Trackit t4A Amplifier

28 monopolar/4 bipoloar
touch proof inputs

Designed and manufactured in Great Britain

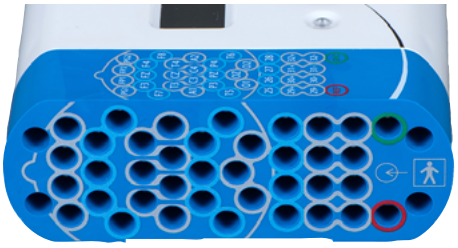
SPECIFICATIONS

Lifelines EEG Systems and Applications

- Ambulatory EEG Amplifier for use with Lifelines' portable systems
- Compatible with Trackit and Trackit Plus software
- EEG may also be reviewed in Persyst Insight

Amplifier Features

- Acquisition of EEG in referential mode
- DC recording option on all channels
- 28 monopolar channels
- 4 channels configurable for bipolar or referential
- International 10-20 system – see below



- All inputs are BF isolated
- Front end calibration
- Continuous impedance check
- Simultaneous sampling on all channels (wired and wireless)
- High sampling rates: 250-2000 Hz
- LCD display with backlight
- Multi-function button on front panel
- Data storage on optional SD card
- Transmits data either wirelessly or wired
- Battery or USB power option

Amplifier Specifications

EEG inputs: 28 monopolar touch proof inputs/ 4 bipolar touch proof polygraphy inputs

ADC Resolution	24 bits
Sampling	250-2000 Hz simultaneous sampling all channels
Input impedance	>20 MΩ
Common mode rejection ratio	>100dB @ 50 and 60 Hz
Equivalent input noise	<3µVp-p, <0.5uV rms
Gain	8 ±0.5%
Max Input Vdiff	750mVpp (including DC)
Quantization	0.17uV/bit @ Gain = 8 and Bits = 22
Bandwidth (-3dB)	DC to 524Hz @ 2000Hz sampling
Max common mode input voltage	0.4Vpp
Input bias current	< ±0.3 nA
Front-end Calibration	8mVpp ±5% at 0.98Hz
Impedance Check current	24nA ±20% at 7.8Hz Additional settings of DC+, DC-, 31.2Hz, fDR/4, 6nA, 6uA and 24uA also provided

DC Bipolar Inputs (shared with 4 AC polygraphy inputs)

ADC Resolution	24 bits
Sampling	250-2000 Hz simultaneous sampling all channels
Input impedance	>20 MΩ
Common mode rejection ratio	>100dB @ 50 and 60 Hz
Equivalent input noise	<3uVp-p, 0.5uV rms
Gain	8 ±0.5% (AC), 2 ±0.5% (DC)
Max Input Vdiff	750mVpp AC setting (including DC), 3Vp-p DC setting
Bandwidth (-3dB)	DC to 65Hz @ 250 Hz sampling

(continues overleaf)

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Amplifier Specifications (continued)

Connections, ports and controls

- 38 Electrode Input Connectors, BF isolated, touch proof 1.5mm
- Remote patient event marker input, TTL digital pulse (5V or 3.3V), 3.5mm Jack socket
- Host PC connector (USB), isolated from patient
- LCD display with backlight showing
  – Time of day, elapsed recording time, memory card capacity, wireless status
- Multi-function button on front panel for
  – Patient event marker
  – On/Off
- Internal auditory beeper to acknowledge user input
- SD card port
- LED for SD card activity

Internal and External Batteries

The t4A operates on removable, rechargable lithium-ion batteries, which are housed in the amplifiers battery compartment. The batteries allow wireless recording for up to 72 hours. An internal rechargeable battery provides 20 minutes backup.

Amplifier memory

- SD card (up to 64GB)

Operating environment

- Temperature: +5°C to +40°C
- Relative humidity 15% to 93% non-condensing
- Atmospheric pressure: 700mB to 1060mB

Dimensions and weight

- Dimensions: 12.6cm x 8.5cm x 3cm
- Weight: 250g (350g with batteries)

Quality System

- ISO 13485 Quality System

Compliance with regulatory standards

Designed, tested, manufactured and certified to meet the following standards:

- **IEC 60601-1 and IEC 60601-2-26**
  Standard for medical electrical equipment, general requirements and particular requirements for EEG systems
- **ANSI/AAMI ES 60601-1**
  AAMI Deviations from IEC 60601-1 (USA)
- **CAN/CSA 22.2 No 601.1 M90**
  Canadian standard for medical electrical equipment, general requirements
- **IEC 60601-1-2**
  Standard for medical electrical equipment, EMC requirements
- **IEC 60601-1-11**
  International standard for medical electrical equipment used in the home environment
- European Community Class 2B Medical Device Directive (MDD) product to comply to "EC Directive" 93/42/EEC, as amended by Directive 2007/47/EC
- FDA 510(k) clearance for marketing K172271
- RoHS Directive 2011/65/EU
- WEEE Directive 2002/96/EC

CE 0086

V01 NOV 2018

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