all hours of the day. Alternately, the device may be as small and simple as possible, and only serve to repeat short range signals over a longer range. For example, the memory and analysis capability may be omitted.

[0491] Referring now to FIG. **114**, a data flow diagram for an embodiment of the system is shown. An intermediate transceiver **6600** is shown operating as a universal patient interface that engages in short range communication with multiple devices and relays information from those devices over a long range to one or more user interfaces associated with those devices. Examples of devices include wearable, implantable or internal medical devices including a fluid delivery system, a glucose sensor, a knee joint with an integrated strain sensor, an instrumented enteric probe in pill form, a defibrillator, a pacemaker, and other wearable therapeutic delivery devices. Since different types of devices and devices from different manufacturers may utilize differing short range communication standards and frequencies, the intermediate transceiver **6600** may include hardware (e.g., multiple antennas and circuitry), and software to support multiple protocols.

[0492] Battery Recharger

[0493] Referring now to FIGS. **115** and **116**. One embodiment of an apparatus is shown for recharging the battery **7100**. In FIG. **15**, the top, non-disposable portion of a fluid delivery device **2620** is shown disconnected from the base, disposable portion of a fluid delivery device. The battery recharger **7100** is used to recharge the battery (not shown) in the top **2620**. In FIG. **116**, the top **2620** is shown on the battery recharger **7100**. The latches **6530** are shown closed, connecting the top **2620** to the battery recharger **7100**. Thus, the latch **6530** used to connect a top portion **2620** to a base portion (not shown) is also used to connect the top **2620** to the battery recharger **7100**. Docking may establish a direct power connection, or power may be transferred by way of inductive coupling. Also, in some embodiments of the system, the patient employs multiple non-disposable portions **2620** in rotation; i.e., recharging one non-disposable portion **2620**, while using a second non-disposable portion (not shown).

[0494] The various embodiments described herein include different types and configurations of elements such as, for example, pump architectures, pump actuators, volume sensors, flow restrictors, reservoirs (and reservoir interfaces), sharps inserters, housings, latching mechanisms, user interfaces, on-board peripherals (e.g., controllers, processors, power sources, network interfaces, sensors), and other peripherals (e.g., hand-held remote controller, base station, repeater, filling station). It should be noted that alternative embodiments may incorporate various combinations of such elements. Thus, for example, a pump architecture described with reference to one embodiment (e.g., the pump shown and described with reference to FIGS. **15**A-**15**D) may be used with any of the various configurations of pump actuators (e.g., single shape-memory actuator with single mode of operation, single shape-memory actuator with multiple modes of operation, multiple shape-memory actuators of the same size or different sizes), and may be used in devices with various combinations of other elements (or absence of other elements) and/or any of the various flow restrictors.

[0495] Furthermore, while various embodiments are described herein with reference to a non-pressurized reservoir, it should be noted that a pressurized reservoir may be used in certain embodiments or under certain conditions (e.g., during priming and/or air purging). Among other things, a pressurized reservoir might facilitate filling of the pump chamber, for example, following retraction of the pump actuation member **54** shown and described with reference to FIGS. **15**A-**15**D.

[0496] Additionally, while various embodiments are described herein with reference to a pump motor disposed in a reusable portion of a housing, it should be noted that a pump and/or a pump motor may alternatively be situated in the disposable portion, for example, along with various components that come into contact with the fluid. As with some of the other motors described herein, a motor disposed in the disposable portion may include one or more shape-memory actuators.

[0497] It should be noted that section headings are included for convenience and are not intended to limit the scope of the invention.

[0498] In various embodiments, the herein disclosed methods including those for controlling and measuring flow of a fluid and for establishing communication amongst linked components may be implemented as a computer program product for use with a suitable controller or other computer system (referred to generally herein as a "computer system"). Such implementations may include a series of computer instructions fixed either on a tangible medium, such as a computer readable medium (e.g., a diskette, CD-ROM, ROM, EPROM, EEPROM, or fixed disk) or transmittable to a computer system, via a modem or other interface device, such as a communications adapter connected to a network over a medium. The medium may be either a tangible medium (e.g., optical or analog communications lines) or a medium implemented with wireless techniques (e.g., microwave, infrared or other transmission techniques). The series of computer instructions may embody desired functionalities previously described herein with respect to the system. Those skilled in the art should appreciate that such computer instructions can be written in a number of programming languages for use with many computer architectures or operating systems.

[0499] Furthermore, such instructions may be stored in any memory device, such as semiconductor, magnetic, optical or other memory devices, and may be transmitted using any communications technology, such as optical, infrared, acoustic, radio, microwave, or other transmission technologies. It is expected that such a computer program product may be distributed as a removable medium with accompanying printed or electronic documentation (e.g., shrink wrapped software), preloaded with a computer system (e.g., on system ROM, EPROM, EEPROM, or fixed disk), or distributed from a server or electronic bulletin board over the network (e.g., the Internet or World Wide Web). Of course, some embodiments of the invention may be implemented as a combination of both software (e.g., a computer program product) and hardware. Still other embodiments of the invention are implemented as entirely hardware, or substantially in software (e.g., a computer program product).

[0500] It should be noted that dimensions, sizes, and quantities listed herein are exemplary, and the present invention is in no way limited thereto. In an exemplary embodiment of the invention, a patch-sized fluid delivery device may be approximately 6.35 cm (~2.5 in) in length, approximately 3.8 cm (~1.5 in) in width, and approximately 1.9 cm