ITECH
INSTRUMENTS

quadMCS

Multichannel scaling in a box

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The **quadMCS** is a fast four-input multiscaler module. It features 128k channels per input and can be computer controlled using USB or Ethernet connection. Analog output and digital I/O are available for experiment control.

- ▶ For-fold independent 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 1µs
- ▶ Up to 128k channels per input

- ▶ 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
- ▶ Multiple operation modes
- ▶ Ethernet and USB connection to the PC
- ▶ Operating software **InterWinner/MCS**

Operating software

The **quadMCS** 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 **quadMCS** 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.

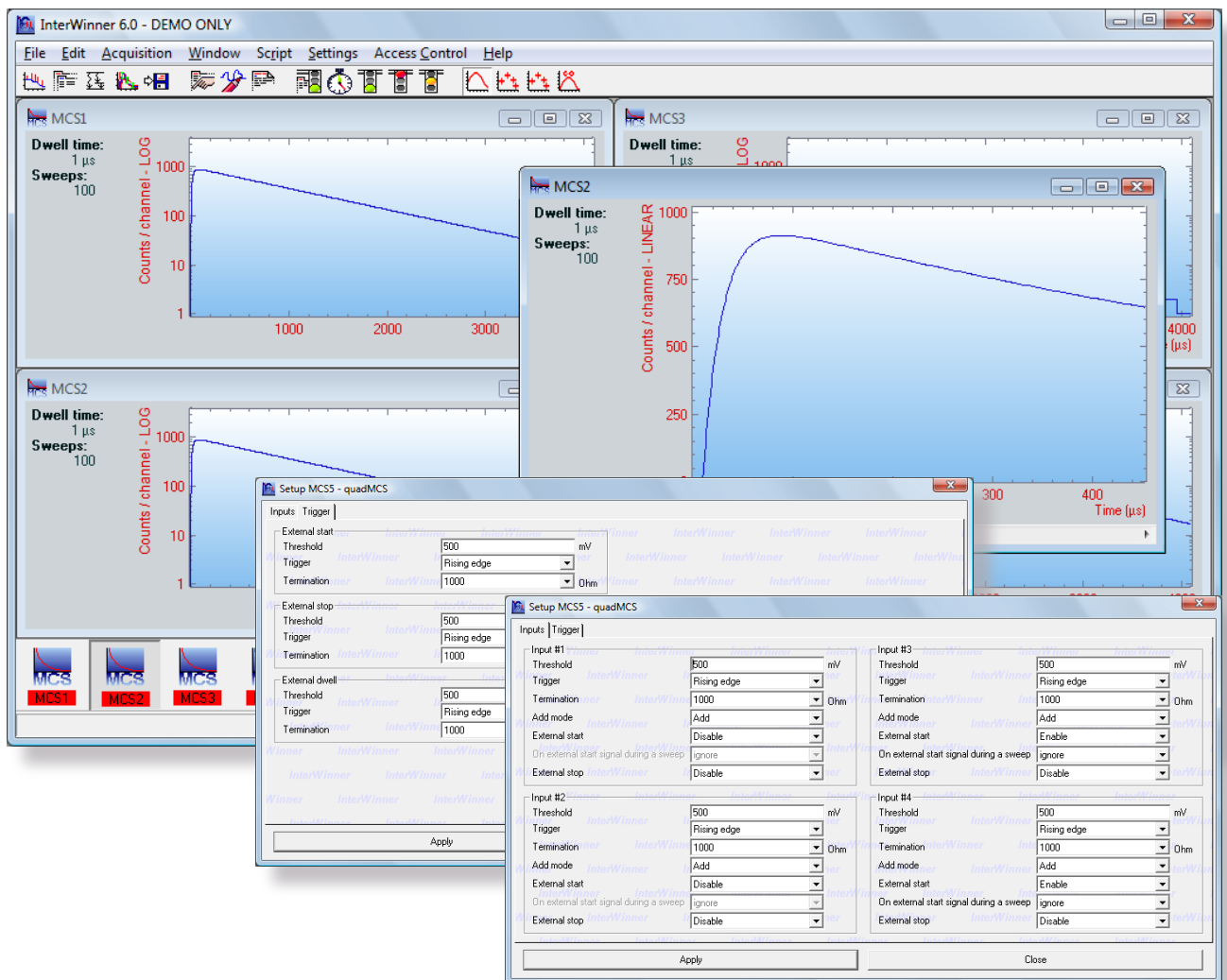**InterWinner** controls the acquisition and stores, recalls and displays the data.

All the parameters required by the **quadMCS** 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 **quadMCS**, analyze the data etc.

Specifications

Dwell time modes
► Software programmable in multiples of 1 µs and external channel advance

Count rate
► Typically > 400 Mhz
► No dead time between bins

Inputs

▶ START: +- 5V range, 50 Ω/1 kΩ software selectable input impedance, slope and threshold programmable

▶ STOP: +- 5V range, 50 Ω/1 kΩ software selectable input impedance, slope and threshold programmable

▶ COUNT1-4: +- 5V range, 50 Ω/ 1 kΩ software selectable input impedance, slope and threshold programmable, count rate capability > 400 Mhz

▶ DWELL: +- 5V range, 50 Ω/1 kΩ 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