

BioRadio® 150 Hardware Specifications

BioRadio® 150

The BioRadio 150 is a wireless 12-channel lightweight programmable monitor for viewing and recording physiological signals, such as electrical activity from the heart, brain and muscle. By eliminating the restrictions encountered with traditional tethered equipment, the system opens up a whole new realm of laboratory opportunities.

System Specifications	
Transmission Range:	~100 feet, line of sight*
RF Band:	2.4-2.484 GHz. 2-Way link.

User Unit

The small, lightweight **User Unit** is comfortably worn on a belt, armband or respiratory effort belt. Electrodes, sensors and transducers may be connected to any of its eight differential input channels. Each channel has configurable gains, so any signal can be monitored on any channel. In addition to the eight analog inputs, the User Unit contains embedded sensors for monitoring pulse oximetry, pressure based airflow and accelerometry, as well as an auxiliary DC input. The User Unit amplifies, digitizes and telemeters physiological input data.

User Unit	
Dimensions:	5.25" x 2.5" x 1.1" (not including antenna)
Weight:	210 grams (7.4 oz.) with batteries
Number of Input Channels:	<ul style="list-style-type: none">• 8 configurable channels (external sensors)• 4 embedded channels: accelerometry, pulse oximetry, pressure based airflow and DC auxiliary input
Input Range:	± 750µV to ± 2V (configurable)
Resolution:	8, 12, 16 bits, configurable
Noise:	< 2 µV peak-to-peak (0.5 Hz – 100 Hz)
Sampling Rate:	128 - 960 samples per second per channel (configurable)
CMRR:	>=90 dB
Power Source:	2 AA alkaline batteries
Battery Life:	10 hours continuous use
Input Impedance:	> 20 MΩ at 10 Hz
Filter Input Bandwidth:	0.5 Hz - 250 Hz (-3dB attenuation)

USB Receiver

The **USB Receiver** contains a radio transceiver that acquires data from the User Unit. It connects to and is powered by a standard USB port. The USB Receiver may be located up to 100 feet line of sight from the User Unit.

*Transmission distance varies based on the building architecture. All technical specifications are subject to change.

This device is intended for scientific and research purposes only. IRB approval must be obtained before using this device in human testing.

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