



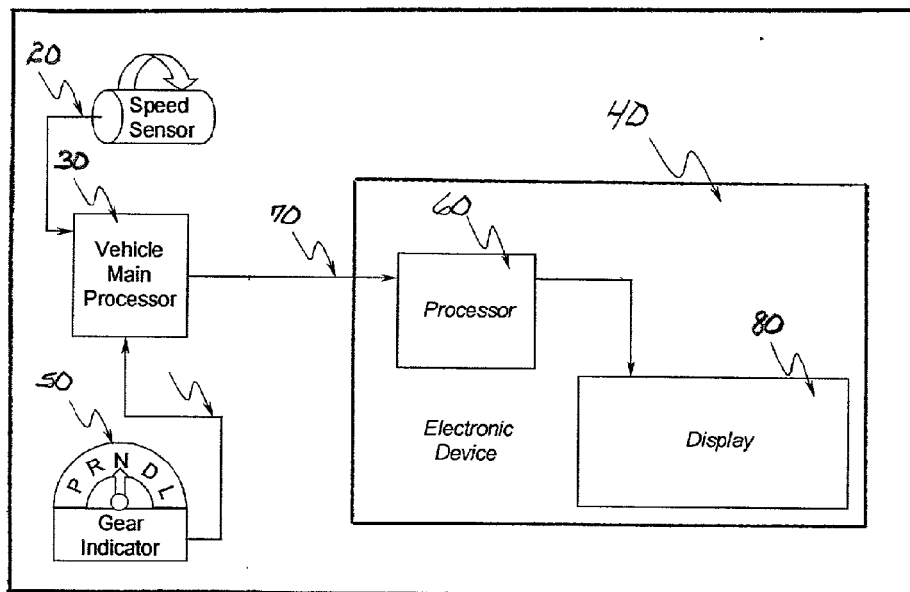
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(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2002/0141600 A1****Siwinski**(43) **Pub. Date:****Oct. 3, 2002**(54) **SYSTEM FOR CONTROLLING
INFORMATION RECEIVED IN A MOVING
VEHICLE****Publication Classification**(51) **Int. Cl.⁷** **H04B 1/00**(52) **U.S. Cl.** **381/86**(75) **Inventor:** **Michael J. Siwinski, Rochester, NY
(US)**

Correspondence Address:
Thomas H. Close
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201 (US)

(73) **Assignee:** **Eastman Kodak Company**(21) **Appl. No.:** **09/821,564**(22) **Filed:** **Mar. 29, 2001**(57) **ABSTRACT**

A system for controlling information received in a moving vehicle comprises a sensor for sensing if the vehicle is in motion; a processor electrically connected to the sensor for receiving motion data from the sensor, and for directing operations of the vehicle; an electronic component within the vehicle which delivers information to a user of the electronic component, wherein the information being either delivered or received is either disabled or modified by the processor according to the motion data received from the sensor.

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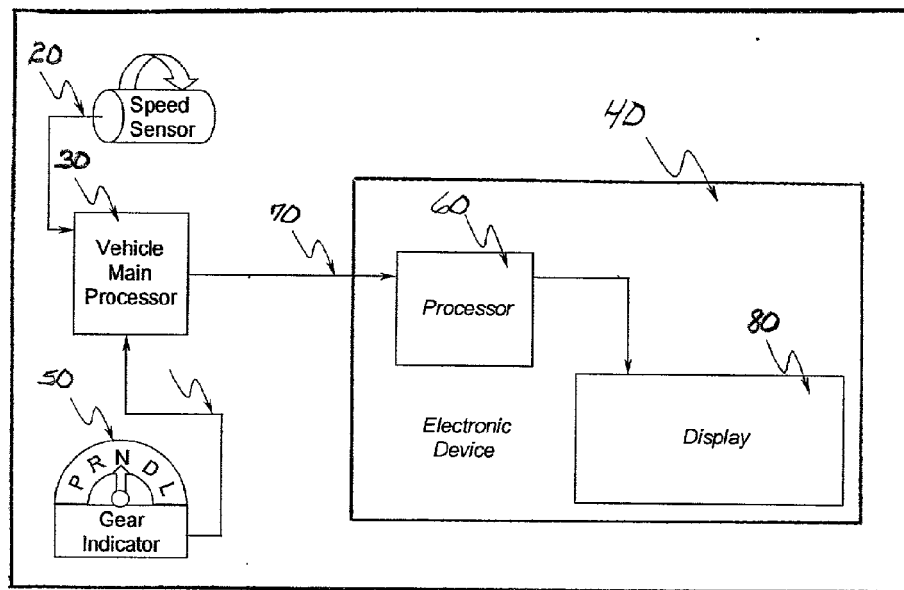


Figure 1

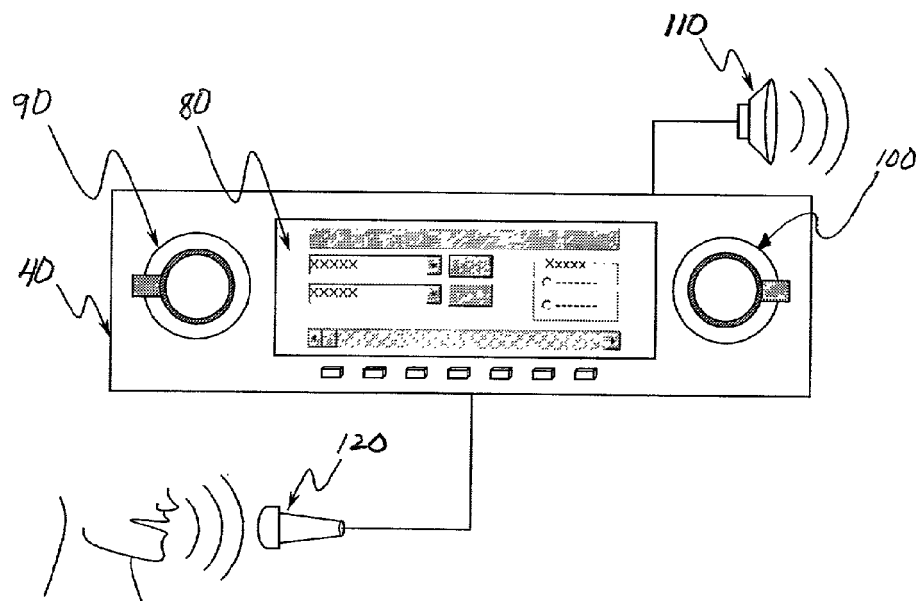


Figure 2

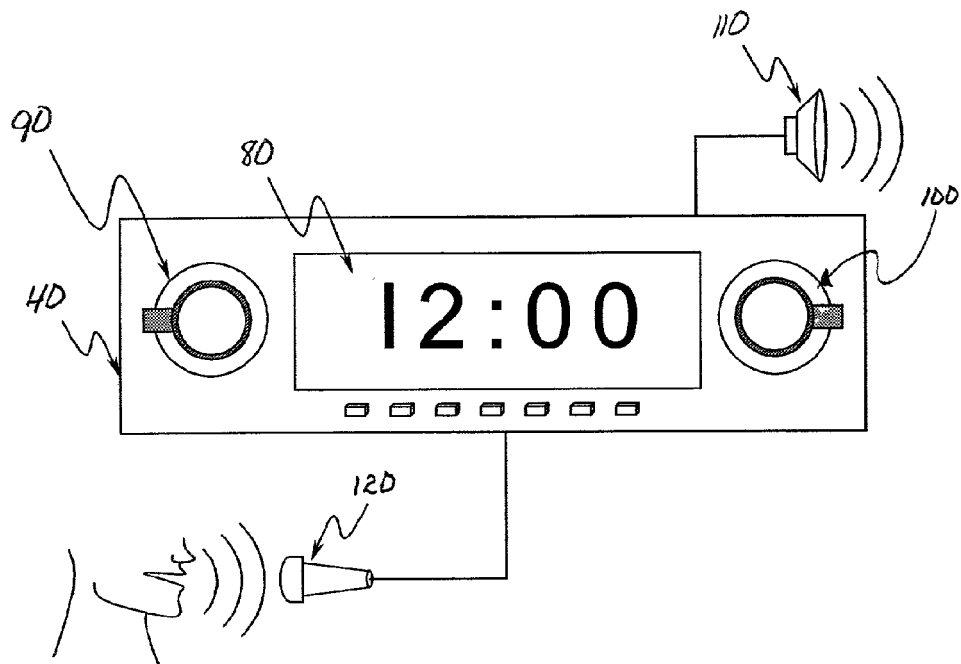


Figure 3

SYSTEM FOR CONTROLLING INFORMATION RECEIVED IN A MOVING VEHICLE

FIELD OF THE INVENTION

[0001] This invention relates generally to portable and automotive consumer electronic devices and, more particularly, to such electronic devices in which the safety of the occupants using these devices in an automobile is enhanced by limiting information therefrom or thereto during pre-defined conditions.

BACKGROUND OF THE INVENTION

[0002] There is a growing trend to add Internet and wireless connectivity to all sorts of portable consumer electronic devices. Typical examples of such devices are cell phones and pagers, hand-held computers, global positioning devices, car stereos, car dashboard displays including "heads-up" displays, laptop computers, and the like. This connectivity will allow a user to read text, view still and moving images, listen to audio content, and interact with the content through touch screens, voice commands, and the like. Automated control of such electronic devices is developing in response to the rapid growth of these devices.

[0003] For example, modern vehicles already provide a number of sensed conditions as electrical signals, which are readily accessible to the electronics installed in that vehicle. An example of this is disclosed in U.S. Pat. No. 5,677,960. This patent discloses a car stereo that can sense engine speed (and therefore vehicle speed) by analyzing the AC noise signal component that is present in the DC current supplied to the stereo. The radio adjusts its volume to compensate for various levels of anticipated road noise. Other useful signals present in most vehicles are the speed of the vehicle, which gear the vehicle is in, loss of traction, loss of braking ability, the state of the engine (whether running or off, and the speed of the engine), and the like.

[0004] Although the presently known and utilized system of automated control of electronic devices is satisfactory, they include drawbacks. The use of these devices by the driver of a moving vehicle can be inherently dangerous because the driver's attention may be diverted from the road while looking at the content displayed.

[0005] Consequently, a need exists for an improved system of receiving electronic information during certain conditions.

SUMMARY OF THE INVENTION

[0006] The present invention is directed to overcoming one or more of the problems set forth above. Briefly summarized, according to one aspect of the present invention, the invention resides in a system for controlling information received in a moving vehicle comprising: (a) a sensor for sensing if the vehicle is in motion; (b) a processor electrically connected to the sensor for receiving motion data from the sensor, and for directing operations of the vehicle; (c) an electronic component within the vehicle which delivers information to a user of the electronic component, wherein the information being either delivered or received is either disabled or modified by the processor according to the motion data received from the sensor.

[0007] These and other aspects, objects, features and advantages of the present invention will be more clearly

understood and appreciated from a review of the following detailed description of the preferred embodiments and appended claims, and by reference to the accompanying drawings.

ADVANTAGEOUS EFFECT OF THE INVENTION

[0008] The present invention has the advantages of providing safety features that may be desirable or required in order to operate a moving vehicle. These features reduce or eliminate distractions caused by excessive audio and visual information delivered by an electronic device that requires interactive use.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The objects, features and advantages of the present invention will be apparent from the following description taken in conjunction with the accompanying drawings, in which:

[0010] **FIG. 1** is a schematic diagram of the automated control system of the present invention;

[0011] **FIG. 2** is a preferred embodiment of the electronic device of **FIG. 1**; and

[0012] **FIG. 3** is an alternative state of the embodiment of **FIG. 2**.

DETAILED DESCRIPTION OF THE INVENTION

[0013] Referring to **FIG. 1**, there is shown a schematic diagram of the automated control system of the present invention for use in a vehicle **5**, for example an automobile. The control system includes a sensor **20** for sensing the speed of the automobile by any well-known means, for example by sensing wheel rotation speed and the like. The sensor **20** is electrically connected to the main processor **30** of the automobile for enabling the processor **30** to automatically direct control of electronics devices **40**, as will be described in detail hereinbelow. The main processor **30** is also electrically connected to a gear indicator **50** for permitting the processor **30** to know the gear status, for example park, drive, neutral and the like.

[0014] There is also shown any portable electronic device **40**, or any electronic device **40** permanently installed in the automobile, having a processor **60** which is electrically connected to the main processor **30**. The connection **70** between the two processors **30** and **60** may be either wireless or hardwired. The electronic device **40** further includes a display **80** for displaying information to the occupants of the automobile. This display **80** may be a touch-sensitive display or conventional display. The device **40**, either portable or permanently installed, may be wirelessly connected to the Internet for permitting reception and transmission of data thereon.

[0015] Referring to **FIG. 2**, there is shown a specific embodiment of the electronic device **40**, a car stereo, having a wireless Internet connection, volume **90** and channel **100** control knobs for controlling the sound volume and channel selection, and the display **80** discussed hereinabove.

[0016] Referring to both **FIGS. 1 and 2**, when the sensor **20** does not sense motion, it sends a signal to the main

processor **30** for indicating that the vehicle is not in motion. The main processor **30** then sends a signal to the processor **60** of the device also indicating that the vehicle is not in motion. This processor **60** will then enable or permit operation of the Internet connection. Alternatively, or in addition to the above-described enablement of the Internet connection, the gear indicator **50** may be used for enabling the Internet connection. This operation is similar to the above-described process except that the main processor **30** receives a signal from the gear indicator **50** indicating that the vehicle is not currently positioned or engaged in a motion gear. As should be inherent from the above description, the Internet connection is only enabled when the automobile is not in motion and/or the gear indicator **50** is not positioned in a motion gear such as drive, reverse or the like. Conversely, when the automobile is in motion and/or the gear indicator **50** is positioned in a motion gear, the Internet connection is disabled.

[0017] Alternatively to having the processor **60** of the car stereo **40** receiving a motion status signal from the vehicle's main processor **30**, the car stereo **40** may include a global positioning system, i.e., GPS, (not shown) for detecting motion of the vehicle. In this regard, other electronic devices **40** such as portable devices may also include a GPS for detecting motion.

[0018] An additional feature of the current embodiment is that the inputs to the car stereo **40**, such as the touch screen input **80** or input from mechanical devices, may be controlled using the sensed motion data in the same manner as for the control of the visual information described hereinabove. The touch sensitive device **80** may be disabled, or the information received from the touch-sensitive device **80** may be substituted, reduced, or modified according to the motion data received from the sensor **20**.

[0019] Referring to FIG. 2, a still additional feature of the current embodiment is that the audio output **110**, such as speaker output, or voice input **120**, such input as a microphone, of the car stereo **40** may be controlled (disabled, substituted, reduced or modified) using the sensed motion data. In this regard, the process is the same as for visual information except that the audio information is either disabled or enabled according to the motion status signal received from the main processor.

[0020] Referring to FIGS. 2 and 3, there is shown the same car stereo **40** when the car is moving or in motion. The sensor **20** senses or detects motion and sends a signal to the main processor **30** indicating that the vehicle is in motion. The main processor **30** then sends a signal to the processor **60** of the device indicating that the vehicle is in motion. This processor **60** will then disable or prohibit operation of the Internet connection. The display **80** of the car stereo may substitute a limited amount of information, such as the time and the like shown in FIG. 3, for the Internet-related information.

[0021] The invention has been described with reference to a preferred embodiment. However, it will be appreciated that variations and modifications can be effected by a person of ordinary skill in the art without departing from the scope of the invention. For example, the electronic devices may include such devices as portable computers, global positioning systems, cell phones, pagers and the like. Still further, the present invention may be used in a boat, airplane, motorcycle and the like.

PARTS LIST

[0022]	5	automated control system
[0023]	20	sensor
[0024]	30	main processor
[0025]	40	electronic device
[0026]	50	gear indicator
[0027]	60	processor
[0028]	70	connection
[0029]	80	display
[0030]	90	volume control knob
[0031]	100	channel control knob
[0032]	110	audio output
[0033]	120	voice input

What is claimed is:

1. A system for controlling information received in or transmitted from a moving vehicle comprising:

- (a) a sensor for sensing if the vehicle is in motion;
- (b) a processor electrically connected to the sensor for receiving motion data from the sensor, and for directing operations of the vehicle; and
- (c) an electronic component within the vehicle which delivers information to a user of the electronic component, wherein the information being either delivered or received is either disabled or modified by the processor according to the motion data received from the sensor.

2. The system as in claim 1 further comprising a display electrically connected to the electronic component which said display is disabled according to the motion data received from the sensor.

3. The system as in claim 1 further comprising a display electrically connected to the electronic component which information being displayed by the display is either substituted, reduced, or modified according to the motion data received from the sensor.

4. The system as in claim 1 further comprising an audio output component having audio output which audio output being delivered by the audio output component is either disabled, substituted, reduced, or modified according to the motion data received from the sensor.

5. The system as in claim 1 further comprising a touch-sensitive input device having user input received by the touch-sensitive input device wherein the touch-sensitive device is disabled, or information received from the touch-sensitive device is either substituted, reduced, or modified according to the motion data received from the sensor.

6. The system as in claim 1 further comprising a voice input device having user input received by the voice input device wherein the voice-input device is disabled, or information received from the voice-input device is either substituted, reduced, or modified according to the motion data received from the sensor.

7. The system as in claim 1 further comprising a mechanically activated input device having user input received by the mechanical device, wherein the mechanical device is disabled, or input received from the mechanical device is

either substituted, reduced, or modified according to the motion data received from the sensor.

8. The system as in claim 1 further comprising a connection to a data network having data received from or supplied to the data network, wherein the connection to the data network is disabled, or the received or supplied data is either

substituted, reduced, or modified according to the motion data received from the sensor.

9. The system as in claim 1 wherein the electrical component is either portable or integrally attached to the vehicle.

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