



## USB-ME32-FAI System



The USB-ME32-FAI-System can be used either with four MPA8Is - **OR** - with one MPA32I. The device is preconfigured for use with four MPA8Is or with one MPA32I by Multi Channel Systems and cannot be modified by the user. If you like to change the preconfiguration, please contact MCS [www.multichannelsystems.com](http://www.multichannelsystems.com)

### Technical Specifications

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)	227 x 166 x 60 mm

#### 4 x 8-Channel Miniature Preamplifier (MPA8I):

Dimensions (W x D x H)	17 mm x 25 mm x 2 mm
Weight	1.3 g w/o cable and plug, 21 g with cable and plug
Maximum tensile strength of cable	2 kg
Input connector type	Single-row precision sockets, 50 mil (1.27 mm) grid pattern, for 0.35-0.45 mm round pins
Number of input channels	8
Input voltage	± 500 mV (with respect to a supply voltage of 5 V)
Input impedance	$10^{12} \Omega \parallel 10 \text{ pF}$
Input noise	< 1.5 $\mu\text{V}_{\text{RMS}}$ (1 Hz to 5 kHz, inputs short-circuited)
Noise density	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$
Number of output channels	8
Output voltage	within supply voltage range
Output current	max. ± 10 mA
Output impedance	0 $\Omega$
Bandwidth	DC to 50 kHz
Gain	10

#### 1 x 32-Channel Miniature Preamplifier (MPA32I):

Dimensions (W x D x H)	27 mm x 36 mm x 5 mm
Weight	7 g w/o cable and plug, 56 g with cable and plug
Maximum tensile strength of cable	2 kg
Input connector type	Dual-row precision sockets, 50 mil (1.27 mm) grid pattern, for 0.35-0.45 mm round pins
Number of input channels	32
Input voltage	± 500 mV (with respect to a supply voltage of 5 V)
Input impedance	$10^{12} \Omega \parallel 10 \text{ pF}$
Input noise	< 1.5 $\mu\text{V}_{\text{RMS}}$ (1 Hz to 5 kHz, inputs short circuited)
Noise density	$e_n = 15 \text{ nV} / \sqrt{\text{Hz}}$
Number of output channels	32
Output voltage	within supply voltage range
Output current	max. ± 10 mA
Output impedance	0 $\Omega$

Bandwidth	DC to 50 kHz
Gain	10

#### 32-Channel filter amplifier:

Number of input channels	32
Input voltage	AC coupled
Input impedance	300 $\Omega$
Input noise	< 1 $\mu\text{V}_{\text{RMS}}$ (full bandwidth, inputs short-circuited)
Noise density	@ 1 kHz $e_n = 9 \text{ nV} / \text{Hz}$
Bandwidth	1 - 5000 Hz
Filter slope	80 db / decade
Gain	100
(other gain / filter settings available on request)	

#### 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 channels	16
Input signals	TTL (CMOS 3.3 V TTL level)
Number of digital output channels	16
Output signals	TTL (CMOS 3.3 V output)

#### Interface and connectors:

Analog inputs	4 x 15 Pin Sub D for MPA8I and 1 x 37 Pin Sub D for MPA32I
16 Digital input and output bits	68-Pin MCS Standard connector
USB	USB 2.0 High Speed cable (type A – mini B)
D0 OUT (Digital OUT)	Lemo connector, EPL 00 250 NTN
D0 IN (Digital IN)	Lemo connector, EPL 00 250 NTN
Audio OUT	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
Maximal Power	30 W

#### Software:

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



Warning: The device may only be used together with MEA-Systems or 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.