# MediorNet MN-Compact PLUS

MediorNet Compact
The 50G Media Distribution Network

The MediorNet Compact system comprises three device versions: Basic, Plus and Pro.
All units are economic solutions for small to medium sized Media Network applications and are fully compatible to all MediorNet devices. In large Media Network applications MediorNet Compact devices are recommended as Satellite Stage Boxes.
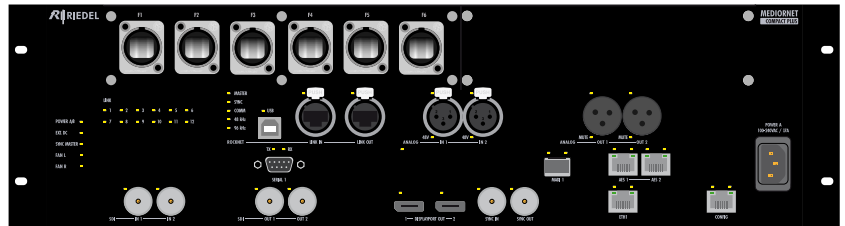
Main System Characteristics

- Compact 3RU Design for rackmount and standalone applications
- Integrated Video, Audio and Data Router
- Slot for Option Boards
- Handles Multiple Redundant Sync References (Seamless Takeover)
- Built-in Backup Sync Reference
- Built-in VITC Generator (PAL, NTSC, NTSC-DF)
- Integrated Fiber Length and Optical Power Measurement
- Wide Range AC Power Supply Selectable Front or Rear
- 12V DC Input for Redundant Power Supply
- Temperature Monitoring and adaptive Fan Control

Video and Audio Processing Features

- Automatic Format Detection
- Frame Synchronizer and Framestore on all Video outputs
- 16 Channel Audio Embedder / De-Embedder
- Test Pattern Generator
- On Screen Display (OSD)
- System VITC Display
- Built-in Sample Rate Converter
- Audio and Video Delay Lines

Signal Inputs and Outputs

- 2 SD/HD/3G-SDI Video Inputs
- 2 SD/HD/3G-SDI Video Outputs
- 2 Display Port Outputs
- 2 Analog Audio Mic/Line Inputs
- 2 Analog Audio Line Outputs
- 2 AES3 Digital Audio Ports
- 1 MADI Digital Audio Port (Optical)
- 1 Gigabit Ethernet Port
- 1 Serial Interface (RS232 / 422 / 485 switchable)
- 1 Sync Reference Input
- 1 Sync Reference Output
- RockNet Interface
- Different Fiber Connector Options: (Neutrik Quad, Neutrik Duo, LC, ST)
- Optional Neutrik Quad 25G with WDM connectivity
- Support of single-mode and multi-mode Optical Fibers

Optional Modules

- Prepared for further developments

Technical Specifications

Bi-Directional Ports

MADI	Multi Channel Digital Audio as per AES 10-2003 48 / 96 kHz		Ethernet	1000BASE-T, 100BASE-T (full duplex only), 10BASE-T (full duplex only)
	Channel Modes 56/64 ch @ 48 kHz, 28/32 ch @ 96 kHz			RFC 2544 Compliant
	Resolution 24 Bit			Jumbo Packet Support
AES	Digital Audio as per AES 3-2003 48 / 96 kHz		Serial	RS232, RS422, RS485 (User Switchable)
	Sample Rate Converter @ 48 kHz (User Selectable)			Max. Supported Baud rate 115 kBaud
	Direct Connection of Artist Intercom Panels			User Switchable Port Type Master/Slave (DTE/DCE)
	Resolution 24 Bit			Port Termination 120 Ohm (User Switchable)
RockNet	Direct Connection of RockNet Digital Audio Network			

DMX512 transfer via MediorNet (serial ports switched to RS-485 without termination)

DMX512 equipment output into MediorNet-Compact				MediorNet-Compact output into DMX512 equipment		
XLR3 / XLR5	Pin	SUB-D-9		SUB-D-9	Pin	XLR3 / XLR5
1	GND	6		6	GND	1
2	Data -	7		3	Data -	2
3	Data +	2		8	Data +	3

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Inputs

SDI-Video	75 Ω SD/HD/3G Serial Digital with embedded Audio (4 groups)		
Input Standards	1.5 Gbps HD-SDI SMPTE292M, 3 Gbps 3G-SDI SMPTE424M/425M Level A – mapping structure 1, SMPTE425M Level B 270 Mbps SD-SDI SMPTE259M, DVB-ASI SMPTE259M/EN50083		
Cable Equalization	> 230m @ 1,5Gbps, > 140m @ 3Gbps, >250m @ 270Mbps (Belden 1694A)		

Analog Audio Mic/Line In			
Gain Range	-6 .. 66 dB		150 Ω Source
Gain Step	1 dB		
Max. Input Level	+24 dBu		
Input Impedance	5.5 kΩ		
Phantom Power	+48 V selectable per channel		
Equivalent Input Noise	-127 dBu	@ Gain 66 dB	150 Ω Source, 20 kHz BW
Dynamic Range	114 dB	@ Gain = -6 dB	150 Ω Source, "A" weighted
Frequency Response	20 Hz .. 20 kHz	-0.1 dB	@ 48 kHz sample rate
Common Mode Rejection	> 100 dB	@ 50 Hz - 15 kHz	150 Ω Source, > 40 dB Gain
Crosstalk	< -120 dB	@ 15 kHz	adjacent channels
Total Harmonic Distortion	0.006 %	@ 66 dB Gain	Full scale, 100 Hz - 10 kHz, 150 Ω Source, 20 kHz BW
Resolution	24 Bit A/D		

Sync Reference 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 48/96/192kHz

Outputs

SDI-Video	75 Ω SD/HD/3G Serial Digital with embedded Audio (4 groups)		
Output Standards	1.5 Gbps HD-SDI SMPTE292M, 3 Gbps 3G-SDI SMPTE424M/425M Level A – mapping structure 1, SMPTE425M Level B 270 Mbps SD-SDI SMPTE259M, DVB-ASI SMPTE259M/EN50083		

Display Port	Max. Supported Resolution 1920x1080@60Hz

Analog Audio Line Out			
Max. Output Level	+18 dBu	+/- 0.2 dB	@ digital full scale, 600 Ω load
Output Impedance	< 1 Ω		
Noise	-90 dBu	@ +18 dBu Out	"A" weighted
Dynamic Range	114 dB		
Frequency Response	20 Hz .. 20 kHz	-0.1 dB	@ 48 kHz sample rate
Crosstalk	< -120 dB	@ 15 kHz	adjacent channels
Total Harmonic Distortion	< 0.001 %	@ +18 dBu Out	100 Hz - 10 kHz, 600 Ω Load, 20 kHz BW
	< 0.002 %	@ +4 dBu Out	
Resolution	24 Bit D/A		

Sync Reference 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 48/96/192kHz, VITC ON/OFF Selectable on Blackburst Outputs

Transport Latencies

Video Transport Delay	Min. 150 µs, Max. 1 Frame + 150 µs (dependent on input phase)		FSY On (System Synchronous)
	500 µs		FSY Off (System Synchronous)
	500 µs		Sync to Source (Asynchronous)
Digital Audio Delay	500 µs (standard latency, independent of Network size / frame amount)		without sample rate converter
	720 µs + 500 µs : 1220 µs	48 kHz sample rate	with sample rate converter + standard latency
	360 µs + 500 µs : 860 µs	96 kHz sample rate	
Analog Audio Delay	646 µs + 500 µs : 1146 µs	48 kHz sample rate	A/D converting + standard latency
	323 µs + 500 µs : 823 µs	96 kHz sample rate	
	625 µs + 500 µs : 1125 µs	48 kHz sample rate	D/A converting + standard latency
	313 µs + 500 µs : 813 µs	96 kHz sample rate	
Ethernet	60 µs + 10 µs per MN hop + optical delay on long fibers		64 Byte packet size
	220 µs + 10 µs per MN hop + optical delay on long fibers		9000 Byte packet size
Serial Data	93.75 µs + 10 µs per MN hop + optical delay on long fibers		

Overall

Environmental Temperature	-5 °C to +40 °C (Non-condensing)
Supply Voltage	100 – 240 VAC, 50 / 60 Hz
	12 VDC ±10% (10.8 – 13.2 VDC)
Power Consumption	80 W
Cooling	2 Redundant Speed Controlled Fans, Left to Right Airflow
Dimensions (w×h×d)	483 mm (19") × 133 mm (3 RU) × 241 mm
Weight	8.2 kg