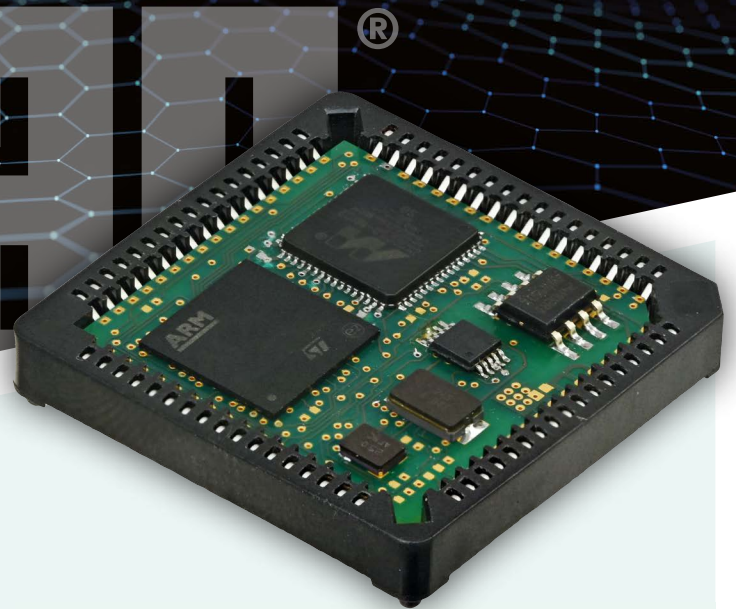


# MILAN



## 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.

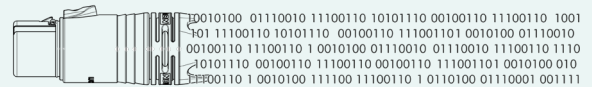


**MAKING MILAN TOGETHER**



## 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](http://www.neutrik.com)

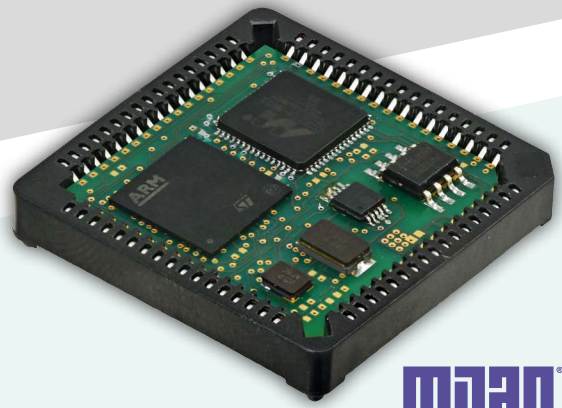
MINEA 4 STREAM MILAN MODULE – NDS19-V3 – 202011 – Data subject to change without prior notice. © 2020 NEUTRIK®. NEUTRIK®, MINEA® are registered trademarks of Neutrik AG. ALL RIGHTS RESERVED



**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

2x UART – includes metering on one UART

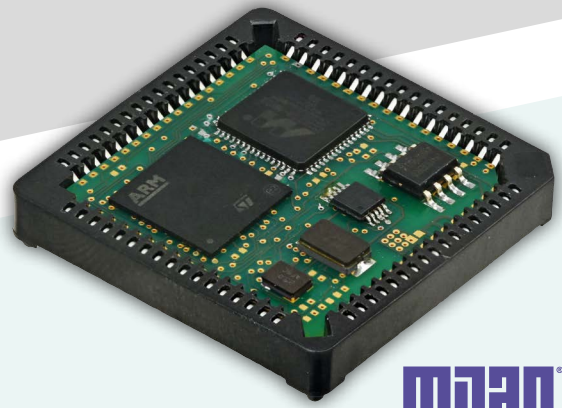
SPI – configurable to initialise and/or de-initialise a device, such as a DAC, ADC or codec

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

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

# MINEA

## 4 STREAM MILAN MODULE



### NETWORK

Integrated configurable switch

2x 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 @ 0.5ms

32-bit AAF stream

### AUDIO

Up to 16 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 <sub>s</sub>	Mode	Max channel		Max. Streams in one direction	Streams and correspondent channel count							
		I <sup>2</sup> 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
48kHz	Daisy chain	16	32	4	8	16	32	8	16	32	8 + 8	32
	redundancy	16	16	2	8	16	-	8	16	-	8 + 8	-
96kHz	Daisy chain	16	32	2	8	16	-	8	16	-	8 + 8	32
	redundancy	16	16	1	8	-	-	8	-	-	8 + 8	-
192kHz	Daisy chain	16	16	1	8	-	-	8	-	-	8 + 8	-
	redundancy	not supported			-	-	-	-	-	-	-	-