



Digital Multi Channel Analyzer MCA 527

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DESCRIPTION

The MCA527 is a portable, battery-powered 16K MCA offering laboratory-grade performance. It integrates a high-voltage supply for detectors, a preamplifier power supply, a coarse amplifier, and digital filtering/analysis. When paired with a detector, it forms a compact gamma spectroscopy system ideal for field applications such as International safeguards, Environmental monitoring, Nuclear waste management, Radioactive material transport control. This lightweight, high-performance solution meets the rigorous demands of on-site measurements.

FEATURES

- Automated base line restorer and threshold adjustment
- Automated or manual pole zero adjustment without oscilloscope
- System dead time and count rate indication
- Dead time correction
- Automated spectrum recording
- Peak stabilization
- Basic analysis functions (energy calibration, FWHM, peak area and integral calculations, spectrum stripping and smoothing)
- File menu: write/read functions with drive/path - and file pick list functions
- Setup menu: ADC, Amplifier, Presets, Memory splitting, MCA mode, MCS mode, Multi spectral recording mode, automated instrument configuration using setup file
- Analysis menu: Energy calibration und further analysis functions defined according the purpose. Energy calibration with linear calibration curve using 2 peaks or energy channel pairs
- Acquire control: Start, Stop, Erase, Presets Incorporated Help texts Print screen for print via system printer (Windows) quick documentation
- Display functions: Automated vertical full scale (VFS), manual and logarithmic VFS, cursor functions, expand and unexpand, ROI setting
- Detection limit formalism: more than 17

Parameter	Value
Channel Splitting	128, 256, 512, 1024, 2048, 4096, 8192, 16384
Shaping Time	0.1µs to 25.5µs, step 0.1µs
Flat Top Time	0µs to 15µs, step 0.1µs
Integral Nonlinearity	<0.025%
Differential non-linearity (@4K and 1µs shaping time)	< 1 %
Max counts in a channel	$2^{32} - 1$
Base Line Restorer	BLR with adjustable averaging
Pole Zero Adjustment	Decay time down to 40µs can be compensated
Base Line Restorer	BLR with fixed averaging
Pole Zero Adjustment	Decay time down to 40µs can be compensated
Preamp Power Supply	±12V, ±60mA ±24V, ±60mA
Power supply	via USB PC-Port, ≤500mA
HV Supply	up to +/- 3600V up to +/- 5000V
Computer Interfaces	USB, Ethernet, RS232

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Gamma-rays