inherent, in the single anticipating reference."). In addition, the prior art document "may incorporate subject matter by reference to another document such that the incorporated material becomes part of the host document for the purposes of anticipation." *Apple Inc. v. Int'l Trade Comm'n*, 725 F.3d 1356, 1362 (Fed. Cir. 2013).

Under 35 U.S.C. § 103, a patent may not issue "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." Pre-AIA 35 U.S.C. § 103(a). Thus, "[a]n invention which

has been made, and which is new in the sense that the same thing has not been made before, may still not be patentable if the difference between the new thing and what was known before is not considered sufficiently great to warrant a patent." *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966). Obviousness is a question of law based on underlying factual findings concerning: "(1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness," otherwise known as "secondary considerations." *Miles Labs., Inc. v. Shandon, Inc.*, 997 F.2d 870, 877 (Fed. Cir. 1993); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1339 (Fed. Cir. 2008).

To prove that a patent is obvious, a party must demonstrate "that a skilled artisan would have had reason to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so." *Eurand, Inc. v. Mylan Pharms. Inc.*, 676 F.3d 1063, 1069 (Fed. Cir. 2012); *see also KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 416 (2007) ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."). Although an analysis of any teaching, suggestion, or motivation to combine known elements might provide "helpful insight[s]," the overall obviousness inquiry must be "expansive and flexible." *KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 415 (2007) (rejecting "rigid and mandatory formulas" that "that deny factfinders recourse to common sense").

A reason to combine may be found explicitly or implicitly, in one or more of the following:

1. A person of ordinary skill in the art's knowledge or common sense;
2. The prior art references themselves;
3. The subject matter acknowledged as prior art in the asserted patent;

4. The interrelated teachings of multiple prior art references identified herein;

5. The nature of the problem to be purportedly solved by the asserted patent and the existence of similar improvements in similar applications;

6. Design incentives and other market forces, including the advantages of creating a superior and more desirable product and the effects of demands known to the design community or present in the marketplace;

7. The ability to implement the alleged invention as a predictable variation of the prior art;

8. Combining prior art elements according to known methods to yield predictable results;

9. Improvements in similar devices;

10. Applying a known technique to a known device (method or product) ready for improvement to yield predictable results;

11. Any needs or problems known in the field and purportedly addressed by the asserted patent, *i.e.*, "obvious to try";

12. The number of identified, predictable solutions to the problem(s) purportedly addressed by the asserted patent;

13. The simple substitution of one known elements for another to obtain predictable results; and

14. Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

See KSR Int'l Co., 550 U.S. at 416-418, 421. Defendants discuss certain of these reasons more specifically below and in the attached charts. The fact that other reasons are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of certain reasons.

Finally, the use of hindsight is not permitted when determining whether a claim would have been obvious to one having ordinary skill in the art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421, (2007) (cautioning against "the distortion caused by hindsight bias" and obviousness "arguments reliant upon *ex post* reasoning"). To protect against the improper use of hindsight

when assessing obviousness, a court is required to consider secondary considerations or objective indicia of non-obviousness. *Crocs, Inc. v. Int'l Trade Comm'n*, 598 F.3d 1294, 1310 (Fed. Cir. 2010). Secondary considerations of nonobviousness may include "commercial success, industry praise, unexpected results, copying, industry skepticism, licensing, and long-felt but unsolved need." *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012). To the extent Giken has offered in written discovery responses evidence they contend establishes non-obviousness, at a minimum, Giken has not identified nor established a nexus to the claimed systems or methods, and in particular, to the alleged inventive aspect of the asserted claims over the prior art. Discovery has just begun and Giken has not substantiated any of the alleged "evidence" identified thus far, and Defendants have not yet had the opportunity to obtain discovery on such alleged "evidence." Defendants reserves the right to challenge the alleged "evidence" Giken has offered in its written discovery responses, and any additional "evidence" identified in the future.

B. Prior Art that Anticipates and/or Renders Obvious Each Asserted Claim of the '592 Patent.

Defendants contend that the prior art references identified in Exhibits 592.A-F and/or described below anticipate and/or render obvious, alone or in combination, one or more of the Asserted Claims of the '592 Patent. Each prior art reference identified below is prior art under at least 35 U.S.C. § 102(a), (b), and/or (e) (pre-AIA).

1. Prior Art Patents and Published Patent Applications

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent App. Pub. No. 2005/0160465 ("Walker")	July 21, 2005
U.S. Patent App. Pub. No. 2002/0194619 ("Chang")	December 19, 2002
U.S. Patent App. Pub. No. 2008/0086743 ("Cheng")	April 10, 2008

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent App. Pub. No. 2004/0179811 ("Kikkawa")	September 16, 2004

2. Prior Art Products and Systems

Prior Art Products/Systems	Documentation	Date of Availability
Helius System	*See* Exhibit 592.E	by 2006
2NetFX	*See* Exhibit 592.F	by 2001

In addition to the products in the chart above, Defendants continues to investigate the identities of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that were made using the system recited by the asserted claims of the '592 Patent. Defendants will produce additional documents relating to the invalidity of the asserted claims by those products as they become available.

3. Claim Charts

Defendants have attached charts identifying prior art that anticipates and/or renders obvious each of the Asserted Claims of the '592 Patent in **Exhibits 592.A-F**, collectively referred to as the "'592 Patent Invalidity Charts."

For each Asserted Claim that is anticipated by a reference, the corresponding claim chart includes a citation to that reference for each limitation. While Defendants have identified at least one citation per limitation present in a reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Defendants cite only portions of identified references, even where a reference may contain additional support for a particular claim element. Persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature. Defendants reserve

the right to rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge, skill, or creativity of those skilled in the art. Where Defendants cite to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendants have provided exemplary combinations in Exhibits 592.A-F for specific claim limitations which identify exemplary secondary references and exemplary disclosures therefrom. Each prior art reference evidences teachings, suggestions, motivations, and/or other reasons to combine it with the other identified references in ways that render obvious all of the asserted claims of the ’592 Patent. In addition to any specific combinations of prior art disclosed using claim charts, Defendants reserve the right to rely on any combination of prior art references disclosed in these contentions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the ’592 Patent, Defendants reserve the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent in the art or obvious to a person of ordinary skill in the art, even if Defendants have not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

4. The ’592 Patent is Obvious Over the Prior Art.

In addition to the references cited on the face of the ’592 Patent, the admitted prior art in the specification of the ’592 Patent, and the prosecution history of the ’592 Patent, the prior art references identified in Exhibits 592.A-F and listed above disclose the elements of the Asserted Claims, either explicitly, inherently, or via an obviousness combination, and may also be relied upon to show the state of the art in the relevant timeframes.

In addition to the references listed in this section, Defendants also identify all of the exemplary prior art references listed above as relevant to the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art. Defendants reserve the right to supplement the Invalidity Contentions with additional charts for any of the references identified in Exhibits 592.A-F. Defendants further reserve the right to rely on the additional references, teachings, knowledge, or understandings identified or disclosed during fact or expert discovery in this case as evidence of the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art.

Defendants further incorporate by reference the prior art references related to the ’592 Patent, including those identified in any other proceeding involving the ’592 Patent or related U.S. or foreign patents. Defendants additionally incorporate by reference all prior art produced by or otherwise known by Giken, the named inventors, any past or current owner of the ’592 Patent, or any individual substantively involved in the prosecution of the ’592 Patent.

To the extent Giken argues that any limitation of the asserted claims of the ’592 Patent are not explicitly or inherently disclosed by an item of prior art identified above or in Exhibits 592.A-F, any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore,

render the relevant claims invalid as obvious under 35 U.S.C. § 103.

5. Illustrative Obviousness Combinations and Motivations to Combine or Modify References.

Defendants have provided illustrative examples of such invalidating combinations in the attached charts. To the extent any reference disclosed does not chart every aspect of an element, the references still render the Asserted Claims obvious because one of ordinary skill in the art would find that aspect obvious without the need to combine or modify such aspect of the element with, or in light of, other references.

Generally, motivation to combine any of the references for the ’592 Patent with other references exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art at the relevant time. One of ordinary skill in the art would have understood how to combine of modify the teachings of the prior art references referred to in these Initial Invalidity Contentions and would have been motivated to pursue such combinations for numerous reasons. For example, all references identified above and in Exhibits 592.A-F are analogous art because each of them is from the same field of endeavor as the claimed inventions of the ’592 Patent. *See, e.g.*, ’592 Patent, Abstract. One of ordinary skill in the art would have combined particular features of systems, apparatuses, and methods disclosed in certain of the prior art references with other prior art references that do not expressly disclose such particular features because, *e.g.*, (i) the teachings of the references are interrelated and cite each other, (ii) it would have been a simple substitution of particular features in one reference into the systems, methods, and/or processes of another reference, (iii) the nature of the problem alleged by the Asserted Patents made such combinations apparent and a matter of common sense, (iv) design incentives and other market forces would have made the advantages of such combinations clear, (v) such combinations would have been predictable variations of the prior art, (vi) such

combinations would have yielded predictable results, (vii) it would have been obvious to try such combinations, and (viii) such combinations would be within a finite number of identified, predictable solutions to the problem alleged by the Asserted Patents.

Should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, Defendants allege that there was a motivation to combine or modify one or more references listed above and identified in Exhibits 592.A-F, including the references in the '592 Patent Invalidity Charts, and, specifically, the illustrative obviousness combinations identified above. That motivation was provided in the nature of the problem allegedly solved by the '592 Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, one or more combinations of the prior art references in Exhibits 592.A-F would have been obvious because these references would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified in Exhibits 592.A-F, including the references in the '592 Patent Invalidity Charts, because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references listed above and identified in Exhibits 592.A-F includes the interrelated

teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art.

Moreover, Exhibits 592.A-F identify limitations that were well known in the prior art, as well as limitation-specific motivation to combine or modify. Defendants may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by Defendants address the same technical issues and suggest very similar solutions to those issues discussed in the ’592 Patent and generally known at the time of the alleged invention(s) claimed in the Asserted Claims.

C. Prior Art that Anticipates and/or Renders Obvious Each Asserted Claim of the ’236 Patent.

Defendants contend that the prior art references identified in Exhibits 236.A-B and/or described below anticipate and/or render obvious, alone or in combination, one or more of the Asserted Claims of the ’236 Patent. Each prior art reference identified below is prior art under at least 35 U.S.C. § 102(a), (b), and/or (e) (pre-AIA).

1. Prior Art Patents and Published Patent Applications

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent No. 7,143,428 (“Bruck”).	Nov. 28, 2006
U.S. Patent App. Pub. No. 2004/0231003 (“Cooper”).	Nov. 18 2004
U.S. Patent No. 8,611,258 (“Croak”).	Dec. 17, 2013

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent App. Pub. No. 2005/0262542 ("DeWeese").	Nov. 24, 2005
U.S. Patent App. Pub. No. 2006/0258289 ("Dua").	Nov. 16, 2006
U.S. Patent App. Pub. No. 2006/0221173 ("Duncan").	Oct. 5, 2006
U.S. Patent App. Pub. No. 2006/0271959 ("Jacoby").	Nov. 30, 2006
U.S. Patent No. 4,754,268 ("Mori").	Jun. 28, 1988
U.S. Patent App. Pub. No. 2002/0078442 ("Reyes").	Jun. 20, 2002
U.S. Patent App. Serial No. 09/475,391 ("Silva").	Jun. 30, 2001
WIPO Patent App. No. WO 01/50753 ("Silva II").	Jul. 12, 2001.
U.S. Patent App. Pub. No. 2007/0050822 ("Stevens").	Mar. 1, 2007
U.S. Patent No 7,669,213 ("Wick").	Feb. 23, 2010

2. Prior Art Products and Systems

Prior Art Products/Systems	Documentation	Date of Availability
TiVo Series2	*See* Exhibit 968.G	by 2003

In addition to the products in the chart above, Defendants continues to investigate the identities of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that were made using the system recited by the asserted claims of the '236 Patent. Defendants will produce additional documents relating to the invalidity of the asserted claims by those products as they become available.

3. Claim Charts

Defendants have attached charts identifying prior art that anticipates and/or renders obvious each of the Asserted Claims of the '236 Patent in **Exhibits 236.A-B**, collectively referred to as the "'236 Patent Invalidity Charts."

For each Asserted Claim that is anticipated by a reference, the corresponding claim chart includes a citation to that reference for each limitation. While Defendants have identified at least one citation per limitation present in a reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Defendants cite only portions of identified references, even where a reference may contain additional support for a particular claim element. Persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature. Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge, skill, or creativity of those skilled in the art. Where Defendants cite to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendants have provided exemplary combinations in Exhibits 236.A-B for specific claim limitations which identify exemplary secondary references and exemplary disclosures therefrom. Each prior art reference evidences teachings, suggestions, motivations, and/or other reasons to combine it with the other identified references in ways that render obvious all of the asserted claims of the ’236 Patent. In addition to any specific combinations of prior art disclosed using claim charts, Defendants reserve the right to rely on any combination of prior art

references disclosed in these contentions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the ’236 Patent, Defendants reserve the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent in the art or obvious to a person of ordinary skill in the art, even if Defendants have not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

4. The ’236 Patent is Obvious Over the Prior Art.

In addition to the references cited on the face of the ’236 Patent, the admitted prior art in the specification of the ’236 Patent, and the prosecution history of the ’236 Patent, the prior art references identified in Exhibits 236.A-B and listed above disclose the elements of the Asserted Claims, either explicitly, inherently, or via an obviousness combination, and may also be relied upon to show the state of the art in the relevant timeframes.

In addition to the references listed in this section, Defendants also identify all of the exemplary prior art references listed above as relevant to the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art. Defendants reserve the right to supplement the Invalidity Contentions with additional charts for any of the references identified in Exhibits 236.A-B. Defendants further reserve the right to rely on the additional references, teachings, knowledge, or understandings identified or disclosed during fact or expert discovery in this case as evidence of the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art.

Defendants further incorporate by reference the prior art references related to the ’236 Patent, including those identified in any other proceeding involving the ’236 Patent or related U.S. or foreign patents. Defendants additionally incorporate by reference all prior art produced

by or otherwise known by Giken, the named inventors, any past or current owner of the '236 Patent, or any individual substantively involved in the prosecution of the '236 Patent.

To the extent Giken argues that any limitation of the asserted claims of the '236 Patent are not explicitly or inherently disclosed by an item of prior art identified above or in Exhibits 236.A-B, any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore, render the relevant claims invalid as obvious under 35 U.S.C. § 103.

Moreover, Giken contends that one or more claims of the '236 patent read upon Amazon's "Watch Party" feature. If a fact finder were to accept this contention as true (which it is not), then the '236 patent's claims would be anticipated or rendered obvious by prior art references that disclose such functionality, including the prior art references and exemplary citations below.

1) U.S. Patent App. Pub. No. 2006/0271959 ("**Jacoby**"). *E.g.*, ¶¶ 52 ("shared viewing of content between a plurality of users, shared remote control functionality between a plurality of users, combinations thereof, shared remote and shared viewing with instant messaging between a plurality of users, etc."), 88 ("the synchronization of a given user with one or more buddies may result in the user and one or more buddies engaging in a "movie theater type viewing environment, wherein the user and one or more buddies view the same television show, movie, etc., at the same time while engaging in instant messaging or chat sessions"), Figs. 1, 5.

2) U.S. Patent App. Pub. No. 2006/0221173 ("**Duncan**"). *E.g.*, ¶¶ 3 ("allow the user to participate in a chat session which is related to the programme currently being viewed. Indeed, the chat room text can be displayed on the same television screen as the programme to which the chat relates"), 44 ("a user may participate in a service in which a group of users simultaneously view (or listen to) the same programmes and discuss them"), Fig. 4.

3) U.S. Patent App. Pub. No. 2004/0231003 ("**Cooper**"). *E.g.*, ¶¶ 55 ("Fig. 9 illustrates how a display can simultaneously present a television program and a chat room"), 56 ("when a user watching 'Gilligan's Island' selects the TV chat control, the server places the user in a 'Gilligan's Island' chat room 902 with other users viewing the show. The users can then share their comments on the show in real time by

submitting messages to the server for display in the chat room window."), 58 ("For example, if the user tunes from 'Love Boat' to 'Fantasy Island,' the user can be moved from the Love Boat chat room to the Fantasy Island chat room."). Figs. 8-10.

4) U.S. Patent No. 8,611,258 ("**Croak**"). *E.g.*, Abstract ("Specifically, a user can request the network to activate and display a video session, such as a movie. The user can invite one or more other users to participate in the video session. As other users accept to participate in the video session, the network can activate another session that enables the participants to communicate with each other via instant messages."), 8;14-16 ("Subscribers 331 and 332 can communicate via the established IM sessions using data flows 361 and 363 while watching the same streaming video contents."), Figs. 3-4.

5) U.S. Patent App. Pub. No. 2005/0262542 ("**DeWeese**"). *E.g.*, ¶¶ 93 ("Television program 202 may be displayed in region 203 of display screen 200, while a chat room region 206 may be displayed simultaneously in the lower portion of display screen 200."), 94-96, 97 ("The divided nature of screen 200 allows users to simultaneously watch a television program and send real time communications to other users who are viewing the same program at the same time. In this way, chat room 206 is directly linked to the on-going actions in program 202 in that a user can send and receive comments about the content of the program as it unfolds on his television screen."), 150 ("allows the user to participate in the chat group and to view the television program that is the subject of the chat simultaneously"), Figs. 9, 20-24, ¶ 139.

6) U.S. Patent App. Pub. No. 2007/0050822 ("**Stevens**"). *E.g.*, Abstract ("transporting signals associated with common content to a group of subscribers such that each member of the group receives the same content and establishing the shared community experience between members of the group by providing communications between on or more members of the group during playback of the content"), ¶¶ 32 ("Any number of subscribers may create their own community groups and invite any number of other subscribers to join the group"), 36, 37 ("text messages from other members of the group are displayed in a pop-up window or other feature displayed in the televisions 40-46;" "[i]dentifiers and other features may be included to identify the users in the window and the text messages associated therewith, similar to an instant messaging arrangement"), 45 ("join a 'TV-Together' group;" "selected participants may tune (or are automatically tuned by the group leader) to a common television channel and are connected (preferably through the set-top box) in a multi-way audio conference call."), 46, Figs. 1-2.

7) U.S. Patent No. 7,143,428 ("**Bruck**"). *E.g.*, Abstract ("The system has a user-selectable chat option in which the viewer can enter text messages that will be displayed to other viewers of the video signal who have also selected the chat option."), 7:44-46 ("Chat user interface 110 also includes a video region 118 for display of a video signal, i.e., a television program which the user was viewing prior to entry of the chat room."), 8:4-6 ("In the interface of FIG. 8, chat region 108 is smaller and is positioned at the top of the interface, with video region 118 being located at the bottom."), 7:17-11:14, Figs. 5-14.

To the extent Giken contends otherwise, the claims of the ’236 patent recite, at most, a specific, narrow implementation of a well-known concept, which implementation is one of many possible implementations and which implementation Amazon does not practice.

5. Illustrative Obviousness Combinations and Motivations to Combine or Modify References

Defendants have provided illustrative examples of such invalidating combinations in the attached charts. To the extent any reference disclosed does not chart every aspect of an element, the references still render the Asserted Claims obvious because one of ordinary skill in the art would find that aspect obvious without the need to combine or modify such aspect of the element with, or in light of, other references.

Generally, motivation to combine any of the references for the ’236 Patent with other references exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art at the relevant time. One of ordinary skill in the art would have understood how to combine of modify the teachings of the prior art references referred to in these Initial Invalidity Contentions and would have been motivated to pursue such combinations for numerous reasons. For example, all references identified above and in Exhibits 236.A-B are analogous art because each of them is from the same field of endeavor as the claimed inventions of the ’236 Patent. *See, e.g.*, ’236 Patent, Abstract. One of ordinary skill in the art would have combined particular features of systems, apparatuses, and methods disclosed in certain of the prior art references with other prior art references that do not expressly disclose such particular features because, *e.g.*, (i) the teachings of the references are interrelated and cite each other, (ii) it would have been a simple substitution of particular features in one reference into the systems, methods, and/or processes of another reference, (iii) the nature of the problem alleged by the Asserted Patents made such combinations apparent and a matter of common sense, (iv) design

incentives and other market forces would have made the advantages of such combinations clear, (v) such combinations would have been predictable variations of the prior art, (vi) such combinations would have yielded predictable results, (vii) it would have been obvious to try such combinations, and (viii) such combinations would be within a finite number of identified, predictable solutions to the problem alleged by the Asserted Patents.

Should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, Defendants allege that there was a motivation to combine or modify one or more references listed above and identified in Exhibits 236.A-B, including the references in the '236 Patent Invalidity Charts, and, specifically, the illustrative obviousness combinations identified above. That motivation was provided in the nature of the problem allegedly solved by the '236 Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, one or more combinations of the prior art references in Exhibits 236.A-B would have been obvious because these references would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified in Exhibits 236.A-B, including the references in the '236 Patent Invalidity Charts, because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references listed above and identified in Exhibits 236.A-B includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art.

Moreover, Exhibits 236.A-B identify limitations that were well known in the prior art, as well as limitation-specific motivation to combine or modify. Defendants may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by Defendants address the same technical issues and suggest very similar solutions to those issues discussed in the ’236 Patent and generally known at the time of the alleged invention(s) claimed in the Asserted Claims.

D. Prior Art that Anticipates and/or Renders Obvious Each Asserted Claim of the ’391 Patent.

Defendants contend that the prior art references identified in Exhibits 391.A-D and/or described below anticipate and/or render obvious, alone or in combination, one or more of the Asserted Claims of the ’391 Patent. Each prior art reference identified below is prior art under at least 35 U.S.C. § 102(a), (b), and/or (e) (pre-AIA).

1. Prior Art Patents and Published Patent Applications

Prior Art Patents and Published Applications	Issue/Publication Date
Japanese Patent App. Pub. No. 2003158721 ("Hisamune")	May 30, 2003
U.S. Patent App. Pub. No. 2006/0053049 ("Nolan")	March 9, 2006
U.S. Patent App. Pub. No. 2007/0288951 ("Ray")	December 13, 2007

2. Prior Art Products and Systems

Prior Art Products/Systems	Documentation	Date of Availability
Massive, Inc.	*See* Exhibit 391.D	2004
Lord of the Rings: Return of the King	*See* Exhibit 391.D	2003
SWAT 4	*See* Exhibit 391.D	2005

In addition to the products in the chart above, Defendants continues to investigate the identities of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that were made using the system recited by the asserted claims of the '391 Patent. Defendants will produce additional documents relating to the invalidity of the asserted claims by those products as they become available.

3. Claim Charts

Defendants have attached charts identifying prior art that anticipates and/or renders obvious each of the Asserted Claims of the '391 Patent in **Exhibits 391.A-D**, collectively referred to as the "'391 Patent Invalidity Charts."

For each Asserted Claim that is anticipated by a reference, the corresponding claim chart includes a citation to that reference for each limitation. While Defendants have identified at least one citation per limitation present in a reference, each and every disclosure of the same limitation

in the same reference is not necessarily identified. In an effort to focus the issues, Defendants cite only portions of identified references, even where a reference may contain additional support for a particular claim element. Persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature. Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge, skill, or creativity of those skilled in the art. Where Defendants cite to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendants have provided exemplary combinations in Exhibits 391.A-D for specific claim limitations which identify exemplary secondary references and exemplary disclosures therefrom. Each prior art reference evidences teachings, suggestions, motivations, and/or other reasons to combine it with the other identified references in ways that render obvious all of the asserted claims of the ’391 Patent. In addition to any specific combinations of prior art disclosed using claim charts, Defendants reserve the right to rely on any combination of prior art references disclosed in these contentions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the ’391 Patent, Defendants reserve the right to

argue that any difference between that prior art and the corresponding patent claim would have been either inherent in the art or obvious to a person of ordinary skill in the art, even if Defendants have not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

4. The '391 Patent is Obvious Over the Prior Art.

In addition to the references cited on the face of the '391 Patent, the admitted prior art in the specification of the '391 Patent, and the prosecution history of the '391 Patent, the prior art references identified in Exhibits 391.A-D and listed above disclose the elements of the Asserted Claims, either explicitly, inherently, or via an obviousness combination, and may also be relied upon to show the state of the art in the relevant timeframes.

In addition to the references listed in this section, Defendants also identify all of the exemplary prior art references listed above as relevant to the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art. Defendants reserve the right to supplement the Invalidity Contentions with additional charts for any of the references identified in Exhibits 391.A-D. Defendants further reserve the right to rely on the additional references, teachings, knowledge, or understandings identified or disclosed during fact or expert discovery in this case as evidence of the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art.

Defendants further incorporate by reference the prior art references related to the '391 Patent, including those identified in any other proceeding involving the '391 Patent or related U.S. or foreign patents. Defendants additionally incorporate by reference all prior art produced by or otherwise known by Giken, the named inventors, any past or current owner of the '391 Patent, or any individual substantively involved in the prosecution of the '391 Patent.

To the extent Giken argues that any limitation of the asserted claims of the '391 Patent

are not explicitly or inherently disclosed by an item of prior art identified above or in Exhibits 391.A-D, any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore, render the relevant claims invalid as obvious under 35 U.S.C. § 103.

5. Illustrative Obviousness Combinations and Motivations to Combine or Modify References.

Defendants have provided illustrative examples of such invalidating combinations in the attached charts. To the extent any reference disclosed does not chart every aspect of an element, the references still render the Asserted Claims obvious because one of ordinary skill in the art would find that aspect obvious without the need to combine or modify such aspect of the element with, or in light of, other references.

Generally, motivation to combine any of the references for the ’391 Patent with other references exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art at the relevant time. One of ordinary skill in the art would have understood how to combine of modify the teachings of the prior art references referred to in these Initial Invalidity Contentions and would have been motivated to pursue such combinations for numerous reasons. For example, all references identified above and in Exhibits 391.A-D are analogous art because each of them is from the same field of endeavor as the claimed inventions of the ’391 Patent. *See, e.g.*, ’391 Patent, Abstract. One of ordinary skill in the art would have combined particular features of systems, apparatuses, and methods disclosed in certain of the prior art references with other prior art references that do not expressly disclose such particular features because, *e.g.*, (i) the teachings of the references are interrelated and cite each other, (ii) it would have been a simple substitution of particular features in one reference into the systems,

methods, and/or processes of another reference, (iii) the nature of the problem alleged by the Asserted Patents made such combinations apparent and a matter of common sense, (iv) design incentives and other market forces would have made the advantages of such combinations clear, (v) such combinations would have been predictable variations of the prior art, (vi) such combinations would have yielded predictable results, (vii) it would have been obvious to try such combinations, and (viii) such combinations would be within a finite number of identified, predictable solutions to the problem alleged by the Asserted Patents.

Should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, Defendants allege that there was a motivation to combine or modify one or more references listed above and identified in Exhibits 391.A-D, including the references in the '391 Patent Invalidity Charts, and, specifically, the illustrative obviousness combinations identified above. That motivation was provided in the nature of the problem allegedly solved by the '391 Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, one or more combinations of the prior art references in Exhibits 391.A-D would have been obvious because these references would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified in Exhibits 391.A-D, including the references in the '391 Patent Invalidity Charts, because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art

references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references listed above and identified in Exhibits 391.A-D includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art.

Moreover, Exhibits 391.A-D identify limitations that were well known in the prior art, as well as limitation-specific motivation to combine or modify. Defendants may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by Defendants address the same technical issues and suggest very similar solutions to those issues discussed in the ’391 Patent and generally known at the time of the alleged invention(s) claimed in the Asserted Claims.

E. Prior Art that Anticipates and/or Renders Obvious Each Asserted Claim of the ’615 Patent.

Defendants contend that the prior art references identified in Exhibits 615.A-B and/or described below anticipate and/or render obvious, alone or in combination, one or more of the Asserted Claims of the ’615 Patent. Each prior art reference identified below is prior art under at least 35 U.S.C. § 102(a), (b), and/or (e) (pre-AIA).

1. Prior Art Patents and Published Patent Applications

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent No. 7,143,428 ("Bruck").	Nov. 28, 2006
U.S. Patent App. Pub. No. 2004/0231003 ("Cooper").	Nov. 18 2004
U.S. Patent No. 8,611,258 ("Croak").	Dec. 17, 2013
U.S. Patent App. Pub. No. 2005/0262542 ("DeWeese").	Nov. 24, 2005
U.S. Patent App. Pub. No. 2006/0221173 ("Duncan").	Oct. 5, 2006
U.S. Provisional Patent App. Ser. No. 60/138,868 ("Herrington").	Nov. 24, 2005
U.S. Patent App. Pub. No. 2005/0130613 ("Kutsuna").	Jun. 16, 2005
U.S. Patent App. Pub. No. 2006/0271959 ("Jacoby").	Nov. 30, 2006
U.S. Patent No. 4,754,268 ("Mori").	Jun. 28, 1988
U.S. Patent App. Pub. No. 2001/0055951 ("Slotznick").	Dec. 27, 2001
U.S. Patent App. Pub. No. 2007/0050822 ("Stevens").	Mar. 1, 2007
U.S. Patent App. Pub. No. 2005/0160465 ("Walker").	Jul. 21, 2005

2. Prior Art Products and Systems

Prior Art Products/Systems	Documentation	Date of Availability
TiVo Series2	*See* Exhibit 968.G	by 2003.

In addition to the products in the chart above, Defendants continues to investigate the identities of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that were made using the system recited by the asserted claims of the '615 Patent. Defendants will produce additional documents relating to the invalidity of the asserted claims by those products as they become available.

3. Claim Charts

Defendants have attached charts identifying prior art that anticipates and/or renders obvious each of the Asserted Claims of the ’615 Patent in **Exhibits 615.A-B**, collectively referred to as the “’615 Patent Invalidity Charts.”

For each Asserted Claim that is anticipated by a reference, the corresponding claim chart includes a citation to that reference for each limitation. While Defendants have identified at least one citation per limitation present in a reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Defendants cite only portions of identified references, even where a reference may contain additional support for a particular claim element. Persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature. Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge, skill, or creativity of those skilled in the art. Where Defendants cite to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendants have provided exemplary combinations in Exhibits 615.A-B for specific claim limitations which identify exemplary secondary references and exemplary disclosures therefrom. Each prior art reference evidences teachings, suggestions, motivations, and/or other

reasons to combine it with the other identified references in ways that render obvious all of the asserted claims of the ’615 Patent. In addition to any specific combinations of prior art disclosed using claim charts, Defendants reserve the right to rely on any combination of prior art references disclosed in these contentions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the ’615 Patent, Defendants reserve the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent in the art or obvious to a person of ordinary skill in the art, even if Defendants have not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

4. The ’615 Patent is Obvious Over the Prior Art.

In addition to the references cited on the face of the ’615 Patent, the admitted prior art in the specification of the ’615 Patent, and the prosecution history of the ’615 Patent, the prior art references identified in Exhibits 615.A-B and listed above disclose the elements of the Asserted Claims, either explicitly, inherently, or via an obviousness combination, and may also be relied upon to show the state of the art in the relevant timeframes.

In addition to the references listed in this section, Defendants also identify all of the exemplary prior art references listed above as relevant to the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art. Defendants reserve the right to supplement the Invalidity Contentions with additional charts for any of the references identified in Exhibits 615.A-B. Defendants further reserve the right to rely on the additional references, teachings, knowledge, or understandings identified or disclosed during fact or expert discovery in this case as evidence of the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art.

Defendants further incorporate by reference the prior art references related to the '615 Patent, including those identified in any other proceeding involving the '615 Patent or related U.S. or foreign patents. Defendants additionally incorporate by reference all prior art produced by or otherwise known by Giken, the named inventors, any past or current owner of the '615 Patent, or any individual substantively involved in the prosecution of the '615 Patent.

To the extent Giken argues that any limitation of the asserted claims of the '615 Patent are not explicitly or inherently disclosed by an item of prior art identified above or in Exhibits 615.A-B, any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore, render the relevant claims invalid as obvious under 35 U.S.C. § 103.

Moreover, Giken contends that one or more claims of the '615 patent read upon Amazon's "Watch Party" feature. If a fact finder were to accept this contention as true (which it is not), then the '615 patent's claims would be anticipated or rendered obvious by prior art references that disclose such functionality, including the prior art references and exemplary citations below.

1) U.S. Patent App. Pub. No. 2006/0271959 ("**Jacoby**"). *E.g.*, ¶¶ 52 ("shared viewing of content between a plurality of users, shared remote control functionality between a plurality of users, combinations thereof, shared remote and shared viewing with instant messaging between a plurality of users, etc."), 88 ("the synchronization of a given user with one or more buddies may result in the user and one or more buddies engaging in a "movie theater type viewing environment, wherein the user and one or more buddies view the same television show, movie, etc., at the same time while engaging in instant messaging or chat sessions"), Figs. 1, 5.

2) U.S. Patent App. Pub. No. 2006/0221173 ("**Duncan**"). *E.g.*, ¶¶ 3 ("allow the user to participate in a chat session which is related to the programme currently being viewed. Indeed, the chat room text can be displayed on the same television screen as the programme to which the chat relates"), 44 ("a user may participate in a service in which a group of users simultaneously view (or listen to) the same programmes and discuss them"), Fig. 4.

3) U.S. Patent App. Pub. No. 2004/0231003 ("**Cooper**"). *E.g.*, ¶¶ 55 ("Fig. 9 illustrates how a display can simultaneously present a television program and a chat room"), 56 ("when a user watching 'Gilligan's Island' selects the TV chat control, the server places the user in a 'Gilligan's Island' chat room 902 with other users viewing the show. The users can then share their comments on the show in real time by submitting messages to the server for display in the chat room window."), 58 ("For example, if the user tunes from 'Love Boat' to 'Fantasy Island,' the user can be moved from the Love Boat chat room to the Fantasy Island chat room."). Figs. 8-10.

4) U.S. Patent No. 8,611,258 ("**Croak**"). *E.g.*, Abstract ("Specifically, a user can request the network to activate and display a video session, such as a movie. The user can invite one or more other users to participate in the video session. As other users accept to participate in the video session, the network can activate another session that enables the participants to communicate with each other via instant messages."), 8;14-16 ("Subscribers 331 and 332 can communicate via the established IM sessions using data flows 361 and 363 while watching the same streaming video contents."), Figs. 3-4.

5) U.S. Patent App. Pub. No. 2005/0262542 ("**DeWeese**"). *E.g.*, ¶¶ 93 ("Television program 202 may be displayed in region 203 of display screen 200, while a chat room region 206 may be displayed simultaneously in the lower portion of display screen 200."), 94-96, 97 ("The divided nature of screen 200 allows users to simultaneously watch a television program and send real time communications to other users who are viewing the same program at the same time. In this way, chat room 206 is directly linked to the on-going actions in program 202 in that a user can send and receive comments about the content of the program as it unfolds on his television screen."), 150 ("allows the user to participate in the chat group and to view the television program that is the subject of the chat simultaneously"), Figs. 9, 20-24, ¶ 139.

6) U.S. Patent App. Pub. No. 2007/0050822 ("**Stevens**"). *E.g.*, Abstract ("transporting signals associated with common content to a group of subscribers such that each member of the group receives the same content and establishing the shared community experience between members of the group by providing communications between on or more members of the group during playback of the content"), ¶¶ 32 ("Any number of subscribers may create their own community groups and invite any number of other subscribers to join the group"), 36, 37 ("text messages from other members of the group are displayed in a pop-up window or other feature displayed in the televisions 40-46;" "[i]dentifiers and other features may be included to identify the users in the window and the text messages associated therewith, similar to an instant messaging arrangement"), 45 ("join a 'TV-Together' group;" "selected participants may tune (or are automatically tuned by the group leader) to a common television channel and are connected (preferably through the set-top box) in a multi-way audio conference call."), 46, Figs. 1-2.

7) U.S. Patent No. 7,143,428 ("**Bruck**"). *E.g.*, Abstract ("The system has a user-selectable chat option in which the viewer can enter text messages that will be

displayed to other viewers of the video signal who have also selected the chat option."), 7:44-46 ("Chat user interface 110 also includes a video region 118 for display of a video signal, i.e., a television program which the user was viewing prior to entry of the chat room."), 8:4-6 ("In the interface of FIG. 8, chat region 108 is smaller and is positioned at the top of the interface, with video region 118 being located at the bottom."), 7:17-11:14, Figs. 5-14.

To the extent Giken contends otherwise, the claims of the '615 patent recite, at most, a specific, narrow implementation of a well-known concept, which implementation is one of many possible implementations and which implementation Amazon does not practice.

5. Illustrative Obviousness Combinations and Motivations to Combine or Modify References.

Defendants have provided illustrative examples of such invalidating combinations in the attached charts. To the extent any reference disclosed does not chart every aspect of an element, the references still render the Asserted Claims obvious because one of ordinary skill in the art would find that aspect obvious without the need to combine or modify such aspect of the element with, or in light of, other references.

Generally, motivation to combine any of the references for the '615 Patent with other references exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art at the relevant time. One of ordinary skill in the art would have understood how to combine of modify the teachings of the prior art references referred to in these Initial Invalidity Contentions and would have been motivated to pursue such combinations for numerous reasons. For example, all references identified above and in Exhibits 615.A-B are analogous art because each of them is from the same field of endeavor as the claimed inventions of the '615 Patent. *See, e.g.*, '615 Patent, Abstract. One of ordinary skill in the art would have combined particular features of systems, apparatuses, and methods disclosed in certain of the prior art references with other prior art references that do not expressly disclose such particular features because, *e.g.*, (i) the teachings of the references are interrelated and cite each other, (ii) it

would have been a simple substitution of particular features in one reference into the systems, methods, and/or processes of another reference, (iii) the nature of the problem alleged by the Asserted Patents made such combinations apparent and a matter of common sense, (iv) design incentives and other market forces would have made the advantages of such combinations clear, (v) such combinations would have been predictable variations of the prior art, (vi) such combinations would have yielded predictable results, (vii) it would have been obvious to try such combinations, and (viii) such combinations would be within a finite number of identified, predictable solutions to the problem alleged by the Asserted Patents.

Should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, Defendants allege that there was a motivation to combine or modify one or more references listed above and identified in Exhibits 615.A-B, including the references in the '615 Patent Invalidity Charts, and, specifically, the illustrative obviousness combinations identified above. That motivation was provided in the nature of the problem allegedly solved by the '615 Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, one or more combinations of the prior art references in Exhibits 615.A-B would have been obvious because these references would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified in Exhibits 615.A-B, including the references in the '615 Patent Invalidity Charts, because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market

forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references listed above and identified in Exhibits 615.A-B includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art.

Moreover, Exhibits 615.A-B identify limitations that were well known in the prior art, as well as limitation-specific motivation to combine or modify. Defendants may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by Defendants address the same technical issues and suggest very similar solutions to those issues discussed in the ’615 Patent and generally known at the time of the alleged invention(s) claimed in the Asserted Claims.

F. Prior Art that Anticipates and/or Renders Obvious Each Asserted Claim of the ’968 Patent.

Defendants contend that the prior art references identified in Exhibits 968.A-G and/or described below anticipate and/or render obvious, alone or in combination, one or more of the Asserted Claims of the ’968 Patent. Each prior art reference identified below is prior art under at least 35 U.S.C. § 102(a), (b), and/or (e) (pre-AIA).

1. Prior Art Patents and Published Patent Applications

Prior Art Patents and Published Applications	Issue/Publication Date
U.S. Patent App. Pub. No. 2007/0157249 ("Cordray").	Jul. 5, 2007
U.S. Patent App. Pub. No. 2008/0155615 ("Craner").	Jun. 26, 2008
U.S. Patent No. 7,929,551 ("Dietrich").	Apr. 19, 2011
U.S. Patent No. 8,365,235 ("Hunt").	Jan. 29, 2013
U.S. Patent App. Pub. No. 2008/0025693 ("Lee").	Jan. 31, 2008
U.S. Patent App. Pub. No. 2005/0097623 ("Tecot").	May 5, 2005
U.S. Pat. App. Pub. No. 2005/0160465 ("Walker").	Jul. 21, 2005

2. Prior Art Products and Systems

Prior Art Products/Systems	Documentation	Date of Availability
Apple iPod	*See* Exhibit 968.F	by 2003
TiVo Series2	*See* Exhibit 968.G	by 2007

In addition to the products in the chart above, Defendants continues to investigate the identities of the individuals or entities involved in the first sale, offer for sale, or public use of prior art products that were made using the system recited by the asserted claims of the '968 Patent. Defendants will produce additional documents relating to the invalidity of the asserted claims by those products as they become available.

3. Claim Charts

Defendants have attached charts identifying prior art that anticipates and/or renders obvious each of the Asserted Claims of the '968 Patent in **Exhibits 968.A-G**, collectively referred to as the "'968 Patent Invalidity Charts."

For each Asserted Claim that is anticipated by a reference, the corresponding claim chart

includes a citation to that reference for each limitation. While Defendants have identified at least one citation per limitation present in a reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Defendants cite only portions of identified references, even where a reference may contain additional support for a particular claim element. Persons of ordinary skill in the art generally read a prior art reference as a whole and in the context of other publications and literature. Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony to provide context and as aids to understanding and interpreting the portions that are cited. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge, skill, or creativity of those skilled in the art. Where Defendants cite to a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure in addition to the figure itself. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendants have provided exemplary combinations in Exhibits 968.A-G for specific claim limitations which identify exemplary secondary references and exemplary disclosures therefrom. Each prior art reference evidences teachings, suggestions, motivations, and/or other reasons to combine it with the other identified references in ways that render obvious all of the asserted claims of the ’968 Patent. In addition to any specific combinations of prior art disclosed using claim charts, Defendants reserve the right to rely on any combination of prior art references disclosed in these contentions.

To the extent any item of prior art cited above is deemed not to disclose, explicitly or inherently, any limitation of an asserted claim of the ’968 Patent, Defendants reserve the right to argue that any difference between that prior art and the corresponding patent claim would have been either inherent in the art or obvious to a person of ordinary skill in the art, even if Defendants have not specifically denoted that the art is to be combined with the knowledge of a person of ordinary skill in the art.

4. The ’968 Patent is Obvious Over the Prior Art.

In addition to the references cited on the face of the ’968 Patent, the admitted prior art in the specification of the ’968 Patent, and the prosecution history of the ’968 Patent, the prior art references identified in Exhibits 968.A-G and listed above disclose the elements of the Asserted Claims, either explicitly, inherently, or via an obviousness combination, and may also be relied upon to show the state of the art in the relevant timeframes.

In addition to the references listed in this section, Defendants also identify all of the exemplary prior art references listed above as relevant to the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art. Defendants reserve the right to supplement the Invalidity Contentions with additional charts for any of the references identified in Exhibits 968.A-G. Defendants further reserve the right to rely on the additional references, teachings, knowledge, or understandings identified or disclosed during fact or expert discovery in this case as evidence of the knowledge, understandings, creativity, or skill of the person having ordinary skill in the art.

Defendants further incorporate by reference the prior art references related to the ’968 Patent, including those identified in any other proceeding involving the ’968 Patent or related U.S. or foreign patents. Defendants additionally incorporate by reference all prior art produced by or otherwise known by Giken, the named inventors, any past or current owner of the ’968

Patent, or any individual substantively involved in the prosecution of the ’968 Patent.

To the extent Giken argues that any limitation of the asserted claims of the ’968 Patent are not explicitly or inherently disclosed by an item of prior art identified above or in Exhibits 968.A-G, any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. The item of prior art would, therefore, render the relevant claims invalid as obvious under 35 U.S.C. § 103.

5. Illustrative Obviousness Combinations and Motivations to Combine or Modify References.

Defendants have provided illustrative examples of such invalidating combinations in the attached charts. To the extent any reference disclosed does not chart every aspect of an element, the references still render the Asserted Claims obvious because one of ordinary skill in the art would find that aspect obvious without the need to combine or modify such aspect of the element with, or in light of, other references.

Generally, motivation to combine any of the references for the ’968 Patent with other references exists within the references themselves, as well as within the knowledge of those of ordinary skill in the art at the relevant time. One of ordinary skill in the art would have understood how to combine of modify the teachings of the prior art references referred to in these Initial Invalidity Contentions and would have been motivated to pursue such combinations for numerous reasons. For example, all references identified above and in Exhibits 968.A-G are analogous art because each of them is from the same field of endeavor as the claimed inventions of the ’968 Patent. *See, e.g.*, ’968 Patent, Abstract. One of ordinary skill in the art would have combined particular features of systems, apparatuses, and methods disclosed in certain of the prior art references with other prior art references that do not expressly disclose such particular

features because, *e.g.*, (i) the teachings of the references are interrelated and cite each other, (ii) it would have been a simple substitution of particular features in one reference into the systems, methods, and/or processes of another reference, (iii) the nature of the problem alleged by the Asserted Patents made such combinations apparent and a matter of common sense, (iv) design incentives and other market forces would have made the advantages of such combinations clear, (v) such combinations would have been predictable variations of the prior art, (vi) such combinations would have yielded predictable results, (vii) it would have been obvious to try such combinations, and (viii) such combinations would be within a finite number of identified, predictable solutions to the problem alleged by the Asserted Patents.

Should additional evidence of motivation to combine or modify be required to render the Asserted Claims obvious, Defendants allege that there was a motivation to combine or modify one or more references listed above and identified in Exhibits 968.A-G, including the references in the ’968 Patent Invalidity Charts, and, specifically, the illustrative obviousness combinations identified above. That motivation was provided in the nature of the problem allegedly solved by the ’968 Patent, the teachings of the cited prior art itself, and/or the knowledge of a person of ordinary skill in the art. For example, one or more combinations of the prior art references in Exhibits 968.A-G would have been obvious because these references would have been combined or modified using: known methods to yield predictable results; common sense; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining or modifying the prior art references identified in Exhibits 968.A-G, including the references in the ’968 Patent Invalidity Charts, because there were only a finite number of predictable solutions and/or because known work in

one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. In addition, the combination of the prior art references would have been obvious because the combination represents known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine or modify the prior art references listed above and identified in Exhibits 968.A-G includes the interrelated teachings of multiple prior art references; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge, skill, or creativity that would have been possessed by a person having ordinary skill in the art.

Moreover, Exhibits 968.A-G identify limitations that were well known in the prior art, as well as limitation-specific motivation to combine or modify. Defendants may rely on uncited portions of the prior art references cited and produced, other publications and testimony, and the testimony of experts to establish that a person of ordinary skill in the art would have been motivated to modify or combine certain of the cited references so as to render the claims obvious. References identified by Defendants address the same technical issues and suggest very similar solutions to those issues discussed in the ’968 Patent and generally known at the time of the alleged invention(s) claimed in the Asserted Claims.

IV. INVALIDITY UNDER 35 U.S.C. § 112

A. Lack of Written Description and Enablement Under 35 U.S.C. § 112(a).

Section 112 requires that a patent “contain a written description of … the manner and process of making and using [the invention] in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly

connected, to make and use the same." 35 U.S.C. § 112(a). A patent is invalid if the written description does not "describe the invention sufficiently to convey to a person of skill in the art that the patentee had possession of the claimed invention at the time of the application, *i.e.*, that the patentee invented what is claimed." *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005); *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008) (same). "[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). "Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed." *Id.* The specification provides inadequate support where it "fail[s] to demonstrate that the patentee possessed the *full scope* of the invention recited in [the claim] … ." *LizardTech*, 424 F.3d at 1345 (emphasis added). "The level of detail required to satisfy the written description requirement depends, in large part, on the nature of the claims and the complexity of the technology. *Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1285 (Fed. Cir. 2012). But a "mere wish or plan" for obtaining the alleged invention does not satisfy the written description requirement. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1344 (Fed. Cir. 2013). Put another way, "a description that merely renders the invention obvious does not satisfy the requirement." *Ariad*, 598 F.3d at 1351. Instead, "all the limitations must appear in the specification." *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). Defendants contend that, at least under Giken's actual and/or apparent application of the claims, the specifications of at least one or more of the Asserted Patents do not include a sufficient written description supporting the claims.

Section 112 likewise requires that the specification "enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the" alleged invention. 35 U.S.C. § 112(a). A claim is not enabled if, "at the effective filing date of the patent, one of ordinary skill in the art could not practice their full scope without undue experimentation." *Wyeth and Cordis Corp. v. Abbott Labs.*, 720 F.3d 1380, 1384 (Fed. Cir. 2013). "This important doctrine prevents both inadequate disclosure of an invention and overbroad claiming that might otherwise attempt to cover more than was actually invented." *MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed. Cir. 2012).

"Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). These factors may include: "(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims." *Id.* Although "a specification need not disclose what is well known in the art," "[t]ossing out the mere germ of an idea does not constitute enabling disclosure." *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1366 (Fed. Cir. 1997). A patent "cannot simply rely on the knowledge of a person of ordinary skill to serve as a substitute for the missing information in the specification." *ALZA Corp. v. Andrx Pharms., LLC*, 603 F.3d 935, 941 (Fed. Cir. 2010).

The specifications of the Asserted Patents fail to satisfy the written description requirement for the Asserted Claims because the alleged inventions claimed therein are not sufficiently described in the specifications of the Asserted Patents. Specifically, the Asserted Patents fail to satisfy the written description requirement for at least the terms identified below

because, based on those terms, the respective specifications of the Asserted Patents do not adequately convey to those skilled in the art that the inventors had possession of the claimed subject matter as of the respective filing dates. Moreover, each Asserted Claim fails to satisfy the written description requirement because the Asserted Patents' specifications do not set forth a single embodiment that includes all limitations of any Asserted Claim. These Invalidity Contentions are based on Defendants' understanding of Giken's interpretation of the Asserted Claims as asserted in the infringement contentions. Because compliance with the written description requirement of 35 U.S.C. § 112, first paragraph, depends on the construction of the Asserted Claims—and no claim construction positions have been exchanged, no claim construction order has issued and no expert discovery has taken place—Defendants' positions on written description are necessarily preliminary at this early stage of the case. Defendants reserve their right to amend or further revise these Invalidity Contentions based on further developments, including the Court's claim construction opinion, and discovery in the case. When a phrase is recited in multiple claims, the first instance of that phrase being recited is indicated below; invalidity under § 112, first paragraph, for lack of written description applies to any, all, and each of the claims where the phrase is recited, however.

The Asserted Patents also fail to satisfy the enablement requirement because the specifications of the Asserted Patents do not describe the manner and process of making and using the alleged inventions in the Asserted Claims so as to enable a person of skill in the art to make and use the full scope of the alleged inventions without undue experimentation. Specifically, the specifications of the Asserted Patents fail to meet the enablement requirement for at least the terms identified below because, based on those terms, the respective specifications of the Asserted Patents do not describe the manner and process of making and using the alleged

inventions in the Asserted Claims. These Invalidity Contentions are based on Defendants' understanding of Giken's interpretation of the Asserted Claims as asserted in the infringement contentions. Because compliance with the enablement requirement of 35 U.S.C. §112, first paragraph, depends on the construction of the Asserted Claims—and no claim construction positions have been exchanged, no claim construction order has been issued and no expert discovery has taken place—Defendants' positions on enablement are necessarily preliminary at this early stage of the case. Defendants reserve their right to amend or further revise these Invalidity Contentions based on further developments, including the Court's claim construction opinion, and discovery in the case. When a phrase is recited in multiple claims, the first instance of that phrase being recited is indicated below; invalidity under § 112, first paragraph for lack of enablement applies to any, all, and each of the claims where the phrase is recited, however.

For example:

1. The '592 Patent

The asserted claims of the '592 Patent, at least under Giken's actual and/or apparent application of the claims, are invalid under 35 U.S.C. § 112(a) because the specification lacks an adequate written description of the alleged invention and fails to enable the full scope of the alleged invention.

- "the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller" ('592 patent, claims 1, 6);
- "[an/the] integral program" ('592 patent, claims 1, 2, 3, 5, 6, 7, 8, 10);
- "a television display that shows the digital moving image contents from the first provider and the second provider" ('592 patent, claim 1);
- "a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer" ('592 patent, claim 2);

- "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently from the program schedule table;" ('592 patent, claim 6);

- "the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table" ('592 patent, claim 10);

- "wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider;" ('592 patent, claim 11).

2. The '236 Patent

The asserted claims of the '236 patent, at least under Giken's actual and/or apparent application of the claims, are invalid under 35 U.S.C. § 112(a) because the specification lacks an adequate written description of the alleged invention and fails to enable the full scope of the alleged invention.

- "the plurality of outside counterparts including a first type of counterpart under free selection and a second type of counterpart which is predetermined" ('236 patent, claim 1);

- "an input provided inside the television set and arranged to newly and freely prepare first information;" ('236 patent, claim 1);

- "an automatic generator provided inside the television set and arranged to generate predetermined second information in response to the detector which detects a cause of a predetermined change in the television function" ('236 patent, claim 1);

- "a second trigger provided inside the television set and arranged to automatically send the second information to the second type of counterpart through the same communicator in response to completion of the function of the automatic generator and the second designator" ('236 patent, claim 1).

3. The '391 Patent

The asserted claims of the '391 patent, at least under Giken's actual and/or apparent application of the claims, are invalid under 35 U.S.C. § 112(a) because the specification lacks an adequate written description of the alleged invention and fails to enable the full scope of the alleged invention.

- “a first controller ” (’391 patent, claims 1, 10);
- “electric data” (’391 patent, claims 1, 10);
- “a second controller” (’391 patent, claims 1, 10);
- “wherein no electric payment is made to the moving image data delivery system when the advertising image data delivery system issues the electric data to the moving image viewing apparatus in exchange of viewing commercial message” (’391 patent, claims 1, 10);
- “the electric data having been issued to the moving image viewing apparatus, without intermediary of the moving image data delivery system, by the advertising image data delivery system in exchange of a commercial message view by the moving image viewing apparatus” (’391 patent, claim 1);
- “without intermediary of the moving image data delivery system” (’391 patent, claims 1, 10);
- “wherein the advertising image data delivery system is integrated into the moving image data delivery system” (’391 patent, claim 9);
- “first controller adapted to issue, without intermediary of the moving image data delivery system, to one of the moving image viewing apparatuses an electric data” (’391 patent, claim 10);
- “third controller” (’391 patent, claim 10);
- “a third controller adapted to allot the received electric payment to the moving image data delivery system” (’391 patent, claim 10);
- “fourth controller” (’391 patent, claims 12-14);
- “a fourth controller adapted to electrically provide one of the plurality of advertising image data of commercial messages to one of the plurality of moving image viewing apparatuses by request thereof.” (’391 patent, claim 12);
- “the advertising image data of commercial message being related to a television program designated by the moving image viewing apparatus” (’391 patent, claim 13);
- “wherein the advertising image data delivery system is integrated into a system of the advertiser” (’391 patent, claim 15).

4. The ’615 Patent

The asserted claims of the ’615 patent, at least under Giken’s actual and/or apparent

application of the claims, are invalid under 35 U.S.C. § 112(a) because the specification lacks an adequate written description of the alleged invention and fails to enable the full scope of the alleged invention.

- "a receiver arranged to receive, without request or acknowledgement, information of one definite broadcast program which can be displayed on the display and is identified by the program selection of the another broadcast program viewing system" ('615 patent, claim 4);
- "a manual controller having a predetermined operating portion to change the display in response to a predetermined same manual operation from own motive of a viewer of the display on the basis of the information received by the receiver," ('615 patent, claim 4);
- "the information including information of a broadcast program which is not currently not displayed on the display" ('615 patent, claims 4, 8);
- "the information being without request or acknowledgement from the another broadcast program viewing system" ('615 patent, claim 8);
- "in response to a same manual operation from own motive of a viewer," ('615 patent, claim 8);
- "the same manual operation being universal regardless of the information and without any program selecting operation" ('615 patent, claim 4).

5. The '968 Patent

The asserted claims of the '968 patent, at least under Giken's actual and/or apparent application of the claims, are invalid under 35 U.S.C. § 112(a) because the specification lacks an adequate written description of the alleged invention and fails to enable the full scope of the alleged invention.

- "A receiving apparatus configured to receive digital moving image contents from a provider of the digital moving image contents, the provider being commutatively connected to the receiving apparatus," ('968 patent, claim 1);
- "wherein the processor is configured to designate an optional part of the digital moving image contents in response to the manual operation." ('968 patent, claims 4, 12);
- "wherein the receiving method is further configured to designate an optional part

of the digital moving image contents in response to the manual operation" ('968 patent, claim 8);

- "A receiving system configured to receive digital moving image contents from a provider of the digital moving image contents, the provider being commutatively connected to the receiving system," ('968 patent, claim 9).

B. Indefiniteness Under 35 U.S.C. § 112(b) and/or (f).

Under 35 U.S.C. § 112, a "patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). "The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe." *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, "[a] patent holder should know what he owns, and the public should know what he does not." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002).

The Asserted Claims are invalid as indefinite because they fail to inform those skilled in the art about the scope of the alleged invention with reasonable certainty. These Invalidity Contentions are based on Defendants' understanding of Giken's interpretation of the Asserted Claims as asserted in the infringement contentions. Because the determination of whether the claims are indefinite under 35 U.S.C. § 112, second paragraph, depends on the construction of the Asserted Claims—and no claim construction positions have been exchanged, no claim construction order has been issued and no expert discovery has taken place—Defendants' positions on indefiniteness are necessarily preliminary at this early stage of the case. Defendants

reserve their right to amend or further revise these Invalidity Contentions based on further developments, including the Court's claim construction opinion, and discovery in the case.

The Asserted Claims are also indefinite because the specifications of the Asserted Patents fail to disclose a specific structure for performing the functions recited in the Asserted Claims. These Invalidity Contentions are based on the Defendants' understanding of Giken's interpretation of the Asserted Claims as asserted in Giken's infringement contentions. Because the determination of whether the claims are indefinite under 35 U.S.C. §§ 112, sixth paragraph and second paragraph, depends on the construction of the Asserted Claims—and no claim construction positions have been exchanged, no claim construction order has issued, and no expert discovery has taken place—Defendants' positions on indefiniteness are necessarily preliminary at this early stage of the case. Defendants reserve their right to amend or further revise these Invalidity Contentions based on further developments, including the Court's claim construction opinion, and discovery in the case.

When a phrase is recited in multiple claims, the first instance of that phrase being recited is indicated below; invalidity under § 112, second and sixth paragraphs, for indefiniteness applies to any, all, and each of claims where the phrase is recited, however.

1. The '592 Patent

At least under Giken's actual and/or apparent application of the claims, the asserted claims of the '592 patent are invalid under 35 U.S.C. § 112(b) for indefiniteness because the specification and prosecution history of the '592 patent would not inform those skilled in the art about the scope of the alleged invention with reasonable certainty. Further, the asserted claims of the '592 patent are invalid for indefiniteness because the specification does not disclose adequate corresponding structure, material, or acts for several claim terms reciting functional language subject to 35 U.S.C. § 112(f).

- "remote controller" ('592 patent, claims 1, 6, 11);
- "the I/O interface" ('592 patent, claims 1, 6);
- "the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller" ('592 patent, claims 1, 6);
- "[an/the] integral program" ('592 patent, claims 1, 2, 3, 5, 6, 7, 8, 10);
- "a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer" ('592 patent, claim 2);
- "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently from the program schedule table;" ('592 patent, claim 6);

2. The '236 Patent

At least under Giken's actual and/or apparent application of the claims, the asserted claims of the '236 patent are invalid under 35 U.S.C. § 112(b) for indefiniteness because the specification and prosecution history of the '236 patent would not inform those skilled in the art about the scope of the alleged invention with reasonable certainty. Further, the asserted claims of the '236 patent are invalid for indefiniteness because the specification does not disclose adequate corresponding structure, material, or acts for several claim terms reciting functional language subject to 35 U.S.C. § 112(f).

- "a television function unit provided inside the television set and arranged to relate to a television function;" ('236 patent, claim 1);
- "a detector provided inside the television set and arranged to detect a cause of change in the television function;" ('236 patent, claim 1);
- "a communicator provided inside the television set and arranged to selectively communicate with one of a plurality of outside counterparts by means of designating an address of one of the outside counterparts," ('236 patent, claim 1);
- "the plurality of outside counterparts including a first type of counterpart under free selection and a second type of counterpart which is predetermined" ('236 patent, claim 1);

- "an input provided inside the television set and arranged to newly and freely prepare first information;" ('236 patent, claim 1);

- "an automatic generator provided inside the television set and arranged to generate predetermined second information in response to the detector which detects a cause of a predetermined change in the television function" ('236 patent, claim 1);

- "a second trigger provided inside the television set and arranged to automatically send the second information to the second type of counterpart through the same communicator in response to completion of the function of the automatic generator and the second designator" ('236 patent, claim 1);

- "wherein the second information includes a channel identification of broadcast program for indication on a display of the another television set to visually inform the another television set of channel selection in the television function." ('236 patent, claim 15).

3. The '391Patent

At least under Giken's actual and/or apparent application of the claims, the asserted claims of the '391 patent are invalid under 35 U.S.C. § 112(b) for indefiniteness because the specification and prosecution history of the '391 patent would not inform those skilled in the art about the scope of the alleged invention with reasonable certainty. Further, the asserted claims of the '391 patent are invalid for indefiniteness because the specification does not disclose adequate corresponding structure, material, or acts for several claim terms reciting functional language subject to 35 U.S.C. § 112(f).

- "a first controller " ('391 patent, claims 1, 10);

- "electric data" ('391 patent, claims 1, 10);

- "a second controller" ('391 patent, claims 1, 10);

- "wherein no electric payment is made to the moving image data delivery system when the advertising image data delivery system issues the electric data to the moving image viewing apparatus in exchange of viewing commercial message" ('391 patent, claims 1, 10);

- "the electric data having been issued to the moving image viewing apparatus, without intermediary of the moving image data delivery system, by the

advertising image data delivery system in exchange of a commercial message view by the moving image viewing apparatus" ('391 patent, claim 1);

- "a plurality of digital moving image data of television programs to be viewed by the moving image viewing apparatuses" ('391 patent, claim 1);
- "for allowing to display the television program in exchange of a presentation of an electric data denoting a right of viewing the television program" ('391 patent, claim 1);
- "without intermediary of the moving image data delivery system" ('391 patent, claims 1, 10);
- "in exchange of a commercial message view" ('391 patent, claim 1);
- "first controller adapted to issue, without intermediary of the moving image data delivery system, to one of the moving image viewing apparatuses an electric data" ('391 patent, claim 10);
- "third controller" ('391 patent, claim 10);
- "a third controller adapted to allot the received electric payment to the moving image data delivery system" ('391 patent, claim 10);
- "fourth controller" ('391 patent, claims 12-14);
- "a fourth controller adapted to electrically provide one of the plurality of advertising image data of commercial messages to one of the plurality of moving image viewing apparatuses by request thereof." ('391 patent, claim 12);

4. The '615 Patent

At least under Giken's actual and/or apparent application of the claims, the asserted claims of the '615 patent are invalid under 35 U.S.C. § 112(b) for indefiniteness because the specification and prosecution history of the '615 patent would not inform those skilled in the art about the scope of the alleged invention with reasonable certainty. Further, the asserted claims of the '615 patent are invalid for indefiniteness because the specification does not disclose adequate corresponding structure, material, or acts for several claim terms reciting functional language subject to 35 U.S.C. § 112(f).

- "A broadcast program viewing system for viewing a broadcast program same as that identified by a program selection of another broadcast program viewing system in another place to share same experience of viewing same broadcast program" ('615 patent, claim 4);

- "a receiver arranged to receive, without request or acknowledgement, information of one definite broadcast program which can be displayed on the display and is identified by the program selection of the another broadcast program viewing system" ('615 patent, claim 4);

- "the information including information of a broadcast program which is not currently not displayed on the display" ('615 patent, claim 4);

- "a manual controller having a predetermined operating portion to change the display in response to a predetermined same manual operation from own motive of a viewer of the display on the basis of the information received by the receiver," ('615 patent, claim 4);

- "the same manual operation being universal regardless of the information and without any program selecting operation" ('615 patent, claims 4, 8);

- "wherein the program selection of the another broadcast program viewing system is a code setting to download the selected broadcast program" ('615 patent, claim 6);

- "In a broadcast program viewing system for viewing a broadcast program same as that identified by a program selection of another broadcast program viewing system in another place in accordance with information of one definite broadcast program which can be viewed by the broadcast program viewing system and is identified by the program selection of the another broadcast program viewing system to share same experience of viewing same broadcast program" ('615 patent, claim 8);

- "the information being without request or acknowledgement from the another broadcast program viewing system" ('615 patent, claim 8);

- "in response to a same manual operation from own motive of a viewer," ('615 patent, claim 8);

- "wherein the manual operating portions of the manual operating part include ten key" ('615 patent, claim 11).

5. The '968 Patent

At least under Giken's actual and/or apparent application of the claims, the asserted claims of the '968 patent are invalid under 35 U.S.C. § 112(b) for indefiniteness because the

specification and prosecution history of the ’968 patent would not inform those skilled in the art about the scope of the alleged invention with reasonable certainty. Further, the asserted claims of the ’968patent are invalid for indefiniteness because the specification does not disclose adequate corresponding structure, material, or acts for several claim terms reciting functional language subject to 35 U.S.C. § 112(f).

- “A receiving apparatus configured to receive digital moving image contents from a provider of the digital moving image contents, the provider being commutatively connected to the receiving apparatus,” (’968 patent, claim 1);
- “a designation software controller configured to control the memory to keep the information in response to a termination of viewing the viewed part and control the processor to automatically designate the succeeding part of the digital moving image contents when the viewing starts again” (’968 patent, claim 1);
- “a receiver of the designated succeeding part of the digital moving image contents in response to the designation by the processor” (’968 patent, claims 1, 9);
- “wherein the processor is configured to designate an optional part of the digital moving image contents in response to the manual operation.” (’968 patent, claims 4, 12);
- “wherein the receiving method is further configured to designate an optional part of the digital moving image contents in response to the manual operation” (’968 patent, claim 8);
- “A receiving system configured to receive digital moving image contents from a provider of the digital moving image contents, the provider being commutatively connected to the receiving system,” (’968 patent, claim 9).

V. PATENT ELIGIBILITY (35 U.S.C. § 101)

Claims directed to an abstract idea that do not add an inventive concept are ineligible for patent protection. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc*., 566 U.S. 66, 69-70 (2012); *Bilski v. Kappos*, 561 U.S. 593, 601-02 (2010). Determining whether the subject matter of a claim is patent-ineligible is a two-step process. *Alice*, 134 S. Ct at 2355; *Mayo*, 566 U.S. at 69-70. First, the Court must “determine whether the claims at issue are directed to a patent-ineligible concept” such as an

abstract idea. *Alice*, 134 S. Ct. at 2355. Second, if the claims are directed to a patent-ineligible concept, the Court must "consider the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent eligible application." *Id.* (internal quotations omitted).

Several principles help guide the analysis of whether the claims are directed to an abstract idea. First, "the abstract idea exception does not turn solely on whether the claimed invention comprises physical versus mental steps." *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1161 (Fed. Cir. 2018). "It is well-settled that mere recitation of concrete, tangible components is insufficient to confer patent eligibility to an otherwise abstract idea." *In re TLI Commc'ns LLC Pat. Litig*., 823 F.3d 607, 613 (Fed. Cir. 2016). Second, implementation of an abstract concept using conventional generic computer components is insufficient to transform an abstract idea into a patent-eligible invention. *Prism Techs. LLC v. T-Mobile USA, Inc*., 696 F. App'x 1014, 1016 (Fed. Cir. 2017).

Defendants' contention that the Asserted Claims are invalid under 35 U.S.C. § 101 are made in the alternative, and do not constitute, and should not be interpreted as, admissions that any of the asserted claims are not anticipated or rendered obvious by any prior art.

The Asserted Claims, including as they appear to be construed by Giken, are invalid because they do not constitute patentable subject matter under 35 U.S.C. § 101. *S*ee, *e.g.*, *Alice*, 134 S.Ct. 2347; *Bilski*, 130 S. Ct. 3218; *Diamond v. Diehr*, 450 U.S. 17 (1981); *Gottschalk v. Benson*, 409 U.S. 63 (1972); *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007).

Defendants incorporate here by reference their motion to dismiss the '968 Patent as unpatentable subject matter. (D.I. 13-14). Defendants also incorporate here by reference the bases of invalidity set forth in Apple Inc.'s motions to dismiss the '968 Patent as unpatentable

subject matter (D.I. 11, 21) in *NL Giken Inc. v. Apple Inc.*, No. 1:24-cv-00013-MN (D. Del.).

The asserted claims of the ’391 patent are invalid because they do not constitute patentable subject matter under 35 U.S.C. § 101. The asserted claims of the ’391 patent are directed to an abstract idea—a system for offering video content in exchange for watching an advertisement and receiving payment from the sponsor of the advertisement. This abstract idea is similar to many found unpatentable by the Federal Circuit. *See, .e.g., Ultramercial Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (“The process of receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to the media, and receiving payment from the sponsor of the ad all describe an abstract idea, devoid of a concrete or tangible application.”); *Smartflash LLC v. Apple Inc.*, 680 F. App’x 977, 984 (Fed. Cir. 2017) (holding ineligible “the abstract idea of conditioning and controlling access to data based on payment”).

That the claims are directed to systems comprised of various electronic components is not sufficient to confer eligibility. Indeed, the Federal Circuit has made clear that “after Alice, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (internal quotations and citations omitted). At least the following claim elements of the asserted claims of the ’391 patent are merely directed to generic computer or similar electronic components (as shown in Defendants’ invalidity contentions involving anticipation and/or obviousness in this case):

- “moving image viewing apparatuses” which Giken alleges include “laptops, phones, or other viewing devices,” (Ex. C-1 at 6);
- “moving image data delivery system” which Giken alleges includes general

purpose computers and streaming software combined with various network servers (Ex. C-1 at 8);

- "storage" which Giken alleges may be RAM (Ex. C-1 at 9);
- "first controller" which Giken alleges may be a content delivery network server (Ex. C-1 at 11);
- "second controller" which Giken alleges to be a computer processor (Ex. C-1 at 17);
- "electric data" which Giken alleges to be a tracking pixel (Ex. C-1 at 14); and
- "advertising image data delivery system" which Giken inconsistently alleges at various times to be both the Amazon Ad server, *see, e.g.*, Ex C-1 at 17 and the "Twitch System," *see, e.g.*, Ex. C-1 at 14.

This high-level, abstract idea of a system for offering video content in exchange for watching an advertisement and receiving payment from the sponsor of the advertisement fails to recite a non-abstract concept to confer eligibility.

Furthermore, under Alice Step 2 the asserted claims of the '391 patent do not contain an inventive concept. The asserted claims employ well-understood, routine, and conventional concepts (as shown in Defendants' invalidity contentions involving anticipation and/or obviousness in this case), which is not enough to impart patent eligibility of an abstract idea and as below. *See, e.g., Alice*, 134 S. Ct. at 2359 (holding that limitations describing "'well-understood, routine, conventional activit[ies]' previously known to the industry" were insufficient to supply an inventive concept (quoting *Mayo*, 132 S. Ct. at 1294)). At least the following claim elements are directed to well-understood, routine, and/or conventional concepts:

- Storing television programs for broadcast;

- Viewing television programs on, e.g., television sets;
- Advertisements playing during television viewing;
- Advertisers paying for advertisements to be played during television broadcasts; and
- Targeted advertising.

And as an ordered combination, nothing within the asserted claims of the ’391 patent confer eligibility.

The asserted claims of the ’592 patent are invalid because they do not constitute patentable subject matter under 35 U.S.C. § 101. The asserted claims of the ’592 patent are directed to an abstract idea—receiving media content via two content providers via two separate communication mediums. This abstract idea is similar to many found unpatentable by the Federal Circuit. *See, .e.g., Two-Way Media Ltd. v. Comcast Cable Commc’ns*, LLC, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (“The claim requires the functional results of ‘converting,’ ‘routing,’ ‘controlling,’ ‘monitoring,’ and ‘accumulating records,’ but does not sufficiently describe how to achieve these results in a non-abstract way.”).

That the claims are directed to systems comprised of various electronic components is not sufficient to confer eligibility. Indeed, the Federal Circuit has made clear that “after Alice, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.” *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) (internal quotations and citations omitted). At least the following claim elements of the asserted claims of the ’592 patent are merely directed to generic computer or similar electronic components (as shown in Defendants’ invalidity contentions involving anticipation and/or obviousness in this case):

- "remote controller";
- "tuner";
- "television display";
- "memory"; and
- "TVset."

This high-level, abstract idea of receiving media content via two content providers via two separate communication mediums fails to recite a non-abstract concept to confer eligibility.

Furthermore, under Alice Step 2 the asserted claims of the '592 patent do not contain an inventive concept. The asserted claims employ well-understood, routine, and conventional concepts (as shown in Defendants' invalidity contentions involving anticipation and/or obviousness in this case), which is not enough to impart patent eligibility of an abstract idea and as below. *See, e.g., Alice*, 134 S. Ct. at 2359 (holding that limitations describing "'well-understood, routine, conventional activit[ies]' previously known to the industry" were insufficient to supply an inventive concept (quoting *Mayo*, 132 S. Ct. at 1294)). At least the following claim elements are directed to well-understood, routine, and/or conventional concepts:

- Selecting a television channel;
- Over-the-air television program broadcasts;
- A television display that shows the content; and
- Memory that stores downloaded content.

And as an ordered combination, nothing within the asserted claims of the '592 patent confer eligibility.

Defendants reserve the right to supplement these disclosures based on further investigation and discovery.

VI. PRIOR ART DOCUMENT PRODUCTION

Pursuant to Paragraph 6(d) of the Scheduling Order (Dkt. 32), Defendants have produced or made available for inspection known invalidating prior art references.

Dated: November 15, 2024

Respectfully submitted,

/s/ Brian A. Biggs

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CERTIFICATE OF SERVICE

I, Brian A. Biggs, hereby certify that on this 15th day of November, 2024, a copy of **DEFENDANTS' INITIAL INVALIDITY CONTENTIONS** were served upon the following counsel of record via electronic mail:

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Exhibit 592.A
Invalidity of U.S. Patent No. 10,880,592 Patent in view of Walker[1]

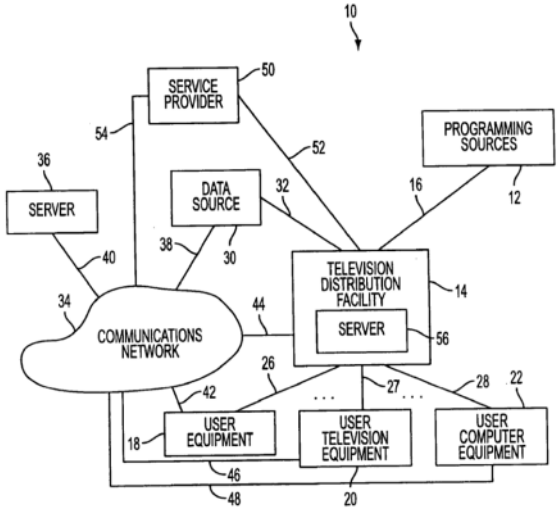
U.S. Patent App. Pub. No. 2005/0160465A1 ("Walker"), is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a), (b), and (e) (pre-AIA). Walker was filed on January 21, 2004 and published on July 21, 2005.

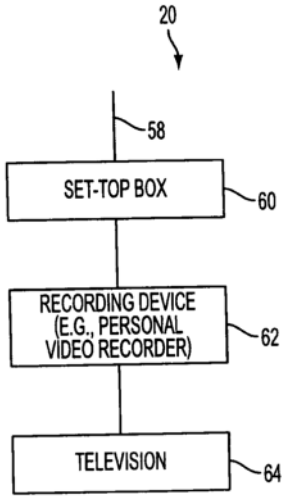
Amazon incorporates here by reference all the bases of invalidity of the '592 patent based on Walker (alone or in combination) and all bases of invalidity of the '592 patent based on Chang (alone or in combination) as set forth in *inter partes* review No. IPR2025-00050.

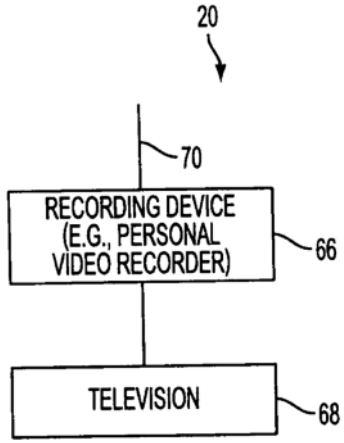
Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

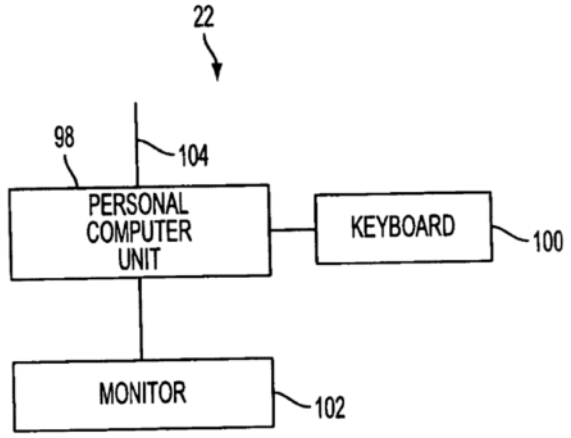
Claim Limitations	**Exemplary Disclosure in the Prior Art**
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Walker expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: Walker at Fig. 1

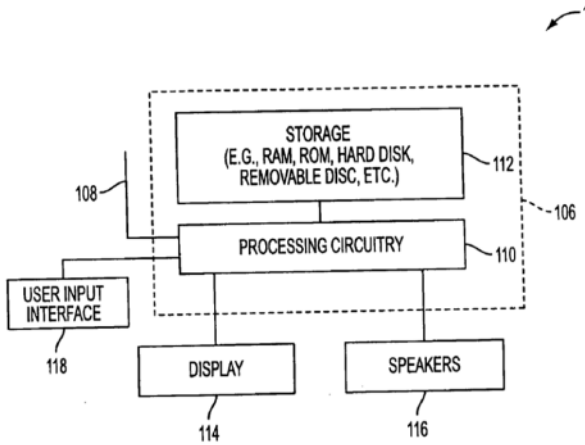
[1] This chart also applies to Walker combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

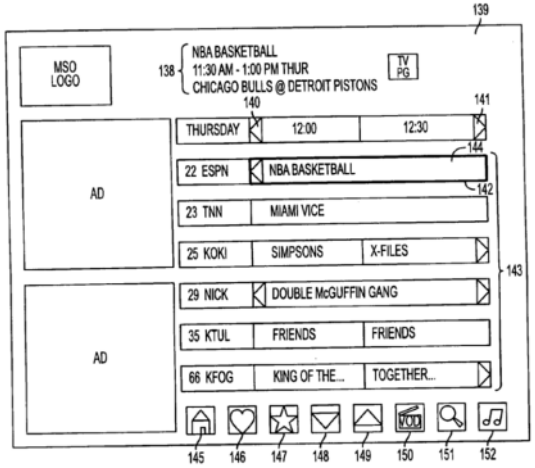
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1 Walker at Fig. 2

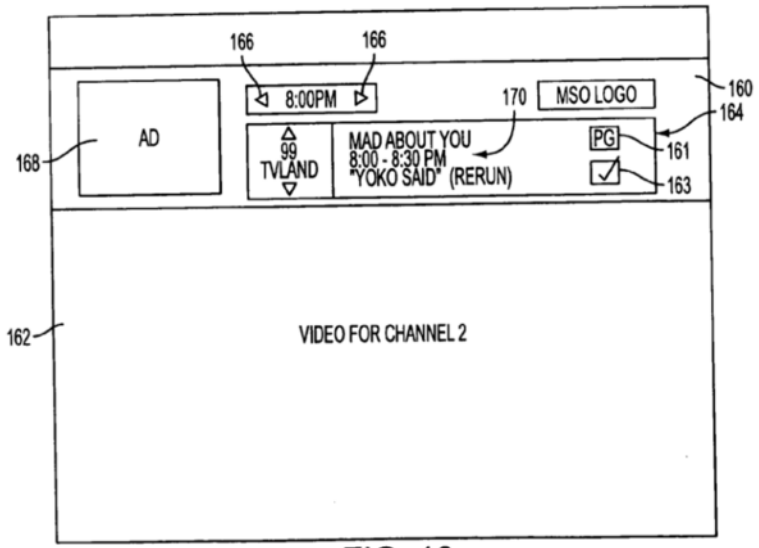
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Walker at Fig. 3

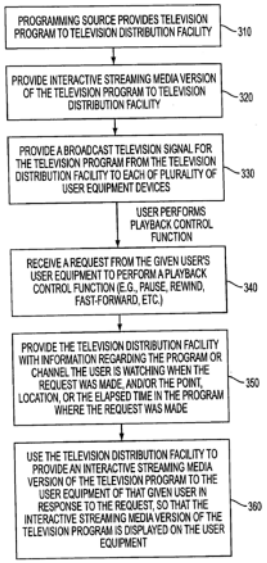
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at Fig. 8

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 8 Walker at Fig. 10

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at Fig. 27

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 27 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0047]–[0049]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Communications path 16 may be a satellite path, a fiber-optic path, a cable path, or any other suitable wired or wireless communications paths or a combination of such paths. Television distribution facility 14 may be connected to various user equipment devices 18. Such user equipment 18 may, for example, be located in the homes of users. User equipment 18 may include user television equipment 20 or user computer equipment 22. The user equipment may receive television and music programming and other information from television distribution facility 14 over communications paths such as communications paths 26, 27, and 28. The user equipment may also transmit signals to television distribution facility 14 over paths 26, 27, and 28. Paths 26, 27, and 28 may be cables or other wired connections, or wireless connections for broadcast or satellite links. Walker at [0050] Data source 30 may include a program listings database that is used to provide the user equipment with information for the interactive television program guide, such as scheduled broadcast times, titles, channels, ratings information (e.g., parental ratings and critic's ratings), detailed title descriptions, genre or category information (e.g., sports, news, movies, etc.), information on actors and actresses, running times, etc. Data source 30 may also be used to provide advertisements (e.g., program guide advertisements and advertisements for other interactive television applications), real-time data such as sports scores, stock quotes, news, weather, etc. Although data source 30 is drawn as an individual box in FIG. 1, data source 30 and the other system components of FIG. 1 may be provided using equipment at one or more locations. Systems components are drawn as single boxes in FIG. 1 to avoid over-complicating the drawings. Walker at [0051]–[0052] Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path.

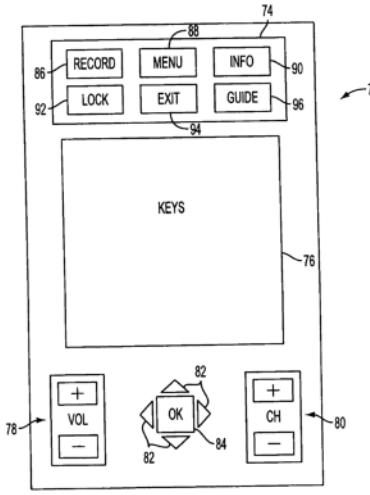
Claim Limitations	Exemplary Disclosure in the Prior Art
	User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0055] User equipment such as user television equipment 20 and user computer equipment 22 may access the on-line program guide and server 36 using similar arrangements. User television equipment 20 may access the on-line program guide and server 36 using communications path 46 or using path 27, television distribution facility 14, and path 44. User computer equipment 22 may access the on-line program guide and server 36 using communications path 48 or using path 28, television distribution facility 14, and path 44. Paths 46 and 48 may be any suitable paths, such as wired paths, cable paths, fiber-optic paths, satellite paths, wireless paths, a combination of such paths, etc. Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities. Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage

Claim Limitations	Exemplary Disclosure in the Prior Art
	device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities. Walker at [0064] Set-top box 60 contains a processor (e.g., a microcontroller or microprocessor or the like) that is used to execute software applications. Set-top box 60 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used (e.g., to launch a boot-up routine and other instructions). Hard disk storage in set-top box 60 or in recording device 62 may be used to back up data and to otherwise support larger databases and storage requirements than may be supported using random-access memory approaches. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0071] Recording device 66 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used to store a boot-up routine or other instructions. The hard disk and other storage in recording device 66 may be used to support databases (e.g., program guide databases or interactive television application databases). The hard disk or other storage in recording device 66 may also be used to record video such as television programs or video-on-demand content or other content provided to recording device 66 over input/output 70. Walker at [0076] The set-top box arrangement of FIG. 2 and the digital video recorder set-top box arrangement of FIG. 3 are merely illustrative. Other arrangements may be used if desired. For example, user television

Claim Limitations	Exemplary Disclosure in the Prior Art
	equipment may be based on a WebTV box, a personal computer television (PC/TV), or any other suitable television equipment arrangement. If desired, the functions of components such as set-top box 60, digital video recorder 66, a WebTV box, or PC/TV or the like may be integrated into a television or personal computer or other suitable device. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0154] Programming, such as audio, video, movies, and television programs, may be delivered to a plurality of users by broadcasting the programming from a television distribution facility to each user's equipment. Examples of such an arrangement are illustrated in FIG. 1, wherein television distribution facility 14 provides programming content to user equipment devices 18, 20 and 22 via communications paths, such as communication paths 26, 27 and 28. Walker at [0154]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Programming content may be broadcast in accordance with a schedule, such that each program begins and ends at specified times. A viewer may watch broadcast programs according to the schedule. The broadcast programs may be delivered to the user in the form of broadcast television signals (analog and/or digital). Satellite broadcasts, cable broadcasts, and over-the-air broadcasts may be used to deliver television programming. Walker at [0156] In accordance with the present invention, the interactive television application may provide the user with the ability to view broadcast television programming on the user's equipment. Broadcast television programming is delivered to the user's equipment via broadcast television signals (e.g., standard non-interactive analog and/or digital television signals). A user viewing such a broadcast television program being displayed and viewed on the user equipment may request a playback control function (e.g., pause, play, resume, rewind, skip, fast forward, slow forward, slow reverse, jump to another time point, scan, frame-by-frame advance, frame backward, restart program, etc.). In response to making such a request, the interactive television application may switch to displaying an interactive streaming version of the program from displaying the broadcast version. In some embodiments, the interactive television application may perform the switch from the broadcast version to the streaming version at substantially the same time point between the respective programs such that the switch to the streaming version may not be noticed by the user. Walker at [0157] The delivery of streaming media content involves providing digital data streams from a remote server or television distribution facility to user equipment over communications paths such as the paths of FIG. 1. The user equipment receives the data and displays the streamed content for the viewer. This stream may be buffered and/or stored on the user equipment to improve the quality and continuity of the displayed content. For example, buffering or storing the streamed program may ensure that the program can be continuously displayed on the user equipment. Walker at [0159] Interactive television system 10 may include television distribution facility 14 that is capable of providing both broadcast programming content and streaming programming content to a plurality of user equipment devices 18. Programming sources 12 may provide original content which may, if desired, be re-broadcast

Claim Limitations	Exemplary Disclosure in the Prior Art
	(later or in real-time) by associated television distribution facilities 14. Television distribution facilities may use server 56 (or a remote server 36 may be used) to deliver interactive media streams to users. *See also* Walker at Fig. 4, Fig. 9, Fig. 24, Fig. 25, [0011], [0054], [0056], [0057], [0062], [0065], [0066], [0067], [0069], [0071], [0075], [0077], [0085], [0086], [0087], [0088], [0090], [0091], [0092], [0093], [0095], [0097], [0098], [0107], [0109], [0120], [0121]–[0123], [0125], [0126], [0130], [0140], [0141]–[0142], [0143], [0155], [0158], [0160], [0161], [0164]–[0166], [0169], [0174], [0183], [0184], [0185], and [0186]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	Walker expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1pre. Walker at Fig. 4

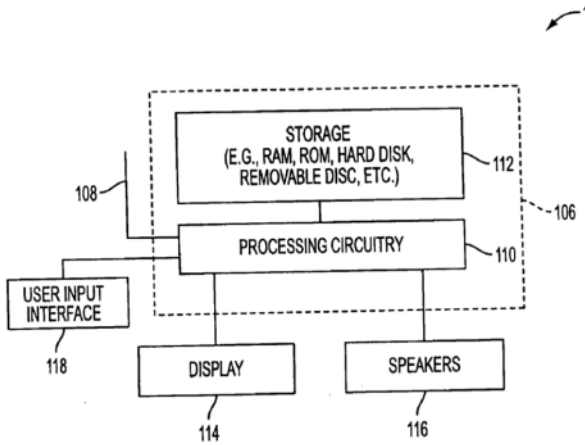
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 4 Walker at [0003] In a typical interactive television system, the interactive television program guide application is implemented on a set-top box. The user interacts with the interactive television program guide application, for example, to access broadcast programming and associated content and to request playback control functions, using a remote control. Walker at [0020] FIG. 4 is a diagram of an illustrative remote control in accordance with various embodiments of the present invention. Walker at [0024] FIG. 8 shows an illustrative program guide screen in accordance with various embodiments of the present invention Walker at [0062]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Illustrative user television equipment 20 that is based on a set-top box arrangement is shown in FIG. 2. Input/output 58 may be connected to communications paths such as paths 27 and 46. Input/output functions may be provided by one or more wires or communications paths, but are shown as a single path in FIG. 2 to avoid overcomplicating the drawing. Television programming and other information may be received using input/output 58. Commands and requests and other information from the user may also be transmitted over input/output 58. Walker at [0065] Set-top box 60 may have infrared (IR) or other communications circuitry for communicating with a remote control or wireless keyboard. Set-top box 60 may also have dedicated buttons and a front-panel display. The front-panel display may, for example, be used to display the current channel to which the set-top box is tuned. Walker at [0068] Recording device 62 may be controlled using a remote control or other suitable user interface. If desired, video recorder functions such as start, stop, record, etc. and other functions for device 62 may be controlled by set-top box 60. For example, set-top box 60 may control recording device 62 using infrared commands directed toward the remote control inputs of recording device 62 or set-top box 60 may control recording device 62 using other wired or wireless communications paths between box 60 and device 62. Walker at [0077] An illustrative remote control 72 for operating user television equipment 20 (or suitable user computer equipment 22) is shown in FIG. 4. Remote control 72 may have function keys 74 and other keys 76 such as keypad keys, power on/off keys, pause, stop, fast-forward and reverse keys, etc. Volume up and down keys 78 may be used for adjusting the volume of the audio portion of a video. Channel up and down keys 80 may be used to change television channels and to access content on virtual channels. Cursor keys 82 may be used to navigate on-screen menus. For example, cursor keys 82 may be used to position an on-screen cursor, indicator, or highlight (sometimes all generically referred to herein as a highlight or highlight region) to indicate interest in a particular option or other item on a screen displayed by the interactive television application. Walker at [0082]

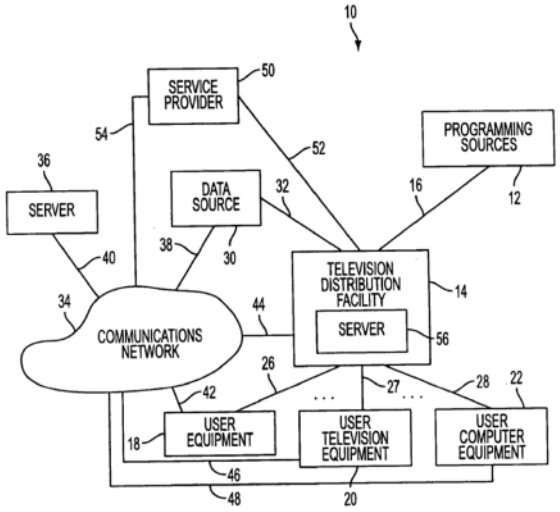
Claim Limitations	Exemplary Disclosure in the Prior Art
	The keys shown in FIG. 4 are merely illustrative. Other keys or buttons may be provided if desired. For example, a music button may be used to access music with the interactive television application. An edit button may be used to edit stored content (e.g., to remove commercials, remove portions of a video, etc.). Alphanumeric buttons may be used to enter alphanumeric characters. A last or back button may be used to browse backward in the interactive television application (e.g., to return to a previous channel or display screen). Video recorder function buttons such as a play button, pause button, stop button, rewind button, fast-forward button, and record button, may be used to control video recorder functions (local or network-based) in system 10. A help key may be used to invoke help functions such as context-sensitive on-screen help, etc. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0093] A user may control the control circuitry 106 using user input interface 118. The user input interface 118 may be any suitable user interface, such as a mouse, trackball, keypad, keyboard, touch screen, touch pad, voice recognition interface, remote control, etc. Walker at [0095] A user of user equipment 18 (e.g., a user of user television equipment 20 or a user of user computer equipment 22, or a user of any other suitable user equipment device) may invoke an interactive television menu such as menu screen 120 by pressing menu button 88 (FIG. 4). Remote control 72 (FIG. 4) or other user interface 118 (FIG. 6) may be used to position highlight region 121 on top of selectable options such as options 122-135. If the user selects option 122 or 123, a screen of program listings may be displayed.

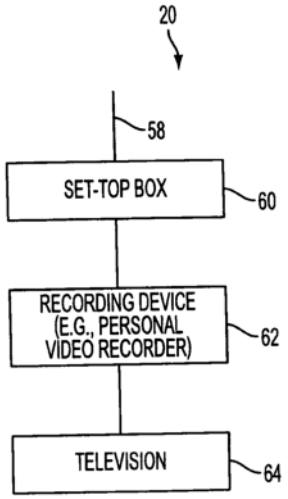
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0097] An illustrative program guide screen 138 that may be displayed for the user is shown in FIG. 8. Program guide screen 138 may be displayed, for example, when the user selects program listings option 122 of FIG. 7, when the user selects a suitable option from within an interactive television program guide application or other interactive television application, or when the user presses an appropriate remote control button such as guide button 96 or otherwise uses user input interface 118 to indicate a desire to view program listings. Walker at [0098] Program guide screen 138 may contain a grid or list of program listings 143. Program listings 143 may include program titles, channels, scheduled broadcast times, and any other suitable program schedule information. Highlight region 142 may be used to select a desired program listing 144. Program Information for selected programs may appear elsewhere on program guide screen 138 (e.g., in program information display region 139). If the user presses OK key 84 when a program listing for a current program is highlighted, the interactive television application may tune to the channel for that program. Walker at [0100] A user may access program listings (e.g., program listings of the type shown in FIG. 8) by using the interactive television application to select an on-screen option such as option 122 and 123 of FIG. 7, by pressing a dedicated guide button such as guide button 96 on remote control 72, by selecting any other suitable button or on-screen option, etc. In the example of FIG. 8, program listings are currently being displayed for television programs that air between 12:00 noon and 1:00 PM. Walker at [0102] he interactive television application may provide a “flip” tuning feature. As shown in FIG. 9, when the user invokes the flip mode, flip display 153 may be provided over a portion of a channel (i.e., channel 2) that the user is currently tuned to and is watching on display screen 154. Flip display 153 contains information (in region 156) on the program 155 appearing on the current channel (channel 2) to which the set-top box 60 or other user equipment is tuned. The user may change the channel using channel up and down keys on the remote control or using user interface 118 to issue other suitable channel change commands. This simultaneously changes the channel to which the set-top box 60 or other user equipment

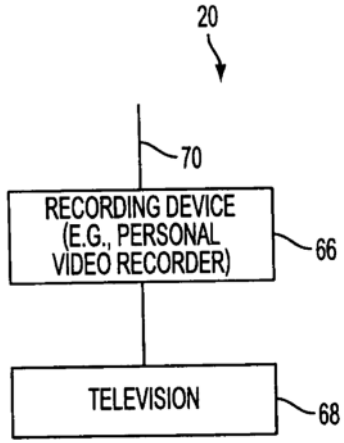
Claim Limitations	Exemplary Disclosure in the Prior Art
	is tuned and the channel information displayed in region 156 (and the associated program information 155). *See also* Walker at Fig. 1, Fig. 2, Fig. 5, Fig. 6, Fig. 8, Fig. 9, Fig. 10, Fig. 27, [0063], [0091], [0096], [0109], [0125], and [0160]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	Walker expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a. Walker at Fig. 6

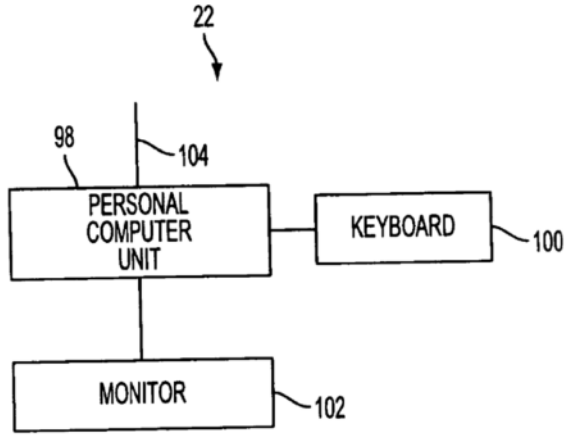
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities. Walker at [0071] Recording device 66 may contain at least one analog tuner for tuning to a desired analog television channel. Recording device 66 may also contain digital decoding circuitry for receiving digital television and music channels. If desired, recording device 66 may contain circuitry for handling both analog and

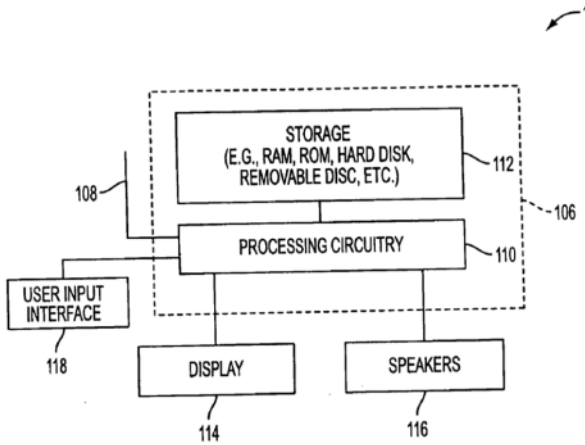
Claim Limitations	Exemplary Disclosure in the Prior Art
	digital channels. Recording device 66 also contains a processor (e.g., multiple tuners may be provided, a microcontroller or microprocessor or the like) that is used to execute software applications. Walker at [0072] Recording device 66 may have IR communications circuitry or other suitable communications circuitry for communicating with a remote control. Recording device 66 may also have dedicated buttons and a front-panel display. The front-panel display may, for example, be used to display the current channel to which the recording device is tuned. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0092] Tuning circuitry such as one or more analog tuners, one or more MPEG-2 decoders or other digital video circuitry, or any other suitable tuning or video circuits or combinations of such circuits may also be included as part of circuitry 106. Encoding circuitry (e.g., for converting over-the-air or cable analog signals to MPEG signals for storage) may also be provided. The tuning and encoding circuitry may be used by the user equipment to receive and display or play or record a particular television or music channel or other desired audio and video content (e.g., video-on-demand content or requested network-based or local video recorder playback) *See also* Walker at Fig. 1, Fig. 2, Fig. 3, Fig. 5, Fig. 27, [0047]–[0049], [0102], [0106], [0107], [0109], and [0185]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng,

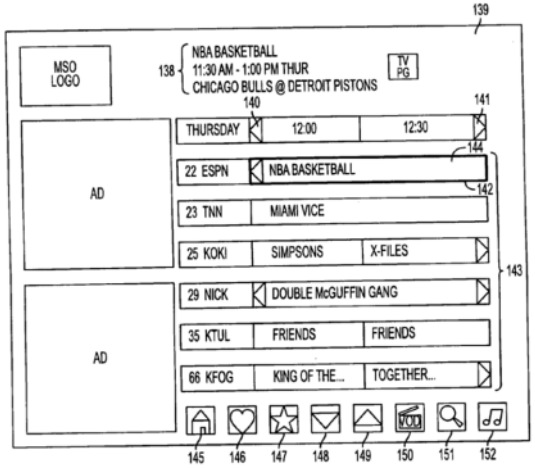
Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	Walker expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example: *See* claims 1pre-1b. Walker at Fig. 1  FIG. 1 Walker at Fig. 2

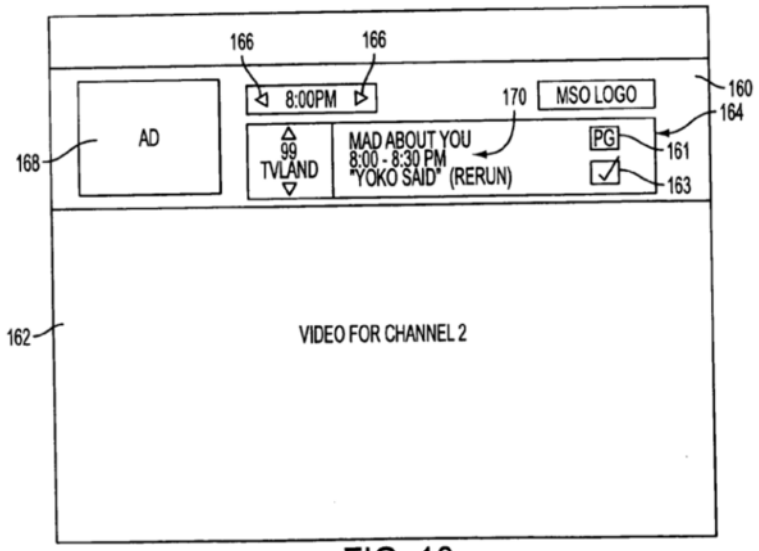
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Walker at Fig. 3

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at Fig. 8

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 8 Walker at Fig. 10

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at [0018] FIG. 2 is a diagram of illustrative user television equipment in accordance with various embodiments of the present invention. Walker at [0019] FIG. 3 is a diagram of additional illustrative user television equipment in accordance with various embodiments of the present invention. Walker at [0021] FIG. 5 is a diagram of illustrative user computer equipment in accordance with various embodiments of the present invention. Walker at [0022] FIG. 6 is a generalized diagram of illustrative user equipment in accordance with various embodiments of the present invention.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0044] FIG. 27 is a flow chart of illustrative steps involved in using an interactive television system to allow the user to perform playback control functions by switching from providing broadcast to streaming programming content. Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0050] Data source 30 may include a program listings database that is used to provide the user equipment with information for the interactive television program guide, such as scheduled broadcast times, titles, channels, ratings information (e.g., parental ratings and critic's ratings), detailed title descriptions, genre or category information (e.g., sports, news, movies, etc.), information on actors and actresses, running times, etc. Data source 30 may also be used to provide advertisements (e.g., program guide advertisements and advertisements for other interactive television applications), real-time data such as sports scores, stock quotes, news, weather, etc. Although data source 30 is drawn as an individual box in FIG. 1, data source 30 and the other system components of FIG. 1 may be provided using equipment at one or more locations. Systems components are drawn as single boxes in FIG. 1 to avoid over-complicating the drawings. Walker at [0051]–[0052]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path. User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0055] User equipment such as user television equipment 20 and user computer equipment 22 may access the on-line program guide and server 36 using similar arrangements. User television equipment 20 may access the on-line program guide and server 36 using communications path 46 or using path 27, television distribution facility 14, and path 44. User computer equipment 22 may access the on-line program guide and server 36 using communications path 48 or using path 28, television distribution facility 14, and path 44. Paths 46 and 48 may be any suitable paths, such as wired paths, cable paths, fiber-optic paths, satellite paths, wireless paths, a combination of such paths, etc. Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities.

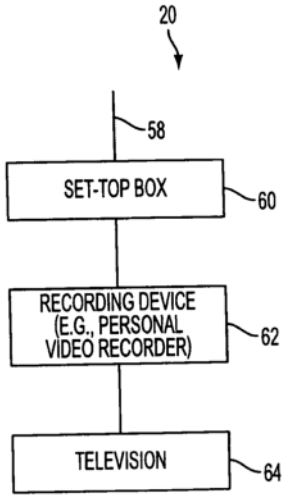
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0062] Illustrative user television equipment 20 that is based on a set-top box arrangement is shown in FIG. 2. Input/output 58 may be connected to communications paths such as paths 27 and 46. Input/output functions may be provided by one or more wires or communications paths, but are shown as a single path in FIG. 2 to avoid overcomplicating the drawing. Television programming and other information may be received using input/output 58. Commands and requests and other information from the user may also be transmitted over input/output 58. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0072] Recording device 66 may have IR communications circuitry or other suitable communications circuitry for communicating with a remote control. Recording device 66 may also have dedicated buttons and a front-panel display. The front-panel display may, for example, be used to display the current channel to which the recording device is tuned. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and

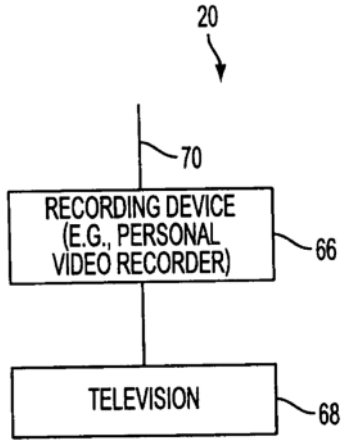
Claim Limitations	Exemplary Disclosure in the Prior Art
	other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0092] Control circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc. Memory (e.g., random-access memory and read-only memory), hard drives, DVD drives, CD drives, or any other suitable memory or storage devices may be provided as storage 112 that is part of control circuitry 106. Walker at [0144] With the arrangement of FIGS. 20 and 21, the user can browse the user's recordings and can play back (and control the playback) of these recordings. Recordings that are stored locally on user equipment 18 may be played back by retrieving these recordings from the local hard drive or other storage on which the recordings are maintained. Recordings that are stored on the network may be played back from the network equipment on which the recording content is stored. User equipment 18 may receive such content in the form of a real-time video stream or a file download and the interactive television application may play back the received content using a display screen arrangement of the type shown in FIG. 21. Walker at [0154] Programming, such as audio, video, movies, and television programs, may be delivered to a plurality of users by broadcasting the programming from a television distribution facility to each user's equipment. Examples of such an arrangement are illustrated in FIG. 1, wherein television distribution facility 14

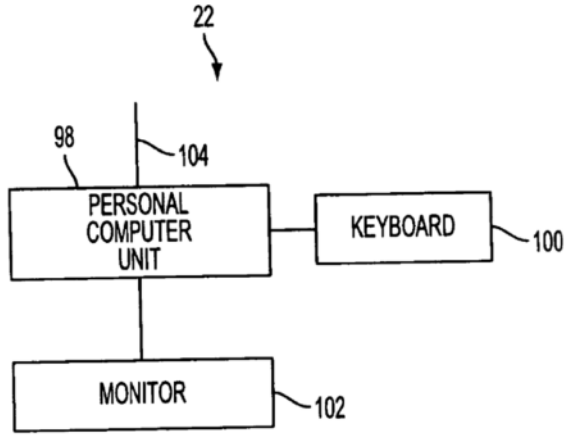
Claim Limitations	Exemplary Disclosure in the Prior Art
	provides programming content to user equipment devices 18, 20 and 22 via communications paths, such as communication paths 26, 27 and 28. Walker at [0154] Programming content may be broadcast in accordance with a schedule, such that each program begins and ends at specified times. A viewer may watch broadcast programs according to the schedule. The broadcast programs may be delivered to the user in the form of broadcast television signals (analog and/or digital). Satellite broadcasts, cable broadcasts, and over-the-air broadcasts may be used to deliver television programming. Walker at [0156] In accordance with the present invention, the interactive television application may provide the user with the ability to view broadcast television programming on the user's equipment. Broadcast television programming is delivered to the user's equipment via broadcast television signals (e.g., standard non-interactive analog and/or digital television signals). A user viewing such a broadcast television program being displayed and viewed on the user equipment may request a playback control function (e.g., pause, play, resume, rewind, skip, fast forward, slow forward, slow reverse, jump to another time point, scan, frame-by-frame advance, frame backward, restart program, etc.). In response to making such a request, the interactive television application may switch to displaying an interactive streaming version of the program from displaying the broadcast version. In some embodiments, the interactive television application may perform the switch from the broadcast version to the streaming version at substantially the same time point between the respective programs such that the switch to the streaming version may not be noticed by the user. Walker at [0157] The delivery of streaming media content involves providing digital data streams from a remote server or television distribution facility to user equipment over communications paths such as the paths of FIG. 1. The user equipment receives the data and displays the streamed content for the viewer. This stream may be buffered and/or stored on the user equipment to improve the quality and continuity of the displayed content. For example, buffering or storing the streamed program may ensure that the program can be continuously displayed on the user equipment. Walker at [0159]

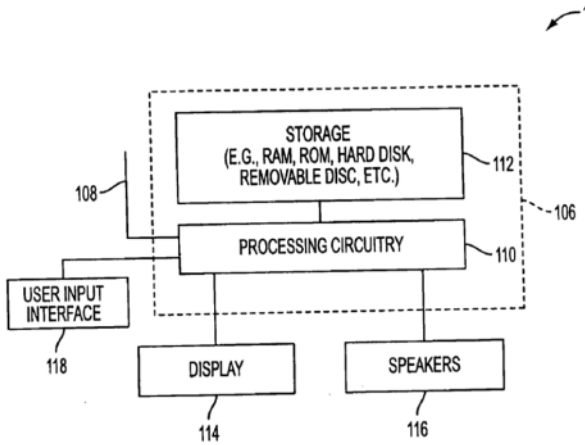
Claim Limitations	Exemplary Disclosure in the Prior Art
	Interactive television system 10 may include television distribution facility 14 that is capable of providing both broadcast programming content and streaming programming content to a plurality of user equipment devices 18. Programming sources 12 may provide original content which may, if desired, be re-broadcast (later or in real-time) by associated television distribution facilities 14. Television distribution facilities may use server 56 (or a remote server 36 may be used) to deliver interactive media streams to users. Walker at [0169] In response to the user's request to fast forward the program, the interactive television application may switch from receiving and displaying the broadcast program to receiving and displaying the streaming program. As described above, because the streaming version may begin at the same point in the program at which the viewer paused the program, the switch between versions may occur in a manner that is substantially transparent to the user. If the streaming version has been generated before the broadcast of the television program, the interactive application may receive and display portions of the streaming version of the program in advance of the broadcast version in response to the user's fast forward command. While the streaming version is being received and displayed on the user equipment, the user may also perform other playback control functions including, for example, stopping, pausing, resuming, rewinding, fast-forwarding, or any other suitable action. The user may also request to resume viewing the currently broadcast version. In response to this command, the interactive television application may switch from receiving and displaying the streaming version to receiving and displaying the broadcast version. Walker at [0174] In order to ensure that switching between the broadcast program and the streaming program is performed without substantial disruption to the user, the streaming version is preferably cued to begin at about the corresponding time-point in the broadcast version of the program. In response to a user pressing “PAUSE,” “REWIND,” or any other suitable playback control button on the user input device while viewing a broadcast program, the interactive television application may switch to the streaming version of the same program. In response to the user equipment receiving this command from the user, the user equipment may transmit information relating to the program to the remote server. The information may include, for example, the channel currently being viewed, the program being viewed, the time elapsed of the program, etc. Upon receiving the information from the user equipment, the remote server may determine the broadcast program the given user is currently viewing. Because the server may receive information, such as channel information, substantially instantaneously, the remote server may then

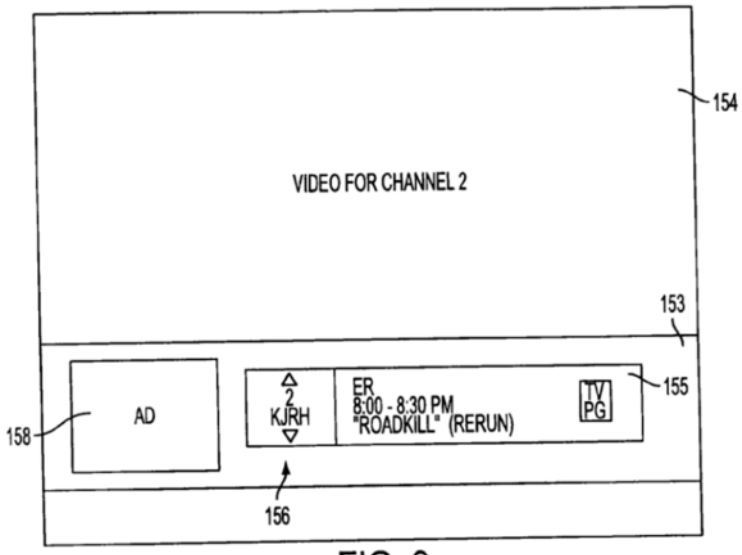
Claim Limitations	Exemplary Disclosure in the Prior Art
	retrieve the current time to determine the offset (i.e., the elapsed time) with respect to the currently-viewed broadcast program. Based at least on this information, the remote server may then begin streaming the corresponding streaming version of the program, starting at the time-point corresponding to the offset time. In some embodiments, the entire streaming version of the program is transmitted to the user equipment. Additional information may be provided by the user equipment (e.g., offset time, location, etc.) to the remote server in order to facilitate the switch between the broadcast version and the streaming version. Walker at [0183] FIG. 27 shows an illustrative method for switching from a broadcast program to a streaming program in response to a user's request in accordance with various embodiments of the present invention. Walker at [0184] At step 320, the television distribution facility is provided with an interactive streaming version of the television program. This streaming version may be provided separately from the television program by the content provider or programming source, by a provider other than the content provider or programming source, by a television distribution facility or other remote server that generates the streaming version from an earlier broadcast of the television program, or by any other suitable provider. In some embodiments, the sequence of steps 310 and 320 may be modified, where the streaming version may be provided before or at substantially the same time as the television program. *See also* Walker at Fig. 4, Fig. 9, Fig. 24, Fig. 25, Fig. 27, [0011], [0047]–[0049], [0054], [0056], [0057], [0063], [0065], [0066], [0068], [0075], [0077], [0082], [0086], [0087], [0088], [0091], [0095], [0097], [0098], [0107], [0120], [0121]–[0123], [0125], [0126], [0130], [0140], [0141]–[0142], [0143], [0155], [0158], [0160], [0161], [0164]–[0166], [0167], [0185], and [0186]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

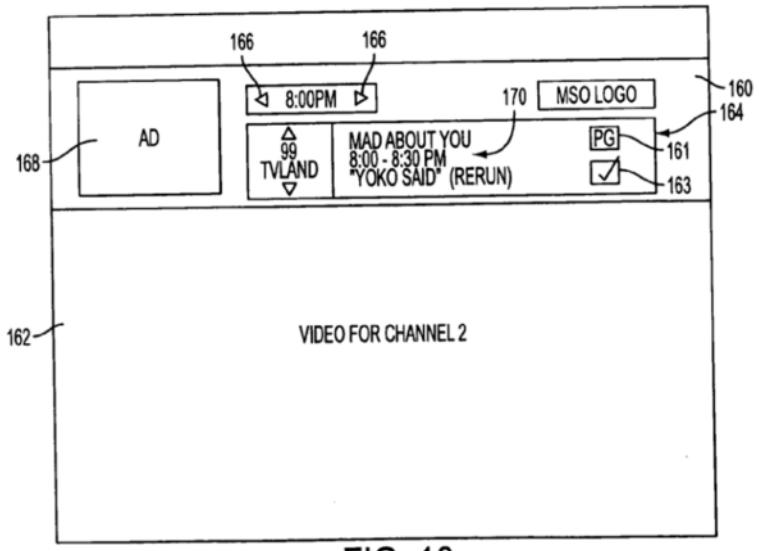
Claim Limitations	Exemplary Disclosure in the Prior Art
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	Walker expressly or inherently discloses "a television display that shows the digital moving image contents from the first provider and the second provider." For example: *See* 1pre. Walker at Fig. 2  FIG. 2 Walker at Fig. 3

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

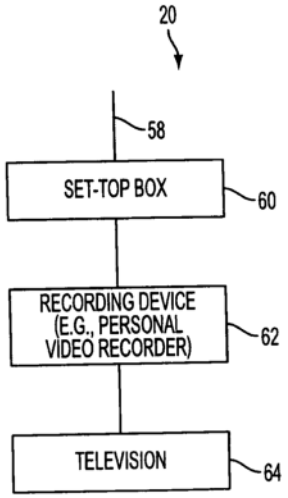
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

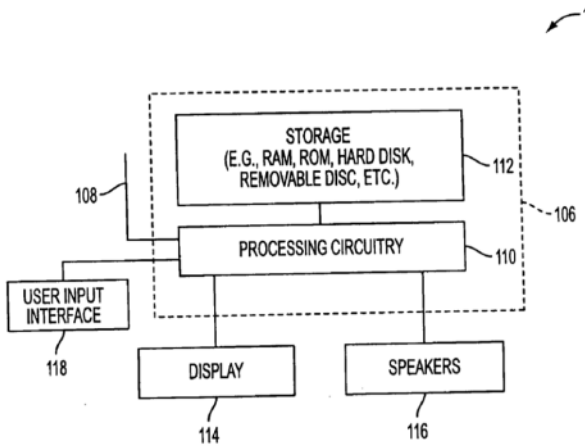
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at Fig. 9

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 9 Walker at Fig. 10

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at [0017] FIG. 1 is a diagram of an illustrative interactive television system in accordance with various embodiments of the present invention. Walker at [0069] The output of recording device 62 may be provided to television 64 for display to the user. If desired, multiple recording devices 62 or no recording device 62 may be used. If recording device 62 is not present or is not being actively used, the video signals from set-top box 60 may be provided directly to television 64. Any suitable television or monitor may be used to display the video. In the equipment of FIG. 2 and the other equipment of system 10, the audio associated with various video items is typically distributed with those video items and is generally played back to the user as the videos are played. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a

Claim Limitations	Exemplary Disclosure in the Prior Art
	digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0092] Television programming and other video and on-screen options and information may be displayed on display 114. Display 114 may be a monitor, a television, or any other suitable equipment for displaying visual images. *See also* Walker at Fig. 1, Fig. 24, Fig. 25, Fig. 27, [0067], [0075], [0090], [0141]–[0142], [0155], [0161], [0164]–[0166], and [0173]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

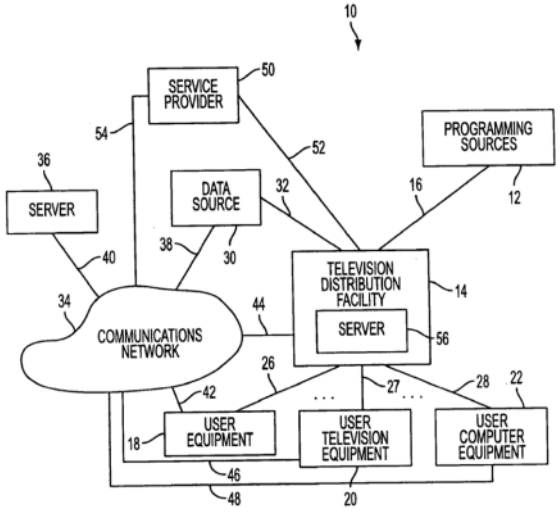
Claim Limitations	Exemplary Disclosure in the Prior Art
[1e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Walker expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1c. Walker at Fig. 2  FIG. 2 Walker at Fig. 6

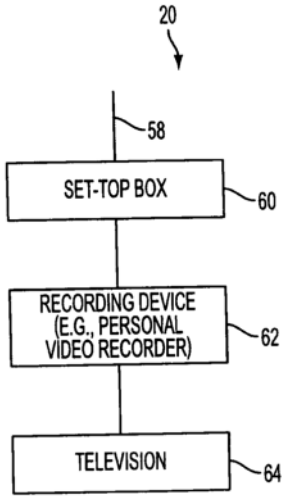
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities. Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle

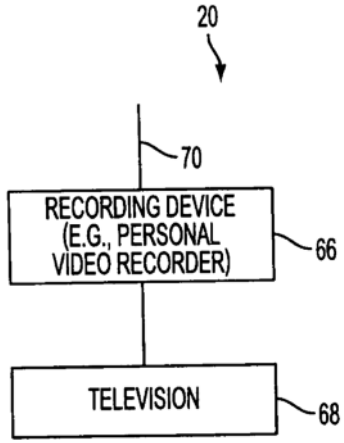
Claim Limitations	Exemplary Disclosure in the Prior Art
	simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities. Walker at [0064] Set-top box 60 contains a processor (e.g., a microcontroller or microprocessor or the like) that is used to execute software applications. Set-top box 60 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used (e.g., to launch a boot-up routine and other instructions). Hard disk storage in set-top box 60 or in recording device 62 may be used to back up data and to otherwise support larger databases and storage requirements than may be supported using random-access memory approaches. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0071] Recording device 66 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used to store a boot-up routine or other instructions. The hard disk and other storage in recording device 66 may be used to support databases (e.g., program guide databases or interactive television application databases). The hard disk or other storage in recording device 66 may also be used to record video such as television programs or video-on-demand content or other content provided to recording device 66 over input/output 70.

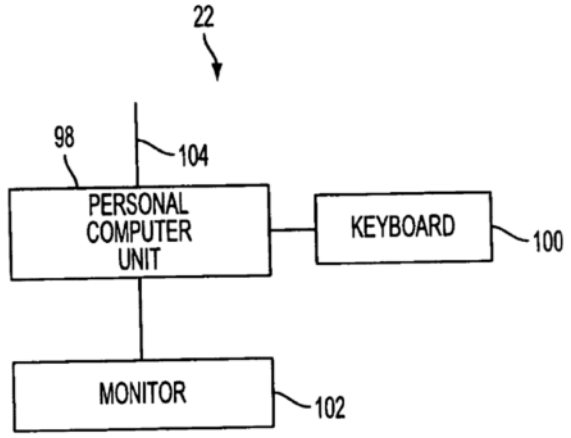
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0082] The keys shown in FIG. 4 are merely illustrative. Other keys or buttons may be provided if desired. For example, a music button may be used to access music with the interactive television application. An edit button may be used to edit stored content (e.g., to remove commercials, remove portions of a video, etc.). Alphanumeric buttons may be used to enter alphanumeric characters. A last or back button may be used to browse backward in the interactive television application (e.g., to return to a previous channel or display screen). Video recorder function buttons such as a play button, pause button, stop button, rewind button, fast-forward button, and record button, may be used to control video recorder functions (local or network-based) in system 10. A help key may be used to invoke help functions such as context-sensitive on-screen help, etc. Walker at [0086] Storage in personal computer unit 98 such as a hard drive, DVD drive, CD drive, or other suitable storage device or devices may be used to store video and other content. For example, the interactive television application and personal computer unit 98 may use this storage to provide the functions of a personal video recorde Walker at [0092] Control circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc. Memory (e.g., random-access memory and read-only memory), hard drives, DVD drives, CD drives, or any other suitable memory or storage devices may be provided as storage 112 that is part of control circuitry 106. Walker at [0127] The interactive television system 10 may be used to support video recorder functions. The video recorder functions may be supported using local arrangements (e.g., arrangements in which a personal video recorder or other suitable equipment in the user's home is used to record videos on a local hard drive or other storage device) and network-based arrangements (e.g., arrangements in which network equipment such as servers 36 and 56 or equipment at a service provider such as service provider 50 is used to store video and data for the user). Combinations of these arrangements may also be supported using system 10. Walker at [0128]

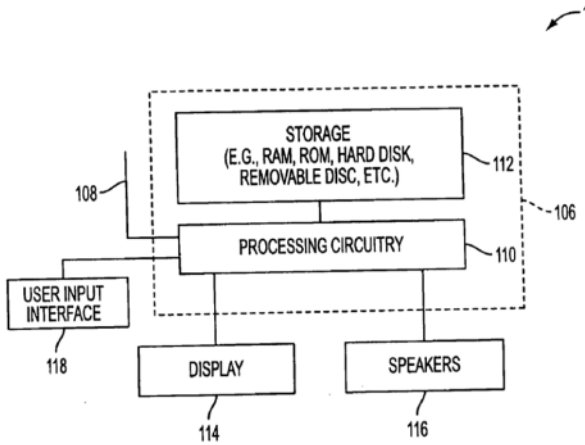
Claim Limitations	Exemplary Disclosure in the Prior Art
	In a local video recorder arrangement (sometimes called a personal video recorder arrangement or local digital video recorder arrangement), video recordings are stored locally on the user equipment. Information on which videos have been recorded may also be maintained locally. Program guide information (e.g., titles, rates, descriptions, categories, etc.) may also be maintained for the recorded videos. When a user desires to view a list of the recordings that the user has stored on the user equipment, the interactive television application may retrieve this information from local storage and may display this information to the user locally on user equipment 18. The user may then select a desired recording to play back. Walker at [0135] Programs recorded onto a network server may be copied to a user's local storage. *See also* Walker at Fig. 1, Fig. 3, Fig. 5, Fig. 27, [0047]–[0049], [0067], [0069], [0075], [0144], and [0157]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer." For example: *See* claim 1. Walker at Fig. 1

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1 Walker at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Walker at Fig. 3

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0047]–[0049]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Communications path 16 may be a satellite path, a fiber-optic path, a cable path, or any other suitable wired or wireless communications paths or a combination of such paths. Television distribution facility 14 may be connected to various user equipment devices 18. Such user equipment 18 may, for example, be located in the homes of users. User equipment 18 may include user television equipment 20 or user computer equipment 22. The user equipment may receive television and music programming and other information from television distribution facility 14 over communications paths such as communications paths 26, 27, and 28. The user equipment may also transmit signals to television distribution facility 14 over paths 26, 27, and 28. Paths 26, 27, and 28 may be cables or other wired connections, or wireless connections for broadcast or satellite links. Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities. Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities.

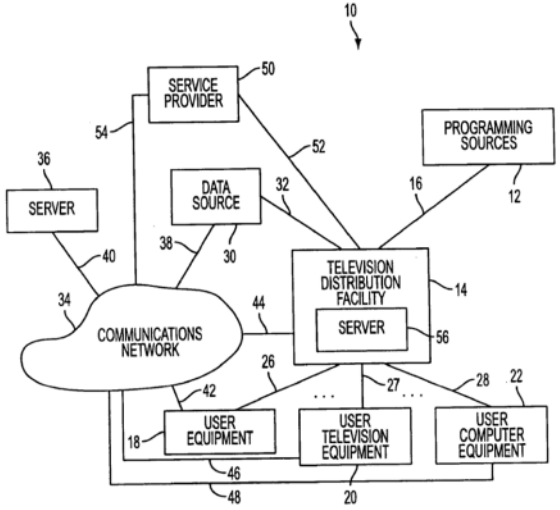
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0064] Set-top box 60 contains a processor (e.g., a microcontroller or microprocessor or the like) that is used to execute software applications. Set-top box 60 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used (e.g., to launch a boot-up routine and other instructions). Hard disk storage in set-top box 60 or in recording device 62 may be used to back up data and to otherwise support larger databases and storage requirements than may be supported using random-access memory approaches. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0071] Recording device 66 may contain at least one analog tuner for tuning to a desired analog television channel. Recording device 66 may also contain digital decoding circuitry for receiving digital television and music channels. If desired, recording device 66 may contain circuitry for handling both analog and digital channels. Recording device 66 also contains a processor (e.g., multiple tuners may be provided, a microcontroller or microprocessor or the like) that is used to execute software applications. Walker at [0071] Recording device 66 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used to store a boot-up routine or other instructions. The hard disk and other storage in recording device 66 may be used to support databases (e.g., program guide databases or interactive television application databases). The hard disk or other storage in recording device 66 may also be used to record video such as television programs or video-on-demand content or other content provided to recording device 66 over input/output 70.

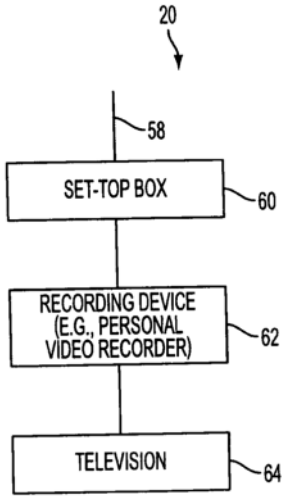
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0075] Recording device 66 of FIG. 3 or recording device 62 of FIG. 2 may record new video while previously recorded video is being played back on television 68 or 64. This allows users to press a pause button during normal television viewing. When the pause button is pressed, the current television program is stored on the hard disk of digital video recorder 66. When the user presses play, the recorded video may be played back. This arrangement allows the user to seamlessly pause and resume television viewing. Recording device 66 and 62 may also be used to allow a user to watch a previously-recorded program while simultaneously recording a new program. Walker at [0076] The set-top box arrangement of FIG. 2 and the digital video recorder set-top box arrangement of FIG. 3 are merely illustrative. Other arrangements may be used if desired. For example, user television equipment may be based on a WebTV box, a personal computer television (PC/TV), or any other suitable television equipment arrangement. If desired, the functions of components such as set-top box 60, digital video recorder 66, a WebTV box, or PC/TV or the like may be integrated into a television or personal computer or other suitable device. Walker at [0082] The keys shown in FIG. 4 are merely illustrative. Other keys or buttons may be provided if desired. For example, a music button may be used to access music with the interactive television application. An edit button may be used to edit stored content (e.g., to remove commercials, remove portions of a video, etc.). Alphanumeric buttons may be used to enter alphanumeric characters. A last or back button may be used to browse backward in the interactive television application (e.g., to return to a previous channel or display screen). Video recorder function buttons such as a play button, pause button, stop button, rewind button, fast-forward button, and record button, may be used to control video recorder functions (local or network-based) in system 10. A help key may be used to invoke help functions such as context-sensitive on-screen help, etc. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as

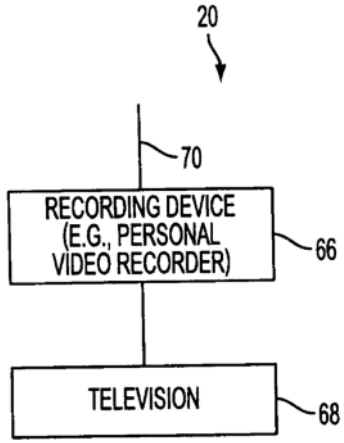
Claim Limitations	Exemplary Disclosure in the Prior Art
	remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0085] Personal computer unit 98 may contain one or more processors (e.g., microprocessors) that are used to run the interactive television application or a portion of the interactive television application. Walker at [0086] Storage in personal computer unit 98 such as a hard drive, DVD drive, CD drive, or other suitable storage device or devices may be used to store video and other content. For example, the interactive television application and personal computer unit 98 may use this storage to provide the functions of a personal video recorde Walker at [0092] Control circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc. Memory (e.g., random-access memory and read-only memory), hard drives, DVD drives, CD drives, or any other suitable memory or storage devices may be provided as storage 112 that is part of control circuitry 106. Walker at [0127]

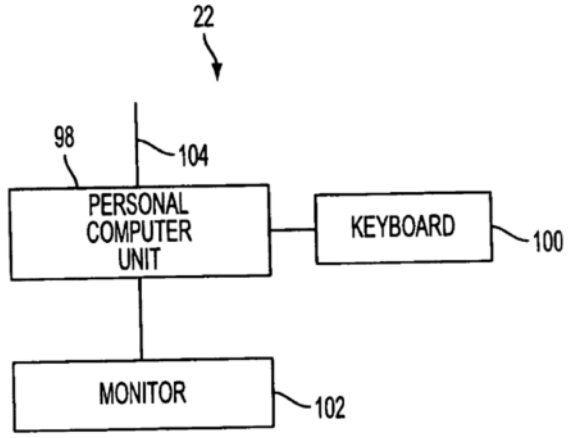
Claim Limitations	Exemplary Disclosure in the Prior Art
	The interactive television system 10 may be used to support video recorder functions. The video recorder functions may be supported using local arrangements (e.g., arrangements in which a personal video recorder or other suitable equipment in the user's home is used to record videos on a local hard drive or other storage device) and network-based arrangements (e.g., arrangements in which network equipment such as servers 36 and 56 or equipment at a service provider such as service provider 50 is used to store video and data for the user). Combinations of these arrangements may also be supported using system 10. Walker at [0128] In a local video recorder arrangement (sometimes called a personal video recorder arrangement or local digital video recorder arrangement), video recordings are stored locally on the user equipment. Information on which videos have been recorded may also be maintained locally. Program guide information (e.g., titles, rates, descriptions, categories, etc.) may also be maintained for the recorded videos. When a user desires to view a list of the recordings that the user has stored on the user equipment, the interactive television application may retrieve this information from local storage and may display this information to the user locally on user equipment 18. The user may then select a desired recording to play back. Walker at [0135] Programs recorded onto a network server may be copied to a user's local storage. *See also* Walker at Fig. 4, Fig. 24, Fig. 25, Fig. 27, [0011], [0054], [0055], [0062], [0065], [0066], [0067], [0068], [0069], [0077], [0087], [0088], [0090], [0091], [0092], [0093], [0095], [0107], [0109], [0125], [0126], [0140], [0141]–[0142], [0143], [0144], [0154], [0155], [0156], [0157], [0158], [0159], [0160], [0161], [0164]–[0166], [0167], [0169], [0174], [0184], [0185], and [0186]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

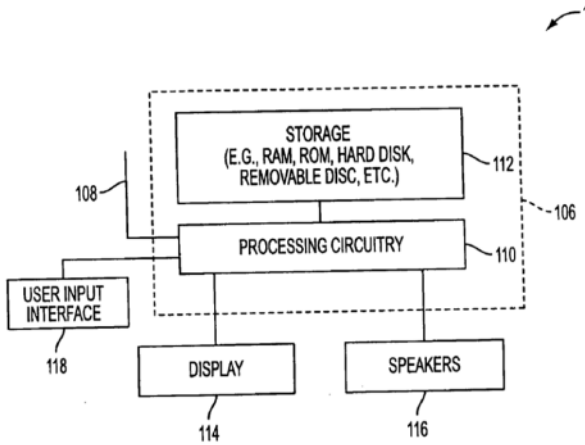
Claim Limitations	Exemplary Disclosure in the Prior Art
[3] The receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example: *See* claims 1-2. Walker at [0075] Recording device 66 of FIG. 3 or recording device 62 of FIG. 2 may record new video while previously recorded video is being played back on television 68 or 64. This allows users to press a pause button during normal television viewing. When the pause button is pressed, the current television program is stored on the hard disk of digital video recorder 66. When the user presses play, the recorded video may be played back. This arrangement allows the user to seamlessly pause and resume television viewing. Recording device 66 and 62 may also be used to allow a user to watch a previously-recorded program while simultaneously recording a new program. Walker at [0082] The keys shown in FIG. 4 are merely illustrative. Other keys or buttons may be provided if desired. For example, a music button may be used to access music with the interactive television application. An edit button may be used to edit stored content (e.g., to remove commercials, remove portions of a video, etc.). Alphanumeric buttons may be used to enter alphanumeric characters. A last or back button may be used to browse backward in the interactive television application (e.g., to return to a previous channel or display screen). Video recorder function buttons such as a play button, pause button, stop button, rewind button, fast-forward button, and record button, may be used to control video recorder functions (local or network-based) in system 10. A help key may be used to invoke help functions such as context-sensitive on-screen help, etc. *See also* Walker at Fig. 1, Fig. 2, Fig. 5, Fig. 6, Fig. 24, Fig. 25, Fig. 27, [0011], [0047]–[0049], [0058], [0068], [0077], [0086], [0087], [0088], [0125], [0126], [0140], [0141]–[0142], [0143], [0144], [0155], [0157], [0158], [0160], [0161], [0164]–[0166], [0167], [0174], [0184], and [0186]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or

Claim Limitations	Exemplary Disclosure in the Prior Art
	renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1. Walker at Fig. 1  FIG. 1 Walker at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Walker at Fig. 3

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0047]–[0049]

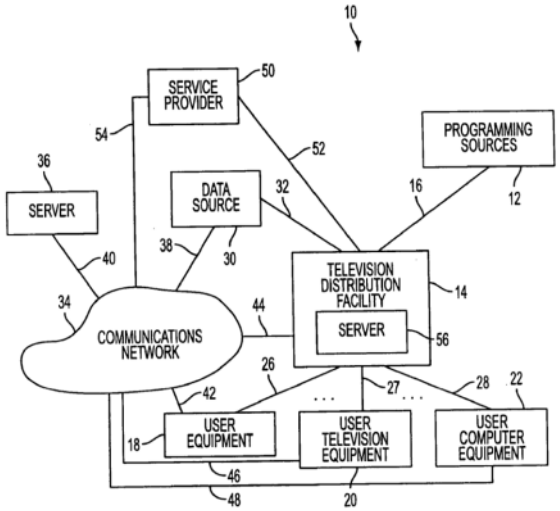
Claim Limitations	Exemplary Disclosure in the Prior Art
	Communications path 16 may be a satellite path, a fiber-optic path, a cable path, or any other suitable wired or wireless communications paths or a combination of such paths. Television distribution facility 14 may be connected to various user equipment devices 18. Such user equipment 18 may, for example, be located in the homes of users. User equipment 18 may include user television equipment 20 or user computer equipment 22. The user equipment may receive television and music programming and other information from television distribution facility 14 over communications paths such as communications paths 26, 27, and 28. The user equipment may also transmit signals to television distribution facility 14 over paths 26, 27, and 28. Paths 26, 27, and 28 may be cables or other wired connections, or wireless connections for broadcast or satellite links. Walker at [0051]–[0052] Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path. User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder

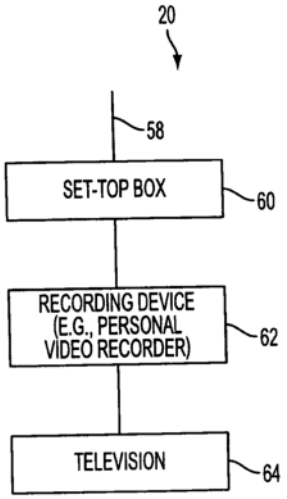
Claim Limitations	Exemplary Disclosure in the Prior Art
	functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities. Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities. Walker at [0064] Set-top box 60 contains a processor (e.g., a microcontroller or microprocessor or the like) that is used to execute software applications. Set-top box 60 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used (e.g., to launch a boot-up routine and other instructions). Hard disk storage in set-top box 60 or in recording device 62 may be used to back up data and to otherwise support larger databases and storage requirements than may be supported using random-access memory approaches. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70.

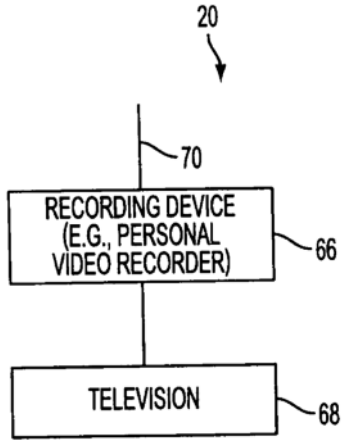
Claim Limitations	Exemplary Disclosure in the Prior Art
	Walker at [0071] Recording device 66 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used to store a boot-up routine or other instructions. The hard disk and other storage in recording device 66 may be used to support databases (e.g., program guide databases or interactive television application databases). The hard disk or other storage in recording device 66 may also be used to record video such as television programs or video-on-demand content or other content provided to recording device 66 over input/output 70. Walker at [0076] The set-top box arrangement of FIG. 2 and the digital video recorder set-top box arrangement of FIG. 3 are merely illustrative. Other arrangements may be used if desired. For example, user television equipment may be based on a WebTV box, a personal computer television (PC/TV), or any other suitable television equipment arrangement. If desired, the functions of components such as set-top box 60, digital video recorder 66, a WebTV box, or PC/TV or the like may be integrated into a television or personal computer or other suitable device. Walker at [0082] The keys shown in FIG. 4 are merely illustrative. Other keys or buttons may be provided if desired. For example, a music button may be used to access music with the interactive television application. An edit button may be used to edit stored content (e.g., to remove commercials, remove portions of a video, etc.). Alphanumeric buttons may be used to enter alphanumeric characters. A last or back button may be used to browse backward in the interactive television application (e.g., to return to a previous channel or display screen). Video recorder function buttons such as a play button, pause button, stop button, rewind button, fast-forward button, and record button, may be used to control video recorder functions (local or network-based) in system 10. A help key may be used to invoke help functions such as context-sensitive on-screen help, etc. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television

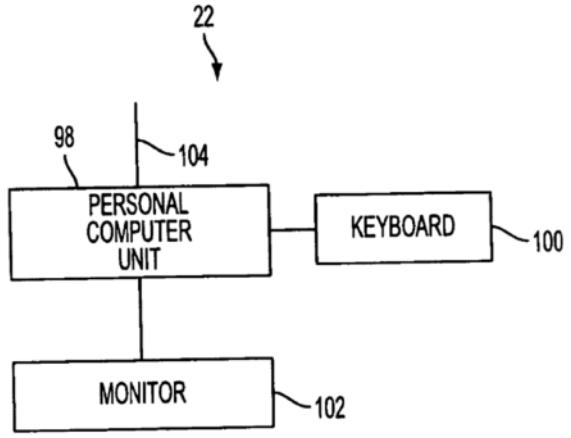
Claim Limitations	Exemplary Disclosure in the Prior Art
	application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0086] Storage in personal computer unit 98 such as a hard drive, DVD drive, CD drive, or other suitable storage device or devices may be used to store video and other content. For example, the interactive television application and personal computer unit 98 may use this storage to provide the functions of a personal video recorde Walker at [0092] Control circuitry 106 may be based on any suitable processing circuitry 110 such as processing circuitry based on one or more microprocessors, microcontrollers, digital signal processors, programmable logic devices, etc. Memory (e.g., random-access memory and read-only memory), hard drives, DVD drives, CD drives, or any other suitable memory or storage devices may be provided as storage 112 that is part of control circuitry 106. Walker at [0127] The interactive television system 10 may be used to support video recorder functions. The video recorder functions may be supported using local arrangements (e.g., arrangements in which a personal video recorder or other suitable equipment in the user's home is used to record videos on a local hard drive or other storage device) and network-based arrangements (e.g., arrangements in which network equipment

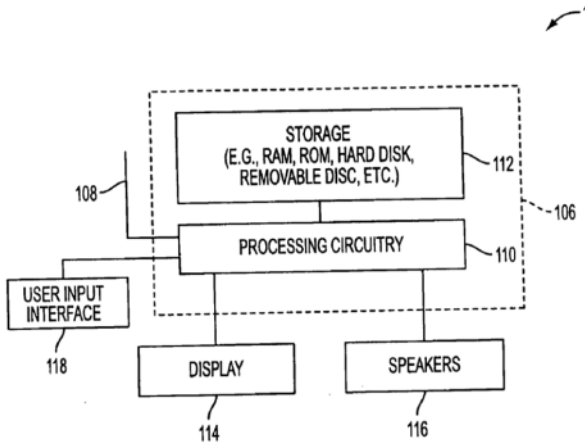
Claim Limitations	Exemplary Disclosure in the Prior Art
	such as servers 36 and 56 or equipment at a service provider such as service provider 50 is used to store video and data for the user). Combinations of these arrangements may also be supported using system 10. Walker at [0128] In a local video recorder arrangement (sometimes called a personal video recorder arrangement or local digital video recorder arrangement), video recordings are stored locally on the user equipment. Information on which videos have been recorded may also be maintained locally. Program guide information (e.g., titles, rates, descriptions, categories, etc.) may also be maintained for the recorded videos. When a user desires to view a list of the recordings that the user has stored on the user equipment, the interactive television application may retrieve this information from local storage and may display this information to the user locally on user equipment 18. The user may then select a desired recording to play back. Walker at [0135] Programs recorded onto a network server may be copied to a user's local storage. *See also* Walker at Fig. 4, Fig. 24, Fig. 25, Fig. 27, [0011], [0050], [0054], [0055], [0062], [0065], [0066], [0067], [0069], [0071], [0075], [0077], [0085], [0087], [0088], [0090], [0091], [0092], [0093], [0095], [0107], [0109], [0125], [0126], [0141]–[0142], [0143], [0144], [0154], [0155], [0156], [0157], [0159], [0161], [0164]–[0166], [0174], [0184], and [0185]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the	Walker expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example:

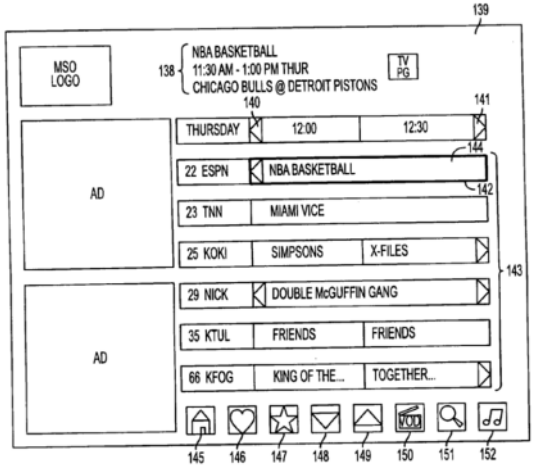
Claim Limitations	Exemplary Disclosure in the Prior Art
outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	*See* claim 1, 1pre. Walker at Fig. 1  FIG. 1 Walker at Fig. 2

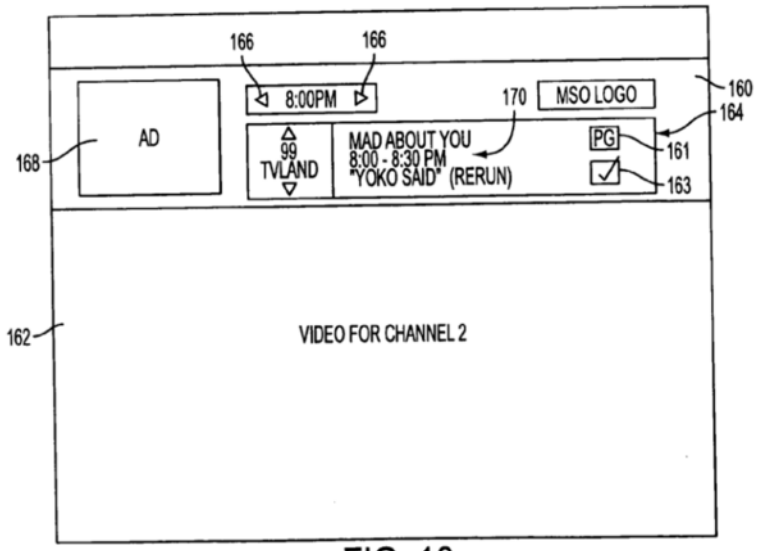
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Walker at Fig. 3

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 3 Walker at Fig. 5

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 5 Walker at Fig. 6

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 6 Walker at Fig. 8

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 8 Walker at Fig. 10

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0047]–[0049]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Communications path 16 may be a satellite path, a fiber-optic path, a cable path, or any other suitable wired or wireless communications paths or a combination of such paths. Television distribution facility 14 may be connected to various user equipment devices 18. Such user equipment 18 may, for example, be located in the homes of users. User equipment 18 may include user television equipment 20 or user computer equipment 22. The user equipment may receive television and music programming and other information from television distribution facility 14 over communications paths such as communications paths 26, 27, and 28. The user equipment may also transmit signals to television distribution facility 14 over paths 26, 27, and 28. Paths 26, 27, and 28 may be cables or other wired connections, or wireless connections for broadcast or satellite links. Walker at [0050] Data source 30 may include a program listings database that is used to provide the user equipment with information for the interactive television program guide, such as scheduled broadcast times, titles, channels, ratings information (e.g., parental ratings and critic's ratings), detailed title descriptions, genre or category information (e.g., sports, news, movies, etc.), information on actors and actresses, running times, etc. Data source 30 may also be used to provide advertisements (e.g., program guide advertisements and advertisements for other interactive television applications), real-time data such as sports scores, stock quotes, news, weather, etc. Although data source 30 is drawn as an individual box in FIG. 1, data source 30 and the other system components of FIG. 1 may be provided using equipment at one or more locations. Systems components are drawn as single boxes in FIG. 1 to avoid over-complicating the drawings. Walker at [0051]–[0052] Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path.

Claim Limitations	Exemplary Disclosure in the Prior Art
	User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0055] User equipment such as user television equipment 20 and user computer equipment 22 may access the on-line program guide and server 36 using similar arrangements. User television equipment 20 may access the on-line program guide and server 36 using communications path 46 or using path 27, television distribution facility 14, and path 44. User computer equipment 22 may access the on-line program guide and server 36 using communications path 48 or using path 28, television distribution facility 14, and path 44. Paths 46 and 48 may be any suitable paths, such as wired paths, cable paths, fiber-optic paths, satellite paths, wireless paths, a combination of such paths, etc. Walker at [0058] If desired, an interactive television application such as a client for a network-based video recorder or a video-on-demand application may be supported using server 56, server 36, or equipment at service provider 50. Video-on-demand content and video recorded using a network-based video recorder arrangement may be stored on server 56 or server 36 or at service provider 50 and may be provided to the user equipment when requested by users. An interactive television application may be used to support the functions of a personal video recorder (sometimes called a digital video recorder) that is implemented using user equipment 18. Illustrative equipment that may be used to support personal video recorder functions include specialized personal video recorder devices, integrated receiver decoders (IRDs), set-top boxes with integrated or external hard drives, or personal computers with video recording capabilities. Walker at [0063] Set-top box 60 may be any suitable analog or digital set-top box (e.g., a cable set-top box). Set-top box 60 may contain an analog tuner for tuning to a desired analog television channel. Set-top box 60 may also contain digital decoding circuitry for receiving digital television and music channels. Both analog and digital channels may be handled together if desired. Multiple tuners may be provided (e.g., to handle simultaneous watch and record functions). Set-top box 60 may be an integrated receiver decoder (IRD) that handles satellite television. If desired, set-top box 60 may have circuitry for handling cable, over-the-air broadcast, and satellite content. Set-top box 60 may include a storage device (e.g., a digital storage

Claim Limitations	Exemplary Disclosure in the Prior Art
	device such as a hard disk drive) for providing recording capabilities. Set-top box 60 may also be connected to a recording device 62 such as a video cassette recorder, personal video recorder, or other device or devices with storage capabilities. Walker at [0064] Set-top box 60 contains a processor (e.g., a microcontroller or microprocessor or the like) that is used to execute software applications. Set-top box 60 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used (e.g., to launch a boot-up routine and other instructions). Hard disk storage in set-top box 60 or in recording device 62 may be used to back up data and to otherwise support larger databases and storage requirements than may be supported using random-access memory approaches. Walker at [0070] nother illustrative arrangement for user television equipment 20 is shown in FIG. 3. In the example of FIG. 3, user television equipment 20 includes a recording device 66 such as a digital video recorder (e.g., a personal video recorder (PVR)) that uses a hard disk or other storage for recording video or may be a digital video disc recorder, compact disc recorder, videocassette recorder, or other suitable recording device. Equipment 20 of FIG. 3 may-also include a television 68. Input/output 70 may be connected to communications paths such as paths 27 and 46. Television programming and other information may be received using input/output 70. Commands and requests and other information from the user may be transmitted over input/output 70. Walker at [0071] Recording device 66 may contain memory such as random-access memory for use when executing applications. Nonvolatile memory may also be used to store a boot-up routine or other instructions. The hard disk and other storage in recording device 66 may be used to support databases (e.g., program guide databases or interactive television application databases). The hard disk or other storage in recording device 66 may also be used to record video such as television programs or video-on-demand content or other content provided to recording device 66 over input/output 70. Walker at [0076] The set-top box arrangement of FIG. 2 and the digital video recorder set-top box arrangement of FIG. 3 are merely illustrative. Other arrangements may be used if desired. For example, user television

Claim Limitations	Exemplary Disclosure in the Prior Art
	equipment may be based on a WebTV box, a personal computer television (PC/TV), or any other suitable television equipment arrangement. If desired, the functions of components such as set-top box 60, digital video recorder 66, a WebTV box, or PC/TV or the like may be integrated into a television or personal computer or other suitable device. Walker at [0083] Illustrative user computer equipment 22 is shown in FIG. 5. In the arrangement of FIG. 5, personal computer unit 98 may be controlled by the user using keyboard 100 or other suitable user input device, such as a trackball, mouse, touch pad, touch screen, voice recognition system, a remote control such as remote control 72 of FIG. 4, etc. Video content such as television programming and interactive television application display screens may be displayed on monitor 102. Television programming, video-on-demand content, video recordings played back from a network-based video recorder, and other information may be received from paths 28 and 48 (FIG. 1) using input/output 104. The user may also send commands and other information used during interactions with the interactive television application and system 10 over input/output line 104. Walker at [0084] Personal computer unit 98 may contain a television or video card such as television tuner card for decoding analog and digital television channels and for handling streaming video content. Multiple video cards (e.g., tuner cards) may be provided if desired. An illustrative television tuner card that may be used may contain an analog television tuner for tuning to a given analog channel and digital decoding circuitry for filtering out a desired digital television or music channel from a packetized digital data stream. Any suitable card or components in computer unit 98 may be used to handle video and other content delivered via input/output line 104 if desired. Walker at [0154] Programming, such as audio, video, movies, and television programs, may be delivered to a plurality of users by broadcasting the programming from a television distribution facility to each user's equipment. Examples of such an arrangement are illustrated in FIG. 1, wherein television distribution facility 14 provides programming content to user equipment devices 18, 20 and 22 via communications paths, such as communication paths 26, 27 and 28. Walker at [0154]

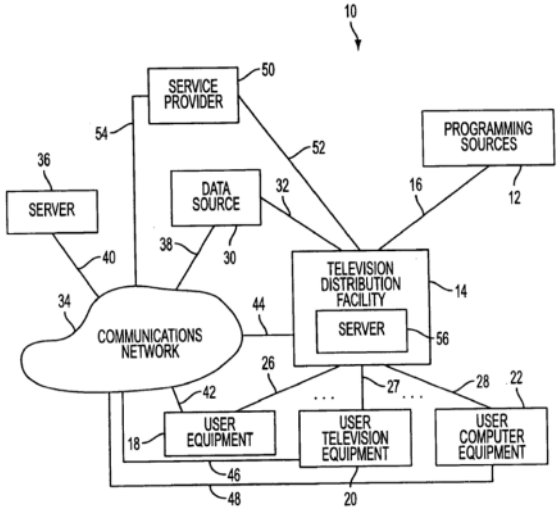
Claim Limitations	Exemplary Disclosure in the Prior Art
	Programming content may be broadcast in accordance with a schedule, such that each program begins and ends at specified times. A viewer may watch broadcast programs according to the schedule. The broadcast programs may be delivered to the user in the form of broadcast television signals (analog and/or digital). Satellite broadcasts, cable broadcasts, and over-the-air broadcasts may be used to deliver television programming. Walker at [0156] In accordance with the present invention, the interactive television application may provide the user with the ability to view broadcast television programming on the user's equipment. Broadcast television programming is delivered to the user's equipment via broadcast television signals (e.g., standard non-interactive analog and/or digital television signals). A user viewing such a broadcast television program being displayed and viewed on the user equipment may request a playback control function (e.g., pause, play, resume, rewind, skip, fast forward, slow forward, slow reverse, jump to another time point, scan, frame-by-frame advance, frame backward, restart program, etc.). In response to making such a request, the interactive television application may switch to displaying an interactive streaming version of the program from displaying the broadcast version. In some embodiments, the interactive television application may perform the switch from the broadcast version to the streaming version at substantially the same time point between the respective programs such that the switch to the streaming version may not be noticed by the user. Walker at [0157] The delivery of streaming media content involves providing digital data streams from a remote server or television distribution facility to user equipment over communications paths such as the paths of FIG. 1. The user equipment receives the data and displays the streamed content for the viewer. This stream may be buffered and/or stored on the user equipment to improve the quality and continuity of the displayed content. For example, buffering or storing the streamed program may ensure that the program can be continuously displayed on the user equipment. Walker at [0159] Interactive television system 10 may include television distribution facility 14 that is capable of providing both broadcast programming content and streaming programming content to a plurality of user equipment devices 18. Programming sources 12 may provide original content which may, if desired, be re-broadcast

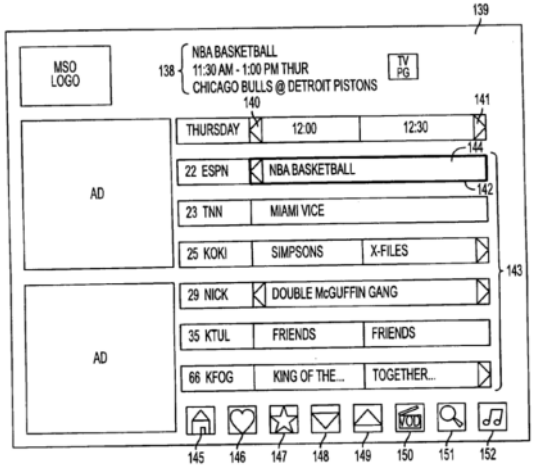
Claim Limitations	Exemplary Disclosure in the Prior Art
	(later or in real-time) by associated television distribution facilities 14. Television distribution facilities may use server 56 (or a remote server 36 may be used) to deliver interactive media streams to users. *See also* Walker at Fig. 4, Fig. 9, Fig. 24, Fig. 25, Fig. 27, [0011], [0054], [0056], [0057], [0062], [0065], [0066], [0067], [0069], [0071], [0075], [0077], [0085], [0086], [0087], [0088], [0090], [0091], [0092], [0093], [0095], [0097], [0098], [0107], [0109], [0120], [0121]–[0123], [0125], [0126], [0130], [0140], [0141]–[0142], [0143], [0155], [0158], [0160], [0161], [0164]–[0166], [0169], [0174], [0183], [0184], [0185], and [0186]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	Walker expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1, 1pre-1a. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	Walker expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b.

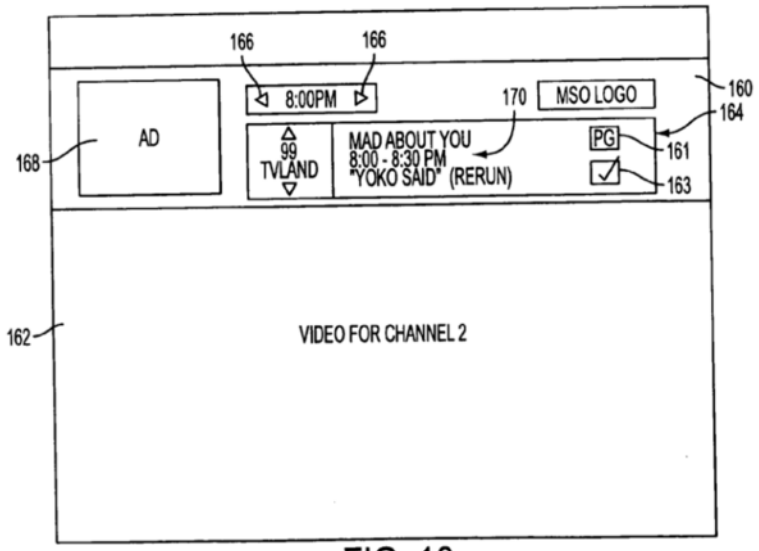
Claim Limitations	Exemplary Disclosure in the Prior Art
	To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller;	Walker expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example: *See* claim 1, 1pre, 1c. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	Walker expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng,

Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Walker expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1, 1c, 1e. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example: *See* claim 1-2, 6. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 1-3, 6-7.

Claim Limitations	Exemplary Disclosure in the Prior Art
	To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claims 5-6. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider.	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1. Walker at Fig. 1

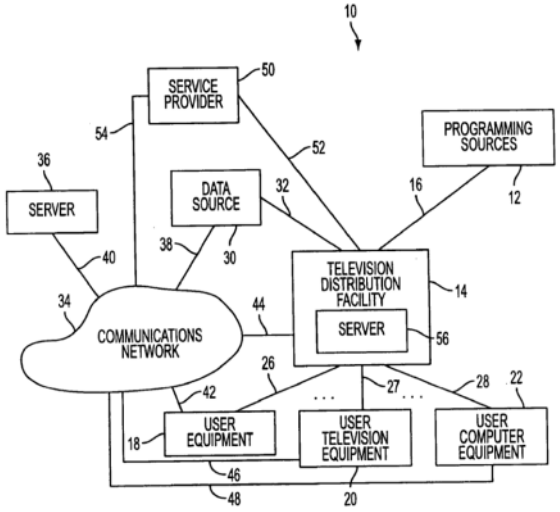
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1 Walker at Fig. 8

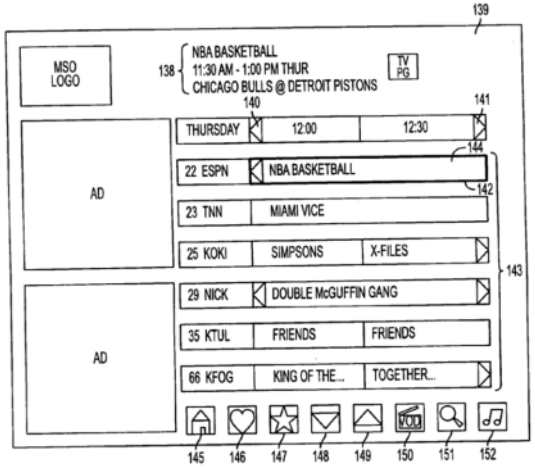
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 8 Walker at Fig. 10

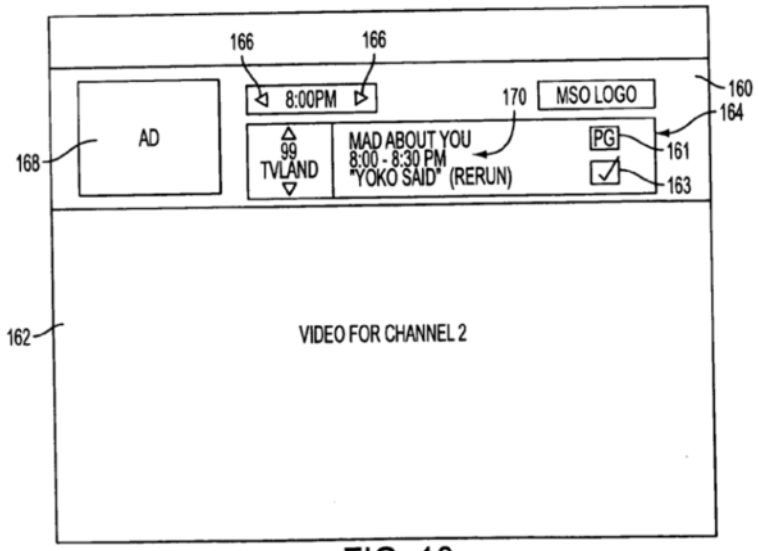
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0051]–[0052]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path. User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0055] User equipment such as user television equipment 20 and user computer equipment 22 may access the on-line program guide and server 36 using similar arrangements. User television equipment 20 may access the on-line program guide and server 36 using communications path 46 or using path 27, television distribution facility 14, and path 44. User computer equipment 22 may access the on-line program guide and server 36 using communications path 48 or using path 28, television distribution facility 14, and path 44. Paths 46 and 48 may be any suitable paths, such as wired paths, cable paths, fiber-optic paths, satellite paths, wireless paths, a combination of such paths, etc. Walker at [0072] Recording device 66 may have IR communications circuitry or other suitable communications circuitry for communicating with a remote control. Recording device 66 may also have dedicated buttons and a front-panel display. The front-panel display may, for example, be used to display the current channel to which the recording device is tuned. Walker at [0154] Programming, such as audio, video, movies, and television programs, may be delivered to a plurality of users by broadcasting the programming from a television distribution facility to each user's equipment. Examples of such an arrangement are illustrated in FIG. 1, wherein television distribution facility 14

Claim Limitations	Exemplary Disclosure in the Prior Art
	provides programming content to user equipment devices 18, 20 and 22 via communications paths, such as communication paths 26, 27 and 28. Walker at [0154] Programming content may be broadcast in accordance with a schedule, such that each program begins and ends at specified times. A viewer may watch broadcast programs according to the schedule. The broadcast programs may be delivered to the user in the form of broadcast television signals (analog and/or digital). Satellite broadcasts, cable broadcasts, and over-the-air broadcasts may be used to deliver television programming. Walker at [0159] Interactive television system 10 may include television distribution facility 14 that is capable of providing both broadcast programming content and streaming programming content to a plurality of user equipment devices 18. Programming sources 12 may provide original content which may, if desired, be re-broadcast (later or in real-time) by associated television distribution facilities 14. Television distribution facilities may use server 56 (or a remote server 36 may be used) to deliver interactive media streams to users. *See also* Walker at Fig. 3, Fig. 4, Fig. 6, Fig. 9, Fig. 19a, Fig. 27, [0012], [0015], [0047]–[0049], [0054], [0066], [0083], [0084], [0091], [0095], [0102], [0107], [0155], [0156], [0161], and [0185]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in	Walker expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1. Walker at Fig. 1

Claim Limitations	Exemplary Disclosure in the Prior Art
accordance with the program schedule table.	 FIG. 1 Walker at Fig. 8

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 8 Walker at Fig. 10

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 10 Walker at [0045] An illustrative interactive television system 10 in accordance with the present invention is shown in FIG. 1. Content such as television programming and other media, such as digital music, may be provided from programming sources 12 to television distribution facilities such as television distribution facility 14 using communications path 16. Programming sources 12 may be any suitable sources of programming (such as television programming, music programming, and other content) such as television and music production studios, etc. Walker at [0046] elevision distribution facility 14 may be a cable system headend, a satellite television distribution facility, a television broadcast facility, or any other suitable facility for distributing television or music programming to users. There are typically numerous television distribution facilities 14 in system 10, but only one is shown in FIG. 1 to avoid overcomplicating the drawings. Walker at [0051]–[0052]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Data source 30 may provide program schedule information and other data to television distribution facility 14 over communications path 32 for distribution to the associated user equipment over paths 26, 27, and 28. Communications path 32 may be any suitable communications path such as a satellite communications path or other wireless path, a fiber-optic or other wired communications path, a path that supports Internet communications, a combination of such paths, etc. Data source 30 may provide program schedule information and other data to the user at user equipment 18 over path 38, communications network 34, and path 42. Path 42 may be a wired path such as a telephone line, a cable path, a fiber-optic path, a satellite path, a wireless path, a combination of such paths, or any other suitable path. User equipment devices such as user television equipment and personal computers may use the program schedule information to display program listings and information on digital music for the user. An interactive television program guide application or other suitable application may be used to display such information on the user's display. Walker at [0055] User equipment such as user television equipment 20 and user computer equipment 22 may access the on-line program guide and server 36 using similar arrangements. User television equipment 20 may access the on-line program guide and server 36 using communications path 46 or using path 27, television distribution facility 14, and path 44. User computer equipment 22 may access the on-line program guide and server 36 using communications path 48 or using path 28, television distribution facility 14, and path 44. Paths 46 and 48 may be any suitable paths, such as wired paths, cable paths, fiber-optic paths, satellite paths, wireless paths, a combination of such paths, etc. Walker at [0154] Programming, such as audio, video, movies, and television programs, may be delivered to a plurality of users by broadcasting the programming from a television distribution facility to each user's equipment. Examples of such an arrangement are illustrated in FIG. 1, wherein television distribution facility 14 provides programming content to user equipment devices 18, 20 and 22 via communications paths, such as communication paths 26, 27 and 28. Walker at [0154] Programming content may be broadcast in accordance with a schedule, such that each program begins and ends at specified times. A viewer may watch broadcast programs according to the schedule. The broadcast programs may be delivered to the user in the form of broadcast television signals (analog and/or digital).

Claim Limitations	Exemplary Disclosure in the Prior Art
	Satellite broadcasts, cable broadcasts, and over-the-air broadcasts may be used to deliver television programming. Walker at [0159] Interactive television system 10 may include television distribution facility 14 that is capable of providing both broadcast programming content and streaming programming content to a plurality of user equipment devices 18. Programming sources 12 may provide original content which may, if desired, be re-broadcast (later or in real-time) by associated television distribution facilities 14. Television distribution facilities may use server 56 (or a remote server 36 may be used) to deliver interactive media streams to users. *See also* Walker at Fig. 4, Fig. 5, Fig. 6, Fig. 9, Fig. 24, Fig. 25, Fig. 27, [0047]–[0049], [0050], [0054], [0066], [0070], [0083], [0084], [0087], [0088], [0091], [0095], [0097], [0155], [0156], [0160], [0161], [0174], [0184], and [0185]. To the extent that Walker does not disclose any part of this limitation, Walker renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Walker combined with the knowledge of a person of ordinary skill in the art, and in light of Walker combined with any of the other prior art references identified in the contentions for this patent, including Chang, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Exhibit 592.B
Invalidity of U.S. Patent No. 10,880,592 Patent in view of Chang[1]

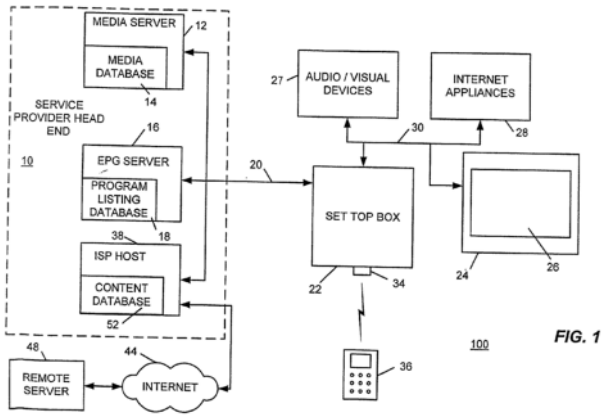
U.S. Patent App. Pub. 2002/0194619A1 ("Chang"), is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a), (b), and (e) (pre-AIA). Chang was filed on June 1, 2001 and published on December 19, 2002.

Amazon incorporates here by reference all bases of invalidity of the '592 patent based on Chang (alone or in combination) and all the bases of invalidity of the '592 patent based on Walker (alone or in combination) set forth in *inter partes* review No. IPR2025-00050.

Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

Claim Limitations	**Exemplary Disclosure in the Prior Art**
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Chang expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: Chang at Abstract A set top box includes a designation function that provides a user with the ability to designate and store music video clips that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage in its entirety even after it has begun. The videos may be stored on a hard disk drive of the set top box, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated set top box. Chang at Fig. 1

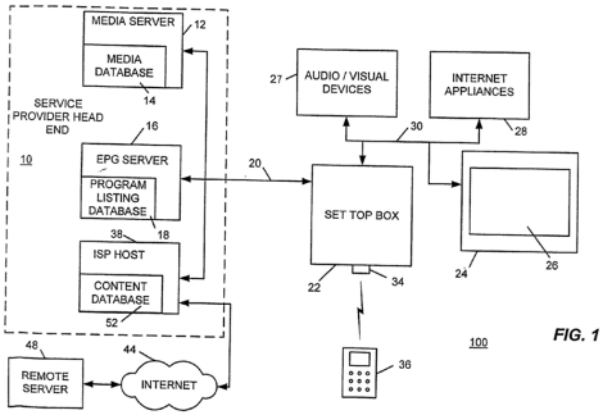
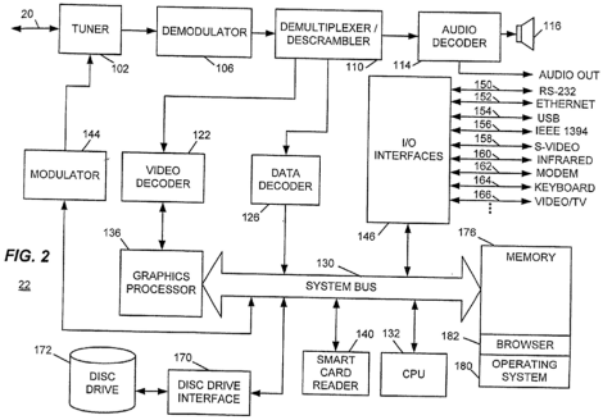
[1] This chart also applies to Chang combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1 Chang at [0002] The present invention relates to a system and method for providing a user with the ability to store music videos clip that the user is viewing on a video music channel. Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided

Claim Limitations	Exemplary Disclosure in the Prior Art
	in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television ("TV") system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end ("HE") 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content, such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017]

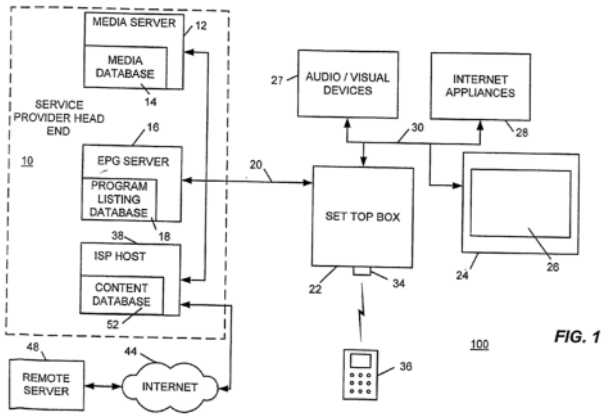
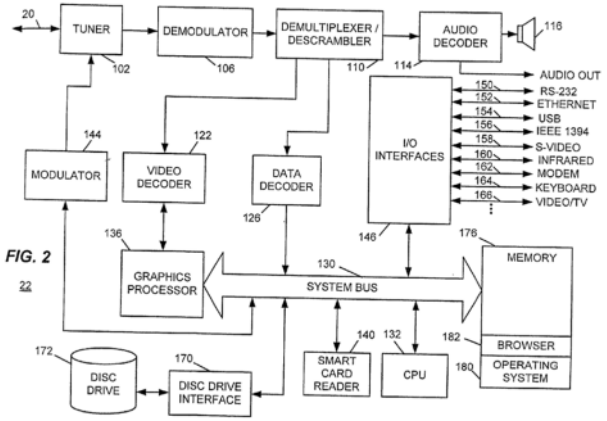
Claim Limitations	Exemplary Disclosure in the Prior Art
	As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0017] STB 22 may include a central processing unit ("CPU") and memory including Random Access Memory ("RAM"), Read Only Memory ("ROM"), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0017] Components of STB 22 may also be incorporated into TV 24 itself, thus eliminating STB 22. Further, a computer having a tuner device may be equivalently substituted for TV 24 and STB 22. Chang at [0020] STB 22 may also be coupled to an independent service provider ("ISP") host 38 by a suitable connection, such as a dial-up connection, Digital Subscriber Line ("DSL") or transmission medium 20 described above (e.g., using a cable modem), to provide access to services and content from ISP host 38 and Internet 44. ISP host 38 provides various content to STB 22, which may be obtained from a content database 42. STB 22, thus, may also be used as an Internet access device to obtain information and content from remote servers, such as remote server 48, via Internet 44 using ISP host 38 operating as an Internet portal, for example. In certain satellite STB environments, the data may be downloaded at very high speeds from a satellite link, with asymmetrical upload speed from STB 22 provided via a dial-up or DSL connection. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0036]

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0037] As shown in FIG. 3, at step S310, STB 22 is tuned to a programming channel broadcast from HE 10, say, a video music channel, on transmission medium 20 for receiving a program data signal and presenting the program on TV 24, A/V devices 27, and/or internet appliances 28. As described before, the program data signal may be received in a standard analog broadcast, or digital broadcast format, such as MPEG2, via transmission medium 20 from HE 10. The program data signal may also be received by TV 24 through a direct cable connection (not shown) or an antenna (not shown). The presented program may include a number of segments with corresponding identifiable clips (e.g., music video clips) stored at, e.g., media server 12. The program data signal may also include identification information such as a signal header (e.g., PID) for identifying each segment and/or each portion thereof. Chang at [0052] According to an embodiment of the invention, the data may be stored off site at a remote storage device, such as a storage account assigned to the user and provided at remote server 48 via Internet 44 (e.g., Xdrive), and streamed to STB 22 upon selection. *See also* Chang at Fig. 2, Fig. 3, [0006]–[0007], [0019], [0021], [0022], [0023], [0025], [0026], [0029], [0031], [0033], [0034], [0038], [0040], [0041], [0042], [0045], [0051], and [0053]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided	Chang expressly or inherently discloses “a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part.” For example:

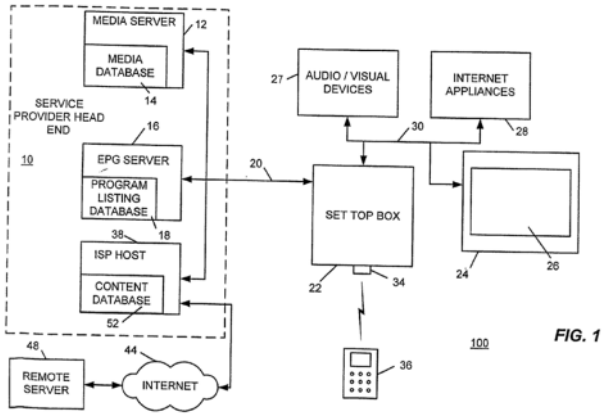
Claim Limitations	Exemplary Disclosure in the Prior Art
from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	*See* claim 1pre. Chang at Fig. 1  FIG. 1 Chang at Fig. 2  FIG. 2 22 Chang at [0019] STB 22 includes an infrared (“IR”) receiver 34 for receiving IR signals from an input device 36, such as a remote control. Other control communication methods may also be utilized, such as wired or wireless RF, etc. In addition, it can be readily appreciated that input device 36 may be any device suitable for

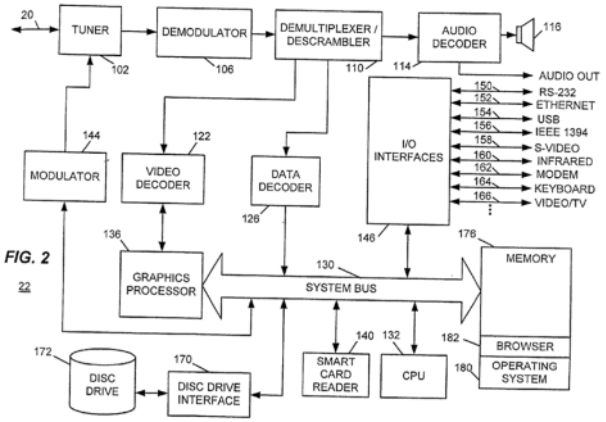
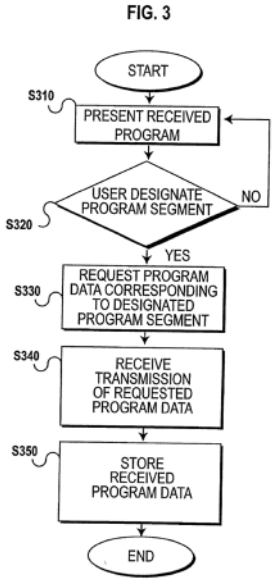
Claim Limitations	Exemplary Disclosure in the Prior Art
	controlling STB 22, such as a remote control, PDA, laptop computer, keyboard, or computer mouse, etc. In addition, an input device in the form of a control panel located on TV 24 or STB 22 may be provide Chang at [0026] STB box 22 may include any of a plurality of Input/Output ("I/O") interfaces represented by I/O interfaces 146 that permit interconnection of I/O devices to STB 22. By way of example, and not limitation, a serial RS-232 port 150 may be provided to enable interconnection to any suitable serial device supported by the internal software of STB 22. Similarly, communication with appropriately compatible devices may be provided via an Ethernet port 152, a Universal Serial Bus ("USB") port 154, an IEEE 1394 or IEEE 1394 wide port 156, an S-video port 158, and an IR port 160. Such interfaces may be utilized to interconnect STB 22 with any of a variety of accessory devices, such as storage devices (not shown), A/V devices 26, gaming devices (not shown), Internet Appliances 28, etc., through interface 30. Chang at [0030] IR port 160 may be IR receiver 34, shown in FIG. 1, to receive commands from input device 36, which may be an IR remote control, an IR keyboard, or other IR control device. Although not explicitly shown, front panel controls may be included and connected through a port in I/O interfaces 146 to directly control the operation of STB 22. Additional interface may be provided in STB 22 in various combinations. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0038] As the program is being presented, control passes to step S320, where it is determined whether a user designates a program segment or a portion of a program segment being presented. For example, a music video program segment may include one or more music videos where each music video may form a portion of the program segment (i.e., a user may designate any one of the individual videos in a segment). A user's designation may be received from input device 36, any I/O devices connected to STB 22 via I/O interfaces 146, or may be directly input at a control panel (not shown) on STB 22, at any time during the presentation of the program segment (or a portion thereof). Chang at [0040]

Claim Limitations	Exemplary Disclosure in the Prior Art
	f at step S320, the presented program segment (or segment portion) is selected ("YES") (i.e., STB 22 receives the designation (or request) at receiver 34, I/O interfaces 146, or control panel), control then passes to step S330 where STB 22 transmits a request for the program data (clip), in its entirety, corresponding to the designated program segment (or segment portion) to HE 10. The request may include the identification information (e.g., the PID) transmitted along with the program data for identifying the designated program segment (or segment portion). HE 10 processes the request and transmits the requested program data (clip) to STB 22. Alternatively, the request may include the time of the designation and the programming channel that STB 22 is tuned to for identifying the designated program segment (or segment portion). *See also* Chang at Fig. 3, [0028], [0036], [0049], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	Chang expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a. Chang at Fig. 1

Claim Limitations	Exemplary Disclosure in the Prior Art
	 Chang at Fig. 2  Chang at [0006]–[0007] Although the above-described recorders provide convenience in recording television programs for subsequent viewing, they only record when instructed by control or pre-programmed to record selected programs. Namely, the above-described recorders do not provide retrieval and storage of a clip of a program segment, in its entirety, after it has begun. Additionally, the designation of audio or video data from another source, such as an emarker, compact disc (“CD”), radio, and other playback media, for eventually downloading corresponding data to a set-top box (“STB”) for storage is not provided.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Therefore, it is an object of the present invention to provide for designating audio and/or video data while it is being presented and recording the entire set of data including multimedia data related to the designated set. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0021] Referring now to FIG. 2, a system configuration for STB 22 is illustrated. In accordance with an embodiment of the invention, transmission medium 20, such as a coaxial cable, is coupled by a suitable interface to a tuner 102. Tuner 102 may, for example, include a broadcast in-band tuner for receiving content, an out-of-band ("OOB") tuner for receiving data transmissions, and a return path tuner for providing an OOB return path for outbound data (destined, for example, for HE 10). A separate tuner (not shown) may be provided to receive RF broadcast television channels and radio channels, etc. Modulated information formatted, for example, as MPEG-2 information is then demodulated at a demodulator 106. The demodulated information at the output of demodulator 106 is provided to a demultiplexer and descrambler circuit 110 where the information is separated into discrete channels of programming *See also* Chang at Fig. 3, [0016], [0017], [0025], [0037], [0038], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang

Claim Limitations	Exemplary Disclosure in the Prior Art
	combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	Chang expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example: *See* claims 1pre-1b. Chang at Fig. 1  Chang at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	 Chang at Fig. 3  Chang at [0006]–[0007]

Claim Limitations	Exemplary Disclosure in the Prior Art
	Although the above-described recorders provide convenience in recording television programs for subsequent viewing, they only record when instructed by control or pre-programmed to record selected programs. Namely, the above-described recorders do not provide retrieval and storage of a clip of a program segment, in its entirety, after it has begun. Additionally, the designation of audio or video data from another source, such as an emarker, compact disc ("CD"), radio, and other playback media, for eventually downloading corresponding data to a set-top box ("STB") for storage is not provided. Therefore, it is an object of the present invention to provide for designating audio and/or video data while it is being presented and recording the entire set of data including multimedia data related to the designated set. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television ("TV") system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end ("HE") 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content, such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may

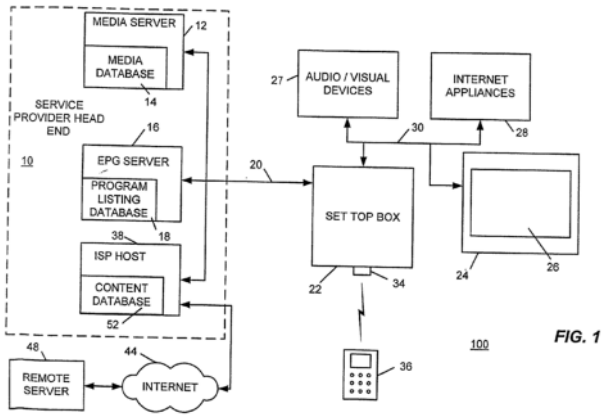
Claim Limitations	Exemplary Disclosure in the Prior Art
	provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017] As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0020] STB 22 may also be coupled to an independent service provider ("ISP") host 38 by a suitable connection, such as a dial-up connection, Digital Subscriber Line ("DSL") or transmission medium 20 described above (e.g., using a cable modem), to provide access to services and content from ISP host 38 and Internet 44. ISP host 38 provides various content to STB 22, which may be obtained from a content database 42. STB 22, thus, may also be used as an Internet access device to obtain information and content from remote servers, such as remote server 48, via Internet 44 using ISP host 38 operating as an Internet portal, for example. In certain satellite STB environments, the data may be downloaded at very high speeds from a satellite link, with asymmetrical upload speed from STB 22 provided via a dial-up or DSL connection.

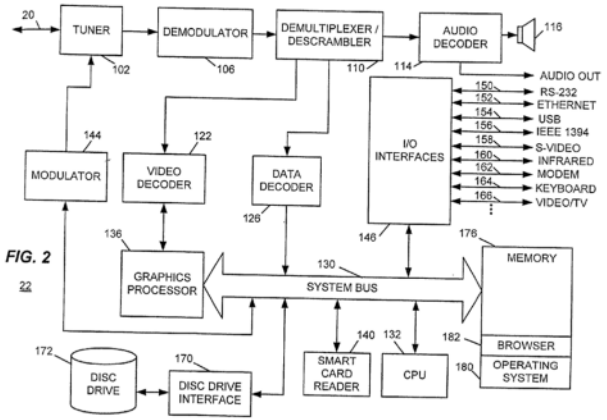
Claim Limitations	Exemplary Disclosure in the Prior Art
	Chang at [0026] STB box 22 may include any of a plurality of Input/Output ("I/O") interfaces represented by I/O interfaces 146 that permit interconnection of I/O devices to STB 22. By way of example, and not limitation, a serial RS-232 port 150 may be provided to enable interconnection to any suitable serial device supported by the internal software of STB 22. Similarly, communication with appropriately compatible devices may be provided via an Ethernet port 152, a Universal Serial Bus ("USB") port 154, an IEEE 1394 or IEEE 1394 wide port 156, an S-video port 158, and an IR port 160. Such interfaces may be utilized to interconnect STB 22 with any of a variety of accessory devices, such as storage devices (not shown), A/V devices 26, gaming devices (not shown), Internet Appliances 28, etc., through interface 30. Chang at [0027] I/O interfaces 146 may include a modem (be it dial-up, cable, DSL, or other technology modem) having a modem port 162 to facilitate high speed or alternative access to Internet 44 or other data communication functions. In one preferred embodiment, modem port 162 is that of a Data Over Cable System Interface Specification ("DOCSIS") cable modem to facilitate high speed network access over a cable system, and port 162 is appropriately coupled to transmission medium 20 embodied as a coaxial cable. Thus, STB 22 can carry out bidirectional communication via the DOCSIS cable modem, with STB 22 being identified by a unique URL. Chang at [0030] IR port 160 may be IR receiver 34, shown in FIG. 1, to receive commands from input device 36, which may be an IR remote control, an IR keyboard, or other IR control device. Although not explicitly shown, front panel controls may be included and connected through a port in I/O interfaces 146 to directly control the operation of STB 22. Additional interface may be provided in STB 22 in various combinations. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0036]

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0037] As shown in FIG. 3, at step S310, STB 22 is tuned to a programming channel broadcast from HE 10, say, a video music channel, on transmission medium 20 for receiving a program data signal and presenting the program on TV 24, A/V devices 27, and/or internet appliances 28. As described before, the program data signal may be received in a standard analog broadcast, or digital broadcast format, such as MPEG2, via transmission medium 20 from HE 10. The program data signal may also be received by TV 24 through a direct cable connection (not shown) or an antenna (not shown). The presented program may include a number of segments with corresponding identifiable clips (e.g., music video clips) stored at, e.g., media server 12. The program data signal may also include identification information such as a signal header (e.g., PID) for identifying each segment and/or each portion thereof. Chang at [0038] As the program is being presented, control passes to step S320, where it is determined whether a user designates a program segment or a portion of a program segment being presented. For example, a music video program segment may include one or more music videos where each music video may form a portion of the program segment (i.e., a user may designate any one of the individual videos in a segment). A user's designation may be received from input device 36, any I/O devices connected to STB 22 via I/O interfaces 146, or may be directly input at a control panel (not shown) on STB 22, at any time during the presentation of the program segment (or a portion thereof). Chang at [0040] At step S320, the presented program segment (or segment portion) is selected (“YES”) (i.e., STB 22 receives the designation (or request) at receiver 34, I/O interfaces 146, or control panel), control then passes to step S330 where STB 22 transmits a request for the program data (clip), in its entirety, corresponding to the designated program segment (or segment portion) to HE 10. The request may include the identification information (e.g., the PID) transmitted along with the program data for identifying the designated program segment (or segment portion). HE 10 processes the request and transmits the requested program data (clip) to STB 22. Alternatively, the request may include the time of

Claim Limitations	Exemplary Disclosure in the Prior Art
	the designation and the programming channel that STB 22 is tuned to for identifying the designated program segment (or segment portion). Chang at [0041] At step S340, STB 22 receives a parallel transmission of the requested program data corresponding to the designated program segment (or segment portion), which may be in a different, more compressed format, such as MPEG4. The requested program data (clip) is then stored in disc drive 172, ready for playback, as illustrated by step S350. In accordance with an embodiment of the invention, data transmission for the requested program data may also be performed during a time when the user is not viewing any programming. STB 22 may store designation(s) received during a viewing session in disc drive 172 or memory 176, and request and receive the program data corresponding to the stored designation(s) when it is not presenting any programs to TV 24. STB 22 may query program listing database 18 on EPG server 16 for program segment information using the designation time(s) and programming channel(s), and request the program data using such information. Chang at [0042] The requested program data may be downloaded in multiplexed format with a digital signal transmission or provided on a parallel transmission channel, such as one of a plurality of digital channels available on a high definition television channel. If the data is already being transmitted in a digital format, such as MPEG2, the data may be transcoded (converted directly from MPEG2 to MPEG4 without decoding) before being stored. Of course, the data may also be stored in the received native format. Furthermore, the user may be presented with a choice of format, which may include selecting a device for later playing back the requested program data. Memory 176 may act as a buffer memory when necessary, so that a user may select a program segment (or segment portion), say, a music video, to be stored at any point of the playing of the program segment (or segment portion). This may not be required if the program data (e.g. the corresponding music video clip) is to be transmitted to STB 22 in parallel, in its entirety, over a different transmission channel. Chang at [0045] Once requested program data (e.g., a music video clip) has been successfully downloaded, the user may then playback the program data (or clip) at any selected time, or corresponding to other events, such as playback of a corresponding CD, or playback of corresponding audio data by a radio station, or the like. For example, as mentioned before, additional information attached to the downloaded clip may indicate

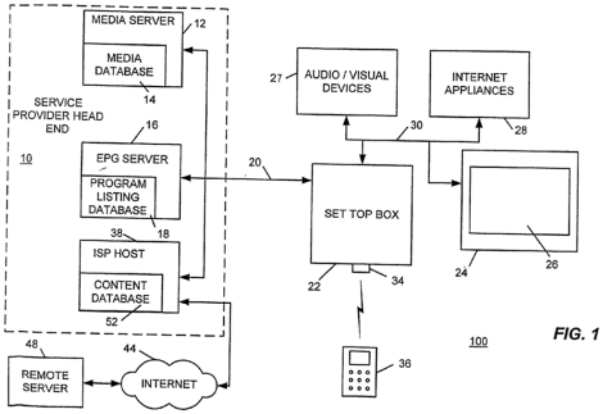
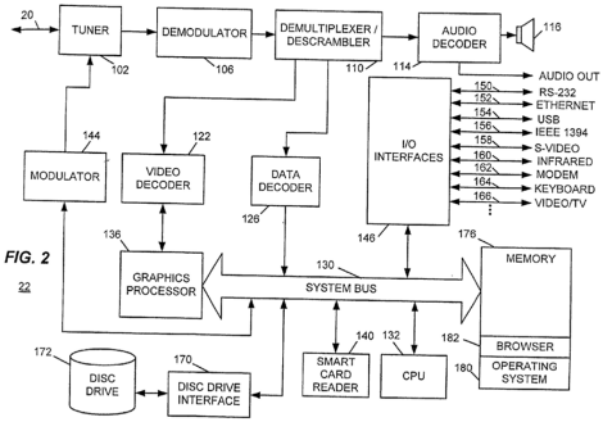
Claim Limitations	Exemplary Disclosure in the Prior Art
	the artist name(s), song title, album title, etc. As such, STB 22 may determine, based upon such information, when a corresponding CD or corresponding audio data from a radio station is being presented, and automatically playback the downloaded program data (or clip). As noted before, updated information related to the clip may be searched for and retrieved each time the clip is played back. Chang at [0052] According to an embodiment of the invention, the data may be stored off site at a remote storage device, such as a storage account assigned to the user and provided at remote server 48 via Internet 44 (e.g., Xdrive), and streamed to STB 22 upon selection. *See also* Chang at Fig. 4, [0005], [0017], [0021], [0022], [0025], [0031], [0033], [0034], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	Chang expressly or inherently discloses "a television display that shows the digital moving image contents from the first provider and the second provider." For example: *See* 1pre. Chang at Fig. 1

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1 Chang at [0017] As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0017] STB 22 may include a central processing unit ("CPU") and memory including Random Access Memory ("RAM"), Read Only Memory ("ROM"), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0017] Components of STB 22 may also be incorporated into TV 24 itself, thus eliminating STB 22. Further, a computer having a tuner device may be equivalently substituted for TV 24 and STB 22. Chang at [0035]

Claim Limitations	Exemplary Disclosure in the Prior Art
	As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. *See also* Chang at [0019], [0029], [0037], [0041], and [0045]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Chang expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1c. Chang at Fig. 2  Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select

Claim Limitations	Exemplary Disclosure in the Prior Art
	multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0017] STB 22 may include a central processing unit (“CPU”) and memory including Random Access Memory (“RAM”), Read Only Memory (“ROM”), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0031] STB 22 may include a disc drive interface 170 and mass storage disc drive 172 for user storage of content and data as well as providing storage of programs operating on CPU 132. STB 22 may also include floppy disc drives, CD ROM drives, CD R/W drives, DVD drives, etc. CPU 132 is coupled through system bus

Claim Limitations	Exemplary Disclosure in the Prior Art
	130 to memory 176. Memory 176 may include a combination any suitable memory technology including Random Access Memory ("RAM"), Read Only Memory ("ROM"), Flash memory, Electrically Erasable Programmable Read Only Memory ("EEPROM"), etc. Chang at [0042] The requested program data may be downloaded in multiplexed format with a digital signal transmission or provided on a parallel transmission channel, such as one of a plurality of digital channels available on a high definition television channel. If the data is already being transmitted in a digital format, such as MPEG2, the data may be transcoded (converted directly from MPEG2 to MPEG4 without decoding) before being stored. Of course, the data may also be stored in the received native format. Furthermore, the user may be presented with a choice of format, which may include selecting a device for later playing back the requested program data. Memory 176 may act as a buffer memory when necessary, so that a user may select a program segment (or segment portion), say, a music video, to be stored at any point of the playing of the program segment (or segment portion). This may not be required if the program data (e.g. the corresponding music video clip) is to be transmitted to STB 22 in parallel, in its entirety, over a different transmission channel. *See also* Chang at Fig. 1, Fig. 3, Fig. 4, [0026], [0041], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer." For example: *See* claim 1. Chang at Abstract

Claim Limitations	Exemplary Disclosure in the Prior Art
from the memory in the TV set computer.	A set top box includes a designation function that provides a user with the ability to designate and store music video clips that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage in its entirety even after it has begun. The videos may be stored on a hard disk drive of the set top box, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated set top box. Chang at Fig. 1  Chang at Fig. 2 

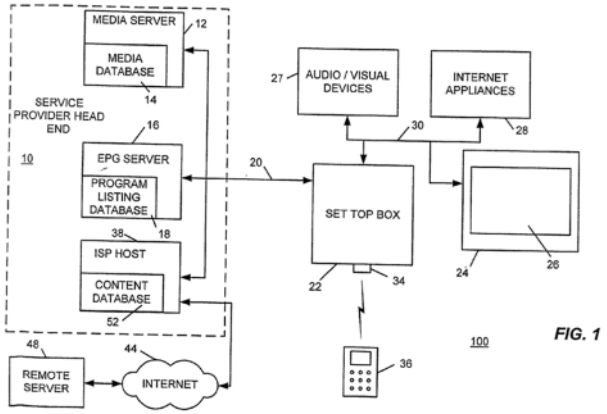
Claim Limitations	Exemplary Disclosure in the Prior Art
	Chang at [0002] The present invention relates to a system and method for providing a user with the ability to store music videos clip that the user is viewing on a video music channel. Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television (“TV”) system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end (“HE”) 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content,

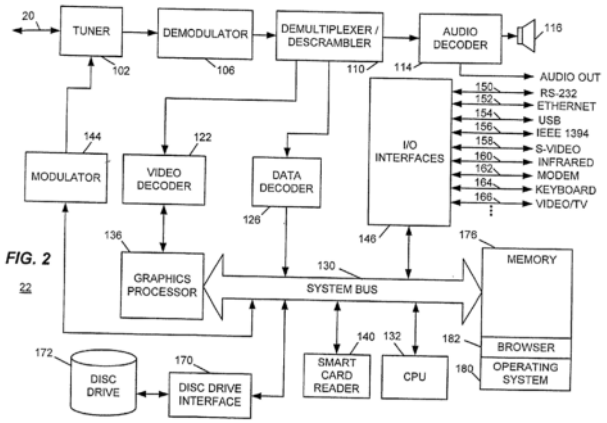
Claim Limitations	Exemplary Disclosure in the Prior Art
	such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017] STB 22 may include a central processing unit ("CPU") and memory including Random Access Memory ("RAM"), Read Only Memory ("ROM"), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0017] Components of STB 22 may also be incorporated into TV 24 itself, thus eliminating STB 22. Further, a computer having a tuner device may be equivalently substituted for TV 24 and STB 22.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Chang at [0031] STB 22 may include a disc drive interface 170 and mass storage disc drive 172 for user storage of content and data as well as providing storage of programs operating on CPU 132. STB 22 may also include floppy disc drives, CD ROM drives, CD R/W drives, DVD drives, etc. CPU 132 is coupled through system bus 130 to memory 176. Memory 176 may include a combination any suitable memory technology including Random Access Memory ("RAM"), Read Only Memory ("ROM"), Flash memory, Electrically Erasable Programmable Read Only Memory ("EEPROM"), etc. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0036] FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0041] At step S340, STB 22 receives a parallel transmission of the requested program data corresponding to the designated program segment (or segment portion), which may be in a different, more compressed format, such as MPEG4. The requested program data (clip) is then stored in disc drive 172, ready for playback, as illustrated by step S350. In accordance with an embodiment of the invention, data transmission for the requested program data may also be performed during a time when the user is not viewing any programming. STB 22 may store designation(s) received during a viewing session in disc drive 172 or memory 176, and request and receive the program data corresponding to the stored designation(s) when it is not presenting any programs to TV 24. STB 22 may query program listing database 18 on EPG server 16 for program segment information using the designation time(s) and programming channel(s), and request the program data using such information. Chang at [0042] The requested program data may be downloaded in multiplexed format with a digital signal transmission or provided on a parallel transmission channel, such as one of a plurality of digital channels available on a

Claim Limitations	Exemplary Disclosure in the Prior Art
	high definition television channel. If the data is already being transmitted in a digital format, such as MPEG2, the data may be transcoded (converted directly from MPEG2 to MPEG4 without decoding) before being stored. Of course, the data may also be stored in the received native format. Furthermore, the user may be presented with a choice of format, which may include selecting a device for later playing back the requested program data. Memory 176 may act as a buffer memory when necessary, so that a user may select a program segment (or segment portion), say, a music video, to be stored at any point of the playing of the program segment (or segment portion). This may not be required if the program data (e.g. the corresponding music video clip) is to be transmitted to STB 22 in parallel, in its entirety, over a different transmission channel. Chang at [0045] Once requested program data (e.g., a music video clip) has been successfully downloaded, the user may then playback the program data (or clip) at any selected time, or corresponding to other events, such as playback of a corresponding CD, or playback of corresponding audio data by a radio station, or the like. For example, as mentioned before, additional information attached to the downloaded clip may indicate the artist name(s), song title, album title, etc. As such, STB 22 may determine, based upon such information, when a corresponding CD or corresponding audio data from a radio station is being presented, and automatically playback the downloaded program data (or clip). As noted before, updated information related to the clip may be searched for and retrieved each time the clip is played back. *See also* Chang at Fig. 3, Fig. 4, [0017], [0019], [0020], [0021], [0022], [0023], [0025], [0026], [0029], [0034], [0037], [0038], [0040], [0051], and [0052]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[3] The receiving apparatus according to claim 2, wherein the	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example:

Claim Limitations	Exemplary Disclosure in the Prior Art
past part is the opening part of the integral program.	*See* claims 1-2. Chang at [0036] FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0041] At step S340, STB 22 receives a parallel transmission of the requested program data corresponding to the designated program segment (or segment portion), which may be in a different, more compressed format, such as MPEG4. The requested program data (clip) is then stored in disc drive 172, ready for playback, as illustrated by step S350. In accordance with an embodiment of the invention, data transmission for the requested program data may also be performed during a time when the user is not viewing any programming. STB 22 may store designation(s) received during a viewing session in disc drive 172 or memory 176, and request and receive the program data corresponding to the stored designation(s) when it is not presenting any programs to TV 24. STB 22 may query program listing database 18 on EPG server 16 for program segment information using the designation time(s) and programming channel(s), and request the program data using such information. Chang at [0045] Once requested program data (e.g., a music video clip) has been successfully downloaded, the user may then playback the program data (or clip) at any selected time, or corresponding to other events, such as playback of a corresponding CD, or playback of corresponding audio data by a radio station, or the like. For example, as mentioned before, additional information attached to the downloaded clip may indicate the artist name(s), song title, album title, etc. As such, STB 22 may determine, based upon such information, when a corresponding CD or corresponding audio data from a radio station is being presented, and automatically playback the downloaded program data (or clip). As noted before, updated information related to the clip may be searched for and retrieved each time the clip is played back. *See also* Chang at [0034], [0042], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with

Claim Limitations	Exemplary Disclosure in the Prior Art
	any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1. Chang at Abstract A set top box includes a designation function that provides a user with the ability to designate and store music video clips that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage in its entirety even after it has begun. The videos may be stored on a hard disk drive of the set top box, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated set top box. Chang at Fig. 1  FIG. 1 Chang at Fig. 2

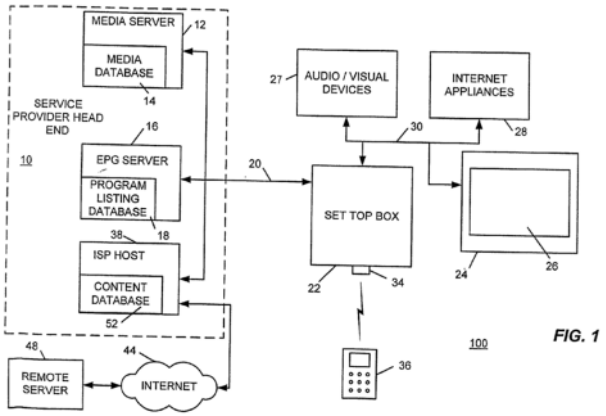
Claim Limitations	Exemplary Disclosure in the Prior Art
	 Chang at [0002] The present invention relates to a system and method for providing a user with the ability to store music videos clip that the user is viewing on a video music channel. Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided

Claim Limitations	Exemplary Disclosure in the Prior Art
	in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television ("TV") system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end ("HE") 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content, such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017]

Claim Limitations	Exemplary Disclosure in the Prior Art
	STB 22 may include a central processing unit ("CPU") and memory including Random Access Memory ("RAM"), Read Only Memory ("ROM"), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0017] Components of STB 22 may also be incorporated into TV 24 itself, thus eliminating STB 22. Further, a computer having a tuner device may be equivalently substituted for TV 24 and STB 22. Chang at [0021] The programming is divided into packets, each packet bearing an identifier called a Packet ID ("PID") that identifies the packet as containing a particular type of data (e.g. audio, video, data). Demultiplexer and descrambler circuit 110 may also decrypt encrypted information in accordance with a decryption algorithm to prevent unauthorized access to programming content, for example. Chang at [0031] STB 22 may include a disc drive interface 170 and mass storage disc drive 172 for user storage of content and data as well as providing storage of programs operating on CPU 132. STB 22 may also include floppy disc drives, CD ROM drives, CD R/W drives, DVD drives, etc. CPU 132 is coupled through system bus 130 to memory 176. Memory 176 may include a combination any suitable memory technology including Random Access Memory ("RAM"), Read Only Memory ("ROM"), Flash memory, Electrically Erasable Programmable Read Only Memory ("EEPROM"), etc. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0036]

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0037] As shown in FIG. 3, at step S310, STB 22 is tuned to a programming channel broadcast from HE 10, say, a video music channel, on transmission medium 20 for receiving a program data signal and presenting the program on TV 24, A/V devices 27, and/or internet appliances 28. As described before, the program data signal may be received in a standard analog broadcast, or digital broadcast format, such as MPEG2, via transmission medium 20 from HE 10. The program data signal may also be received by TV 24 through a direct cable connection (not shown) or an antenna (not shown). The presented program may include a number of segments with corresponding identifiable clips (e.g., music video clips) stored at, e.g., media server 12. The program data signal may also include identification information such as a signal header (e.g., PID) for identifying each segment and/or each portion thereof. Chang at [0038] As the program is being presented, control passes to step S320, where it is determined whether a user designates a program segment or a portion of a program segment being presented. For example, a music video program segment may include one or more music videos where each music video may form a portion of the program segment (i.e., a user may designate any one of the individual videos in a segment). A user's designation may be received from input device 36, any I/O devices connected to STB 22 via I/O interfaces 146, or may be directly input at a control panel (not shown) on STB 22, at any time during the presentation of the program segment (or a portion thereof). Chang at [0040] f at step S320, the presented program segment (or segment portion) is selected (“YES”) (i.e., STB 22 receives the designation (or request) at receiver 34, I/O interfaces 146, or control panel), control then passes to step S330 where STB 22 transmits a request for the program data (clip), in its entirety, corresponding to the designated program segment (or segment portion) to HE 10. The request may include the identification information (e.g., the PID) transmitted along with the program data for identifying the designated program segment (or segment portion). HE 10 processes the request and transmits the requested program data (clip) to STB 22. Alternatively, the request may include the time of

Claim Limitations	Exemplary Disclosure in the Prior Art
	the designation and the programming channel that STB 22 is tuned to for identifying the designated program segment (or segment portion). Chang at [0041] At step S340, STB 22 receives a parallel transmission of the requested program data corresponding to the designated program segment (or segment portion), which may be in a different, more compressed format, such as MPEG4. The requested program data (clip) is then stored in disc drive 172, ready for playback, as illustrated by step S350. In accordance with an embodiment of the invention, data transmission for the requested program data may also be performed during a time when the user is not viewing any programming. STB 22 may store designation(s) received during a viewing session in disc drive 172 or memory 176, and request and receive the program data corresponding to the stored designation(s) when it is not presenting any programs to TV 24. STB 22 may query program listing database 18 on EPG server 16 for program segment information using the designation time(s) and programming channel(s), and request the program data using such information. Chang at [0042] The requested program data may be downloaded in multiplexed format with a digital signal transmission or provided on a parallel transmission channel, such as one of a plurality of digital channels available on a high definition television channel. If the data is already being transmitted in a digital format, such as MPEG2, the data may be transcoded (converted directly from MPEG2 to MPEG4 without decoding) before being stored. Of course, the data may also be stored in the received native format. Furthermore, the user may be presented with a choice of format, which may include selecting a device for later playing back the requested program data. Memory 176 may act as a buffer memory when necessary, so that a user may select a program segment (or segment portion), say, a music video, to be stored at any point of the playing of the program segment (or segment portion). This may not be required if the program data (e.g. the corresponding music video clip) is to be transmitted to STB 22 in parallel, in its entirety, over a different transmission channel. *See also* Chang at Fig. 3, Fig. 4, [0006]–[0007], [0017], [0019], [0020], [0021], [0022], [0023], [0025], [0026], [0027], [0029], [0045], [0051], and [0052]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with

Claim Limitations	Exemplary Disclosure in the Prior Art
	any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Chang expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: *See* claim 1, 1pre. Chang at Abstract A set top box includes a designation function that provides a user with the ability to designate and store music video clips that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage in its entirety even after it has begun. The videos may be stored on a hard disk drive of the set top box, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated set top box. Chang at Fig. 1 

Claim Limitations	Exemplary Disclosure in the Prior Art
	Chang at [0002] The present invention relates to a system and method for providing a user with the ability to store music videos clip that the user is viewing on a video music channel. Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009] The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television (“TV”) system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end (“HE”) 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content,

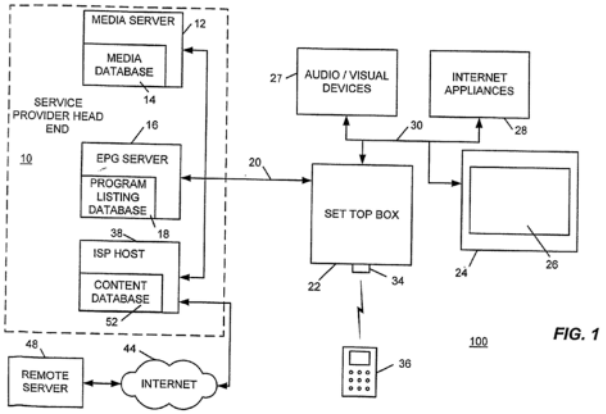
Claim Limitations	Exemplary Disclosure in the Prior Art
	such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017] As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0017] STB 22 may include a central processing unit ("CPU") and memory including Random Access Memory ("RAM"), Read Only Memory ("ROM"), flash memory, and mass storage media (such as a hard disk drive, floppy disk drive, optical disc drive, other electronic storage media, etc.), as will be described below with reference to FIG. 2. Such memory and storage media are suitable for storing data as well as instructions for programmed processes for execution on the CPU, as will be discussed later. Information

Claim Limitations	Exemplary Disclosure in the Prior Art
	and programs stored on the storage media or memory may also be transported over transmission medium 20. Chang at [0017] Components of STB 22 may also be incorporated into TV 24 itself, thus eliminating STB 22. Further, a computer having a tuner device may be equivalently substituted for TV 24 and STB 22. Chang at [0020] STB 22 may also be coupled to an independent service provider ("ISP") host 38 by a suitable connection, such as a dial-up connection, Digital Subscriber Line ("DSL") or transmission medium 20 described above (e.g., using a cable modem), to provide access to services and content from ISP host 38 and Internet 44. ISP host 38 provides various content to STB 22, which may be obtained from a content database 42. STB 22, thus, may also be used as an Internet access device to obtain information and content from remote servers, such as remote server 48, via Internet 44 using ISP host 38 operating as an Internet portal, for example. In certain satellite STB environments, the data may be downloaded at very high speeds from a satellite link, with asymmetrical upload speed from STB 22 provided via a dial-up or DSL connection. Chang at [0035] As described above, system 100 provides for designating a presented program segment and retrieving data for the designated program segment in its entirety and related data according to an embodiment of the present invention. Exemplary processes for carrying out the invention will now be described in detail. Chang at [0036] FIG. 3 illustrates a process for designating a presented program segment at STB 22 and retrieving data corresponding to the designated program segment (which may be a video clip of the program segment in its entirety) and related data in accordance with an embodiment of the present invention. Chang at [0052] According to an embodiment of the invention, the data may be stored off site at a remote storage device, such as a storage account assigned to the user and provided at remote server 48 via Internet 44 (e.g., Xdrive), and streamed to STB 22 upon selection. *See also* Chang at Fig. 2, Fig. 3, [0006]–[0007], [0019], [0021], [0022], [0023], [0025], [0029], [0031], [0033], [0034], [0037], [0038], [0040], [0041], [0042], [0045], and [0051].

Claim Limitations	Exemplary Disclosure in the Prior Art
	To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	Chang expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1, 1pre-1a. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	Chang expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

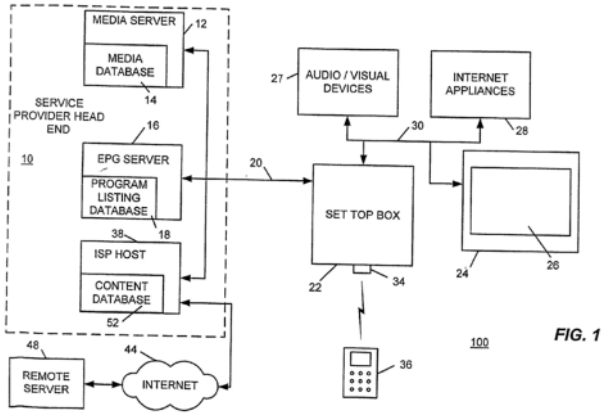
Claim Limitations	Exemplary Disclosure in the Prior Art
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller;	Chang expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example: *See* claim 1, 1pre, 1c. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	Chang expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6e] a memory in a TV set computer that stores the entire data of the digital moving image	Chang expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1, 1c, 1e.

Claim Limitations	Exemplary Disclosure in the Prior Art
content received by the I/O interface.	To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example: *See* claim 1-2, 6. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 1-3, 6-7. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitations	Exemplary Disclosure in the Prior Art
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claims 5-6. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1. Chang at Fig. 1  Chang at [0009]

Claim Limitations	Exemplary Disclosure in the Prior Art
	The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television ("TV") system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end ("HE") 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content, such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for

Claim Limitations	Exemplary Disclosure in the Prior Art
	processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017] As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0040] f at step S320, the presented program segment (or segment portion) is selected ("YES") (i.e., STB 22 receives the designation (or request) at receiver 34, I/O interfaces 146, or control panel), control then passes to step S330 where STB 22 transmits a request for the program data (clip), in its entirety, corresponding to the designated program segment (or segment portion) to HE 10. The request may include the identification information (e.g., the PID) transmitted along with the program data for identifying the designated program segment (or segment portion). HE 10 processes the request and transmits the requested program data (clip) to STB 22. Alternatively, the request may include the time of the designation and the programming channel that STB 22 is tuned to for identifying the designated program segment (or segment portion). Chang at [0052] According to an embodiment of the invention, the data may be stored off site at a remote storage device, such as a storage account assigned to the user and provided at remote server 48 via Internet 44 (e.g., Xdrive), and streamed to STB 22 upon selection. *See also* Chang at [0005], [0006]–[0007], [0019], [0021], [0025], [0034], [0036], [0037], [0041], [0045], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with

Claim Limitations	Exemplary Disclosure in the Prior Art
	any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table.	Chang expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1. Chang at Fig. 1  FIG. 1 Chang at [0005] Recently, programmable digital video recorders using integrated high capacity storage media, such as hard disks, have been in development. Such a recorder, e.g. a TiVo™ recorder, allows a user to select multiple television programs for recording. The recorder stores and regularly updates television programming schedules and other information through a modem connection. The information is provided to the user for selecting programs to be recorded, and the selected programs are automatically recorded at the scheduled broadcast times and channels. Chang at [0009]

Claim Limitations	Exemplary Disclosure in the Prior Art
	The present invention is directed to a system and method that provides a user with the ability to store music videos that the user is currently viewing while watching a video music channel. The user can instantly select a viewed video for storage, in its entirety, even after it has begun. The videos may be stored on a hard disk drive of an STB, and may be indexed or organized by titles, artists, genre, or the like. Additionally, a user may be listening to an audio program on an audio cable channel, a radio channel, a digital or analog stereo (e.g., playback from a CD), and upon selection of a particular song, a corresponding video is downloaded to the user's designated STB. Finally, the apparatus may be used with the emarker (manufactured and marketed by Sony™ Corporation; a description of the emarker is provided in U.S. patent application Ser. No. _____, filed on _____, the entire contents of which are incorporated herein by reference). After storing all of the markers, the index may be used not only to download the marked songs for purchase, but also allow for the download of a corresponding music video to the STB. In addition to providing the music videos, other related multimedia data may be downloaded based upon a combination of similarities and user preferences, or prior user selections. Chang at [0016] FIG. 1 shows a block diagram for an interactive cable or satellite television ("TV") system 100 in accordance with an embodiment of the present invention. System 100 includes, at a service provider head end ("HE") 10, a media server 12 for providing, on demand, movies, music, music videos, and other programming obtained from a media database 14. Media server 12 may also provide additional content, such as, artist interviews, games, advertisements, available merchandise, associated Web pages, interactive games, and other related content. System 100 may also include an electronic programming guide ("EPG") server 16 and a program listing database 18 for generating an EPG. An STB 22 may provide for bi-directional communication with HE 10 (and media server 12 and EPG server 16) over a transmission medium 20 (e.g., a cable STB). Transmission medium 20 may include, for example, a coaxial cable network, a fiber optic cable network, a telephone system, a twisted pair, a satellite communication system, a radio frequency ("RF") system, a microwave system, other wireless systems, a combination of wired and wireless systems, or any of a variety of known electronic transmission media. In the case of a cable television network, transmission medium 20 may be realized at a subscriber's premises as a coaxial cable that is connected to a suitable cable connector at the rear panel of STB 22. In the case of a Direct Satellite System ("DSS"), STB 22 may be referred to as an Integrated Receiver Decoder ("IRD"), and the transmission medium may be a satellite transmission at an appropriate microwave band. Such transmissions may be typically received by a satellite dish antenna with an integral Low Noise Block ("LNB") that serves as a down-converter to convert the signal to a lower frequency for

Claim Limitations	Exemplary Disclosure in the Prior Art
	processing by STB 22. Thus, the bi-directional communications between HE 10 and STB 22 may be effected using asymmetrical communication techniques or dual communication media—one for the uplink from STB 22 to HE 10 and one for the downlink from HE 10 to STB 22. In any event, STB 22 may include its own Universal Resource Locator ("URL") assigned thereto to provide for addressability by HE 10 and users of the Internet 44. Chang at [0017] As shown in FIG. 1, system 100 further includes a TV 24, such as a digital television, having a display 26 for displaying programming, an EPG, etc. STB 22 may be coupled to TV 24 and various other audio/visual ("A/V") devices 27 and Internet Appliances 28 by an interface 30, which may be any suitable analog or digital interface. Chang at [0021] Referring now to FIG. 2, a system configuration for STB 22 is illustrated. In accordance with an embodiment of the invention, transmission medium 20, such as a coaxial cable, is coupled by a suitable interface to a tuner 102. Tuner 102 may, for example, include a broadcast in-band tuner for receiving content, an out-of-band ("OOB") tuner for receiving data transmissions, and a return path tuner for providing an OOB return path for outbound data (destined, for example, for HE 10). A separate tuner (not shown) may be provided to receive RF broadcast television channels and radio channels, etc. Modulated information formatted, for example, as MPEG-2 information is then demodulated at a demodulator 106. The demodulated information at the output of demodulator 106 is provided to a demultiplexer and descrambler circuit 110 where the information is separated into discrete channels of programming Chang at [0021] The programming is divided into packets, each packet bearing an identifier called a Packet ID ("PID") that identifies the packet as containing a particular type of data (e.g. audio, video, data). Demultiplexer and descrambler circuit 110 may also decrypt encrypted information in accordance with a decryption algorithm to prevent unauthorized access to programming content, for example. Chang at [0022] Audio packets from demultiplexer and descrambler circuit 110 (those identified with an audio PID) are decrypted and forwarded to an audio decoder 114 where they may be converted to analog audio to drive a speaker system or other audio system 116 (e.g. stereo or home theater multiple channel amplifier and

Claim Limitations	Exemplary Disclosure in the Prior Art
	speaker systems) or may simply provide decoded audio to an AUDIO OUT port 118. Video packets from demultiplexer and descrambler circuit 110 (those identified with a video PID) are decrypted and forwarded to a video decoder 122. In a similar manner, data packets from demultiplexer and descrambler circuit 110 (those identified with a data PID) are decrypted and forwarded to a data decoder 126. Chang at [0037] As shown in FIG. 3, at step S310, STB 22 is tuned to a programming channel broadcast from HE 10, say, a video music channel, on transmission medium 20 for receiving a program data signal and presenting the program on TV 24, A/V devices 27, and/or internet appliances 28. As described before, the program data signal may be received in a standard analog broadcast, or digital broadcast format, such as MPEG2, via transmission medium 20 from HE 10. The program data signal may also be received by TV 24 through a direct cable connection (not shown) or an antenna (not shown). The presented program may include a number of segments with corresponding identifiable clips (e.g., music video clips) stored at, e.g., media server 12. The program data signal may also include identification information such as a signal header (e.g., PID) for identifying each segment and/or each portion thereof. Chang at [0041] At step S340, STB 22 receives a parallel transmission of the requested program data corresponding to the designated program segment (or segment portion), which may be in a different, more compressed format, such as MPEG4. The requested program data (clip) is then stored in disc drive 172, ready for playback, as illustrated by step S350. In accordance with an embodiment of the invention, data transmission for the requested program data may also be performed during a time when the user is not viewing any programming. STB 22 may store designation(s) received during a viewing session in disc drive 172 or memory 176, and request and receive the program data corresponding to the stored designation(s) when it is not presenting any programs to TV 24. STB 22 may query program listing database 18 on EPG server 16 for program segment information using the designation time(s) and programming channel(s), and request the program data using such information. Chang at [0052] According to an embodiment of the invention, the data may be stored off site at a remote storage device, such as a storage account assigned to the user and provided at remote server 48 via Internet 44 (e.g., Xdrive), and streamed to STB 22 upon selection.

Claim Limitations	Exemplary Disclosure in the Prior Art
	See also Chang at Fig. 3, [0006]–[0007], [0025], [0033], [0034], [0035], [0036], [0040], [0045], and [0051]. To the extent that Chang does not disclose any part of this limitation, Chang renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Chang combined with the knowledge of a person of ordinary skill in the art, and in light of Chang combined with any of the other prior art references identified in the contentions for this patent, including Walker, Cheng, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

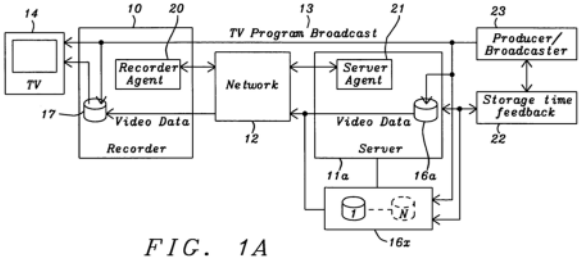
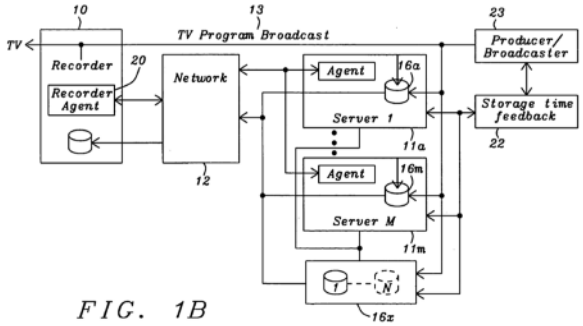
Exhibit 592.C
Invalidity of U.S. Patent No. 10,880,592 Patent in view of Cheng[1]

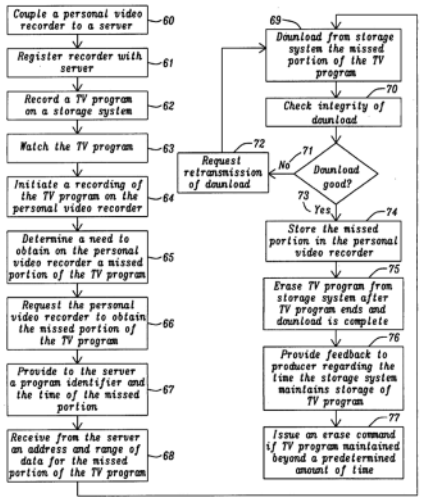
U.S. Patent App. Pub. No. 2008/0086743A1 ("Cheng"), is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a), (b), and (e) (pre-AIA). Cheng was filed on March 15, 2007 and published on April 10, 2008.

Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

Claim Limitations	**Exemplary Disclosure in the Prior Art**
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Cheng expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A

[1] This chart also applies to Cheng combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1A Cheng at Fig. 1B  FIG. 1B Cheng at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 2 Cheng at [0015] When the user (viewer) finds a TV program that has started and is liked, the user starts the personal video recorder to capture the remaining portion of a TV program. At the same time the user requests the personal video recorder to obtain the beginning portion of the TV program up to the point where recording was started. The personal video recorder signals a server, which provides a TV program recording service, and through a network provides the server with a TV program ID and the time at which recording on the personal video recorder commenced. The server responds with an address (such as a URL) and a range of data representing the missing portion of the TV program. The personal video recorder then requests the missing portion of the TV program using the address and the range of data previously provided by the server. A storage system associated with the server maintains a copy of the TV program for a period of time after the end of the broadcast of the program to allow users to download missing portions. Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and

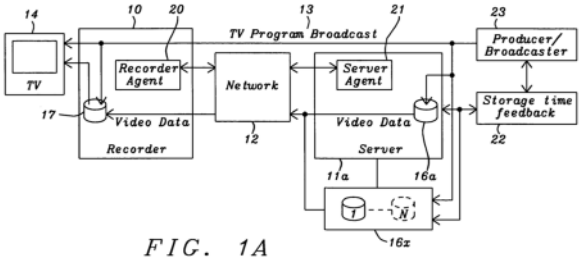
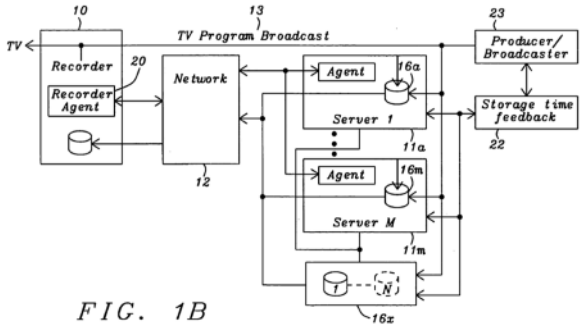
Claim Limitations	Exemplary Disclosure in the Prior Art
	receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent

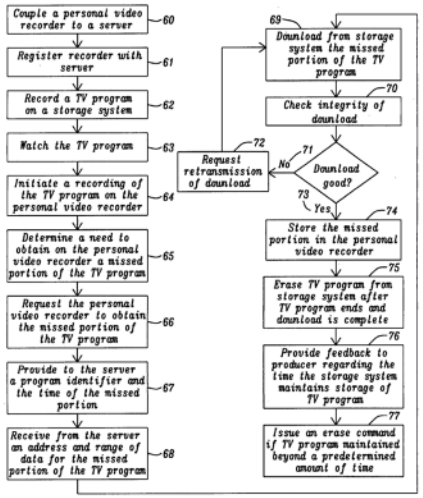
Claim Limitations	Exemplary Disclosure in the Prior Art
	20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0026] It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the

Claim Limitations	Exemplary Disclosure in the Prior Art
	data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] If the download is found to be good 73, the missed portion of the broadcasted TV program is stored into the storage system of the personal video recorder 74. Cheng at [0027] During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at [0003], [0005], [0006]–[0008], [0009], [0016], [0021], [0022], [0024], and [0029]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with

Claim Limitations	Exemplary Disclosure in the Prior Art
	any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	Cheng expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1pre. Cheng at [0023] > As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0026] > It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device *See also* Cheng at Fig. 1A, Fig. 1B, Fig. 2, [0024], [0027], and [0028]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or

Claim Limitations	Exemplary Disclosure in the Prior Art
	renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	Cheng expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a. Cheng at [0023] > As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. *See also* Cheng at Abstract, Fig. 1A, Fig. 1B, Fig. 2, [0015], [0024], [0027], and [0028]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the	Cheng expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example:

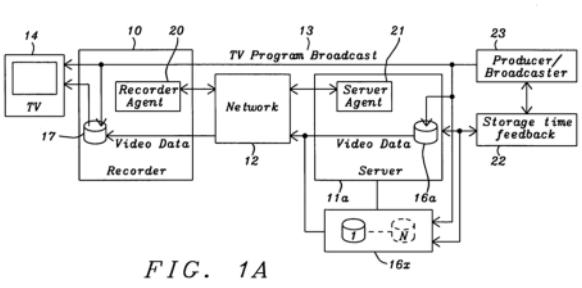
Claim Limitations	Exemplary Disclosure in the Prior Art
opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	*See* claims 1pre-1b. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A  FIG. 1A Cheng at Fig. 1B  FIG. 1B

Claim Limitations	Exemplary Disclosure in the Prior Art
	Cheng at Fig. 2  FIG. 2 Cheng at [0015] When the user (viewer) finds a TV program that has started and is liked, the user starts the personal video recorder to capture the remaining portion of a TV program. At the same time the user requests the personal video recorder to obtain the beginning portion of the TV program up to the point where recording was started. The personal video recorder signals a server, which provides a TV program recording service, and through a network provides the server with a TV program ID and the time at which recording on the personal video recorder commenced. The server responds with an address (such as a URL) and a range of data representing the missing portion of the TV program. The personal video recorder then requests the missing portion of the TV program using the address and the range of data previously provided by the server. A storage system associated with the server maintains a copy of the TV program for a period of time after the end of the broadcast of the program to allow users to download missing portions. Cheng at [0020]

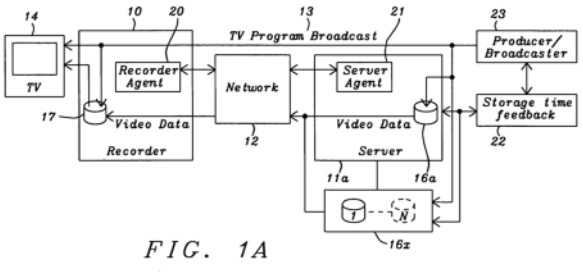
Claim Limitations	Exemplary Disclosure in the Prior Art
	In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024]

Claim Limitations	Exemplary Disclosure in the Prior Art
	For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0024] The obtaining of the video data of the missing portion of the TV program as well as the recording of the current portion of the TV program can be accomplished simultaneous or after the viewer watching the TV broadcast 13 on the TV set 14. The missed portion of the TV program is inserted or concatenated in a fashion that any replay of the TV program will appear as originally broadcast Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV

Claim Limitations	Exemplary Disclosure in the Prior Art
	program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at [0003], [0006]–[0008], [0009], [0016], [0021], [0022], and [0027]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng

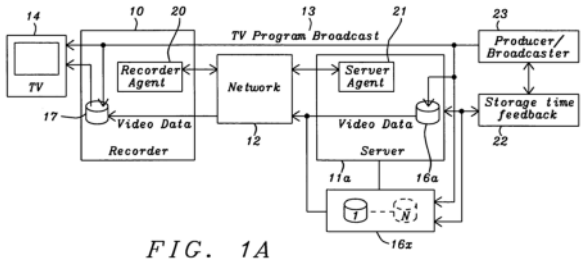
Claim Limitations	Exemplary Disclosure in the Prior Art
	combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	Cheng expressly or inherently discloses "a television display that shows the digital moving image contents from the first provider and the second provider." For example: *See* 1pre. Cheng at Fig. 1A  FIG. 1A Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage

Claim Limitations	Exemplary Disclosure in the Prior Art
	system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0026] It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device *See also* Cheng at Abstract, Fig. 1B, Fig. 2, [0003], [0016], [0027], and [0028]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitations	Exemplary Disclosure in the Prior Art
[1e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Cheng expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1c. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A  FIG. 1A Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17

Claim Limitations	Exemplary Disclosure in the Prior Art
	contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or

Claim Limitations	Exemplary Disclosure in the Prior Art
	other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] If the download is found to be good 73, the missed portion of the broadcasted TV program is stored into the storage system of the personal video recorder 74. *See also* Cheng at Fig. 1B, Fig. 2, [0003], [0016], [0021], [0024], [0027], and [0028]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng

Claim Limitations	Exemplary Disclosure in the Prior Art
	combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer." For example: *See* claim 1. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A  FIG. 1A Cheng at [0015]

Claim Limitations	Exemplary Disclosure in the Prior Art
	When the user (viewer) finds a TV program that has started and is liked, the user starts the personal video recorder to capture the remaining portion of a TV program. At the same time the user requests the personal video recorder to obtain the beginning portion of the TV program up to the point where recording was started. The personal video recorder signals a server, which provides a TV program recording service, and through a network provides the server with a TV program ID and the time at which recording on the personal video recorder commenced. The server responds with an address (such as a URL) and a range of data representing the missing portion of the TV program. The personal video recorder then requests the missing portion of the TV program using the address and the range of data previously provided by the server. A storage system associated with the server maintains a copy of the TV program for a period of time after the end of the broadcast of the program to allow users to download missing portions. Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023]

Claim Limitations	Exemplary Disclosure in the Prior Art
	As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0026] It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or

Claim Limitations	Exemplary Disclosure in the Prior Art
	external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] If the download is found to be good 73, the missed portion of the broadcasted TV program is stored into the storage system of the personal video recorder 74. Cheng at [0027] During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion

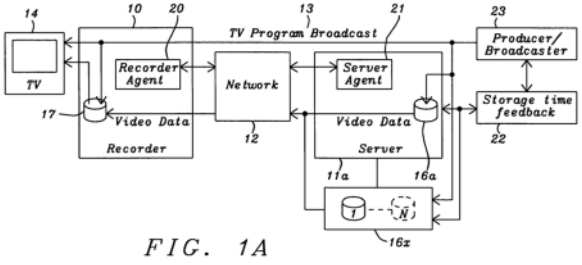
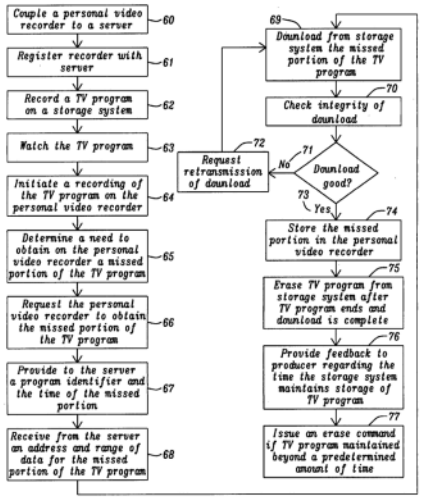
Claim Limitations	Exemplary Disclosure in the Prior Art
	of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Fig. 1B, Fig. 2, [0003], [0006]–[0008], [0009], [0016], [0021], [0022], [0024], and [0029]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[3] The receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example: *See* claims 1-2. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Cheng at [0015] When the user (viewer) finds a TV program that has started and is liked, the user starts the personal video recorder to capture the remaining portion of a TV program. At the same time the user requests the personal video recorder to obtain the beginning portion of the TV program up to the point where recording was started. The personal video recorder signals a server, which provides a TV program recording service, and through a network provides the server with a TV program ID and the time at which recording on the personal video recorder commenced. The server responds with an address (such as a URL) and a range of data representing the missing portion of the TV program. The personal video recorder then requests the missing portion of the TV program using the address and the range of data previously provided by the server. A storage system associated with the server maintains a copy of the TV program for a period of time after the end of the broadcast of the program to allow users to download missing portions. Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of

Claim Limitations	Exemplary Disclosure in the Prior Art
	perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate

Claim Limitations	Exemplary Disclosure in the Prior Art
	communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Fig. 1B, Fig. 2, [0003], [0006]–[0008], [0021], [0024], and [0027]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A

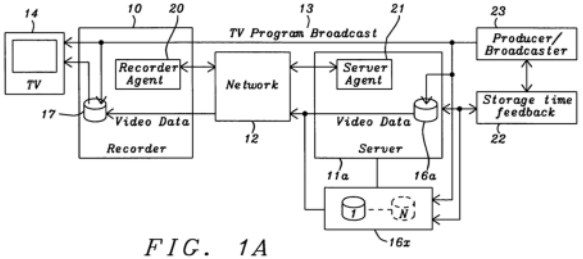
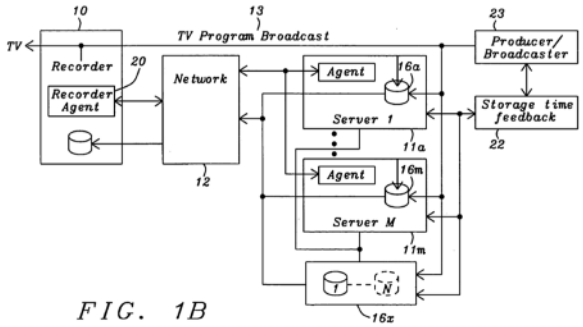
Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1A Cheng at Fig. 2  FIG. 2 Cheng at [0015] When the user (viewer) finds a TV program that has started and is liked, the user starts the personal video recorder to capture the remaining portion of a TV program. At the same time the user requests the personal video recorder to obtain the beginning portion of the TV program up to the point where recording was started. The personal video recorder signals a server, which provides a TV program recording service, and through a network provides the server with a TV program ID and the time at which

Claim Limitations	Exemplary Disclosure in the Prior Art
	recording on the personal video recorder commenced. The server responds with an address (such as a URL) and a range of data representing the missing portion of the TV program. The personal video recorder then requests the missing portion of the TV program using the address and the range of data previously provided by the server. A storage system associated with the server maintains a copy of the TV program for a period of time after the end of the broadcast of the program to allow users to download missing portions. Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and

Claim Limitations	Exemplary Disclosure in the Prior Art
	apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0026] It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the

Claim Limitations	Exemplary Disclosure in the Prior Art
	missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] If the download is found to be good 73, the missed portion of the broadcasted TV program is stored into the storage system of the personal video recorder 74. Cheng at [0027] During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted

Claim Limitations	Exemplary Disclosure in the Prior Art
	over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Fig. 1B, [0003], [0006]–[0008], [0009], [0016], [0021], [0022], [0024], and [0029]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Cheng expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: *See* claim 1, 1pre. Cheng at Abstract A personal video recorder coupled to a server provides a capability to record one or more missed portions of a TV program. The personal video recorder provides a way for a user to record the full content of a TV program even though the personal video recorder was not activated at the beginning of the TV program. The personal video recorder is coupled through a network to a server associated with a storage system, which records the entire TV program. The user, upon deciding to record the TV program after the TV program has started, requests the personal video recorder to obtain the missed beginning portion. The personal video recorder signals the server through the network with the TV program ID and the time at which recording started. The server responds with an address and data range, which the personal video recorder uses to download the missed portion of the TV program. Cheng at Fig. 1A

Claim Limitations	Exemplary Disclosure in the Prior Art
	 FIG. 1A Cheng at Fig. 1B  FIG. 1B Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from

Claim Limitations	Exemplary Disclosure in the Prior Art
	the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e. interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0026]

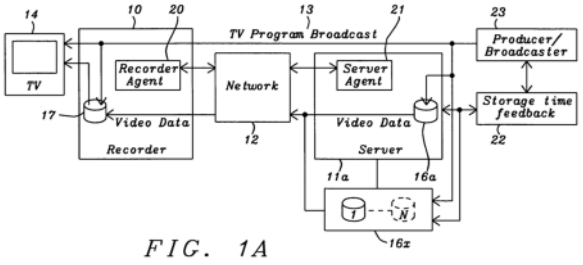
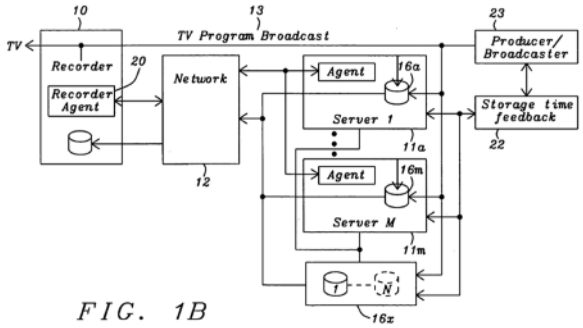
Claim Limitations	Exemplary Disclosure in the Prior Art
	It should be noted, it is within the scope of this invention that the personal video recorder can be a handheld device or an integrated portion of the handheld device, and the TV can be a display on the handheld device or a display coupled to the hand held device Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0027] If the download is found to be good 73, the missed portion of the broadcasted TV program is stored into the storage system of the personal video recorder 74. Cheng at [0027]

Claim Limitations	Exemplary Disclosure in the Prior Art
	During the time that the TV program is active on the storage system, the user of the personal video recorder may request a download of the TV program including the entire program, which allows a user who determines a need to have a copy at the very end of the TV program to obtain a copy. Storage time feedback is provided from the storage system to the producer/broadcaster to allow the producer/broadcaster to monitor the amount of time the TV program is maintained on the storage system 76. If the TV program is maintained on the storage system beyond the predetermined period of time, the producer/broadcaster issues a command through the storage time feedback to erase the TV program from the storage system 77 Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Fig. 2, [0003], [0006]–[0008], [0009], [0015], [0016], [0021], [0022], [0024], and [0029]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one of the digital moving image contents provided	Cheng expressly or inherently discloses “a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image

Claim Limitations	Exemplary Disclosure in the Prior Art
in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1, 1pre-1a. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	Cheng expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface	Cheng expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example: *See* claim 1, 1pre, 1c. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang,

Claim Limitations	Exemplary Disclosure in the Prior Art
locating the integral program in accordance with information at the time of selection by the remote controller;	Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	Cheng expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Cheng expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1, 1c, 1e. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example:

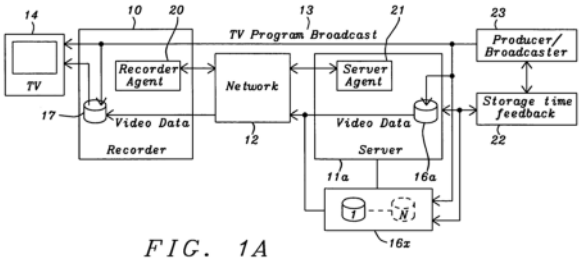
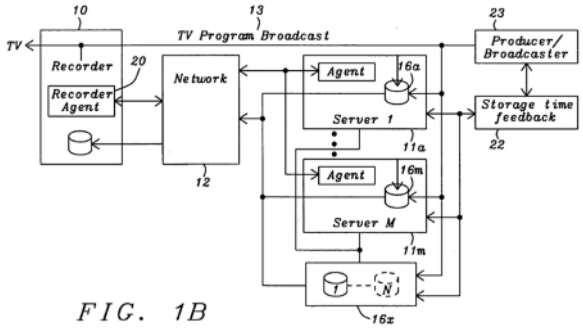
Claim Limitations	Exemplary Disclosure in the Prior Art
which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	*See* claim 1-2, 6. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 1-3, 6-7. *See* above at row [3]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claims 5-6. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitations	Exemplary Disclosure in the Prior Art
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider.	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1. Cheng at Fig. 1A  FIG. 1A Cheng at Fig. 1B  FIG. 1B Cheng at [0005] Personal video recording provides a flexibility to allow recording a TV program for viewing at a future time and simultaneously recording a TV program during the viewing of the TV program for replay at some future time. In order to record the entire TV program requires an individual to plan ahead and set a video recorder to start based on a published schedule. If an individual is surfing through TV channels and comes upon a program of interest after the program has started, any recording of that program can only

Claim Limitations	Exemplary Disclosure in the Prior Art
	begin at the point where the individual started viewing, and the beginning of the TV program can only be recorded upon a rescheduling of the program by the broadcaster of the program. Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0023] As is often the case, a viewer may not have set the personal video recorder 10 to record a particular TV program broadcast or may have not been aware that a particular TV program was of interest, thus missing an initial portion of the broadcast. The viewer may also have been surfing the available TV channels looking for content of interest. In any case, when a viewer finds a TV program broadcast that is interesting after the beginning portion of the broadcast, the present invention provides the method and apparatus to obtain the portion of a TV program broadcast that is not initially included in the recording in the personal video recorder 10, such as the beginning portion within the time frame of the broadcast. Also if there are segments of the broadcast that have been corrupted by noise or other impediments, i.e.

Claim Limitations	Exemplary Disclosure in the Prior Art
	interference or power failure, the method and apparatus of the present invention provides a recovery mechanism for the corrupted segments. Cheng at [0024] For example; a viewer starts surfing the available TV channels and finds subject material on a particular channel that is interesting after the start of the program. Upon realizing that the content of the broadcast material is of interest, the viewer starts recording the TV program and requests the personal video recorder 10 to obtain the beginning portion of the TV program that has been missed. The recorder agent 20 sends a message through the network 12 to the server agent 21 indicating the TV program identification and the time range of the beginning segment that has been missed. The server agent 21 responds to the recorder agent with an address (such as a URL) and the range of data that is to be downloaded. The recorder agent then requests the storage system 16a or 16x to provide the beginning or other portions of the TV program. The storage system 16a or 16x provides the video data that has been requested to the recorder storage system 17. Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio

Claim Limitations	Exemplary Disclosure in the Prior Art
	network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69. Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Abstract, Fig. 2, [0003], [0009], [0015], [0016], [0021], [0022], and [0024]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in	Cheng expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1.

Claim Limitations	Exemplary Disclosure in the Prior Art
accordance with the program schedule table.	Cheng at Fig. 1A  FIG. 1A Cheng at Fig. 1B  FIG. 1B Cheng at [0020] In FIG. 1A is shown a block diagram of the present invention where a personal video recorder 10 is coupled to a server 11a, which provides a video recording service, through a network 12, for example the Internet or equivalent communication networks. The network 12 communicates data to the server 11a and receives from the server 11a non-video data as well as video data, in which the video data is at least a portion of a TV program that is broadcast from a producer/broadcaster 23. A TV program broadcast 13, i.e. cable, satellite or other means, from a producer/broadcaster 23 is delivered to a TV 14 of a viewer (user) and is recorded on storage system 16a contained within the server 11a. A storage system 17 contained within the personal video recorder 10 also records the TV program broadcast 13 when the viewer activates the personal video recorder to capture the TV program broadcast. A storage system 16a within the server 11a provides a source of TV programs recorded prior to or during the TV program broadcast 13 from which the user of the recorder 10 can download portions of TV programs that have

Claim Limitations	Exemplary Disclosure in the Prior Art
	been missed or were corrupted. A storage system 16x comprising TV program files can be remote from the server 11a regardless of whether the server comprises a storage system 16a. The remote storage system 16x may comprise one to N storage units that are physically located together or physically distributed. A storage time feedback 22 provides feedback to the producer/broadcaster 23 the length of time that a TV program is maintained on a storage system 16a and 16x, and provides a mechanism by which the producer/broadcaster 23 can erase TV programs from storage when the TV program storage exceeds any predetermined agreement with respect to the storage of TV programs on the storage system 16a and 16x. Cheng at [0027] n FIG. 2 is shown a flow diagram for the method of the present invention to recover missed segments of broadcast TV programs. A personal video recorder is coupled to a server 60 through a network, i.e. the internet, private cable or phone network, or similar messaging networks. The personal video recorder is registered with the server 61 to insure identity of the user of the services and that proper payments are made for the services. A TV program as it is broadcast, which comprises advertisement and program content, is recorded on a storage system 62. The storage system is either integrated into the server or external to the server. The user (or viewer) while watching the TV program broadcast on a TV set 63, initiates the recording of the broadcast TV program on the personal video recorder 64. Either because the start of the recording of the TV program was initiated after the start of the broadcast, or because of perturbations in the broadcast, i.e. power failure of interference, there is a missed segment in the broadcasted TV program in the personal video recorder. The user decides there is a need to obtain the missed segment, or portion, of the broadcasted TV program 65, and the user requests the personal video recorder obtain the missed segment or portion of the broadcasted TV program 66. The recorder agent in the personal video recorder provides to the server agent, located in the server, the identifier of the TV program and the time of the missed segment, or portion, of the broadcasted TV program 67. The server agent responds to the recorder agent with an address (such as a URL) and range of the missed TV program data 68 that can be downloaded through the network, where the network comprises the internet, private cable or phone network, or any other existing network, comprising cellular, wireless and radio network. The personal video recorder requests the missing segment of the broadcast TV program from the storage system 69 using the address and the range of the missed TV program data that was sent by the server agent. Upon receipt of the data of the missing segment or portion of the broadcast TV program, the data is checked for integrity 70. If the data is found to be corrupted 71, the personal video recorder requests a retransmission of the download 72, and the storage system downloads the missing segment 69.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Cheng at [0028] Referring back to FIGS. 1A and 1B, it should be noted that it is within the scope of the present invention that the network 12 is an integral part of the TV program broadcast system 13 whereby a missed portion of a TV program broadcast is requested by the recorder 10 and downloaded to the recorder either simultaneous to the TV program broadcast or after the TV program broadcast is completed. For example, cable can provide the TV program broadcast as well as the two way communications necessary to request a missed portion of a TV program and to communicate the missed portion to the recorder, thus negating the need to have a separate network 12. In the case of a TV program broadcast 13, which is transmitted over a medium that does not provide two way communications, satellite for example, a separate communication medium, the Internet for example, can be used as the network 12 to request and receive a missed portion of a TV program. It is also within the scope of the present invention that a communication medium, such as satellite or cable, could provide the missed portion of the TV program while the internet or equivalent communication media is used to request the missed portion of the TV program. *See also* Cheng at Abstract, Fig. 2, [0003], [0009], [0015], [0016], [0021], [0022], [0023], [0024], and [0027]. To the extent that Cheng does not disclose any part of this limitation, Cheng renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Cheng combined with the knowledge of a person of ordinary skill in the art, and in light of Cheng combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Kikkawa, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Exhibit 592.D
Invalidity of U.S. Patent No. 10,880,592 Patent in view of Kikkawa[1]

U.S. Patent App. Pub. No. 2004/0179811A1 ("Kikkawa"), is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a), (b), and (e) (pre-AIA). Kikkawa was filed on February 4, 2004 and published on September 16, 2004.

Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

Claim Limitations	**Exemplary Disclosure in the Prior Art**
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Kikkawa expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: Kikkawa at Abstract Provided is a receiving apparatus for receiving streaming contents which is capable of receiving contents at a higher speed. Kikkawa at Abstract The receiving apparatus receives and accumulates the streaming contents periodically during a power off state or while other contents are being audiovisually enjoyed. Kikkawa at [0004] In recent years, information is distributed to individual households through various media. For example, television broadcasts, radio broadcasts, data broadcasts, etc. are distributed by means of ground waves as broadcast waves, satellites, etc. In addition, distribution services for images, audio, information, etc. are provided by means of the Internet, electronic mails, etc. through communication lines.

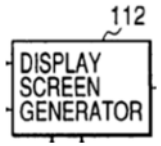
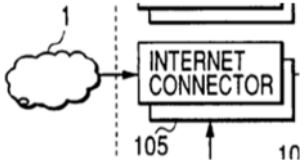
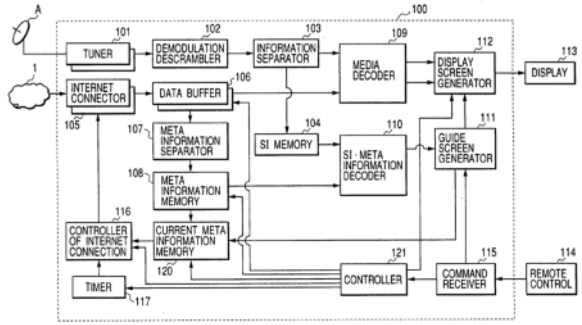
[1] This chart also applies to Kikkawa combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

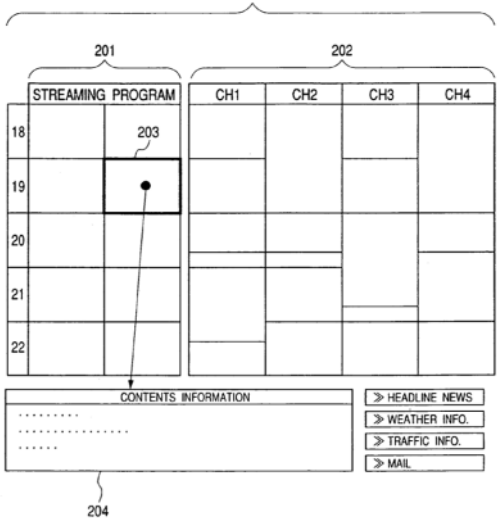
Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at [0005] A conventional broadcast system is currently being shifted to a digital broadcast system in which television signals are transmitted as digital signals. The shift to the digital broadcast system is underway to enhance image quality and to increase the number of channels by utilizing digital transmission and coding technologies. Kikkawa at [0007] The streaming broadcast includes the term "broadcast", but is largely different in arrangement from the conventional television broadcast (of a push type) in the first place. In other words, while the distribution of the images and audio is similarly performed by means of the communication lines such as the Internet through, the streaming broadcast requires a user to access and obtain desired streaming contents (which is called a pull type). Unlike general television broadcast receiving, the streaming broadcast is not received immediately after calling up a desired channel. Kikkawa at [0010] By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently, application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080]

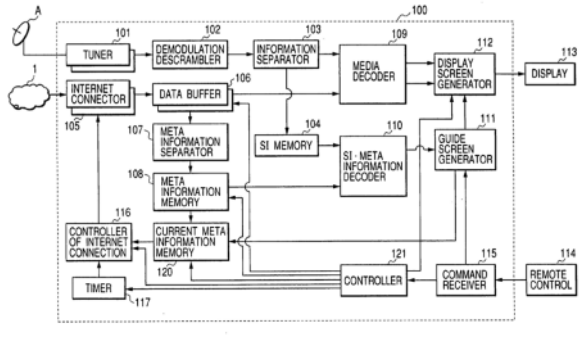
Claim Limitations	Exemplary Disclosure in the Prior Art
	The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents

Claim Limitations	Exemplary Disclosure in the Prior Art
	received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as "EPG") function are integrated to display an "integrated contents guide" that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from

Claim Limitations	Exemplary Disclosure in the Prior Art
	the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at Fig. 1A (112)

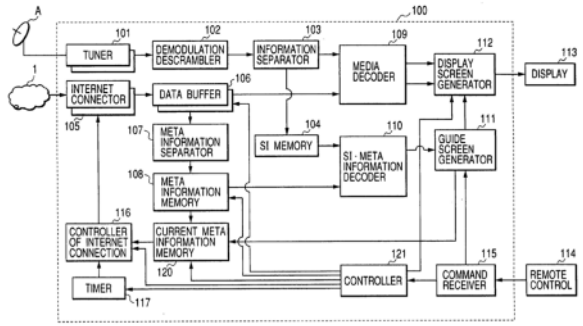
Claim Limitations	Exemplary Disclosure in the Prior Art
	 Kikkawa at Fig. 1A (105)  Kikkawa at Fig. 1A FIG. 1A  Kikkawa at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 2  *See also* Kikkawa at [0082], [0094]–[0097], [0098], [0100], [0169], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to	Kikkawa expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1pre. Kikkawa at [0080]

Claim Limitations	Exemplary Disclosure in the Prior Art
an ending part by way of a midstream part;	outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0100] The command receiver 115 receives a command from the remote control 114, and sends the command to the controller 121. Based on the content of the command, the controller 121 performs switching to contents selected by a user, turning up/down a volume, turning on/off a power, or the like. Kikkawa at [0169] In FIG. 3, the controller 121 recognizes a command received by the command receiver 115 from the remote control 114. Based on the content of the command, the controller 121 determines which streaming contents and television programs a user audiovisually enjoyed, and sends the history to an audiovisual enjoying history memory 140. Kikkawa at Fig. 1A FIG. 1A 

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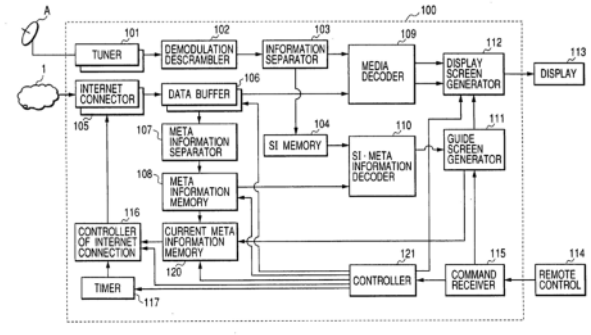
Claim Limitations	Exemplary Disclosure in the Prior Art
	See also Kikkawa at [0167] and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	Kikkawa expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at Fig. 1A

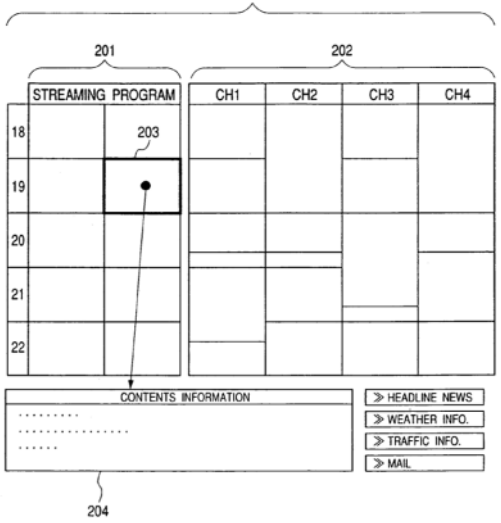
Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 1A  *See also* Kikkawa at [0098], [0167], and [0171]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	Kikkawa expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example: *See* claims 1pre-1b. Kikkawa at [0010] > By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently,

Claim Limitations	Exemplary Disclosure in the Prior Art
	application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0088]

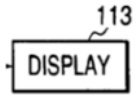
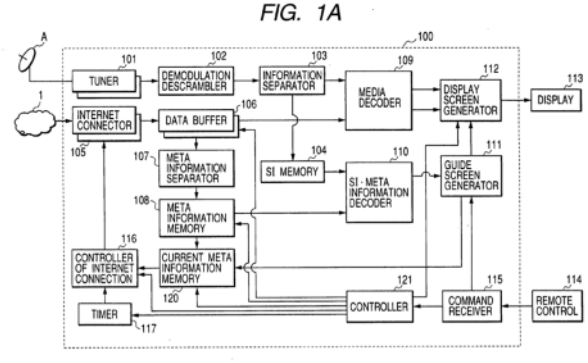
Claim Limitations	Exemplary Disclosure in the Prior Art
	The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as "EPG") function are integrated to display an "integrated contents guide" that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at [0094]–[0097]

Claim Limitations	Exemplary Disclosure in the Prior Art
	The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from

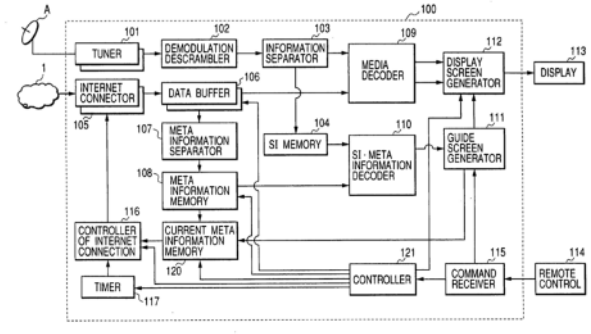
Claim Limitations	Exemplary Disclosure in the Prior Art
	the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0137] Note that, the data buffer 106 in this embodiment has a capacity sufficient enough to accumulate data for a predetermined time period of all data related to contents displayed on a list on the contents guide screen. Accordingly, when the user selects one from the plural sets of the streaming contents that are registered in a range that can be listed at the contents guide, the selected contents data is certainty stored in the buffer 106. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0171] The audiovisual enjoying history memory 140 stores a history as to which contents in which site the user audiovisually enjoys. Parameters to be stored include a URL, a title, and a genre of contents, a date, a day of the week, and a time when the user audiovisually enjoyed the contents, and the like. Kikkawa at Fig. 1A FIG. 1A  Kikkawa at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 2  *See also* Kikkawa at [0087], [0098], [0100], [0167], and [0170]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	Kikkawa expressly or inherently discloses "a television display that shows the digital moving image contents from the first provider and the second provider." For example: *See* 1pre. Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a

Claim Limitations	Exemplary Disclosure in the Prior Art
	corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as "EPG") function are integrated to display an "integrated contents guide" that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at Fig. 1A (113)  Kikkawa at Fig. 1A  *See also* Kikkawa at [0089], [0098], [0167], and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitations	Exemplary Disclosure in the Prior Art
[1e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Kikkawa expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1c. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0082] In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller 121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and

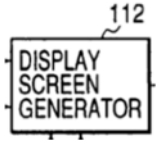
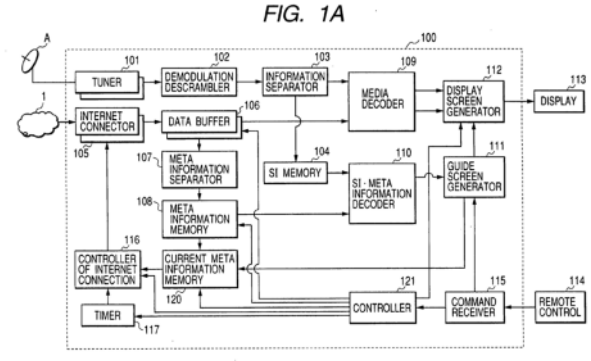
Claim Limitations	Exemplary Disclosure in the Prior Art
	includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at Fig. 1A FIG. 1A 

Claim Limitations	Exemplary Disclosure in the Prior Art
	See also Kikkawa at [0167], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer.	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer." For example: *See* claim 1. Kikkawa at [0016] > However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] > The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] > outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0082] In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller 121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the

Claim Limitations	Exemplary Disclosure in the Prior Art
	display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0119] The controller of Internet connection 116 controls the Internet connector 105 according to the timing signal, and periodically repeats in a background the operation for receiving the data of the streaming contents that are audiovisually enjoyed immediately before the power off and storing the data into the data

Claim Limitations	Exemplary Disclosure in the Prior Art
	buffer 106. Accordingly, the latest data is constantly accumulated in the data buffer 106. The above operations are normally performed because the main power source 1.26 is in an on state. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at [0170] In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the

Claim Limitations	Exemplary Disclosure in the Prior Art
	streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. Kikkawa at Fig. 1A (112)  Kikkawa at Fig. 1A  Kikkawa at Fig. 4 (S121)  *See also* Kikkawa at [0083]–[0085], [0087], [0092], [0098], [0100], [0169], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references

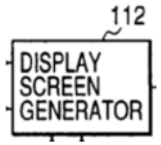
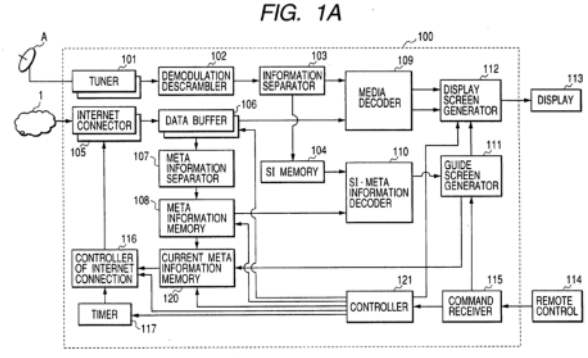
Claim Limitations	Exemplary Disclosure in the Prior Art
	discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[3] The receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program.	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example: *See* claims 1-2. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215).

Claim Limitations	Exemplary Disclosure in the Prior Art
	The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0170] In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. *See also* Kikkawa at [0082], [0087], [0100], and [0138]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1. Kikkawa at [0010]

Claim Limitations	Exemplary Disclosure in the Prior Art
integral program received from the first provider.	By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently, application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at [0082] In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller 121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097]

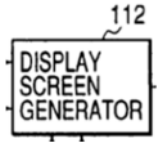
Claim Limitations	Exemplary Disclosure in the Prior Art
	The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at [0170] In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the

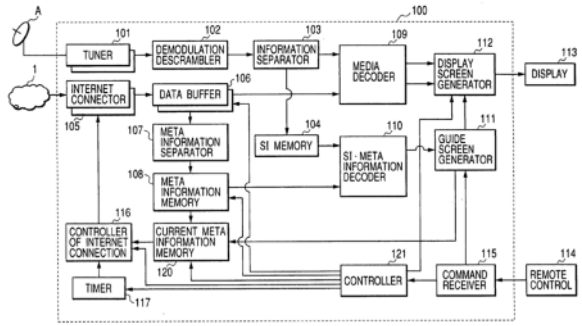
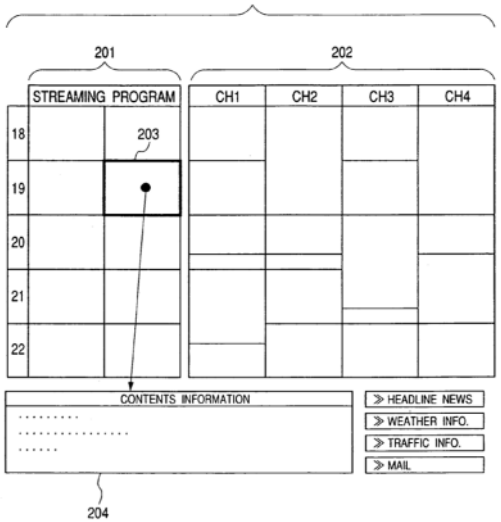
Claim Limitations	Exemplary Disclosure in the Prior Art
	streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. Kikkawa at [0171] The audiovisual enjoying history memory 140 stores a history as to which contents in which site the user audiovisually enjoys. Parameters to be stored include a URL, a title, and a genre of contents, a date, a day of the week, and a time when the user audiovisually enjoyed the contents, and the like. Kikkawa at Fig. 1A (112)  Kikkawa at Fig. 1A  *See also* Kikkawa at [0083]–[0085], [0087], [0092], [0098], [0100], [0169], [0194], and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references

Claim Limitations	Exemplary Disclosure in the Prior Art
	discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Kikkawa expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: *See* claim 1, 1pre. Kikkawa at [0016] > However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] > The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] > outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] > The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder

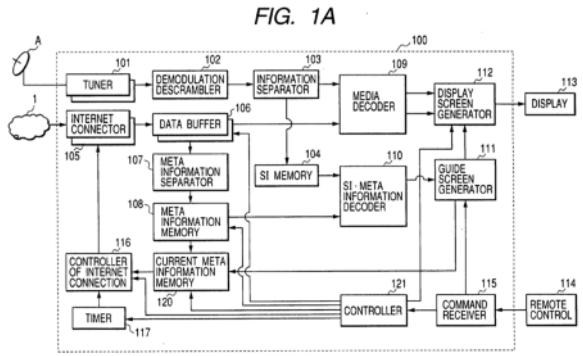
Claim Limitations	Exemplary Disclosure in the Prior Art
	109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as “EPG”) function are integrated to display an “integrated contents guide” that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide.

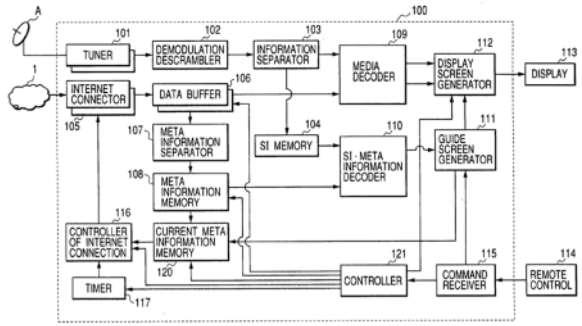
Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216).

Claim Limitations	Exemplary Disclosure in the Prior Art
	The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at Fig. 1A (112)  Kikkawa at Fig. 1A

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 1A  Kikkawa at Fig. 2 FIG. 2  *See also* Kikkawa at [0082], [0094]–[0097], [0098], [0100], [0169], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa

Claim Limitations	Exemplary Disclosure in the Prior Art
	combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	Kikkawa expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1, 1pre-1a. Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0100] The command receiver 115 receives a command from the remote control 114, and sends the command to the controller 121. Based on the content of the command, the controller 121 performs switching to contents selected by a user, turning up/down a volume, turning on/off a power, or the like. Kikkawa at [0169] In FIG. 3, the controller 121 recognizes a command received by the command receiver 115 from the remote control 114. Based on the content of the command, the controller 121 determines which streaming contents and television programs a user audiovisually enjoyed, and sends the history to an audiovisual enjoying history memory 140.

Claim Limitations	Exemplary Disclosure in the Prior Art
	Kikkawa at Fig. 1A  *See also* Kikkawa at [0167] and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	Kikkawa expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI)

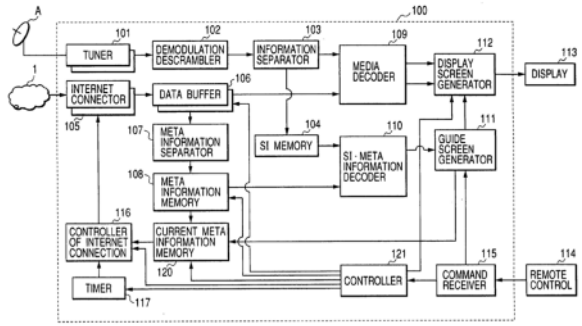
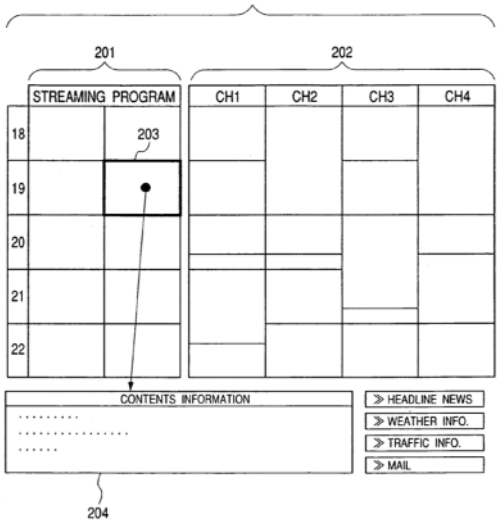
Claim Limitations	Exemplary Disclosure in the Prior Art
	accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at Fig. 1A FIG. 1A  *See also* Kikkawa at [0098], [0167], and [0171]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller.	Kikkawa expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example:

Claim Limitations	Exemplary Disclosure in the Prior Art
part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller;	*See* claim 1, 1pre, 1c. Kikkawa at [0010] By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently, application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0086]

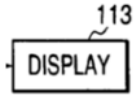
Claim Limitations	Exemplary Disclosure in the Prior Art
	The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as "EPG") function are integrated to display an "integrated contents guide" that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of

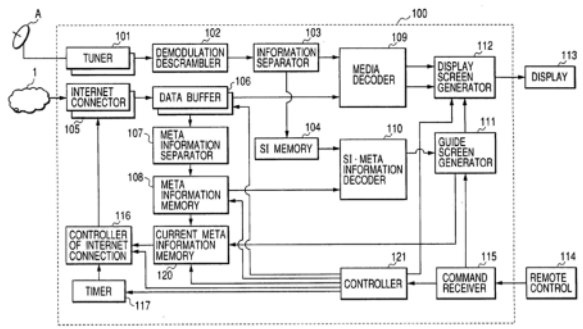
Claim Limitations	Exemplary Disclosure in the Prior Art
	streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215).

Claim Limitations	Exemplary Disclosure in the Prior Art
	The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0137] Note that, the data buffer 106 in this embodiment has a capacity sufficient enough to accumulate data for a predetermined time period of all data related to contents displayed on a list on the contents guide screen. Accordingly, when the user selects one from the plural sets of the streaming contents that are registered in a range that can be listed at the contents guide, the selected contents data is certainty stored in the buffer 106. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0171] The audiovisual enjoying history memory 140 stores a history as to which contents in which site the user audiovisually enjoys. Parameters to be stored include a URL, a title, and a genre of contents, a date, a day of the week, and a time when the user audiovisually enjoyed the contents, and the like. Kikkawa at Fig. 1A

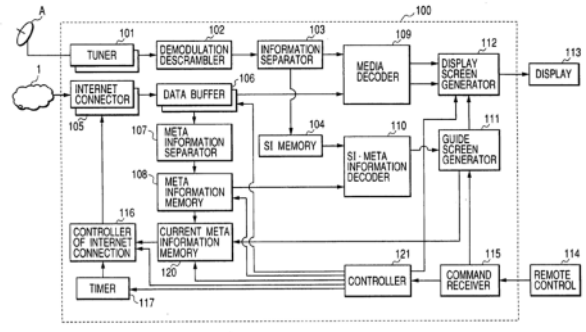
Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 1A  Kikkawa at Fig. 2 FIG. 2  *See also* Kikkawa at [0087], [0098], [0100], [0167], and [0170]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa

Claim Limitations	Exemplary Disclosure in the Prior Art
	combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	Kikkawa expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder

Claim Limitations	Exemplary Disclosure in the Prior Art
	109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as "EPG") function are integrated to display an "integrated contents guide" that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at Fig. 1A (113)  Kikkawa at Fig. 1A

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 1A  *See also* Kikkawa at [0089], [0098], [0167], and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Kikkawa expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1, 1c, 1e. Kikkawa at [0081] > The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0082]

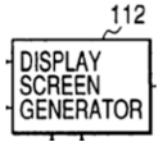
Claim Limitations	Exemplary Disclosure in the Prior Art
	In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller 121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of

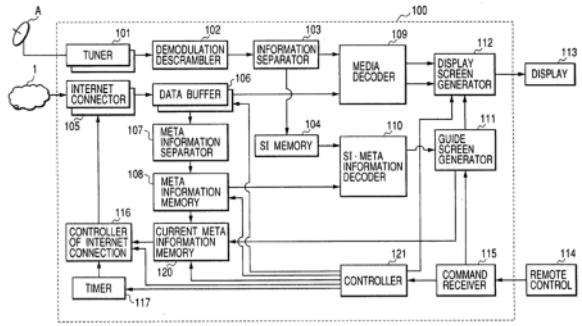
Claim Limitations	Exemplary Disclosure in the Prior Art
	streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at Fig. 1A FIG. 1A  *See also* Kikkawa at [0167], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been

Claim Limitations	Exemplary Disclosure in the Prior Art
has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example: *See* claim 1-2, 6. Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0082]

Claim Limitations	Exemplary Disclosure in the Prior Art
	In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller 121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and

Claim Limitations	Exemplary Disclosure in the Prior Art
	includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0119] The controller of Internet connection 116 controls the Internet connector 105 according to the timing signal, and periodically repeats in a background the operation for receiving the data of the streaming contents that are audiovisually enjoyed immediately before the power off and storing the data into the data buffer 106. Accordingly, the latest data is constantly accumulated in the data buffer 106. The above operations are normally performed because the main power source 1.26 is in an on state. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216).

Claim Limitations	Exemplary Disclosure in the Prior Art
	The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at [0170] In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. Kikkawa at Fig. 1A (112)  Kikkawa at Fig. 1A

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 1A  Kikkawa at Fig. 4 (S121)  *See also* Kikkawa at [0083]–[0085], [0087], [0092], [0098], [0100], [0169], [0171], and [0194]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 1-3, 6-7. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and

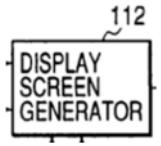
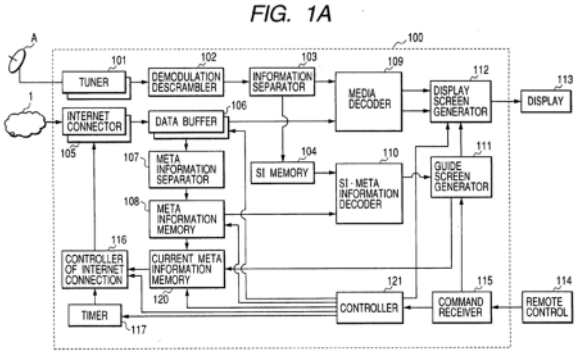
Claim Limitations	Exemplary Disclosure in the Prior Art
	information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation. The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218). As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0170]

Claim Limitations	Exemplary Disclosure in the Prior Art
	In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. *See also* Kikkawa at [0082], [0087], [0100], and [0138]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claims 5-6. Kikkawa at [0010] By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently, application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to

Claim Limitations	Exemplary Disclosure in the Prior Art
	audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0080] outputs to a display 113 a program, streaming contents, and Internet information (a Website, an electronic mail, etc.) which are selected by a user using a remote control 114. Kikkawa at [0081] The receiving apparatus 100 includes a tuner 101, a demodulation descrambler 102, an information separator 103, a service information (hereinafter, referred to as "SI") memory 104, an Internet connector 105, a data buffer 106, a metainformation separator 107, a metainformation memory 108, a media decoder 109, an SI/metainformation decoder 110, a guide screen generator 111, a display screen generator 112, the display 113, the remote control 114, a command receiver 115, a controller of Internet connection 116, a timer 117, a current metainformation memory 120, and a controller 121. Kikkawa at [0082] In FIGS. 1A and 1B, the tuner 101, the demodulation descrambler 102, and the information separator 103 compose a digital broadcast distribution receiving function block 123 that is used when receiving a digital broadcast. The Internet connector 105, the data buffer 106, the metainformation separator 107, the metainformation memory 108, the controller of Internet connection 116, the current metainformation memory 120, and the like compose a streaming contents receiving function block 122 that is involved when receiving a streaming broadcast. The media decoder 109 and the SI/metainformation decoder 110 compose a function block (a kind of another function block 124) that is used for both a digital broadcast system and a streaming broadcast system. The guide screen generator 111, the display screen generator 112, and the like also compose a kind of another function block 124 for both systems. Here, the controller

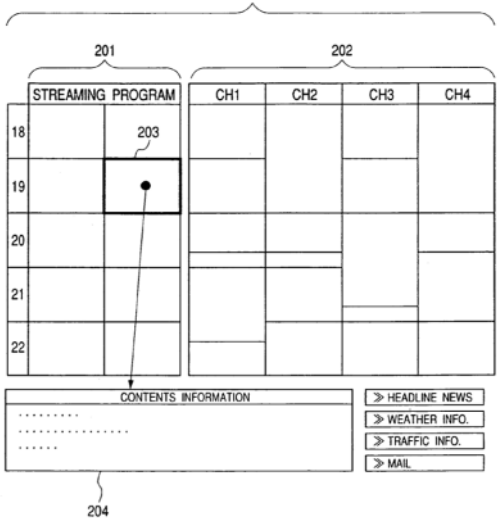
Claim Limitations	Exemplary Disclosure in the Prior Art
	121 controls an operation of a main power source 126 that is connected to a commercial power source (or battery) 127 and an operation of a power source 125. Kikkawa at [0086] The media decoder 109 decodes the video information, audio information, and data broadcast information sent from the information separator 103, and sends the respective information as display data to the display screen generator 112. The media decoder 109 has a function for decoding streaming contents received through the Internet described later in addition to decoding audiovisual data in an MPEG-2 format widely adopted in the digital broadcast. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0093] The data buffer 106 is a buffer memory for accumulating data of streaming contents, and stores streaming data of current and next preferences of contents and metainformation as related information thereof. An operation of the data buffer 106 will be described later. Kikkawa at [0094]–[0097] The metainformation separator 107 extracts and separates the metainformation of streaming contents. Here, the metainformation represents information related to streaming contents (profile of contents), and includes a file called a metafile sent from the streaming server side before actual contents distribution and information described in a header section of main data of contents. Also, profile information of contents may recently be included in a file described in a Synchronized Multimedia Integration Language (hereinafter, referred to as "SMIL"). In many cases, the metafile includes, as the profile information of contents, a description of a destination link related thereto in addition to an entity of metainformation. Therefore, by referring to the metafile and following the destination link described therein, the profile information of the contents can be obtained as a series of metainformation.

Claim Limitations	Exemplary Disclosure in the Prior Art
	The metainformation includes information on contents such as a location address, a title, a genre, an abstract, a reproduction time period, whether recording is permitted or not, and a producer name. In addition, a logo and the like of the contents can be obtained by following the destination link. The metainformation separator 107 extracts the metainformation including the address of the currently displayed contents, and the metainformation memory 108 stores the metainformation. Even if the kinds of streaming contents are different, contents (description contents) of their metainformation are similar to each other, but differ in description format. Thus, the metainformation separator 107 of this embodiment is adapted to interpret metafiles of such plural kinds of streaming contents. Kikkawa at [0138] In contrast, in the case of a receiving apparatus that cannot perform the buffer operation while the apparatus power is in an off state, this process is necessarily performed immediately after the power is turned on. Kikkawa at [0167] FIG. 3 is a diagram showing main blocks of a receiving apparatus 300 according to this embodiment. The receiving apparatus 300 shown in FIG. 3 has substantially the same function as that of the receiving apparatus 100 shown in FIG. 1A. Also, blocks of FIG. 3 having the same function as those of FIGS. 1A and 1B are denoted by the same reference numerals. Kikkawa at [0170] In addition to the above-mentioned function, the timer 117 provides the audiovisual enjoying history memory 140 with a date, a day of the week, and a time at which the user audiovisually enjoyed the streaming contents and the television programs. Note that, in this embodiment, the audiovisual enjoying history memory 140 is controlled to record the history therein only when the user audiovisually enjoys streaming contents and a television program continuously for a predetermined period of time. Kikkawa at [0171] The audiovisual enjoying history memory 140 stores a history as to which contents in which site the user audiovisually enjoys. Parameters to be stored include a URL, a title, and a genre of contents, a date, a day of the week, and a time when the user audiovisually enjoyed the contents, and the like. Kikkawa at Fig. 1A (112)

Claim Limitations	Exemplary Disclosure in the Prior Art
	 Kikkawa at Fig. 1A  *See also* Kikkawa at [0083]–[0085], [0087], [0092], [0098], [0100], [0169], [0194], and Fig. 2. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1. Kikkawa at [0005]

Claim Limitations	Exemplary Disclosure in the Prior Art
provider, and wherein the one of the digital moving image contents is provided by the selected sub provider.	A conventional broadcast system is currently being shifted to a digital broadcast system in which television signals are transmitted as digital signals. The shift to the digital broadcast system is underway to enhance image quality and to increase the number of channels by utilizing digital transmission and coding technologies. Kikkawa at [0007] The streaming broadcast includes the term “broadcast”, but is largely different in arrangement from the conventional television broadcast (of a push type) in the first place. In other words, while the distribution of the images and audio is similarly performed by means of the communication lines such as the Internet through, the streaming broadcast requires a user to access and obtain desired streaming contents (which is called a pull type). Unlike general television broadcast receiving, the streaming broadcast is not received immediately after calling up a desired channel. Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as “EPG”) function are integrated to display an “integrated contents guide” that enables the user to check the

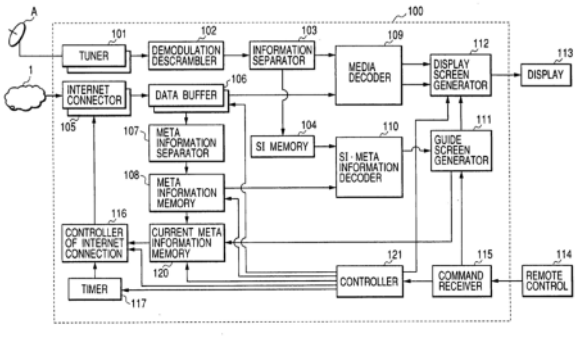
Claim Limitations	Exemplary Disclosure in the Prior Art
	streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0089] In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at Fig. 2

Claim Limitations	Exemplary Disclosure in the Prior Art
	FIG. 2  *See also* Kikkawa at [0081], [0098], [0100], [0170], and Fig. 1A. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table.	Kikkawa expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1. Kikkawa at Abstract

Claim Limitations	Exemplary Disclosure in the Prior Art
	Provided is a receiving apparatus for receiving streaming contents which is capable of receiving contents at a higher speed. Kikkawa at [0005] A conventional broadcast system is currently being shifted to a digital broadcast system in which television signals are transmitted as digital signals. The shift to the digital broadcast system is underway to enhance image quality and to increase the number of channels by utilizing digital transmission and coding technologies. Kikkawa at [0007] The streaming broadcast includes the term "broadcast", but is largely different in arrangement from the conventional television broadcast (of a push type) in the first place. In other words, while the distribution of the images and audio is similarly performed by means of the communication lines such as the Internet through, the streaming broadcast requires a user to access and obtain desired streaming contents (which is called a pull type). Unlike general television broadcast receiving, the streaming broadcast is not received immediately after calling up a desired channel. Kikkawa at [0010] By the above operations, the user obtains information related to the desired streaming contents including program information such as a title, distribution information such as a start time, and address information such as a Uniform Resource Locator (hereinafter, referred to as "URL"). After that, the user accesses an address (URL) where the streaming contents exist to start to obtain the streaming contents. Concurrently, application software called a streaming player is activated, so that the streaming contents are audiovisually enjoyed (reproduced). Kikkawa at [0016] However, a general television audience is accustomed to watching television, that is, being able to audiovisually enjoy a desired program immediately after turning on a power and selecting a corresponding channel. Therefore, it is impractical for the television audience himself/herself to find out main data and a location (address (and a file name)) of streaming contents that he/she wishes to audiovisually enjoy, and to perform the pull-type operation for receiving distributed contents based on the found data. Thus, it is necessary to provide a form capable of selecting and audiovisually enjoying

Claim Limitations	Exemplary Disclosure in the Prior Art
	contents by a simpler method such that the audience feels as comfortable as when audiovisually enjoying a television program. Kikkawa at [0080] The receiving apparatus 100 shown in FIG. 1A is capable of receiving a television broadcast by broadcast waves and also a streaming broadcast distributed through the Internet. In addition to receiving a digital broadcast, the receiving apparatus 100 receives various images, video, and data through the Internet, Kikkawa at [0083]–[0085] The tuner 101 and the demodulation descrambler 102 receive a radio wave having a designated frequency from digital broadcast waves transmitted through an antenna A or a cable (not shown), perform processes such as demodulation, A/D conversion, error correction, and descrambling for limited reception if necessary, and generate a data row called a transport stream (TS). The information separator 103 separates the generated transport stream into two groups: video information, audio information, and data broadcast information; and related information (such as PSI/SI) accompanying the above information, and sends the former group to the media decoder 109 and the latter group to the SI memory 104. From among the information sent as the PSI/SI, the SI memory 104 stores information related to a transmission line of each channel (such as a modulation frequency) and information related to a broadcast program (such as a program title and a broadcast date and time) by associating one with another. Kikkawa at [0088] The guide screen generator 111 generates a guide screen for selecting a television program and streaming contents based on the related information of television programs and streaming contents which are decoded in the SI/metainformation decoder 110. According to this embodiment, in order to seamlessly provide a user with television broadcast programs and streaming contents received through the Internet, a streaming contents guide function and an electronic program guide (hereinafter, referred to as “EPG”) function are integrated to display an “integrated contents guide” that enables the user to check the streaming contents and the television programs at a glance on one screen. FIG. 2 shows an example of displaying the integrated contents guide. Kikkawa at [0089]

Claim Limitations	Exemplary Disclosure in the Prior Art
	In FIG. 2, a vertical axis indicates broadcast time slots. A horizontal axis of FIG. 2 contains a display area 201 for streaming contents programs and a display area 202 for television broadcast programs. In the display area 201, two streaming contents programs are displayed for each time slot. In the display area 202, broadcast channels are displayed along a direction of the horizontal axis. Kikkawa at [0091] The generated guide screen is sent to the display screen generator 112, and displayed on the display 113 by being synthesized with or replacing main data to be displayed such as video, audio, and data sent from the media decoder 109. Kikkawa at [0092] On the other hand, the Internet connector 105 as hardware represents a connector (such as modem or router) for connecting to a communication line such as a telephone line, CATV, ADSL, or FTTH. The Internet connector 105 as software represents middleware (a protocol stack) that supports: a relatively low-order Internet protocol corresponding to the transport layer and the network layer, such as TCP, UDP, or IP; and a protocol corresponding to the application layer which differs depending on the kinds of streaming contents. The Internet connector 105 is utilized to access an external Web server through the Internet I, and receive various audiovisual data including streaming contents and various information from the Web server. Note that the Internet connector 105 is capable of simultaneously accessing (establishing sessions for) a plurality of Web servers or plural sets of contents in the servers. Kikkawa at [0130]–[0133] n this case, first, as to the four sets of streaming contents, metainformation related to the above streaming contents is extracted from the metainformation memory 108, and the extracted metainformation is written into the current metainformation memory 120. Further, information related to streaming contents that can be audiovisually enjoyed from a list in FIG. 2 (two programs listed in 20 hours, 21 hours, and 22 hours, respectively) is sequentially stored in the current metainformation memory 120 (step S215). The controller of Internet connection 116 controls the Internet connector 105 according to the metainformation of the contents stored in the current metainformation memory 120 such that connection is established to an address of this streaming contents (step S216). The Internet connector 105 accesses a URL of the designated contents and receives streaming contents data, which is then stored into the data buffer 106. (steps S217 and S218).

Claim Limitations	Exemplary Disclosure in the Prior Art
	As described above, the number of the sets of streaming contents registered at the contents guide is not necessarily one. In the case where plural sets of contents are registered, according to an instruction from the controller of Internet connection 116, the Internet connector 105 can access URLs of plural contents preferences at the same time and receive the streaming contents data in parallel. Kikkawa at [0171] The audiovisual enjoying history memory 140 stores a history as to which contents in which site the user audiovisually enjoys. Parameters to be stored include a URL, a title, and a genre of contents, a date, a day of the week, and a time when the user audiovisually enjoyed the contents, and the like. Kikkawa at Fig. 1A FIG. 1A  Kikkawa at Fig. 2

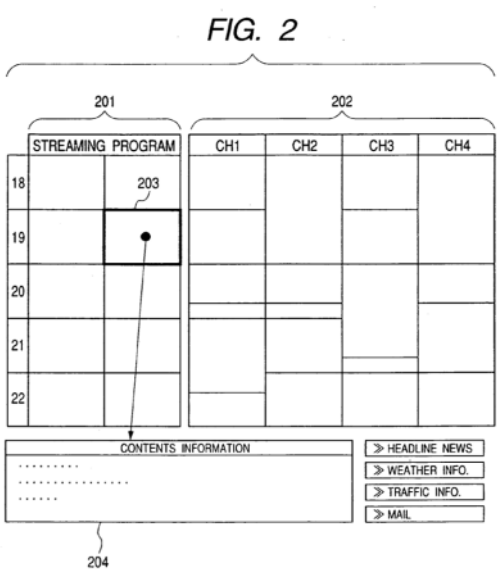
Claim Limitations	Exemplary Disclosure in the Prior Art
	 *See also* Kikkawa at [0081], [0082], [0094]–[0097], and [0098]. To the extent that Kikkawa does not disclose any part of this limitation, Kikkawa renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of Kikkawa combined with the knowledge of a person of ordinary skill in the art, and in light of Kikkawa combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, the Helius System, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Exhibit 592.E
Invalidity of U.S. Patent No. 10,880,592 in view of the Helius System[1]

The Helius System is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a) and (b) (pre-AIA). The Helius System was publicly known, used, and on sale, in the United States at least as early as 2006.

The Helius System refers to all Helius products publicly known, used, or on sale before the '592 patents priority date, including the MediaStream Server, MediaStream SST, MediaStream SST-ADV, MediaGate Router 2550, MediaGateRouter 4450, and hardware components including computers utilizing the MediaStream Player.

"Helius System" also includes all documentation describing the Helius System products. This claim chart applies to all of the Helius System products and their documentation, both collectively and individually. The contentions in this claim chart apply equally to all Helius System products.

The Helius System is described by at least the following documents:

Document Name	Reference URL	Date of Reference
Helius MediaStream Player Webpage (Helius Player 1)	https://web.archive.org/web/20061031045840/http://www.helius.com/products/mediastreamplayer.php	October 31, 2006
Helius MediaStream Player Datasheet (Helius Player 2)	https://web.archive.org/web/20061031051347/http://www.helius.com/pdfs/2005/MediaStream%20Player.pdf	October 31, 2006
Helius MediaStream Server Webpage (Helius Server 1)	https://web.archive.org/web/20061031051228/http://www.helius.com/products/mediastreamserver.php	October 31, 2006
Helius MediaStream Server Datasheet (Helius Server 2)	https://web.archive.org/web/20061031052210/http://www.helius.com/pdfs/2005/MediaStream%20Server.pdf	October 31, 2006

[1] This chart also applies to the Helius System combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

Document Name	Reference URL	Date of Reference
Helius MediaStream SST Webpage (Helius SST 1)	https://web.archive.org/web/20061031045851/http://www.helius.com/products/mediastreamsst.php	October 31, 2006
Helius MediaStream SST Datasheet (Helius SST 2)	https://web.archive.org/web/20061031051351/http://www.helius.com/pdfs/2005/MediaStream%20SST.pdf	October 31, 2006
Helius MediaStream SST-ADV Webpage (Helius SST-ADV 1)	https://web.archive.org/web/20061031045448/http://www.helius.com/products/mediastreamssta.php	October 31, 2006
Helius MediaStream SST-ADV Datasheet (Helius SST-ADV 2)	https://web.archive.org/web/20061031051304/http://www.helius.com/pdfs/2005/MediaStream%20SST-ADV.pdf	October 31, 2006
Helius MediaGate Router 2550 Webpage (Helius 2550 Router 1)	https://web.archive.org/web/20061031045905/http://www.helius.com/products/mgr2550.php	October 31, 2006
Helius MediaGate Router 2550 Datasheet (Helius 2550 Router 2)	https://web.archive.org/web/20061031051413/http://www.helius.com/pdfs/2005/mgr2550.pdf	October 31, 2006
Helius MediaGate Router 4550 Webpage (Helius 4550 Router 1)	https://web.archive.org/web/20061031045910/http://www.helius.com/products/mgr4550.php	October 31, 2006
Helius MediaGate Router 4550 Datasheet (Helius 4550 Router 2)	https://web.archive.org/web/20061031051422/http://www.helius.com/pdfs/2005/mgr4550.pdf	October 31, 2006

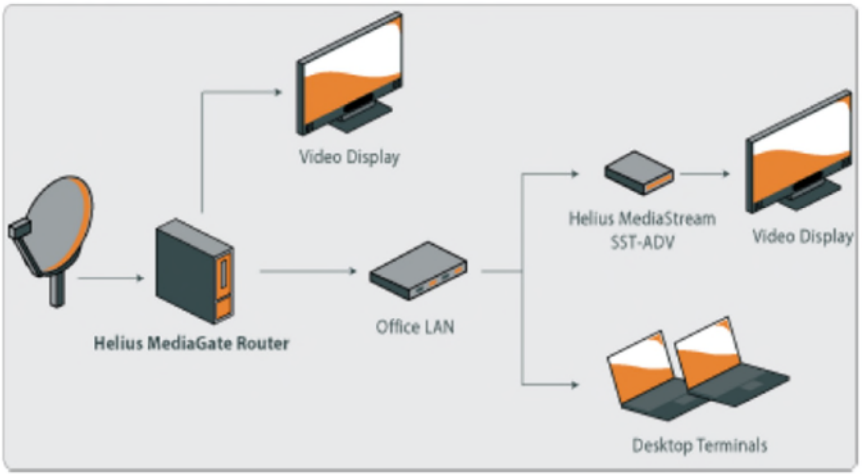
Moreover, it also would have been obvious to a person of ordinary skill in the art to combine the Helius System with the following prior art:

Document Name	Reference URL	Date of Reference
ATI Theatre 650 Pro	https://hothardware.com/reviews/ati-theater-650-pro--catalyst-media-center-preview?page=1	August 18, 2006
ATI Wonder 650 PCI Tuner	https://web.archive.org/web/20070110023020/http://www.pcalchemy.com/product_info.php/pName/ati-tv-wonder-650-pci-tv-tuner-100715331-retail/cName/pvr-cardstv-tuners	January 10, 2007
Microsoft MCE Remote Control	https://web.archive.org/web/20060718093536/http://www.pcalchemy.com/product_info.php/pName/microsoft-mce-remote-control-for-windows-xp-mce/cName/remote-controls	July 18, 2006

Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

Claim Limitation	Exemplary Disclosure in the Prior Art
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance	Helius System expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example:

Claim Limitation	Exemplary Disclosure in the Prior Art
with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	**Helius MediaGate Router 2550** The Helius MediaGate Router 2550 is a complete DVB receiver, IP compliant router and open application server platform that enables the integration of IP network services and applications over traditional satellite and terrestrial networks. Key features of this product are MPEG2 playback with hardware decoder and two PCI expansion slots. Based on open standards, in both design and feature set, the Helius MediaGate Router 2550 offers unparalleled power and flexibility. The Helius MediaGate 2550 will dramatically improve the delivery of business applications like Interactive Distance Learning, Digital Signage and Business TV. Its unique modular design allows the Helius MediaGate 2550 to be customized and updated easily. Management of the 2550 can be done locally or remotely using the browser based Helius Management Console. Helius 2550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	• Enables the simple, secure and reliable delivery of distance learning, digital signage, software updates and other media rich content. • Enables the multicast distribution of data to geographically dispersed locations. • Allows the integration of receiver services together with traditional IP routing functions and provides a platform for developing additional network or application services. The Helius MediaGate Router 2550 enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, DSL, etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations and TV's alike. The Helius MediaGate Router 2550 provides a multicast solution for distributing data to the desktop or other locations.  Helius 2550 Router 1. **Features** » Browser based configuration and management » Full transponder support

Claim Limitation	Exemplary Disclosure in the Prior Art

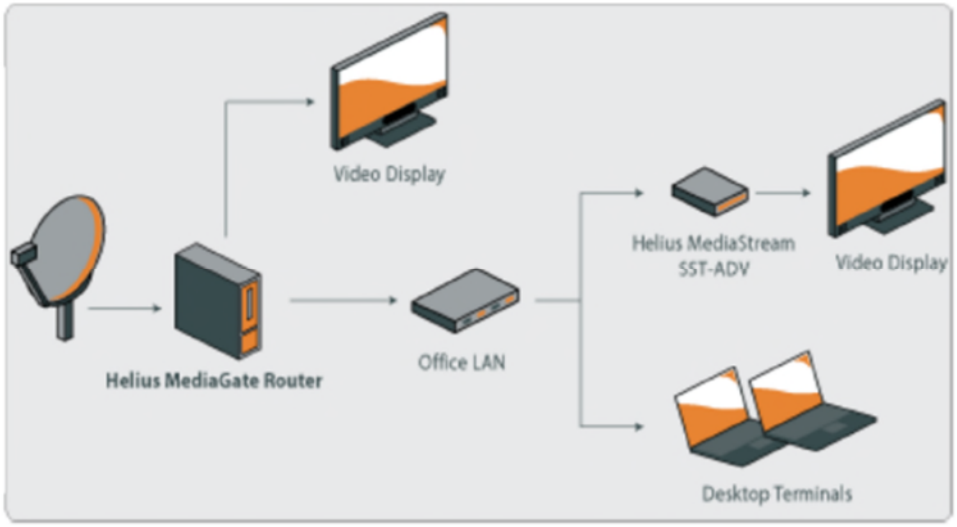
- Electronic Program Guide (EPG)
- IR Remote Control User Interface
- Helius Management Console (role-based administration)
- Unicast/Multicast Routing Support
- Unified presentation of DVB and IP content
- Force Tune and Force Record Admin controls from MediaGate Server
- MPEG-1 and 2 Decoder
- S-Video, NTSC and PAL video format support
- Receive on multiple interfaces simultaneously
- 10/100 Ethernet Support (Optional GB Ethernet)
- Auto-reroute on Signal Loss
- Content Storage for on-demand delivery
- SNMP for Enterprise Management
- Support for Industry standard applications like VoIP, Web Apps etc
- Unconditionally compliant to RFC1812 and RFC1122, Support of TCP, UDP, IP, ARP, IGMP version2, GRE, PPP, and 32 concurrent IP filters

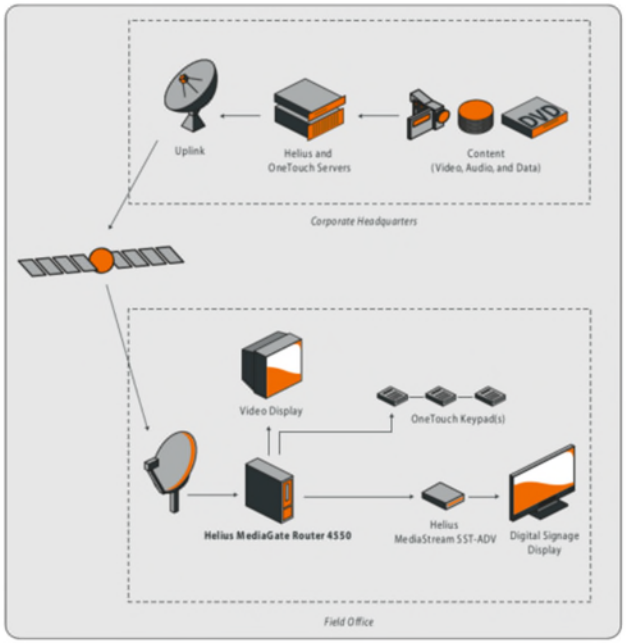
Helius 2550 Router 1.

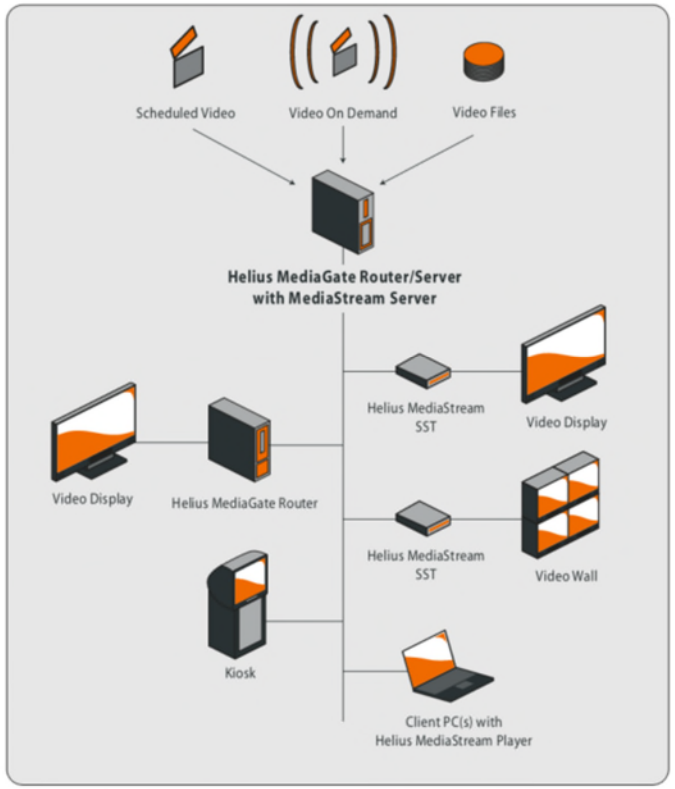
Helius MediaGate Router 4550

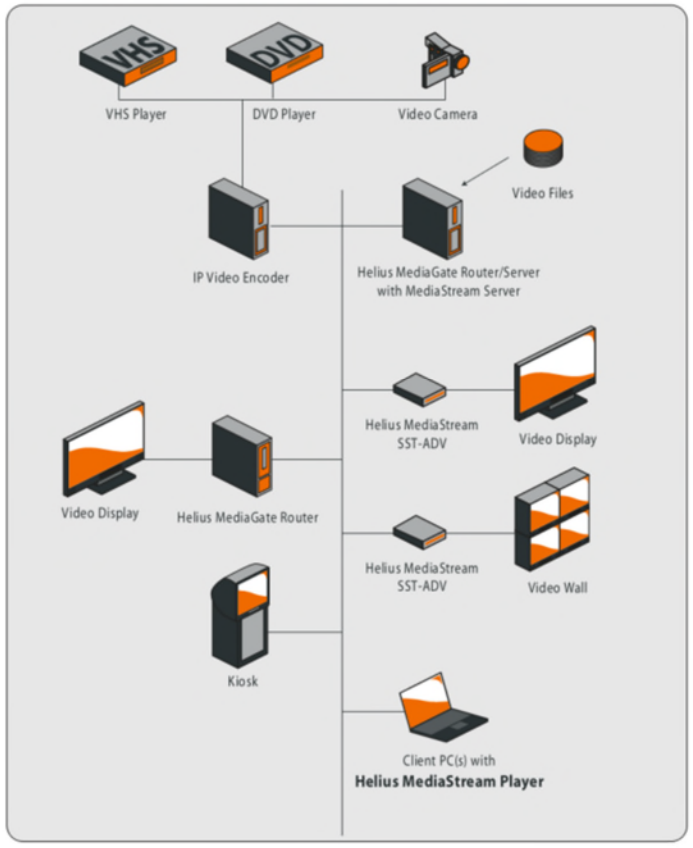
The Helius MediaGate Router 4550 is a DVB receiver, IP compliant router, and open application server that enables the integration of IP network services over satellite and terrestrial networks. Based on open standards, the solution enables the simple, secure and reliable delivery of other applications such as software updates, dynamic digital signage, streaming video, and much more.

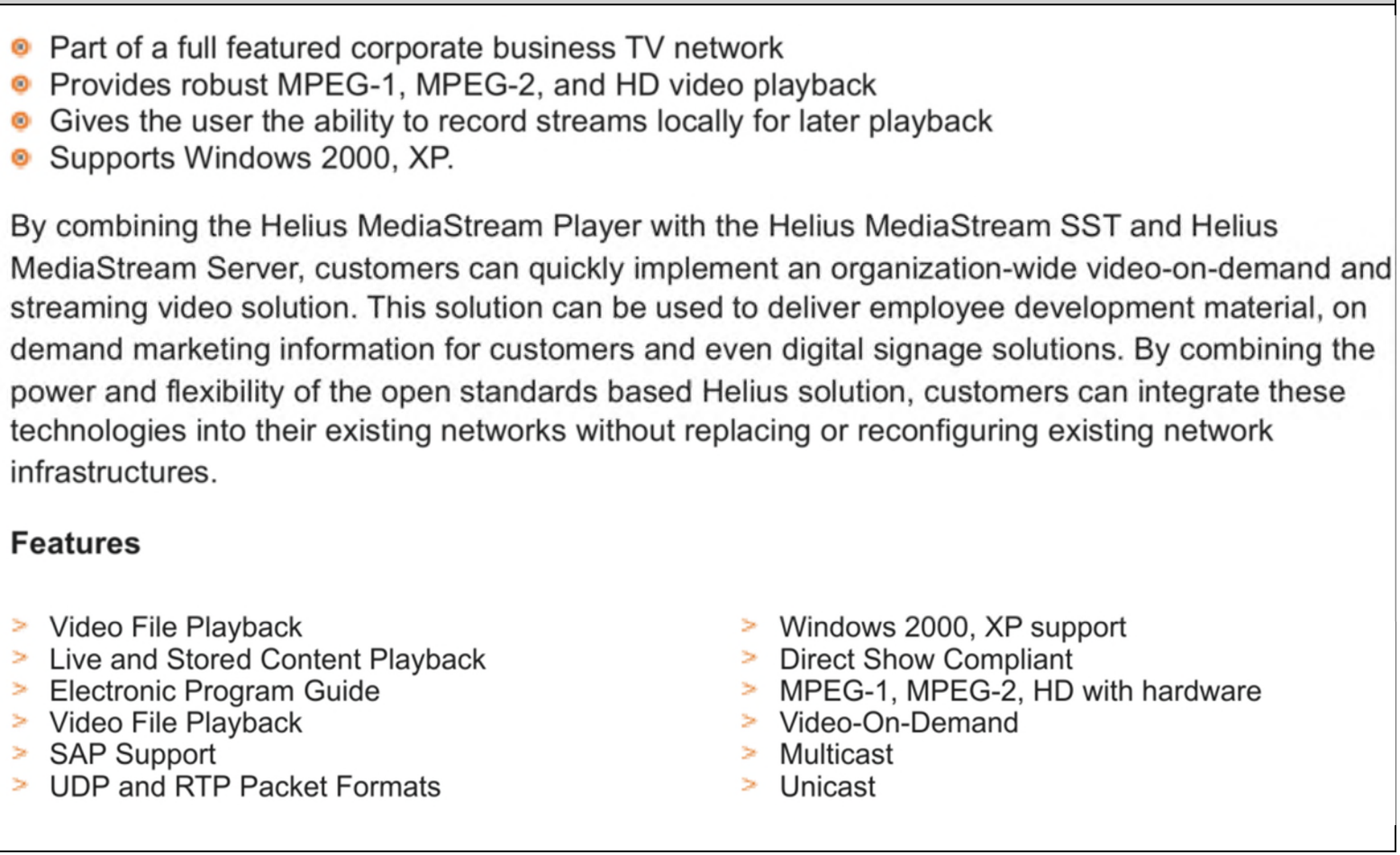
Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 **Features** > Browser based configuration and management > Role based administration > Unicast/Multicast Routing Support > Unified presentation of DVB and IP content > Force Tune and Force Record Admin controls from MediaGate Server > Full transponder support > Receive on multiple interfaces simultaneously > 10/100 Ethernet Support (Optional GB Ethernet) > Auto-reroute on Signal Loss > Content Storage for on-demand delivery > SNMP for Enterprise Management > Support for Industry standard applications like VoIP, Web Apps etc Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius 4550 Router 2. **Features** > Dedicated MPEG Hardware Decoder > Video File Playback > Live and Stored Content > Unique addressing for control > Local Playback control via IR Remote and Electronic Program Guide > Remote boot configurable > Video Looping > Playlists Helius SST 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius SST 2 at 2. > HELIUS SOLUTION The Helius MediaStream™ SST-ADV gives retail customers a tool they can use to deliver high quality marketing content at the point-of-decision. By combining the Helius MediaStream SST-ADV with a Helius MediaGate Router, the marketing department can customize the play list and content universally or by location. This flexibility gives customers the ability to target customers and markets vertically or horizontally. Further, the Helius solution also provides robust reporting capabilities to enable ROI calculations and effectiveness monitoring.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius SST-ADV 2 at 2. > NETWORK DIAGRAM  Helius Player 2. Helius Player 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	

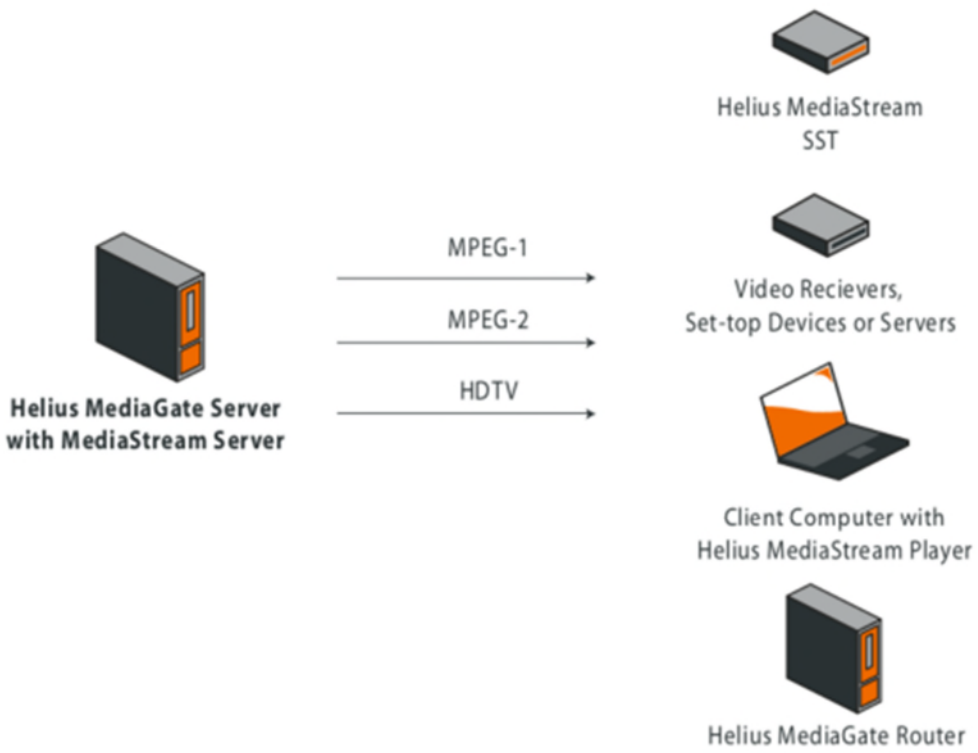
- Part of a full featured corporate business TV network
- Provides robust MPEG-1, MPEG-2, and HD video playback
- Gives the user the ability to record streams locally for later playback
- Supports Windows 2000, XP.

By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures.

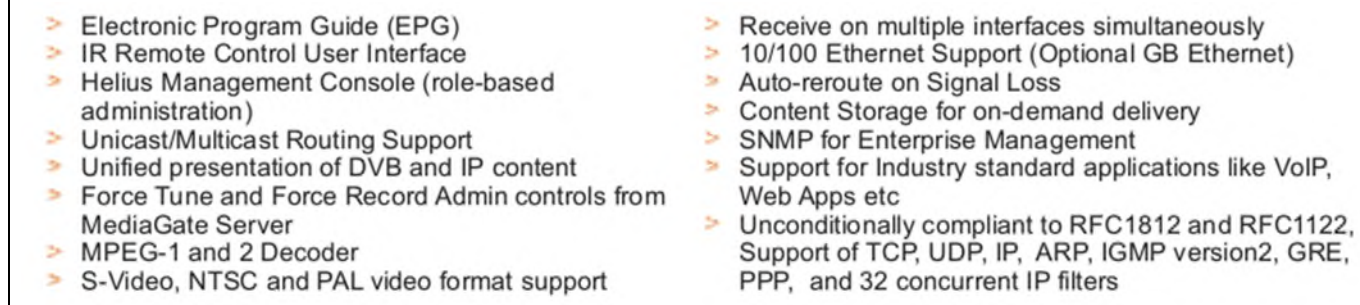
Features

- Video File Playback
- Live and Stored Content Playback
- Electronic Program Guide
- Video File Playback
- SAP Support
- UDP and RTP Packet Formats
- Windows 2000, XP support
- Direct Show Compliant
- MPEG-1, MPEG-2, HD with hardware
- Video-On-Demand
- Multicast
- Unicast

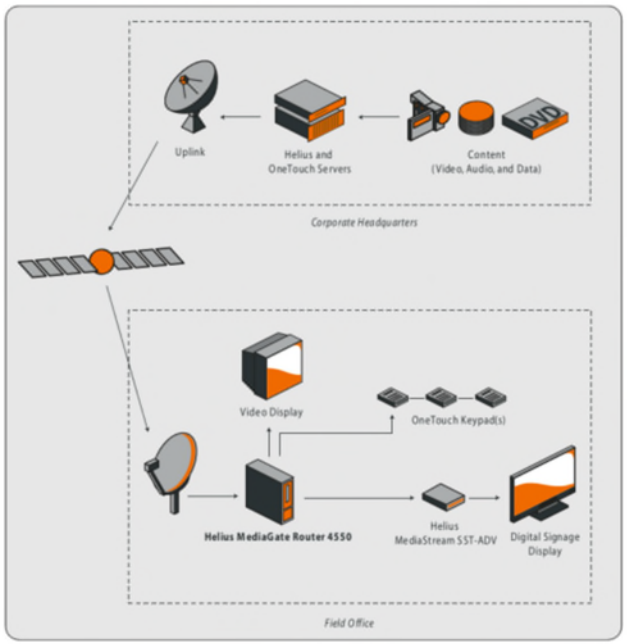
Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2 at 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 Helius Server 2 at 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> FEATURES AND BENEFITS • Multicast/Unicast Streaming • Program Scheduling • Remote Administration • Easy to Use browser interface • Video-On-Demand • UDP and RTP Packet Formats • SAP Support • Bandwidth Control • Multiple Streams/Channels Helius Server 2 at 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image	Helius System expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1pre. **Features** > Browser based configuration and management > Full transponder support

Claim Limitation	Exemplary Disclosure in the Prior Art
content being an integral program continuing from an opening part to an ending part by way of a midstream part;	 Helius 2550 Router 1.

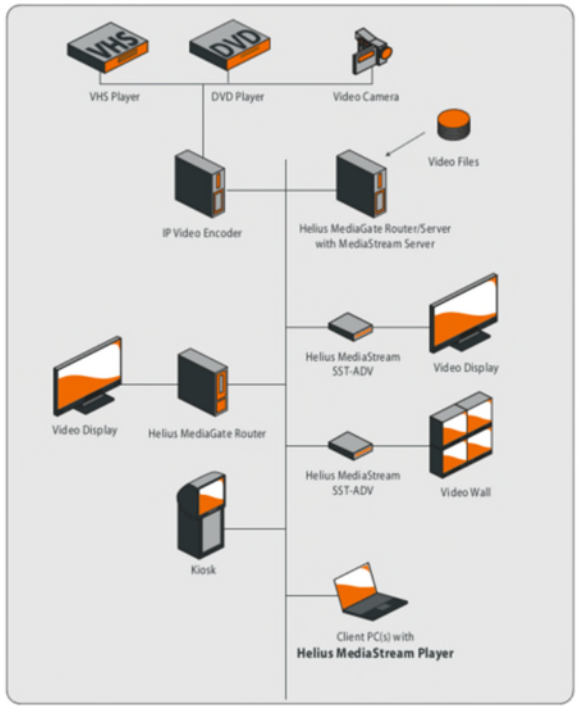
Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius MediaGate Router 4550 The Helius MediaGate Router 4550 is a DVB receiver, IP compliant router, and open application server that enables the integration of IP network services over satellite and terrestrial networks. Based on open standards, the solution enables the simple, secure and reliable delivery of other applications such as software updates, dynamic digital signage, streaming video, and much more.  Helius MediaGate Router 4550 Datasheet • On-demand and live content is only a click away providing users with access to material anytime and anywhere on the network. • Controlled participation, recording, and access to material from an easy to use program guide and web interface • Simple network management by collapsing your *OneTouch* Site Controller, VCR, and local content server into one device • Deliver customer directed content to local display devices • Platform for local recording, caching, and management of video content How can an organization make the most of their interactive distance learning investment? In an effort to make best-of-breed applications available on the Helius MediaGate Router platform, Helius has partnered with *OneTouch* to create a consolidated platform that supports the requirement for "live" and "on-demand" learning. Utilizing Helius' MediaClassroom Live or OnDemand packs, built using OneTouch integrated technologies, the 4550 can be used as an interactive distance learning controller. The Helius MediaGate Router 4550 simplifies access and management of remote locations for all of your interactive distance learning sessions. In addition, the Helius MediaGate Router enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, xDSL etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations. The Helius MediaGate Router provides an IP multicast solution for distributing data to the desktop or other locations. Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius 4550 Router 2. **Features** > Dedicated MPEG Hardware Decoder > Video File Playback > Live and Stored Content > Unique addressing for control > Local Playback control via IR Remote and Electronic Program Guide > Remote boot configurable > Video Looping > Playlists

Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius SST 1. **Helius MediaStream SST** The Helius MediaStream™ SST is a remote MPEG2 decoder and playback device designed as part of a content delivery network. With unique IP addresses, each Helius MediaStream SST can deliver unique content and gives the user complete control over what and when content is displayed. Local playback is managed through an Electronic Program Guide. Organizations needing to deploy "set top" boxes in conference rooms, employee homes and at retail POS locations can use the Helius MediaStream SST to deliver centrally managed and locally stored content. This solution will enable the customer to deliver custom content directly to the point of display for best results.  Helius MediaStream SST Datasheet - Deliver custom content to the point of display - Control content delivery centrally or locally - Live and stored content delivery on the same device Helius SST 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Features > On-board memory for local storage and playback > Dedicated MPEG Software Decoder > Integrated wireless > Video File Playback > Live and Stored Content > Unique addressing for control > Change content with a button press > Remote boot configurable > MediaSignage integration Helius SST-ADV at 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDIASTREAM PLAYER OVERVIEW The Helius MediaStream™ Player is a robust Windows® MPEG player that supports MPEG-1, MPEG-2, and HD video playback. With DVD-like controls, the user can easily play, fast-forward and rewind video material while watching. The Helius MediaStream Player can monitor the network for available video streams and gives the user an easy-to-follow interface for selecting a stream to watch. Together with the Helius MediaStream Server, the Helius MediaStream Player is a natural component of a corporate Business TV network and employee development program. The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus, it adds the ability to monitor for available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using the Helius MediaStream Server. Helius MediaStream Player is a natural front end for employee development programs. The Helius MediaStream Player includes a Software Development Kit (SDK) which enables customization. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. • Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius Player 2. > CUSTOMER REQUIREMENT Prudent customer organizations do not want to be locked into proprietary formats which require a proprietary encoder and proprietary player. Customers want an open solution that will deliver high quality playback of MPEG standard content. Further, the ability to play live streams or stored files allows the customer to deliver content when and how they deem best for their audience. Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius MediaStream Server The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. Helius Server 1. Moreover, it also would have been obvious to a person of ordinary skill in the art to combine the Helius System with the following prior art: **Microsoft MCE Remote Control for Windows XP MCE** **[MCE-REMOTE]**  Click to enlarge **Your Price:** $34.95 ADD TO CART ▶ **In Stock** - Ships same business day **Model:** MCE-REMOTE **Manufacturer:** Microsoft [Store] **Reviews:** ★★★★☆ (10 reviews) [View/Write] Microsoft MCE Remote Control

Claim Limitation	Exemplary Disclosure in the Prior Art
	PRODUCT DESCRIPTION **Features and System Requirements** **Keyboard Features** • Power your TV and Media Center PC with one remote. • Record selected television programs. • Play selected media. • Replay jumps recorded TV back seven seconds, or jumps back one music track or one DVD chapter. • Pause audio, video, a slide show, or live or recorded TV.* • Backlit buttons glow for easy use in the dark. Start launches the Media Center Start menu: • My Videos accesses your video collection. • My Music accesses your music collection. • My TV opens the TV menu. • My Pictures accesses your photo collection Guide opens TV Program Guide to display available channels and programs. Live TV launches full-screen live TV.* *TV tuner card with FM radio capability required for live TV and radio functionality  *Image not shown to scale* The remote control and infrared (IR) receiver—also known as a remote sensor—let you access and manage your Media Center PC and other peripheral devices. **Warranty Period:** 3 years **Interface:** USB **Includes:** Remote control, IR receiver, and (2) I/R emitters to control set top boxes or satellite receiver. **System Requirements:** Requires a Media Center PC running Windows XP Media Center Edition Microsoft MCE Remote Control To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius

Claim Limitation	Exemplary Disclosure in the Prior Art
	System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	Helius System expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a. **Helius MediaGate Router 2550** The Helius MediaGate Router 2550 is a complete DVB receiver, IP compliant router and open application server platform that enables the integration of IP network services and applications over traditional satellite and terrestrial networks. Key features of this product are MPEG2 playback with hardware decoder and two PCI expansion slots. Based on open standards, in both design and feature set, the Helius MediaGate Router 2550 offers unparalleled power and flexibility. The Helius MediaGate 2550 will dramatically improve the delivery of business applications like Interactive Distance Learning, Digital Signage and Business TV. Its unique modular design allows the Helius MediaGate 2550 to be customized and updated easily. Management of the 2550 can be done locally or remotely using the browser based Helius Management Console.  Helius MediaGate Router 2550 Datasheet • Enables the simple, secure and reliable delivery of distance learning, digital signage, software updates and other media rich content. • Enables the multicast distribution of data to geographically dispersed locations. • Allows the integration of receiver services together with traditional IP routing functions and provides a platform for developing additional network or application services. The Helius MediaGate Router 2550 enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, DSL, etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations and TV's alike. The Helius MediaGate Router 2550 provides a multicast solution for distributing data to the desktop or other locations. Helius 2550 Router 1.

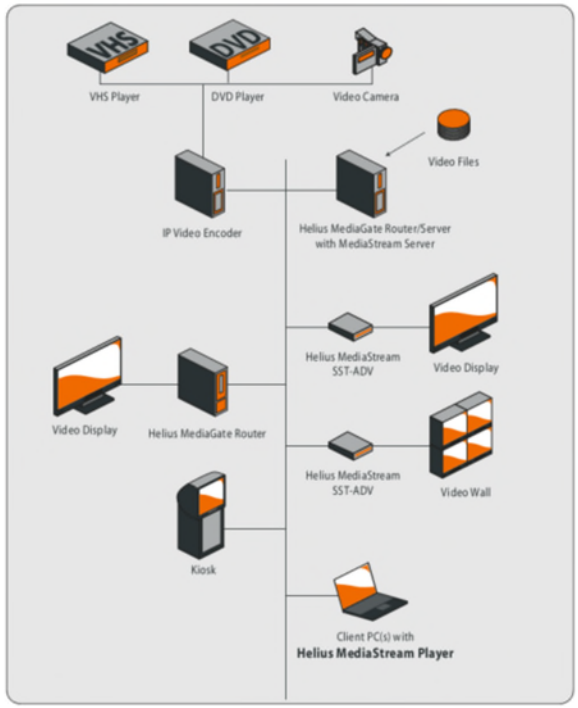
Claim Limitation	Exemplary Disclosure in the Prior Art
	FEATURES AND BENEFITS • Browser based configuration and management • Electronic Program Guide (EPG) • IR Remote Control User Interface • Helius Management Console (role-based administration) • Unicast/Multicast Routing Support • Unified presentation of DVB and IP content • Force Tune and Force Record Admin controls from MediaGate Server • MPEG-1 and 2 Decoder • S-Video, NTSC and PAL video format support • Full transponder support • Receive on multiple interfaces simultaneously • 10/100 Ethernet Support (Optional GB Ethernet) • Auto-reroute on Signal Loss • Content Storage for on-demand delivery • SNMP for Enterprise Management • Support for Industry standard applications like VoIP, Web Apps Helius 2550 Router 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius MediaGate Router 4550 The Helius MediaGate Router 4550 is a DVB receiver, IP compliant router, and open application server that enables the integration of IP network services over satellite and terrestrial networks. Based on open standards, the solution enables the simple, secure and reliable delivery of other applications such as software updates, dynamic digital signage, streaming video, and much more.  Helius MediaGate Router 4550 Datasheet • On-demand and live content is only a click away providing users with access to material anytime and anywhere on the network. • Controlled participation, recording, and access to material from an easy to use program guide and web interface • Simple network management by collapsing your *OneTouch* Site Controller, VCR, and local content server into one device • Deliver customer directed content to local display devices • Platform for local recording, caching, and management of video content How can an organization make the most of their interactive distance learning investment? In an effort to make best-of-breed applications available on the Helius MediaGate Router platform, Helius has partnered with *OneTouch* to create a consolidated platform that supports the requirement for "live" and "on-demand" learning. Utilizing Helius' MediaClassroom Live or OnDemand packs, built using OneTouch integrated technologies, the 4550 can be used as an interactive distance learning controller. The Helius MediaGate Router 4550 simplifies access and management of remote locations for all of your interactive distance learning sessions. In addition, the Helius MediaGate Router enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, xDSL etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations. The Helius MediaGate Router provides an IP multicast solution for distributing data to the desktop or other locations. Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HELIUS MEDIASTREAM SST OVERVIEW The Helius MediaStream™ SST is a remote MPEG2 decoder and playback device designed as part of a content delivery network. With unique IP addresses, each Helius MediaStream SST can deliver unique content and gives the user complete control over what and when content is displayed. Local playback is managed through an Electronic Program Guide. Organizations needing to deploy "set top" boxes in conference rooms, employee homes and at retail POS locations can use the Helius MediaStream SST to deliver centrally managed and locally stored content. This solution will enable the customer to deliver custom content directly to the point of display for best results. The Helius MediaStream™ SST gives customers the ability to playback multimedia content at remote locations. Using the Helius MediaStream SST with Helius MediaGate customers can control content displayed and change content on the fly, from a central location. Delivering customized content specific to the point-of-display gives customers a distinct advantage of simple broadcast media where all content is the same at all locations. By combining the Helius MediaStream™ Player with the Helius MediaStream SST, Helius and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver digital signage, employee development material, and on demand marketing information for customers. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HELIUS MEDIASTREAM SST-ADV OVERVIEW The Helius MediaStream™ SST-ADV is a remote MPEG-2 decoder and playback device with on-board storage designed as part of a digital signage network. With unique IP addresses, each Helius MediaStream SST-ADV can deliver unique content and gives the user complete control over what and when content is displayed. Organizations needing to deploy "set top" boxes in conference rooms, employee homes and at retail POS locations can use the Helius MediaStream SST-ADV to deliver centrally managed and locally stored content. This solution will enable the customer to deliver custom content directly to the point of display for best results. By combining the Helius MediaStream SST-ADV with the Helius MediaSignage and the Helius MediaWrite software packs, customers can quickly implement a highly configurable and robust digital signage network solution. With the on-board storage, the SST-ADV is a dynamic output device capable of high quality multimedia. Delivering customized content specific to the point-of-display gives customers a distinct advantage over simple broadcast media where all content is the same at all locations. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST-ADV 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDIASTREAM PLAYER OVERVIEW The Helius MediaStream™ Player is a robust Windows® MPEG player that supports MPEG-1, MPEG-2, and HD video playback. With DVD-like controls, the user can easily play, fast-forward and rewind video material while watching. The Helius MediaStream Player can monitor the network for available video streams and gives the user an easy-to-follow interface for selecting a stream to watch. Together with the Helius MediaStream Server, the Helius MediaStream Player is a natural component of a corporate Business TV network and employee development program. The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus, it adds the ability to monitor for available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using the Helius MediaStream Server. Helius MediaStream Player is a natural front end for employee development programs. The Helius MediaStream Player includes a Software Development Kit (SDK) which enables customization. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. • Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2. Moreover, it also would have been obvious to a person of ordinary skill in the art to combine the Helius System with the following prior art:

Claim Limitation	Exemplary Disclosure in the Prior Art
	Introduction and Product Specifications  In recent months, we've seen a major step forward in the image quality of TV Tuner cards on the PC. As we recently saw with our review of NVIDIA's DualTV, an analog signal can now be cleaned up nicely with finely tuned comb filters and other technologies to bring clarity not seen with previous products. As the technology has evolved, manufacturers now have the leverage to produce TV-Tuner packages with exceptional analog image quality along with other features, such as dual-tuners, using a single cable connection. While NVIDIA impressed us with their DualTV card, ATI has been hard at work fine tuning their **Theater 650 Pro** processor. Building on the successes of the Theater 550 Pro, ATI brings new enhancements to the overall technology for even greater image quality and performance. Recently, we were provided with a pre-production reference card to give us a taste of what a Theater 650 Pro based TV-Tuner card is capable of. Not to be out done by NVIDIA, ATI has upped the TV-tuner ante by integrating Digital and Analog TV-Tuners on a single card. Topped off with a completely new **Catalyst Media Center** package, ATI aims to deliver a PCI TV-tuner product that can fit a broad range of uses with support for all versions of Windows XP and over-the-air digital content. ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art

Technical Specifications

- 125 channel TV tuner with stereo audio
- New worldwide video decoder
- NTSC, PAL, SECAM support
- 5-line 2D comb filter
- Motion adaptive 3D comb filter
- Worldwide audio decoder
- 3:2 pull-down
- Motion compensated noise reduction
- Edge enhancement
- Hardware MPEG compression engine
- MPEG-2 720x480 compression
- CBR and VBR from 1 to 15 Mbps
- FM radio reception
- Digital audio processing
- Hardware DRM engine
- VBI slicing
- Audio/video input support
- ATSC digital TV support (optional)
- DVB-T digital TV support (optional)
- PCI and PCI-Express 1X bus interfaces

System Requirements

- Intel Pentium 4/3/II, Celeron, AMD K6, Athlon or compatible
- Sound card and speakers
- Available PCI or PCI-Express 1X slot
- Cable TV signal or amplified antenna
- Digital TV antenna (optional)

Operating System

Features:

Avivo Quality

* 12-bit video pipeline offer higher quality colors than the competition's 10-bit solutions
* Programmable hardware video and audio MPEG encoder offers HDTV quality with motion compensated noise reduction for the best possible picture
* Motion adaptive 3D comb filter offers crystal clear video on-par with a high-end television set

Worldwide TV

* Single chip support for NTSC, PAL and SECAM allows you to watch TV from Australia to Zimbabwe

Digital TV Support

* High quality ATSC HDTV powered by ATI's Theater 311 and DVB-T solutions available

Windows Vista Ready

* Prepare for the future - The Theater 650 PRO is Windows Vista premium logo ready

Software Support:

* Microsoft Windows XP Media Center Edition
* Microsoft Windows Vista
* ATI Catalyst Media Center
* Snapstream BeyondTV
* Cyberlink Powercinema
* Intervideo Home Theater

ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art
	Operating System * Windows XP/SP1/SP2 * Windows XP Media Center Edition * Windows Vista **TV-tuner Requirements** * TV signal from amplified antenna or cable * Versions available for: o NTSC (North America, Japan, Taiwan, Korea and Latin America) o PAL/SECAM (European and International PAL/SECAM countries) o NTSC/ATSC (North America, parts of Latin America) o PAL/SECAM/DVB-T (European and International PAL/SECAM/DVB-T countries) * Features may vary from country to country and depending on the television standard * Cyberlink Powercinema * Intervideo Home Theater  ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art
	TV Wonder™ 650 - ATI's advanced TV technologies ATI's leadership in digital TV technology clearly shows in TV Wonder™ 650. The Theater 650 Pro processing core combines hardware MPEG encoding and PVR, digital audio with noise reduction and hybrid tuner for analog or high-definition digital ATSC (DVB-T) TV reception. The adaptive 3D comb filter delivers picture purity rivaling high-end TV sets. Catalyst Media Center™ software makes it easy to watch, pause or record your favorite digital or analog shows. The TV Wonder® 650 comes in PCI and is ready for Windows® XP, XP with MCE or Windows Vista™.

Detailed Specfications	
Model	TV WONDER 650 PCI NTSC
Part Number	100-715331
System Requirements	Intel® Pentium® 4 Celeron™, AMD® Athlon® Sempron® or compatible - 256 MB or more of system memory - Sound Card and speakers - Motherboard with available PCI slot - Cable TV signal or amplified antenna for NTSC TV signals - Amplified antenna for ATSC HDTV signals and FM Radio - Installation software requires CD-ROM drive - Windows® XP Media Center Edition 2005 requires use of a compatible remote control and DVD decoder (not included) - DVD decoder is included with Catalyst Media Center™
Operating Systems	Windows® XP Home Edition Windows® XP Professional Edition Windows® XP Media Center Edition 2005 ATI Certified - Windows Vista™ Premium Ready
Compatibility	- TV Wonder™ 650 is compatible with all high quality graphics sub-systems supporting DirectX® overlay, including products from the following manufacturers: ATI and NVIDIA - An ATI Radeon® 9600 or newer graphics card is recommended for optimal display output quality.
Package Contents	- TV Wonder™ 650 Installation and Setup Guide - TV Wonder™ 650 Installation CD - Catalyst™ Media Center Software - TV Wonder™ 650 PCI card - FM Radio Antenna - Audio/Video Input Block
Warranty	1-year limited

ATI Wonder 650 PCI Tuner

To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng,

Claim Limitation	Exemplary Disclosure in the Prior Art
	Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	Helius System expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example: *See* claims 1pre-1b. HELIUS MEDIAGATE ROUTER 2550 OVERVIEW The Helius MediaGate Router 2550 is a complete DVB receiver, IP compliant router and open application server platform that enables the integration of IP network services and applications over traditional satellite and terrestrial networks. Key features of this product are MPEG2 playback with hardware decoder and two PCI expansion slots. Based on open standards, in both design and feature set, the Helius MediaGate Router 2550 offers unparalleled power and flexibility. The Helius MediaGate 2550 will dramatically improve the delivery of business applications like Interactive Distance Learning, Digital Signage and Business TV. Its unique modular design allows the Helius MediaGate 2550 to be customized and updated easily. Management of the 2550 can be done locally or remotely using the browser based Helius Management Console. The Helius MediaGate Router 2550 enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, DSL, etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations and TV's alike. The Helius MediaGate Router 2550 provides a multicast solution for distributing data to the desktop or other locations. MEDIAGATE ROUTER 2550 APPLICATIONS • Enables the simple, secure and reliable delivery of distance learning, digital signage, software updates and other media rich content. • Enables the multicast distribution of data to geographically dispersed locations. • Allows the integration of receiver services together with traditional IP routing functions and provides a platform for developing additional network or application services.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Helius 2550 Router 2. > FEATURES AND BENEFITS • Browser based configuration and management • Electronic Program Guide (EPG) • IR Remote Control User Interface • Helius Management Console (role-based administration) • Unicast/Multicast Routing Support • Unified presentation of DVB and IP content • Force Tune and Force Record Admin controls from MediaGate Server • MPEG-1 and 2 Decoder • S-Video, NTSC and PAL video format support • Full transponder support • Receive on multiple interfaces simultaneously • 10/100 Ethernet Support (Optional GB Ethernet) • Auto-reroute on Signal Loss • Content Storage for on-demand delivery • SNMP for Enterprise Management • Support for Industry standard applications like VoIP, Web Apps Helius 2550 Router 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDIAGATE ROUTER 4550 OVERVIEW The Helius MediaGate Router 4550 is a DVB receiver, IP compliant router, and open application server that enables the integration of IP network services over satellite and terrestrial networks. Based on open standards, the solution enables the simple, secure and reliable delivery of other applications such as software updates, dynamic digital signage, streaming video, and much more. How can an organization make the most of their interactive distance learning investment? In an effort to make best-of-breed applications available on the Helius MediaGate Router platform, Helius has partnered with OneTouch to create a consolidated platform that supports the requirement for "live" and "on-demand" learning. Utilizing Helius' MediaClassroom Live or OnDemand packs, built using OneTouch integrated technologies, the 4550 can be used as an interactive distance learning controller. The Helius MediaGate Router 4550 simplifies access and management of remote locations for all of your interactive distance learning sessions. In addition, the Helius MediaGate Router enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, xDSL etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations. The Helius MediaGate Router provides an IP multicast solution for distributing data to the desktop or other locations. MEDIAGATE ROUTER 4550 APPLICATIONS • On-demand and live content is only a click away providing users with access to material anytime and anywhere on the network • Controlled participation, recording, and access to material from an easy to use program guide and web interface • Simple network management by collapsing your OneTouch Site Controller, VCR, and local content server into one device • Deliver customer directed content to local display devices • Platform for local recording, caching, and management of video content Helius 4550 Router 2.

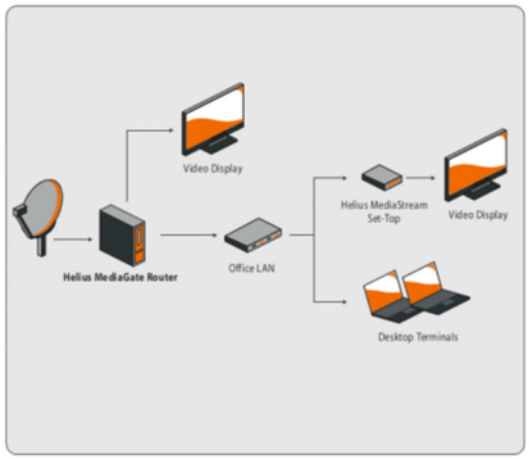
Claim Limitation	Exemplary Disclosure in the Prior Art
	> FEATURES AND BENEFITS • Dedicated MPEG Hardware Decoder • Video File Playback • Live and Stored Content • Unique addressing for control • Local Playback control via IR Remote and Electronic Program Guide • Remote boot configurable • Video Looping • Playlists Helius SST 2. • Deliver custom content to the point of display • Control content delivery centrally or locally • Live and stored content delivery on the same device The Helius MediaStream™ SST gives customers the ability to playback multimedia content at remote locations. Using the Helius MediaStream SST with Helius MediaGate customers can control content displayed and change content on the fly, from a central location. Delivering customized content specific to the point-of-display gives customers a distinct advantage of simple broadcast media where all content is the same at all locations. By combining the Helius MediaStream™ Player with the Helius MediaStream SST, Helius and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver digital signage, employee development material, and on demand marketing information for customers. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST 1.

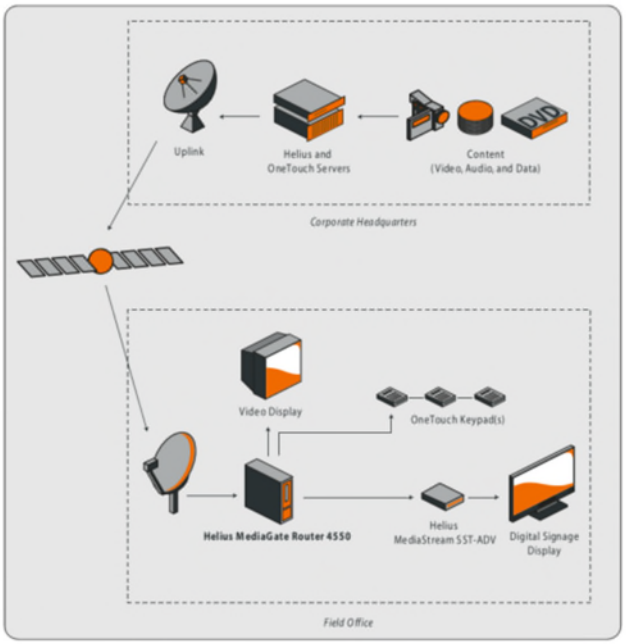
Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDIASTREAM SST-ADV OVERVIEW The Helius MediaStream™ SST-ADV is a remote MPEG-2 decoder and playback device with on-board storage designed as part of a digital signage network. With unique IP addresses, each Helius MediaStream SST-ADV can deliver unique content and gives the user complete control over what and when content is displayed. Organizations needing to deploy "set top" boxes in conference rooms, employee homes and at retail POS locations can use the Helius MediaStream SST-ADV to deliver centrally managed and locally stored content. This solution will enable the customer to deliver custom content directly to the point of display for best results. By combining the Helius MediaStream SST-ADV with the Helius MediaSignage and the Helius MediaWrite software packs, customers can quickly implement a highly configurable and robust digital signage network solution. With the on-board storage, the SST-ADV is a dynamic output device capable of high quality multimedia. Delivering customized content specific to the point-of-display gives customers a distinct advantage over simple broadcast media where all content is the same at all locations. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST-ADV 2. > FEATURES AND BENEFITS • On-board memory for local storage and playback • Dedicated MPEG Software Decoder • Integrated wireless • Video File Playback • Live and Stored Content • Unique addressing for control • Change content with a button press • Remote boot configurable • MediaSigange integration Helius SST-ADV 2. **Features** > Video File Playback > Live and Stored Content Playback > Electronic Program Guide > Video File Playback > SAP Support > UDP and RTP Packet Formats > Windows 2000, XP support > Direct Show Compliant > MPEG-1, MPEG-2, HD with hardware > Video-On-Demand > Multicast > Unicast Helius Player 1.

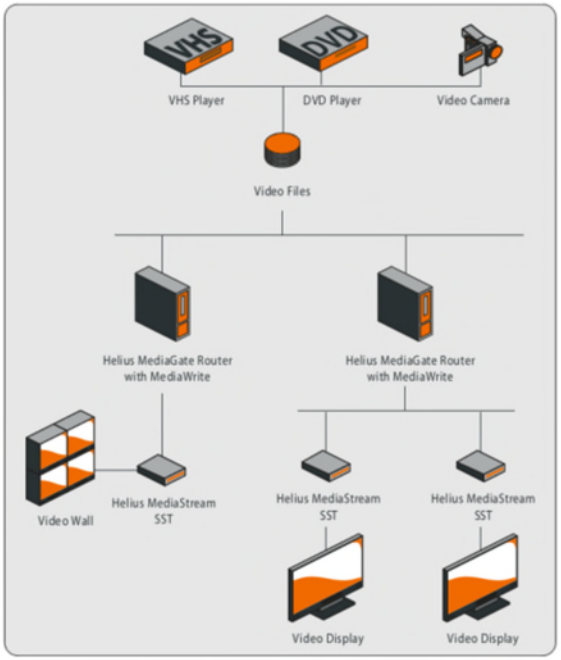
Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDIASTREAM PLAYER OVERVIEW The Helius MediaStream™ Player is a robust Windows® MPEG player that supports MPEG-1, MPEG-2, and HD video playback. With DVD-like controls, the user can easily play, fast-forward and rewind video material while watching. The Helius MediaStream Player can monitor the network for available video streams and gives the user an easy-to-follow interface for selecting a stream to watch. Together with the Helius MediaStream Server, the Helius MediaStream Player is a natural component of a corporate Business TV network and employee development program. The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus, it adds the ability to monitor for available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using the Helius MediaStream Server. Helius MediaStream Player is a natural front end for employee development programs. The Helius MediaStream Player includes a Software Development Kit (SDK) which enables customization. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. • Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. Helius Player 2.

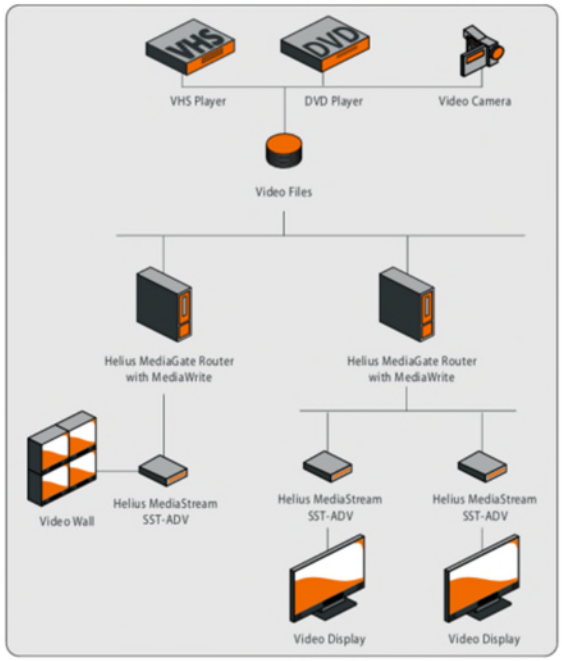
Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2.

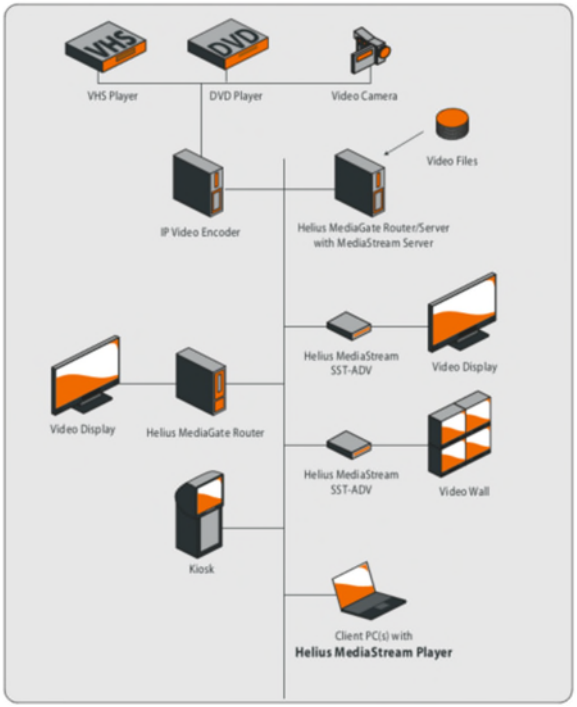
Claim Limitation	Exemplary Disclosure in the Prior Art
	> FEATURES AND BENEFITS  • Multicast/Unicast Streaming • Program Scheduling • Remote Administration • Easy to Use browser interface • Video-On-Demand • UDP and RTP Packet Formats • SAP Support • Bandwidth Control • Multiple Streams/Channels Helius Server 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	Helius System expressly or inherently discloses "a television display that shows the digital moving image contents from the first provider and the second provider." For example: *See* 1pre.

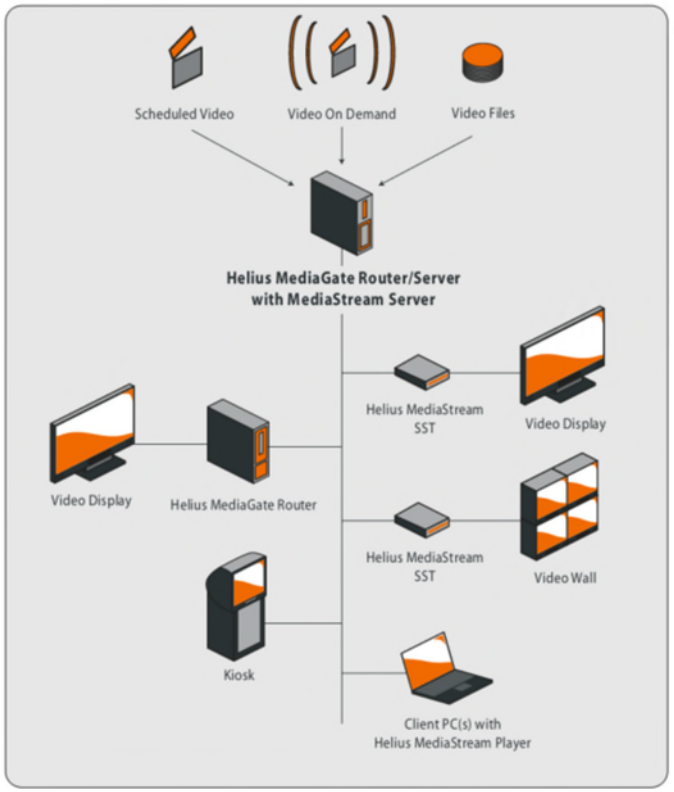
Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM >  Helius 2550 Router 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius 4550 Router 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius SST 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	NETWORK DIAGRAM  Helius SST-ADV 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> NETWORK DIAGRAM  Helius Server 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitation	Exemplary Disclosure in the Prior Art
[1e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	Helius System expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1c. **Features** > Dedicated MPEG Hardware Decoder > Video File Playback > Live and Stored Content > Unique addressing for control > Local Playback control via IR Remote and Electronic Program Guide > Remote boot configurable > Video Looping > Playlists Helius SST 1. • Deliver custom content to the point of display • Control content delivery centrally or locally • Live and stored content delivery on the same device The Helius MediaStream™ SST gives customers the ability to playback multimedia content at remote locations. Using the Helius MediaStream SST with Helius MediaGate customers can control content displayed and change content on the fly, from a central location. Delivering customized content specific to the point-of-display gives customers a distinct advantage of simple broadcast media where all content is the same at all locations. By combining the Helius MediaStream™ Player with the Helius MediaStream SST, Helius and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver digital signage, employee development material, and on demand marketing information for customers. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST 1.

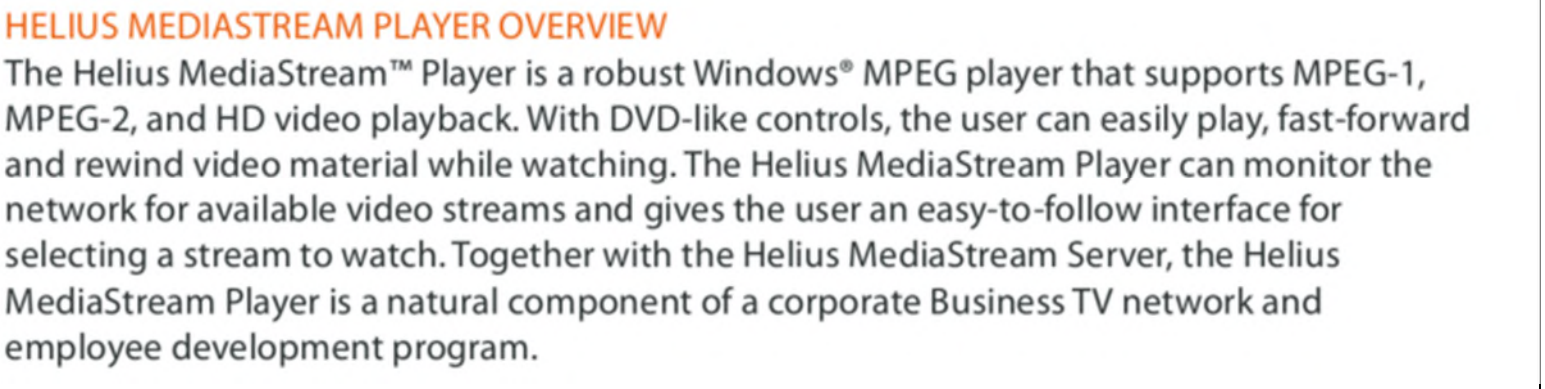
Claim Limitation	Exemplary Disclosure in the Prior Art
	FEATURES AND BENEFITS • On-board memory for local storage and playback • Dedicated MPEG Software Decoder • Integrated wireless • Video File Playback • Live and Stored Content • Unique addressing for control • Change content with a button press • Remote boot configurable • MediaSigange integration Helius SST-ADV 2. > Electronic Program Guide (EPG) > IR Remote Control User Interface > Helius Management Console (role-based administration) > Unicast/Multicast Routing Support > Unified presentation of DVB and IP content > Force Tune and Force Record Admin controls from MediaGate Server > MPEG-1 and 2 Decoder > S-Video, NTSC and PAL video format support > Receive on multiple interfaces simultaneously > 10/100 Ethernet Support (Optional GB Ethernet) > Auto-reroute on Signal Loss > Content Storage for on-demand delivery > SNMP for Enterprise Management > Support for Industry standard applications like VoIP, Web Apps etc > Unconditionally compliant to RFC1812 and RFC1122, Support of TCP, UDP, IP, ARP, IGMP version2, GRE, PPP, and 32 concurrent IP filters Helius 2550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	• On-demand and live content is only a click away providing users with access to material anytime and anywhere on the network. • Controlled participation, recording, and access to material from an easy to use program guide and web interface • Simple network management by collapsing your *OneTouch* Site Controller, VCR, and local content server into one device • Deliver customer directed content to local display devices • Platform for local recording, caching, and management of video content How can an organization make the most of their interactive distance learning investment? In an effort to make best-of-breed applications available on the Helius MediaGate Router platform, Helius has partnered with *OneTouch* to create a consolidated platform that supports the requirement for "live" and "on-demand" learning. Utilizing Helius' MediaClassroom Live or OnDemand packs, built using OneTouch integrated technologies, the 4550 can be used as an interactive distance learning controller. The Helius MediaGate Router 4550 simplifies access and management of remote locations for all of your interactive distance learning sessions. In addition, the Helius MediaGate Router enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, xDSL etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations. The Helius MediaGate Router provides an IP multicast solution for distributing data to the desktop or other locations. Helius 4550 Router 1. **Features** • Browser based configuration and management • Role based administration • Unicast/Multicast Routing Support • Unified presentation of DVB and IP content • Force Tune and Force Record Admin controls from MediaGate Server • Full transponder support • Receive on multiple interfaces simultaneously • 10/100 Ethernet Support (Optional GB Ethernet) • Auto-reroute on Signal Loss • Content Storage for on-demand delivery • SNMP for Enterprise Management • Support for Industry standard applications like VoIP, Web Apps etc Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	• Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. **Features** > Video File Playback > Live and Stored Content Playback > Electronic Program Guide > Video File Playback > SAP Support > UDP and RTP Packet Formats > Windows 2000, XP support > Direct Show Compliant > MPEG-1, MPEG-2, HD with hardware > Video-On-Demand > Multicast > Unicast Helius Player 1.

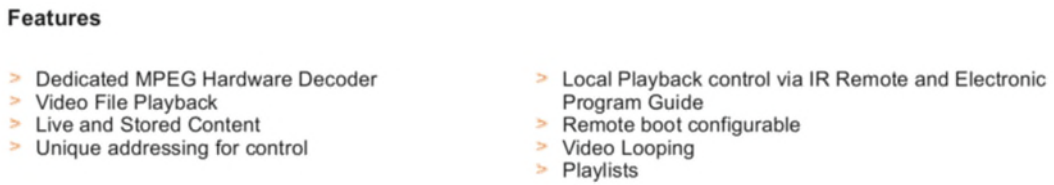
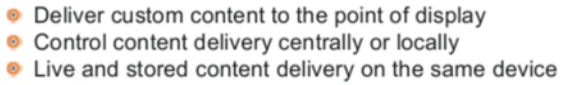
Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitation	Exemplary Disclosure in the Prior Art
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer." For example: *See* claim 1.  Helius SST 2.  Helius SST-ADV 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 Helius Player 2 at 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus, it adds the ability to monitor for available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using the Helius MediaStream Server. Helius MediaStream Player is a natural front end for employee development programs. The Helius MediaStream Player includes a Software Development Kit (SDK) which enables customization. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. • Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. Helius Player 2 at 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	> FEATURES AND BENEFITS • Video File Playback • Live and Stored Content Playback • Electronic Program Guide • Video File Playback • SAP Support • UDP and RTP Packet Formats • Windows 2000, XP support • Direct Show Compliant • MPEG-1, MPEG-2, HD with hardware • Video-On-Demand • Multicast • Unicast Helius Player 2. > CUSTOMER REQUIREMENT Prudent customer organizations do not want to be locked into proprietary formats which require a proprietary encoder and proprietary player. Customers want an open solution that will deliver high quality playback of MPEG standard content. Further, the ability to play live streams or stored files allows the customer to deliver content when and how they deem best for their audience. Helius Player 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set

Claim Limitation	Exemplary Disclosure in the Prior Art
	forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[3] The receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example: *See* claims 1-2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1.  Helius SST 1.  Helius SST 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	Features > On-board memory for local storage and playback > Dedicated MPEG Software Decoder > Integrated wireless > Video File Playback > Live and Stored Content > Unique addressing for control > Change content with a button press > Remote boot configurable > MediaSignage integration Helius SST-ADV 1. ● Part of a full featured corporate business TV network ● Provides robust MPEG-1, MPEG-2, and HD video playback ● Gives the user the ability to record streams locally for later playback ● Supports Windows 2000, XP. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. **Features** > Video File Playback > Live and Stored Content Playback > Electronic Program Guide > Video File Playback > SAP Support > UDP and RTP Packet Formats > Windows 2000, XP support > Direct Show Compliant > MPEG-1, MPEG-2, HD with hardware > Video-On-Demand > Multicast > Unicast Helius Player 1; Helius SST 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	MEDIAGATE ROUTER 4550 APPLICATIONS • On-demand and live content is only a click away providing users with access to material anytime and anywhere on the network • Controlled participation, recording, and access to material from an easy to use program guide and web interface • Simple network management by collapsing your OneTouch Site Controller, VCR, and local content server into one device • Deliver customer directed content to local display devices • Platform for local recording, caching, and management of video content Helius 4550 Router 2. HELIUS MEDIAGATE ROUTER 2550 OVERVIEW The Helius MediaGate Router 2550 is a complete DVB receiver, IP compliant router and open application server platform that enables the integration of IP network services and applications over traditional satellite and terrestrial networks. Key features of this product are MPEG2 playback with hardware decoder and two PCI expansion slots. Based on open standards, in both design and feature set, the Helius MediaGate Router 2550 offers unparalleled power and flexibility. The Helius MediaGate 2550 will dramatically improve the delivery of business applications like Interactive Distance Learning, Digital Signage and Business TV. Its unique modular design allows the Helius MediaGate 2550 to be customized and updated easily. Management of the 2550 can be done locally or remotely using the browser based Helius Management Console. The Helius MediaGate Router 2550 enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, DSL, etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations and TV's alike. The Helius MediaGate Router 2550 provides a multicast solution for distributing data to the desktop or other locations. MEDIAGATE ROUTER 2550 APPLICATIONS • Enables the simple, secure and reliable delivery of distance learning, digital signage, software updates and other media rich content. • Enables the multicast distribution of data to geographically dispersed locations. • Allows the integration of receiver services together with traditional IP routing functions and provides a platform for developing additional network or application services. Helius 2550 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined

Claim Limitation	Exemplary Disclosure in the Prior Art
	with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	Helius System expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: *See* claim 1, 1pre. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one	Helius System expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example:

Claim Limitation	Exemplary Disclosure in the Prior Art
of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	*See* claim 1, 1pre-1a. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	Helius System expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire	Helius System expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example: *See* claim 1, 1pre, 1c.

Claim Limitation	Exemplary Disclosure in the Prior Art
data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller;	To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	Helius System expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6e] a memory in a TV set computer that	Helius System expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example:

Claim Limitation	Exemplary Disclosure in the Prior Art
stores the entire data of the digital moving image content received by the I/O interface.	*See* claim 1, 1c, 1e. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example: *See* claim 1-2, 6. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 1-3, 6-7. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng,

Claim Limitation	Exemplary Disclosure in the Prior Art
	Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claims 5-6. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
moving image contents is provided by the selected sub provider.	HELIUS MEDIASTREAM PLAYER OVERVIEW The Helius MediaStream™ Player is a robust Windows® MPEG player that supports MPEG-1, MPEG-2, and HD video playback. With DVD-like controls, the user can easily play, fast-forward and rewind video material while watching. The Helius MediaStream Player can monitor the network for available video streams and gives the user an easy-to-follow interface for selecting a stream to watch. Together with the Helius MediaStream Server, the Helius MediaStream Player is a natural component of a corporate Business TV network and employee development program. The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus, it adds the ability to monitor for available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using the Helius MediaStream Server. Helius MediaStream Player is a natural front end for employee development programs. The Helius MediaStream Player includes a Software Development Kit (SDK) which enables customization. By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. • Part of a full featured corporate business TV network • Provides robust MPEG-1, MPEG-2, and HD video playback • Gives the user the ability to record streams locally for later playback • Supports Windows 2000, XP. Helius Player 2. > HELIUS SOLUTION The Helius MediaStream Player provides all the power of a standard MPEG video player. Plus it adds the ability to monitor available streams. This extra functionality makes it the perfect solution for a customer who is trying to bring online a Business TV network using existing or new MPEG content. Using the Helius MediaStream Server, customers can build an entire video-on-demand and video server solution. Helius MediaStream Player is a natural front end for employee development programs and the interface can be customized to further enhance the employee experience. Helius Player 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	By combining the Helius MediaStream Player with the Helius MediaStream SST and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver employee development material, on demand marketing information for customers and even digital signage solutions. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius Player 1; Helius SST 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2. To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Claim Limitation	Exemplary Disclosure in the Prior Art
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table.	Helius System expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1. HELIUS MEDIAGATE ROUTER 2550 OVERVIEW The Helius MediaGate Router 2550 is a complete DVB receiver, IP compliant router and open application server platform that enables the integration of IP network services and applications over traditional satellite and terrestrial networks. Key features of this product are MPEG2 playback with hardware decoder and two PCI expansion slots. Based on open standards, in both design and feature set, the Helius MediaGate Router 2550 offers unparalleled power and flexibility. The Helius MediaGate 2550 will dramatically improve the delivery of business applications like Interactive Distance Learning, Digital Signage and Business TV. Its unique modular design allows the Helius MediaGate 2550 to be customized and updated easily. Management of the 2550 can be done locally or remotely using the browser based Helius Management Console. The Helius MediaGate Router 2550 enables simple, secure and reliable integration of converging networks including satellite DVB broadband, terrestrial IP broadband (ISDN, Cable, DSL, etc) and Ethernet data networks. It further provides the ability to receive and store data for on-demand delivery to workstations and TV's alike. The Helius MediaGate Router 2550 provides a multicast solution for distributing data to the desktop or other locations. Helius 2550 Router 2. **Helius MediaGate Router 4550** The Helius MediaGate Router 4550 is a DVB receiver, IP compliant router, and open application server that enables the integration of IP network services over satellite and terrestrial networks. Based on open standards, the solution enables the simple, secure and reliable delivery of other applications such as software updates, dynamic digital signage, streaming video, and much more. Helius 4550 Router 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	By combining the Helius MediaStream™ Player with the Helius MediaStream SST, Helius and Helius MediaStream Server, customers can quickly implement an organization-wide video-on-demand and streaming video solution. This solution can be used to deliver digital signage, employee development material, and on demand marketing information for customers. By combining the power and flexibility of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or reconfiguring existing network infrastructures. Helius SST 2; Helius Player 1. HELIUS MEDAISTREAM SERVER OVERVIEW The Helius MediaStream™ Server can simultaneously deliver multiple videos to nearly an unlimited number of network attached users. It delivers video in MPEG-1, MPEG-2, and HD formats, ensuring high-quality video with minimal impact on the network. Delivery can be streamed using a schedule or played on-demand from stored files. The Helius MediaStream Server is managed via the Helius Management Console, which gives the administrator the ability to update stored content or custom playlists from any browser. Users can watch the content from their desktop using the Helius MediaStream™ Player. The Helius MediaStream Server can also serve content to Helius MediaStream™ SST appliances. The Helius MediaStream Server allows organizations to setup an internal Business Television network on their local area network and deliver high quality video to users at their desktop. Organizations can deliver training and development programs and corporate marketing events using stored content. By combining the Helius MediaStream Server with the Helius MediaStream SST and/or Helius MediaStream Player, cus¬tomers can quickly implement an organization-wide video on demand and streaming video solution. This solution can be used to deliver employee development material, on-demand marketing information for customers and even digital signage solutions. By combining the power and flexibil¬ity of the open standards based Helius solution, customers can integrate these technologies into their existing networks without replacing or recon¬figuring existing network infrastructures. • Multiple streams of video content available for scheduled viewing • Build a virtual television network on the LAN with video on demand capabilities • Content can be stored and viewed on-demand Helius Server 2.

Claim Limitation	Exemplary Disclosure in the Prior Art
	To the extent the Helius System does not disclose any part of this limitation, the Helius System renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of the Helius System combined with the knowledge of a person of ordinary skill in the art, and in light of the Helius System combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and 2NetFX. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

Exhibit 592.F
Invalidity of U.S. Patent No. 10,880,592 in view of 2NetFX[1]

2NetFX is prior art to U.S. Patent No. 10,880,592 under at least 35 U.S.C. §§ 102(a) and (b)(pre-AIA). 2NetFX was publicly known, used, and on sale, in the United States at least as early as 2001.

2NetFX refers to all 2NetFX products publicly known, used, or on sale before the '592 patents priority date, including CastFX Broadcaster and associated hardware, the ThunderCastIP Server, HDTV over IP Server and Player, Streaming Application Media, and hardware components including computers utilizing the StreamRider Player.

"2NetFX" also includes all documentation describing the 2NetFX products. This claim chart applies to all of the 2NetFX products and their documentation, both collectively and individually. The contentions in this claim chart apply equally to all 2NetFX products.

2NetFX is described by at least the following documents:

Document Name	Reference URL	Date of Reference
Streaming Application Media (SAM)	https://web.archive.org/web/20010410172003/http://www.2netfx.com/sam.htm	April 10, 2001
ThunderCastIP Server	https://web.archive.org/web/20010226190618/http://www.2netfx.com:80/thunder.htm	February 26, 2001
StreamRider Player	https://web.archive.org/web/20010226190658/http://www.2netfx.com/stream.htm	February 26, 2001
CastFX Desktop Broadcaster	https://web.archive.org/web/20010226183414/http://www.2netfx.com/castfx.htm	February 26, 2001
HDTV Over IP	https://web.archive.org/web/20010226183307/http://www.2netfx.com/hdtv.htm	February 26, 2001
2NetFX Product Listing	https://web.archive.org/web/20010302144754/http://www.2netfx.com/products.htm	March 2, 2001

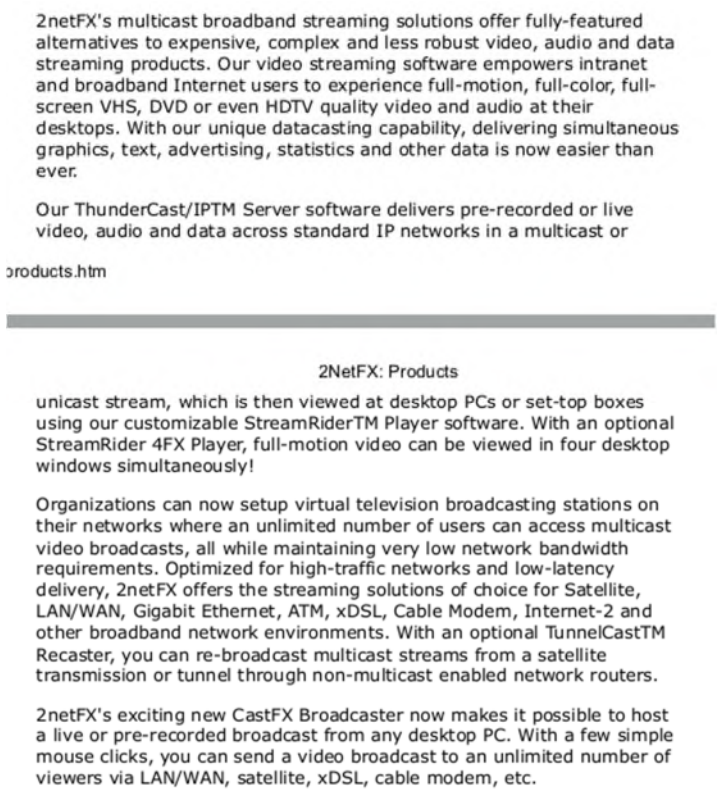
Moreover, it also would have been obvious to a person of ordinary skill in the art to combine 2NetFX with the following prior art:

[1] This chart also applies to the 2NetFX combined with the knowledge of a POSITA, and combined with the other references cited in this chart.

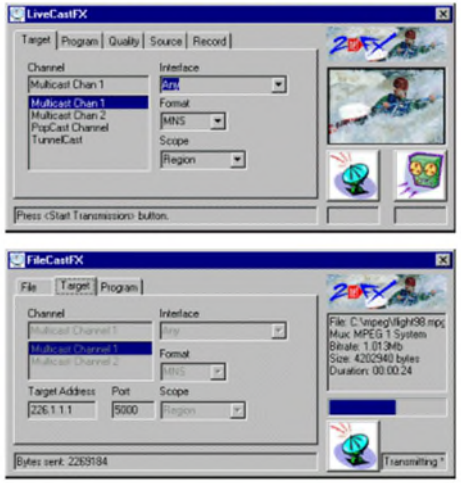
Document Name	Reference URL	Date of Reference
ATI Theatre 650 Pro	https://hothardware.com/reviews/ati-theater-650-pro--catalyst-media-center-preview?page=1	August 18, 2006
ATI Wonder 650 PCI Tuner	https://web.archive.org/web/20070110023020/http://www.pcalchemy.com/product_info.php/pName/ati-tv-wonder-650-pci-tv-tuner-100715331-retail/cName/pvr-cardstv-tuners	January 10, 2007
Microsoft MCE Remote Control	https://web.archive.org/web/20060718093536/http://www.pcalchemy.com/product_info.php/pName/microsoft-mce-remote-control-for-windows-xp-mce/cName/remote-controls	July 18, 2006

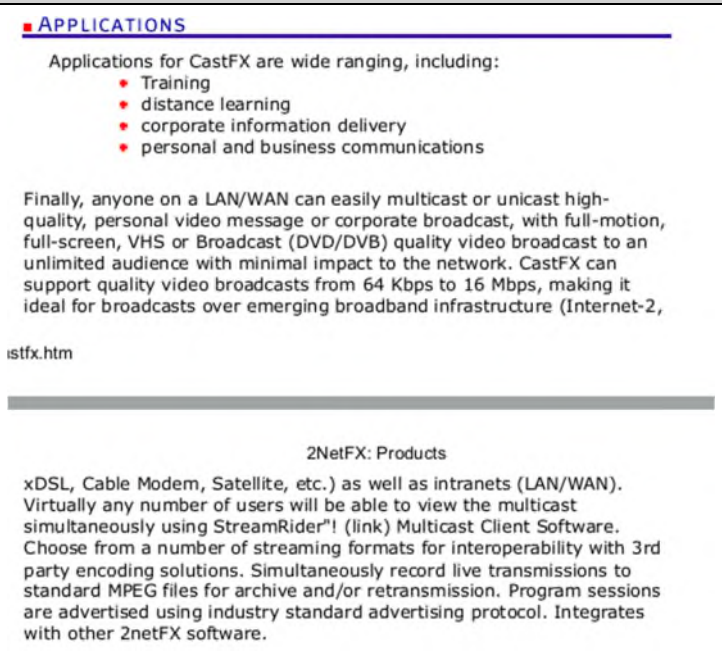
Amazon's invalidity contentions are based in part on Giken's infringement contentions, to the extent Amazon can understand them, because that which infringes, if later, anticipates, if earlier. Amazon offers these contentions without prejudice to any position it may later take as to any claim construction issue. To the extent these contentions reflect claim interpretations implicit in Giken's infringement contentions, no inference is intended, nor should any be drawn, that Amazon agrees with any claim interpretation implied by Giken's infringement contentions, and Amazon reserves the right to contest such claim interpretations. Where Amazon cites to a particular figure, the citation encompasses the description of that figure; similarly, where Amazon cites to text describing a figure, the citation encompasses that figure as well.

Claim Limitation	Exemplary Disclosure in the Prior Art
[1pre] A receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form	2NetFX expressly or inherently discloses "[a] receiving apparatus configured to receive digital moving image contents from outside providers of the digital moving image contents, the outside providers including a first provider providing a digital moving image content in accordance with a program schedule table predetermined by the provider and a second provider providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example:

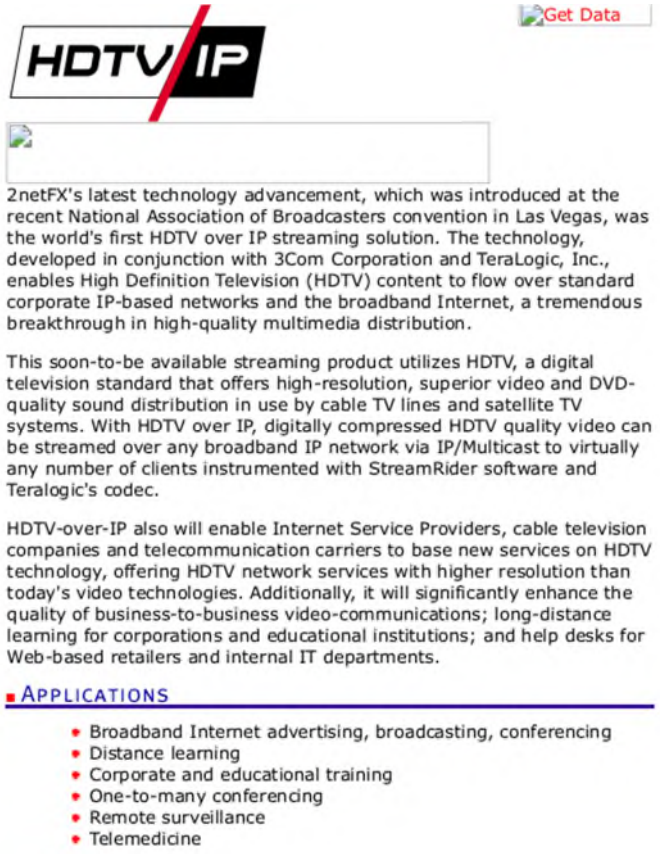
Claim Limitation	Exemplary Disclosure in the Prior Art
the program schedule table, the receiving apparatus comprising:	 2NetFX Product Listing

Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

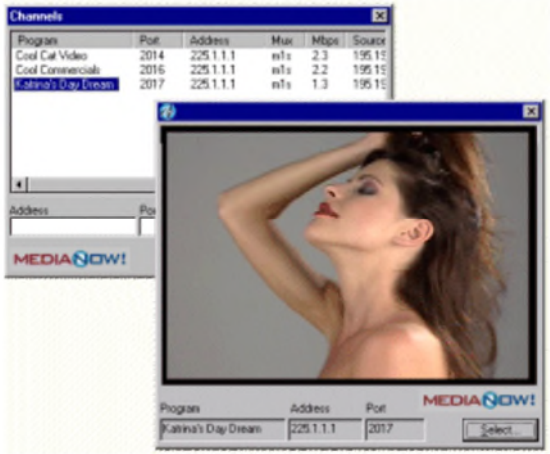
Claim Limitation	Exemplary Disclosure in the Prior Art
	CastFX CastFX Desktop Broadcaster is the first of its kind application that allows for multicasting MPEG-1 and MPEG-2 content over IP-based networks. Multicast live or recorded programs from your desktop PC to an unlimited audience across a LAN/WAN or broadband internet. CastFX is designed to be extremely user friendly and easy-to-install. 

Claim Limitation	Exemplary Disclosure in the Prior Art
	 CastFX

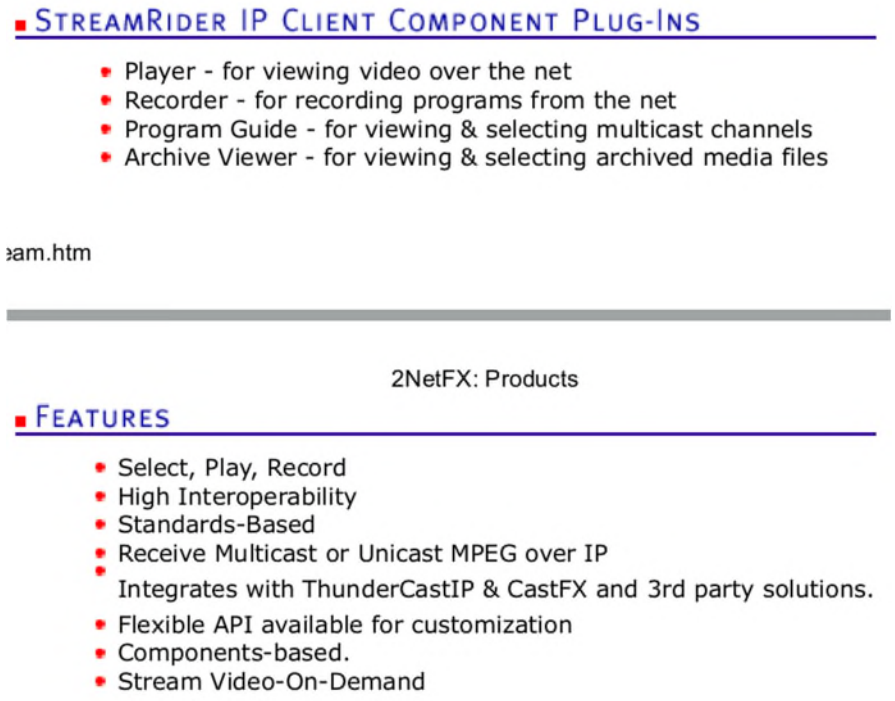
Claim Limitation	Exemplary Disclosure in the Prior Art
	CastFX BROADCASTER is the first easy-to-use and low-cost video broadcaster to offer full-motion quality multicast streaming across broadband networks and the Internet. Send a live or pre-recorded video broadcast from your desktop to an unlimited number of users on a LAN/WAN or via satellite, xDSL, cable modem, etc. Supports both MPEG-1 and MPEG-2 video and includes a free MPEG-2 decoder. Compatible with most video sources including ball cameras, VCRs, camcorders, etc. (encoder required). • Transmit Live or Pre-Recorded Video • Inlcudes MPEG-2 Decoding Software • Compatible with many MPEG Encoders • MediaPlayer/DirectShow compatible • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 8 Mbps) • File Capture/Recording CastFX

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

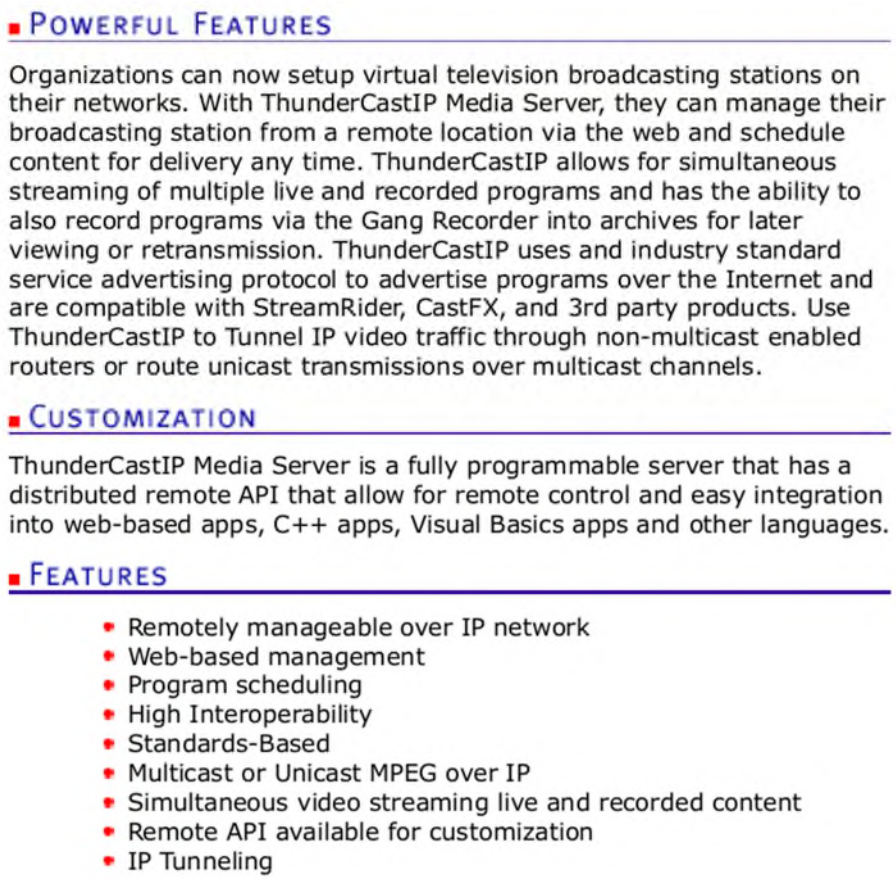
Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	The StreamRider IP Multicast Client allows for viewing multicast/unicast MPEG-1 or MPEG-2 video transmissions over IP-based networks -- much like viewing a TV on the desktop. StreamRider web-based viewer allows you to "tune" to live and or recorded video programs over the LAN/WAN with the Program Guide. Programs may be delivered from ThunderCast IP or from a number of 3rd party encoding sources. StreamRider is available in two flavors, a free stand-alone player with basic, but useful features and an Advanced Player with extra features such as web-based interface, Multicast Capture, and Program Archiving.  The StreamRider free stand-alone player can view live network video programs transmitted from ThunderCastIP servers or 3rd-party encoder systems. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

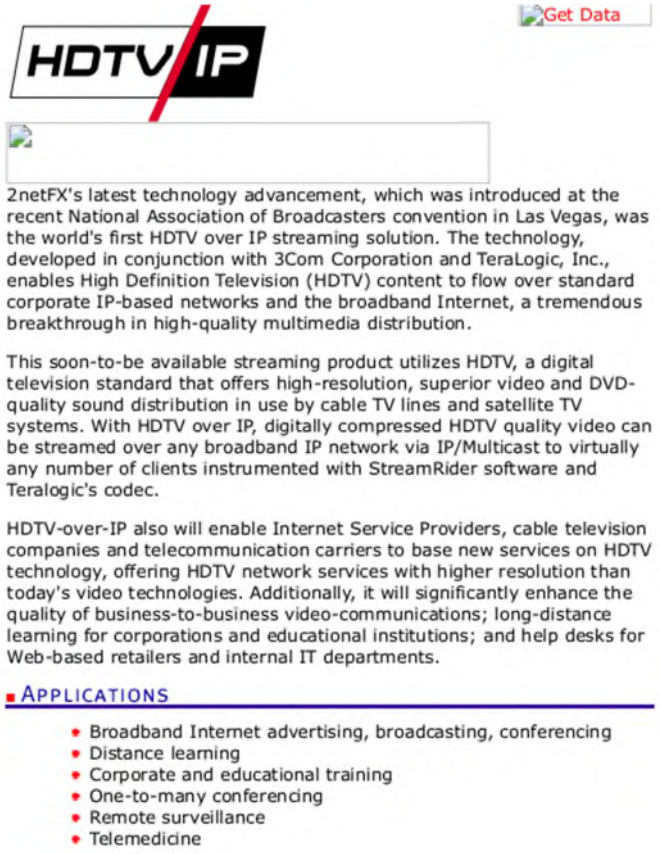
Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

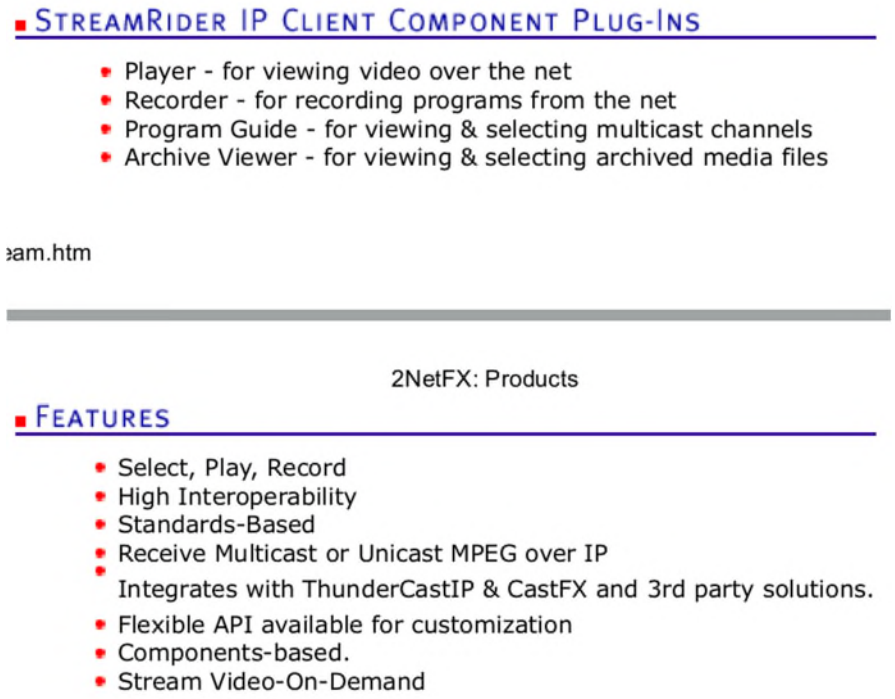
Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1a] a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content	2NetFX expressly or inherently discloses “a remote controller that manually selects one of the digital moving image contents provided from the first provider, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part.” For example: *See* claim 1pre.

Claim Limitation	Exemplary Disclosure in the Prior Art
being an integral program continuing from an opening part to an ending part by way of a midstream part;	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

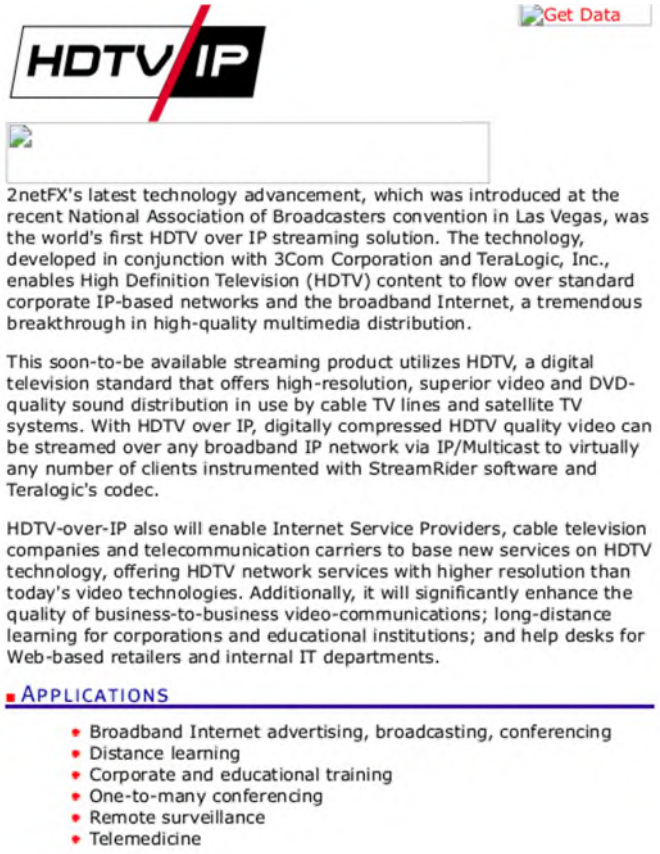
Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player Moreover, it also would have been obvious to a person of ordinary skill in the art to combine 2NetFX with the following prior art:

Claim Limitation	Exemplary Disclosure in the Prior Art
	Microsoft MCE Remote Control for Windows XP MCE **[MCE-REMOTE]**  Click to enlarge **Your Price:** $34.95 ADD TO CART ▶ **In Stock** - Ships same business day **Model:** MCE-REMOTE **Manufacturer:** Microsoft [Store] **Reviews:** ★★★★☆ (10 reviews) [View/Write] Microsoft MCE Remote Control

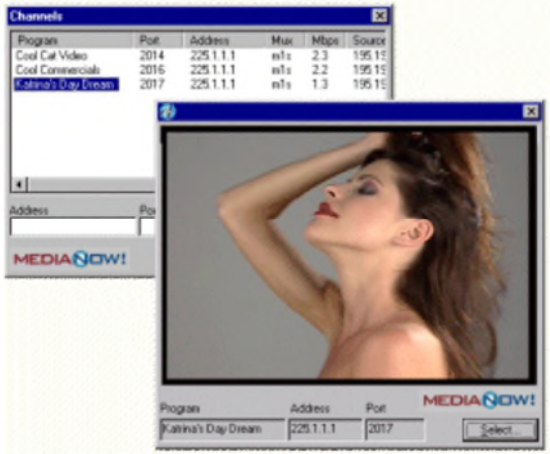
Claim Limitation	Exemplary Disclosure in the Prior Art
	PRODUCT DESCRIPTION **Features and System Requirements** **Keyboard Features** • Power your TV and Media Center PC with one remote. • Record selected television programs. • Play selected media. • Replay jumps recorded TV back seven seconds, or jumps back one music track or one DVD chapter. • Pause audio, video, a slide show, or live or recorded TV.* • Backlit buttons glow for easy use in the dark. Start launches the Media Center Start menu: • My Videos accesses your video collection. • My Music accesses your music collection. • My TV opens the TV menu. • My Pictures accesses your photo collection Guide opens TV Program Guide to display available channels and programs. Live TV launches full-screen live TV.* *TV tuner card with FM radio capability required for live TV and radio functionality  *Image not shown to scale* The remote control and infrared (IR) receiver—also known as a remote sensor—let you access and manage your Media Center PC and other peripheral devices. **Warranty Period:** 3 years **Interface:** USB **Includes:** Remote control, IR receiver, and (2) I/R emitters to control set top boxes or satellite receiver. **System Requirements:** Requires a Media Center PC running Windows XP Media Center Edition Microsoft MCE Remote Control To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX

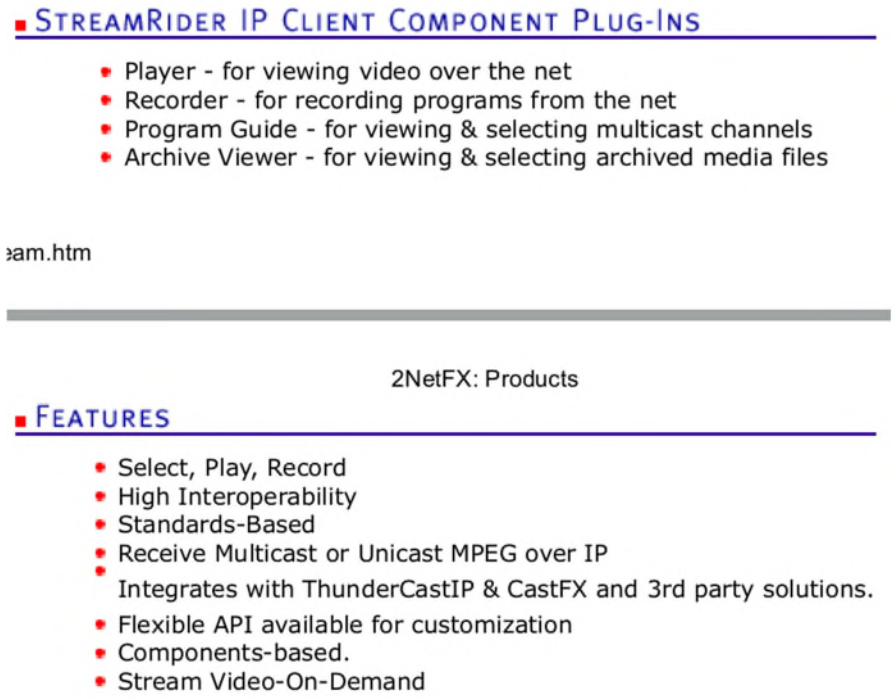
Claim Limitation	Exemplary Disclosure in the Prior Art
	combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1b] a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller;	2NetFX expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program which is provided by the first provider at the time of selection by the remote controller." For example: *See* claims 1pre-1a.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

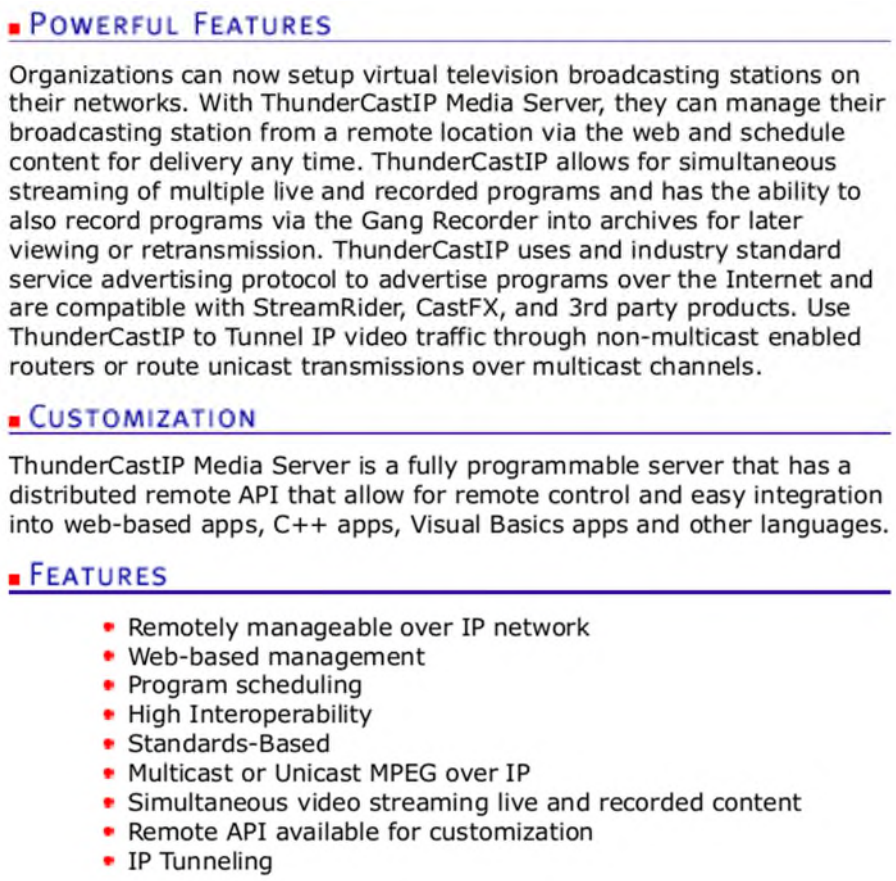
Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	The StreamRider IP Multicast Client allows for viewing multicast/unicast MPEG-1 or MPEG-2 video transmissions over IP-based networks -- much like viewing a TV on the desktop. StreamRider web-based viewer allows you to "tune" to live and or recorded video programs over the LAN/WAN with the Program Guide. Programs may be delivered from ThunderCast IP or from a number of 3rd party encoding sources. StreamRider is available in two flavors, a free stand-alone player with basic, but useful features and an Advanced Player with extra features such as web-based interface, Multicast Capture, and Program Archiving.  The StreamRider free stand-alone player can view live network video programs transmitted from ThunderCastIP servers or 3rd-party encoder systems. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server Moreover, it also would have been obvious to a person of ordinary skill in the art to combine 2NetFX with the following prior art:

Claim Limitation	Exemplary Disclosure in the Prior Art
	Introduction and Product Specifications In recent months, we've seen a major step forward in the image quality of TV Tuner cards on the PC. As we recently saw with our review of NVIDIA's DualTV, an analog signal can now be cleaned up nicely with finely tuned comb filters and other technologies to bring clarity not seen with previous products. As the technology has evolved, manufacturers now have the leverage to produce TV-Tuner packages with exceptional analog image quality along with other features, such as dual-tuners, using a single cable connection. While NVIDIA impressed us with their DualTV card, ATI has been hard at work fine tuning their **Theater 650 Pro** processor. Building on the successes of the Theater 550 Pro, ATI brings new enhancements to the overall technology for even greater image quality and performance. Recently, we were provided with a pre-production reference card to give us a taste of what a Theater 650 Pro based TV-Tuner card is capable of. Not to be out done by NVIDIA, ATI has upped the TV-tuner ante by integrating Digital and Analog TV-Tuners on a single card. Topped off with a completely new **Catalyst Media Center** package, ATI aims to deliver a PCI TV-tuner product that can fit a broad range of uses with support for all versions of Windows XP and over-the-air digital content. ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art
	

Technical Specifications

- 125 channel TV tuner with stereo audio
- New worldwide video decoder
- NTSC, PAL, SECAM support
- 5-line 2D comb filter
- Motion adaptive 3D comb filter
- Worldwide audio decoder
- 3:2 pull-down
- Motion compensated noise reduction
- Edge enhancement
- Hardware MPEG compression engine
- MPEG-2 720x480 compression
- CBR and VBR from 1 to 15 Mbps
- FM radio reception
- Digital audio processing
- Hardware DRM engine
- VBI slicing
- Audio/video input support
- ATSC digital TV support (optional)
- DVB-T digital TV support (optional)
- PCI and PCI-Express 1X bus interfaces

System Requirements

- Intel Pentium 4/3/II, Celeron, AMD K6, Athlon or compatible
- Sound card and speakers
- Available PCI or PCI-Express 1X slot
- Cable TV signal or amplified antenna
- Digital TV antenna (optional)

Operating System

Features:

Avivo Quality

* 12-bit video pipeline offer higher quality colors than the competition's 10-bit solutions
* Programmable hardware video and audio MPEG encoder offers HDTV quality with motion compensated noise reduction for the best possible picture
* Motion adaptive 3D comb filter offers crystal clear video on-par with a high-end television set

Worldwide TV

* Single chip support for NTSC, PAL and SECAM allows you to watch TV from Australia to Zimbabwe

Digital TV Support

* High quality ATSC HDTV powered by ATI's Theater 311 and DVB-T solutions available

Windows Vista Ready

* Prepare for the future - The Theater 650 PRO is Windows Vista premium logo ready

Software Support:

* Microsoft Windows XP Media Center Edition
* Microsoft Windows Vista
* ATI Catalyst Media Center
* Snapstream BeyondTV
* Cyberlink Powercinema
* Intervideo Home Theater

ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art
	* CyberLink PowerCinema * Intervideo Home Theater **Operating System** * Windows XP/SP1/SP2 * Windows XP Media Center Edition * Windows Vista **TV-tuner Requirements** * TV signal from amplified antenna or cable * Versions available for: o NTSC (North America, Japan, Taiwan, Korea and Latin America) o PAL/SECAM (European and International PAL/SECAM countries) o NTSC/ATSC (North America, parts of Latin America) o PAL/SECAM/DVB-T (European and International PAL/SECAM/DVB-T countries) * Features may vary from country to country and depending on the television standard  ATI Theatre 650 Pro

Claim Limitation	Exemplary Disclosure in the Prior Art
	TV Wonder™ 650 - ATI's advanced TV technologies ATI's leadership in digital TV technology clearly shows in TV Wonder™ 650. The Theater 650 Pro processing core combines hardware MPEG encoding and PVR, digital audio with noise reduction and hybrid tuner for analog or high-definition digital ATSC (DVB-T) TV reception. The adaptive 3D comb filter delivers picture purity rivaling high-end TV sets. Catalyst Media Center™ software makes it easy to watch, pause or record your favorite digital or analog shows. The TV Wonder® 650 comes in PCI and is ready for Windows® XP, XP with MCE or Windows Vista™.

Detailed Specfications	
Model	TV WONDER 650 PCI NTSC
Part Number	100-715331
System Requirements	Intel® Pentium® 4 Celeron™, AMD® Athlon® Sempron® or compatible - 256 MB or more of system memory - Sound Card and speakers - Motherboard with available PCI slot - Cable TV signal or amplified antenna for NTSC TV signals - Amplified antenna for ATSC HDTV signals and FM Radio - Installation software requires CD-ROM drive - Windows® XP Media Center Edition 2005 requires use of a compatible remote control and DVD decoder (not included) - DVD decoder is included with Catalyst Media Center™
Operating Systems	Windows® XP Home Edition Windows® XP Professional Edition Windows® XP Media Center Edition 2005 ATI Certified - Windows Vista™ Premium Ready
Compatibility	- TV Wonder™ 650 is compatible with all high quality graphics sub-systems supporting DirectX® overlay, including products from the following manufacturers: ATI and NVIDIA - An ATI Radeon® 9600 or newer graphics card is recommended for optimal display output quality.
Package Contents	- TV Wonder™ 650 Installation and Setup Guide - TV Wonder™ 650 Installation CD - Catalyst™ Media Center Software - TV Wonder™ 650 PCI card - FM Radio Antenna - Audio/Video Input Block
Warranty	1-year limited

ATI Wonder 650 PCI Tuner

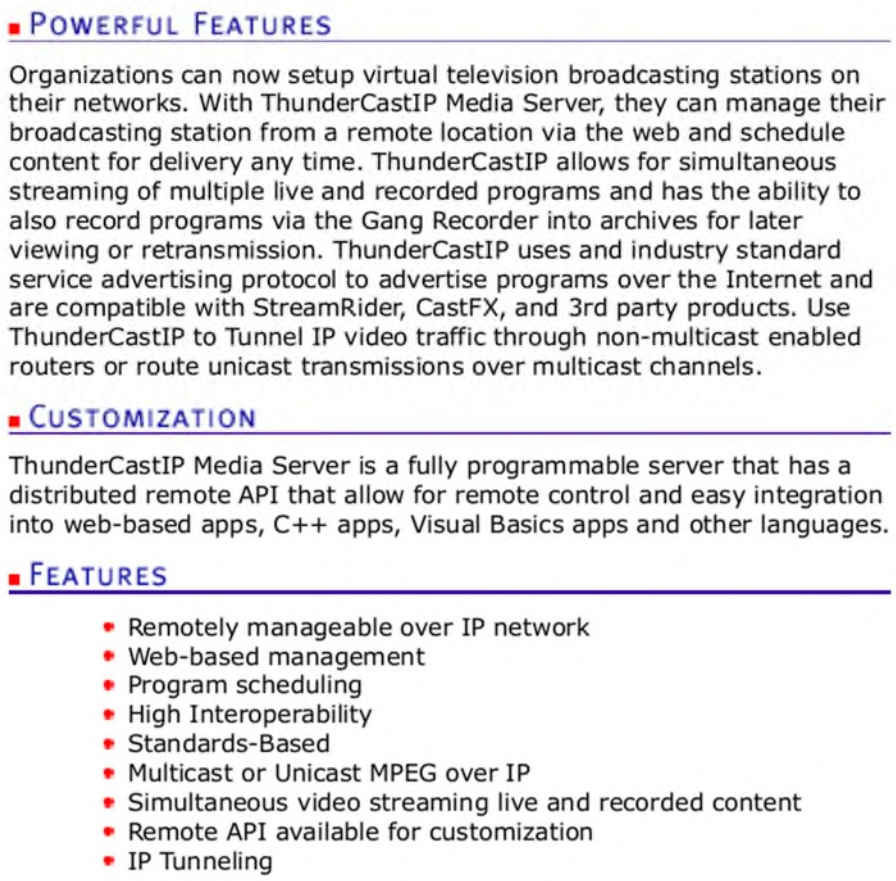
To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang,

Claim Limitation	Exemplary Disclosure in the Prior Art
	Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1c] an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller;	2NetFX expressly or inherently discloses "an I/O interface that receives from the second provider the digital moving image content including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program received from the first provider, the I/O interface locating the integral program in accordance with information from the tuner at the time of selection by the remote controller." For example: *See* claims 1pre-1b.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

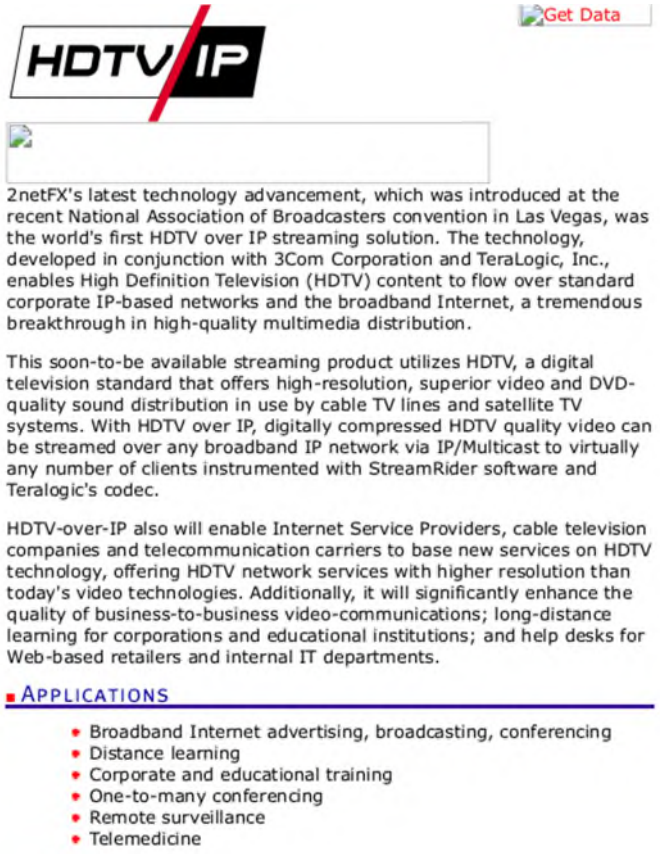
Claim Limitation	Exemplary Disclosure in the Prior Art
	■ STREAMRIDER IP CLIENT COMPONENT PLUG-INS • Player - for viewing video over the net • Recorder - for recording programs from the net • Program Guide - for viewing & selecting multicast channels • Archive Viewer - for viewing & selecting archived media files eam.htm 2NetFX: Products ■ FEATURES • Select, Play, Record • High Interoperability • Standards-Based • Receive Multicast or Unicast MPEG over IP • Integrates with ThunderCastIP & CastFX and 3rd party solutions. • Flexible API available for customization • Components-based. • Stream Video-On-Demand StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

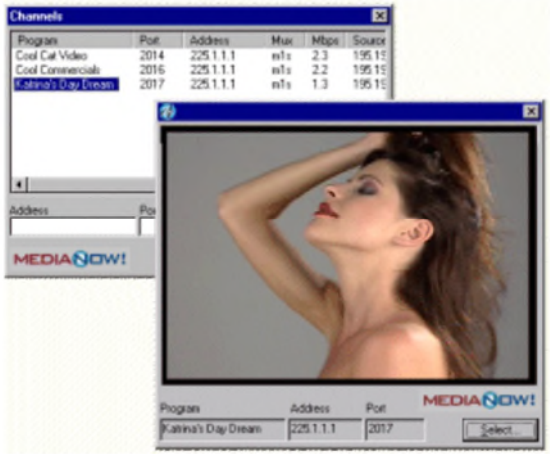
Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1d] a television display that shows the digital moving image contents from the first provider and the second provider; and	2NetFX expressly or inherently discloses “a television display that shows the digital moving image contents from the first provider and the second provider.” For example: *See* 1pre.

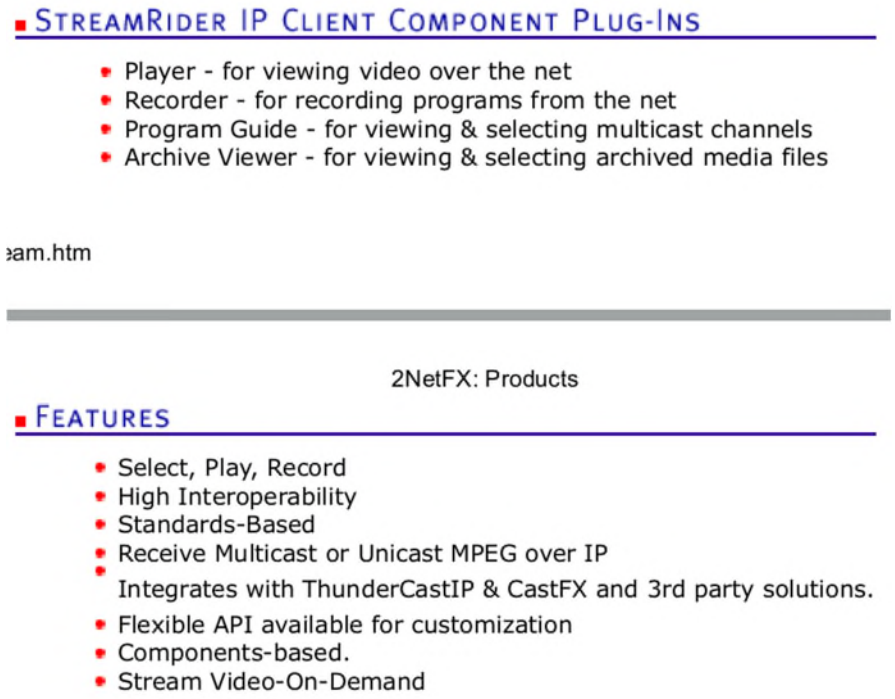
Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

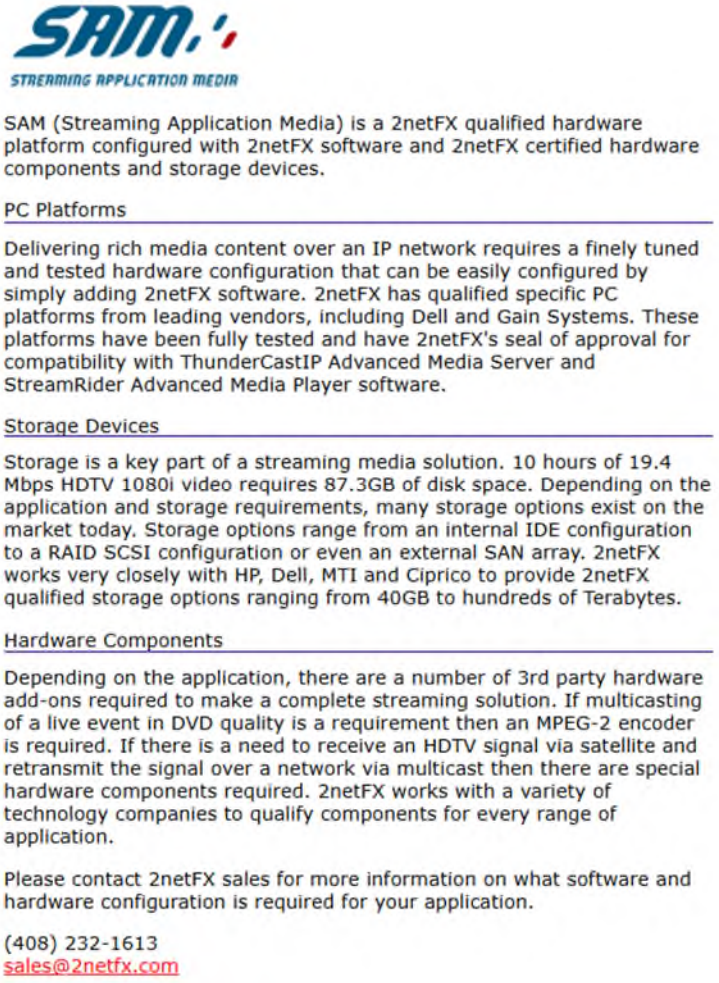
Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

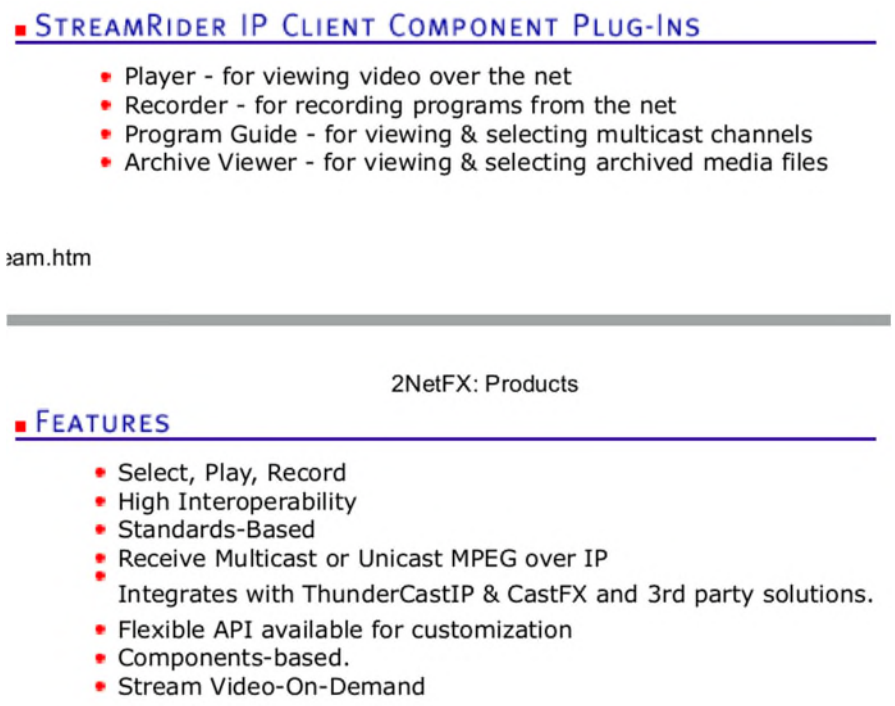
Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider The StreamRider IP Multicast Client allows for viewing multicast/unicast MPEG-1 or MPEG-2 video transmissions over IP-based networks -- much like viewing a TV on the desktop. StreamRider web-based viewer allows you to "tune" to live and or recorded video programs over the LAN/WAN with the Program Guide. Programs may be delivered from ThunderCast IP or from a number of 3rd party encoding sources. StreamRider is available in two flavors, a free stand-alone player with basic, but useful features and an Advanced Player with extra features such as web-based interface, Multicast Capture, and Program Archiving.  The StreamRider free stand-alone player can view live network video programs transmitted from ThunderCastIP servers or 3rd-party encoder systems. StreamRider Player

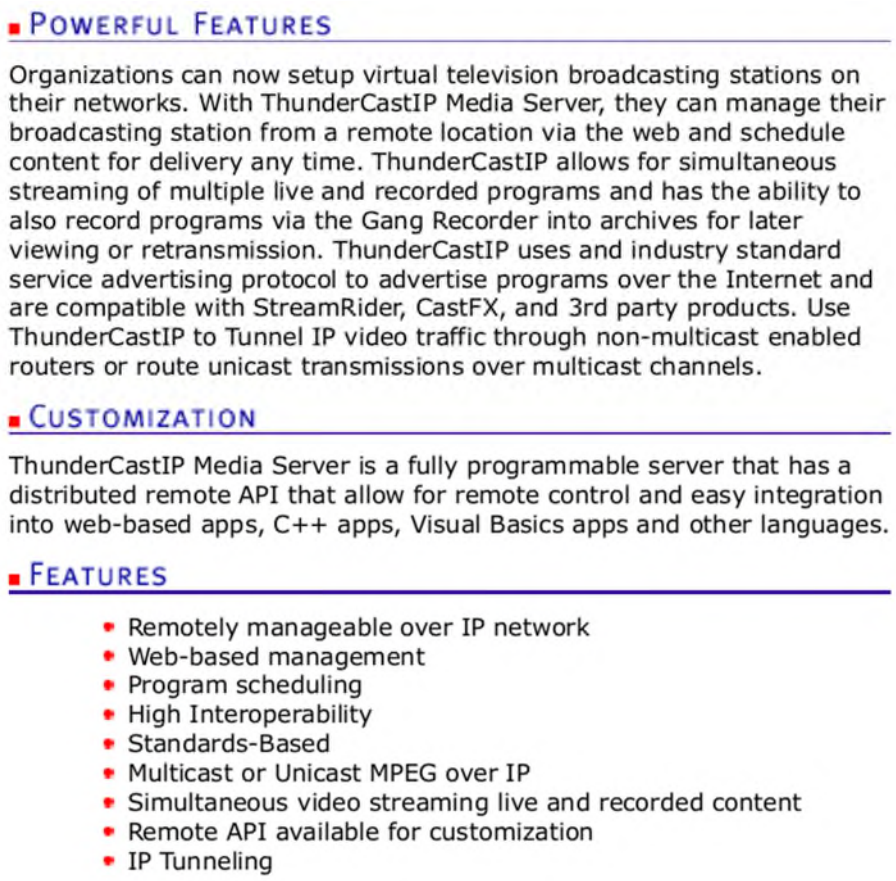
Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[1e] a memory in a TV set computer that stores the entire data of the digital moving image	2NetFX expressly or inherently discloses “a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.” For example:

Claim Limitation	Exemplary Disclosure in the Prior Art
content received by the I/O interface.	*See* claim 1c.  SAM

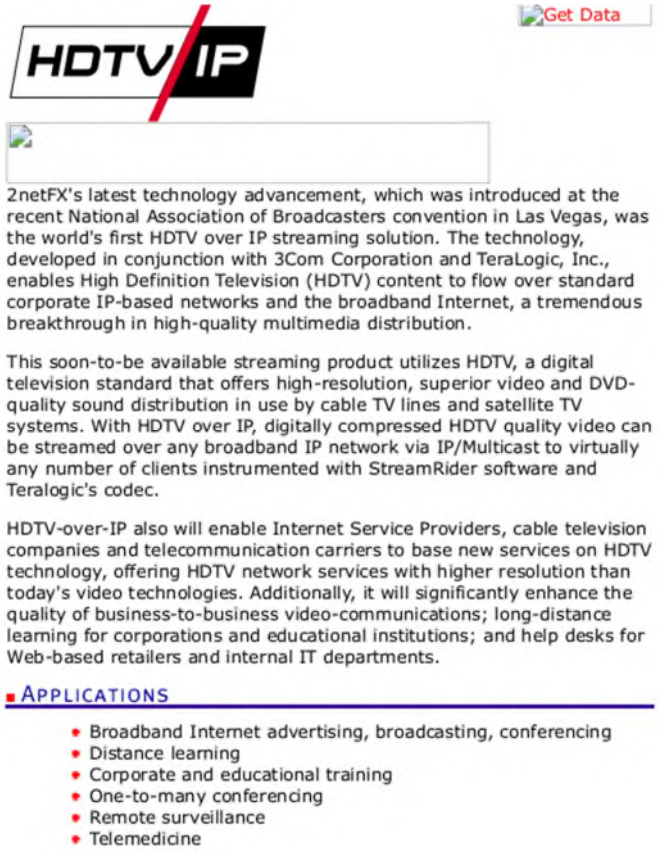
Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

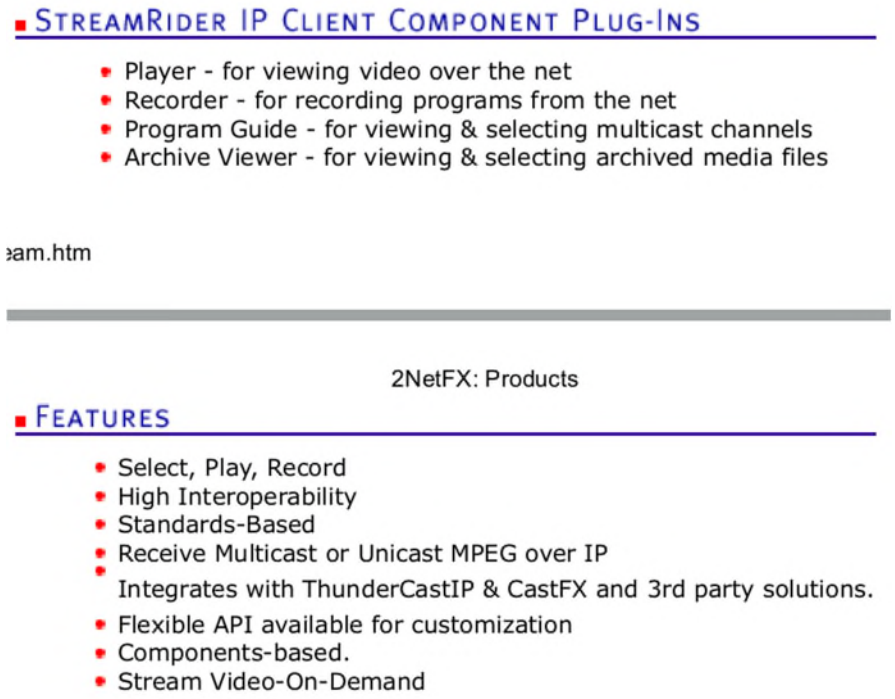
Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[2] The receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program	2NetFX expressly or inherently discloses “[t]he receiving apparatus according to claim 1 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided by the first provider and retrieved from the memory in the TV set computer.” For example: *See* claim 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
which has been already provided by the first provider and retrieved from the memory in the TV set computer.	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

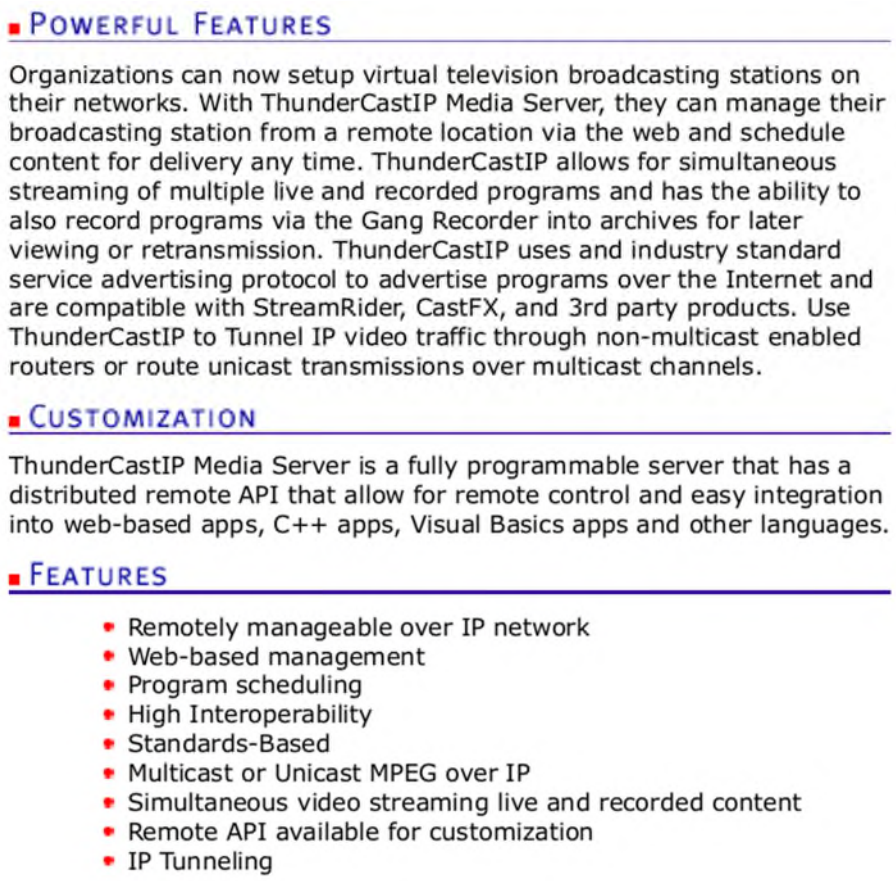
Claim Limitation	Exemplary Disclosure in the Prior Art
[3] The receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 2, wherein the past part is the opening part of the integral program." For example: *See* claims 1-2. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[5] The receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program received from the first provider." For example: *See* claim 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	■ STREAMRIDER IP CLIENT COMPONENT PLUG-INS • Player - for viewing video over the net • Recorder - for recording programs from the net • Program Guide - for viewing & selecting multicast channels • Archive Viewer - for viewing & selecting archived media files eam.htm 2NetFX: Products ■ FEATURES • Select, Play, Record • High Interoperability • Standards-Based • Receive Multicast or Unicast MPEG over IP • Integrates with ThunderCastIP & CastFX and 3rd party solutions. • Flexible API available for customization • Components-based. • Stream Video-On-Demand StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6pre] A receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the	2NetFX expressly or inherently discloses “[a] receiving apparatus configured to receive digital moving image contents from outside provider system of the digital moving image contents, the outside provider system being capable of providing a digital moving image content in accordance with a program schedule table

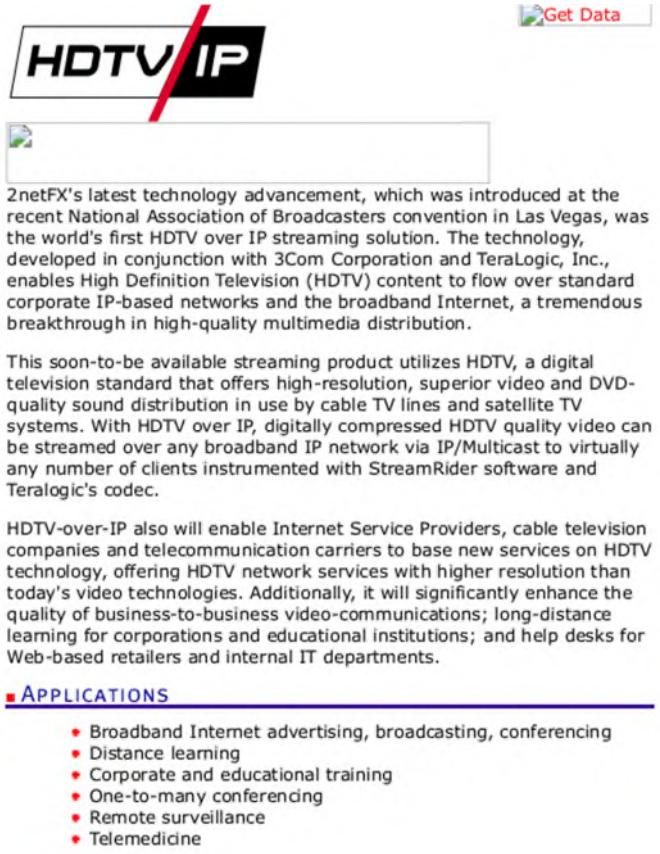
Claim Limitation	Exemplary Disclosure in the Prior Art
outside provider system being capable of providing a digital moving image content in accordance with a program schedule table predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus comprising:	predetermined by the provider and providing the digital moving image content independently form the program schedule table, the receiving apparatus." For example: *See* claim 1, 1pre. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6a] a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part;	2NetFX expressly or inherently discloses "a remote controller that manually selects one of the digital moving image contents provided in accordance with a program schedule table, the selected digital moving image content being an integral program continuing from an opening part to an ending part by way of a midstream part." For example: *See* claim 1, 1pre-1a. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6b] a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller;	2NetFX expressly or inherently discloses "a tuner that receives the selected digital moving image content at the midstream part of the integral program at the time of selection by the remote controller." For example: *See* claim 1, 1b. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang,

Claim Limitation	Exemplary Disclosure in the Prior Art
	Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6c] I/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller;	2NetFX expressly or inherently discloses "[i]/O interface that receives the digital moving image content provided independently form the program schedule table including entire data of the digital moving image content from the opening part to the ending part of the integral program same as the integral program provided in accordance with a program schedule table, the I/O interface locating the integral program in accordance with information at the time of selection by the remote controller." For example: *See* claim 1, 1pre, 1c. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[6d] a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table; and	2NetFX expressly or inherently discloses "a television display that shows the digital moving image contents provided in accordance with a program schedule table and the digital moving image content provided independently form the program schedule table." For example: *See* claim 1, 1pre, 1d. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.

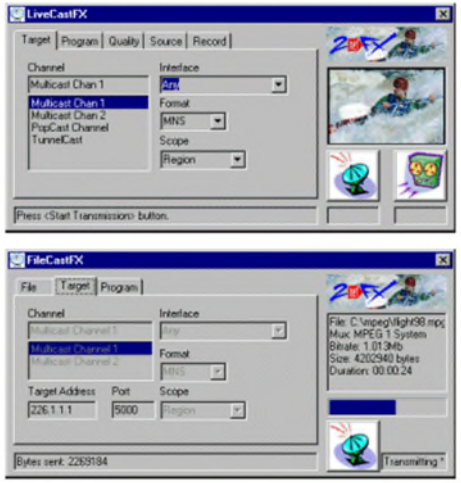
Claim Limitation	Exemplary Disclosure in the Prior Art
[6e] a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface.	2NetFX expressly or inherently discloses "a memory in a TV set computer that stores the entire data of the digital moving image content received by the I/O interface." For example: *See* claim 1, 1c, 1e. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[7] The receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 6 further comprising a TV set processor that has the television display show a past part of the integral program which has been already provided in accordance with a program schedule table and retrieved from the memory in the TV set computer." For example: *See* claim 6. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[8] The receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 7, wherein the past part is the opening part of the integral program." For example: *See* claims 6-7. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang,

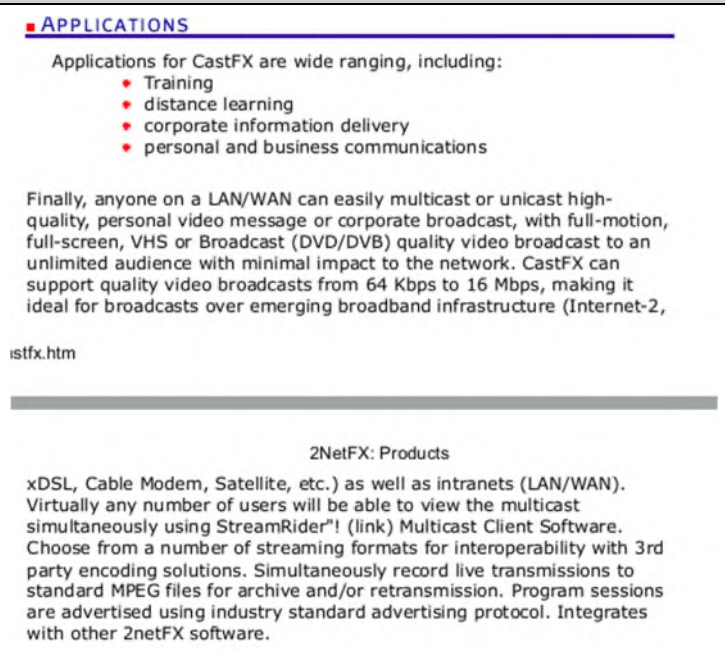
Claim Limitation	Exemplary Disclosure in the Prior Art
	Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[10] The receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 6 wherein the memory in the TV set computer keeps information necessary for the TV set computer to locate the integral program same as the integral program provided in accordance with a program schedule table." For example: *See* claim 6. To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[11] The receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider.	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the first provider includes selectable sub providers, wherein the s remote controller selects the one of the digital moving image contents by means of selecting the sub provider, and wherein the one of the digital moving image contents is provided by the selected sub provider." For example: *See* claim 1.

Claim Limitation	Exemplary Disclosure in the Prior Art
	 SAM (Streaming Application Media) is a 2netFX qualified hardware platform configured with 2netFX software and 2netFX certified hardware components and storage devices. PC Platforms Delivering rich media content over an IP network requires a finely tuned and tested hardware configuration that can be easily configured by simply adding 2netFX software. 2netFX has qualified specific PC platforms from leading vendors, including Dell and Gain Systems. These platforms have been fully tested and have 2netFX's seal of approval for compatibility with ThunderCastIP Advanced Media Server and StreamRider Advanced Media Player software. Storage Devices Storage is a key part of a streaming media solution. 10 hours of 19.4 Mbps HDTV 1080i video requires 87.3GB of disk space. Depending on the application and storage requirements, many storage options exist on the market today. Storage options range from an internal IDE configuration to a RAID SCSI configuration or even an external SAN array. 2netFX works very closely with HP, Dell, MTI and Ciprico to provide 2netFX qualified storage options ranging from 40GB to hundreds of Terabytes. Hardware Components Depending on the application, there are a number of 3rd party hardware add-ons required to make a complete streaming solution. If multicasting of a live event in DVD quality is a requirement then an MPEG-2 encoder is required. If there is a need to receive an HDTV signal via satellite and retransmit the signal over a network via multicast then there are special hardware components required. 2netFX works with a variety of technology companies to qualify components for every range of application. Please contact 2netFX sales for more information on what software and hardware configuration is required for your application. (408) 232-1613 sales@2netfx.com SAM

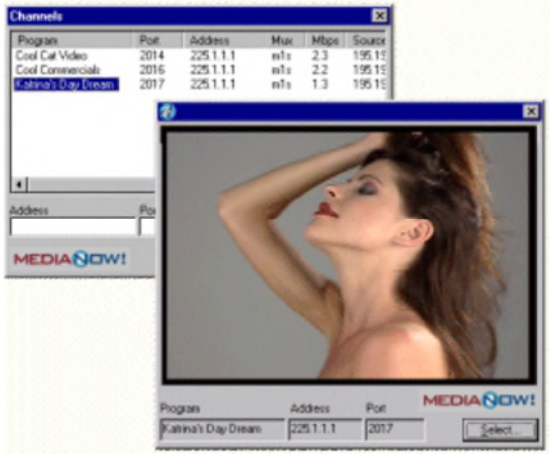
Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	CastFX CastFX Desktop Broadcaster is the first of its kind application that allows for multicasting MPEG-1 and MPEG-2 content over IP-based networks. Multicast live or recorded programs from your desktop PC to an unlimited audience across a LAN/WAN or broadband internet. CastFX is designed to be extremely user friendly and easy-to-install.  CastFX

Claim Limitation	Exemplary Disclosure in the Prior Art
	 CastFX

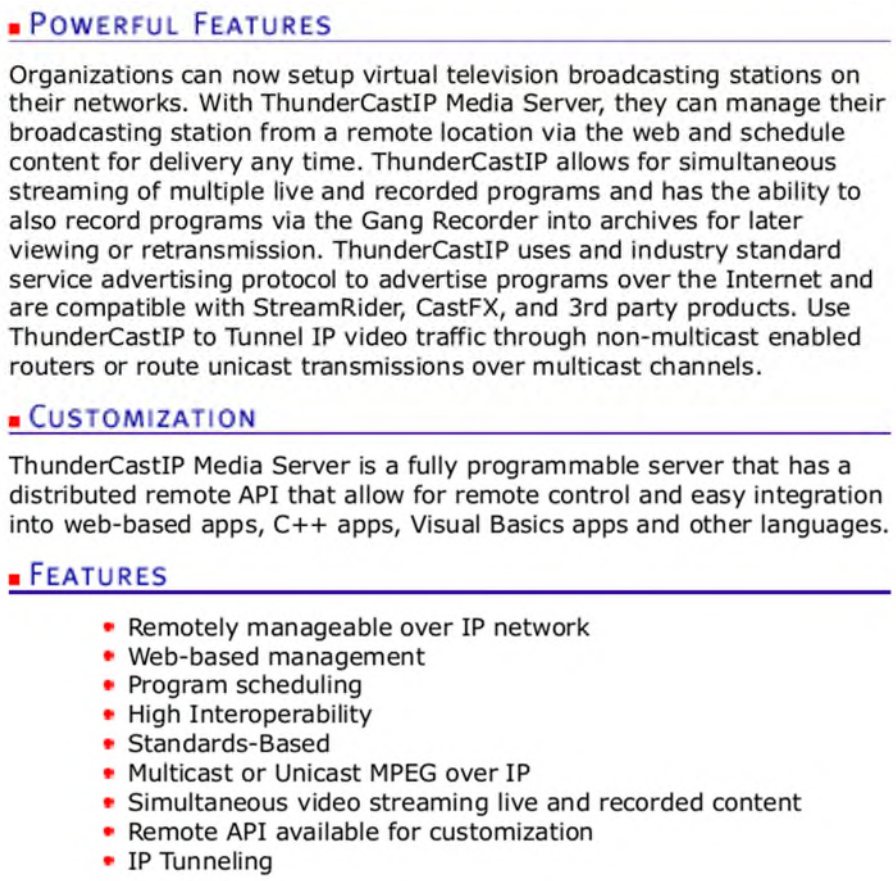
Claim Limitation	Exemplary Disclosure in the Prior Art
	CastFX BROADCASTER is the first easy-to-use and low-cost video broadcaster to offer full-motion quality multicast streaming across broadband networks and the Internet. Send a live or pre-recorded video broadcast from your desktop to an unlimited number of users on a LAN/WAN or via satellite, xDSL, cable modem, etc. Supports both MPEG-1 and MPEG-2 video and includes a free MPEG-2 decoder. Compatible with most video sources including ball cameras, VCRs, camcorders, etc. (encoder required). • Transmit Live or Pre-Recorded Video • Inlcudes MPEG-2 Decoding Software • Compatible with many MPEG Encoders • MediaPlayer/DirectShow compatible • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 8 Mbps) • File Capture/Recording CastFX

Claim Limitation	Exemplary Disclosure in the Prior Art
	The StreamRider IP Multicast Client allows for viewing multicast/unicast MPEG-1 or MPEG-2 video transmissions over IP-based networks -- much like viewing a TV on the desktop. StreamRider web-based viewer allows you to "tune" to live and or recorded video programs over the LAN/WAN with the Program Guide. Programs may be delivered from ThunderCast IP or from a number of 3rd party encoding sources. StreamRider is available in two flavors, a free stand-alone player with basic, but useful features and an Advanced Player with extra features such as web-based interface, Multicast Capture, and Program Archiving.  The StreamRider free stand-alone player can view live network video programs transmitted from ThunderCastIP servers or 3rd-party encoder systems. StreamRider Player

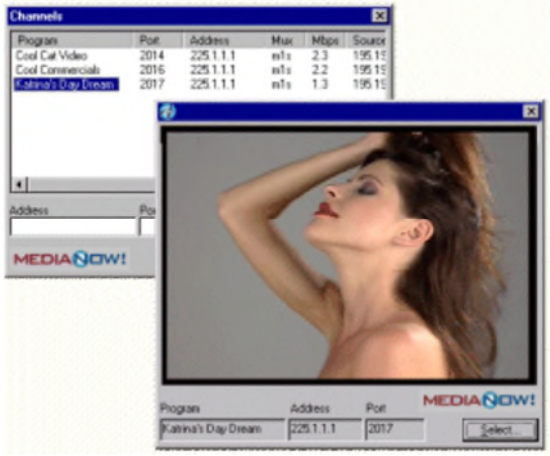
Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	■ STREAMRIDER IP CLIENT COMPONENT PLUG-INS • Player - for viewing video over the net • Recorder - for recording programs from the net • Program Guide - for viewing & selecting multicast channels • Archive Viewer - for viewing & selecting archived media files eam.htm 2NetFX: Products ■ FEATURES • Select, Play, Record • High Interoperability • Standards-Based • Receive Multicast or Unicast MPEG over IP • Integrates with ThunderCastIP & CastFX and 3rd party solutions. • Flexible API available for customization • Components-based. • Stream Video-On-Demand StreamRider Player

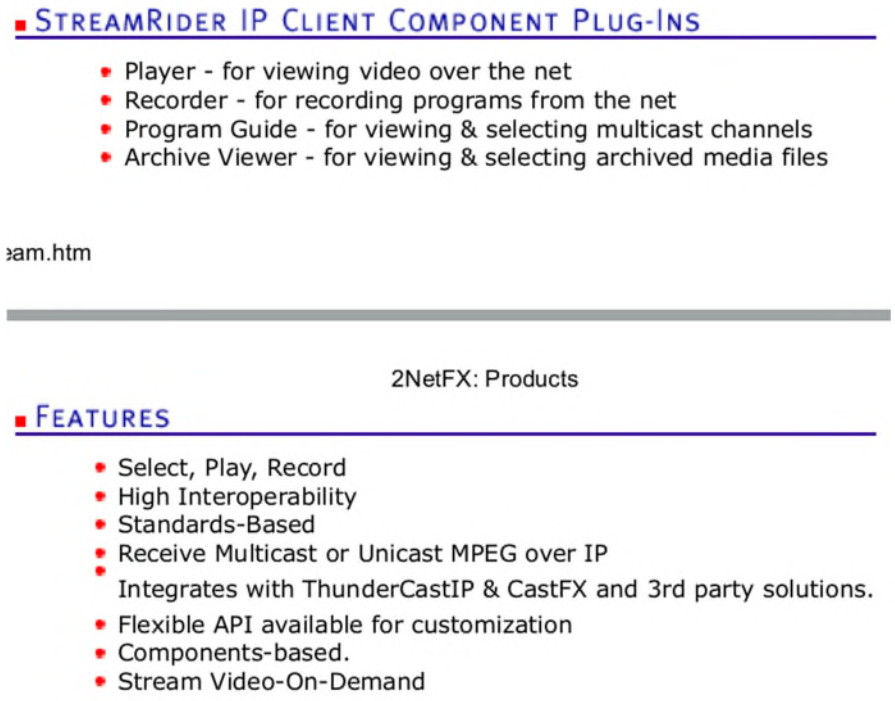
Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

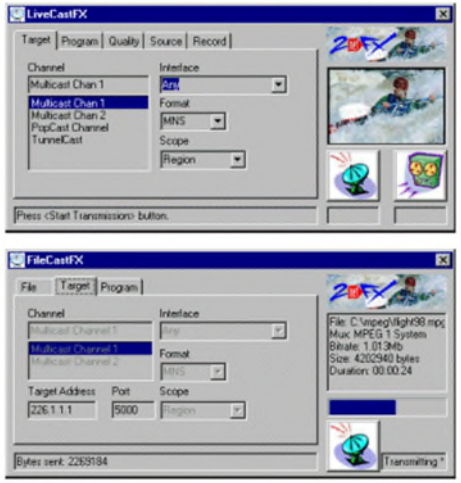
Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.
[12] The receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in	2NetFX expressly or inherently discloses "[t]he receiving apparatus according to claim 1, wherein the digital moving image contents is provided by the first provider by streaming technology in accordance with the program schedule table." For example: *See* claim 1.

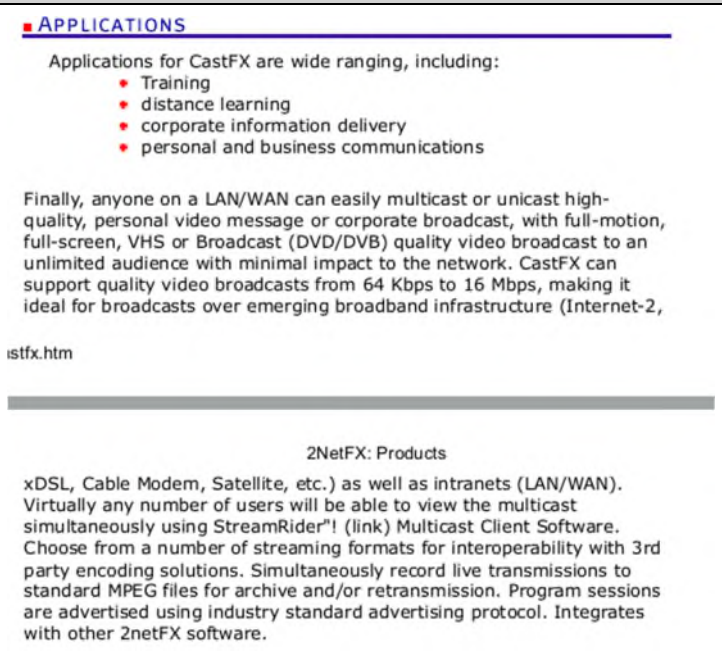
Claim Limitation	Exemplary Disclosure in the Prior Art
accordance with the program schedule table.	 The StreamRider IP Multicast Client allows for viewing multicast/unicast MPEG-1 or MPEG-2 video transmissions over IP-based networks -- much like viewing a TV on the desktop. StreamRider web-based viewer allows you to "tune" to live and or recorded video programs over the LAN/WAN with the Program Guide. Programs may be delivered from ThunderCast IP or from a number of 3rd party encoding sources. StreamRider is available in two flavors, a free stand-alone player with basic, but useful features and an Advanced Player with extra features such as web-based interface, Multicast Capture, and Program Archiving.  The StreamRider free stand-alone player can view live network video programs transmitted from ThunderCastIP servers or 3rd-party encoder systems. StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 The StreamRider Advanced player includes a web-based player, which can be customized with an optional API.  The StreamRider advanced player includes features such as multicast capture and program archiving. StreamRider Player

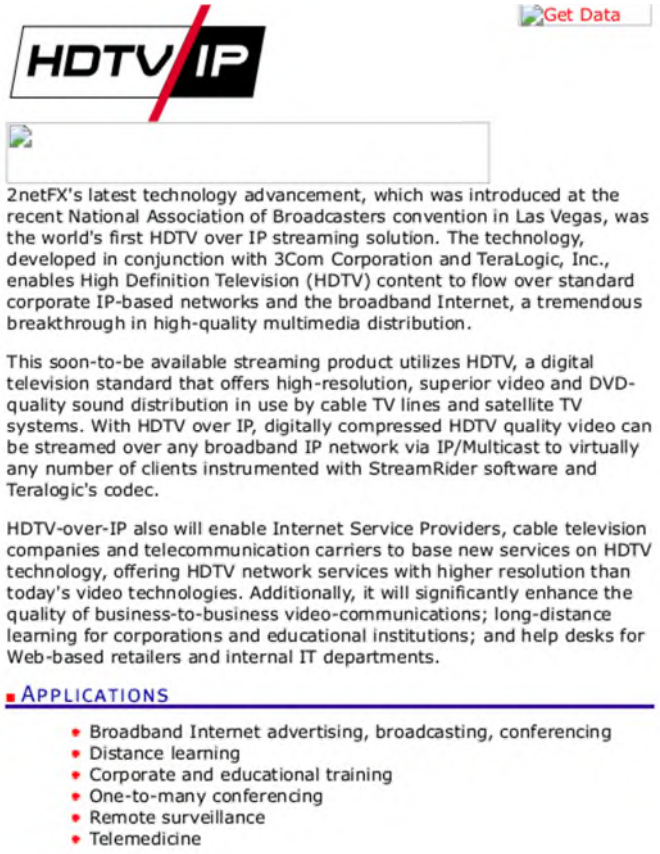
Claim Limitation	Exemplary Disclosure in the Prior Art
	 StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
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Claim Limitation	Exemplary Disclosure in the Prior Art
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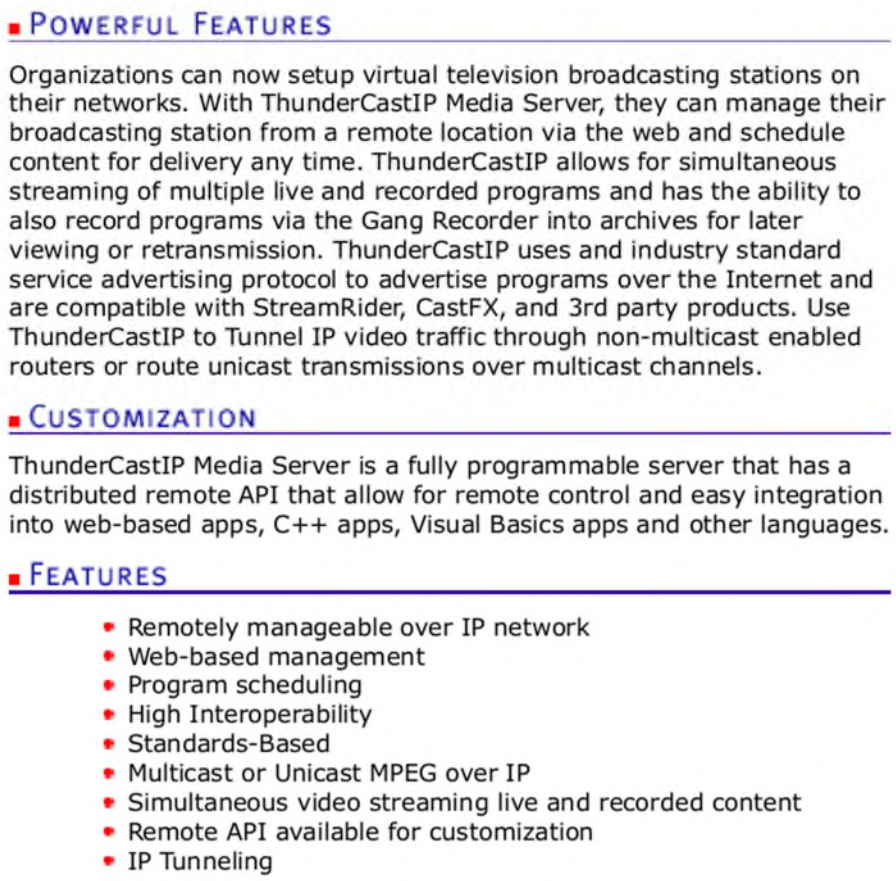
Claim Limitation	Exemplary Disclosure in the Prior Art
	 CastFX

Claim Limitation	Exemplary Disclosure in the Prior Art
	CastFX BROADCASTER is the first easy-to-use and low-cost video broadcaster to offer full-motion quality multicast streaming across broadband networks and the Internet. Send a live or pre-recorded video broadcast from your desktop to an unlimited number of users on a LAN/WAN or via satellite, xDSL, cable modem, etc. Supports both MPEG-1 and MPEG-2 video and includes a free MPEG-2 decoder. Compatible with most video sources including ball cameras, VCRs, camcorders, etc. (encoder required). • Transmit Live or Pre-Recorded Video • Inlcudes MPEG-2 Decoding Software • Compatible with many MPEG Encoders • MediaPlayer/DirectShow compatible • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 8 Mbps) • File Capture/Recording CastFX

Claim Limitation	Exemplary Disclosure in the Prior Art
	 HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	HDTV/IP is the only solution to offer multicast streaming of High Definition video at under 20 Mbps over ordinary IP-based networks. Advanced SERVER features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls, support for MPEG-1, 2, 4 and much more!. The HDTV/IP PLAYER allows play back of video in a PLAYER dtv.htm 2NetFX: Products window on a standard PC, displayed on most PC monitors or any HDTV set. • Live or VoD Unicast or Multicast Streams • Low latency, advanced jitter control • Satellite, LAN/WAN Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • HDTV (MPEG-2 Transport to 25 Mbps) • Supports 1080i, 720p, 480p Resolutions • File Capture/Gang Recording • Optional EdgeCast HDTV RECASTER • Windows NT/2000 or Linux SERVER • Windows 2000 PLAYER (requires HDTV Decoder) HDTV Over IP

Claim Limitation	Exemplary Disclosure in the Prior Art
	StreamRider PLAYER software lets users interactively select which "station" they wish to view, capture and store the video locally, take a "snap shot," adjust the video window location and size as well as play archived videos from the server. A rich set of Player development tools makes it easy to create custom applications that select, play, capture, store and forward video, audio and data across campuses or around the world. 2netFX's video network development toolkit is ideally suited for satellite applications, xDSL, cable networks, Fast Ethernet, Gigabit Ethernet, ATM or any LAN/WAN where high-quality media is required. Offering the only fully customizable Player components, the StreamRider SDK lets you build your own custom Player by simply dragging and dropping components into C++, JavaBean, Web-based, Macromedia Director, FrontPage or other applications. • Live or VoD Unicast or Multicast Streams • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Local File Recording • Compatible with SGI or Oracle Streams • Microsoft, DirectShow (MPEG-1) • Sigma Designs, Mediamatics (MPEG-2) • QuickTime (MPEG-4/H.263) StreamRider Player

Claim Limitation	Exemplary Disclosure in the Prior Art
	 ThunderCastIP Server

Claim Limitation	Exemplary Disclosure in the Prior Art
	ThunderCast/IP SERVER software solution makes it easy to stream live or pre-recorded audio, video and data across broadband networks. Advanced features include remote management & scheduling, datacasting, multiple live encoder support, FlashVideoTM "auto-play" broadcasting, EasyProducerTM controls and much more! ThunderCast/IP integrated components are programmable and have distributed interfaces that allow for remote control and easy integration into Web-based, Visual Basic and C++ applications as well as other programming languages. Includes integrated support for Minerva, OptiVision, OptiBase VBrick, FutureTel, Array, PixStream, Vela Research, Vitec, Zapex, Oracle, SGI, RTP, RAW, DVB, UDP, SDP, SAP, RTPr™, RTPi™.. • Live or VoD Unicast or Multicast Streams • MediaPlayer/DirectShow/QuickTime compatible • Low latency, advanced jitter control • Satellite, LAN/WAN, xDSL/Cable Optimized • MPEG-1 (64 Kbps - 3 Mbps) • MPEG-2 (256 Kbps - 16 Mbps) • MPEG-4/H.263 (28 Kbps - 3 Mbps) • File Capture/Gang Recording • Optional EdgeCast RECASTER • Windows NT/2000 or Linux ThunderCastIP Server To the extent 2NetFX does not disclose any part of this limitation, 2NetFX renders this limitation obvious. It would have been obvious to a person of ordinary skill in the art to practice this limitation in light of 2NetFX combined with the knowledge of a person of ordinary skill in the art, and in light of 2NetFX combined with any of the other prior art references identified in the contentions for this patent, including Walker, Chang, Cheng, Kikkawa, and the Helius System. The manner in which each of these references discloses and/or renders obvious this limitation is set forth in these contentions. All of these disclosures also would have been within the knowledge of a person of ordinary skill in the art.