

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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APPLE INC.,  
Petitioner

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IPR2025-00700  
U.S. Patent No. 6,182,128

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**DECLARATION OF ANDREW B. LIPPMAN, PH.D.,  
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION  
FOR *INTER PARTES* REVIEW**

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I, Andrew B. Lippman, Ph.D., do hereby declare as follows:

**I. INTRODUCTION**

1. I am making this declaration at the request of Apple Inc. in the matter of the *Inter Partes* Review of U.S. Patent No. 6,182,128 (“the ’128 patent”) to Kelkar et al.

2. I am being compensated for my work in this matter at my standard hourly rate. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this proceeding. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

3. I have been asked to provide my opinions regarding whether the subject matter of claims 1-4, 6, 9-14, and 17 (“the Challenged Claims”) of the ’128 patent would have been obvious to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention, in light of the prior art. It is my opinion that the Challenged Claim would have been obvious to a POSITA.

4. In the preparation of this declaration, I have studied:

- a. the ’128 patent, Ex. 1001;
- b. the prosecution history of the ’128 patent (“’128 File History”), Ex. 1002;
- c. U.S. Patent No. 5,132,992 to Yurt et al. (“Yurt”), Ex. 1005; and
- d. U.S. Patent No. 5,732,216 to Logan et al. (“Logan”), Ex. 1006.

5. In forming the opinions expressed below, I have considered: the documents listed above; the relevant legal standards, including the standard for obviousness; and my own knowledge and experience based upon my work in the field of network communications and security as described below, as well as portions of the following additional materials:

- a. U.S. Patent No. 5,790,935 to Payton (“Payton”), Ex.1007;
- b. U.S. Patent No. 5,999,970 to Krisbergh et al. (“Krisbergh”), Ex.1008;
- c. Karger et al., “Consistent Hashing and Random Trees: Distributed Caching Protocols for Relieving Hot Spots on the World Wide Web,” Proc. Of the 29<sup>th</sup> Annual ACM Symposium on Theory of Computing, 1997, 654-663 (“Karger”), Ex.1013;
- d. “Radio Frequency Interface Specification,” Data Over Cable Interface Specifications, SP-RFI01-970326, March 26, 1997 (“DOCSIS”), Ex.1014; and
- e. “Time Warner Cable Full Service Network – Silicon Graphics Technology and Architecture Overview,” The Information Superhighway and Private Households, 1996, 271-287 (“Sager”), Ex.1015.

6. Unless otherwise noted, all **emphasis** in any quoted material has been added. Claim terms are *italicized*.

## **II. QUALIFICATIONS AND PROFESSIONAL EXPERIENCE**

7. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which can be found in Exhibit 1004. The following is a brief summary of my relevant qualifications and professional experience.

8. I earned my undergraduate degree in Electrical Engineering from MIT in 1971. I earned a Master of Science degree in Computer Graphics from MIT in 1978. I earned a Ph.D. in Electrical Engineering from the École Polytechnique Fédérale de Lausanne (Switzerland) in 1995. My thesis was on scalable video, a technique for representing visual data in a fluid and variable networking and processing environment, similar to what we call streaming today.

9. I am currently a Senior Research Scientist at the Massachusetts Institute of Technology (“MIT”) and Associate Director of the MIT Media Laboratory, an approximately \$65 million per year research and teaching facility at MIT, which I helped establish in the early 1980s.

10. At MIT, I have supervised over 50 Masters and Ph.D. theses in the Media Arts and Sciences program and have taught courses such as Digital Video and MIT’s freshman physics seminar. Through the course of my career, I have directed and served as principal investigator of research projects supported by the Defense

Advanced Research Projects Agency (DARPA), the Office of Naval Research (ONR), The National Science Foundation (NSF), and over 50 industrial companies. I have never precisely calculated my net research volume, but it is in excess of \$50 million.

**11.** I am named as an inventor on six patents in the area of video and digital processing and have served on the advisory boards for technology companies in fields ranging from video conferencing to music analysis. I have authored or coauthored over 65 published papers in the fields of interactivity, communications, video coding, and television. I served on the editorial board of the Image Communication Journal between 1989 and 2003. I have served as an expert witness in patent cases since 2001, addressing diverse features of interactive television, electronic program guides, and user interaction.

**12.** I have worked generally on video interaction systems since the 1970s. In the early 1970s, I developed font representations that permitted high quality display of text on standard broadcast television receivers. In 1978, I directed a DARPA-funded project called the “Movie-Map” that used computing and optical video and image storage to create an “experiential map” that featured “surrogate travel,” the ability to recreate the visual experience of traveling through a real place, a city. This is similar to Google’s Street-View and mapping systems.

**13.** In the 1980s, I was principal investigator of Office of Naval Research funded programs in video and graphics computer systems for interactive learning dedicated to maintenance and repair. I also developed networked video communications systems that included scripting languages for specifying audiovisual content.

**14.** In 1991, I created the “Media Bank” program at MIT, the purpose of which was to allow a diverse set of networked devices to access appropriate forms of content for which they had the bandwidth and processing power to display. This entailed maintaining state information about terminal devices at a server and using that to determine the best representation of the audiovisual material to deliver to them. In addition, it included and developed cryptographic distribution methods that ensured secure delivery of information on the network. The Media Bank also replicated audiovisual information across diverse servers and contained directory information representing the location of data.

**15.** Related to this work, I also supervised Masters theses on networked distribution of video and coding specifically for diverse uses on the Internet. My colleagues and I created demonstrations of interactive television systems for news that combined the evening newscast with additional data from print sources so the viewer could learn more about the story than was available in the live broadcast.

**16.** In 1991, I created the Television of Tomorrow program at MIT. This program addressed the digital representation and delivery of video at diverse scales and through diverse networks. This program built on work on scalable representations of images that were standards-independent and interactive.

**17.** In 1993, I was invited to be a member of Robert Kahn's "Cross Industry Working Group" the goal of which was to develop the ideas for a National Information Infrastructure. At DARPA, Kahn had initiated the research to develop the Arpanet and the Internet. Throughout this period, my students and I worked on distributed interactive systems for consumer use (television, electronic newspapers, learning) including the basic technology of the network and the client-server interactions.

**18.** I was a member of the Motion Picture Experts Groups, an ISO standards committee effort that defined the standards for common distribution of "MP3" music and storage and distribution of "MPEG Video." I co-wrote the paper defining the requirements for the MPEG-2 standard with Okubo and McCann in 1995. MPEG standards remain the predominant encoding for distribution of digital video to this day. I was also the principal investigator on industry-funded programs addressing digital motion pictures — the "Movies of the Future" program at MIT, and high definition television, "Television of Tomorrow." At MIT, I created the "Digital Life"

consortium, the purpose of which was to explore and develop ideas relevant to an Internet-connected society.

19. I have reviewed the '128 patent, and relevant excerpts of the prosecution history of the '128 patent. Based on my experience and education, and the acceptance of my publications and professional recognition by societies in my field, I believe that I am qualified to offer opinions as to the knowledge and level of skill of one of ordinary skill in the art at the time of the invention of the '128 patent (which I further describe below).

### **III. LEVEL OF ORDINARY SKILL IN THE ART**

20. I understand there are multiple factors relevant to determining the level of ordinary skill in the pertinent art, including (1) the levels of education and experience of persons working in the field at the time of the invention; (2) the sophistication of the technology; (3) the types of problems encountered in the field; and (4) the prior art solutions to those problems.

21. A POSITA in the field of the '128 patent, as of its earliest possible priority date of March 5, 1998, would have been someone knowledgeable and familiar with centralized and distributed database systems available in the late 1990s. Such a POSITA would have a bachelor's degree in electrical engineering, computer science, computer engineering, or equivalent training, and approximately two years of experience working in the field of networked systems for distributing data files

from one or more databases. Additional work experience can substitute for specific educational background, and vice versa.

**22.** For purposes of this Declaration, in general, and unless otherwise noted, my statements and opinions, such as those regarding my own experience and what a POSITA would have understood or known generally (and specifically related to the references I consulted herein), reflect the knowledge that existed in the relevant field as of the priority date of the '128 patent.

#### **IV. RELEVANT LEGAL STANDARDS**

**23.** I am not an attorney. In preparing and expressing my opinions and considering the subject matter of the '128 patent, I am relying on certain basic legal principles that Apple's counsel has explained to me.

**24.** I understand that prior art to the '128 patent includes patents and printed publications in the relevant art that predate the priority date of the '128 patent. For purposes of this Declaration, I am applying March 5, 1998, as the priority date of the '128 patent.

**25.** I have been informed by Apple's counsel that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the claimed invention 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 POSITA. I have also been informed by Apple's counsel that the obviousness analysis considers factual inquiries, including

the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

26. I have been further informed by Apple's counsel that there are several recognized rationales for combining references or modifying a reference to show obviousness. These rationales include: (a) combining prior art elements according to known methods to yield predictable results; (b) simple substitution of one known element for another to obtain predictable results; (c) use of a known technique to improve a similar device (method, or product) in the same way; (d) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (e) choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and (f) some teaching, suggestion, or motivation in the prior art that would have led a POSITA to modify the prior art or to combine prior art teachings to arrive at the claimed invention.

## **V. BACKGROUND**

27. By the late 1990s, consumer access to the Internet was increasingly common. With increasing access to information on the Internet came increasing interest in maintaining more repositories of information of various media types, including "text, graphic, audio, and video information." Ex.1006, 1:9-11. File servers, for example, were used to maintain large repositories of such information, including audio files in particular. Ex.1006, 1:17-23. Audio information stored and

sent over the Internet included “audio voice and music files,” typically compressed by one or more compression algorithms. *See* Ex.1006, 4:53-58; *see also* Ex.1005, 6:1-14 (audio data in shared online library).

**28.** One such digital compression algorithm for video and audio was MPEG. *See, e.g.,* Ex.1007, 4:55-64 (MPEG used for compression). During the development of MPEG, several audio formats were created and incorporated into the standard. For example, MP2 and MP3, shorthand for MPEG-1 layer 2 audio and MPEG-1 layer 3 audio respectively, became a commonly used standard due to their high quality. Although these standards were issued in 1992 and published in 1993, the hardware to encode and decode the sound (and motion pictures) was expensive. Other, often proprietary standards were used. The Real Audio Player was introduced in 1995 to play audio over the Internet. Early MP3 players were introduced in 1997.

**29.** Distribution of audio (e.g., over the Internet or other network) was typically by one of two approaches, streaming and downloading. Streaming was, and is, generally associated with the Internet and implies realtime listening (or viewing, in the case of video). A compressed audio stream is distributed to one or more listeners, decoded and played while it is being transmitted. There is typically some buffering to account for jitter in network delivery times, and errors in the transmission are either masked or omitted. In general, a stream is not preserved at the point of reception, but it can be. The communication is timely but not necessarily

error-free. Instead, bitrate (more generally, quality) is typically the free variable. *See, e.g.,* Ex.1005, 4:64-67 (decompress in real time as it is distributed for viewing).

**30.** Downloading delivers a perfect replica of the original file, be it data or media, and time is the free variable. It can be faster than real time or slower depending on the network speed, but errors are corrected or retransmitted. In general the result is a copy at the receiver and also, generally, the file is not accessed until transmission is complete. The file or the media can be compressed but need not be. *See, e.g.,* Ex.1005, 4:68-5:3 (stored for later viewing).

**31.** Consumer Internet access in the mid-1990s was often by dialup modem at speeds increasing over the decade up to 56kbits per second. Many recognized, however, that there were other distribution systems already in place with higher bandwidths that could be repurposed to distribute data. For example, in the place of dial-up connections, POSITAs recognized that “other ... communication schemes may be substituted” with “cable modem and satellite links ... to provide data communications.” Ex.1006, 6:36-44. As a result, “compressed and encoded audio and/or video information” was “sent over ... cable or satellite broadcast channels to a receiver ... preferably in less than real time,” or better stated as a “fraction of real time.” Ex.1005, Abstract, 1:67-2:4.

**32.** For example, in 1996 Cox Communications filed a patent application directed towards “providing interactive access to an information source through a

television distribution system.” Ex.1008, Abstract. This was particularly intended for “providing access to the Internet through a cable television distribution system.” Ex.1008, 1:7-12.

**33.** In 1995, Time Warner cable demonstrated a “Full Service Network” in Orlando, Florida that featured digital video on demand using MPEG-1 encoding. Reception systems in approximately 4000 homes were connected to a central server that stored the video. Ex.1015. As the network and user community scaled, there was a need for more efficient ways to deliver information such as web pages and media to growing audiences. In 1997, Tom Leighton and colleagues researched a distributed set of servers that would replicate source data and deliver it locally. *See, e.g.,* Ex.1013 (“Consistent Hashing and Random Trees: Distributed Caching Protocols for Relieving Hot Spots on the World Wide Web,” providing “caching protocols for distributed networks that can be used to decrease or eliminate the occurrence of ‘hot spots’.”). Indeed, the concept of placing data in libraries as close to the user as possible was already well-known. For example, Yurt taught placing audio files closer to the requesting users, including by maintaining data libraries in separate regions. Ex. 1005, 6:23-34; *see also* Ex.1009, 31:1-32:20 (placing different databases in different regions for proximity to different users and redundancy). Indeed, placing data in servers “close to those users expected to request it ...

minimiz[ed] the number of network nodes traversed,” and, thus, latency. *See* Ex.1009, 8:10-15.

**34.** There were cable modems as early as 1991 but a diverse set of standards hindered widespread adoption. DOCSIS was developed at CableLabs, a consortium of cable operators to bridge that with an (US) industry standard. In 1997, CableLabs released the first version of DOCSIS, an industry-wide format for digital data distribution over cable TV systems. It was and is generally used for Internet access. *See generally* Ex.1014.

**35.** Thus on-demand music delivered over the Internet using cable and/or phone lines was already in commercial use, with the compression technology necessary to supply data files, such as audio, with distribution networks. In short, all of the features and functionality described in this Background were well known in the late 1990s, and a POSITA would have been familiar with them.

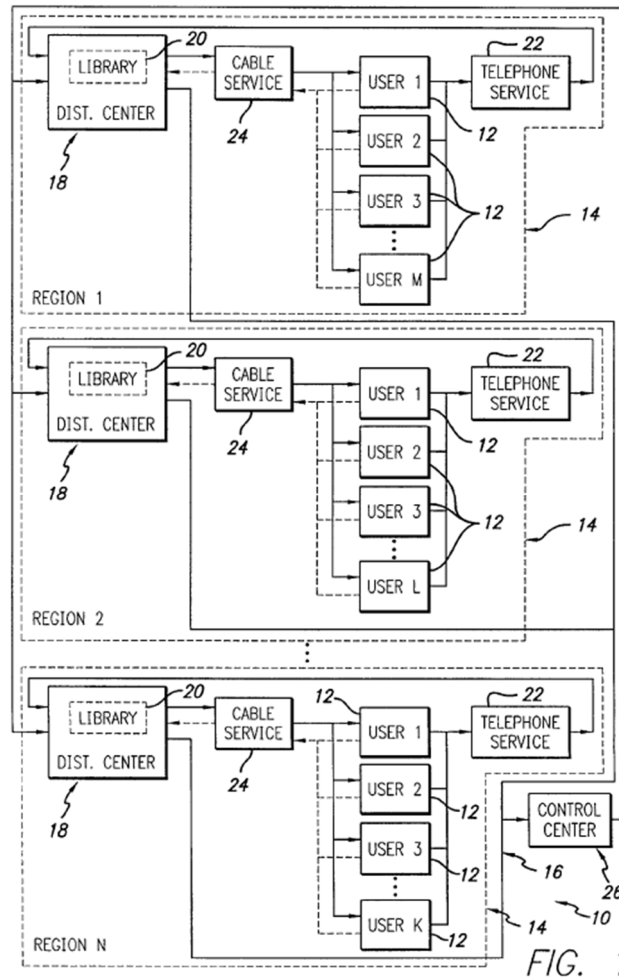
## **VI. THE '128 PATENT**

### **A. Overview of the '128 patent**

**36.** The '128 patent describes “systems connected in a network, such as cable television and telephone systems,” particularly focused on “systems for distributing information such as video-on-demand or pay-per-view systems” for “distributing data files, such as music tracks, over existing telecommunication (e.g., cable, telephone, or satellite) networks to subscribers. EX1001, 1:6-15. The '128

patent sought to provide “high-fidelity music in real time” over the Internet for less cost and better speed. Ex.1001, 1:34-53. The ’128 patent further sought to “provide a distribution system which plays back music to subscribers in either real time or at a predetermined time in the future in high-fidelity bandwidth.” Ex.1001, 2:26-29.

**37.** The ’128 patent proposed “[a] music distribution system” that is “divided into a plurality of regional networks.” Ex.1001, Abstract. In each regional network, the system “includes a distribution center to which the users of that region are connected. Ex.1001, 2:40-42. “Each regional distribution center includes a library for storing a plurality of data files, such as music tracks.” Ex.1001, 2:42-44; 3:36-40. The media distribution system also includes a control center that handles locating requested files that are not in a particular region. Ex.1001, Abstract; Figure 1:



Ex.1001, FIG. 1.

38. In operation, a “user may send a request to the distribution center 18 via, for example, existing telephone service 22 or cable service 24. Ex.1001, 3:40-47, 5:5-20. The user request “include[s] information regarding the user address, requested data file, and so on.” Ex.1001, 4:45-47. The “distribution center 18 locates and retrieves the requested data file (i.e., music track) stored in the regional library 20, and then transmits the requested file to the user” via the telephone or cable network. Ex.1001, 3:48-52. Upon receipt, the user’s system provides “an

audio/visual output of the requested data track.” Ex.1001, 3:52-54. For example, when using a cable service 24, the bandwidth of the cable service enables playback of the requested data track in real time with high fidelity. Ex.1001, 6:33-35.

39. If, however, “the regional library to which a particular user 12 is connected does not have a requested data file, then the distribution center routes the user request to a control center 26.” Ex.1001, 3:54-58; *see also* 5:33-37. The control center 26 determines whether a library in any other regional distribution center has the requested data file; if so, the control center 26 “retrieves and routes the requested file to the user.” Ex.1001, 3:58-62; *see also* 5:37-43.

40. As I will explain below, however, all of these concepts were well known as of the priority date of the ’128 patent.

**B. Prosecution History of the ’128 patent**

41. The ’128 patent was filed as Application 09/305,194 (“the ’194 application”) on March 5, 1998. Ex.1001, p. 1. The application was originally filed with 10 claims. Ex.1002, pp. 26-27.

42. In a non-final office action mailed April 5, 1999, the Examiner rejected claims 1-10 under 35 U.S.C. § 112 as being indefinite, and rejected claims 1-5 and 8-10 under 35 U.S.C. § 102(b) as being anticipated by Verbiest et al. (U.S. Pat. No. 5,550,577). Ex.1002, pp. 52-58.

**43.** In response, the Applicant argued that Verbiest “shows that [the] central server has its own video library . . . with all videos of the system,” “and may transmit to users directly.” Ex.1002, p. 63. Further, the Applicant argued that Verbiest disclosed “more than one central server” and “multiple networks connecting these central [servers],” and contrasted that against the claims having “only one control center connected . . . with all independent regional networks.” Ex.1002, p. 63.

**44.** The Examiner responded by adding McCalley et al. (U.S. Pat. No. 5,113,496) in combination with Verbiest. Ex.1002, pp. 75-83. The Examiner added McCalley for the concept of “a central controller connected the network interface of each of the distribution centers for routing information between the distribution centers.” Ex.1002, p. 78. The Examiner pointed to McCalley’s “local operating center (LOC)” and “regional operating center (ROC) to which multiplicity [sic] operating centers are connected . . . by high speed data transmission gateways.” Ex.1002, p. 78. The Examiner concluded that it would have been obvious to modify “the video on demand network as taught by Verbiest into a regional operating center as taught by McCalley,” so as to “allow a connection between two or more local operating centers for the purpose of transmission” when a file is “not available within a particular local operating center” such that the file “can be imported from another local operating center.” Ex. 1002, p. 78.

**45.** The Applicant argued in response that McCalley “has a hierarchy of LOCs [local operating centers], all feeding from an ROC [regional operating center],” such that “[i]n none of the higher LOCs or ROCs is it possible to identify a ‘central controller’ that searches the libraries of the lower LOCs upon request of another LOC and initiates a file transfer.” Ex.1002, p. 97. The Applicant also again argued against Verbiest, asserting that Verbiest’s “topology of the overall system has a complex switching network connecting users and the plurality of distribution centers rather than a plurality of independent networks,” and that “the central controller provides files to the distributed servers, also without a step of searching the local libraries.” Ex.1002, p. 97.

**46.** The Applicant’s response also included new claim 17 (which would eventually be renumbered as claim 1 for the issued patent). Ex.1002, p. 96. For claim 17 (now claim 1), the Applicant argued that “neither Verbiest, et al. nor McCalley, et al. distributes files in substantially real time,” and specifically “no sequential transmission of the requested files in substantially real time to the user.” Ex.1002, p. 97.

**47.** In response to a new rejection over Williams (U.S. pat. No. 5,867,155), the Applicant argued against the § 102 rejection, stating that “in claim 1, a central controller (RS’) performs a file transfer in Applicant’s invention whereas a requesting distribution center (LS’) performs this task in the [Williams] patent.”

Ex.1002, pp. 106-117, 120. The Applicant further reiterated that “the central controller in claim 17, and not the distribution center, routes the data files between the distribution centers.” Ex.1002, p. 120. In response, a Notice of Allowance mailed. Ex.1002, p. 125.

## **VII. CLAIM CONSTRUCTION**

**48.** It is my understanding that in order to properly evaluate the ’128 patent, the terms of the claims must first be interpreted. It is my understanding that for the purposes of this *inter partes* review, the claims are to be construed under the so-called *Phillips* standard, under which claim terms are given their ordinary and customary meaning as would have been understood by a POSITA in light of the specification and prosecution history, unless the inventor has set forth a special meaning for a term. I have also been informed that claim terms only need to be construed to the extent necessary to resolve the obviousness inquiry. I have reviewed the entirety of the ’128 patent, as well as its prosecution history. It is my opinion that for purposes of applying the prior art presented herein to evaluate the patentability of the Challenged Claim, no claim terms require express construction.

## **VIII. IDENTIFICATION OF HOW THE CLAIMS ARE UNPATENTABLE**

**49.** The discussion in this Declaration provides a detailed analysis of how the asserted prior art references teach each limitation of the Challenged Claims.

**50.** As part of my analysis, I have considered, and discuss in detail, the scope and content of the prior art and any differences between the alleged invention and the prior art.

**51.** It is my opinion that the alleged invention recited in the Challenged Claims would have been obvious in view of the teachings of the asserted prior art and the knowledge of a POSITA before the time of the alleged invention of the '128 patent.

**IX. GROUND 1: YURT AND LOGAN COMBINED RENDERS OBVIOUS CLAIMS 1-4, 6, 9-14, AND 17**

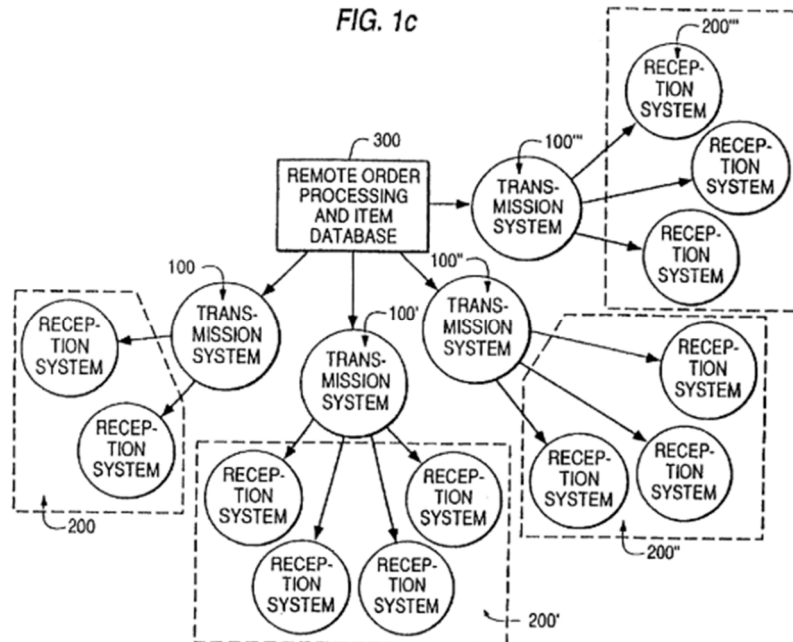
**A. Summary of Yurt**

**52.** U.S. Patent No. 5,132,992 to Yurt et al. (Ex. 1005, "Yurt") was filed on January 7, 1991. Yurt is titled "Audio and Video Transmission and Receiving System." Yurt was not before the Examiner during prosecution of the '128 patent.

**53.** Like the '128 patent, Yurt is directed to "a system of distributing video and/or audio information ... preferably in less than [i.e., a fraction of] real time." Ex.1005, Abstract; 1:66-2:4. Yurt distributes video and/or audio information "over standard telephone, cable or satellite broadcast channels." Ex.1005, Abstract.

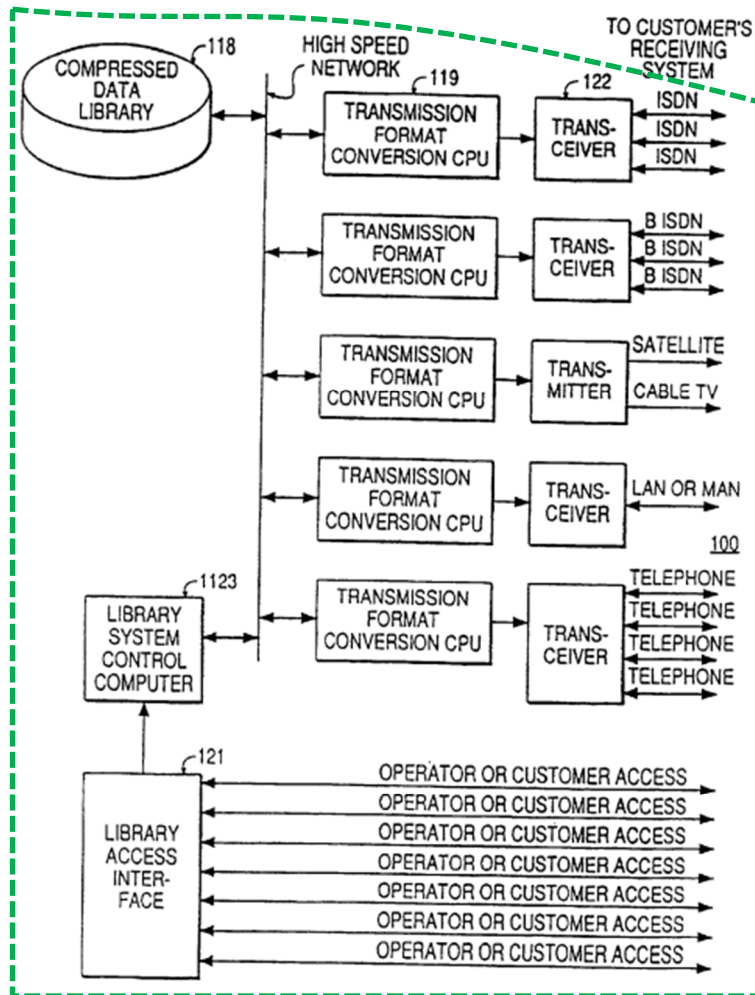
**54.** Yurt's system is a "transmission and receiving system," which includes "remote order processing and item database 300" as well as communication with "with a plurality of transmission systems 100." Ex.1005, 4:1-9. Each of the transmission systems also "communicates with a respective set of reception systems

200, 200', 200'', and 200'''." Ex.1005, 4:7-11. The reception systems in turn communicate with a plurality of users. Ex.1005, 4:11-13; Figure 1c:

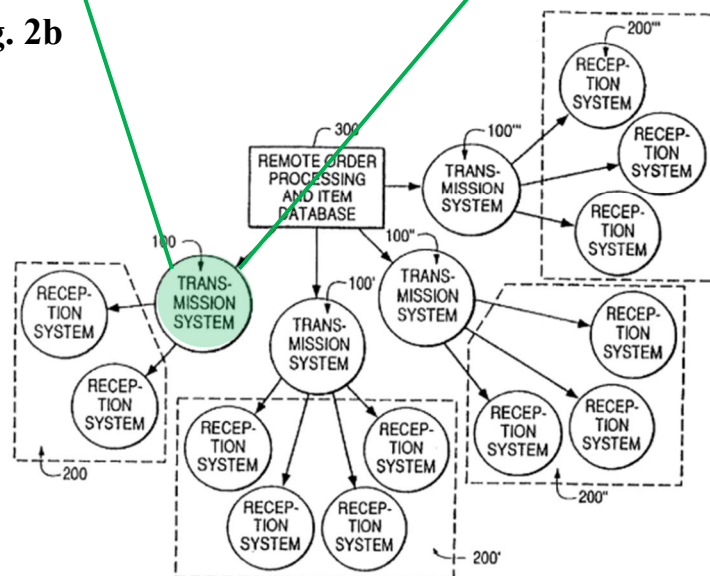


**Ex.1005, Fig. 1c.**

**55.** Each transmission system 100 in Yurt includes a compressed data library 118, a library system control computer 1123, a library access interface 121, transmission format conversion CPU 119, and a transmitter 122:



Ex.1005, Fig. 2b



Ex.1005, Fig. 1c (annotated)

**56.** Each transmission system 100 stores compressed data, such as audio and/or video data, in compressed data library 118. Ex.1005, 10:31-45. Facts about the data items stored in compressed data library 118 are maintained in an item database master that resides in system control computer 1123 of a transmission system. Ex.1005, 11:40-57 (item database master “updated and kept current to the contents of the compressed data library 118”).

**57.** Users access the item database master “running on the system control computer 1123,” allowing “a user to do a search of available programs from a computer screen.” Ex.1005, 11:57-60, 14:67-15:2; *see also* 15:3-13, 13:48-60. When ready to select, “the user selects the item for transmission at a certain time and location.” Ex.1005, 15:20-22. In response, the requested item is retrieved from the library 118 and “transfer[red] ... from the compressed data library 118 onto the communication channel.” Ex.1005, 13:29-37, 15:55-60. The “requested item” is thereby “sent to the user.” Ex.1005, 13:45-46. The user receives “the selected audio/video material ... in a fraction of real time.” Ex.1005, 2:1-4.

**58.** Yurt’s remote order processing and item database 300 maintains “dispatching control software” that “keep[s] a list of the available titles in a particular compressed data library 118” in a given transmission system 100, and “coordinate network traffic” and library utilization. Ex.1005, 17:54-66. For example, “where not all items are contained in each of the compressed data libraries 118, the dispatching

software will keep a list of the available titles in a particular compressed data library 118.” Ex.1005, 17:57-61. This includes, for example, sending a copy of a popular library item “to another library,” where “the other library can then distribute the compressed data to users” as well. Ex.1005, 13:4-8. This is done as “inter-library transfers.” Ex.1005, 7:44-50.

**B. Summary of Logan**

**59.** U.S. Patent No. 5,732,216 to Logan et al. (Ex.1006, “Logan”) was filed on October 2, 1996. Logan is titled “Audio Message Exchange System.” Logan was not before the Examiner during prosecution of the ’128 patent.

**60.** Like the ’128 patent, Logan is directed to an “audio program and message distribution system.” Ex.1006, Abstract. Logan’s system includes a “host server 101” which stores “a plurality of data files including a program data library ... consisting of a collection of compressed audio program segments.” Ex.1006, 4:46-52. The host server 101 provides requested data files, including audio files, to a “player 103” such as a “laptop or desktop personal computer Ex.1006, 3:24-25, 4:40-46, 4:53-54; Figure 1:

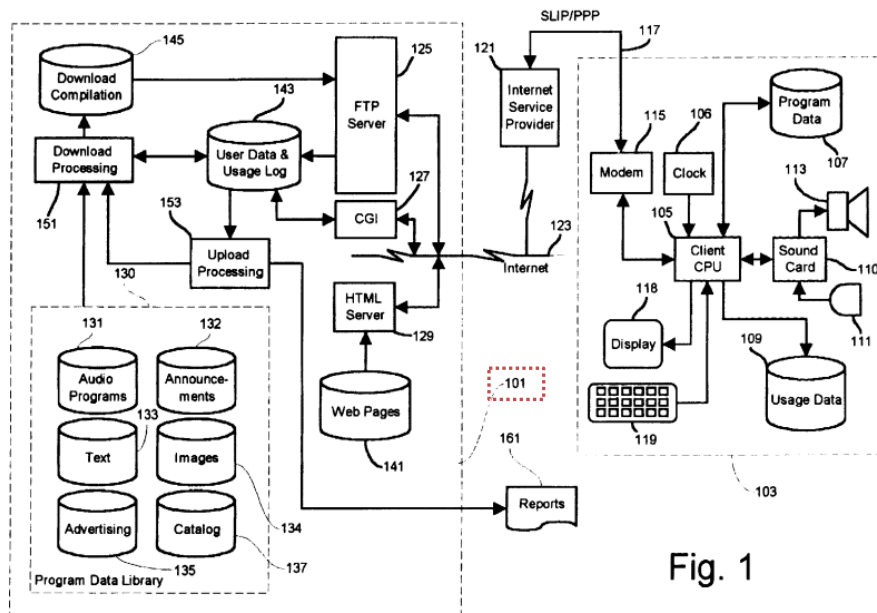


Fig. 1

**Ex.1006, Fig. 1.**

**61.** Host server 101 “additionally stores and maintains a user data and usage log database indicated at 143 which stores uploaded usage data received from the store 109 in the player 103.” Ex.1006, 5:35-45. The user data kept by log database 143 “further contains additional data describing the preferences, demographic characteristics and program selections unique to each subscriber.” Ex.1006, 5:35-45. Information from each selection by the user, as it connects one or more times to the host server 101, is “posted into the user data file 143.” Ex.1006, 8:49-58. This information is used for billing purposes, as well as to “adaptively modify the subscriber’s preferences based on actual usage.” Ex.1006, Abstract.

**C. Reasons to Combine Yurt with Logan**

**62.** It would have been obvious to a POSITA to combine Logan's usage log teachings with Yurt's teachings for several reasons. For example, a POSITA would have been motivated to turn to Logan's usage log teachings in order to better track user request information to better implement Yurt's teaching of improving accessibility of audio files, e.g. via their popularity.

**63.** As a threshold matter, Yurt and Logan are both analogous art to the '128 patent. The '128 patent is in the field of "systems connected in a network" for distributing audio data files in response to user requests. *See* Ex.1001, 1:6-15. Yurt is in the same field of endeavor, since Yurt likewise relates to "audio and video transmission" where "the user controls the access and the playback operations" of selected digital audio files, conveyed over existing network(s) in response to user requests. *See, e.g.,* Ex.1005, Abstract, 1:6-10, 2:25-61. Logan is also in the same field of endeavor, since Logan also deals with distributing audio data via one or more networks in response to user requests. *See, e.g.,* Ex.1006, Abstract; 4:46-54; 5:46-66; 7:17-31.

**64.** In addition to being in the same field as the '128 patent, both Yurt and Logan are each reasonably pertinent to problems with which the inventors of the '128 patent were involved. The '128 patent explained that there was a need in the art to solve "the disadvantages and drawbacks associated with conventional approaches

of distributing music,” including “disadvantages plagu[ing] the Internet approach to listening to high-fidelity music in real time” like needing “specialized hardware and software,” inconvenience, and being “frustratingly slow.” Ex.1001, 1:34-53, 2:22-25. The ’128 patent additionally explains that there is a need to associate music in different “niche categories” and demographics with different types of purchases for various products/services. Ex.1001, 2:1-21.

**65.** Yurt’s teachings provide solutions to these problems. Yurt pertains to “an audio and video transmission” system, which allows the user “more convenient means of accessing” audio/visual material, “by integrating both accessing and playback controls into a system that can use multiple existing communications channels,” such that “the user controls the access and the playback operations of selected material.” Ex.1005, 1:6-10, 1:18-20, 1:57-61. Yurt’s system provides a “sound transmission system which allows the user to remotely select audio/video material from any location that has either telephone service or a computer,” and thus removes any need for specialized hardware and software. Moreover, Yurt’s teachings enable selected material to be sent over to the user “in a fraction of real time to any location chosen by the user.” Ex.1005, 1:62-2:4. Thus, Yurt provides just the type of solutions that are reasonably pertinent to the problems identified in the ’128 patent.

**66.** Logan is also reasonably pertinent, by providing solutions to problems identified by the '128 patent. Logan pertains to storing and maintaining records of user data and usage of requested audio information in a database, to be used “in connection with financial and accounting functions including subscriber and advertiser billing, content provider royalty payment accounting, and market analysis processing.” Ex.1006, Abstract, 5:33-42, 6:27-35. For example, Logan teaches that the information it records about subscriber requests are used to generate “targeted advertising” based on the subscriber’s recorded “subject matter interests ... along with personal data,” such that “particular advertising segments may be directed to only those subscribers having a likely interest in the goods or services advertised.” Ex.1006, 10:3-14. Thus, Logan’s teachings provide just the type of solutions that address the “marketing and promotional purposes” that are reasonably pertinent to the problems identified in the '128 patent.

**67.** A POSITA would have been motivated to combine Yurt with Logan for several reasons. For example, Yurt teaches receiving user requests for transmission of particular items, which contain information about the requested audio information, as well as the address of the user. Ex.1005, 12:21-27. Yurt additionally teaches tracking the popularity of requested items, by assigning a popularity code to items based on how frequently they have been requested by users of the transmission system. Ex.1005, 12:28-57. The popularity code is “dynamically

updated,” as various users request various items. Ex.1005, 12:38-40. A POSITA would have been motivated to further track and store information regarding user requests when the requests occur, as discussed in Logan, and it would have been trivial to do so given Yurt already stores such information to track item popularity. Yurt would thus not require any physical modifications to accommodate Logan’s teachings.

**68.** Logan teaches tracking and storing user data regarding requested audio data in order “to record the subscriber’s use ... to return data to the host for billing, to adaptively modify the subscriber’s preferences based on actual usage.” Ex.1006, Abstract. Logan specifically teaches storing information about audio data that a user requests in response to that user request. *See, e.g.*, Ex.1006, 8:49-58. A POSITA would have been motivated to combine the teachings of Yurt (sending audio information to a requesting user in a fraction of real time, and tracking information about the popularity of requested items) with those of Logan (tracking and storing information regarding a user’s requests when they are made in a database). This would have been nothing more than the combination of known elements (storing tracked data in Yurt’s database, including when requests are made as Logan teaches) according to known methods (storing in the database when triggered to by a request), to yield predictable results (Yurt’s storage of information in the item database when a request occurs, as Logan teaches).

**69.** Moreover, a POSITA would have had a reasonable expectation of success making the combination. Yurt discloses a cable/satellite infrastructure, as well as general system components (e.g., a data library, an item database, etc.) which can be used to transmit the requested audio information to the user. *See* Ex.1005, 4:1-13 (discussing Fig. 1c), 10:31-45 (discussing Fig. 2b). Similarly, Logan discloses using a cable/satellite infrastructure for distributing requested audio information to a user, using generic computer components (e.g., the host server 101, which stores and maintains user data). Ex.1006, 3:23-40, 5:33-45.

**70.** A POSITA would have had a reasonable expectation of success in implementing Logan's teachings of storing information about requested audio data in response to the request with Yurt's method of transmitting audio information to a user while additionally storing information about item requests and usage, because Logan's system is compatible with Yurt's system (e.g., distribution of audio data via cable/satellite infrastructure, and the use of databases to track information). Further, a POSITA would have known that such storage of user request information as each request is made can be used for downstream purposes, such as financial and advertising purposes, as already known and disclosed by the similar audio transmission system in Logan.

**71.** This would have been a trivial combination of Logan's teachings with Yurt's system and method teachings, because Yurt expressly teaches storage of

details regarding items in a database, and could easily further store details of items as requested by a user in response to a user request for a specific item (e.g., specific audio data), in that same database, as taught by Logan. Indeed, Logan merely makes explicit the POSITA's understanding of storing user and audio data in response to the user's request in Yurt. For example, it would have been obvious to a POSITA to try Logan's approach since there are only a limited number of options for when to store data about requests/subscriber actions – e.g., continuously, at set periodic intervals, or responsive to user action. *See, e.g.*, Ex.1005, 11:17-21 (“facts in the item database may preferably be **updated at any time**”); Ex.1006, 8:49-58. Nor would Yurt's system require any physical modifications in order to store the data, since it would be the same data that Yurt already tracks (e.g., by storage), with Logan's teaching relating to when the storing occurs. And, moreover, should any additional information be stored, Yurt would still not require physical modification because Yurt already provides the system and methods for accommodating Logan's teachings.

72. A POSITA would have further been motivated to turn to Logan's teachings in order to “better select[] program material of possible interest which should be brought to the attention of the subscriber,” as Logan teaches. Ex.1006, 21:44-51. Further, storing the information responsive to user requests aids in providing “better target future advertising.” Ex.1006, 27:60-67.

73. The combination permits but does not require physical incorporation of elements from Logan into Yurt. Nevertheless, the physical incorporation of Logan's usage log and responsive record storage teachings into Yurt's physical system for audio file distribution would teach the claim limitations. Thus, it would have been obvious to pair Logan's storage of user data regarding requested audio data with Yurt's audio transmission system for responding to user audio information requests.

#### **D. Detailed Analysis of Claims**

##### **1. Claim 1**

- a. ***[1.0] A system for distributing digital audio files in substantially real time to users connected to a plurality of satellite or cable TV networks, said system comprising:***

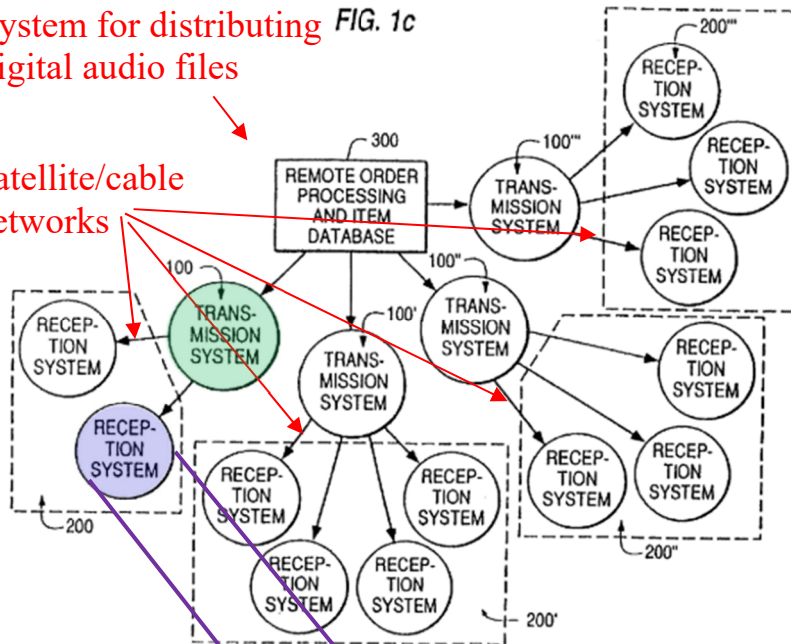
74. To the extent that the preamble is limiting, Yurt discloses a system for distributing digital audio files in substantially real time to users connected to a plurality of satellite or cable TV networks.

75. **First**, Yurt discloses "[a] **system of distributing** video and/or **audio** information" using "digital signal processing." Ex.1005, Abstract. In particular, Yurt teaches storing and managing the "audio information" as "digital audio" stored as a "file." Ex.1005, 5:66-6:7; 2:41-47. Even where the audio data is initially in analog format, Yurt teaches converting it to digital data for storage in a compressed library 118. Ex.1005, 6:36-39, 7:12-26. Moreover, Yurt expressly discloses information that constitutes audio data only. Ex.1005, 7:27-29 ("audio information").

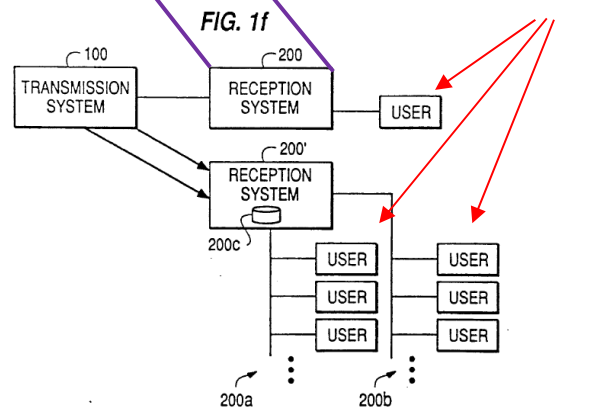
**76. Second,** Yurt teaches distributing the digital audio information to requesting users after the audio information has been stored as digital data in the system. In Figure 1c, reproduced below, the “transmission and receiving system,” used to distribute the digital audio information, includes a “remote order processing and item database 300” which communicates with “a plurality of transmission systems 100, 100’, 100’’, and 100’’’, each of which communicates with a respective set of reception systems 200, 200’, 200’’, and 200’’’,” over a variety of communication channels including satellite and cable networks. Ex.1005, 4:1-13; 16:62-68. Each reception system itself communicates with a plurality of users. Ex.1005, 4:11-13. Yurt, in particular, teaches that the reception systems communicate with users in several ways. First, Yurt teaches additional embodiments where the reception system 200’ “is a cable television system” for a single user, and e.g. in the user’s home. *See* Ex.1005, 4:36-39. For example, Yurt teaches a “reception system 200” that is “a direct connection system wherein a user is directly connected to transmission system 100.” Ex.1005, 4:19-25. Where the reception system communicates with multiple users, this is a configuration analogous to that of Figure 1 in the ’128 patent, where a cable service 24 connects with multiple users 12. *See* Ex.1001, Fig. 1; Ex.1005, Figures 1c, 1f (showing users of reception systems):

System for distributing digital audio files FIG. 1c

Satellite/cable networks



Ex.1005, Fig. 1c (annotated)

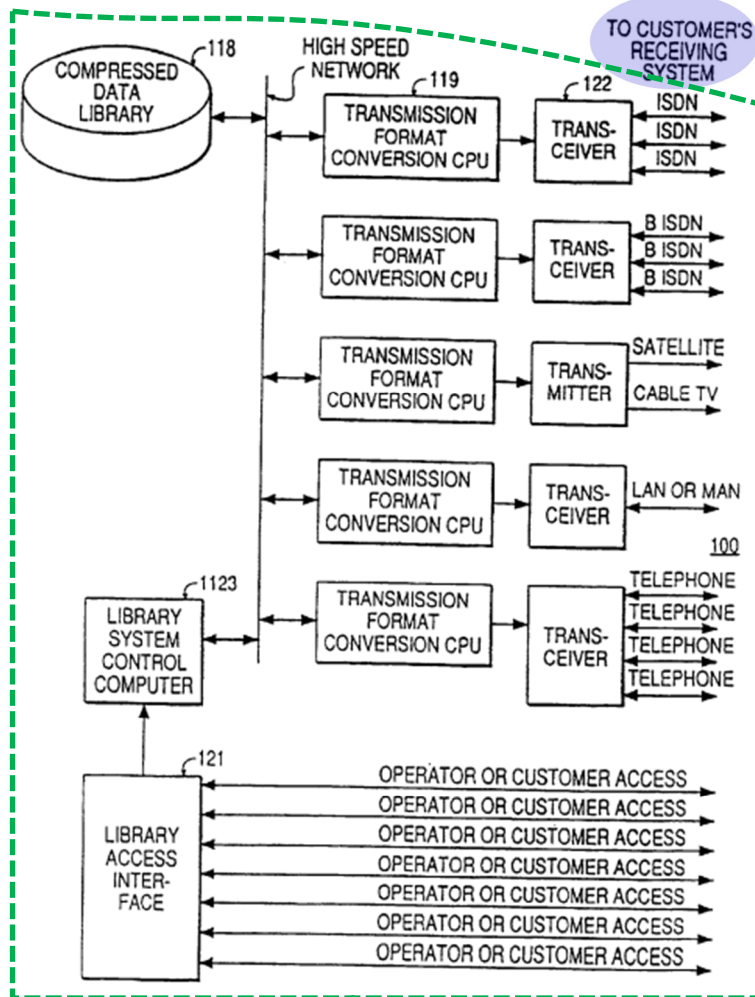


Ex.1005, Fig. 1f (annotated)

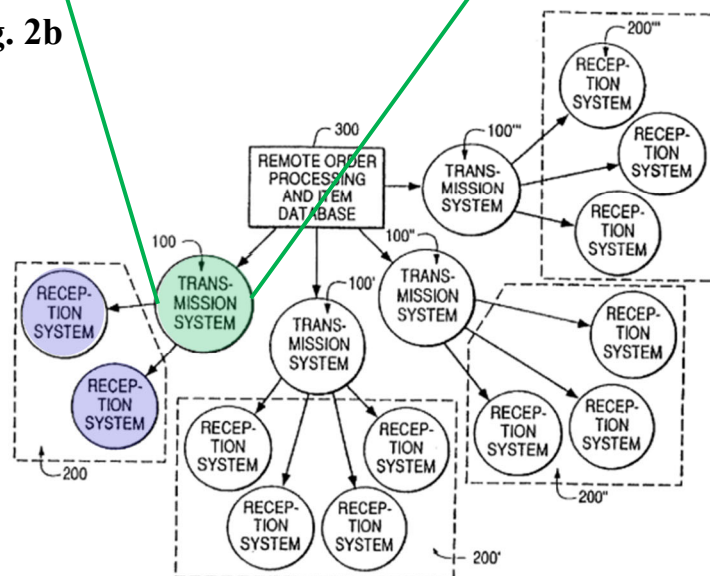
77. For example, when a digital audio file is requested, the transmission system 100 “receives the request and retrieves the composite formatted data block of the requested item stored in compressed data library 118 and converts the compressed formatted data block into a format suitable for transmission.” Ex.1005, 13:29-47. In Yurt, transmission involves “encod[ing] the data for the transmission

channel” and “sending at least a portion of a specific file to at least one remote location.” Ex.1005, 15:55-64. Yurt therefore discloses *a system for distributing digital audio files* (the system of distributing audio information that works with digital data). Moreover, it would have been obvious to a POSITA that the audio files, having been stored digitally, would have also been distributed as digital audio based on the teachings of Yurt noted above.

78. Yurt distributes the content over different communication media including “**cable or satellite broadcast channels** to a receiver specified by a subscriber of the service” (*to users connected to a plurality of satellite or cable TV networks*). Ex.1005, Abstract. Yurt explains that “many forms of communication channels may be employed,” including “common telephone service, ISDN and Broadband ISDN, DBS, **cable television systems**, microwave, and MAN” or “**satellite**.” Ex.1005, 16:62-68; 5:59-61; *see also* Fig. 2b (displaying implementation of one of the transmission systems 100 in Fig. 1c):



Ex.1005, Fig. 2b



Ex.1005, Fig. 1c (annotated)

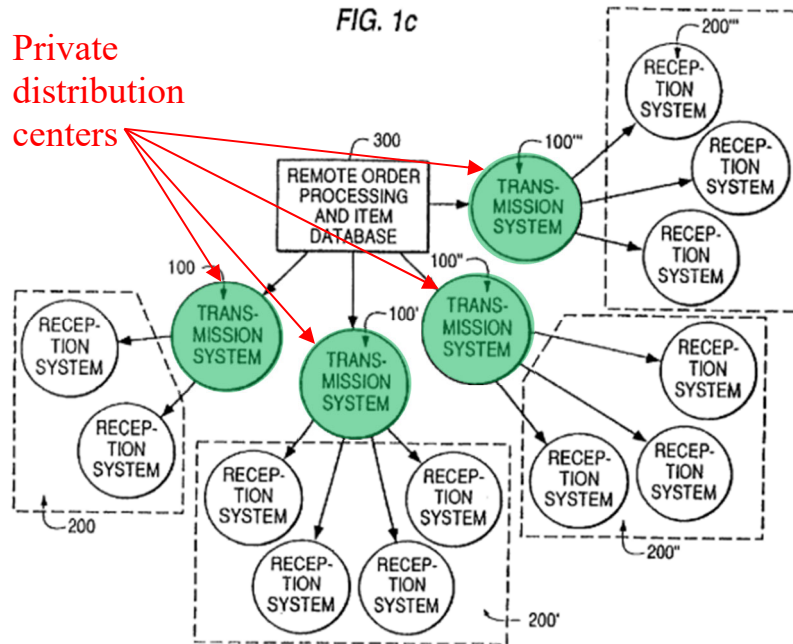
79. **Third**, Yurt describes distributing the content “in less than [or, in other words, a fraction of] **real time**” (*in substantially real time*). Yurt’s description of the distribution being in a fraction of real time demonstrates the “*real time*” limitation of [1.0]. This is because a POSITA would have understood “less than real time”/“a fraction of real time” to be even better than real-time, e.g., faster than even real-time would require. That, of course, also means that the system is able to transmit so that the audio is consumed as it is received. For example, in Yurt, distributing the information in less than real time results in the system at the receiving end being able to “decompress **in real time** the requested material as it is distributed by transmission system 100.” Ex.1005, 4:64-5:9. This is exactly the result that the ’128 patent sought by transmitting in “substantially real time,” e.g. using the “relatively high bandwidth of existing cable systems” to “listen to music in full high fidelity and at real time.” Ex.1001, 2:67-3:2. That is, Yurt uses the relatively high bandwidth of cable systems to similarly consume audio content “at real time.” Ex.1005, 4:64-5:3; 16:62-68; 5:59-61. Thus, Yurt discloses the “*real time*” limitation. Moreover, the combined teachings of Yurt noted above render the limitation obvious.

80. Yurt therefore discloses, and renders obvious, “*a system for distributing digital audio files in substantially real time to users connected to a plurality of satellite or cable TV networks.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**b. [1.1] a) a plurality of private distribution centers, each including:**

**81.** Yurt discloses a plurality of private distribution centers.

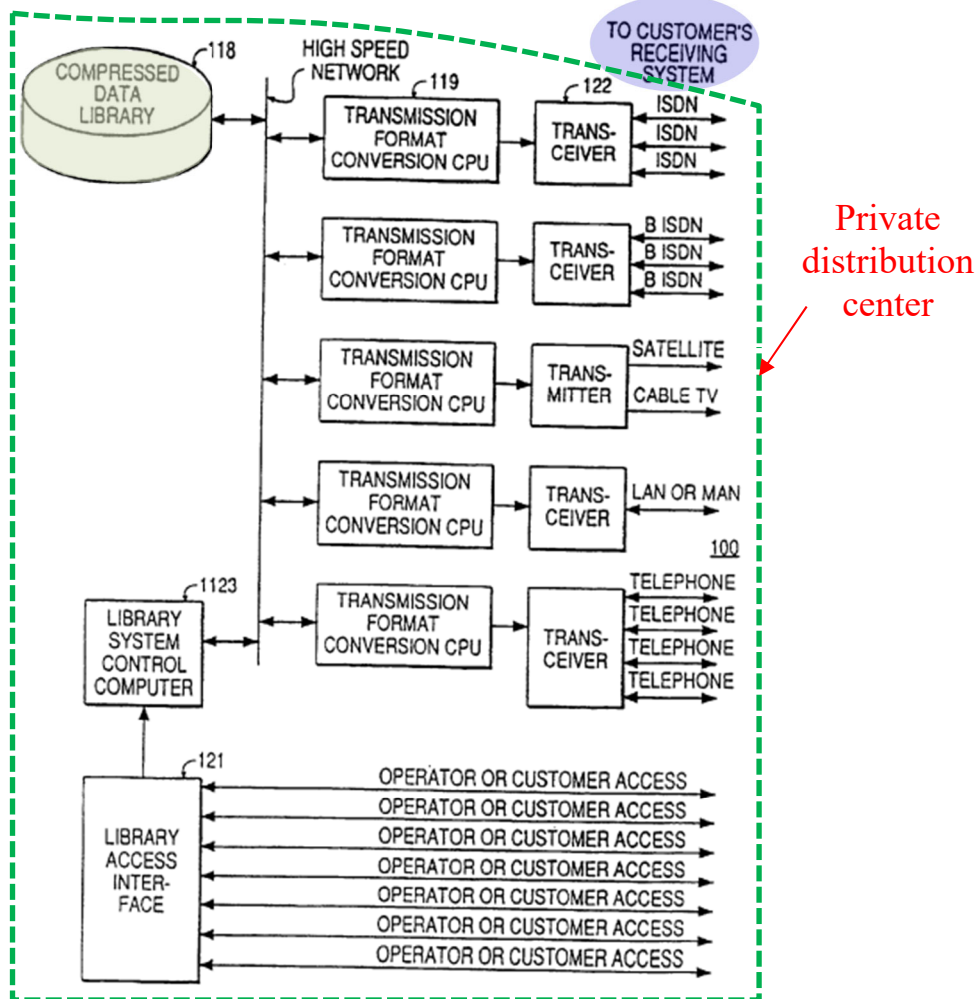
**82. First,** as described in [1.0], Yurt discloses a system for distributing audio information, in which a plurality of transmission systems 100 communicate with a plurality of reception systems 200 to distribute audio information to users. Ex.1005, 4:1-13, Abstract. In particular, Yurt teaches that the system includes a plurality of transmission systems 100, as shown in Fig. 1c below, each of which “receiv[es] transmission requests to transmit items and [retrieve] formatted data blocks stored in the compressed data library 118 corresponding to the requests from users.” Ex.1005, 13:29-37. Further, Yurt teaches a “distribution method” that is “responsive to requests identifying information to be sent from the transmission system 100 to remote locations.” Ex.1005, 18:46-52.



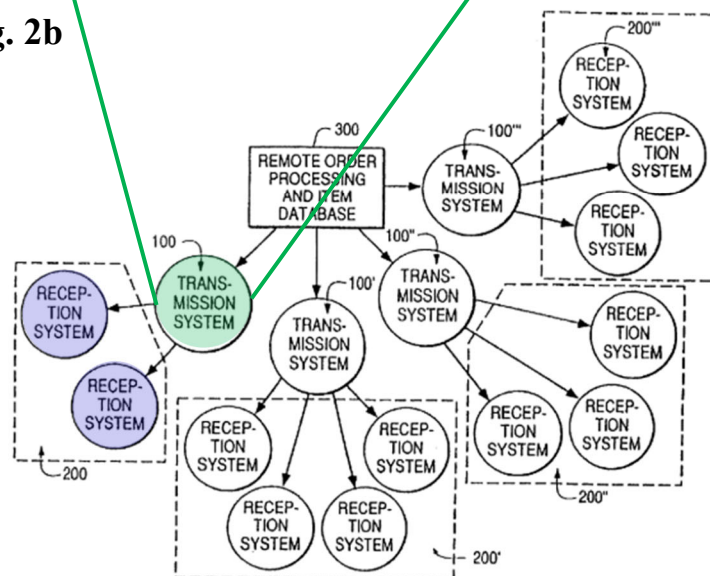
**Ex.1005, Fig. 1c (annotated)**

83. According to the '128 patent, each “distribution center is provided with a library in which is stored a plurality of music titles,” and users communicate with the distribution centers. Ex.1001, Abstract; see also, e.g., 3:36-40. Further, the '128 patent does not explicitly use the term “private” when describing any distribution center, such that the art’s demonstration of a “*distribution center*” likewise demonstrates a “*private distribution center*.” Yurt’s transmission system 100 therefore discloses a “*private distribution center*,” because each system includes the same components (e.g., a library that stores music titles, “audio recordings” in the “source material library means included in transmission system 100” are “converted to or recorded on a media format compatible to the digital and analog inputs of the of the system prior to being compressed and stored in a compressed data library

118,” where an example of a media format includes “digital or analog audio and video tapes.” Ex.1005, 6:8-22; Figures 1c, 2b:



Ex.1005, Fig. 2b



Ex.1005, Fig. 1c (annotated)

84. Therefore, each “transmission system 100” discloses a “*private distribution center[]*” and, with multiple such transmission systems, a plurality of such centers.

85. Yurt therefore discloses “*a plurality of private distribution centers.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

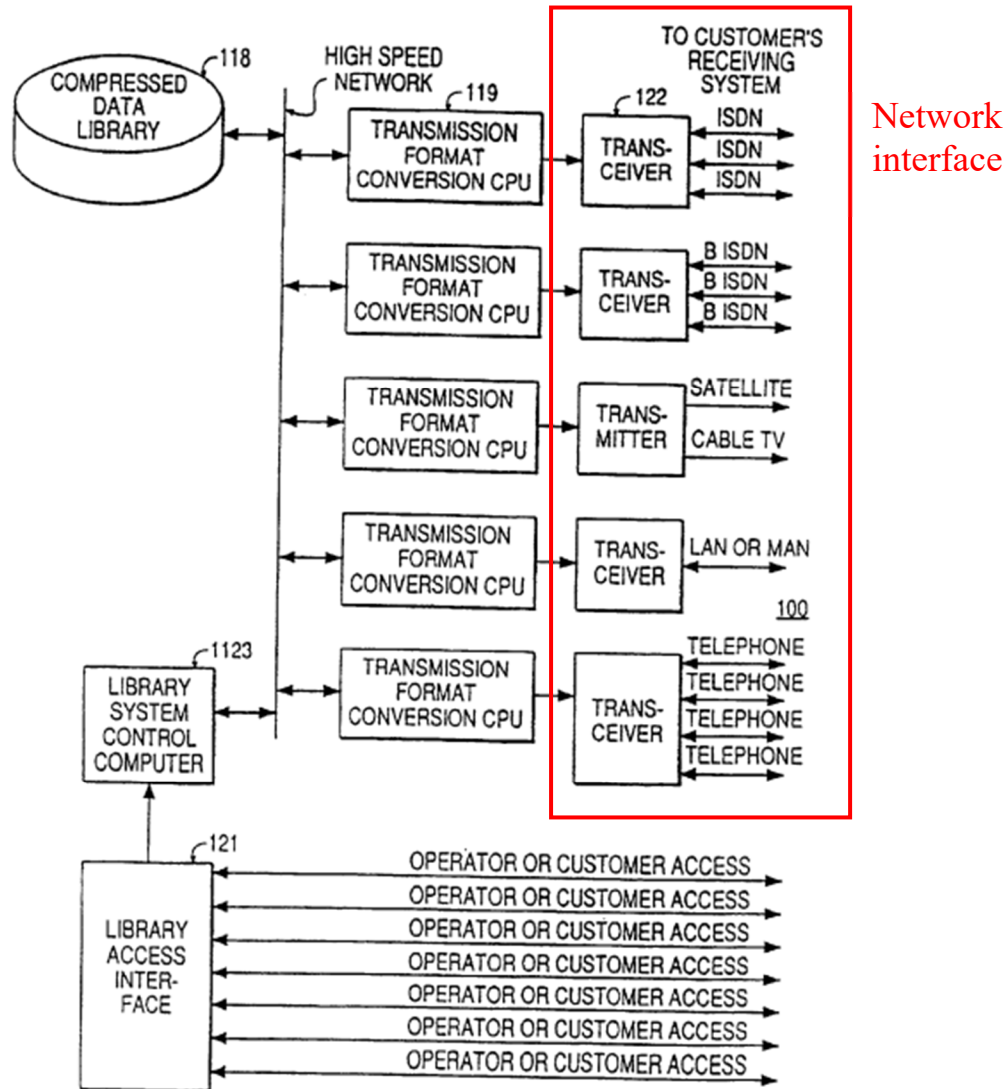
c. [1.1.1] *1) a network interface including an input and an output for connecting to one of the satellite or cable TV networks;*

86. Yurt combined with Logan renders obvious that each distribution center of the plurality of distribution centers includes a network interface including an input and an output for connecting to one of the satellite or cable TV networks.

87. **First**, as described in [1.1], Yurt discloses that the digital audio information distribution system includes a plurality of transmission systems 100 (a plurality of “distribution centers”).

88. **Second**, Yurt teaches that each of its transmission systems 100, as shown in Fig. 2b below, includes a “transmitter 122,” which sends the audio information from the compressed data library 118 (e.g., what Yurt calls an “item,” of which digital audio files is an express example, *see* analysis at [1.0]) to the customer’s receiving system via a communication channel. Ex.1005, 15:61-16:13; 16:53-56. In Fig. 2b, various types of connections to a customer’s receiving section

are shown, including specifically satellite and cable TV connections. Yurt further discloses that data from the compressed data library 118 is encoded for transmission by transmission data converter 119 prior to being transmitted to the customer by transmitter means 122. Ex.1005, 15:55-60; Figure 2b:



Ex.1005, Fig. 2b (annotated)

89. Yurt's teachings demonstrate a network interface with an input and an output in combination with Logan. Yurt teaches that the transmitter 122 ("a network

*interface*”) receives audio information from compressed library 118 (converted for transmission by transmission data converter 119) and sends the audio information to the customer’s receiving system via a communications channel, including specifically via satellite or cable TV connections (“*and an output for connecting to one of the satellite or cable TV networks*”). Ex.1005, 15:61-16:13. Thus, the output of the transmitter 122 reads on the claimed “*output*.”

**90.** It would have been obvious to a POSITA that the transmission system 100 in Yurt both receives and transmits data via the various interfaces, including the satellite or cable connections. This was a well-known manner in which to bidirectionally communicate. For example, Logan teaches bidirectional communication between a host server 101 receiving file requests from client systems 103 (“player 103” in Logan, e.g. including laptops, desktops, etc., Ex.1006, 3:24-25) via Internet 123. *See, e.g.*, Ex.1006, 5:46-54. Logan expressly teaches using “cable modem and satellite links ... to provide data communications in lieu of the conventional SLIP/PPP telephone and Internet links shown in FIG. 1.” Ex.1006, 6:36-44. Logan teaches the desirability of using cable or satellite links instead because they offer “higher speed access” which would “substantially” reduce upload and download times. Ex.1006, 8:67-9:5.

**91.** In combination, therefore, it would have been obvious to a POSITA to implement Yurt’s bidirectional communication via a cable or satellite transceiver for

receiving as well as transmitting data, as further taught and confirmed by Logan. Thus, for example, in Yurt's teaching of receiving user access/requests via a "user terminal interface ... from various terminals including personal computers," the communication links between the user's terminal and the transmission system 100 would be via "cable modem" or "satellite" links, as further taught by Logan. Ex.1005, 14:64-67, 15:3-32. In such a combination, the transmitter 122 of Yurt would further include a receiver to also receive data via the cable and satellite links.

**92.** Based on the resulting combined teachings of Yurt and Logan, the "*network interface*" would include both an "*input*" to receive the access and requests via a cable or satellite link, and an "*output*" to transmit menu information and requested audio files to the users via cable or satellite as well.

**93.** Thus, Yurt combined with Logan renders obvious "*a network interface including an input and an output for connecting to one of the satellite or cable TV networks.*"

**d. [1.1.2] 2) *a library including a plurality of digital audio files;***

**94.** Yurt discloses that each distribution center of the plurality of distribution centers includes a library including a plurality of digital audio files.

**95. First,** as described in [1.1], Yurt discloses that the digital audio information distribution system includes a plurality of transmission systems 100 (a plurality of "distribution centers").

**96. Second,** Yurt teaches that each of its transmission systems 100, as shown in Fig. 2b below, includes a compressed data library 118 (“library 118”), which includes audio recordings converted to digital format prior to being compressed and stored in the library 118. Ex.1005, 6:8-22; *see also* analysis at [1.0]. Yurt discloses that “audio recordings” in the “source material library means included in transmission system 100” are “converted to or recorded on a media format compatible to the **digital** and analog inputs of the of the system prior to being compressed and **stored in a compressed data library 118,**” where an example of a media format includes “**digital** or analog **audio** and video tapes.” Ex.1005, 6:8-22. Yurt further discloses that “[p]rior to being made accessible to a user . . . the item must be stored in at least one compressed data library 118.” Ex.1005, 6:35-38.

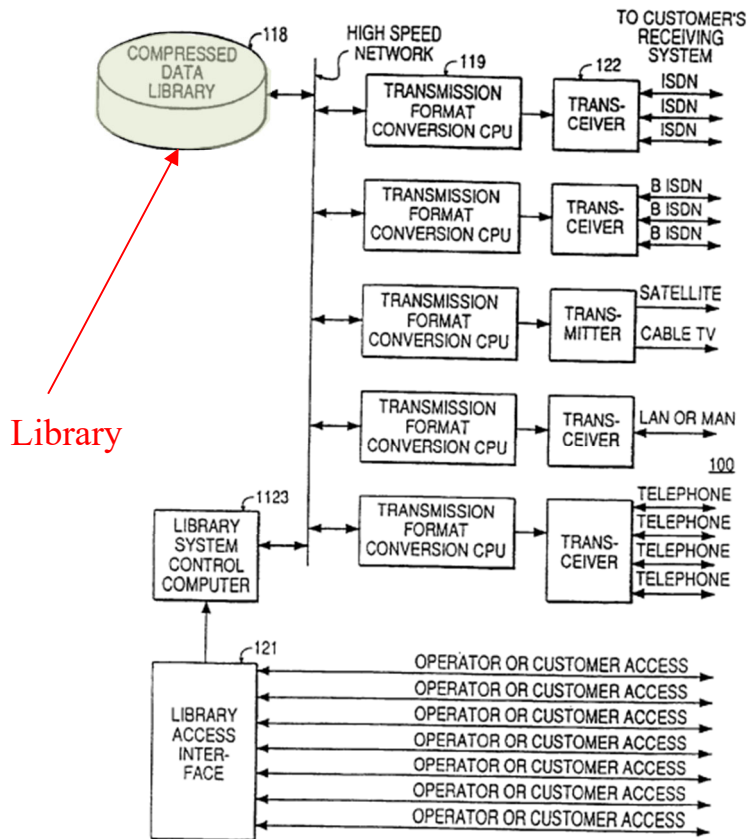


FIG. 2b

Ex.1005, Fig. 2b (annotated)

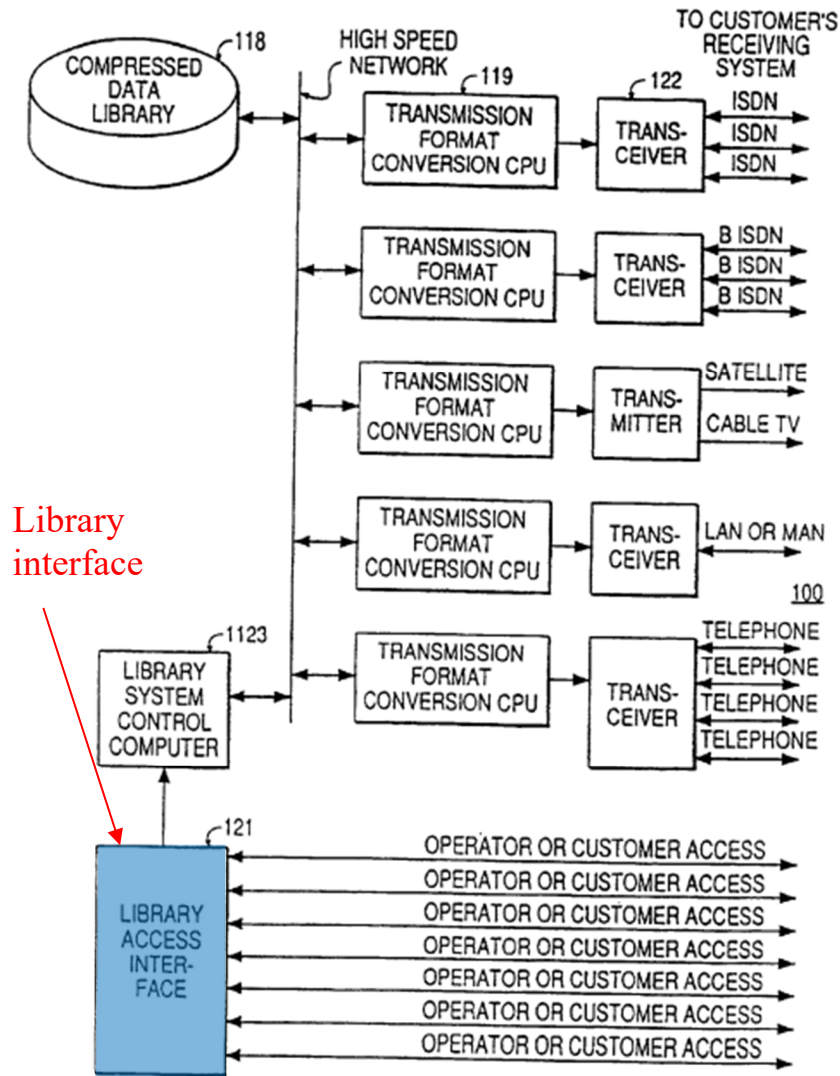
97. Therefore, Yurt discloses “a library including a plurality of digital audio files.” Yurt’s teachings would not be materially altered in the combination with Logan, either.

e. [1.1.3] 3) a library interface including an input and an output connected to said library; and

98. Yurt discloses that each distribution center of the plurality of distribution centers includes a library interface including an input and an output connected to said library.

**99. First**, as described in [1.1], Yurt discloses that the digital audio information distribution system includes a plurality of transmission systems 100 (a plurality of “distribution centers”), each of which include a compressed data library 118 (*said library*).

**100. Second**, Yurt teaches that each of its transmission systems 100 includes “**library access interface 121**,” which is a “library access/interface means for receiving transmission requests to transmit items and for retrieving formatted data blocks stored in the compressed data library 118 corresponding to the requests from users” (*a library interface . . . connected to said library*). Ex.1005, 13:29-40; Figure 2b:



Ex.1005, Fig. 2b (annotated)

101. “The library access interface 121 **receives** transmission requests either directly from the users or indirectly by remote order processing and item database 300,” and that “compressed audio and/or video data blocks . . . stored in the compressed data library 118 **may be accessed via library access interface 121**” (*an input*). Ex.1005, 13:29-47. Yurt further discloses that after transmission format means 119 formats the data block “into a format suitable for transmission,” “[t]he

requested item is then sent to the user via the transmitter 122 or **directly via interface 121**” (*an output*). Ex.1005, 13:29-47. Yet further, since Yurt as noted above teaches that the data blocks are “accessed via library access interface 121,” Yurt’s library access interface 121 therefore also includes an “*output*” to the library 118 itself, by which the access occurs.

**102.** Yurt therefore discloses “*a library interface including an input and an output connected to said library.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**f. [1.1.4] 4) *a processor connected to said network interface and said library interface, said processor for:***

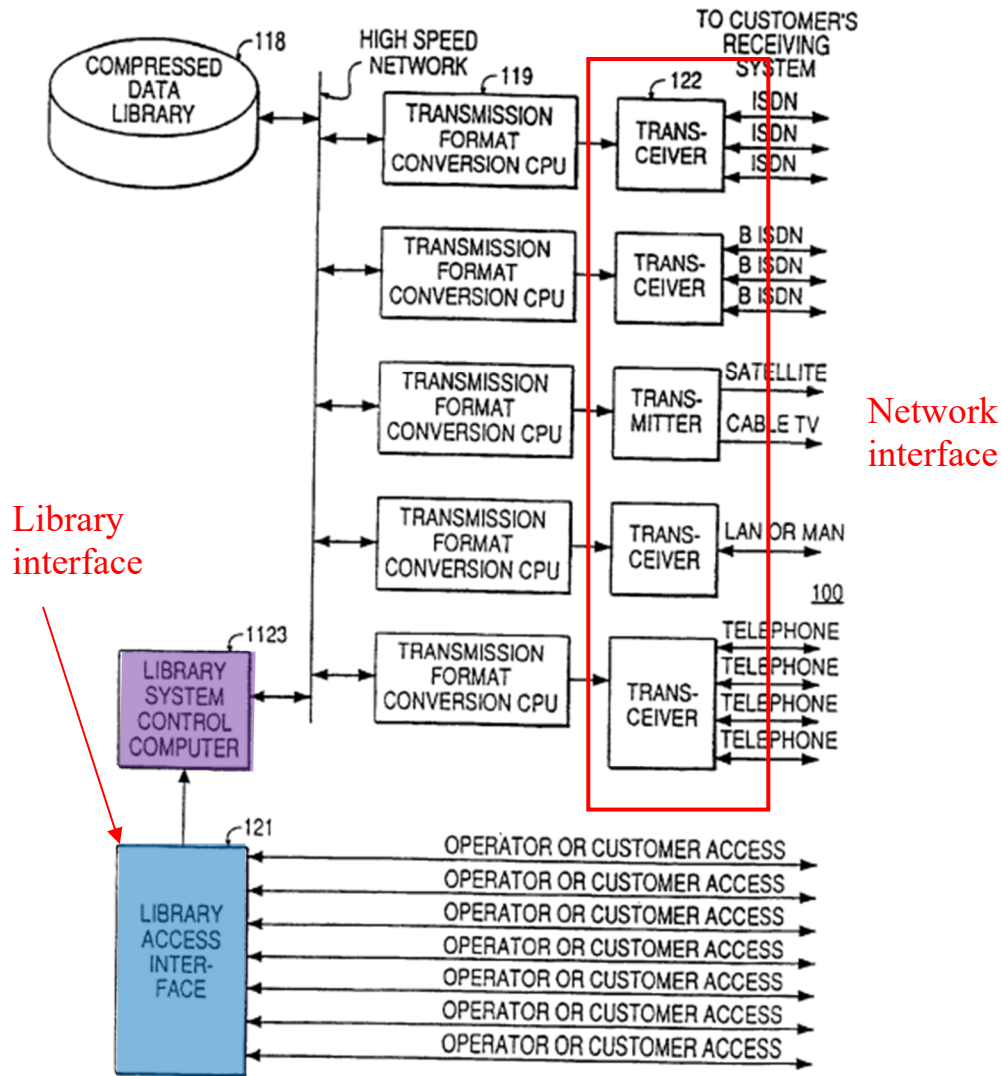
**103.** Yurt teaches that each distribution center of the plurality of distribution centers includes a processor connected to said network interface and said library interface.

**104.** First, as described in [1.1], Yurt discloses that the digital audio information distribution system includes a plurality of transmission systems 100 (a plurality of “*distribution centers*”).

**105.** Second, Yurt teaches that each transmission systems 100 includes a library system control computer 1123 (“computer 1123”), which receives “[a]ll transmission requests from the access methods” in a transmission queue which it manages, as well as a transmission format conversion CPU 119, which converts data blocks from the library 118 “into a format suitable for transmission” to the

requesting user “via the transmitter 122 or directly via interface 121.” Ex.1005, 13:40-47, 15:33-37. It was fundamentally well-known that a “computer” includes some form of processor that thus teaches the claimed “*processor*.” And that processor, via the transmission format CPUs 119, is *connected to said network interface and said library interface*.

**106.** Further, as the computer 1123 is connected to the library interface 121 (said library interface, as described in [1.1.3]), and transmission format conversion CPU 119 is connected to the transmitter 122 (said network interface, as described in [1.1.1]), together the processor that is part of computer 1123 and the transmission format conversion CPUs 119 additionally form a processor that is connected to transmitter 122 (connected to said network interface) and to library access interface 121 (and said library interface), as seen in FIG. 2b:



Ex.1005, Fig. 2b (annotated)

107. Yurt therefore teaches “a processor connected to said network interface and said library interface.” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**g. [1.1.4.1] (a) displaying to a user a menu of said audio files;**

**108.** Yurt teaches that each distribution center of the plurality of distribution centers includes a processor, connected to a network interface and a library interface, for displaying to a user a menu of said audio files.

**109. First,** as described in [1.1.4], Yurt discloses that each transmission system 100 includes library system control computer 1123 and transmission format conversion CPU 119 (separately as well as together “a processor”) connected to library interface 121 (a “*library interface*”) and transmitter 122 (a “*network interface*”). As described in [1.1.2], Yurt discloses that digital audio recordings are stored in a compressed data library 118 (*said audio files*).

**110. Second,** Yurt teaches that the library access interface maintains a menu of audio files. In order to “achieve user access,” Yurt teaches that “facts about the items [in library 118] may be kept in files as a part of the items or the facts may be kept separately. . .only to inform users of the available items.” Ex.1005, 11:40-45. Yurt further explains that “in systems which have portions split in separate locations, the facts about the items may be separated from the items themselves and stored in separate files,” such that user orders may be distributed “to other portions of the transmission and receiving system for ultimate distribution to the requesting user.” Ex.1005, 11:44-53. Yurt teaches such storage of facts about the items may be kept in an “item database master [which] may reside in the system control computer

1123” and may be “updated and kept current to the contents of the compressed data library 118.” Ex.1005, 11:54-60. Yurt therefore discloses *a menu of said audio files* (the item database master, which is kept current as to the contents, such as digital audio recordings, of library 118).

**111. Third**, Yurt teaches displaying the menu of audio files to users that access the library interface. The item database master “may be **accessed by users** via application programs, running on the system control computer 1123.” Ex.1005, 11:57-60. In addition to supporting telephone browsing of menus, Yurt expressly discloses “[a]ccess by a user terminal interface method,” which “provides the user with **access from various terminals including personal computers**, and **specialized interfaces built into the reception system 200** for the user.” Ex.1005, 14:64-67. “Such access allows a user to do a search of available programs from a computer screen.” Ex.1005, 14:67-15:1. This involves the user accessing the library menu via the “user terminal interface,” and “select[ing] a desired item by searching the database of available titles in the library system control computer 1123,” including in some examples “using the database containing the program notes.” Ex.1005, 15:3-13; *see also* 13:47-60. Because the access is by searching the database(s) in the library system control computer 1123, and thus via one or more processors there, the menu presented to the user performing the search would be by the one or more processors. Yurt therefore discloses *displaying to a user* (the item

database master is accessible to users via application programs on user terminals such as personal computers and/.or reception system 200 interfaces).

112. Thus, Yurt teaches a processor “*displaying to a user a menu of said audio files.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**h. [1.1.4.2] (b) receiving requests from a user for a plurality of said digital audio files and a user address;**

113. Yurt discloses, and renders obvious, that each distribution center of the plurality of distribution centers includes a processor, connected to a network interface and a library interface, for receiving requests from a user for a plurality of said digital audio files and a user address.

114. **First**, as described in [1.1.4], Yurt discloses that each transmission system 100 includes library system control computer 1123 and transmission format conversion CPU 119 (separately and together, “a *processor*”), and as described in [1.1.2], Yurt discloses that digital audio recordings are stored in a compressed data library 118 (*said digital audio files*).

115. **Second**, Yurt’s processor receives requests for digital audio files that also include a user address. In an example, Yurt explains that once the user has performed their search of the library, “the user **selects the item for transmission** at a certain time and **location.**” Ex.1005, 15:20-22. The act of selection is a request for the item, which as [1.0] notes includes digital audio files, that the processor of the

system receives. “**All transmission requests** from the access methods are placed into a transmission queue managed by the library system control computer 1123.” Ex.1005, 15:33-37. Particularly, the queue is managed by a program “that controls the distribution of the requested items to the reception system 200 of the user.” Ex.1005, 15:35-37. In other words, Yurt discloses a given user requesting multiple “items” (e.g., digital audio files) which the processor of the computer receives. Thus, Yurt discloses receiving requests for digital audio files and the location (*address*) of the user.

**116. Third**, Yurt also renders the limitation obvious. For example, Yurt teaches that when a user “selects the item or items that he or she desires ... **a request for transmission of a particular item or items** is sent to the distribution manager program of the system control computer 1123” which “contains **the address of the user**, the address of the item, and optionally” additional information. Ex.1005, 12:20-27. Yurt teaches that a transmission request includes information such as “the address of the user.” Ex.1005, 12:24-25; see also Ex.1005, 15:20-22 (explaining that in some implementations, when making a request, “the user selects the item for transmission at a specific time and location [i.e., an address]”). A POSITA reading Yurt’s disclosure would have understood that these teachings, together, demonstrate receiving a request for multiple “items” (e.g., digital audio files) as well as an address, or location, of the user at which to receive the requested items.

117. Thus, Yurt discloses, and renders obvious, a processor “*receiving requests from a user for a plurality of said digital audio files and a user address.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

i. [1.1.4.3] (c) *retrieving said requested digital audio files from said library via said library interface;*

118. Yurt discloses that each distribution center of the plurality of distribution centers includes a processor, connected to a network interface and a library interface, for retrieving said requested digital audio files from said library via said library interface.

119. **First**, as described in [1.1.4], Yurt discloses that each transmission system 100 includes library system control computer 1123 and transmission format conversion CPU 119 (separately and together, “*a processor*”) connected to library interface 121 (said library interface) and transmitter 122 (a “*network interface*”). As further demonstrated in [1.1.2], Yurt discloses that digital audio recordings (“*said digital audio files*”) are stored in a compressed data library 118.

120. Further, Yurt discloses that “**customer access of an item stored in compressed data library 118 via the library access interface 121** may be performed in various ways.” Ex.1005, 13:48-60 (providing examples of customer access as “analogous to making an airline reservation or transferring funds between bank accounts,” such that “telephone tone decoders and voice response hardware,”

or “operator assisted service or user terminal interfaces may be used” by a user to request an item).

**121. Second**, Yurt teaches retrieving files from the library after they have been requested (*see, e.g.*, analysis at [1.1.4.2]). Yurt’s transmission system 100 “include[s] library access/interface means for receiving transmission requests to transmit items and **for retrieving formatted data blocks stored in the compressed data library 118 corresponding to the requests** from users.” Ex.1005, 13:29-37. For example, Figure 7 describes a method of “distribution” for requested items. After the request, “the first step of the distribution method 400 involves **retrieving the information** for selected items in the source material library ... upon a request by a user of the distribution system.” Ex.1005, 18:53-67. Yurt explains that this means retrieving the information that is desired, not just information about the item desired. *See id.* Because Yurt teaches that the actions are implemented within the computer 1123, Yurt discloses that the retrieval is likewise performed by the processor. *See* analysis at [1.1.4].

**122.** Thus, Yurt discloses a processor “*retrieving said requested digital audio files from said library via said library interface.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

- j. **[1.1.4.4] (d) sequentially transmitting said requested digital audio files in substantially real time to said user**

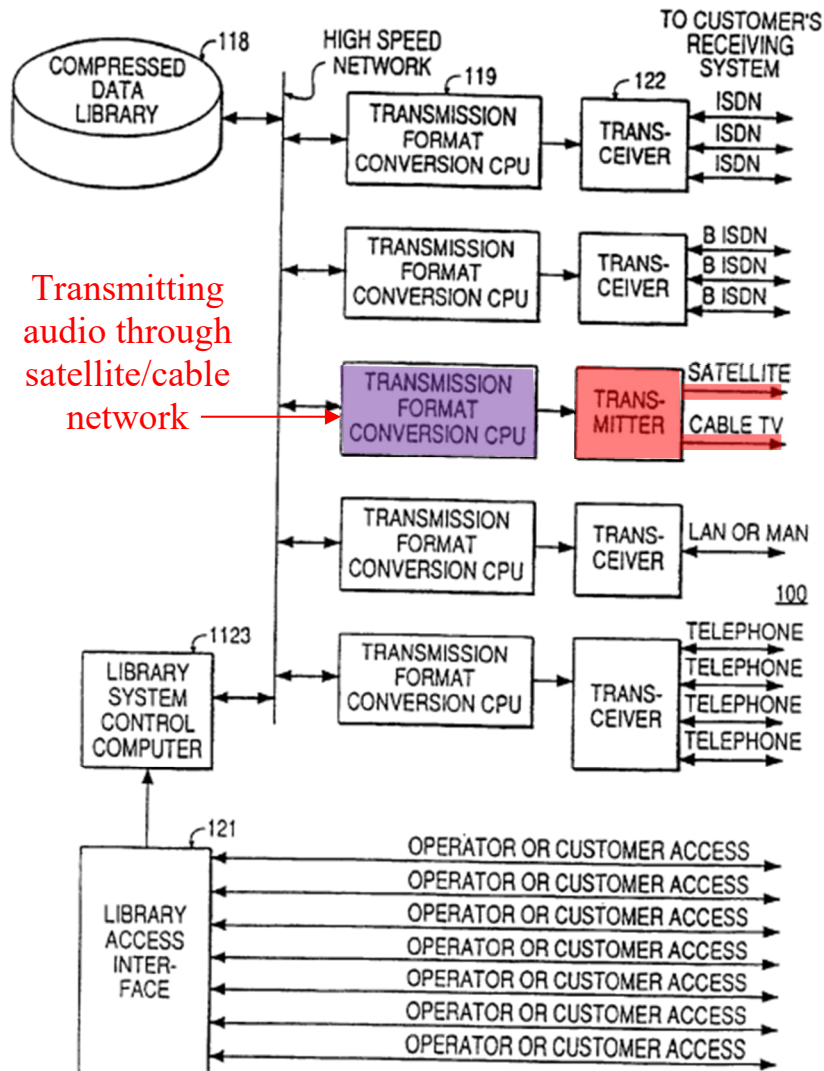
***through one of the satellite or cable TV networks via said output of said network interface; and***

**123.** Yurt teaches that each distribution center of the plurality of distribution centers includes a processor, connected to a network interface and a library interface, for sequentially transmitting said requested digital audio files in substantially real time to said user through one of the satellite or cable TV networks via said output of said network interface.

**124. First**, as described in [1.1.4], Yurt discloses that each transmission system 100 includes library system control computer 1123 and transmission format conversion CPU 119 (separately and together, “a processor”) connected to library interface 121 (a “library interface”) and transmitter 122 (*said network interface*). As described in [1.1.2], Yurt discloses that digital audio recordings are stored in a compressed data library 118 (*said digital audio files*).

**125. Second**, as seen in Fig. 2b below, Yurt teaches that the transmission format conversion CPU 119 “**transfers the desired segments of data** from the compressed data library 118 onto the communication channel which is used to deliver the data to the reception system 200.” Ex.1005, 15:55-60; *see also* 4:36-39 (users receive the requested items via the reception system 200, in similar configuration as the ’128 patent’s system). Indeed, Yurt discloses that the “**requested item** is then **sent to the user** via the transmitter 122,” which as seen in Fig. 2b below, includes transmission through satellite or cable TV networks

(“through one of the satellite or cable TV networks via said output of said network interface”). Ex.1005, 13:45-46; Figure 2b:



Ex.1005, Fig. 2b (annotated)

126. **Third**, Yurt discloses that the user receives the audio information via transmitter 122 in real time or “preferably in less than real time” (“*transmitting said digital audio files in substantially real time to said user*”). Ex.1005, Abstract. This refers to transmitting better than real-time. For example, Yurt explains that its

invention involves a system where “the selected audio/video material is sent over any one of several existing communication channels **in a fraction of real time.**”

Ex.1005, 2:1-4. As noted at [1.0], a POSITA would have understood “less than real time” and “in a fraction of real time” to be even better than real-time, e.g., faster than real-time would require—and, thus, would satisfy a real-time transmission. Yurt’s distribution of the information in less than real time results in the system at the receiving end being able to “decompress in real time the requested material as it is distributed by transmission system 100.” Ex.1005, 4:64-5:9.

**127.** Moreover, Yurt discloses transmitting the requested items (e.g., digital audio files) “*sequentially*.” When a request is placed onto the transmission queue in Yurt and ready for transmission to a reception system (user), “the data stored in compressed data library 118 is preferably transferred in data blocks to the communications controller,” after which the controller buffers the data blocks and sends them “down the communications channel to the reception system 200 by the transmitter 122.” Ex.1005, 16:46-52. In particular, Yurt teaches that the “[a]udio and video information” when stored “is preferably converted into blocks of data organized in groups for compression processor.” Ex.1005, 9:50-57. The result includes multiple “data blocks for each of the files.” Ex.1005, 10:31-34. Thus, when Yurt describes transferring data blocks, it is describing transferring multiple data blocks per each file.

**128.** Continuing with Yurt's example, "[t]he transmitter 122 places the formatted data" of the requested item "onto the communications channel," and sends to the reception system (e.g., of the user). Ex.1005, 16:53-61. The reception system, in turn, "confirms reception of the initial data block before receiving the remaining data blocks." Ex.1005, 16:18-21. "After **all data blocks have been received** and reception is confirmed, the communications controller breaks the physical connection." Ex.1005, 17:1-7. This then repeats for next items on the queue. Thus, because Yurt teaches sequentially transmitting data blocks of an individual "item" (e.g., digital audio file) on the queue, a POSITA would have understood that each item on the queue would likewise be transmitted sequentially.

**129.** Thus, Yurt teaches a processor "*sequentially transmitting said requested digital audio files in substantially real time to said user through one of the satellite or cable TV networks via said output of said network interface.*" Yurt's teachings would not be materially altered in the combination with Logan, either.

**k. [1.1.4.5] (e) *recording the digital audio files requested by said user and said user address in a data base; and***

**130.** Yurt, alone and combined with Logan, renders obvious recording the digital audio files requested by said user and said user address in a data base.

**131. First,** Yurt teaches that the user's request "contains the address of the user, the address of the item" among other parameters. Ex.1005, 12:24-27. Yurt also maintains databases with information about the items maintained. *See, e.g.,* Ex.1005,

7:50-55 (“item database records”), 8:45-47 (“system item database may contain information records for” items that include songs), 10:66-11:4 (details regarding the item “which may be of interest and which may make the items more accessible are kept in an **item database**”), 11:9-21 (database recording facts about the items). Thus, Yurt’s processor already has the claimed information: the address of the user (*said user address*), and the information about what audio file was requested (*the digital audio files requested by said user*).

**132.** Yurt further expressly teaches that the transmission queue manager program operating in computer 1123 of a given transmission system 100 “**keeps track** of the **user ID**, the **chosen program** and price, the user channel type, the number of requests for a given program, the latest delivery time, and the compressed data library media type” in order to “make[] best use of the available distribution channels ... for efficient transmission.” Ex.1005, 15:38-41. Yurt recognizes the usefulness of keeping track of the popularity of a requested audio file, keeping track “of **how often the corresponding item is expected to be requested** from the compressed data library 118.” Ex.1005, 12:28-32. Yurt uses this information to determine how and where to store the requested item (e.g., audio file), storing files that are less popular on slower media that is cheaper, while more popular files are stored on more expensive, but faster, media for easier access. Ex.1005, 12:28-57. As a result, “[i]f a particular item stored in compressed data library 118 is retrieved

frequently by users, storage in compressed data library 118 is preferably on higher speed, more reliable, and probably more expensive media.” Ex.1005, 12:42-46.

**133.** Therefore, this limitation is obvious in view of Yurt alone, since Yurt (1) already has all the information, and (2) uses that information to store information based on frequency of request. It would have been obvious, in particular, to a POSITA for Yurt’s system to record the address information as well, such as in the database with the other information Yurt already teaches tracking, to help make items more accessible.

**134. Second,** it would have been obvious to a POSITA for Yurt to expressly store the information already present in Yurt, e.g., in order to track the popularity of the requested items and who has been requested them, as further confirmed by Logan.

**135.** For example, Logan is directed to an “audio program and message distribution system.” Ex.1006, Abstract. Logan’s system includes a “host server 101” which provides requested audio files to a “player 103” (e.g., a laptop or desktop computer). Ex.1006, 3:24-25, 4:40-46. The host server stores “a plurality of data files including a program data library ... consistent of a collection of compressed audio program segments.” Ex.1006, 4:46-54. Such audio program segments “comprise audio voice and music files.” Ex.1006, 4:53-54. When a user requests

audio information, that information is compiled and downloaded to the client device.  
*See, e.g.,* Ex.1006, 5:46-66, 7:17-31.

136. In particular, the “host server 101” “stores and maintains a **user data and usage log database indicated at 143** which stores uploaded usage data received from the store 109 in the player 103 ... The user data 143 **further contains additional data describing the preferences, demographic characteristics and program selections unique to each subscriber.**” Ex.1006, 5:35-45; *see also* Figure 1:

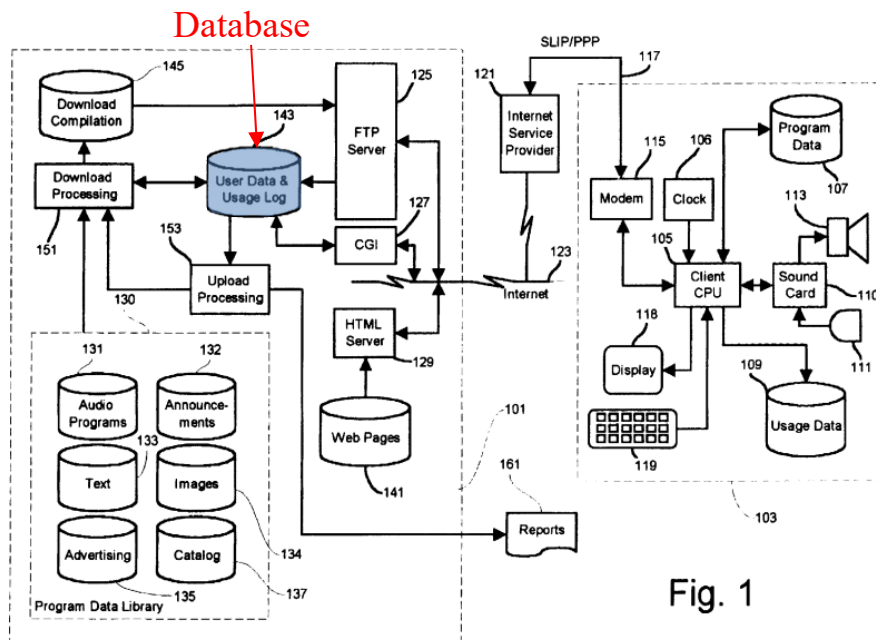


Fig. 1

Ex.1006, Fig. 1 (annotated)

137. Logan’s “user data & usage log 143” is a database that stores information about the requested audio data, as noted above. Indeed, as Logan further teaches, when the user connects again to the server, the server “presents HTML

program selection and search request forms.” Ex.1006, 8:49-53. The user, via these forms, is able “to locate remotely stored programming which may be of particular interest to the subscriber.” Ex.1006, 8:53-55. After the user has “selected [the programs] in the HTML session, **the user’s additional preferences and selections may be posted into the user data file 143.**” Ex.1006, 8:56-58. That is, after the user makes a selection via an interface for remotely-stored audio files, Logan teaches storing the information about the selection into the database 143 responsive thereto. Logan teaches using the database 143 “to record the subscriber’s use ... to return data to the host for billing, to adaptively modify the subscriber’s preferences based on actual usage.” Ex.1006, Abstract.

**138.** In combination, it would have been obvious to a POSITA to use Logan’s teaching of recording information about a user’s request for audio data into a database (usage log) for a variety of reasons, including to aid in billing, to log use, and to adapt system settings based on actual usage of audio files. For example, based on the combined teachings of Yurt and Logan, a POSITA would have recorded Yurt’s disclosed address information of a user that requests one or more audio files, along with information about what audio files are requested, in a database such as taught by Logan’s usage log. *See, e.g.*, Ex.1005, 12:24-27; Ex.1006, 8:49-58. For example, Yurt’s item database may be modified to implement a usage log as well, since Yurt’s item database is used to store information about requested items that

are of interest and aid in making the audio files more accessible. Ex.1005, 10:66-11:4 (details regarding the item “which may be of interest and which may make the items more accessible are kept in an **item database**”), 11:9-21 (database recording facts about the items).

**139.** Thus, the combination of Yurt and Logan renders obvious “*recording the digital audio files requested by said user and said user address in a data base.*”

- I. [1.2] b) a central controller connected to said network interface of each of said distribution centers for routing digital audio data files between said distribution centers.**

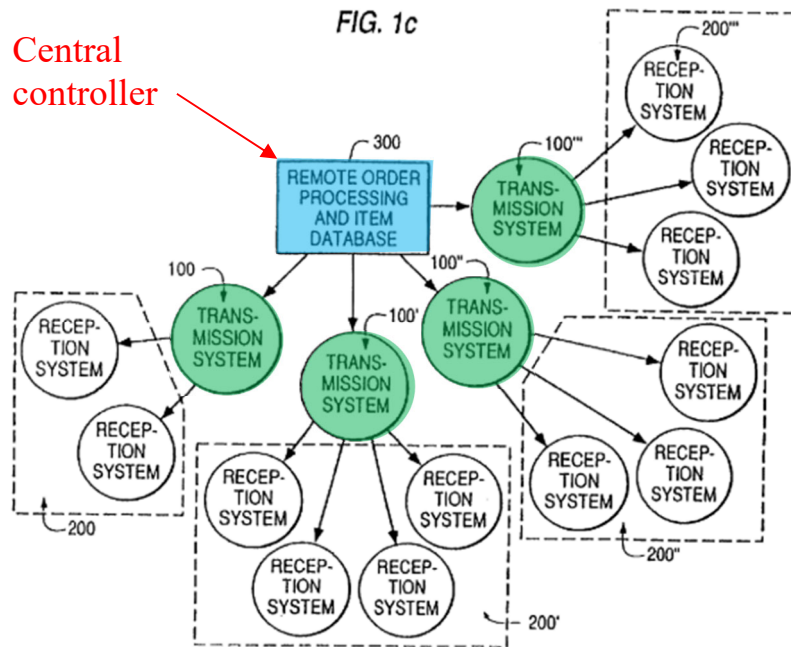
**140.** Yurt teaches a central controller connected to said network interface of each of said distribution centers for routing digital audio data files between said distribution centers.

**141. First**, as described in [1.0], Yurt teaches that each transmission system 100 in its audio distribution system is connected to a remote order processing and item database 300 (“database 300”). Ex.1005, 4:1-13. The remote order processing and item database 300 “preferably enables users to access desired items by remote communication.” Ex.1005, 4:6-7. Yurt also teaches using “dispatching control software.” Ex.1005, 17:54-57. The dispatching control software “receives input from the remote order processing and item database 300 and **sends distribution requests to the distribution systems.**” Ex.1005, 17:54-57. That is, Yurt teaches that the “distribution control software” is in communication with all of the “distribution

systems,” not restricted to a particular reception system—otherwise leaving up to a POSITA where to place the software from a hardware perspective. The distribution control software also includes a coordinating function between libraries of the different transmission systems – if “not all items are contained in each of the compressed data libraries 118, the dispatching software will keep a list of the available titles in a particular compressed data library 118” as well as “coordinate network traffic, source material library 111 utilization, source material library 111 contents, and connection costs.” Ex.1005, 17:57-64.

**142.** Accordingly, Yurt teaches that the distribution control software and the remote order processing and item database 300 each exist at a network level above the libraries, transmission systems, and reception systems. Moreover, Yurt’s entity 300 includes both a remote order processing system and a database, which a POSITA would have recognized would be implemented on one or more hardware entities (e.g., a server). It would have been obvious to a POSITA for the database 300 and dispatching control software to be implemented at the same physical entity (e.g., the same server), since both are located at a level “above” the transmission systems and their respective libraries and coordinate titles and connections between the different transmission systems. Moreover, it would have been obvious to a POSITA to centralize the functions of coordination of the network at the database 300 level, instead of at individual end-points or distribution points. Thus, the remote order

processing and item database 300 and dispatching control software, together (e.g., implemented at a server), render obvious the “central controller.” See also Ex.1005, 17:54-66; Figure 1c:



**Ex.1005, Fig. 1c (annotated)**

**143. Second,** Yurt’s database 300 “enables users to access desired items by remote communication,” and the dispatching control software coordinates network traffic and dispatching distribution requests to distribution systems in instances where not all items are contained in each of the data libraries 118 at each transmission system 100 (“for routing digital audio data files between said distribution centers”). Ex.1005, 4:5-7; 17:54-66 (explaining that the dispatching control software may “coordinate network traffic, source material library 111 utilization, [and] source material library 111 contents,” in order to achieve “efficient

use of the available distribution channels”). Indeed, Yurt shows that the database 300 is connected to each transmission system 100 in Figure 1c above.

**144.** For example, when there are “multiple compressed data libraries 118” – which would occur when there are multiple transmission systems 100 as shown in Figures 1c and 2b together – the popularity of an item (e.g., a digital audio file) will “dictate distribution of a particular item to multiple distribution systems.” Ex.1005, 13:1-8. “In such cases, **a copy of the compressed data is sent to another library** and the other library can then distribute the compressed data to users concurrently with the **original compressed data library 118.**” Ex.1005, 13:4-8. A POSITA would have understood from these teachings, in view of Yurt’s further teaching of the dispatching software/database 300 coordinating titles and connections between the systems, that the dispatching software/database 300 would be responsible for causing the copy of the item to be sent between the libraries of respective transmission systems 100 (thus, *between said distribution centers*). Indeed, Yurt teaches expressly that it provides “inter-library transfers” of items. Ex.1005, 7:44-50.

**145. Third,** it would have been obvious to a POSITA that each transmission system would be connected via its respective transmitter. For example, Yurt teaches transmitting digital audio information by transmitter 122 (*network interface*) of transmission system 100 (*connected to said network interface of each of said*

*distribution centers*). Ex.1005, 17:67-18:8 (“reception system 200 includes transceiver 201 which receives the audio and/or video information **transmitted by transmitter 122 of the transmission system 100**”); *see also* 16:31-37 (“the data awaits transmission by the transmitter 122”), 15:61-65 (transmission system 100 “includes **transmitter means 122**, coupled to the compressed data library 118, **for sending at least a portion of a specific file to at least one remote location**”).

146. It would have been obvious to a POSITA that database 300 and the dispatching control software (together, *a central controller*) would be connected to the transmitter 122 (*connected to said network interface*) of each transmission system 100 (*of each of said distribution centers*) in order to facilitate the transmission of items between libraries of different transmission systems 100, including in instances where copies of audio files are not contained in each of the data libraries 118 at each transmission system 100, and/or an item is popular and desirable to be transmitted from multiple transmission systems 100, and a copy must be obtained from a remote library 118/transmission system 100 (*for routing digital audio data files between said distribution centers*).

147. Thus, Yurt teaches “*a central controller connected to said network interface of each of said distribution centers for routing digital audio data files between said distribution centers.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**2. Claim 2**

- a. [2.0] *A system for distributing data files to users connected in a plurality of independent networks, said system comprising:***

**148.** To the extent that the preamble is limiting, Yurt discloses a system for distributing data files to users connected in a plurality of independent networks. *See* analysis at [1.0] (audio files being examples of data files, and satellite and cable networks being independent networks).

- b. [2.1] *a) a plurality of distribution centers, each including:***

**149.** Yurt discloses a plurality of distribution centers. *See* analysis at [1.1].

- c. [2.1.1] *1) a network interface including an input and an output for connecting to a single one of the networks;***

**150.** Yurt, alone and combined with Logan, renders obvious that each distribution center includes a network interface including an input and an output for connecting to a single one of the networks. *See* analysis at [1.1.1] (any of the networks demonstrated, e.g. cable or satellite, demonstrates “*a single one of the networks*”).

- d. [2.1.2] *2) a library including a plurality of data files;***

**151.** Yurt discloses that each distribution center includes a library including a plurality of data files. *See* analysis at [1.1.2] (audio, video as two examples of data files).

- e. **[2.1.3] 3) *a library interface including an input and an output connected to said library; and***

**152.** Yurt discloses that each distribution center includes a library interface including an input and an output connected to said library. *See* analysis at [1.1.3].

- f. **[2.1.4] 4) *a processor connected to said network interface and said library interface, said processor for:***

**153.** Yurt teaches that each distribution center includes a processor connected to said network interface and said library interface. *See* analysis at [1.1.4].

- g. **[2.1.4.1] (a) *receiving a request from a user via said input of said network interface, said request including information on one or more data files and a user address;***

**154.** Yurt combined with Logan renders obvious that each distribution center includes a processor for receiving a request from a user via said input of said network interface, said request including information on one or more data files and a user address.

**155. First,** Yurt discloses a “*processor for ... receiving requests from a user for a plurality of said digital audio files and a user address.*” *See* analysis at [1.1.4.2]. Thus, Yurt discloses receiving a request that has information on “*one or more data files*” as well as a user address.

**156. Second,** Yurt further renders obvious, alone and combined with Logan, that the request is received “*via said input of said network interface.*” As explained with respect to [1.1.1], Yurt teaches using cable and satellite links, and it would have

been obvious to a POSITA that cable and satellite links are used for bidirectional communication. *See, e.g.*, Ex.1005, Figure 2b. This is further confirmed by Logan, which teaches receiving audio data file requests via cable/satellite links, and transmitting the requested audio data files via the cable/satellite links. *See* Ex.1006, 5:46-54, 6:36-44.

**157.** Yurt teaches the transmission system 100 receiving requests for data files from user terminals. *See* analysis at [1.1.1]; Ex.1005, 14:64-67, 15:3-32. In combination with Logan's teachings, it would have been obvious for the requests from Yurt's terminals to be via the cable or satellite links as well, with Yurt's transmitter 122 being further configured to receive requests (e.g., according to Logan's "cable modem" teachings).

**158.** Thus, Yurt combined with Logan renders obvious "*receiving a request from a user via said input of said network interface, said request including information on one or more data files and a user address.*"

**h.** **[2.1.4.2] (b) determining which of said requested data files are available in said library ("available requested data files"), and which of said requested data files are unavailable in said library ("unavailable requested data files") and**

**159.** Yurt teaches that each distribution center of the plurality of distribution centers includes a processor for determining which of said requested data files are available in said library ("available requested data files"), and which of said

requested data files are unavailable in said library (“unavailable requested data files”).

**160. First**, Yurt teaches receiving requests for data files. *See* [2.1.4.1] and [1.1.4.2].

**161. Second**, Yurt teaches determining whether the local library 118 has the requested file(s) available or not. A user logs on and searches “the database of available titles in the library system control computer 1123 or any remote order processing and item database 300.” Ex.1005, 15:4-10. This includes, per Yurt, by “operating a database of available titles at multiple locations remote of the source material library 111.” Ex.1005, 15:10-15. Thus, Yurt teaches (1) searching for a given “title” at the library system control computer 1123, as well as (2) searching for titles that are not all kept at the same compressed library 118 location.

**162.** Since Yurt further teaches transmitting the titles from the local library 118 that are available there, it would have therefore been obvious to a POSITA that the search would result in determining which of the requested data files are available at the local library 118 (e.g., those that are available at the system and transmitted therefrom) and which are unavailable at the local library 118, but instead must be obtained from other locations’ libraries. *See* Ex.1005, 15: 3-32 (“Orders placed on [remote] systems will be processed and distributed to the appropriate libraries.”).

163. Thus, Yurt renders obvious “*determining which of said requested data files are available in said library (“available requested data files”), and which of said requested data files are unavailable in said library (“unavailable requested data files”).*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

- i. [2.1.4.3] *for each of said available requested data files, retrieving said available requested data file from said library via said library interface; and*

164. Yurt teaches that for each of said available requested data files, retrieving said available requested data file from said library via said library interface. See analysis at [1.1.4.3]. Since these are retrieved from the local library 118 in Yurt, a POSITA would have recognized that these were the requested data files available at the local library 118. See Ex.1005, 13:48-60, 15:3-32, 17:55-67. Indeed, Yurt further teaches that library access interface 121 “includes a title window where **a list of available titles** are alphabetically listed,” in one of two modes, one of which shows a “**local listing of material contained within the library** system control computer 1123.” Ex.1005, 17:44-50. Yurt’s teachings would not be materially altered in the combination with Logan, either.

- j. [2.1.4.4] *for each of said unavailable requested data files, sending a file import request to a central controller requesting said unavailable requested data*

***files and receiving said unavailable requested data files  
through said network interface;***

**165.** Yurt teaches for each of said unavailable requested data files, sending a file import request to a central controller requesting said unavailable requested data files and receiving said unavailable requested data files through said network interface.

**166. First,** Yurt teaches storing different data files at different libraries local to different transmission systems. For example, Yurt maintains “a database of available titles at multiple locations remote of the source material library 111.” Ex.1005, 15:10-15. This is because different items may be “stored in one or more compressed data libraries.” Ex.1005, 11:13-17.

**167. Second,** Yurt further teaches performing “inter-library transfers,” such that files that were already compressed at another library 118 need not be re-compressed when transferred to another library 118 of another transmission system 100. Ex.1005, 7:44-50.

**168. Third,** Yurt teaches a “*central controller*.” See analysis at [1.2]. In Yurt, this is in the form of the remote order processing and item database 300, which serves in a coordinating role. See, e.g., Ex.1005, 4:5-7, 17:54-66 (dispatching control software of the distribution system), 17:53 (keeps list of titles available at each data library 118). Yurt teaches using the central controller to transfer “a copy of the

compressed data ... to another library” for the other library to distribute. Ex.1005, 13:4-7.

**169.** A POSITA considering the combined teachings of Yurt would have therefore found [2.1.4.4] obvious, because Yurt teaches the database 300 system facilitating transfers of data files between local libraries 118 in different transmission systems, both based on data files not being available locally and to enable simultaneous access of in-demand data files via multiple transmission systems. It would have been obvious to a POSITA, based on Yurt’s teachings, to transfer data files not at a local library 118 in a particular region where the requesting user is, so that more distribution channels may be used to increase the throughput and efficiency of the overall system. *See, e.g.*, Ex.1005, 19:66-68.

**170.** Thus, Yurt renders obvious “*for each of said unavailable requested data files, sending a file import request to a central controller requesting said unavailable requested data files and receiving said unavailable requested data files through said network interface.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**k.**     **[2.1.4.5] (c) transmitting said requested data files to said single one of the networks via said output of said network interface; and**

**171.** Yurt teaches that each distribution center of the plurality of distribution centers includes a processor for transmitting said requested data files to said single

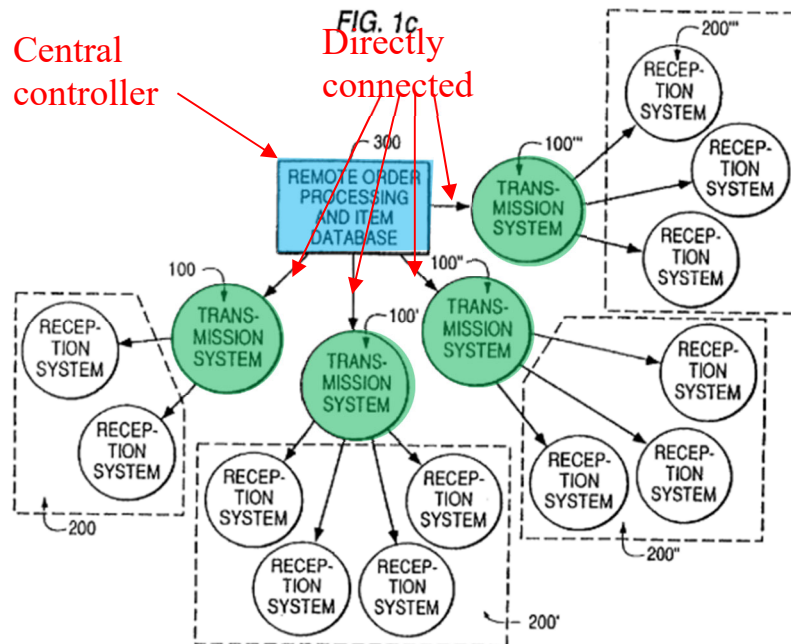
one of the networks via said output of said network interface. *See* analysis at [1.1.4.4].

**l. [2.1.4.6] (d) recording request information indicative of said requested data file and said user address; and**

**172.** Yurt combined with Logan renders obvious that each distribution center of the plurality of distribution centers includes a processor for recording request information indicative of said requested data file and said user address. *See* analysis at [1.1.4.5].

**m. [2.2] b) a central controller directly connected to said network interface of each of said distribution centers for:**

**173.** Yurt teaches a central controller directly connected to said network interface of each of said distribution centers for routing digital audio data files between said distribution centers. *See* analysis at [1.2]. Yurt's teachings would not be materially altered in the combination with Logan, either. Further, see Figure 1c:



Ex.1005, Fig. 1c (annotated)

- n. [2.2.1] 1) receiving file import requests from a requesting distribution center, said file import requests including information relating to requested data files;

174. Yurt teaches receiving file import requests from a requesting distribution center, said file import requests including information relating to requested data files.

175. As explained with respect to [2.1.4.4], Yurt teaches a central controller (remote order processing and item database 300) that facilitates requests for inter-library transfers from various local libraries at different transmissions systems 100. See, e.g., Ex.1005, 12:40-43; 17:54-66, 7:44-50. It would have been obvious, in view of the combined teachings of Yurt, that requests for inter-library transfers

transmitted from transmission systems 100 would have been received at the database 300 (“*receiving file import requests*”).

176. Moreover, Yurt teaches that there are “item database records” for all items that are transferred. *See* Ex.1005, 7:50-55. Yurt also teaches that requests that are passed on to the appropriate library (e.g., Yurt’s “compressed data library 118 of choice”) include “the user’s account ID, identification of the item for transmission and the chosen destination for the item.” Ex.1005, 15:27-29. Thus, a POSITA viewing Yurt’s teachings in combination would have understood that requests for inter-library transfers would include identifying information including account ID, item identification, and destination.

177. Thus, Yurt renders obvious “*receiving file import requests from a requesting distribution center, said file import requests including information relating to requested data files.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

- o. [2.2.2] 2) *searching the library within at least one other of said distribution centers to locate at least one requested data file of said requested data files; and*

178. Yurt teaches searching the library within at least one other of said distribution centers to locate at least one requested data file of said requested data files.

**179.** As noted at [2.1.4.2], Yurt teaches that the remote order processing and item database 300 maintains “a database of available titles at multiple locations remote of the source material library 111.” Ex.1005, 15:10-15; *see also* Ex.1005, 15:44-53 (remote order processing and item database 300 sends a list of titles available at “remotely accessible libraries” to the library access interface to display to the user). Yurt also teaches transferring items between libraries. Ex.1005, 7:44-50. In combination, it would have therefore been obvious that the database 300, the central controller, searches for available titles at the other libraries at other transmission systems for the requested data files. Doing so enables Yurt’s express purpose to “process orders and operate a database of available titles at multiple locations.” Ex.1005, 15:10-15.

**180.** Thus, Yurt renders obvious “*searching the library within at least one other of said distribution centers to locate at least one requested data file of said requested data files.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**p.** [2.2.3] 3) *instructing said other distribution center to retrieve and transmit the requested data file that was located therein to said requesting distribution center.*

**181.** Yurt teaches instructing said other distribution center to retrieve and transmit the requested data file that was located therein to said requesting distribution center.

**182.** As explained with respect to [2.1.4.2], Yurt also teaches transferring items between libraries. Ex.1005, 7:44-50 (“inter-library transfers”). Since the library 118 in each area operates in the same manner, and Yurt teaches retrieving and transmitting requested data files, it would have been obvious to a POSITA for the remote library 118 to retrieve and transmit the requested data files to the requesting library 118 to accomplish the “inter-library transfers.” *See* analysis at [1.1.4.3] (retrieving files from library), [1.1.4.4] (transmitting retrieved files); *see also* Ex.1005, 15:18-20 (orders placed at remote systems are “distributed to the appropriate libraries”).

**183.** Thus, Yurt renders obvious “*instructing said other distribution center to retrieve and transmit the requested data file that was located therein to said requesting distribution center.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**3. Claim 3**

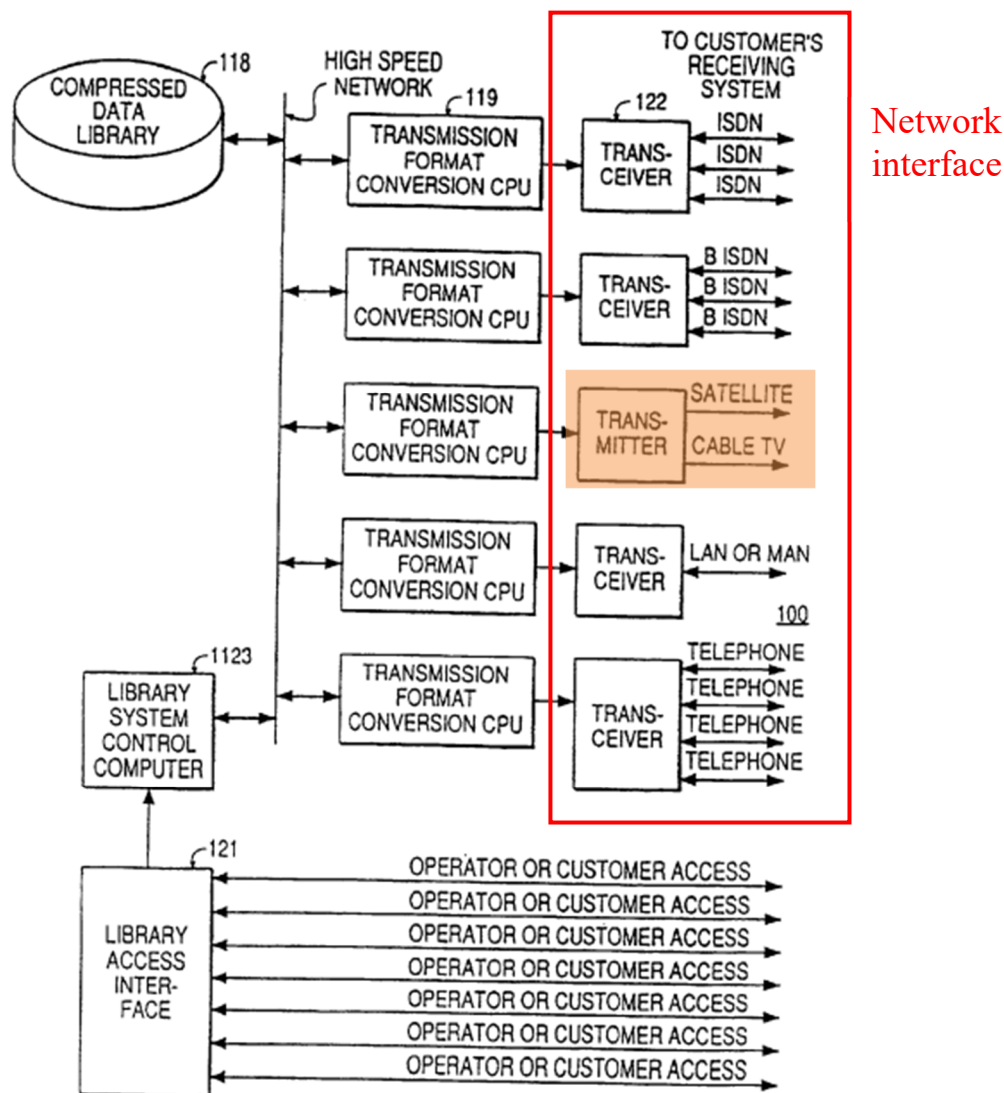
**a. [3.0] *A system as claimed in claim 2,***

**184.** *See* [2.0]-[2.2.3].

**b. [3.1] *wherein said network interface is a cable television interface.***

**185.** Yurt discloses, and combined with Logan renders obvious, wherein said network interface is a cable television interface.

186. As explained with respect to [1.1.1], Yurt teaches that the network interface to distribute requested items includes an interface for “cable television systems.” See, e.g., Ex.1005, 16:64-68; see also Figure 2b:



Ex.1005, Fig. 2b (annotated)

187. This, alone, discloses claim 3.

188. Yet further, Yurt’s teachings in combination with Logan further render this limitation obvious. As further explained with respect to [1.1.1], Logan teaches

transmitting requested audio files between a server and client using cable connections, including in particular “cable modems.” *See* Ex.1006, 5:46-54, 6:36-44. It would have been obvious to a POSITA for Yurt’s interface to the cable system to be via a “cable modem,” as further confirmed by Logan.

189. Thus, Yurt discloses, and combined with Logan renders obvious, “*wherein said network interface is a cable television interface.*”

4. **Claim 4**

a. **[4.0] *A system as claimed in claim 2,***

190. *See* [2.0]-[2.2.3].

b. **[4.1] *wherein said data files include digitized music tracks.***

191. Yurt discloses, and combined with Logan renders obvious, wherein said data files include digitized music tracks.

192. As explained with respect to [1.0], Yurt discloses “[a] **system of distributing** video and/or **audio** information” using “digital signal processing.” Ex.1005, Abstract. In particular, Yurt teaches storing and managing the “audio information” as “digital audio” stored as a “file.” Ex.1005, 5:66-6:7; 2:41-47. Moreover, Yurt also teaches digitizing audio data that is originally in analog format before storing in the library. Ex.1005, 7:12-18. Thus, Yurt’s digital audio files alone discloses this limitation.

**193.** Further, Logan teaches storing and distributing “audio voice and music files” and reproducing “music” at the receiving player. Ex.1006, 4:53-58. It would have been obvious to a POSITA for the digital audio files stored and distributed by Yurt to include music tracks, as further taught by Logan. This would have been a well-known type of audio file to store – indeed, storing digital music tracks at online databases, as in Yurt and Logan, were already well-known. *See, e.g.*, Ex.1007, 4:55-5:5 (smaller amounts of storage needed for music as the content stored in central distribution server 24).

**194.** Thus, Yurt discloses, and combined with Logan renders obvious, “*wherein said data files include digitized music tracks.*”

**5. Claim 6**

**a. [6.0] *A system as claimed in claim 2,***

**195.** *See* [2.0]-[2.2.3].

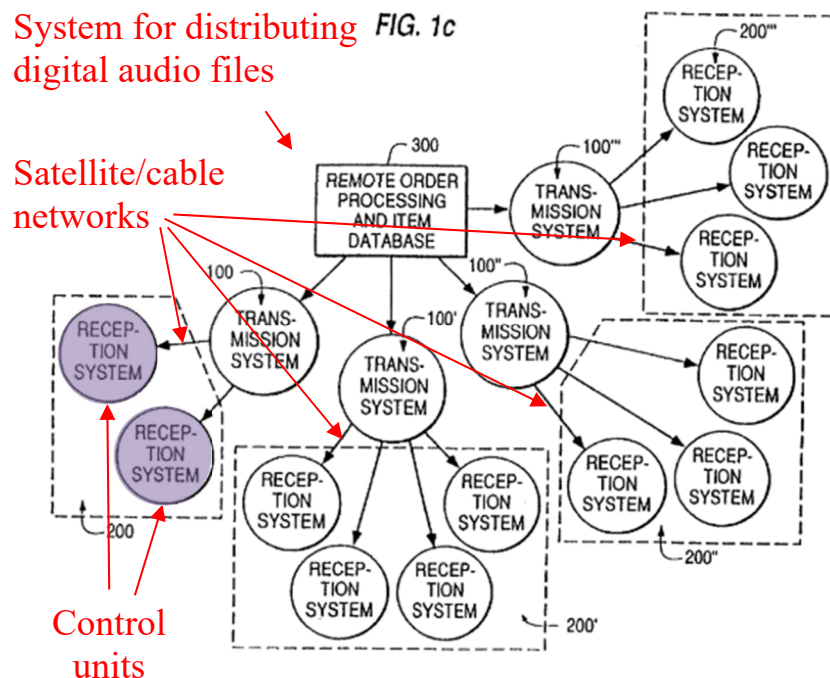
**b. [6.1] *further comprising a plurality of control units each having a user address and including:***

**196.** Yurt renders obvious further comprising a plurality of control units each having a user address.

**197.** According to the '128 patent, a “*control unit*” is at the user’s location and aids in connecting with the cable system and the audio/visual system of the user (e.g., a TV). Ex.1001, 5:48-67. The '128 patent explains that the control unit is activated in order for the user to “place a user request” by displaying “information

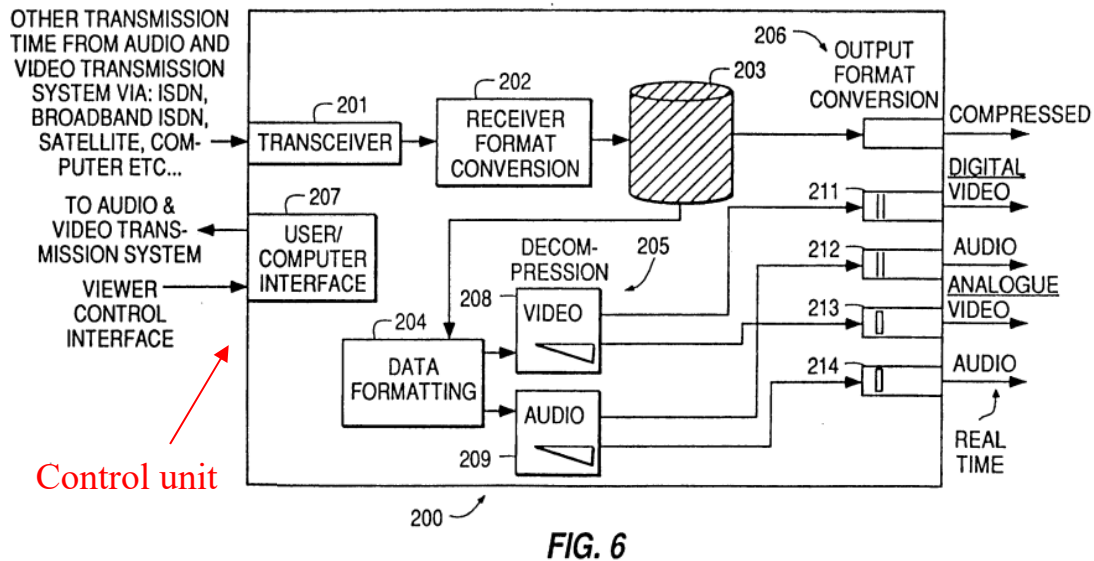
related to data files available in any of the libraries [] of the music distribution system” such that the user “may browse the displayed information” and “then select one or more of the displayed data files.” Ex.1001, 6:1-6.

198. Yurt, likewise, teaches such a “*control unit*” that is at the user’s location and connects between the cable system and the output system of the user. Yurt’s distribution system has multiple reception systems 200 that communicate with respective transmission systems 100, and which are “*control units*.” Ex.1005, 4:1-13; Figure 1c:



Ex.1005, Fig. 1c (annotated)

**199.** Furthermore, each reception system 200 includes multiple elements including “user/computer interface 207,” which connects to a “viewer control interface” and “audio & video transmission system.” Ex.1005, Figure 6; see below:



**Ex.1005, Fig. 6 (annotated)**

**200.** Yurt teaches that “a preferred method of user request” is “via a user interface,” such as user/computer interface 207. Ex.1005, 15:3-5. In Yurt, after the user logs into the user interface (e.g., activates the interface), “the user may preferably select a desired item by searching the database of available titles” in both local and remote libraries. Ex.1005, 15:5-10.

**201.** Moreover, as explained with respect to [1.1.4.5], Yurt teaches that the user’s request “contains the address of the user, the address of the item” among other parameters. Ex.1005, 12:24-27; *see also* 15:20-22 (explaining placing a user request by selecting a desired file via a user interface, such that “[a]fter the desired item is

found, the user selects the item for transmission at a specific time and location.”). It would have been obvious for the “address of the user” to be maintained anywhere at the reception system 200, including at the user/computer interface 207. Since Yurt teaches a plurality of reception systems, and each with its own user/computer interface 207, Yurt teaches a plurality of such control units.

**202.** Thus, Yurt renders obvious “*further comprising a plurality of control units each having a user address.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

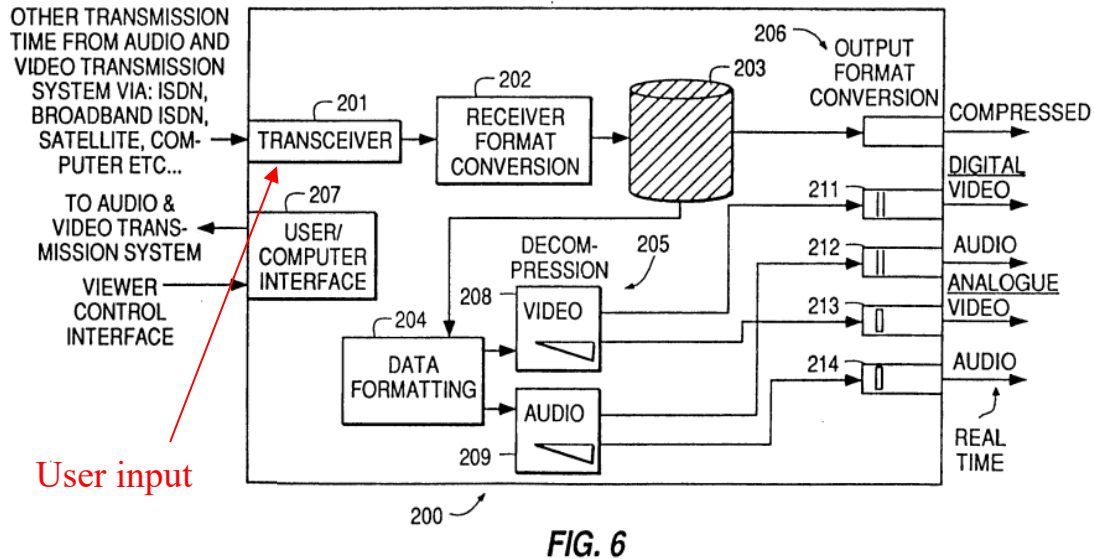
**c. [6.2] *a user input for connecting to one of the networks;***

**203.** Yurt teaches a user input for connecting to one of the networks.

**204.** According to the ’128 patent, the “*user input*” is “*for connecting to one of the networks,*” as well as “*receiving said requested data file via said user input.*” Ex.1001, claim 6. Thus, the “*user input*” in the ’128 patent performs the functions of a transceiver.

**205.** Yurt teaches that the reception system 200 includes a “transceiver 201” that receives transmissions from the various communication channels, including requested files. “The reception system 200 includes transceiver 201 **which receives the audio and/or video information** transmitted by transmitter 122 of the transmission system 100. The transceiver 201 automatically receives the information

from the transmitter 122 as compressed formatted data blocks.” Ex.1005, 18:3-8; *see also* Figure 6:



Ex.1005, Fig. 6 (annotated)

206. Thus, Yurt teaches “a user input for connecting to one of the networks.”

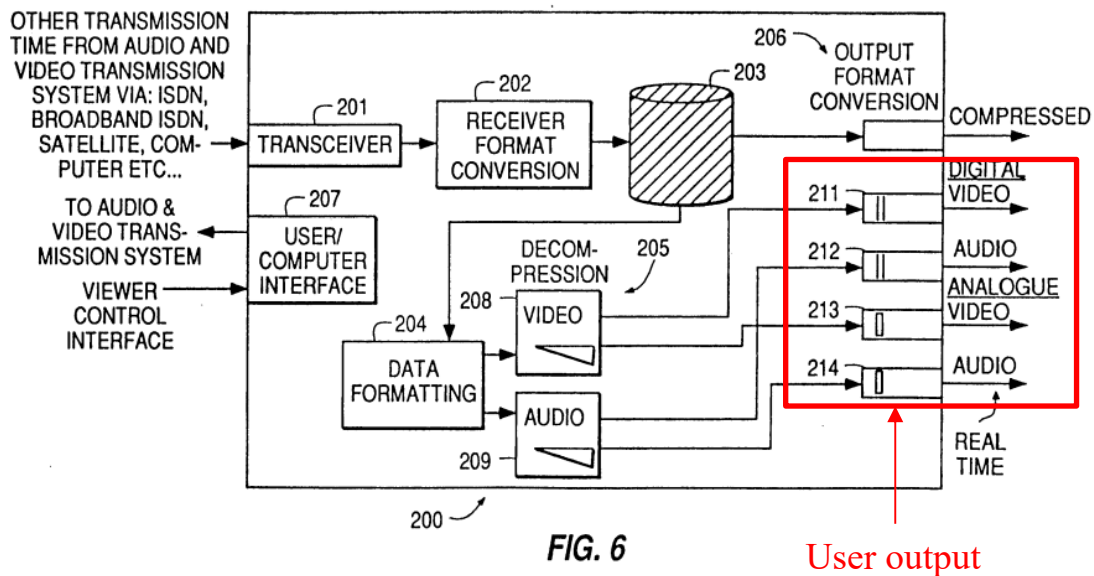
Yurt’s teachings would not be materially altered in the combination with Logan, either.

d. [6.3] a user output for connecting to an output device;  
and

207. Yurt teaches a user output for connecting to an output device.

208. According to the ’128 patent, the “user output” is “for connecting to an output device,” such that the requested data file is “provid[ed] ... to the output device via said user output” after receipt. Ex.1001, claim 6.

**209.** Yurt teaches this very same concept with its converters 211-214. Yurt's reception system 200 includes video and audio "output converter[s]," where "decompressed audio data" at the reception system 200 is provided at each of the outputs. Ex.1005, 18:27-34. "The outputs from converters 211-214 are produced in real time," and are provided e.g. "to a playback system such as a TV or audio amplifier." Ex.1005, 18:34-37; *see also* figure 6:



**Ex.1005, Fig. 6 (annotated)**

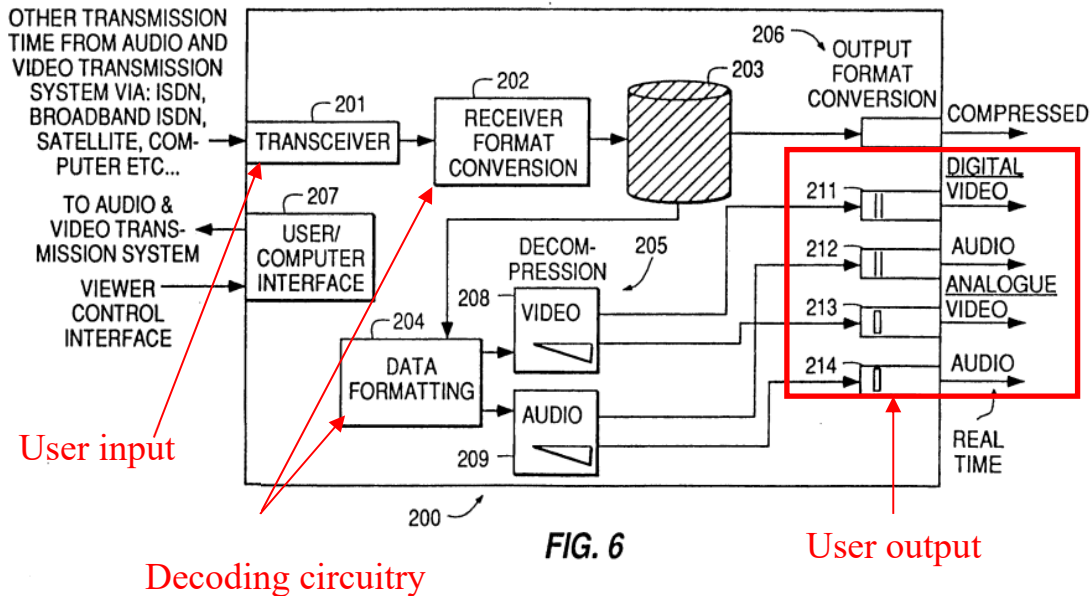
**210.** Thus, Yurt teaches "a user output for connecting to an output device." Yurt's teachings would not be materially altered in the combination with Logan, either.

- e. **[6.4] *decoding circuitry connected to said user input and output for receiving said requested data file via said user input and providing said requested data file to the output device via said user output.***

**211.** Yurt teaches decoding circuitry connected to said user input and output for receiving said requested data file via said user input and providing said requested data file to the output device via said user output.

**212.** As noted at [6.2], Yurt teaches receiving requested data files via the transceiver 201. As further noted at [6.3], Yurt teaches provided the requested data files to output devices via the converters 211-214.

**213.** Further, Yurt teaches “*decoding circuitry.*” When the communication is conveyed via cable, Yurt teaches using “cable television decoders” with “standard television receivers.” Ex.1005, 4:44-51. In particular, the cable television decoders achieve “decompression of the requested material” at the reception systems 200. Ex.1005, 4:44-46. Thus, Yurt teaches that decompression is an act of decoding. Yurt expressly teaches that the reception systems include “receiver format converter 202,” which “converts the compressed formatted data blocks into a format suitable for playback by the user in real time.” Ex.1005, 18:9-13; *see also* Figure 6:



Ex.1005, Fig. 6 (annotated).

**214.** Further, the files are sent to the data formatter 204 that “processes the compressed formatted data blocks and distinguishes audio information from video information.” Ex.1005, 18:22-26. The data formatter 204 may, therefore, also be seen as “*decoding circuitry*” alone or together with the format converter 202. Thus, when playback is desired, the decoded data goes through the converter 202 and data formatter 204 to the converters 211-214. Ex.1005, 18:9-35. By this process, and as seen in Figure 6 above, the decoding circuitry is therefore connected to both the transceiver 201 (“*user input*”) and the converters 211-214 (“*user output*”).

**215.** Thus, Yurt teaches “*decoding circuitry connected to said user input and output for receiving said requested data file via said user input and providing said requested data file to the output device via said user output.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

6. Claim 9

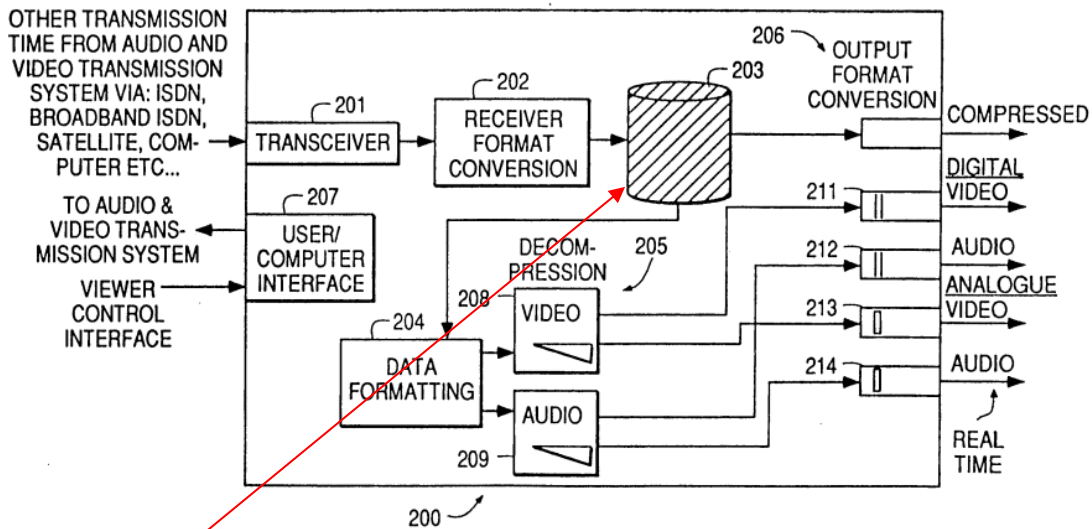
a. [9.0] *A system as claimed in claim 6*

216. See [2.0]-[2.2.3] and [6.0]-[6.4].

b. [9.1] *further comprising a storage device for recording the requested data file.*

217. Yurt discloses further comprising a storage device for recording the requested data file.

218. At Yurt's reception system, sometimes "the user may want to play back the requested item ... at a time later," in which case "the compressed formatted data blocks from receiver format converter 202 are **stored in storage 203.**" Ex.1005, 18:14-21. This demonstrates the "*storage device for recording the requested data file.*" As another example, requested audio may also "be sent to an audio/video recorder of the user." Ex.1005, 18:36-38; *see also* Figure 6:



Storage device

Ex.1005, Fig. 6 (annotated).

219. Thus, Yurt discloses “*further comprising a storage device for recording the requested data file.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

## 7. Claim 10

### a. [10.0] *A system as claimed in claim 6*

220. See [2.0]-[2.2.3] and [6.0]-[6.4].

### b. [10.1] *further comprising a telephone for sending a request from the user.*

221. Yurt teaches further comprising a telephone for sending a request from the user.

222. Yurt teaches additional ways in which to access the distribution system, including “via telephone tone decoders and voice response hardware.” Ex.1005,

13:53-64. This “allows the user to remotely select audio/video material from any location that has either telephone service or a computer.” Ex.1005, 1:62-66. One such location would have been recognized as being the location at which the reception system 200 is located, from where the user may place a request for a desired item through library access interface 121. *See* Ex.1005, 15:44-46. As a result, Yurt teaches the user sending the request via telephone.

**223.** Thus, Yurt teaches “*further comprising a telephone for sending a request from the user.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

**8. Claim 11**

**a.** [11.0] *A system as claimed in claim 2,*

**224.** *See* [2.0]-[2.2.3].

**b.** [11.1] *further comprising a modulator connected to said library and said processor for modulating said requested data file.*

**225.** Yurt renders obvious further comprising a modulator connected to said library and said processor for modulating said requested data file.

**226.** Yurt teaches that the transmission system 100, when processing a file request, “retrieves the composite formatted data block of the requested item stored in compressed data library 118 and converts the compressed data block **into a format suitable for transmission.**” Ex.1005, 13:40-45. It would have been obvious

to a POSITA that a “format suitable for transmission,” including via cable and satellite, would have included modulation.

227. Therefore, Yurt renders obvious “*further comprising a modulator connected to said library and said processor for modulating said requested data file.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

9. Claim 12

a. [12.0] *A method for distributing music, comprising the steps of:*

228. Yurt, alone and combined with Logan, renders obvious a method for distributing music.

229. As explained with respect to [1.0], Yurt discloses “[a] **system of distributing** video and/or **audio** information” using “digital signal processing.” Ex.1005, Abstract. Yurt expressly teaches “a distribution method” implemented by its system. Ex.1005, 2:49-61; 18:46-52. It would have been obvious that an example of audio files Yurt would distribute includes music. *See* analysis at claim 4. Thus, Yurt alone renders obvious this limitation.

230. Further, Logan teaches storing and distributing “audio voice and **music** files” and reproducing “music” at the receiving player. Ex.1006, 4:53-58. It would have been obvious to a POSITA for the digital audio files distributed by Yurt’s

method to include music, as further taught by Logan. This would have been a well-known type of audio file to distribute.

231. Thus, Yurt, alone and combined with Logan, renders obvious “*a method for distributing music.*”

b. [12.1] *providing the system of claim 2*

232. See [2.0]-[2.2.3].

c. [12.2] *generating at a user system a user request including information on a requested data file and a user address;*

233. Yurt discloses generating at a user system a user request including information on a requested data file and a user address.

234. As explained with respect to [1.1.4.2], Yurt explains that once the user has performed their search of the library, “the user **selects the item for transmission** at a certain time and **location.**” Ex.1005, 15:20-22. This includes an “identification code of the item” (which is an audio file). Ex.1005, 14:24-26. As another example, Yurt further teaches, via a user terminal, requesting an item which includes “identification of the item for transmission and the chosen destination for the item.” Ex.1005, 15:6-29. Thus, Yurt discloses requests for digital audio files and the location (*address*) of the user, which is generated at the user’s terminal.

235. Thus, Yurt discloses “*generating at a user system a user request including information on a requested data file and a user address.*” Yurt’s teachings would not be materially altered in the combination with Logan, either.

d. [12.3] *receiving said user request at said network interface;*

236. See analysis at [2.1.4.1] and [1.1.4.2].

e. [12.4] *processing said information of said user request;*

237. Yurt discloses processing said information of said user request.

238. Continuing with the user terminal example analyzed at [12.2], when the transmission system receives the user request, it is “placed into a transmission queue managed by the library system control computer 1123,” managed by a queue manager that “keeps track of the user ID, the chosen program and price, the user channel type, the number of requests for a given program, the latest delivery time, and the compressed data library media type (for example, high speed or low speed).” Ex.1005, 15:33-46.

239. By placing the request on the queue, and keeping track of all of the associated information, Yurt discloses “*processing*” of the request’s information. Yurt’s teachings would not be materially altered in the combination with Logan, either.

f. [12.5] *retrieving said requested data file from said library; and*

240. See analysis at [2.1.4.3] and [1.1.4.3].

- g. [12.6] *transmitting said requested data to file to said user system.*

241. See analysis at [2.1.4.5] and [1.1.4.4].

10. Claim 13

- a. [13.0] *A method as claimed in claim 12 further comprising the steps of:*

242. See [12.0]-[12.6] and [2.0]-[2.2.3].

- b. [13.1] *recording request information indicative of said requested data file and said user address.*

243. See analysis at [2.1.4.6] and [1.1.4.5].

11. Claim 14

- a. [14.0] *A method as claimed in claim 13 further comprising a step of*

244. See [12.0]-[12.6], [2.0]-[2.2.3], and [13.0]-[13.1].

- b. [14.1] *using the recorded request information for marketing statistics and billing information.*

245. Yurt combined with Logan renders obvious using the recorded request information for marketing statistics and billing information.

246. **First**, as explained with respect to [1.1.4.5], Yurt teaches maintaining databases with information about items maintained. See, e.g., Ex.1005, 7:50-55 (“item database records”), 8:45-47 (“system item database may contain information records for” items that include songs), 10:66-11:4 (details regarding the item “which may be of interest and which may make the items more accessible are kept in an **item database**”), 11:9-21 (database recording facts about the items). Yurt also

teaches the desirability of tracking the popularity of requested files. Ex.1005, 12:28-57; 15:38-41 (the transmission queue manager program operating in computer 1123 “keeps track of the **user ID, the chosen program** and price, the user channel type, **the number of requests for a given program**, the latest delivery time, and the compressed data library media type”).

**247. Second**, as further explained with respect to [1.1.4.5], Logan further teaches specifically storing user-specific information in “a **user data and usage log database indicated at 143** which **stores uploaded usage data** received from the store 109 in the player 103 ... The user data 143 **further contains additional data describing the preferences, demographic characteristics and program selections unique to each subscriber.**” Ex.1006, 5:35-45. Logan teaches using this stored information to generate records “of actual player use by individual subscribers,” and “performed on a periodic basis in connection with financial and accounting functions including **subscriber and advertiser billing**, content provider royalty payment accounting, and **marketing analysis processing.**” Ex.1006, 6:27-35. It would have been obvious to a POSITA to use Logan’s teaching of using user records for billing and marketing analysis, such as by using a combination of the information tracked by Yurt and Logan. Doing so would have beneficially resulted in aiding Yurt in making items more accessible (e.g., by popularity), as well as better

positioning popular files for easier access and/or better marketing opportunities, according to Logan's teachings.

248. Thus, the combination of Yurt and Logan renders obvious "*using the recorded request information for marketing statistics and billing information.*"

12. **Claim 17**

a. [17.0] *A system as claimed in claim 2,*

249. *See* [2.0]-[2.2.3].

b. [17.1] *wherein said data files include digitized video files.*

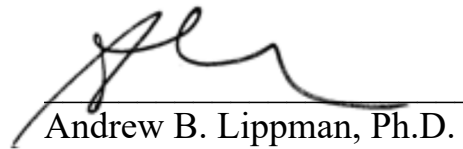
250. Yurt discloses wherein said data files include digitized video files.

251. As explained with respect to [1.0], Yurt discloses "[a] **system of distributing video** and/or audio information" using "digital signal processing." Ex.1005, Abstract. In particular, Yurt teaches storing and managing the "audio information" as "**digital** audio and **video** information" stored as a "file." Ex.1005, 5:66-6:7; 2:41-47. Thus, Yurt's digital video files discloses this limitation. Yurt's teachings would not be materially altered in the combination with Logan, either.

**X. CONCLUSION**

**252.** I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Dated: 10 March, 2025



Andrew B. Lippman, Ph.D.