Claims

1. Apparatus for gathering data, the apparatus comprising:

a first electrode, the electrode characterized as non-sticky, the electrode disposed for capacitive or electrically conductive coupling with a surface;

a second electrode, the electrode characterized as non-sticky, the electrode disposed for capacitive or electrically conductive coupling with a region opposed to the surface;

electronic circuitry disposed between the first and second electrodes;

the first electrode shielded by a shield located between the first electrode and the electronic circuitry;

the second electrode shielded by a shield located between the second electrode and the electronic circuitry;

the electronic circuitry comprising a first driver receiving as an input a signal present at the first electrode, the first driver having an output coupled with the shield of the first electrode;

the electronic circuitry comprising a second driver receiving as an input a signal present at the second electrode, the second driver having an output coupled with the shield of the second electrode;

the electronic circuitry further comprising a differential amplifier having first and second inputs, each input connected to a respective one of the first and second electrodes;

the differential amplifier having an output;

the electronic circuitry further comprising means for communicating data indicative of the output of the differential amplifier to equipment external to the apparatus~~.~~, wherein the means for communicating data indicative of the output of the differential amplifier to equipment external to the apparatus comprises a Bluetooth link.

2. The apparatus of claim 1 wherein the first electrode and the second electrode are substantially

planar and are parallel with each other, the circuit board lying between the first and second electrodes and parallel thereto.

3. The apparatus of claim 1 wherein the means for communicating data indicative of the output of the differential amplifier to equipment external to the apparatus comprises a connector providing a serial data path.

~~4. The apparatus of claim 1 wherein the means for communicating data indicative of the output of the differential amplifier to equipment external to the apparatus comprises a Bluetooth link.~~

~~5~~4. The apparatus of claim 1 wherein the output of the differential amplifier is bandpass filtered to a band including 54 kilohertz.

~~6~~5. The apparatus of claim 1 characterized as unpowered from outside of the apparatus.

~~7~~6. The apparatus of claim 1 further comprising a shield surrounding the electronic circuitry.

~~8~~7. A method for use in detecting signals, the method comprising the steps of:

providing a first electrode, the electrode characterized as non-sticky, the electrode capacitively or electrically conductively with a surface;

providing a second electrode, the electrode characterized as non-sticky, the electrode capacitively coupled with a region opposed to the surface;

providing a first shield between the first electrode and the electronic circuitry;

providing a second shield between the second electrode and the electronic circuitry;

driving the first shield to follow a signal present at the first electrode;

driving the second shield to follow a signal present at the second electrode;

deriving a difference between the signal present at the first electrode and the signal present at the

second electrode; and

communicating data indicative of the difference to equipment external to the apparatus.

98. The method of claim 87 wherein the communicating data indicative of the difference to equipment external to the apparatus comprises passing serial data through a connector providing a serial data path.

109. The method of claim 87 wherein the communicating data indicative of the difference to equipment external to the apparatus comprises passing data through a Bluetooth link.

1110. The method of claim 87 wherein the surface is skin.

1211. The method of claim 1110 wherein the skin is at a wrist.