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MA-4.100

**4-Channel Media DSP Matrix Amplifier
for media- and small
sound reinforcement applications**



One amplifier – many applications.



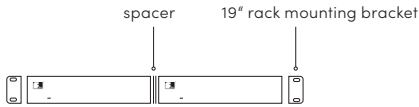
This compact digital amplifier with integrated 4 x 4 matrix was developed for media applications and small-scale sound reinforcement.

The MA-4.100 is equipped with four switchable analog line-/microphone inputs. Despite being very small, the new amplifier features the latest generation of Fohhn DSPs – integrated into both inputs and outputs.

The MA-4.100 is perfectly suited for smaller audio applications:

- Conference rooms and -systems
- Small lecture theatres and class rooms
- Hotels and restaurants
- Integration into media boards
- Media sound for displays and videowalls
- Shops and retail
- Fitness centres
- Low-ohm public address systems
- Amusement parks
- Museums and exhibitions
- Delay- and near field amplification within larger systems
- Small churches and community halls
- Hi-fi

One amplifier – many details.



19" rack mounting kit

Two MA amplifiers form one rack unit (1U).



universal power supply
with Power Factor Correction (PFC),
100 – 240 V AC 50/60 Hz

switching contact: Flexible input allocation, for example
load preset,
standby on/off

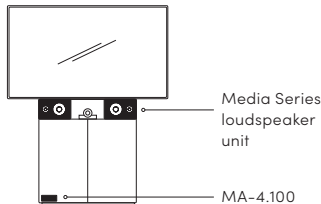
channel 1 + 2 – media sound (stereo)
channel 3 – web conference
channel 4 – speaker microphone
No separate audio DSP or mixer required!

Flexible output allocation,
for example:
channel 1 + 2 – main audio source (stereo)
channel 3 – delay- or ceiling speaker
channel 4 – subwoofer

integration into **Fohhn-Net**
control network / RS-485

AIREA input
AES/EBU 32 kHz – 96 kHz,
16/24 bit

Suitable for integration
into media boards



integration into media controls
via RS-485 port

One amplifier – many features.

MA-4.100 ANA

4 analog line/microphone inputs (switchable)

- CLASS D design for low-distortion sound quality with low energy consumption
- 4 x 100 W peak / 75 W sinus / 4 ohms output power
- 4 x 4 input-output DSP matrix for easy routing of all signal paths
- Four high-quality, low-noise, symmetrical XLR inputs
- phantom power switchable per input channel
- Extensive input-, output- and matrix DSP processing per channel: 10-band parametric EQ, Compressor, Limiter, High- and Low-Cut Filter, Noise Gate, Delay, Phase, Volume
- Fohhn speaker presets ensure maximum safety, reliability and excellent sound quality.
- Integrated Fohhn-Net interface (RS-485)
- Remote control and -monitoring via Fohhn-Net
- Integration in common control networks via RS-485
- Two freely programmable switching contacts
- Configuration via USB connector and Fohhn Audio Soft
- Temperature-controlled low-noise fan
- Auto Power Save for a minimum standby power demand
- Light weight: approx. 1.2 kg
- Small size: 9.5" 1U, 171 mm depth
- 100 % engineered and made in Germany

Analog

MA-4.100 DAN

The MA-4.100 Media DSP Matrix Amplifier with 4 Dante inputs (no microphone inputs) will be available soon.



One amplifier – many Fohhn systems.

The MA-4.100 Media DSP Matrix Amplifier was developed for operation with various speaker systems. Combined with Fohhn products, the MA-4.100 acts as a system amplifier which already includes the respective speaker presets. The amplifier can be easily configured via USP port and laptop with Fohhn Audio Soft.



MA-4.100



Pro audio ceiling speakers,
e.g. IG-100, IG-120



Point source speakers for fixed
installations, e. g. AT-05, AT-061, AT-07,
AT-08, AT-09, AT-10



Speaker systems for integration into media
boards, e. g. MT-05.01, MT-05.02



Line source speakers for speech
reproduction, e.g. LC-10, LC-20, LC-60



Line source speakers for music- and
speech reproduction, e.g. LX-10, LX-60



Compact subwoofers,
e.g. AS-06, AS-10

One amplifier – two configuration options.

A Basic Just load a preset.



At delivery, the amplifier includes presets for all important Fohhn systems and standard audio applications. These presets can be easily selected and loaded.

The MA-4.100 comes with separate input- and output DSPs per channel. There are two ways of configuring the amplifier via PC and Fohhn Audio Soft control software.

B Advanced Customize the settings.

All DSP functions can be adjusted manually. Per channel, each input- and output DSP can be individually programmed.

Input DSP (per input channel)



High- and low-cut filter for editing input signals



10-band fully parametric EQ with up to 24 dB / octave for an extensive sound processing; graphical presentation included



Compressor/limiter for editing input signals



Noise generator for measuring, sinus generator for checking each speaker system

Output DSP (per output channel)



High- and low-cut filter for configuration of the crossover frequency for the selected speaker system



10-band fully parametric EQ with up to 24 dB / octave, e.g. for individual speaker adjustments to the acoustic environment

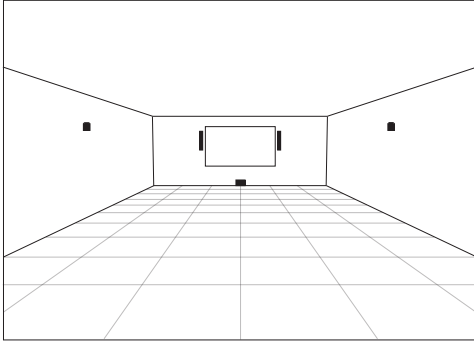


Compressor/limiter, e.g. for volume limiting



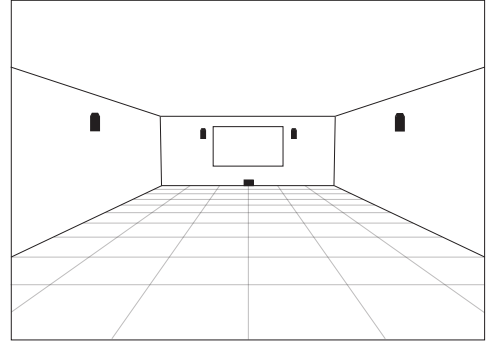
Delay, for delays of up to 50 ms

Sample applications in conference rooms.



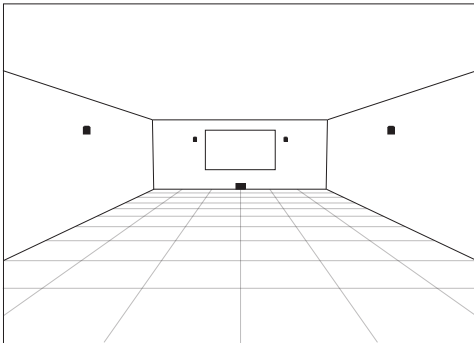
Board meeting room (12 × 6 m, 45 persons)

Output allocation: LX-60 at channel 1, LX-60 at channel 2, 2 × LX-10 at channel 3, AS-06 at channel 4



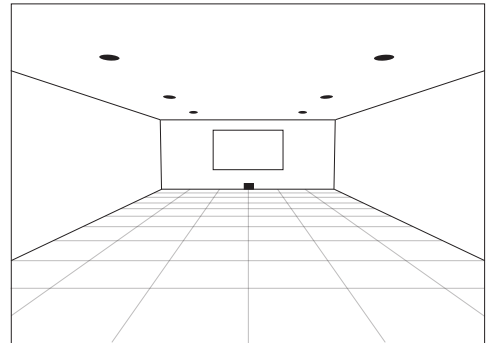
Large conference room (15 × 6 m, 80 persons)

Output allocation: AT-05 at channel 1, AT-05 at channel 2, 2 × AT-05 at channel 3, AS-06 at channel 4



Small board meeting room (10 × 4 m, design-oriented, 25 persons)

Output allocation: LX-10 at channel 1, LX-10 at channel 2, 2 × LX-10 at channel 3, AS-06 at channel 4



Canteen / meeting lounge (12 × 6 m, 45 persons)

Output allocation: 2 × IG-100 at channel 1, 2 × IG-100 at channel 2, 2 × IG-100 at channel 3, AS-06 at channel 4

Technical specifications (preliminary)

MA-4.100

4 analog line-/microphone inputs (switchable)

Amplifier technology	Class D
Output power	4 × 65 W / 4 ohms (1 kHz, THD+N < 1 %) 4 × 35 W / 8 ohms (1 kHz, THD+N < 1 %) 4 × 100 W / 4 ohms peak (10 s) 4 × 50 W / 8 ohms peak (10 s)
Minimum impedance	3 ohms
Input channels	4
Amplifier outputs	4
DSP routing (matrix)	4 × 4
S/N ratio	>103 dB/A
THD+N	0.08 % (1 kHz, 8 ohms, 3 dB below clipping)
Dynamic range	>120 dB
Remote control	Fohhn-Net over RS-485, Fohhn Audio Soft Remote monitoring temperature, protect, AES/EBU signals, power supply, Fohhn-Net, Fohhn Audio Soft
Fault contact	no
Switching contact	load preset, standby on/off
Password protection	yes
Auto Power Save	adjustable from 1 s to 12 h, or never active
Protective circuit	over voltage protection, over current protection, over temperature protection, short-circuit protection, DC protection, power on delay, soft start and inrush current limit
Power supply	100 – 240 V AC 50/60 Hz, universal power supply with Power Factor Correction (PFC)
Power consumption	max. 200 W
Temperature range	0 – 40 °C
Cooling	temperature-controlled fan
Weight	1.2 kg
Dimensions (W x H x D)	1U / ½ 19", depth 177 mm

Controller

Digital signal processors	1
Independent limiters	20
Selective 3-band limiting	bass/mid/high
Band-specific time const.	yes
Filter technology	80-bit double precision
Input	analog: line/microphone digital: AES/EBU 32 kHz – 96 kHz, 16/24 bit

Input DSP processing	yes
FIR	yes
Phantom power	switchable per input channel (+24 V DC)
Input gain	-80 dB – +12 dB (+12/+24/+36 dB analog pre-gain)
Routing gain	-80 dB – +12 dB
Output gain	-80 dB – +12 dB
EQ	8 × 10 fully parametric filters, gain +/-12 dB, frequency 10 Hz – 20 kHz, Q 0.1 – 100
Limiter, Compressor	8
Noise gate	8
X-over	8 × Linkwitz-Riley 4th order (24 dB / octave), high pass 10 Hz – 20 kHz, low pass 10 Hz – 20 kHz
Delay	4 × 0 – 150 ms (0 – 50 ms) outputs, 4 × 0 – 30 ms (0 – 10 ms) inputs
User presets	100
Speaker presets	100
System latency	1.4 ms

Connections and controls

Controls	power on/off switch
Mains connection	IEC socket
Switching contact 1 and 2	1 × Phoenix 3-pin
Fohhn-Net / control	1 × Phoenix 3-pin Fohhn-Net 1 × USB-C Fohhn-Net config
Inputs	1 × Phoenix 12-pin analog input, 1 × AIREA Input AES/EBU 32 kHz – 96 kHz, 16/24 bit
Outputs	1 × Phoenix 8-pin speaker output

Display

Receive/Send LED	remote control, Fohhn-Net
Ready LED	blue = Power on, blue flashing = Sign
Protect LED	red = Error/Protect/Standby
USB host	blue

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