

regulate charging of the electrical power source **102** by the mobile communication device electrical power source **104**. In exemplary embodiments, the controller **108** comprises a voltage/current control device for controlling the voltage and current of the electrical signal supplied to the electrode assembly **106** by the electrical power source **102**. In one embodiment, the controller **108** further includes a switch or switching assembly for turning the electrical signal on and off to apply one or more discernable electrical pulses to the skin of the user. In other embodiments, the controller may comprise a processor based system for controlling characteristics of the electrical signal such as the voltage of the electrical signal, the current of the electrical signal, the amplitude of the electrical signal, the point on the body where the electrical signal is applied, the form or nature of the electrical signal (e.g., the length of the electrical signal, frequency of application of the electrical signal, etc.), or the like, to vary the electrical stimulation applied to the body of the user. Preferably, the user may select and assign distinct electrical stimulations to be associated with particular types of information received or provided by the mobile communication device **100**. Alternatively, default electrical stimulations may also be assigned, for example, if user assignment is not provided. In this manner, the controller **108** may provide an electrical stimulation having a distinctive sensation for distinguishing the type of information received or provided by the mobile communication device **100**.

[0025] As shown in FIG. 1B, the controller **108** may be coupled to a main data processing unit **110**, which controls operation of the mobile communication device **100**. When it is desirable that the user be silently notified that information has been received or generated by the mobile communication device **100** (e.g., the silent alert function of the mobile communication device is turned on and such information is received or generated), the data processing unit **110** commands the controller **108** to cause an electrical signal to be transmitted to the electrode assembly **106**. The data processing unit **110** may further command the controller **108** to cause a particular type of electrical signal to be provided (i.e., by varying characteristics of the electrical signal) to distinguish the type of information received or provided by the mobile communication device **100**. For example, the data processing unit **110** may pass a command signal to the controller **108** instructing the controller **108** that a telephone call has been received by the mobile communication device **100**. The controller **108** may then cause an electrical signal to be provided to the electrode assembly **106** by the electrical power source **102**, for causing electrical stimulation to the body of the user having characteristics capable of communicating to the user that information has been received by the mobile communication device **100**, and that the information received by the mobile communication device **100** is a telephone call.

[0026] The mobile communication device **100** may further include components suited for providing wireless communication of voice and/or data information with external sources such as a base station, a cellular communication system tower, a second mobile communication device, or the like. For example, in embodiments where the mobile communication device **100** comprises a mobile telephone, the mobile communication device **100** may comprise such components as a processing assembly (which may comprise data processing unit **110**), memory, a transmitter/receiver assembly or transceiver, a microphone, a speaker, a data card

reader for receiving a data card (e.g., SIN (subscriber identification module) card, a user identification module (UIM) card, or the like), an antenna, a display, a keypad, control buttons, or the like. Further, it will be appreciated that the mobile communication device **100** may provide functions other than communication. For example, the mobile communication device **100** may provide functions common to hand held computers or personal digital assistants (PDAs). In such embodiments, the mobile communication device may further include a suitable processing system, extended memory, a digitizer screen or touch screen, or the like.

[0027] FIGS. 2 through 5 illustrate an exemplary mobile communication device **200** in accordance with the present invention, which comprises a mobile telephone configured to be worn on the wrist **202** of a user in a manner similar to a conventional wristwatch. In this embodiment, the mobile communication device **200** includes a housing **204** containing an electrical power source **102** and controller **108** as discussed in the description of FIGS. 1A and 1B. A wristband assembly **206** is coupled to the housing **204** for securing the housing **204** to the wrist **202** of the user. In FIGS. 2 through 5, a wristband assembly **206** comprised of a two-piece strap **208** and buckle **210** is illustrated. However, it will be appreciated by those of ordinary skill in the art that, depending on design preferences, the mobile communication device **200** may alternatively employ other types of wristband assemblies **206** (e.g., a flexible bracelet, a bracelet having a fold over clasp, or the like) without departing from the scope and intent of the present invention.

[0028] In one embodiment, the mobile communication device **200** includes an electrode assembly **212** having electrodes disposed entirely within the housing **204** of the mobile communication device **200**. For example, as shown in FIG. 3 and 4, the electrode assembly **212** may include a first electrode **214** and a second electrode **216** positioned on the inner surface of the housing **204** of so that the electrodes **214** and **216** are held in galvanic contact with the skin when the mobile communication device **200** is worn about the wrist **202** of the user. In this embodiment, one electrode **214** or **216** preferably functions as a positive electrode, while the other electrode **216** or **214** functions as a negative electrode. The electrical signal provided by the electrode assembly **212** is thus passed between the electrodes **214** and **216**, through the body (i.e., along the back of the wrist **202**) to stimulate sensory nerves within the skin of the wrist **202**.

[0029] In other embodiments, the electrode assembly **212** may further include electrodes positioned in the wristband assembly **206** in addition to, or, alternatively, in place of the electrodes disposed on the housing **204**. For example, in the embodiment shown in FIG. 5, the electrode assembly **212** includes a first electrode **218** positioned on the inner surface of the housing **204** of the mobile communication device **200**. Additional electrodes **220**, **222**, **224** and **226** are provided on the inner surface of the wristband assembly **206**. Preferably, one or more of the electrodes **218-226** function as positive electrodes, while other of the electrodes **218-226** function as negative electrodes. Thus, the electrical signal provided by the electrode assembly **212** is passed between two or more of the electrodes **218-226**, through the body (i.e., along or through the wrist **202**) to stimulate sensory nerves within the skin of the wrist **202**. Preferably, the number and position of electrodes **218-226** that are excited (i.e., that are used to