CAEN ⬡ Electronic Instrumentation
Tools for Discovery

781 MCA Family
Dual / Quad Indipendent 16k Digital MCA

A compact and flexible solution for digital nuclear spectroscopy

Features

- Dual or Quad Independent 16k Digital MCA
- Available in Desktop and NIM form factors
- Suited for high resolution digital nuclear spectroscopy
- Selectable input dynamic range and adjustable fine gain
- Features DPP-PHA firmware for energy and time stamp calculation
- Digital oscilloscope mode for an easy setup and signal monitoring
- Suited for high counting rate
- USB and Optical Link communication interfaces
- Drivers, libraries and API for Windows and Linux 32/64-bit
- New MC^{2}A analyzer software for configuration, acquisition and data plotting

The 781 Family is a compact Dual/Quad Digital 16k MCA for nuclear spectroscopy. Available in Desktop and NIM form factors, it is ideally suited for high energy resolution semiconductor detectors, like HPGe and Silicon, connected to a Charge Sensitive Preamplifier (CSP) but it can also properly work directly connected to a PMT with inorganic scintillators (Nal, Csl) and other types of crystal, provided that the pulse shape is exponential and the decay time is long enough (typ. > 200 ns).

Thanks to two or four independent input MCA running simultaneous acquisition, the DT5781 is able to manage coincidences and anti-coincidences between multiple of detectors, allowing the user, for example, to easily take advantage of background rejection or anti-Compton shielding techniques.

It has been designed to operate as a scalable multi-input and multi-board acquisition system offering synchronization capabilities.

Three ways of operation are foreseen:

- **"Pulse Height Analysis (PHA)":** pulse height histogram (1k-2k-4k-8k-16k) built at software level

- **"List":** pulse height and time stamp for each event

- **"Oscilloscope":** input and internal filters waveforms

PHA settings, acquisition and mathematical analysis configuration are performed through the new MC^2 Analyzer software, providing out both energy and time stamp lists for each channel and 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, CAENDigitzer, CAENDPP), demo applications and utilities.

Software

MC^2 Analyzer (MC^{2}A)
Digital MCA Data Acquisition and Analysis Software

MC^{2}A is a software specifically designed to manage CAEN Digital MCA (780/781 family, DT5770 and γ**stream**) as well as CAEN digitizers running DPP-PHA (Digital Pulse Processing for the Pulse Height Analysis) firmware, like 724, 725 or 730 family.

It allows the user to set the relevant parameters, to manage the HV channels configuration (x780 and γ**stream** 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, multi-board capabilities: it can handle several boards and manage the data acquisition from each of them at the same time.

FREE DOWNLOAD

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

Ordering Option

Code	Description	Form Factor
WDT5781AXAAA	DT5781A - 2 Channel Digital MCA	Desktop
WDT5781XAAAA	DT5781 - 4 Channel Digital MCA	Desktop
WN6781AXAAAA	N6781A - 2 Channels Digital MCA	NIM
WN6781XAAAAA	N6781 - 4 Channels Digital MCA	NIM

DT5781 rear view

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

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Great differences**

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