



e-corder 1621 (Model ED1621)



- Turns your PC or Macintosh into a precision data recorder
- No programming required – plug and play installation
- Powerful on-line and off-line analysis
- Continuous recording up to 200 000 samples/s
- Independently selectable input gains ± 2 mV to ± 10 V
- 16 bit A/D resolution
- Bipolar output for pulse and waveform generation
- Trigger input TTL or contact closure
- USB 2.0 and 1.1 compliant

Description

The **e-corder 1621** is a high performance sixteen channel data recording and analysis system. It records analog data from a wide variety of transducers and instruments, along with eDAQ Amps and Pods. It features sixteen programmable input amplifiers, four of which can be configured for differential input. The system can record 16 bit resolution data directly to your PC at speeds of up to 200 000 samples/s via a USB 2.0 compliant interface. A built-in software controlled analog output, provides basic pulse and waveform generation.

Computer System Compatibility

e-corder is compatible with the following computer environments.

Windows 2000 or XP or later. Systems with a minimum of 128 MB RAM and USB port.

MacOS X or later. Systems with minimum of 128 MB RAM and USB port.

Applications

The **e-corder 1621** is an ideal data recorder for use with multiple signal sources. Absolutely no programming is required and the powerful on-line and off-line analysis functions allow results to be quickly extracted from the recorded data. The system can be used to replace paper based chart recorders and data acquisition cards in applications such as Materials Testing, Engineering, Vibration Analysis, Sensor Research and Electrochemistry.

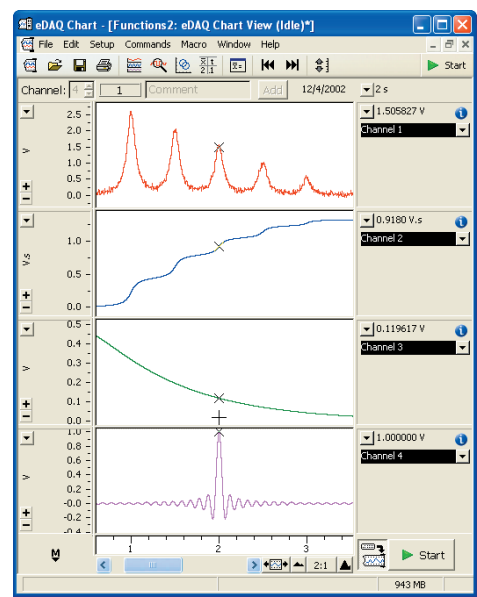
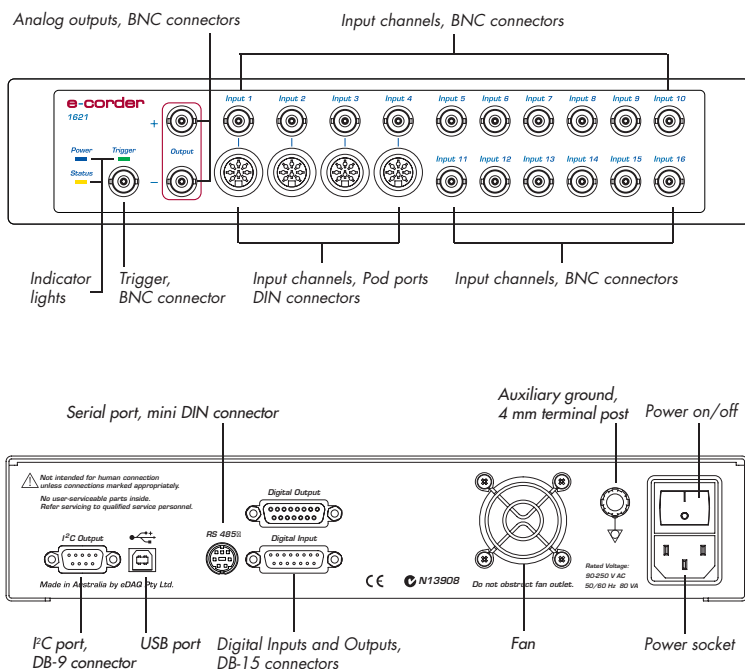
Software

Chart™ and Scope™ software is shipped with every **e-corder** for both Windows and Macintosh.

Chart™ – lets you use your computer as a multichannel strip chart recorder, polygraph and digital voltmeter.

Scope™ – lets you use your computer as a two-channel storage oscilloscope, or XY plotter.

Specialist software and analysis extensions are also available for use with **e-corder** units.



Main Chart window (Windows XP). All software has a user friendly interface and does not require additional programming to develop applications.

Specifications

Analog Inputs																																								
Number of Input channels:	16																																							
Input configuration:	4 x single-ended BNC, or differential DIN 12 x single-ended BNC																																							
Amplification range:	±2 mV to ±10 V full scale in 12 steps <table border="1"> <thead> <tr> <th>Range</th> <th>Resolution (µV)</th> <th>Gain</th> </tr> </thead> <tbody> <tr><td>±10 V</td><td>312.5</td><td>1</td></tr> <tr><td>±5 V</td><td>156.25</td><td>2</td></tr> <tr><td>±2 V</td><td>62.5</td><td>5</td></tr> <tr><td>±1 V</td><td>31.25</td><td>10</td></tr> <tr><td>±0.5 V</td><td>15.625</td><td>20</td></tr> <tr><td>±0.2 V</td><td>6.25</td><td>50</td></tr> <tr><td>±0.1 V</td><td>3.125</td><td>100</td></tr> <tr><td>±50 mV</td><td>1.56</td><td>200</td></tr> <tr><td>±20 mV</td><td>0.625</td><td>500</td></tr> <tr><td>±10 mV</td><td>0.3125</td><td>1000</td></tr> <tr><td>±5 mV</td><td>0.15625</td><td>2000</td></tr> <tr><td>±2 mV</td><td>0.0625</td><td>5000</td></tr> </tbody> </table>	Range	Resolution (µV)	Gain	±10 V	312.5	1	±5 V	156.25	2	±2 V	62.5	5	±1 V	31.25	10	±0.5 V	15.625	20	±0.2 V	6.25	50	±0.1 V	3.125	100	±50 mV	1.56	200	±20 mV	0.625	500	±10 mV	0.3125	1000	±5 mV	0.15625	2000	±2 mV	0.0625	5000
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Maximum input voltage:	±15 V																																							
Input impedance:	~1 MΩ 47 pF @ DC																																							
Low-pass filtering:	20 kHz fixed 2nd order (further filtering via software)																																							
AC coupling:	DC or 0.15 Hz (software-selectable)																																							
Frequency response (-3 dB):	25 kHz (100 mV – 10 V ranges) 10 kHz (5 mV – 50 mV ranges)																																							
DC drift:	Software corrected zero																																							
CMRR (differential):	>96 dB @100 Hz on 10 mV range																																							
Channel crosstalk:	> -82 dB (typical) between adjacent channels																																							
Input noise:	<2.4 µV _{rms} + 250 µV _{rms} /Gain RTI																																							
Pod Connectors																																								
Connector type:	8-pin DIN																																							
Supply voltage:	±5 V regulated																																							
Maximum current:	50 mA per Pod port																																							
Communications:	2 wire I ² C																																							
Signal input:	Differential or single-ended analog inputs																																							
Sampling																																								
ADC resolution:	16 bit																																							
Linearity error:	±2 LSB (from 0 to 70 °C)																																							
Maximum sampling rates:	200 kHz for 1 – 2 channels 100 kHz for 3 – 4 channels 40 kHz for 5 – 8 channels 20 kHz for 9 – 16 channels																																							
Available sampling rates:	0.003 Hz to 200 kHz using Chart for Mac 2 Hz to 200 kHz using Scope 1 Hz to 200 kHz using Chart for Windows																																							
Output Amplifier																																								
Output configuration:	Bipolar or dual single-ended																																							
Output resolution:	16 bits																																							

Maximum output current:	2 x ±100 mA continuous														
Output impedance:	0.1 Ω typical														
Slew rate:	10 V/µs														
Settling time:	2 µs (to 0.1% of FSR)														
Output range:	±200 mV to ±10 V (software selectable) <table border="1"> <thead> <tr> <th>Range (V)</th> <th>Resolution (µV)</th> </tr> </thead> <tbody> <tr><td>±10</td><td>312.5</td></tr> <tr><td>±5</td><td>156.5</td></tr> <tr><td>±2</td><td>62.5</td></tr> <tr><td>±1</td><td>31.25</td></tr> <tr><td>±0.5</td><td>15.625</td></tr> <tr><td>±0.2</td><td>6.25</td></tr> </tbody> </table>	Range (V)	Resolution (µV)	±10	312.5	±5	156.5	±2	62.5	±1	31.25	±0.5	15.625	±0.2	6.25
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Output Zero error	<0.5 mV														
External Trigger															
Trigger mode:	TTL level or contact closure, software selectable														
Trigger threshold:	+1.3 V, 50 kΩ input impedance														
Hysteresis:	0.3 V														
Maximum input voltage:	±12 V														
Minimum detectable event:	5 µs														
Microprocessor and Data Communication															
CPU:	PowerPC 405 GPr (240 MHz)														
RAM:	16 MB DRAM														
ROM:	4 Mbit FLASH ROM														
Data communication:	USB 2.0 or 1.1 compliant (up to 480 Mbits/s)														
Expansion Ports															
I ² C expansion port:	Power and control bus for eDAQ Amps (maximum of 500 mA). Interface communications rate of up to 10 000 bits/s.														
RS485 Serial Port	RS485 port for factory diagnostic purposes only.														
Digital input	8 independent, TTL input lines. 1.2 V threshold, 10 kΩ input impedance. 5 V maximum.														
Digital output	8 independent, TTL output level. 8 mA maximum load per line.														
Physical Configuration															
Dimensions (w x h x d):	300 x 60 x 300 mm (11.8" x 2.4" x 11.8")														
Weight:	4.8 kg (10 lb 8 oz)														
Operating voltage:	90 to 250 V AC 50/60 Hz														
Nominal power needs:	17 – 30 VA (dependant on number of eDAQ Amps and Pods attached)														
Operating conditions:	0 to 40 °C 0 to 90% humidity (non-condensing)														
eDAQ Pty Ltd reserves the right to alter these specifications at any time.															

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Think inside the box

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