

The POWER1401^{mk II}



The Power1401 mk II is our latest high-performance data acquisition interface. It uses advanced processor technology to give you all the power and flexibility you need in a state-of-the-art laboratory interface.

Fast data acquisition and analysis

The Power1401 records waveform data, digital (event) and marker information, and can generate waveform and digital outputs simultaneously for real-time, multi-tasking experiment control. The Power1401 features an Intel XScale® processor and has on-board memory to facilitate high speed data capture, independent waveform sample rates and complex on-line analysis, freeing valuable time for the host computer to perform other tasks, such as data manipulation and further analysis.

Expandable for advanced applications

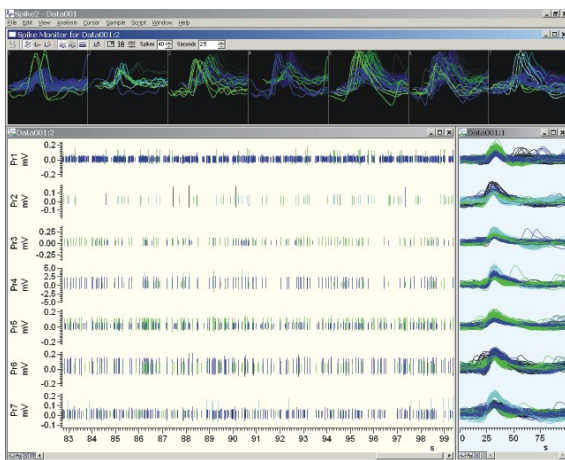
The modular design of the Power1401 enables users to upgrade their systems to benefit from new technology with expansion modules for specialist signal processing.

- Up to 48 channels of waveform input
- 256 Mbytes memory expandable to 1 Gbyte
- Dynamically programmable amplifier option
- User-selectable $\pm 5V$ or $\pm 10V$ input and output ranges
- Synchronization with other CED 1401s for large numbers of channels, all accurately timed
- USB 2.0 or PCI via advanced high-speed serial connection
- Firmware upgrades via CED web site

CED application software

CED software packages, such as Spike2 and Signal, customise the system for use in a wide range of research applications, including:

- Single and multi-unit spike processing
- ECG, EEG, EMG & EOG
- Evoked response
- In-vivo and in-vitro studies
- Gastro-intestinal studies
- Cardiovascular studies
- Tremor analysis
- Sports physiology
- ...and many more



Multi-channel, multi-unit recording with on-line spike sorting



A selection of expansion units allows enhancement of the Power1401 mk II to suit your application

CED Power1401 mk II technical specifications

<p>Waveform I/O</p> <p>16 channels of 16-bit waveform input, switchable $\pm 5V$ or $\pm 10V$ Up to 48 waveform inputs via expansion units Maximum sampling rate: 1 MHz multi-channel, up to 2 MHz single channel System accuracy and noise: 0.05% of full scale ± 1.5 bits Optional programmable gain x1, x2, x5, x10 4 waveform output channels, 16-bit, switchable $\pm 5V$ or $\pm 10V$ Up to 8 waveform output channels via expansion unit</p>	<p>Processor and memory</p> <p>32-bit Intel 800 MHz XScale® processor 256 Mbyte of read-write memory, expandable to 1 Gbyte</p>
<p>Digital I/O</p> <p>16 digital inputs, 8 with change-of-state detection to μs accuracy 16 digital outputs with handshake lines for byte input and output</p>	<p>Case and power supply</p> <p>Size: 428 x 48 x 230mm (16.85 x 1.89 x 9.0 inch) (W x H x D) Rack mount for standard 19 inch laboratory racks Fan cooling for enhanced reliability External 110-240V 50-60 Hz auto-sensing power supply, 45W approx.</p>
<p>Clocks and events</p> <p>5 programmable clocks with 100ns resolution BNC socket for clock inputs and event (clock start) connections</p>	<p>Synchronization</p> <p>Synchronize (time lock) multiple Power1401s and Micro1401 mk IIs</p>
	<p>Host interface</p> <p>USB 2.0 or advanced high-speed serial PCI adaptor</p>



Rear view of the Power1401 mk II

Expansion units

For users who require more inputs and outputs than are available on their Power1401 main unit, we offer several expansions in the form of top-boxes.

Spike2 expansion - 8 additional channels of waveform input, 2 further channels of waveform output and 6 event input BNCs

Signal expansion - 8 additional channels of waveform input, a total of 8 channels of waveform output and 2 digital output BNCs

ADC 16 - 16 additional channels of waveform input

PGA 16 - 16 additional waveform channels with a wide range of programmable gains

PGF 8 - 8 channels of tracking filter with PLL synthesizer

CED3003 - 12 Volt 9.2 Ah battery box for mobile applications (typically 3h use)

Event expander - Stand-alone 12-channel event expansion. This unit can also be used with a Micro1401 and 1401plus.



Compatibility

Software compatible with CED Power1401, 1401plus and Micro1401 at application level. Drivers for Windows 98SE, ME, NT 2000, XP, XP64 and Vista.

CED

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