



# PowerChrom 280 System (Model ER280)



- Turns a PC or Mac, into a chromatography data workstation.
- No programming required – just plug and play
- Collect signals from one or two detectors
- 24 bit resolution
- Two inputs, independent gain ranges of  $\pm 20$  mV to  $\pm 10$  V
- Digital signal processing gives superior signal-to-noise ratio
- TTL or contact closure for triggering autosamplers etc.
- USB 2.0 and 1.1 compliant

## Description

The PowerChrom 280 system comprises PowerChrom<sup>®</sup> 280 hardware unit now fitted standard with an I<sup>2</sup>C interface for attachment of eDAQ Amps, PowerChrom<sup>®</sup> software for Windows or Macintosh computers, and a three year warranty!

Signals can be recorded from one or two chromatography detectors with single-ended or differential analog voltage 'recorder' or 'integrator' outputs. Most detectors are suitable.

Sophisticated digital signal processing ensures high resolution, low noise results.

## Computer Requirements

Windows XP or VISTA. MacOS 10 or later. The computer should have a spare USB port for attachment of the PowerChrom system.

## Applications

PowerChrom is the ideal data acquisition system for upgrading your present GC or HPLC. Throw away paper recorders, integrators, and old DOS-based systems, and work with the latest generation of computing technology.

Automatic or manual operation is possible (depending on your chromatograph configuration). Autosamplers and fraction collectors can be triggered with contact closure or TTL signals. Multiple-run experiments are controlled via sequence documents.

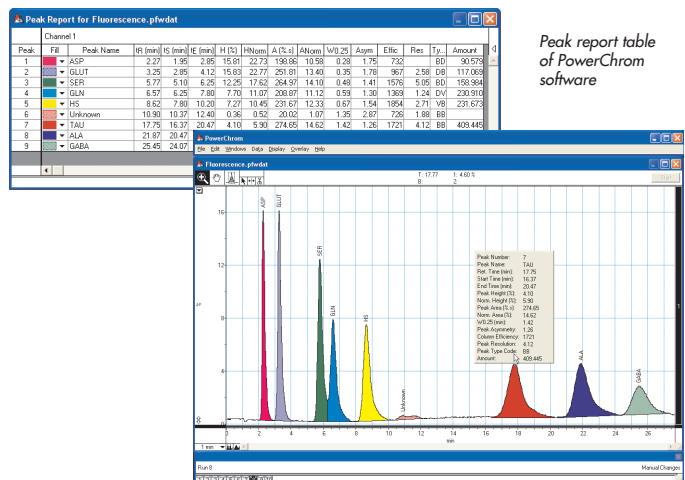
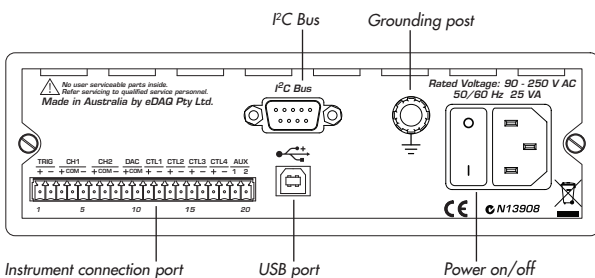
PowerChrom 280 Systems are suitable for use with most eDAQ Amps, including:

- C<sup>4</sup>D Amp (EA120) for capacitively coupled conductivity detection for capillary electrophoresis, microfluidic channel electrophoresis, and ion chromatography.
- QuadStat (EA164) for amperometric detection.

## Software

PowerChrom software is included with every PowerChrom system. It can also be ordered separately, or as a departmental license, if additional copies are required, or for use with e-corder<sup>®</sup> systems.

All information (methods, calibrations, peak reports, as well as raw data) is stored in the one convenient data file, which can contain up to 999 runs!



Peak report table of PowerChrom software

HPLC data displayed with PowerChrom software

## Specifications

Analog Inputs			
Number of Input channels:	2		
Input ranges:	Range	Gain	
	±10 V	1	
	±5 V	2	
	±2 V	5	
	±1 V	10	
	±0.5 V	20	
	±0.2 V	50	
	±0.1 V	100	
	±50 mV	200	
	±20 mV	500	
Maximum input voltage:	±30 V		
Input impedance:	~1 MΩ    1 nF @ DC		
Low-pass input filter:	3000 Hz, 2nd order Bessel		
DC drift:	Software corrected on startup 0.3 µV/°C RTI (typical)		
CMRR (differential):	-105 dB @ 100 /s (typical)		
Channel crosstalk:	> -140 dB		
Input noise (pp):	Range	@10 /s	@100 /s
	±10 V	3 µV	5 µV
	±1 V	1 µV	2 µV
	±100mV	0.25 µV	0.3 µV
Sampling			
ADC:	24 bit sigma delta convertor		
System resolution:	22 bits		
Sampling rates:	12 /min to 100 /s		
Linearity error:	<0.001% of FSR		
Output Amplifier			
Output configuration:	Single-ended		
Output resolution:	16 bits		
Maximum output current:	10 mA maximum		
Output impedance:	0.1 Ω typical		
Slew rate:	2 V/µs		
Settling time:	10 µs (to within 0.01% of FSR)		
Output range:	Range (V)	Resolution (µV)	
	±10	312.5	
	±5	156.5	
	±2	62.5	
Linearity error	±1 LSB (from 0 °C to 70 °C)		

Instrument Connection Port	
Type:	20 pin male connector, 3.5 mm spacing. Terminal block adaptor supplied.
Digital Output Controls	
Outputs:	4 contact closure or TTL level. Set by software.
Contact closure outputs:	100 mA maximum. 350 V maximum. 'On' resistance 50 Ω maximum. Close time 1.5 ms; Open time 1 ms.
TTL level outputs:	4 V high @ 1 mA maximum each 0.5 V low at 15 mA maximum each
Microprocessor and Data Communication	
CPU:	FREESCALE DSP56858
RAM:	16 MB SRAM
Data communication:	USB 2.0 or 1.1 compliant
Expansion Ports	
I <sup>2</sup> C expansion port:	Power and control bus for eDAQ Amps (maximum of 500 mA).
Physical Configuration	
Dimensions (w x h x d):	200 x 65 x 250 mm (7.9 x 2.6 x 9.8")
Weight:	1.5 kg (3 lb 5 oz)
Power Requirements:	90 – 260 V AC 50/60 Hz, 6 VA
Operating conditions:	0 to 35 °C 0 to 90% humidity (non-condensing)
<i>eDAQ Pty Ltd reserves the right to alter these specifications at any time.</i>	

## Ordering

The PowerChrom 280 system (model ER280) includes the recording hardware unit and PowerChrom software.

PowerChrom software can be ordered separately as individual licenses (ES280) or as a departmental license (ES281).

WARRANTY: eDAQ hardware units are supported by a three year warranty.

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Document Number: MER280B-1108

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