Digital Miniature Multi Channel Analyzer MCA 527

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

DESCRIPTION

The MCA527 is a battery powered high performance 16K Multi-Channel Analyzer/Multi-Channel Scaler module with the performance of a laboratory grade MCA. High voltage supply for detector and preamplifier power supply are integrated as well as an internal coarse amplifier and digital filtering and analysis. Together with a detector it forms a small-size gamma spectroscopy system, which is well suited to the demands of field measurements for international safeguards, environmental monitoring, nuclear waste treatment facilities, radioactive transport control and similar applications.

Amplifier:

- Coarse amplifier prefilter with amplifications in steps of 2, 5, 10, 20, 50, 100, 200, 500, 1000 corresponding to a full scale ADC;
- Input signal positive or negative;
- Linearity better than 0.1%.

ADC:

- 14bit, 10 MSps;
- Integral Nonlinearity <0.025%;
- temperature stability TK 50.

Digital signal processing:

- double differential trigger filter, or single differential low energy low count rate trigger filter;
- Pile-up-suppression, pulse pair resolution ~400ns, depending on trigger filter;
- Automated and manual adjustment of trigger threshold;
- Channel splitting 128, 256, 512, 1k, 2k, 4k, 8k or 16k;
- Differential nonlinearity <1% for 4k channels and 2µs peaking time;
- Automated PZC adjustment, detector decay time constants from 40µs to 1ms can be compensated;
- TRP preamplifier or Resistive feedback selectable

High voltage:

- Detector HV up to ±5kV, polarity depends on module inserted.

Power supply:

- Li-Ion batteries, operation time 10-25h, depending on detector connected (tbd).

Computer Interface:

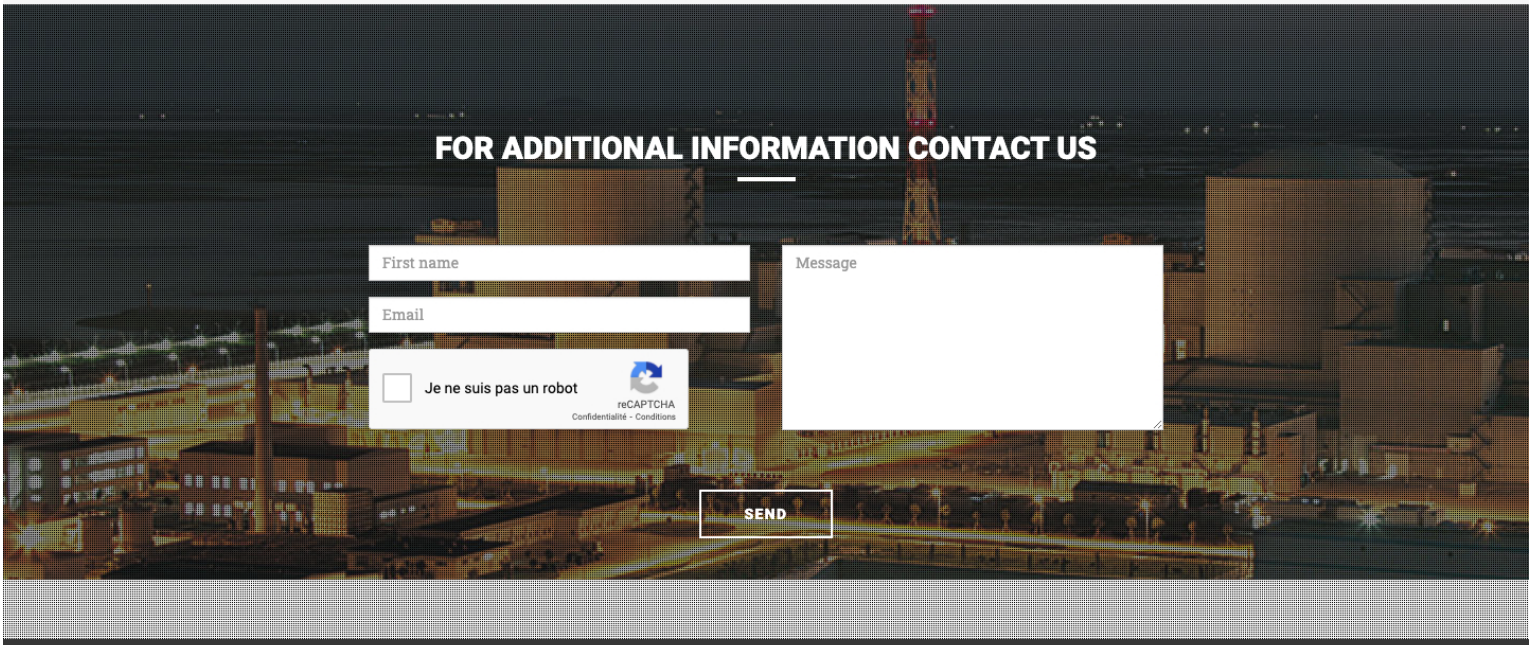
- USB, RS-232 (38.4, 115.2, 307.2 kBd and 3MBd), Ethernet.

Mechanical:

- Housing 164 mm x 111 mm x 45 mm without connectors; weight 820g.

Environmental:

- operational: at least 0 - 50 °C, eventual larger range;
- humidity up to 90%, non condensing, IP42.



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Ramulu str. 3, LV-1005, Riga, Latvia

Tel: +371 67383947