

The Micro1401 mk II is a low cost, versatile data acquisition unit. The on-board processor with high speed memory is optimised for real time processing, free from the constraints of the host computer operating system. Fast and accurate sampling coupled with simultaneous output offers extensive on-line experimental control.



Fast data acquisition and analysis

The Micro1401 records waveform data, digital (event) and marker information and can simultaneously generate waveform and digital outputs in real-time for multi-tasking experimental control. It features high-speed waveform capture at rates up to 500kHz with 16-bit resolution. The 32-bit RISC processor allows complex on-line analysis while freeing time for the host computer to perform other tasks, such as data manipulation and further analysis.

Expandable for advanced applications

- * Up to 28 channels of waveform input
- * Memory expansion option from 1 MB to 2 MB
- * Patch clamp amplifier drive option
- * Time lock of multiple Micro1401s
- * Event channels (time stamp) expansion from 8 to 20
- * Second sample/hold for simultaneous sampling

CED application software

The CED Spike 2 and Signal applications customise the system for use in a wide range of research areas. Advanced software features such as on-line spike sorting in Spike2 and fast sweep modes in Signal are enhanced when using the Micro1401.

Applications

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

Compatibility

Software compatible with CED 1401, Power1401 and 1401*plus* at application level
Runs CED Spike2, Signal and applications written for the CED 1401 family of interfaces

PCI drivers for Windows 95, 98, Me, NT4, 2000 and XP

USB drivers for Windows 98SE, Me, 2000 and XP



USB operation requires Windows 98, Me or 2000.

Waveform I/O

4 channels of 16-bit waveform input, $\pm 5V$, or $\pm 10V$
Up to 28 waveform inputs via expansion units
2 waveform output channels, 12-bit, $\pm 5V$ or $\pm 10V$

Digital I/O

16 digital inputs, 8 with change-of-state detection to micro-second accuracy
16 digital outputs, 8 clocked for microsecond accurate switching
Handshake lines for byte input and output

Clock and Events

5 programmable clocks with 100 nS resolution
BNC socket for clock inputs and event (clock start) connections
Synchronisation option for multiple Micro1401s

Processor and Memory

32-bit ARM 7 processor running at 75 MHz
1 MByte of read-write memory, option of 2 MBytes
Flash memory holding operating firmware and self-test code – updates via the CED web site

Host Interface

Interface adaptors for PCI bus and USB

Case and power supply

External 110V-240V 50-60 Hz auto-sensing power supply
Power consumption: 22 watts (approx)
Case size: 366 x 48 x 217 mm (14.4 x 1.75 x 8.5 ins) (W x H x D)
Rack mount for standard 19 inch laboratory racks
12 Volt DC power option for mobile or remote applications

Expansion units

For users who require more inputs and outputs than are available on the standard unit, we offer several expansion options in the form of top-boxes.



Spike2 Expansion - 6 channels of event inputs and 6 digital outputs brought to front panel BNCs

Event Expander - Stand-alone 12-channel event expansion in addition to the 8 dedicated change of state inputs

ADC12 - 12 additional channels of waveform input; fit two units for 24 additional channels