MCA-166, MCA-527

Multi-Channel Analyzers

Use of MCA User Data Memory
by Specific Applications

Exclusion of liability

The information in this document has been carefully reviewed and is believed to be accurate and reliable. However, the GBS Elektronik GmbH assumes no liabilities for inaccuracies in this manual. This manual is subject to change without notice.

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Applications can use the MCA user data memory as needed. However, two principles should never be violated. Applications should always delete the user data of another applications if they are not able to retain the data consistency. Applications must not write one of the already existing application names to byte offset 16.

MCA user data memory contents of applications from GBS Elektronik GmbH

Byte offset 0	U235: Enrichment constant 1 WinSPEC: Index for the analysis program WinSCAN: Scan method and scan parameter
Byte offset 4	U235: Enrichment constant 2 WinSPEC-A: Repeat mode options WinSCAN: Grid lines offset and period
Byte offset 8	U235: Enrichment constant 3 WinSPEC-A: Repeat mode options
Byte offset 12	U235: Enrichment constant 4 WinSPEC-A: Repeat mode options
Byte offset 16	Application name: "U235", "LENG", "SPEC", "MCS", "RATE", "UF6 ", "WMCA" , "WMCS" , "WSPC", "WSCN", "WUF6", "W235", "MCAE", "OSCI"
Byte offset 20	HV Inhibit Mode: 0, 1, 2, -1 (used for automatic restart in applications for unattended measurements)
Byte offset 22	HV Preset value: 0 ... 3600 (used for automatic restart in applications for unattended measurements)
Byte offset 24	Power switches
Byte offset 28	Stabilization preset: auto/channel
Byte offset 30	Stabilization on/off
Byte offset 32	Repeat mode : 0, 1, 2, 3, 4 ,100 (100 means software repeat mode), (Bit 15: 0 = inactive, 1 = active)
Byte offset 34	Elapsed repeats (software mode)
Byte offset 36	HV inhibit mode: 0, 1, 2, -1 (used as preset values after the MCA has been powered on)
Byte offset 38	HV preset value: 0 ... 3600 (used as preset values after the MCA has been powered on)
Byte offset 40	Energy calibration: channel 3[1]
Byte offset 44	Energy calibration: energy 3
Byte offset 48	Energy calibration: channel 1 or null
Byte offset 52	Energy calibration: channel 2 or null
Byte offset 56	Energy calibration: energy 1 or actual slope
Byte offset 60	Energy calibration: energy 2 or actual offset
Byte offset 64	1st ROI pair (ROI end)[2]
Byte offset 66	1st ROI pair (ROI begin)
Byte offset 68	2nd ROI pair
...	...
Byte offset 124	16th ROI pair
Byte offset 128	U235/UF6: Inspection description WinMCS: 16 ROI pairs of the MCA spectrum (similar the other ROIs)

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1   Older applications have not supported 3 point energy calibration. Therefore, they have certainly not written a 3rd channel/energy pair to the user data memory. In order to distinguish whether the user data memory contains a valid 3rd channel/energy pair, the data is coded.

2   In applications with MCS spectrum the ROIs of the MCS spectrum are saved here. In WinMCS the ROIs of the MCA spectrum are saved behind it.

The following user data are only available on the MCA527.

Byte offset 256	Flags:	Bit 0:	This bit is always set by applications that knows the MCA527.
		Bit 1:	If set, the application takes account of gated spectra.
Byte offset 260:	The following 24 Bytes are used by the MCA-527 Oscilloscope to store its settings. It sets the first 4 bytes to "OSCI" to declare the validity of the settings. Applications that uses this 24 bytes has to ensure that the first 4 bytes are unequal to "OSCI". See document "Description of the MCA527 Oscilloscope Mode" *(MCA527_Oscilloscope_Mode_XXXX_XX_XX.pdf)* for detailed information.		