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a suitable data communication network so as to collectively perform the various functions, methods, or operations disclosed herein.

FIG. 7 is a flow chart illustrating an example method 290 of communicating with a USB-enabled host device. In this example, the method includes operations 292, 294, and 296.

The operation 292 is performed to monitor for the insertion of a portable instrument into the docking station 112. The operation 292 continues until the insertion of the portable instrument into the docking station is detected.

After operation 292, the operation 294 is performed to initiate communication with the host device 106. In some embodiments, the initiation of communication alerts the host device to an arrival of the portable instrument, and causes enumeration of the portable instrument 110 by the host device 106.

The operation 296 is performed to facilitate communication between the portable instrument 110 and the host device 106. An example of operation 296 is illustrated in FIG. 8.

FIG. 8 is a flow chart illustrating an example method of facilitating communication between the portable instrument 110 and a host device 106. FIG. 8 also illustrates an example of operation 296, shown in FIG. 7. In this example, the method includes operations 302, 304, and 306. In some embodiments, the method and operations are performed by the docking station 112.

The operation 302 is performed to receive data from the portable instrument 110 in a non-USB format.

The operation 304 is performed to convert the data into a USB format.

The operation 306 is performed to transmit the data to the host device 106 in the USB format.

In some embodiments, data communication also occurs from the host device 106 to the portable instrument 110. For example, data is received from the host device in a USB format. The data is converted into a non-USB format, such as a serial data communication format. The data is then transmitted to the portable instrument in the non-USB format.

FIG. 9 is a flow chart illustrating a method 310 of terminating communication with a USB-enabled host device. In this example, the method includes operations 312 and 314.

The operation 312 is performed to monitor for the disconnection and removal of the portable instrument from the docking station 112. Monitoring continues until the disconnection is detected.

The operation 314 is then performed to terminate communication with the host device. In some embodiments, the termination of communication alerts the host device to the departure of the portable instrument, and causes de-enumeration of the portable instrument 110 at the host device 106.

The various embodiments described above are provided by way of illustration only and should not be construed to limit the claims attached hereto. Those skilled in the art will readily recognize various modifications and changes that may be made without following the example embodiments and applications illustrated and described herein, and without departing from the true spirit and scope of the following claims.

What is claimed is:

1. A docking station comprising:

a housing having a receptacle formed therein, the receptacle sized and configured to receive and support at least a portion of a portable medical instrument and including electrical contacts arranged to electrically connect with the portable medical instrument, wherein the portable medical instrument includes a first portion of a USB communication device adapted to communicate in a serial data communication format; and

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a second portion of the USB communication device enclosed in the housing, the second portion comprising: a serial to USB converter arranged in the housing and electrically connected to the electrical contacts, wherein the serial to USB converter is arranged and configured to convert between the serial data communication format and a USB data communication format to facilitate communication between the portable medical instrument and a host device; and

electronic circuitry that detects the electrical connection of the portable medical instrument with the electrical contacts and initiates the communication with the host device after detecting the electrical connection; wherein the electronic circuitry detects the electrical connection of the portable medical instrument by detecting a logic transition that occurs on at least one of the electrical contacts; and

wherein the initiation of the communication causes enumeration of the portable medical instrument at the host device.

2. A docking station comprising:

a housing having a receptacle formed therein, the receptacle sized and configured to receive and support at least a portion of a portable medical instrument and including electrical contacts arranged to electrically connect with the portable medical instrument, wherein the portable medical instrument includes a first portion of a USB communication device adapted to communicate in a serial data communication format; and

a second portion of the USB communication device enclosed in the housing, the second portion comprising: a serial to USB converter arranged in the housing and electrically connected to the electrical contacts, wherein the serial to USB converter is arranged and configured to convert between the serial data communication format and a USB data communication format to facilitate communication between the portable medical instrument and a host device; and

electronic circuitry that detects the electrical connection of the portable medical instrument with the electrical contacts and initiates the communication with the host device after detecting the electrical connection; wherein the electronic circuitry detects the electrical connection of the portable medical instrument by detecting a logic transition that occurs on at least one of the electrical contacts; and

wherein the electronic circuitry further detects the electrical disconnection of the portable medical instrument from the electrical contacts by detecting an absence of a logic signal and terminates the communication with the host device after detecting the electrical disconnection.

3. The docking station of claim 2, wherein the termination of the communication causes de-enumeration of the portable medical instrument at the host device.

4. The docking station of claim 1, wherein the serial to USB converter is part of the electronic circuitry.

5. A portable medical instrument comprising:

instrument electronics adapted to generate data associated with a physiological characteristic of an individual; a first portion of a USB communication device, the first portion comprising:

a processing device, the processing device programmed to generate messages, at least one of the messages including the data; and

a serial communication device that receives the messages from the processing device and transmits the