MediorNet MicroN UHD (MN-MicroN-UHD)

MicroN UHD is the next generation of MediorNet TDM signal distribution and processing devices. Building on Riedel's distributed and software-defined concept, this new node adds more bandwidth, more I/O, higher resolutions, and more processing power to the MediorNet TDM platform.

Based on a new 100G high-speed link format the device provides 400G backbone connectivity for signal distribution over meshed architectures and allows reliable operation due to link redundancy. It fully integrates into the distributed signal routing architecture and connects to existing MediorNet TDM devices.

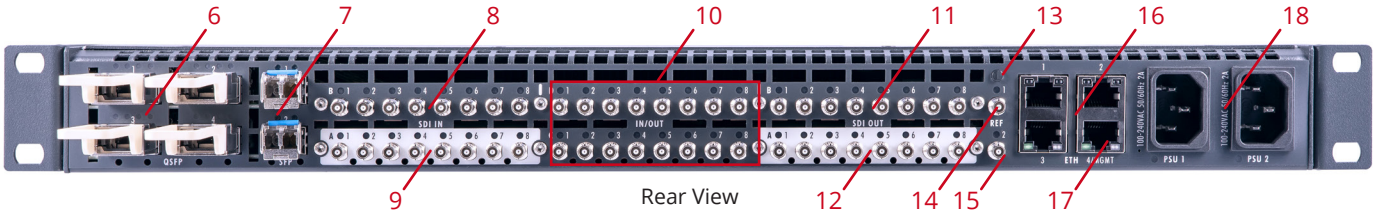
The range of supported video formats is extended and now also includes 12G-SDI for native UHD (4k) workflows or hybrid HD/3G/UHD workflows. MicroN UHD increases the signal capacity to 48 SDI video ports (in 1RU) and allows more flexibility for production workflows by including 16 direction switchable SDI video ports.

It follows the MediorNet approach of software defined hardware and brings a high level of processing power to the product family.

- Seamless integration into MediorNet SDI family
- 4× 100G high-speed links
- 8× 12G-SDI inputs (or 3G/HD/SD)
- 8× 12G-SDI outputs (or 3G/HD/SD)
- 16× 3G/HD/SD-SDI input / output (switchable)
- 8× 3G/HD/SD-SDI inputs & 8× 3G/HD/SD-SDI outputs
- 2× SFP ports (for MADI)
- Sync reference input / output (BB, Tri-Level, WC)

MN-MicroN-UHD

Front View



Rear View

Legend

1) Fan Eject Levers
2) Status LEDs
3) Display & Push Buttons
4) Rotary Encoder & Push Button
5) Fans
6) QSFP Ports
7) SFP Ports
8) 3G/HD/SD-SDI Input Ports
9) 12G/3G/HD/SD-SDI Input Ports
10) 3G/HD/SD-SDI bi-directional Ports
11) 3G/HD/SD-SDI Output Ports
12) 12G/3G/HD/SD-SDI Output Ports
13) LED Mode Button
14) Reference Output
15) Reference Input/Output (Switchable)
16) Ethernet Ports
17) Management Port
18) Power Connectors (Mains)

MN-MicroN-UHD Standard APP Capabilities

Supported Hardware Interfaces	
MediorNet Fiber	4× QSFP28
SDI Inputs	up to 32× 3G/HD/SD, up to 8× 12G (see below)
SDI Outputs	up to 32× 3G/HD/SD, up to 8× 12G (see below)
MADI	2× SFP (electrical or optical)
Ethernet Tunnel	3× 1 Gbps
Ethernet Management	1× 1 Gbps
Reference Ports	1× output, 1× input/output (switchable)

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Hardware Capabilities

Front Elements

User Interface (HMI)	rotary encoder & push button OLED display with push buttons for easy navigation reset button (CPU or factory reset) status LEDs (PSU1 & PSU2, fan)
Fan Module	replaceable fan module & dust filter 3 redundant speed controlled fans front to rear airflow

Rear Elements

QSFP	4× QSFP28 high-speed ports each supports 4× 4.25G, 4× 10G, 4× 25G or any combination					
Synchronization	1× HD-BNC reference output 1× HD-BNC reference input/output (switchable)					
Reference Input Formats	Blackburst NTSC/PAL (incl. VITC) Tri-Level 720p 50/59/60, Tri-Level 1080i 50/59/60, Tri-Level 1080p 23/24/25/29/30 Wordclock 48/96/192 kHz					
Reference Output Formats	Blackburst NTSC/PAL (incl. VITC) Tri-Level 720p 23/24/25/29/30/50/59/60, Tri-Level 1080i 50/59/60, Tri-Level 1080p 23/24/25/29/30 Wordclock 48/96/192 kHz VITC ON/OFF selectable on Blackburst outputs					
Ethernet	1× RJ45 management port 3× RJ45 tunnel ports 1000BASE-T, 100BASE-T (full duplex only), 10BASE-T (full duplex only) fully compatible to IEEE 802.3 10BASE-Te, 100BASE-TX, and 1000BASE-T specification jumbo packet support					
Video Input	8× 75 Ω HD-BNC 12G/3G/HD/SD Serial Digital Interface with embedded audio[1] (see video restrictions in footnote) 8× 75 Ω HD-BNC 3G/HD/SD Serial Digital Interface with embedded audio					
Video Output	8× 75 Ω HD-BNC 12G/3G/HD/SD Serial Digital Interface with embedded audio[2] (see video restrictions in footnote) 8× 75 Ω HD-BNC 3G/HD/SD Serial Digital Interface with embedded audio					
Video Input/Output	16× 75 Ω HD-BNC 3G/HD/SD Serial Digital Interface with embedded audio direction individually switchable					
Supported Video Formats (Sampling: 4:2:2 ($Y'C'_BC'_R$) 10Bit)	**Input Format**	**Refresh**	**Physical Interface**	**Mapping**	**Image Format**	**Reference Standard**
	SD 525 i	59.94 Hz	ST 259	ST 259	720×486	ST 170
	SD 625 i	50 Hz			720×576	ITU-R BT.470-6
	HD, 3G B-DS 720 p	23.98, 24, 25, 29.97, 30, 50, 59.94, 60 Hz	HD: ST 292 3G B-DS: ST 424	HD: ST 292 3G B-DS: ST 425-1	1280×720	ST 296
	HD, 3G B-DS 1080 i	50, 59.94, 60 Hz			1920×1080	ST 274
	HD, 3G B-DS 1080 p/sF	23.98, 24, 25, 29.97, 30 Hz				
	3G A 1080 p	50, 59.94, 60 Hz	ST 424	ST 425-1		
	3G B-DL 1080 p					
	QL-3G A UHD SQ/2SI p			ST 425-5	3840×2160	ST 2036-1 UHDTV1
	QL-3G B-DL UHD SQ/2SI p					
	12G UHD p		ST 2082-1	ST 2082-10 Mode 1		
Cable Equalization	60 m @ 12 Gbps, 150 m @ 3 Gbps, 240 m @ 1.5 Gbps, 400 m @ 270 Mbps (typically, Belden 1694A)					
SFP	2× 125 Mbps, multi channel digital audio (MADI) as per AES 10-2003 48/96 kHz channel modes 56/64 ch @ 48 kHz 24 Bit, 28/32 ch @ 96 kHz 24 Bit					
User Interface (HMI)	reset button (CPU or factory reset) LED mode button (identify port direction) video HD-BNC LED (1× RGB/port) reference HD-BNC LED (1× RGB/port) mains LED (1× RGB/port) Ethernet LED (2× RGB/port) SFP LED (2× RGB/port) QSFP LED (4× RGB/port)					

Electrical/Mechanical

Power Supply	redundant wide range AC power supply 100 ... 240 VAC, 50 / 60 Hz
Power Consumption	max. 200 W, 680 BTU/hr (depending on software application)
Cooling	3 redundant speed controlled fans front to rear airflow
Form Factor	19″ / 1RU
Dimensions (w×h×d)	482 mm (19″) × 44 mm (1RU) × 330 mm (depth: 20 mm front + 300 mm base + 10 mm rear)
Weight	6.9 kg (6.0 kg without fan)

Environmental

Operating Temperature	0 ... +40 °C
Humidity	20 ... 90 % RH (non-condensing)
Altitude	3000 m AMSL

[1] Each 12G input disables 3× 3G/HD/SD inputs.
[2] Each 12G output disables 3× 3G/HD/SD outputs.

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