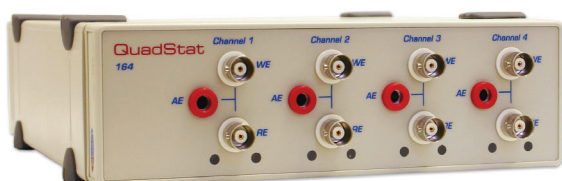




## QuadStat (Model EA164)



- Fully software-controlled
- Applied potentials of up to  $\pm 2.5$  V (or 10 V with external input)
- Current ranges from 2 nA range up 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 all 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  $\pm 2.5$  V, or by using an external waveform generator to between  $\pm 10$  V.

### Compatibility

Supplied ready for use with **e-corder** units (models 821 or 1621 recommended) and includes electrode cables terminated with alligator clips.

### Specifications

Maximum control voltage:	$\pm 10$ V
Output current	$\pm 1$ mA maximum
Compliance voltage:	$> 10$ V
Input resistance:	$10^{13} \Omega \parallel 1$ pF
Input bias current:	$< 1$ pA @ 25 °C
Current range settings:	$\pm 1$ mA $\pm 500, 200, 100, 50, 20, 10, 5, 2, 1 \mu\text{A}$ $\pm 500, 200, 100, 50, 20, 10, 5, 2$ nA
I/V Gain:	100, 10, 1 nA/V
DC current error:	$< \pm 1\%$ FS on ranges of 2 $\mu\text{A} - 1$ mA $< \pm 0.5\%$ FS on ranges of 2 nA - 1 $\mu\text{A}$
Current offset ranges:	$\pm 200 \mu\text{A}$ @ 1 nA resolution
Low-pass filter:	10 Hz, 3rd order Bessel
e-corder filter settings:	10 kHz to 1 Hz in 10:5:2 steps

### 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

- *Bipotentiostat, 3, or 4 working electrode operation*: with common auxiliary and reference electrode
- *Sensors*: use with amperometric sensors providing current in the sub nanoampere range to a milliamp
- *Neurochemistry*: *in vivo* amperometry for neurotransmitter monitoring

Bandwidth, unfiltered:	$> 10$ kHz, on ranges of 2 $\mu\text{A} - 1$ mA $\sim 1$ kHz, on ranges of 2 nA - 1 $\mu\text{A}$
Drift with temperature:	$< 10 \mu\text{V}/^\circ\text{C}$
I <sup>2</sup> C input and output:	Male and female DB-9 pin connectors. Provides control and power.
Power requirements: (supplied by e-corder)	$\pm 17$ V DC, $\sim 20$ mA $+8$ V DC, $\sim 20$ mA $\sim 0.6$ W quiescent
Dimensions (h x w x d):	60 x 150 mm x 200 mm (2.4 x 5.9 x 7.9")
Weight:	1.5 kg (3.3 lb)
Operating temperature:	0 to 35 °C 0 to 90% humidity (non-condensing)

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

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