What is claimed is:

1. A baseline restoration circuit, the circuit comprising:

an input module for receiving an input signal from a sensor;

an amplifier module, operably connected to the input module, for modifying the input signal;

a baseline restoration module, operably connected to the amplifier module, for extracting a direct current component of the input signal, wherein the baseline restoration module comprises:

a voltage controlled current source configured to be controlled by a voltage differential between output terminals of the amplifier module; and

a capacitor configured to be charged by the output of the voltage controlled current source; and

an output module, operably connected to the amplifier module, for transmitting a baseline restored signal, wherein the output module comprises differential outputs.

2. The circuit according to Claim 1, wherein the circuit is configured to subtract a direct current component of the input signal that varies slowly over time relative to a duration of the input signal.

3. The circuit according to any of Claims 1 to 2, wherein the circuit is configured to receive input signals corresponding to a plurality of events and to separate input signals corresponding to each event in time.

4. The circuit according to any of Claims 1 to 3, wherein the output module comprises a first differential output and a second differential output.

5. The circuit according to any of Claims 1 to 4, wherein the circuit is configured so that the differential outputs reduce sensitivity to low-frequency noise.

6. The circuit according to any of Claims 1 to 5, wherein the output module is configured to absorb reflections of signals transmitted at the differential outputs.

7. The circuit according to any of Claims 1 to 6, wherein the circuit is configured to be located at proximity of the sensor.

8. The circuit according to any of Claims 1 to 7, wherein the circuit is installed on a substrate, wherein the substrate is shaped such that the substrate is located proximally with the sensor.

9. The circuit according to any of Claims 1 to 8, wherein the sensor is a light detector.

10. The circuit according to any of Claims 1 to 9, wherein the circuit is a circuit of a light detection system.

11. The circuit according to Claim 10, wherein the circuit is a circuit of a light detection system of a flow cytometer.

12. A sensors readout system, comprising:

a baseline restoration circuit for generating a baseline restored signal on differential outputs according to any of Claims 1 to 11;

a downstream receiver circuit for receiving a baseline restored signal on differential inputs transmitted by the baseline restoration circuit; and

cable core wires configured to connect the differential outputs of the baseline restoration circuit with the differential inputs of the downstream receiver circuit.

13. A flow cytometry system, the system comprising:

a light source configured to irradiate a sample comprising particles flowing in a flow stream;

a light detection system comprising a light sensor for detecting light from the particles in the sample and generating a data signal based on the detected light; and

a sensors readout system according to Claim 12.

14. A method of generating a baseline restored signal over differential outputs by a baseline restoration circuit, the method comprising:

receiving by the circuit an input signal originating from a sensor;

generating by the circuit a differential signal based on the input signal;

extracting a direct current component of the differential signal, by employing a baseline restoration module comprising a voltage controlled current source and a capacitor configured to be charged by the output of the voltage controlled current source;

subtracting the extracted direct current component of the differential signal to generate a baseline restored signal; and

outputting the resulting baseline restored signal over differential outputs.

15. A method of generating, transmitting and receiving a baseline restored signal over differential outputs, the method comprising:

generating by a sensor an input signal;

deploying a sensors readout system according to Claim 12 operably connected to the sensor;

applying the baseline restoration circuit of the sensors readout system to the input signal to generate a baseline restored differential signal;

transmitting by the baseline restoration circuit the baseline restored differential signal over the cable core wires; and

receiving by the downstream receiver circuit over the cable core wires the baseline restored differential signal.