

Wireless monitoring Dual channel biopotential

- Examine relationships between biopotential signals
- High frequency sampling (2000 Hz) on each channel provides high resolution
- Schedule data collection periods (manually or via software)
- Suitable for animals 200 gm and over
- Recording range up to 5m
- Multiple transmission channels enable co-housing
- Recharge using patented inductive energy transfer through skin
- Recharge whilst still in the animal
- 24/7 monitoring is possible for the lifetime of the animal

Measure EEG,
EMG, ECG etc in
any combination
with digital
transmission

High resolution

2000 Hz sampling rate provides accurate measurement of events.

Versatility

Transmitters send digital data to a receiver which reconstructs an analog signal that is compatible with all data acquisition systems.

One receiver, many transmitters

Automatically switch receiver to any one of twelve different transmitters.

Low cost of ownership

Battery removal or refurbishment is not required. Lifetime monitoring is enabled.

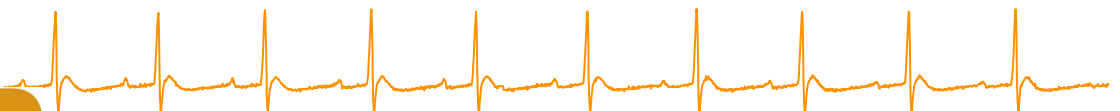
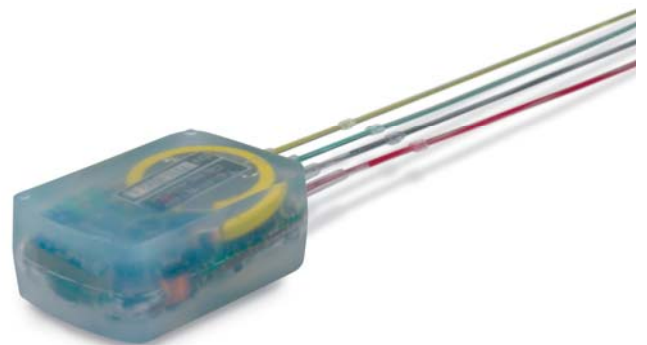
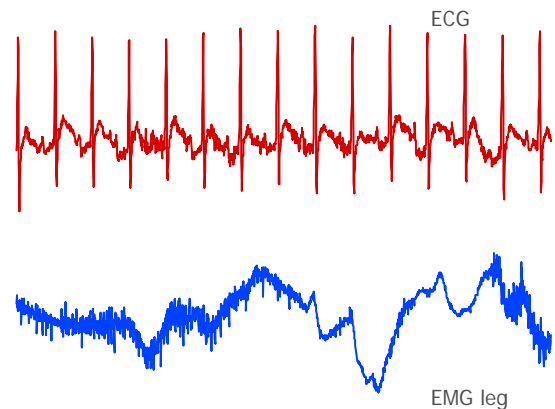
Continuous operation

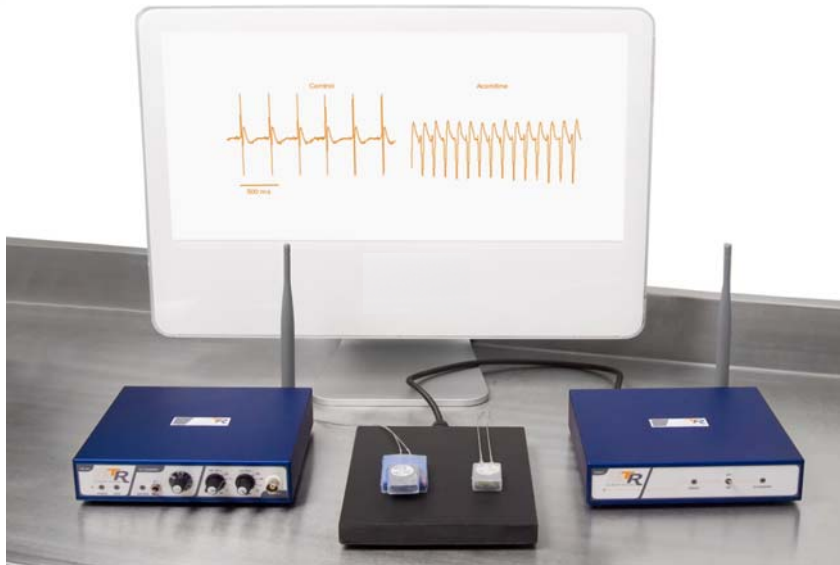
Small transmitters can provide continuous unlimited monitoring. Large transmitters provide 7 days of continuous operation between recharging.

Efficient housing

Animals can be co-housed with simultaneous monitoring of each animal. No specialized cages or shielding are required. Signals can be received from up to 5m away.

ECG & EMG in active rat





The optional combination of Telemetry Research Transmitters and Receivers with an ADInstruments PowerLab data acquisition system and Chart & Scope software offers comprehensive data recording, display and analysis. Software for ECG analysis offers automatic online detection and reporting of PQRST onset, amplitude and intervals. Transmitters can be turned on and off under software control to match your data collection needs.

Transmitter Specifications

Model	TR40BB	TR70BB
Animal weight range	>250 g	>1.5 Kg
Input & Digitization		
Input range	+/-2mV	+/-2mV
Resolution	12 bit A/D	12 bit A/D
Sampling frequency	2 kHz each channel	2 kHz each channel
High pass characteristics	AC coupled, single pole, -3dB point at 3.4 Hz	AC coupled, single pole, -3dB point at 3.4 Hz
Electrode leads		
Electrode coil diameter	Coiled stainless Steel 1 mm	Coiled stainless steel 1 mm
Lead length	20 cm or specified at time of order	25 cm or specified at time of order
Monitoring period		
Inside charge field	24/7 for lifetime	n/a
Outside charge field	12 hr	7 days
Recharge time (under optimal conditions)	n/a	~4 hours
Physical		
Weight	19 g	75 g
Max external dimensions	38 x 13 x 27 mm	70 x 15 x 42 mm
Temperature	Max 60°C	Max 60°C
Case material	Medical grade silicone elastomer	Medical grade silicone elastomer
Transmitter power output	<0 dBm	<0 dBm
Transmitter freq. band	2.4 GHz	2.4 GHz



TR40BB Actual Size



TR70BB Approx Size

Receiver Specifications

Model	TR102
Output	Dual BNC
Connector	-3V to +3V
Signal	Selectable between 12 transmitters
Reception channel	DC, 1, 5, 20, 50, 100 Hz
High pass filter	100, 500, 1000, 2000 Hz
Low pass filter	
Temperature Output	BNC, accuracy 0.5° C
External Interface	15 way D connector allows software control over transmitters

Document Version 4.1

Telephone
 USA: (415) 287 3875 NZ: +64 9 367 7126
 Skype: TelemetryResearch Fax: +64 9 367 7157
 Email: info@telemetryresearch.com

Physical
 Telemetry Research Ltd
 Level 6, UniServices House
 70 Symonds St, Auckland 1010
 New Zealand

Postal
 Telemetry Research Ltd
 PO Box 5504
 Auckland 1141
 New Zealand