



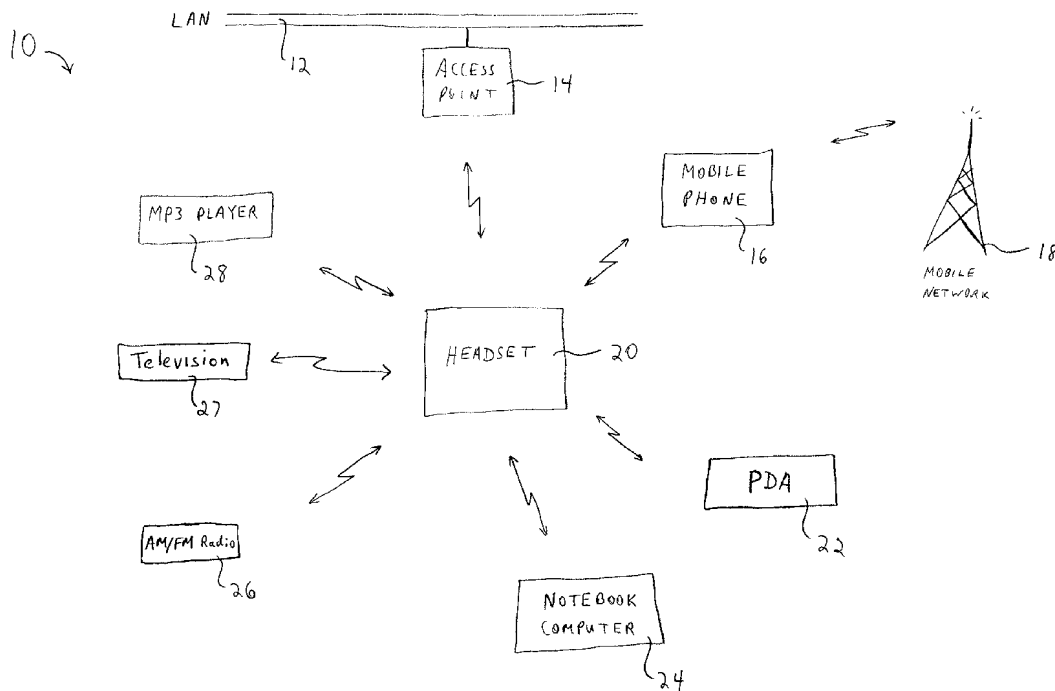
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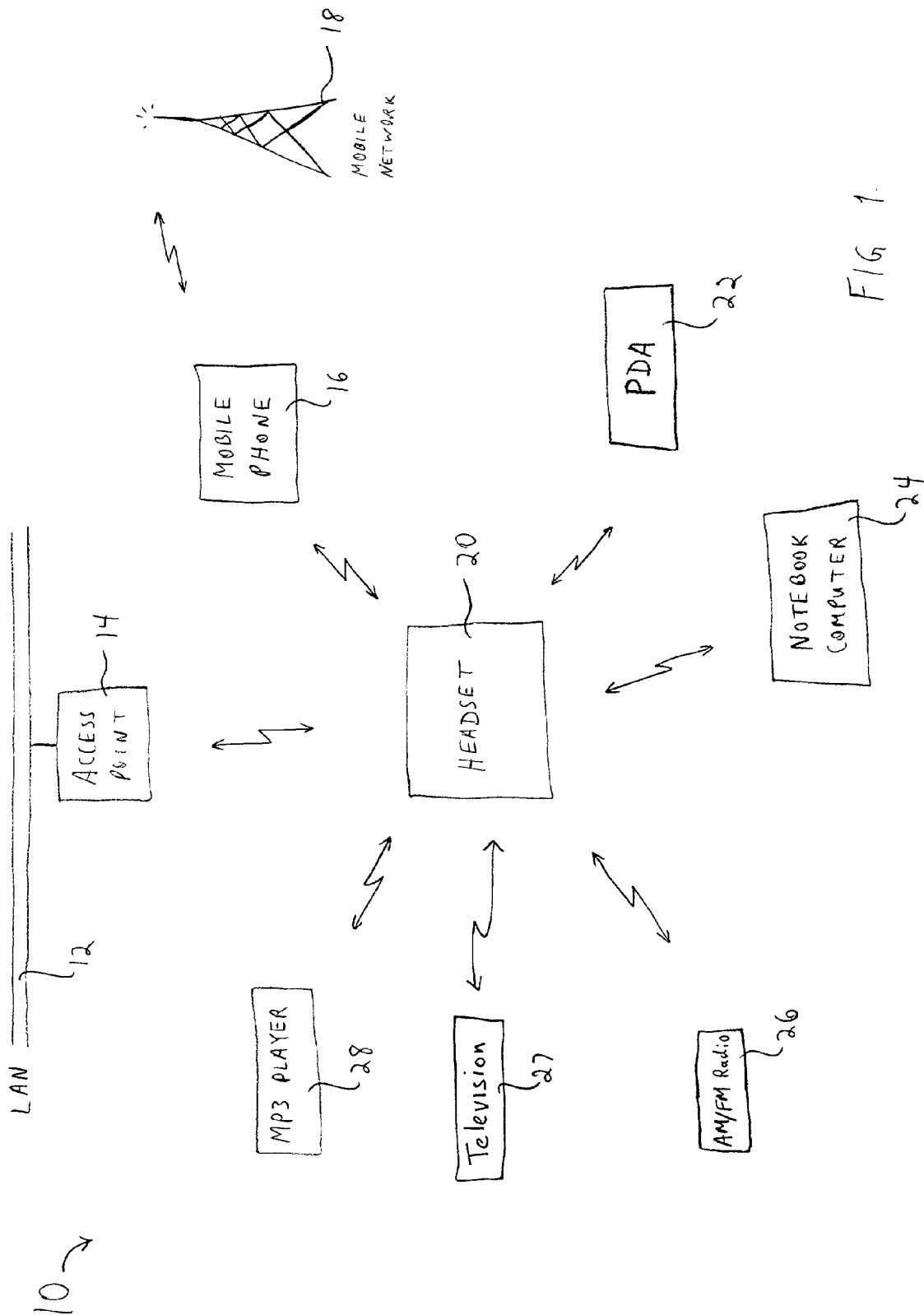
(19) **United States**(12) **Patent Application Publication**
Mooney et al.(10) **Pub. No.: US 2002/0098878 A1**(43) **Pub. Date: Jul. 25, 2002**(54) **SYSTEM AND METHOD FOR SWITCHING
BETWEEN AUDIO SOURCES****Publication Classification**(51) **Int. Cl.⁷ H04B 1/38**(52) **U.S. Cl. 455/569; 455/550; 455/575;
455/90**(76) **Inventors: Philip D. Mooney**, Sellersville, PA
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**DICKSTEIN SHAPIRO MORIN & OSHINSKY
LLP****2101 L STREET NW****WASHINGTON, DC 20037-1526 (US)**(57) **ABSTRACT**

A system and method is provided for monitoring a plurality of audio sources and switching from one to another of the audio sources in accordance with a stored program. An audio output device receives a signal from each of the portable electronic devices and selectively switches the contents of its output according to at least one preprogrammed user preference. The audio output device also automatically communicates with transceiver modules connected to local information systems, for example within a vehicle, office or shopping center. Based on programs stored in a storage device connected to the headset, the local information sources may be monitored and selected to interrupt other audio sources received by the headset when desired.

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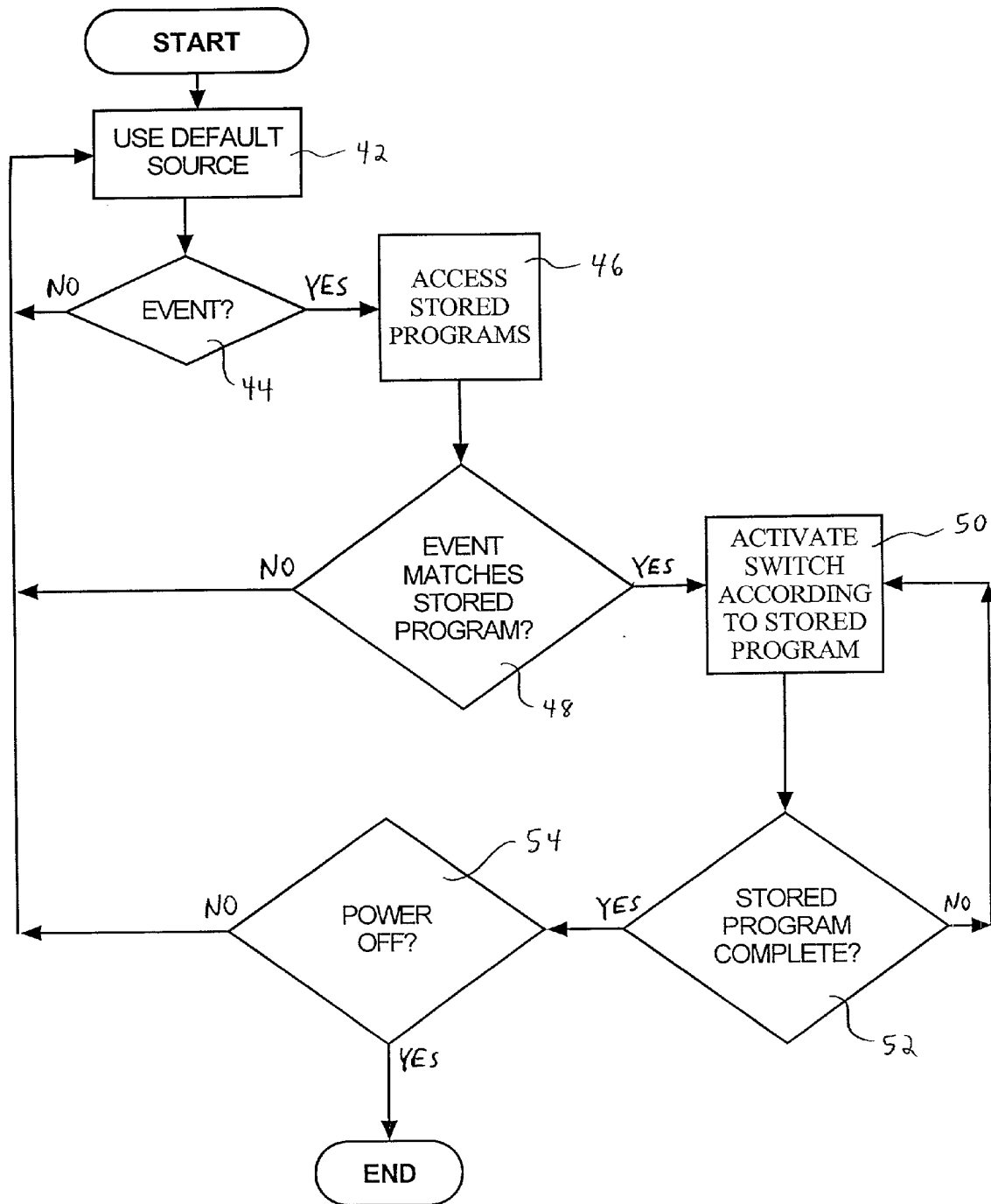


FIG. 2

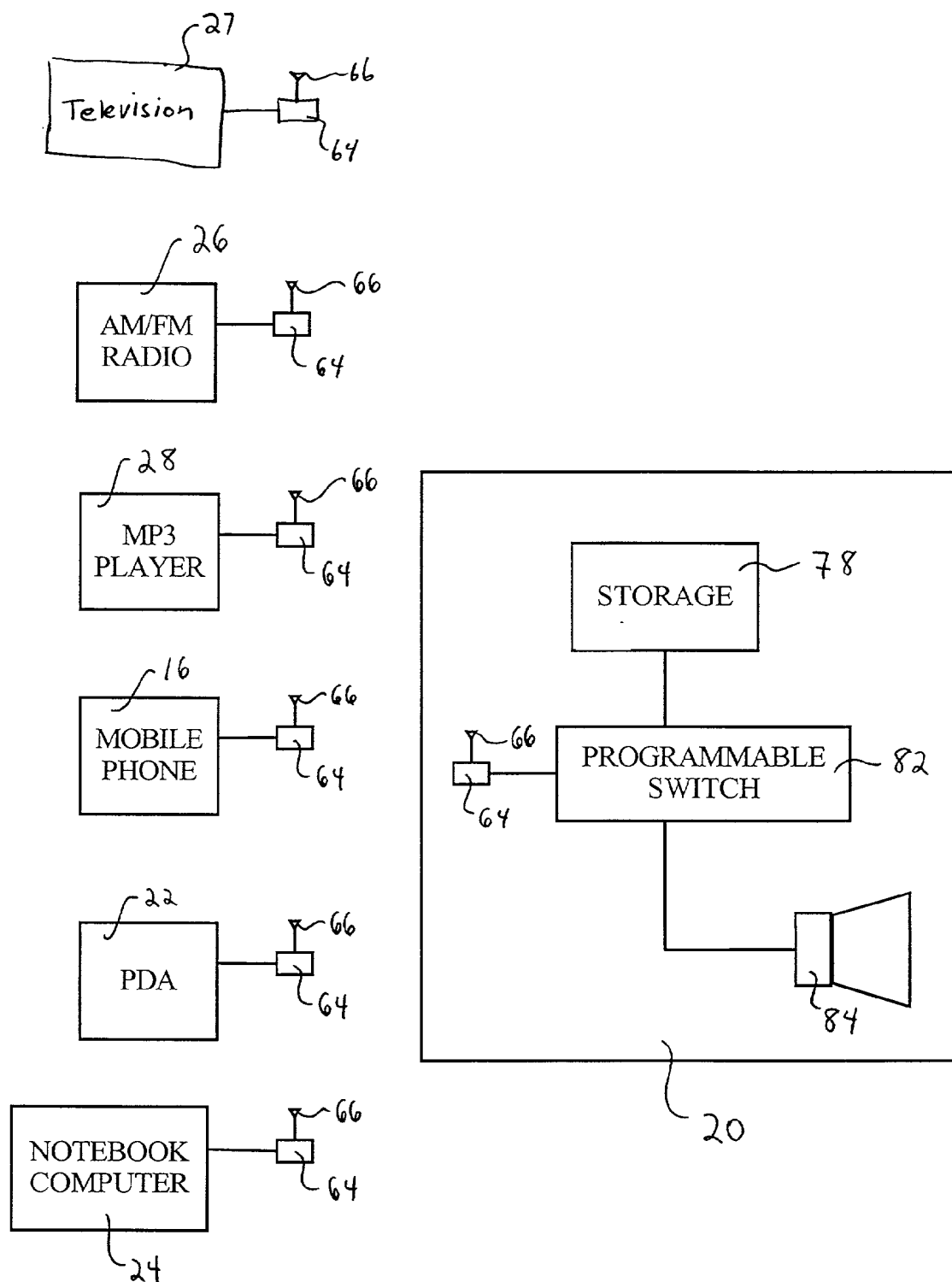


FIG. 3

SYSTEM AND METHOD FOR SWITCHING BETWEEN AUDIO SOURCES

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates generally to communications between electronic devices, and, more particularly, to a system and method for switching the output of an audio device from one to another of a plurality of audio sources in accordance with a stored program.

[0003] 2. Description of the Related Art

[0004] In recent years, public use of portable electronic devices, such as wireless communication and playback devices, i.e., cell phones, personal digital assistants (PDAs), personal computers, compact disc (CD) players, AM/FM radios and the like, have increased greatly. To enhance their mobility, such devices are designed to be light and compact. A user should be able to comfortably carry the device in a pocket, purse or briefcase. Many of these devices are typically provided with several user friendly functions, for example programmable settings for easy configuration, standardized audio outputs, clocks, calendars and the like.

[0005] Despite all of the technological advancements, such portable electronic devices are not without their shortcomings. For example, while many of the electronic devices are compatible with standard audio output (e.g., they have a headphone jack), a user may encounter difficulties in using multiple devices simultaneously or sequentially as desired. A conventional audio output device, for example a headphones set or headset, typically permits a user to monitor the audio output of only one device at a time. Thus, a user may miss an important mobile telephone call if the user is listening to the audio output of the CD player instead of the mobile telephone. For another example, a user may not be notified of an important electronic message received at a notebook computer if the user is instead listening to the audio output of an AM/FM radio.

[0006] To combat these shortcomings, one common solution is to enable a sound generator for each portable electronic device and set the output level to a high enough value so that each device is capable of interrupting any other. This solution is undesirable in many public spaces because it annoys those within audible range and generally adds to the noise pollution problem already pervasive at most public gatherings.

[0007] Another common solution is to use a personal headset and manually switch between devices as desired. In addition, several headsets may be worn by a single user simultaneously. These solutions are cumbersome and the use of multiple headsets is often considered unsightly. When multiple devices are monitored simultaneously, frequent manual switching may become a burdensome task requiring a user to devote substantial time and attention to monitoring several audio devices for the occurrence of impromptu events, i.e., listening for the ring of the mobile telephone, the beep of the pager, the e-mail alert sound of the notebook computer and/or the appointment alert of the PDA, and then manually switching to the appropriate device when an audible alert is received. For many portable electronic devices, the user must react to the alert and switch between

audio sources within a short time period to receive an incoming message, for example receiving a mobile telephone call.

[0008] Therefore, there exists a need and desire for a system and method that will simplify the task of switching between multiple available audio devices in a timely fashion in response to preprogrammed events.

SUMMARY OF THE INVENTION

[0009] The present invention mitigates the problems associated with the prior art and provides a unique system and method for monitoring a plurality of audio sources and switching from one to another of the audio sources in accordance with a stored program.

[0010] In accordance with one aspect of the invention, portable electronic devices are provided with built-in transceiver modules which automatically communicate with each other and with an audio output device that also has a built-in transceiver module. The audio output device receives a signal from each of the portable electronic devices and selectively switches the contents of its output according to at least one preprogrammed user preference.

[0011] In accordance with another aspect of the invention, a personal audio output device, e.g., a headset, is provided with a built-in transceiver module which automatically communicates with transceiver modules connected to local information systems, for example within a vehicle, office or shopping center. Based on programs stored in a storage device connected to the headset, the local information sources may be monitored and selected to interrupt other audio sources received by the headset when desired.

[0012] In accordance with another aspect of the invention, switching between audio sources may be performed on the basis of the contents of the incoming message. For example, a user may program the headset to receive certain high-priority messages (e.g., a fire alarm), but bypass certain low-priority messages (e.g., advertisements) available from local information sources.

[0013] These and other advantages and features of the invention will become apparent from the following detailed description of the invention which is provided in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] **FIG. 1** illustrates a communications network including a plurality of electronic devices that may be monitored and selected for audio output in accordance with an exemplary embodiment of the invention;

[0015] **FIG. 2** illustrates in block diagram form a method for switching between audio sources in accordance with an exemplary embodiment of the invention; and

[0016] **FIG. 3** illustrates a plurality of audio sources and an audio output device including a programmable switch that operates in accordance with the exemplary embodiment illustrated in **FIG. 2**.

DETAILED DESCRIPTION

[0017] The present invention will be described as set forth in the exemplary embodiments illustrated in **FIGS. 1-3**.

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