



ultraMCS



Network controlled multiscaler

The **ultraMCS** is an ultra fast multi-scaler module. It features a shortest dwell time of 25 ns, 256k channel memory and can be computer controlled using USB or Ethernet connection. Analog output and digital I/O are available for experiment control.

- ▶ Ultra fast multiscaler
- ▶ Input count rate 400 Mhz and more
- ▶ Input signal threshold and impedance programmable
- ▶ Compatible with input signals in TTL, ECL or NIM logic
- ▶ Dwell time in multiples of 1 μ s
- ▶ Up to 256k channels
- ▶ External start, external stop and external dwell available
- ▶ Digital I/O for experiment control
- ▶ Analog output (0-10 V) for experiment control
- ▶ No dead time between channels, no lost counts or double counting
- ▶ No end-of-sweep dead time in add mode for dwell times longer than 50 ns
- ▶ Multiple operation modes
- ▶ Ethernet and USB connection to the PC
- ▶ Operating software **InterWinner/MCS**

Operating software

The **ultraMCS** is operated using the **InterWinner** software in MCS mode. **InterWinner** is an analysis and spectrum manipulation package well known in nuclear spectroscopy. The MCS version of this software is used together with the **ultraMCS** and other MCS devices.

Main features

InterWinner has an easy-to-use graphical user interface. This window-style

interface allows to see several acquisition chains and/or stored data files simultaneously.

InterWinner controls the acquisition and stores, recalls and displays the data.

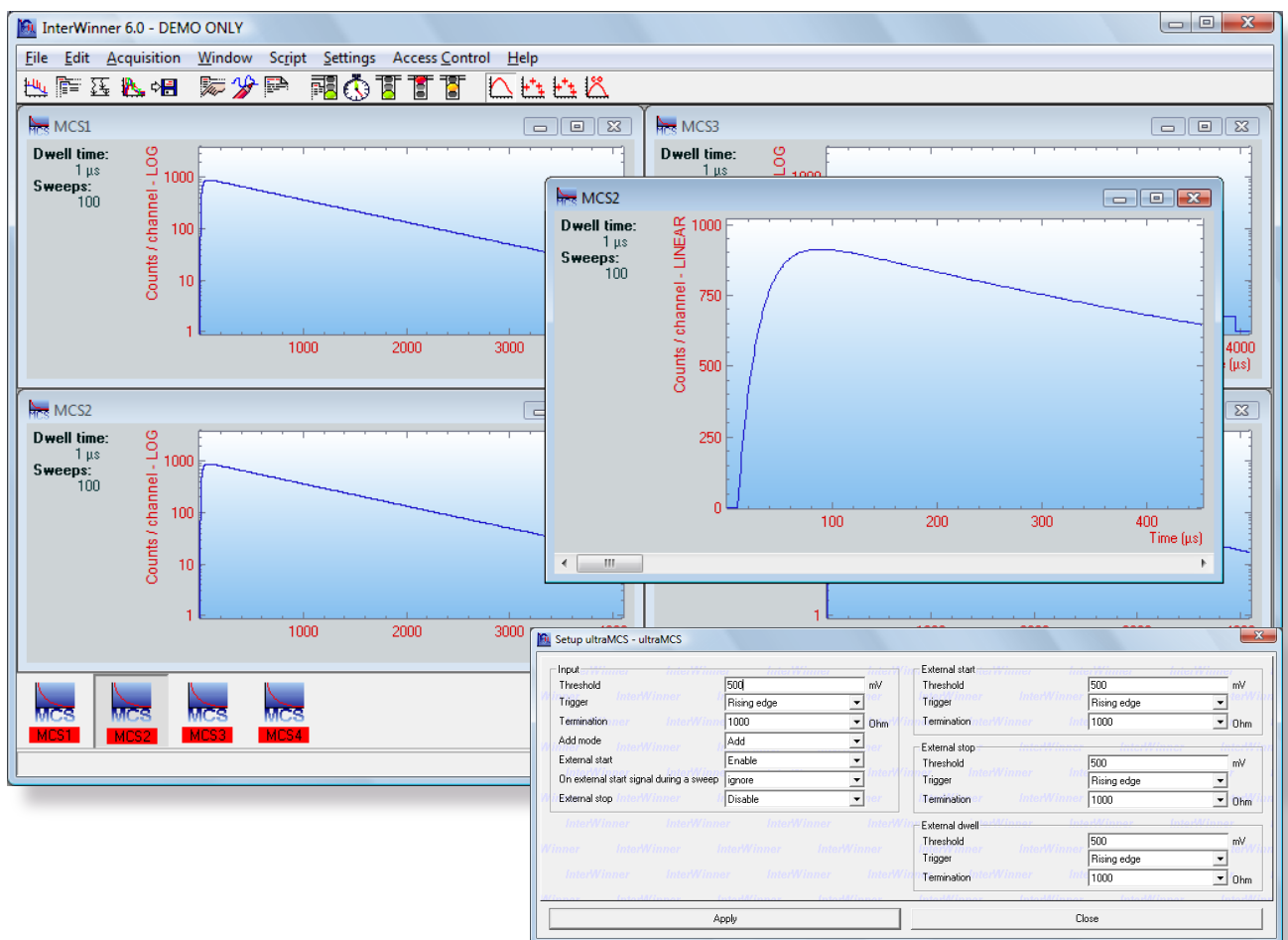
All the parameters required by the **ultraMCS** analyzer can be selected using **InterWinner**.

Parameter set files can be created to pre-

define acquisition parameters.

The user interface language can be selected dynamically. Currently German, English and French are available.

InterWinner includes a programming language (Visual Basic Script) which can be used to control the acquisition, control the analog output of the **ultraMCS**, analyze the data etc.



Specifications

Dwell time modes

- ▶ Software programmable starting at 25 ns in multiples of 5 ns and external channel advance

Count rate

- ▶ Typically > 400 Mhz
- ▶ No dead time between bins

Inputs

- ▶ START: +- 5V range, 50 Ω/1 kΩ soft-

ware selectable input impedance, slope and threshold programmable

- ▶ STOP: +- 5V range, 50 Ω /1 k Ω software selectable input impedance, slope and threshold programmable
- ▶ COUNT: +- 5V range, 50 Ω / 1 k Ω software selectable input impedance, slope and threshold programmable, count rate capability > 400 Mhz
- ▶ DWELL: +- 5V range, 50 Ω /1 k Ω software selectable input impedance, slope and threshold programmable

Connectors

- ▶ BNC type connectors for the four inputs
- ▶ BNC type connectors for start, stop and channel advance/dwell
- ▶ RJ45 Ethernet connector
- ▶ USB client connector
- ▶ female DSUB25 connector holding 8 digital inputs (TTL logic), 8 digital

outputs (TTL logic) and one analog output (1-10 V) for experiment control

Housing

- ▶ Desktop metal housing

Power supply

- ▶ External power supply. Input voltage 100-240 V AC

Operation modes

- ▶ single sweep
- ▶ multiple sweep with presetable sweep counter
- ▶ add sweeps with presetable sweep counter
- ▶ two start modes: restart after sweep completed or instant restart on trigger signal

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