

Powerful, reliable & comprehensive **AVB & MADI** solutions developed by RME Audio

Next Generation Network Audio Devices



Introducing the new
12Mic // AVB Tool // M-1610 Pro

RME



12Mic

RME's first preamp for audio networks

The RME 12Mic features twelve microphone and line level inputs with digital, no-compromise, studio-quality conversion; remote controllable gains; integrated MADI and AVB connectivity; plus a multitude of additional functionality, designed to make it the perfect companion for any professional recording setup.

Twelve transparent mic preamps for exceptional conversion performance

The PAD-free microphone input stages have a 75 dB gain range and accept signals of up to +18 dBu. On the conversion side, the extraordinary SNR values show an astonishing 121.2 dB(A) on all channels. All twelve front-facing XLR connections accept microphone and line level signals, whilst the first four connections also accept TRS connectors, with switchable high impedance (Hi-Z) for instruments.

MADI & ADAT for maximum flexibility

Both coaxial and optical (via an SFP module) MADI I/O is available for independent or redundant operation, and can be used for daisy chaining, merging and converting MADI signals at incredibly low latency.

Three optical ADAT outputs provide up to 24 channels of audio at single speed (for example, a combination of microphone inputs, MADI signals and AVB signals), or 12 output channels at 96 kHz sampling rate, ensuring compatibility with a wide range of audio interfaces. Additionally, the ADAT ports can also be used to send monitor mixes from the AVB or MADI inputs to existing DACs/headphone amps.



Single-mode or multi-mode MADI integration
The MADI SFP can be equipped with a single mode transceiver, allowing the device to be easily integrated into any broadcast infrastructure.

Never miss a Show - Multiple layers of redundancy make the 12Mic a perfect companion for any kind of live sound application.



Two fully redundant network ports

For the first time, RME offers an AVB device with two fully redundant network ports, based on the recommendations of MILAN. The RME AVB Core has meticulously implemented the IEEE standards for audio-streaming, discovery and control, allowing RME devices to be both discovered and fully controlled by any AVB controller, and making vendor-specific control protocols a thing of the past.

Any signal reaching the 12Mic can be routed and streamed over a network with fixed latency and guaranteed bandwidth - no switch configuration is required!



Stereo headphone output for monitoring all signals.



Easy access over the web-based remote control
from any recent browser and network



AVB Tool

Router, mic preamp, MADI ↔ AVB converter and more

The RME AVB Tool combines MADI and deterministic AVB networked audio with four high-precision microphone, instrument and line level inputs, plus headphone and separate line level outputs. Following RME's concept of maximum versatility and connectivity, 128 channels of MADI I/O have been also added to this half rack 19" device.

High-grade quality analog inputs

The AVB Tool is a pristine analog converter featuring the most commonly-found analog signals in a control room, recording studio or on stage: four XLR-TRS combo inputs, with remote controllable 75 dB gain in 1 dB steps; an input line level sensitivity of +18 dBu, with switchable high impedance on every channel; a stereo headphone output; and two analog line level outputs, with switchable +4/+19 dBu reference levels.

Power is provided by an external power supply (with locking connector), and a K-slot lock port adds an additional level of security against theft.



Seamless redundancy is available for all MADI signals, whenever the secondary MADI port is mirrored with the same signal as the coaxial MADI input. If redundancy is not required, the (optional) optical single- or multimode MADI module is treated as an individual MADI I/O with full bandwidth.

8-Stream Gigabit AVB

On the AVB side, the number of streams available in the RME AVB core have been doubled to eight streams in AM824 (legacy AVB) or high-performance AAF (MILAN compatible) format - with configurable size and format per stream. Up to 128 audio channels can be sent and received over AVB in total across all streams.

The AVB Tool has the same input stages as the first four channels of the 12Mic – successfully combining the components found in the Fireface UFX II and UFX+ into a new AD converter, extended with switchable High Impedance, balanced line level on the TRS, and two balanced line level outputs at the rear for monitoring.

Plug'n'play - rapid user interaction

Control all device states directly from the front panel with an encoder and buttons* for convenient, direct access to all features. RME AVB devices can also be **fully remote controlled via a web-interface** on any network link (including wirelessly over Wi-Fi), allowing for the rapid creation of gain groups, phantom power switching, and routing of signals to headphones for monitoring.

The integrated routing matrix allows for quick routing of any analog inputs straight to the headphone output, as well as all digital signals and AVB streams. As such, problem-solving of signals, clocking, connectivity or other issues is both simple and straight-forward!

*M-1610 Pro states are controlled solely via the main encoder.



M-1610 Pro

Simplicity at first glance - Flexibility and reliability beyond

Integrating 16 analog inputs with a switchable sensitivity of up to +24 dBu per channel; 8 corresponding analog outputs; and an additional headphone output, the M-1610 Pro brings plenty of analog I/O to any studio setup. With its coaxial and (optional) optical MADI, redundant AVB, four ADAT optical outputs, and redundant DC coupled outputs, the device represents one of the most versatile and highest-performing converters on the market.

Add Analog and AVB I/O to any existing MADI devices

At the request of recording engineers using a variety of analog effects and instruments in their sessions, RME have combined the outstanding performance of the M-32 Pro AD and DA converters into a single device, and at an unbeatable price-point.

When compared with the M-32 Pro series, which were designed primarily for fixed installations, the M-1610 Pro adds a selection of additional user-friendly features, for seamless operation in studio, live and broadcast. Input and output TRS jacks provide alternative connections for the D-Sub inputs (inputs 11-16) and D-Sub outputs (outputs 1-2), alongside redundant network ports, a headphone output for monitoring and trouble-shooting, and quick access buttons for source selection and volume.

The internal routing matrix provides visual control over all channels side by side - up to eight AVB streams (with a total of 128 channels); the coaxial and (optional) optical MADI ports (with each up to 64 channels); all analog I/O; and the ADAT outputs, for flexible routing between the 272 inputs and 298 outputs.

Operating with different line levels

+13dB **+19dB** **+24dB** switchable gain per channel

Lowest converter latencies and deterministic AVB networking with configurable network delay down to 0.3 ms allow the M-1610 Pro to deliver samples, even from multiple devices, at incredible speeds - time-aligned with nanosecond accuracy across an entire network.

The AD and DA filters have been carefully optimized for different sampling rates, with a focus on accuracy and RME's signature 'transparency' (nothing added, nothing removed). Together with SteadyClock FS, RME's ultra-low jitter digital clock technology, the conversion to and from analog is state-of-the-art, at any level and across all digital formats. As a notable difference to similar devices, the three analog line levels per channel each offer the full dynamic range of the converters.

		12Mic	AVB Tool	M-1610 Pro
Analog In:	Total:	12	4	16
	Mic Preamps	12	4	
	High Impedance TS	(4)	(4)	
	Line TRS	(4)	(4)	(6)
	Line D-Sub 25			16
Analog Out:	Total:	2	4	10
	Headphone	2	2	2
	Line TRS	1	2	(2)
	Line D-Sub 25			8
MADI In:	Total (at 48k)	128	128	128
	Coaxial BNC In	64	64	64
	Optical LC (optional)	64	64	64
MADI Out:	Total (at 48k)	128	128	128
	Coaxial BNC Out	64	64	64
	Optical LC (optional)	64	64	64
ADAT Out:	Total (at 48k)	24		32
AVB In:	Total (at 48k)	128	128	128
	Redundancy	✓		✓
AVB Out:	Total (at 48k)	128	128	128
	Redundancy	✓		✓