QuadStat (Model EA164)

- Fully software-controlled
- Applied potentials of up to ±2.5 V (or 10 V with external input)
- Current range settings from 200 pA* to 1 mA* per channel
- Current signal resolution 16 bits (0.0015% of range)
- Suitable for use with amperometric biosensors
- Can be used as a bipotentiostat
- Compact! Use inside Faraday cages, or inert atmosphere boxes

Description

The EA164 QuadStat is a software-controlled, four-channel potentiostat. Each channel can be used as a single three-electrode potentiostat, or two to four working electrodes can be used in a single reaction chamber with a common reference and auxiliary electrode. Potential at each working electrode can be independently adjusted between ±2.5 V, or by using an external waveform generator to between ±10 V.

Normally supplied with 1 mA/channel maximum current, but optionally as a high current version with 10 mA/channel.

Compatibility

Supplied ready for use with **e-corder** units (models ED821 or 1621 recommended) and includes electrode cables terminated with alligator clips. For Windows or Mac OS computers.

Applications

Single channel operation with EChem software:

- *Cyclic voltammetry:* compound characterization
- *Analytical chemistry research or teaching:* differential pulse, normal pulse, square wave voltammetry, stripping techniques
- *Kinetics:* pulse chronoamperometric techniques

Multichannel operation with Chart software:

- *Simultaneous* monitoring of sensors in multiple reaction vessels
- *Bipotentiostat operation*: two working electrodes with common auxiliary and reference electrode; also 3 or 4 working electrodes with common auxiliary and reference.
- *Sensors:* use with amperometric sensors providing current signals down to the picoampere ranges
- *Neurochemistry: in vivo* amperometry for neurotransmitter monitoring

Specifications

Maximum control voltage:	±2.5 V (±10 V with external input)
Maximum current per channel:	±1 mA (±10 mA on high current model)
Compliance voltage:	>10 V >7.5 V on 5 mA range (high current model) >5 V on 10 mA range (high current model)
Input resistance:	10^{13} Ω || 1 pF
Input bias current:	<1 pA @ 25 °C
Current range settings:	±1 mA* ±500, 200, 100, 50, 20, 10, 5, 2, 1 µA* ±500, 200, 100, 50, 20, 10, 5, 2, 1 nA* ±500, 200 pA*
I/V Gain:	10^5, 10^4, 10^3, 100, 10, 1, 0.1 nA/V *
DC current error:	< ±1% FS on ranges 200 nA – 10 mA < ±0.5% FS on ranges 200 pA – 100 nA
Current signal offset:	±500 µA* on ranges 2 µA – 1 mA* ±5 µA* on ranges 20 nA – 1 µA* ±50 nA* on ranges 200 pA – 10 nA*
Low-pass filter:	10 Hz, 3rd order Bessel

e-corder filter settings:	10 kHz to 1 Hz in 10:5:2 steps
Bandwidth, unfiltered:	>10 kHz, on ranges of 20 nA – 1 mA* >1 kHz, on ranges of 200 pA – 10 nA*
Drift with temperature:	<10 µV/°C
I²C input and output:	Male and female DB-9 pin connectors. Provides control and power.
Power requirements: (supplied by **e-corder**)	±17 V DC, ~ 20 mA +8 V DC, ~ 20 mA ~0.6 W quiescent
Dimensions (h × w × d):	60 × 150 mm × 200 mm (2.4 × 5.9 × 7.9")
Weight:	1.5 kg (3.3 lb)
Operating temperature:	0 to 35 °C 0 to 90% humidity (non-condensing)

** Current values are increased by ×10 for high current model.*

eDAQ reserves the right to alter these specifications at any time.

WARRANTY: eDAQ Hardware units are supported by a one year warranty

www.**eDAQ**.com

E-mail: info@edaq.com

Document Number: M-EA164-1207