



MADI / AES Technology . Made by RME

# M-32 AD M-16 AD

32/16-Channel 192 kHz Analog to MADI/ADAT converter



## Connectivity

**M-32 AD:** 32 x Analog In (balanced TRS and 25-pin D-sub, up to +24 dBu)

**M-16 AD:** 16 x Analog In (balanced TRS and 25-pin D-sub, up to +24 dBu)

1 x MADI I/O (optical and coaxial) 32 ch. @ 96 kHz, 16 ch. @ 192 kHz

4 x ADAT Out (TOSLINK) 16 ch. @ 96 kHz (S/MUX), 8 ch. @ 192 kHz (S/MUX4)

1 x ADAT In (Sync only)

MIDI I/O (5-pin DIN)

Word Clock I/O (BNC)

The M-series is an unsurpassed flexible basis for the realization of multichannel setups. Combinations of the M-16 AD and M-32 AD converters allow setups with 16, 32, 48, or 64 channels, according to your individual application or budget. Up to four M-16 AD and up to two M-32 AD can be connected in series via MADI, sending up to 64 channels over a single MADI line to the digital receiver. The unit's unique set of features includes analog limiters, three hardware reference levels up to +24 dBu, MADI and ADAT I/O up to 192 kHz, 6.3 mm TRS and D-sub inputs, remote control via MIDI, and operation across a wide range of mains voltages, all packed into a 2U enclosure.

**Reference Converter.** The M-32 AD offers an outstanding AD conversion to MADI and ADAT formats. Balanced analog inputs based on RME's reference design from the ADI-8 QS guarantee excellent S/N and THD specs across a wide analog level range. Using up-to-date converter technology, the device not only works up to 192 kHz, but also reaches a real-world signal-to-noise ratio of 116 dBA – on all channels.

**Limiter.** An extraordinary limiter, conceived and optimised for professional studio, stage, and broadcast applications, offers essential operational safety with its capability to limit an input's overload of up to 17 dB without audible distortion (max. input level + 30 dBu).

**Technologies.** SteadyClock™ guarantees perfect sound quality through efficient jitter suppression, making the device completely independent from the quality of external clock signals. Intelligent Clock Control not only displays every clock status by means of flashing LEDs, but will also retain the last valid input sample rate in case of failure of the external source. Other renowned RME technologies like SyncCheck allow quick detection of clock problems. All settings are retained when the unit is powered off. M-32 AD and M-16 AD have optical and coaxial MADI inputs. In case of failure of an input signal, the source is switched immediately, if a valid signal is present on the other input.

**Remote Control.** All M-series converters are fully remote controllable and configurable via MIDI. Each unit's complete status can be monitored, including all the front panel's displays. Individual IDs can be set for each unit, for separated control of multiple units with a single MIDI channel. Control software for Mac and PC is supplied and allows easy remote control, also with MIDI transfer via MADI (MIDI Extender).

**ADAT.** The M-32 AD's four ADAT outputs provide simple connectivity with other studio equipment. A combination with RME's HDSPe RayDAT makes a perfect partnership, allowing the transfer of 32 channels into a Mac or PC with regular optical Toslink cables at an unbeatable price.

**Stacking.** The MADI input serves as optional external clock source, but also as MADI pass-through input. Since the M-32 AD uses only 32\* channels of the MADI signal, unused channels of the input signal are fed through to the output. This way, the signals of two or more units can be combined into one MADI stream of 64 channels, with every unit adding its channels to the input signal, resulting in one line at the output of the last unit.

## Features

- 32-channel\* AD converter, fully symmetrical design, 116 dBA
- 19" enclosure with only 2 units height
- Analog limiter can be activated
- 32\* LED level meters with 5 LEDs each
- 32\* LEDs to display the Limiter state per channel
- SteadyClock™ - pristine sound quality independently from the quality of the external clock signal
- SyncCheck® - unique technology to check clock synchronization
- All settings are stored permanently
- Fully remote controllable

### \* M-16 AD: 16 channels

The M-16 AD is fully identical to the M-32 AD, with these exceptions:

- only one 16-channel AD board fitted
- no fan
- lower power consumption, 40 Watts

## Specifications

- Input AD: 1/4" TRS jack and 25 pin D-sub, servo balanced, completely symmetrical audio path
- Dynamic Range AD: 113 dB RMS unweighted, 116 dBA
- THD AD: < -110 dB (< 0.00032 %)
- THD+N AD: < -104 dB (< 0.00063 %)
- Frequency response AD, -0.1 dB: 10 Hz - 23.2 kHz (sf 48 kHz)
- Frequency response AD, -0.5 dB: < 5 Hz - 45 kHz (sf 96 kHz)
- Frequency response AD, -1 dB: < 5 Hz - 80 kHz (sf 192 kHz)
- Input level for 0 dBFS: +24 dBu, +19 dBu, +13 dBu
- Sample rates: 44.1, 48, 88.2, 96, 176.4, 192 kHz, variable (Sync/WC)
- Jitter: Typical < 1 ns for internal, Word Clock, ADAT and MADI input
- Jitter sensitivity: all PLLs operate error-free even at 100 ns
- Power supply: Internal switching mode PS, 100V - 240V AC, 60 Watt
- Dimensions: (WxHxD) 483 x 88 x 200 mm

