Portable ME32-System

The Portable ME32-Sytem can be used either with two µPA16s - **OR** - with one µPA32. The device is preconfigured for use with two µPA16s or with one µPA32 by Multi Channel Systems and cannot be modified by the user. If you like to change the preconfiguration, please contact MCS www.multichannelsystems.com

Technical Specifications

General Characteristics

Operating temperature	10 °C to 50 °C
Storage temperature	0 °C to 50 °C
Relative humidity	10 % to 85 %, non-condensing
Dimensions (W x D x H)	170 x 224 x 66 mm

2 x 16-Channel Micro Preamplifier (µPA16)

Dimensions (W x D x H)	17 mm x 17 mm x 2.5 mm w/o connector 21 mm x 17 mm x 2.5 mm with connector
Length of the cable	1.5 m
Weight	1.5 g w/o cable
Maximum tensile strength of cable	20 N
Input connector type	18-pin dual-row Omnetics sockets, NSD series A 79039-001 female
Output connector type	26-pin HD D-SUB male (Harting)
Number of amplifier channels	16
Supply voltage range	± 2.5 V
Supply current range	< 15 mA, typically ± 14 mA
Gain	10
Bandwidth	DC to 50 kHz
Input voltage range	± 250 mV (with respect to a supply voltage of 2.5 V)
Input impedance	1 GΩ @ 1 kHz
Input capacitance	13 pF
Input noise	< 1.2 μV_{RMS} (0.1 Hz to 10 Hz, inputs short-circuited)
Noise density	e_n = 10 nV / √ Hz @ 1 kHz
Output voltage range	± 2.5 V max. supply voltage

1 x 32-Channel Micro Preamplifier (µPA32)

Dimensions (W x D x H)	20 mm x 25 mm x 3 mm w/o connector 24 mm x 25 mm x 3 mm with connector
Length of the cable	1.5 m
Weight	2 g w/o cable
Maximum tensile strength of cable	20 N
Input connector type	36-pin dual-row Omnetics sockets, NSD series A 79023-001 female
Mating connector	Omnetics NPD series
Output connector type	44-pin HD D-SUB male (Harting)
Number of amplifier channels	32
Supply voltage range	± 2.5 V
Supply current range	< 30 mA, typically ± 26 mA
Gain	10
Bandwidth	DC to 50 kHz
Input voltage range	± 250 mV (with respect to a supply voltage of 2.5 V)
Input impedance	1 GΩ @ 1 kHz
Input capacitance	13 pF
Input noise	< 1.2 μV_{RMS} (0.1 Hz to 10 Hz, inputs short-circuited)
Noise density	e_n = 10 nV / √ Hz @ 1 kHz
Output voltage range	± 2.5 V (supply voltage range)

32-Channel filter amplifier

Number of input channels	32
Gain	100 (other gain / filter settings available on request)
Bandwidth	1 to 5 kHz
Input voltage range	AC coupled
Input impedance	300 Ω
Input noise	< 1 μV_{RMS} (full bandwidth, inputs short-circuited)
Noise density	e_n = 9 nV / √ Hz @ 1 kHz
Filter slope	80 db / decade

32-Channel data acquisition

Sampling frequency	up to 50 kHz (software controlled)
Data resolution	16 bit
Crosstalk (channel to channel)	typical 0.01 %, max. 0.1 %
Number of analog input channels	32
Number of digital input and output channels	16
Input signals	TTL (CMOS 3.3 V)
Output signals	TTL (CMOS 3.3 V)

Interface and connectors

2 analog inputs for µPA16	26-pin HD D-SUB female (Harting)
1 analog input for µPA32	44-pin HD D-SUB female (Harting)
16 digital input and output bits	68-pin MCS standard connector
USB	USB 2.0 High Speed cable (type A – mini B)
Digital OUT D0 OUT	Lemo connector, EPL 00 250 NTN
Digital IN D0 IN	Lemo connector, EPL 00 250 NTN
Audio	Stereo jack 3.5 mm
Ground	Common jack 4 mm, banana plug
Power supply	Barrel connector 0.7 x 2.35 mm
Data transfer	USB 2.0 High Speed (true USB 2.0 transfer rate)

Power supply unit (MPU 30)

Input voltage	90 – 264 VAC @ 47 – 63 Hz
Output voltage	11 – 13 V
Max. Power	30 W

Software

Operating system	Microsoft Windows ® **8 or** 7, Vista or XP with NTFS English and German versions are supported
Multi Channel Suite	Version 1.2.2 and higher
MC_Rack	Version 3.7.0 and higher
MC_DataTool	Version 2.4.5 and higher

Warning: The device may only be used together with ME-Systems from Multi Channel Systems MCS GmbH, and only for the specified purpose. Damage of the device and even fatal injuries can result from improper use. Do not open the data acquisition box and do not change hardware configuration as it could lead to improper behaviour of the system.