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(54) **METHODS AND APPARATUS FOR CREATING, COMBINING, DISTRIBUTING AND REPRODUCING PROGRAM CONTENT FOR GROUPS OF PARTICIPATING USERS**

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G06F 15/16 (2006.01)

(52) **U.S. Cl.** **709/204**; 709/203

(58) **Field of Classification Search** 709/203, 709/204–206

See application file for complete search history.

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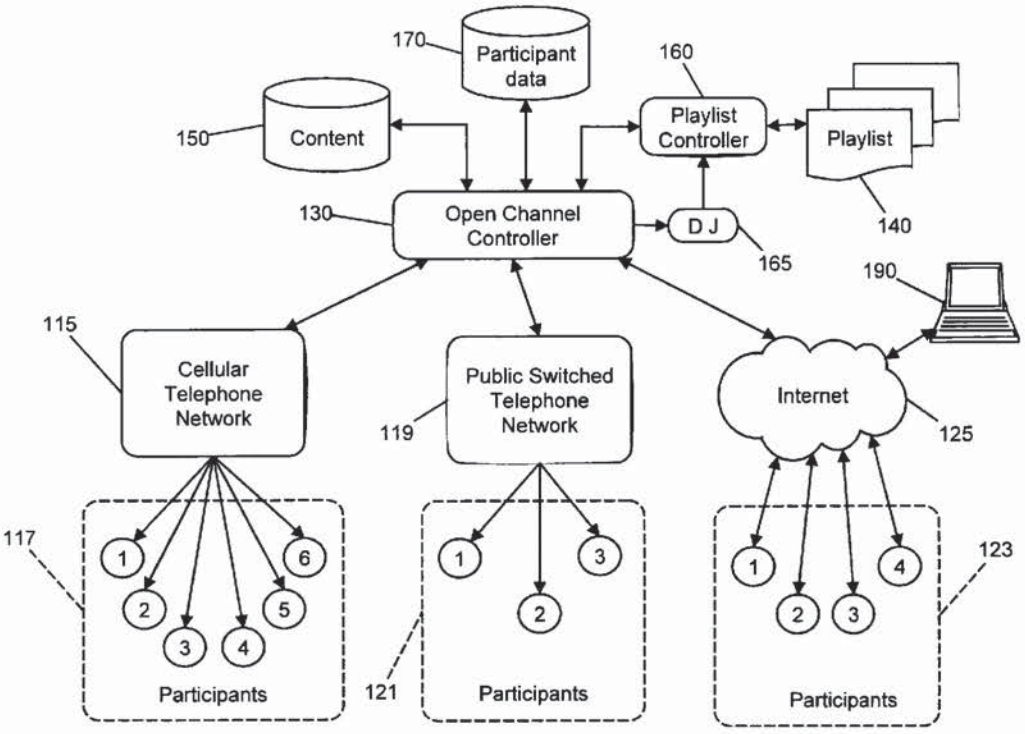
(57) **ABSTRACT**

A communications system for simulcasting audio or audio-visual program content to a plurality of participating system users via a communication network. Each user operates an access device that reproduces the received program content for the user and also accepts spoken comments from the user concurrently with or immediately following the reproduction of the program content. The spoken comments are transmitted to at least selected ones of the other users so that the selected users can engage in a conversation about the program content as it is simulcast.

26 Claims, 2 Drawing Sheets



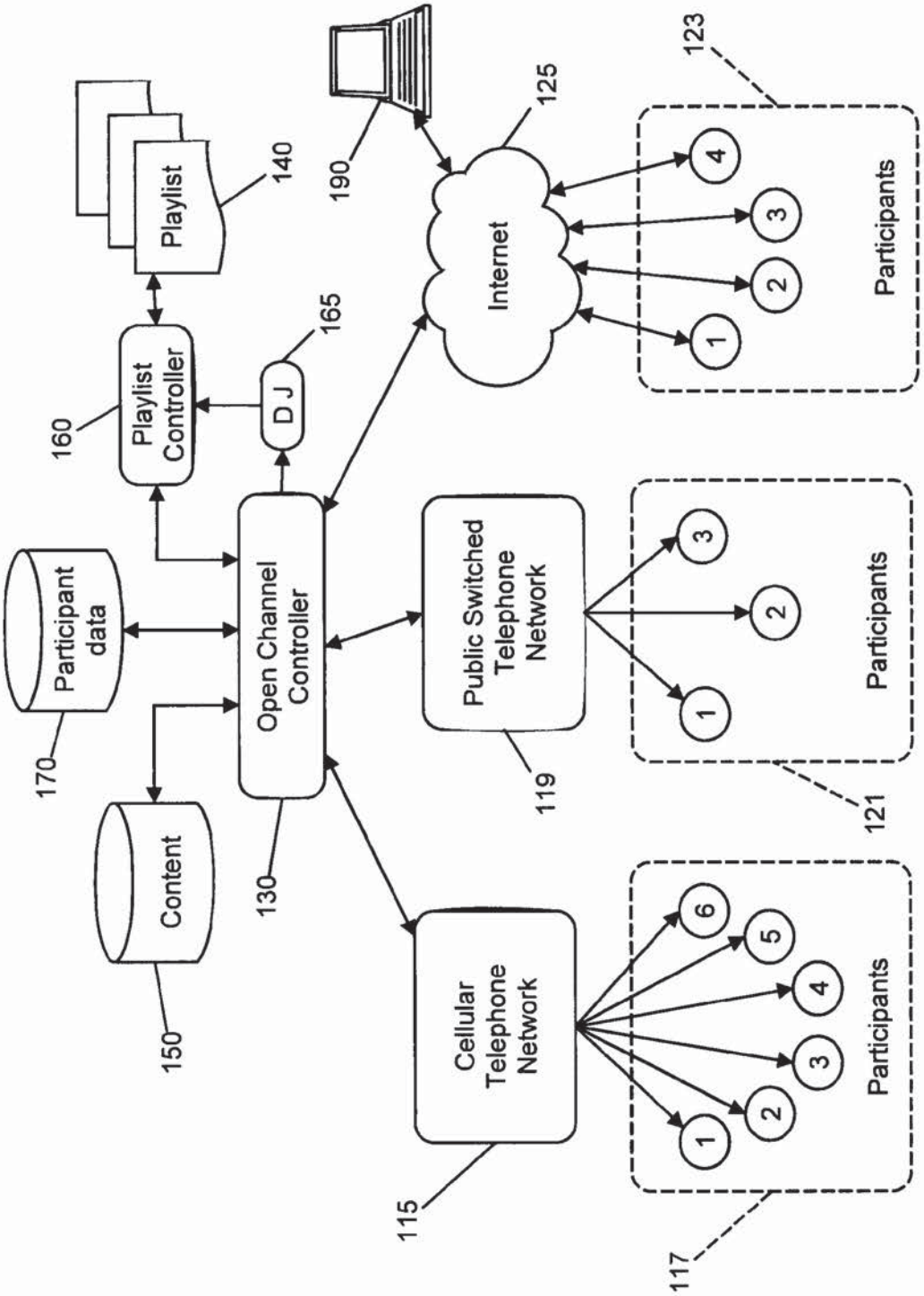


Fig. 1

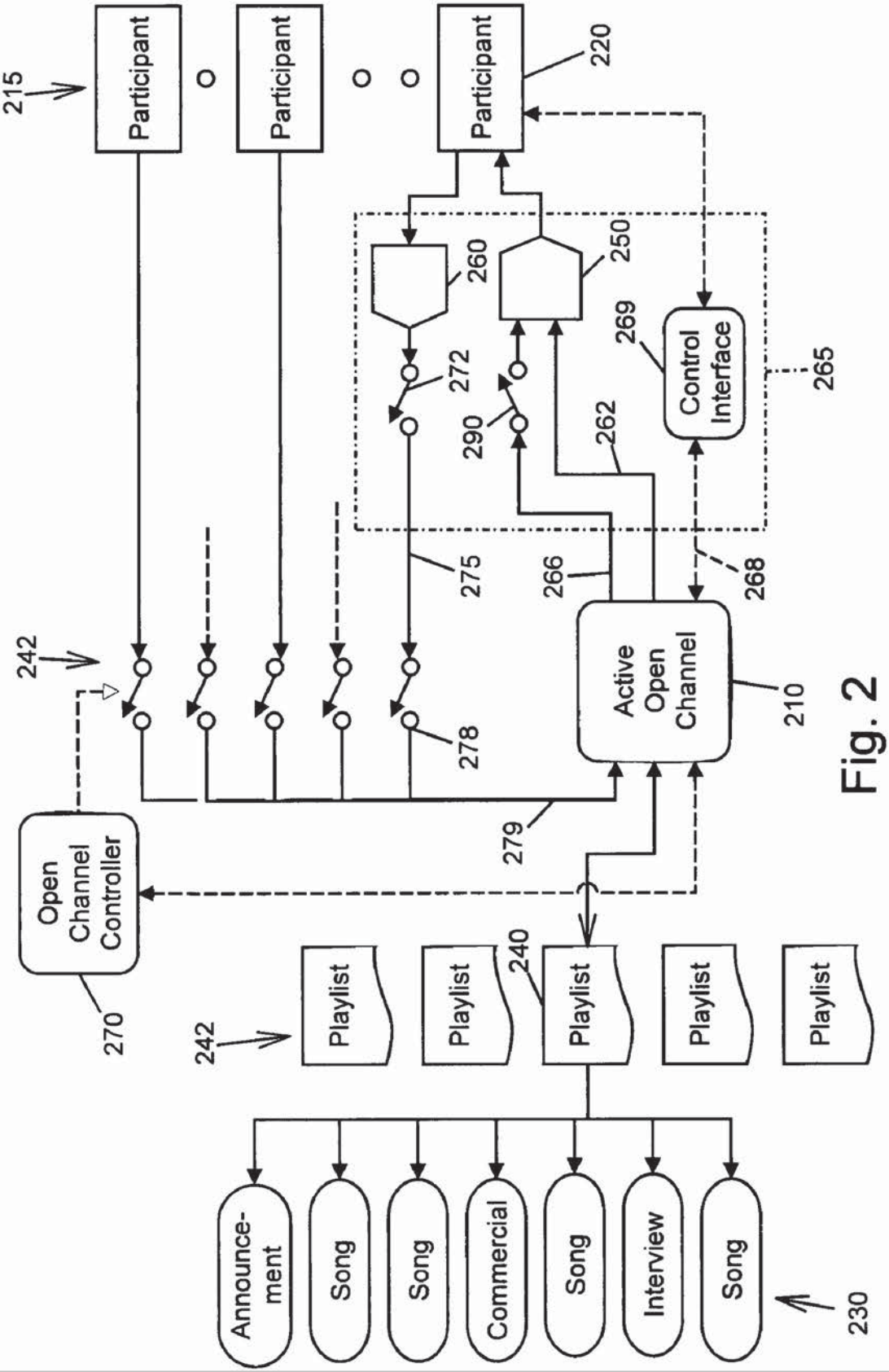


Fig. 2

METHODS AND APPARATUS FOR CREATING, COMBINING, DISTRIBUTING AND REPRODUCING PROGRAM CONTENT FOR GROUPS OF PARTICIPATING USERS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a non-provisional of, and claims the benefit of the filing date of, U.S. Provisional Patent Application Ser. No. 60/774,993 filed on Feb. 18, 2006.

The present invention makes use of methods and apparatus described in the following related U.S. Patents and a Patent Application Publication, the disclosures of which are incorporated herein by reference:

- U.S. Pat. No. 5,732,216 issued to James D. Logan et al. on Mar. 24, 1998 entitled "Audio Message Exchange System;"
- U.S. Pat. No. 5,721,827 issued to James D. Logan et al. on Feb. 24, 1998 entitled "System for Electrically Distributing Personalized Information;"
- U.S. Pat. No. 6,199,076 issued to James D. Logan et al. on Mar. 6, 2001 entitled "Audio Program Player including a Dynamic Program Selection Controller;"
- U.S. Pat. No. 6,816,577 issued to James D. Logan on Nov. 9, 2004 entitled "Cellular Telephone with Audio Recording Subsystem;"
- U.S. Pat. No. 6,788,766 issued to James D. Logan on Sep. 7, 2004 entitled "Methods and apparatus for providing location dependent cellular telephone communications," and
- U.S. Pat. No. 7,769,364 issued to James D. Logan et al. on Aug. 3, 2010, entitled "On demand voice mail recording system."

FIELD OF THE INVENTION

This invention relates to electronic media creation, delivery and playback systems.

BACKGROUND OF THE INVENTION

There are several emerging trends in the media industry that influence and facilitate the development of the present invention, including the following:

Content Creation: A radical democratization of the media creation process is underway, due to the distribution opportunities offered by the Internet and advances in content creation technology such as low-cost camcorders and music production systems. An aspiring entertainer can acquire a large audience without a label signing by using popular social network sites like MySpace®.

Content Licensing: The market for licensing of content such as music is becoming more robust and efficient. There are now services such as iTunes® where users can purchase single songs, subscription services such as Rhapsody® where users can have access to any song whenever desired so long as a monthly fee is paid, and Internet Radio where anybody can host a stream so long as certain playlist rules are followed and certain royalties are paid.

Collaborative Filtering: With listeners now having access to any song at any time, the challenge then becomes deciding what to listen to. People increasingly choose what to listen based on shared tastes and suggestions from friends. By 2010, it is estimated that 25% of online music store transactions will be driven directly by consumer-to-consumer taste sharing.

Thus people are relying on other people to decide what to play and what new music to explore.

Infrastructure and Hardware: Cell phone networks are being upgraded to 3G and other higher bandwidth platforms, and handsets are being augmented with the capability to receive streamed media content. Cell bandwidth is becoming cheaper and faster, and services such as Push to Talk are being more popular. Push to talk is now able to allow calls to 90 people simultaneously.

SUMMARY OF THE INVENTION

The following summary provides a simplified introduction to some aspects of the invention as a prelude to the more detailed description that is presented later, but is not intended to define or delineate the scope of the invention.

In its preferred embodiment, the present invention takes the form of a system, here called the "Open Channel System," for delivering program content to, and for concurrently enabling communication between, a plurality of participating users. The Open Channel System employs a first communications pathway for simultaneously sending the program content to a plurality of different program receivers, here called "Open Channel Receivers," each of which is operated by one of the participating users. The system employs a second, bidirectional communications pathway, which may be implemented by the same or a different communications facility, for coupling the members of a group of the participating users during or immediately after the transmission of the program content to establish a spoken conversation between the members of the group. A supervisory controller operable by a managing user, here called the "DJ" or "Disk Jockey," is used to select and transmit the program content to the participating users and to grant access to the use of the bidirectional communications pathway to the participants in the spoken conversation.

The DJ may select at least some of the program content in response to requests or preference indications received from at least some of said participating users, and may grant access to the bidirectional communications pathway in response to access requests received from participating users.

The program content simulcast to the participating users may be specified by a playlist file containing an ordered list of program segments. The system may incorporate an editor used by the DJ, or others, for modifying the playlist to vary the designated program segments or the order in which those segments are simulcast. The supervisory controller may inhibit the operation of the bidirectional pathway when at least a portion of at least some of said program segments is being transmitted.

Individual members of the group participating in the conversation may control the relative volume at which the received program content is played back relative to the volume at which the conversation is played, and may "mute" the transmission of spoken comments from that individual member. Individual members may also establish private connections with one or more other participating users.

The Open Channel System may simulcast video as well as audio content to participating users, and may exchange images or video clips between users as well as spoken comments via the bidirectional "conversation" channel. The Open Channel System may employ a web site or the like for establishing subscription agreements which specify the terms upon which the system will be used by subscribing participating users, and/or the Open Channel System may be used to

offered by cable companies, IPTV services, and online programming offered to subscribers via the Internet. The Open Channel System may further deliver advertising program segments to participating users.

The present invention contemplates combining the point-to-point, fixed-duration connections now typically provided by wireline, cellular and Internet telephone connections with new modes of "constant contact" or "constant operation". The illustrative embodiment of the invention described below provides users with connectivity to both program content and social communication through a facility called an "Open Channel" that allows one or more participating users to listen to, and add to, an audio program content stream at the same time the stream is being listened to. An Open Channel provides bidirectional communications capabilities that are similar to a conference call, except that a music stream provided to participating listeners in as high fidelity as possible is transmitted or "simulcast" to all participants most of the time the Open Channel is active. Telephones and other communications devices which are used to receive and reproduce content via an Open Channel are referred as Open Channel Receivers (OCRs), including cellular, VoIP, WiFi and wireline telephones, personal computers, PDAs, music players, cable "set top boxes," and radio and television broadcast receivers.

The specific preferred embodiment of the invention to be described, a system here called "the Open Channel System," provides a new form of audio entertainment, which may be termed "Social Listening," that combines music or video streaming with a conference-call connection technology. It envisions small groups of listeners sharing a common audio connection to a program source over a cellular network, VoIP Internet connections, or the public switched telephone network. The Open Channel System allows friends, or even strangers, to listen to or view a common program stream at the same time. In addition, bidirectional communications connections are established via the Open Channel that allows some or all of the participating listeners to talk to one another under controlled conditions before, during, and after the time a song or other program material plays.

In the preferred embodiment, the program content is defined by one or more editable playlists that may be authored or personalized to a group's tastes, and may be interactively modified as they are played. In one embodiment, the Open Channel System may be viewed as providing a new radio format, where most of the listeners are cell phone users who are participating in a conference call as they listen to music played by a "DJ" (disk jockey) who is typically one of the people participating in the conference call. Unlike conventional radio stations, the audio content provided by the Open Channel System through a selected Open Channel provides an ephemeral group listening, and the music or other audio content presented may be repeated in subsequent time periods to other groups of listeners.

The Open Channel System offers significant advantages not provided by conventional media. First, the Open Channel System offers a new way to find music or other content that is likely to match a given listener's taste in a world that is over-flowing with choices. Secondly, the Open Channel System offers a new, more interesting way to listen to or watch program content, one that is less sterile and predictable than listening to straight playlists of songs as one does when listening on an music player such as an iPod® or to a CD. Today, over 75% of music listening in cars occurs using the radio rather than listening to CDs. This is because radio brings life to an otherwise pure music medium by the introduction of randomness in the musical selections played, a DJ's voice and even advertising. The popularity of "talk radio" has also shown the appeal of listening to strangers converse about any

System combines these random music selections with human conversation and makes it conveniently available to cell phone users.

The Open Channel System offers a form of social listening, where one listener may know who else is listening at any moment in time. It is also participatory, and social, in that the specific content played can be a function of group inputs. In this regard, it is similar to playing music on a jukebox in a public forum or at a party. In these environs, multiple participants can play their favorite songs, jockey for position in the queue, and interact and talk with peers—all while everybody listens to the same music.

The Open Channel System goes beyond other music sharing forums, such as those found on the popular Internet web site MySpace®, in that not only can users share their playlists, but they can let others listen to their playlists at the same time the creator of the playlist is listening to it. Feedback and commentary can be synchronous with the playing music. Friends can listen to the group playlists while commenting over the music and influencing the selections dynamically.

The framework of social listening which the Open Channel System provides may also support other types of programming content types, such as newscasts, podcasts, talk radio sessions, or RSS text reader feeds rendered to speech. While the predominate focus of the preferred embodiment described below evolves around audio, and particularly music, it should be understood that in cases where bandwidth and display capabilities permit, accompanying images or full-motion video, in particular from music video recordings, can also be delivered. Accordingly, although users of the system will be frequently referred to as "listeners," it should be understood that these users may also be "viewers" of content delivered through the "Open Channel." In a system that supports visual displays, the visual component presented to all participants (still images or full motion video) may be the visual component of the simulcast program content segments as those segments are transmitted, and may be an image representative of the individual speaker (e.g. a photograph or an avatar, or a full motion "videophone" picture), switching the image to that person who is speaking while "conference call" type conversations are going forward between program segments.

It should also be understood that, although the embodiment described in detail below can be accessed and used by cellular or WiFi phone users, the instrumentalities that may be used to provide the communications capabilities that implement an "Open Channel" may be provided by a variety of communications networks, some of which may be used in combination to transfer the program content to listeners, to provide bidirectional communications between listeners, and to transfer the control commands between participating listeners and system administrators and the program delivery mechanisms which provide desired system functions.

BRIEF DESCRIPTION OF THE DRAWINGS

In the detailed description which follows, frequent reference will be made to the attached drawings, in which:

FIGS. **1** and **2** are functional block diagrams illustrating the organization and function of the principle building blocks of an embodiment of the invention

DETAILED DESCRIPTION

Overview

The Open Channel System makes an Open Channel (Open Channel) available to a group of participating users who receive content from the Open Channel via different communication facilities, as illustrated in FIG. **1**. In this illustrative

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