

DT5770

Digital Multi Channel Analyzer



A pocket-size, high performance and cost-effective solution for your spectroscopy applications.

Features

- 16k Digital MCA
- Suited for high resolution Gamma and X-ray spectroscopy
- Support continuous and pulsed reset preamplifiers
- Selectable dynamic range and analog coarse gain
- DB9 connector for preamplifier power supply
- Features Pulse Height Analysis firmware for energy calculation
- Digital oscilloscope mode for an easy setup and signal monitoring
- USB and Ethernet connection
- USB Powered / External Power Supply / PoE (optional)
- New MC²A Control SW for configuration, acquisition, and data plotting

Applications

- Homeland Security
- Environmental Monitoring and Surveys

The DT5770 is a compact portable 16k Digital MCA for Gamma and X-ray spectroscopy, integrating analog front-end with programmable gain and possible AC coupling. It is ideally suited for high energy resolution semiconductor detectors, like HPGe and Silicon, connected to a Charge Sensitive Preamplifier (CSP). The unit can also properly operate directly connected to a PMT with inorganic scintillators (e.g. NaI or CsI scintillators), provided exponential pulse shape and decay time above 200 ns.

The DT5770 is equipped with a FPGA featuring the real-time Digital Pulse Processing for Pulse Height Analysis (PHA) making the module a data acquisition system for Nuclear Physics and other applications involving radiation detection.

The DT5770 houses USB 2.0 and Ethernet interfaces. The Module is either powered by USB, or by external AC/DC power supply, or Power over Ethernet (optional).

Two ways of operation are foreseen:

- **“Pulse Height Analysis (PHA)”**: pulse height histogram (1k-2k-4k-8k-16k) built at board level
- **“Oscilloscope”**: input and internal filters waveforms

PHA settings, acquisition and mathematical analysis are performed through the new MC² Analyzer, providing out energy and time spectra in ASCII or N42.42 compliant files.

CAEN provides moreover drivers for the supported communication links, configuration software tools, C and LabVIEW libraries (CAENComm, CAENDigitizer, CAENDPP), demo applications and utilities.

Software

MC² Analyzer (MC²A)

Digital MCA Data Acquisition and Analysis Software



MC²A is a software specifically designed to manage CAEN Digital MCA (780/781 family, DT5770 and *Ystream*) as well as CAEN digitizers running DPP-PHA (Digital Pulse Processing for the Pulse Height Analysis) firmware, like 724 or 730 families.

It allows the user to set the relevant parameters, to manage the HV channels configuration (x780 and *Ystream* only), to collect the spectra and perform mathematical analysis, like energy calibration, peak search, background subtraction, peak fitting, etc.

It is designed with multi-channel and multi-board capabilities: it can handle several boards and manage the data acquisition from each of them at the same time.



All CAEN Control Software are available for **free download** on the web site.

Ordering Option

Code	Description
WDT5770AXAAA	DT5770 - Digital MCA



DT5770 rear view



News from Catalog web page
www.caen.it/news



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