

# MCDWIN

## MCA Emulation and Analysis Software

### Features:

- MS-WINDOWS based operating system for Multi-channel Data Processors and TOF devices like P7887/P7888, P7889, P7882 and MCA-3 Series Multichannel Analyzers
- WINDOWS graphical environment for control and spectrum manipulation via mouse and function keys
- Multiple windows display
- Multi MCD operation
- Automatic operation through MACRO commands
- 3-D display capability: MAP-, Isometric and Contour lines
- Hardcopy output to any Printer or Plotter supported by MS-WINDOWS
- Peak centroid, Gauss fit, net area and gross area calculation
- Energy calibration (also automatically)
- External Control by host computer via Experiment Control Line input
- Local Area Network support for remote control via Ethernet and RS232C (optional)
- Example Spectrum
- Choice of disk storage formats. File formats compatible to various spectrum analysis programs
- Digital Stabilizer - implemented via MACRO
- Compatible with WIN 98, WIN NT, WINDOWS 2000 WINDOWS XP and Windows Vista (32 bit).
- DLL for LabVIEW, "C" and Visual Basic are optionally available.

### Description:

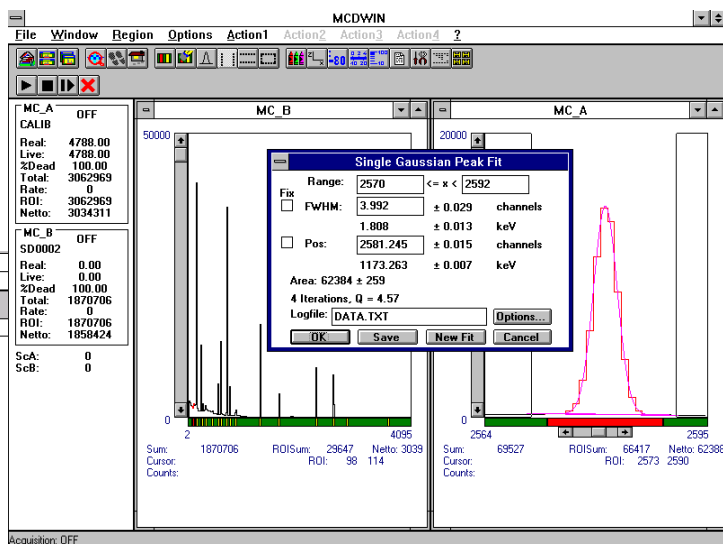
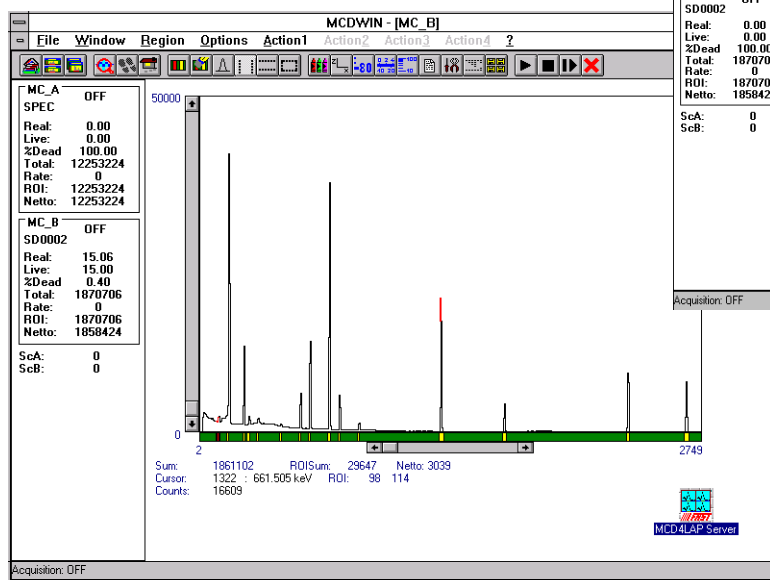
MCDWIN is a powerful - yet easy-to-use MCA Emulation software that operates under the MS-WINDOWS environment. It offers full software control of MCA-3 Series Multichannel Analyzers and TOF Time-of-Flight devices and extensive data manipulation capabilities and display functions.

MCDWIN is compatible to many spectrum analysis programs such as:

GANAAAS, QXAS, OSQ, SAMPO, ALPS, MEDIGAM, GAMMAW and many others. A DDE and optional DLL interface provide easy control and data transfer to LAB VIEW, Visual Basic etc.

MCDWIN can be fully remote controlled by a host computer, using MCDWIN-Commands, by an Experiment Control line and in a Local Area Network over Ethernet. (TCP/IP protocol and RS232C communication option available on request)

MCDWIN offers easy mouse control of the MCD and TOF Multichannel Analyzers. It consists of two separate Windows programs: the server program is dedicated to the hardware and allows full control of the hardware, data acquisition, saving of data in ASCII, binary and GANAAS format. The server has its own macro command interpreter, a DDE interface and a DLL interface for other



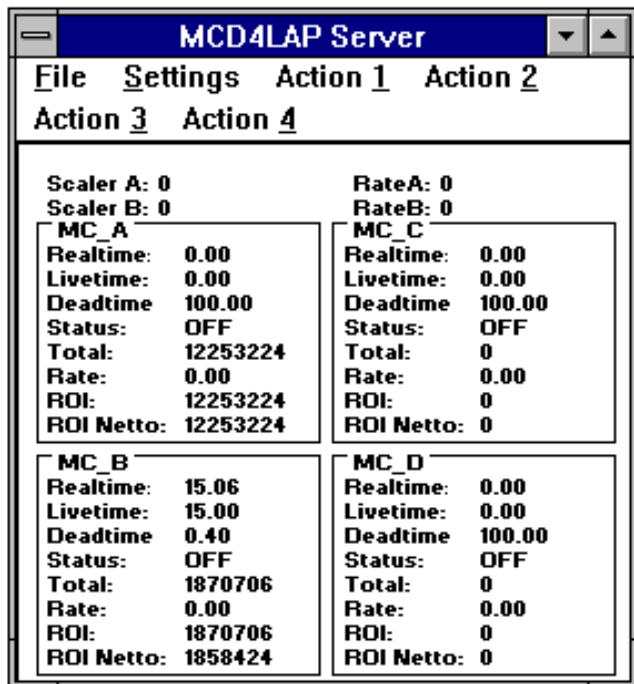
Windows applications. The MCDWIN program is a multi window graphic application that allows to fully control the server via a DLL. It is not necessary to open the server icon. MCDWIN has a toolbar, a status bar, a status window and any number of display windows. It has all capabilities to inspect and evaluate the data: Opening new windows, zooming and scrolling, creating and deleting

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ROI's, Net and cross integration, calibration, Gaussian peak fit.

### Regions of Interest (ROI)

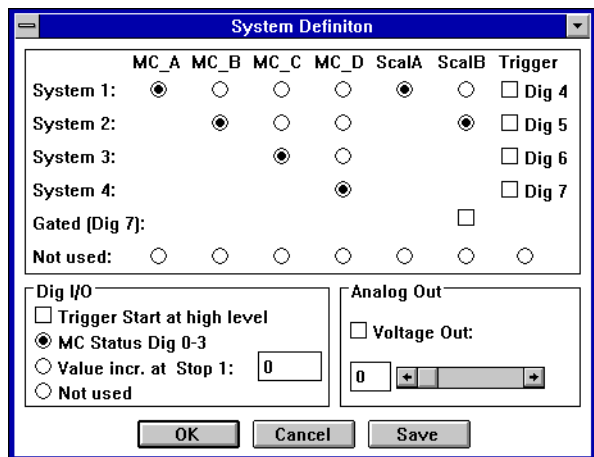
ROIs are defined using the right mouse button and dragging a rectangle over the region. They are displayed on the ROI bar below the graphics window. The actual ROI can be selected by clicking on the ROI bar. The ROI boundaries, total and net sum is displayed below the display. The background is calculated as a linear function



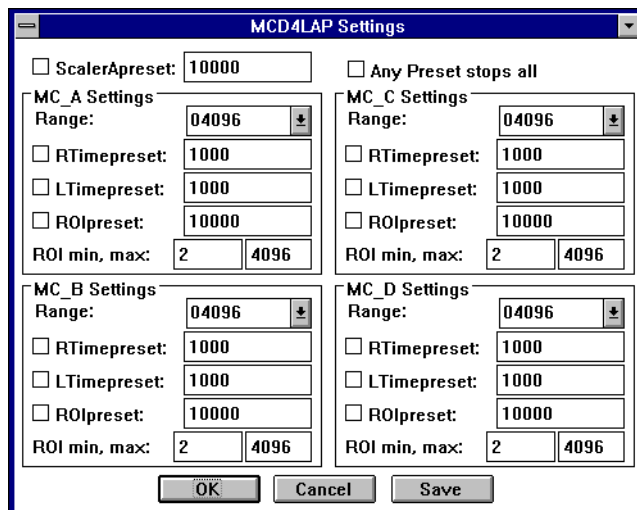
from the right- and leftmost channel. The ROIs can be edited in a dialog box and are saved together with the data. For a selected ROI an ROI preset can be set. The server program then continuously checks the content (it can also be the full spectrum) and stops the measurement after reaching the preset.

### Calibration

You have a choice of several calibration formulas. Enter



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some cursor positions and the corresponding values, click Add, then Calibrate. The obtained coefficients can be inspected together with the statistical error, or they can be changed and entered by hand. If 'use calibration' is on, the calibrated values are displayed together with the channel position of the cursor.

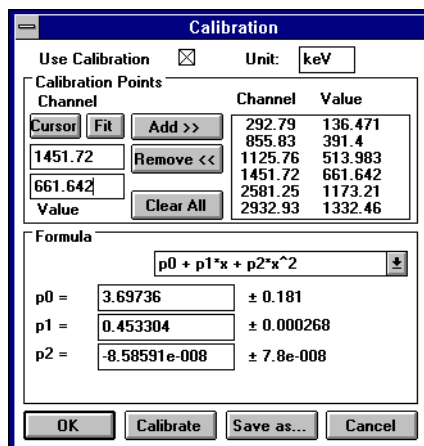
### Gaussian Peak Fit

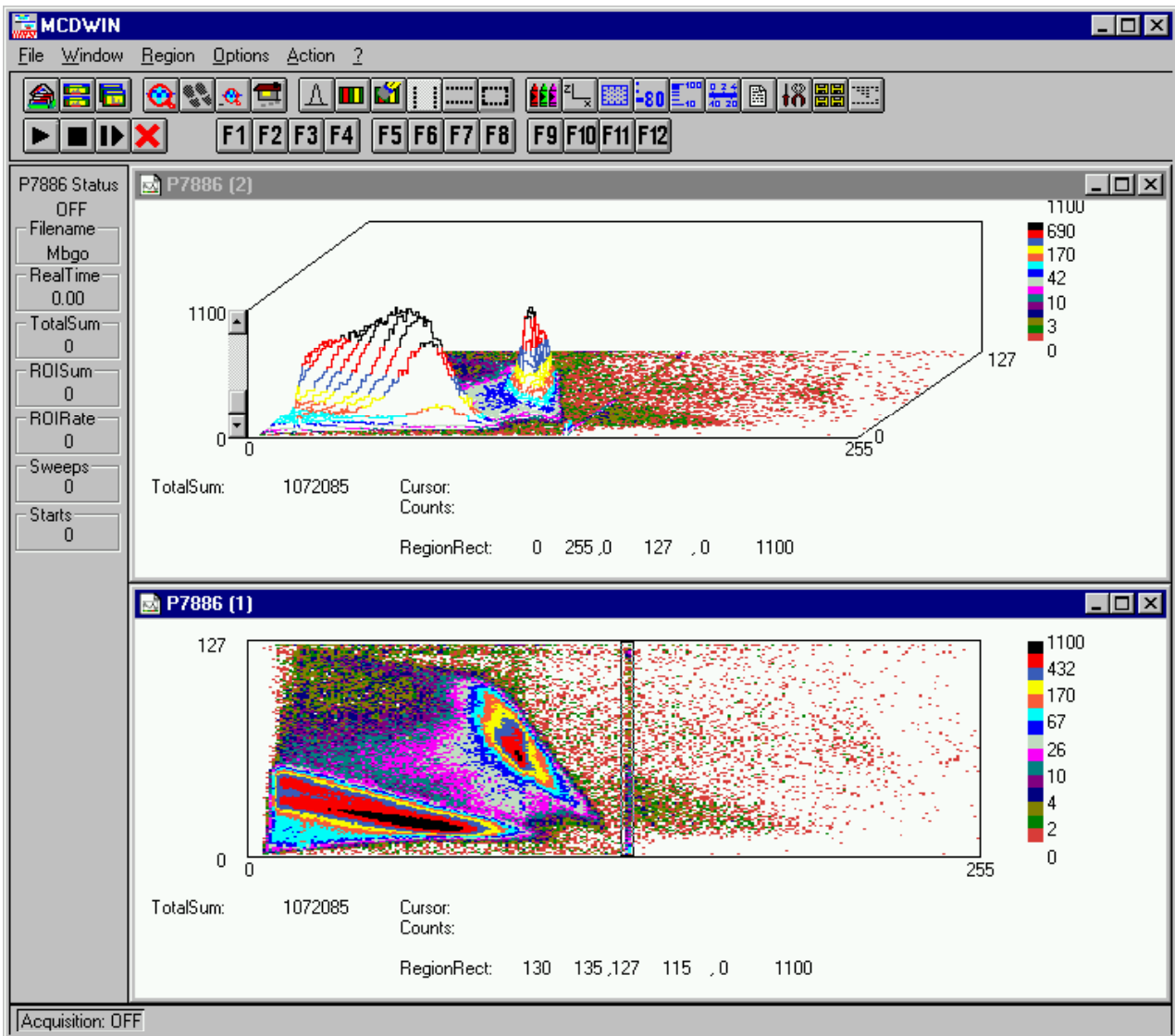
A single Gaussian peak fit with linear background can be performed for the active region. The fitted curve and background is displayed and a dialog box shows the results: The position and FWHM are displayed in channels or in calibrated units, if a calibration has been made. The area of the Gaussian is also shown. The normalized  $\chi^2$  and for all values also the standard deviations are given. The results can be dumped to a logfile with a specified name. The information in the logfile can be defined. The file can be read with standard spread-sheet programs like EXCEL. With Fit ROIs, a Single Gaussian Peak Fit is performed for all ROIs and the results are dumped to the logfile.

### Batch Operation

MCDWIN has extensive MACRO capabilities. By using these MACROS the user can fully automate his measurements. The command language is interpreted by the server program.

**Software upgrades are free for the first 12 months after the purchase of MCDWIN.**





MAP- and isometric display