

MILAN



WHAT IF THE TOP ENGINEERS AND STRATEGIC THINKERS FROM THE BEST AUDIO MANUFACTURERS IN THE WORLD CAME TOGETHER TO MAKE A NETWORK?

MILAN™ is the manufacturer's network, the technical and business decision for the top leaders in the Pro AV market. MILAN wasn't created by a single entity defining how things are going to be implemented. Instead, it's the result of many manufacturers coming together, investing their brightest technical expertise, strategic resources, and experience to ensure that MILAN is the system architecture for the future of many ecosystems. This kind of collaboration amongst like-minded companies and competitors is made possible by the framework provided by Avnu Alliance®.

WHAT IF WE COULD GET THE SIMPLICITY OF A XLR CONNECTION BACK, COMBINED WITH MODERN DIGITAL FUNCTIONALITY?

This is exactly what MILAN is. It is the solution layer on top of an AVB/TSN network layer – the only deterministic network solution for real-time synchronization! Milan is a plug-n-play network, eliminating the need to manage and adjust network switches in order to handle real-time traffic. Within an AVB/TSN network, this happens by default.

MILAN PROMISES A NETWORK THAT IS

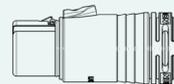
- Open
- Guaranteed
- Future proof
- Easy to use

www.neutrik.com

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MAKING MILAN TOGETHER



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NEUTRIK®

MINEA®

4 STREAM MILAN MODULE



READY-TO-GO MODULES

With Neutrik's MILAN modules, manufacturers in the Pro Audio market can now quickly build a wide range of MILAN audio products – from single loudspeakers and microphones to complex multichannel mixing desks and multi-port conferencing systems. Neutrik is making it easier for professional audio networking manufacturers to add MILAN to product lines, which will in turn expand the MILAN-certified ecosystem of devices.

BENEFITS BY USING NEUTRIK MILAN MODULES

- Off-the-shelf modules
- MILAN certified
- Support by Neutrik for proper implementation
- Self-testing support by Neutrik for final approval to use the MILAN logo
- New, low-cost entry membership level for manufacturers implementing MILAN modules

APPLICATIONS

- Active speakers
- Amplifiers
- Audio Embedder & De-Embedder
- Audio recorders
- AV wall plates
- Conference systems
- Headphones
- I/O Interfaces
- Intercom
- Microphones
- Personal monitoring systems
- Preamps
- Speaker management processors

MODULE

68 pin standard SMT PLCC socket – 30x30mm

3.3VDC – 500mA, 1.65W

Easy module exchanging/replacement

USER CONTROL INTERFACES

2 x UART – includes metering on one UART

SPI – configurable to initialise and/or de-initialise a device, such as a DAC, ADC or codec

I2C – configurable to initialise and/or de-initialise a device, such as a DAC, ADC or codec

6 x GPIO pins for user controls – UART-2 multiplexed with 2 GPIOs

MINEA®

4 STREAM MILAN MODULE



NETWORK

Integrated configurable switch

2 x 100Mbps PHY interface – allowing redundant and switched applications

RMI Ethernet MAC/PHY interface enables connection to an external CPU

Different stream combinations: 2 listeners – 2 talkers / 4 listeners / 4 talkers

Module – latency @ 0.5 ms

32-bit AAF stream

AUDIO

Up to 32 audio channels – see sample rate & stream overview

8 TDM or I2S Lines – FSCLK, BITCLK and MCLK provided

Audio transport formats: AVB/Milan

Up to 32-bit per sample

48, 96 and 192 kHz sample rate

LRCLK, SCLK, MCLK provided

SAMPLE RATE & STREAM OVERVIEW

f _s	Mode	Max channel		Max. Streams in one direction	Streams and correspondent channel count*							
		I ² S	TDM		1 talker output	2 talker outputs	4 talker outputs	1 listener input	2 listener inputs	4 listener inputs	1 talker output + 1 listener input	2 talker outputs + 2 listener inputs
48 kHz	Daisy chain	16	32	4	8	16	32	8	16	32	8 + 8	16 + 16
	redundancy	16	16	2	8	16	-	8	16	-	8 + 8	-
96 kHz	Daisy chain	16	32	2	8	16	-	8	16	-	8 + 8	16 + 16
	redundancy	16	16	1	8	-	-	8	-	-	8 + 8	-
192 kHz	Daisy chain	16	16	1	8	-	-	8	-	-	8 + 8	-
	redundancy	not supported			-	-	-	-	-	-	-	-

AVAILABLE STREAM CONFIGURATION WITH MINEA MODULE



* Due to MILAN 32-bit AAF format one talker or listener stream contains a maximum of 8 audio channels.