MEDIORNET
Real-Time Network for Video, Audio, Data & Communications

MediorNet unleashes the true potential of fiber-optic signal transport, which will finally result in a completely new philosophy for broadcast, event, stadium and campus installations.

MediorNet is the next step forward in fiber-based signal transport. It combines

- **signal transport,**
- **routing,**
- **signal processing and conversion**

into one integrated real-time network solution.

MediorNet offers a real network solution providing more than just simple point-to-point links. This includes signal routing, allowing the user to send any incoming signal to any output or even to multiple outputs with just a mouse-click or, even more conveniently, by using a router control system. As a result, MediorNet increases the flexibility of any installation while significantly reducing cabling and set-up time. MediorNet eliminates the need for re-wiring when production setups change.

MediorNet also includes integrated broadcast-quality processing and conversion features like Frame Store / Frame Synchronizers and Embedders/De-Embedders at any input/output. These features are software-based so they can easily be expanded in the future without any hardware changes. Ultimately this will eliminate the need for external devices. All this results in a completely new approach to production environments, providing significant savings in infrastructure investments.

The MediorNet product line includes MediorNet Modular and MediorNet Compact: MediorNet Modular is a completely modular system that can be tailored to meet the customer's demands and the exact application needs, while MediorNet Compact is a cost-effective all-in-one box solution. Of course, both models are 100% compatible and can be easily networked within the same installation.

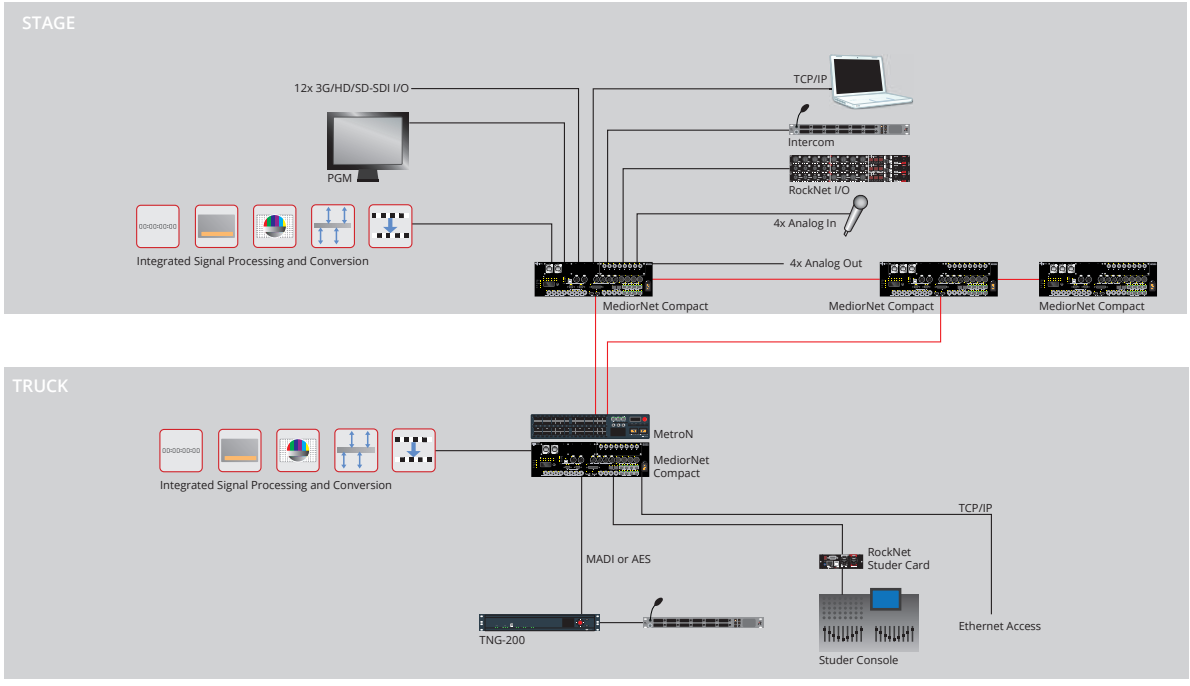
MEDIORNET – Features

» Fiber signal transport for 3G/HD/SD-SDI video, audio, data & intercom
» Supports any combination of network topologies
» Integrated CWDM multiplexing
» Uncompressed real-time signal distribution and routing
» Supports 3rd party router control
» Integrated signal processing and conversion
» System architecture provides full redundancy including auto re-route
» Future-proof hardware platform

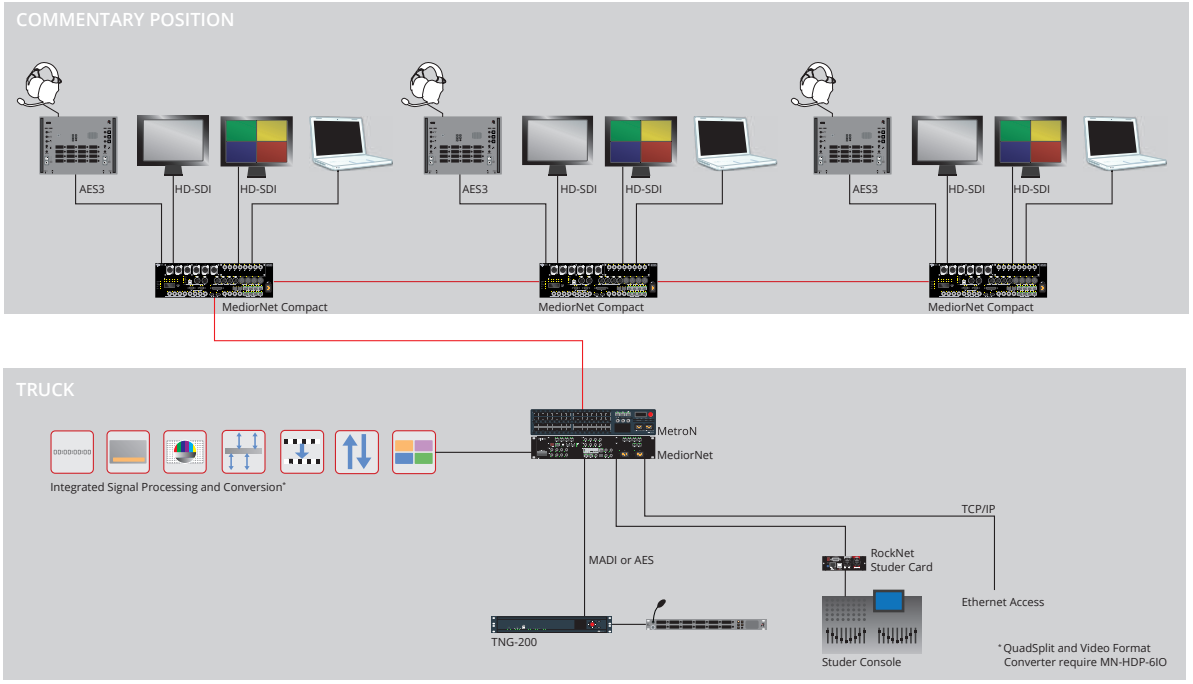
MEDIORNET – Key Benefits

» Integration of various infrastructures into one network provides significant savings in cabling and infrastructure investments
» Network approach with point-to-multipoint routing capabilities increases the installation's flexibility
» MediorNet's flexibility allows versatile usage and quick adaption to new production needs
» Integrated signal processing eliminates external glue hardware and again increases the installations flexibility
» Software-based feature set is expandable and makes MediorNet a secure long-term investment
» German engineering and quality manufacturing

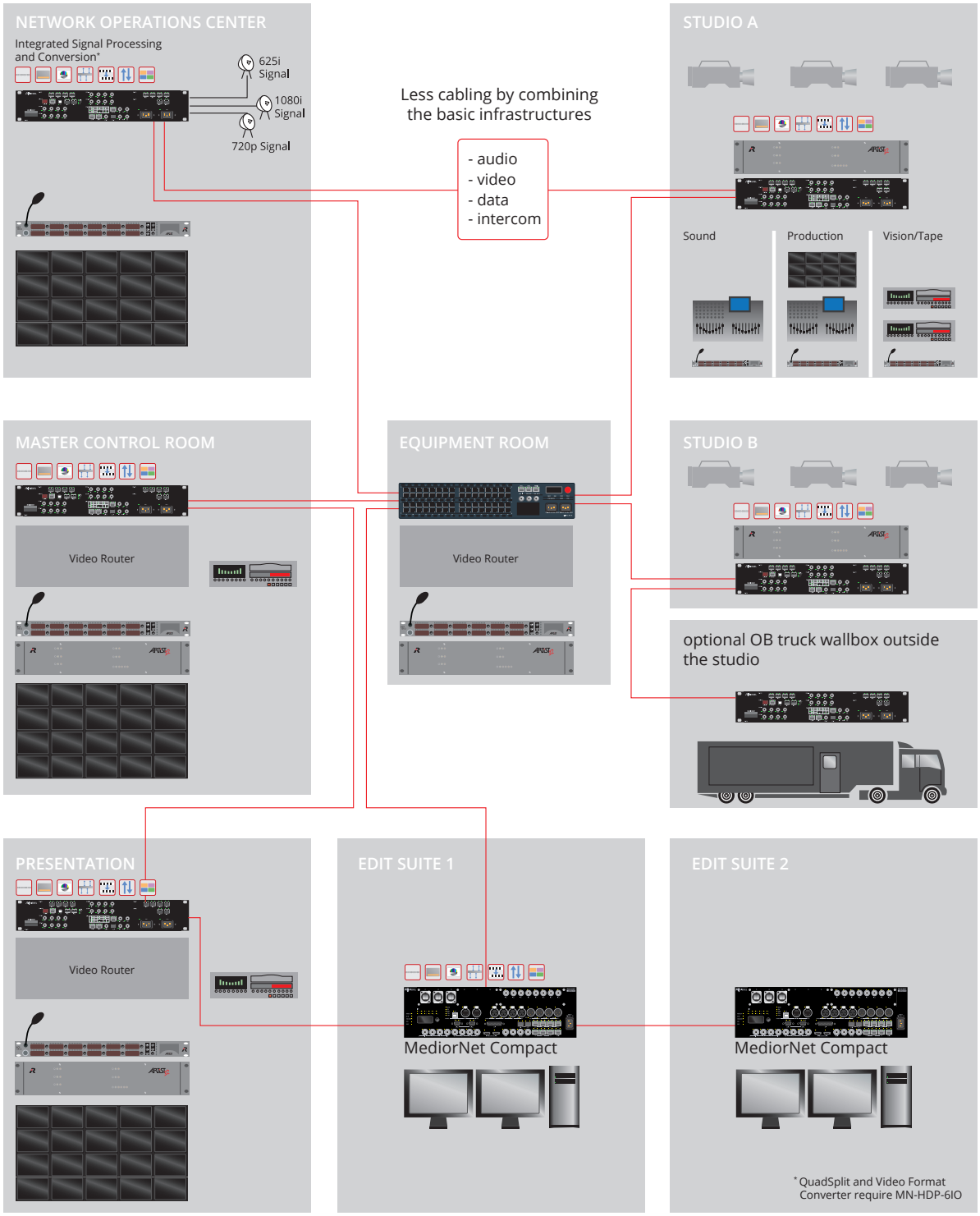
Stagebox Application



Commentary Application



Large Production Venue Application

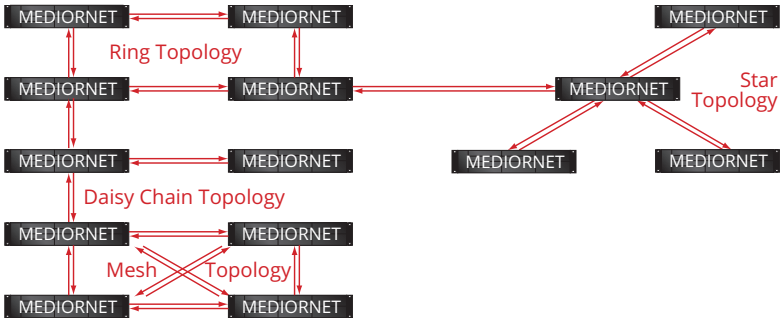


* QuadSplit and Video Format Converter require MN-HDP-6IO

Signal Transport with MEDIORNET

Network Topology

MediorNet has an open topology, supporting ring, star, daisy-chain or any combination thereof. This allows the user to design the system exactly to his requirements.

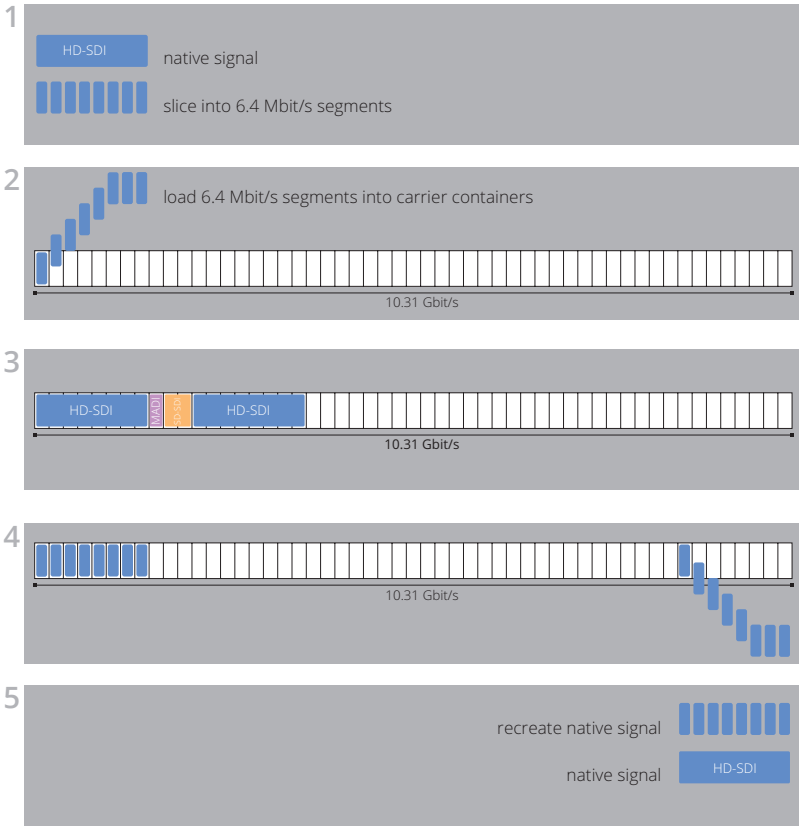


Bandwidth Optimization

The bandwidth of the MediorNet carrier frame is 10.31 Gbit/s (net 9.83 Gbit/s). This carrier frame is then divided into subframes with 6.4 Mbit/s bandwidth, which corresponds to the smallest signal to transport, AES3/EBU audio.

These subframes can be filled with any type of data such as video, audio, intercom and control. Each native signal is sliced into 6.4 Mbit/s segments. MediorNet transports these slices to one or multiple destinations where MediorNet recreates the native signal.

MediorNet's routing algorithm is always looking for the shortest path to transport a signal and optimizes the bandwidth of all fiber links available. This includes hops over other MediorNet nodes, when no direct fiber connection from the source to the destination is available.



Synchronization

MediorNet can be synchronized to any external sync source or serve as a sync master for the complete installation. MediorNet supports the following sync standards:
Blackburst NTSC, TriLevel 720p25, TriLevel 1080p29.97, Blackburst PAL, TriLevel 720p24, TriLevel 1080p25, TriLevel 720p60, TriLevel 720p23.98, TriLevel 1080p24, TriLevel 720p59.94, TriLevel 1080i60, TriLevel 1080p23.98, TriLevel 720p50, TriLevel 1080i59.94, WordClock 48kHz, TriLevel 720p30, TriLevel 1080i50, WordClock 96kHz, TriLevel 720p29.97, TriLevel 1080p30, WordClock 192kHz

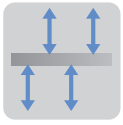
MEDIORNET – Integrated Signal Processing and Conversion

MediorNet provides broadcast quality processing and conversion on board. What in the past required additional external equipment is integrated within the MediorNet system. The open structure of the software allows for the easy integration of future processing and conversion tools from Riedel or 3rd party manufacturers supporting the MediorNet standard, without any changes to the hardware.

MN Frame Store / Frame Synchronizer

MediorNet Frame Store / Frame Synchronizer allows the user to sync all independent free running signals to the same reference (Blackburst or TriLevel) and offers automatic audio-delay adjustment.

MN Embedder / De-Embedder

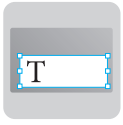


MediorNet's integrated 16 channel Embedder / De-Embedder embeds, de-embeds and shuffles any AES3/EBU signal.

MN Test Pattern Generator

The MediorNet Test Pattern Generator provides standard 100% and 75% colour bars for all video inputs as well as user defined patterns for all video outputs in all common formats in NTSC and PAL.

MN Caption



The MediorNet Caption provides free configuration of position, size, and display of any user defined text.

MN Timecode Insertion

The MediorNet Timecode Insertion provides and distributes a timecode via a Blackburst sync signal. The Timecode Insertion features runtime compensation and offers an on-screen timecode display.

MN Quad Split

(MN-HDP-6-IO only)

The MediorNet Quad Split provides high-quality quad viewing of 3G/HD/SD-SDI signals (in any combination). Configuration is achieved conveniently via the MediorWorks Software.

MN Video Format Converter

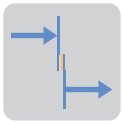
(MN-HDP-6-IO only)

The MediorNet Video Format Converter offers low latency up, down and cross conversion including ARC for multi-rate 3G/HD/SD-SDI signals. Its next generation motion adaptive de-interlacing and scaling technology guarantees for high image quality.

Video Output Phase Shift

The video output phase shift feature is used to shift the the start of the video playout with respect to the genlock. The shift can be lagging (positive values) or leading (negative values). The genlock itself either locks to the reference or to the connected video input.

Video Input and Output Phase and Delay Measurements



These features are used for measuring the total delay between video input signal and video output as well as for showing the time difference between start of video input and reference. Delay and phase values are displayed in microseconds. Using the Video Input to Output Delay Measurement in combination with the video output phase shift you can adjust your video transport in a way to achieve minimum overall transport latency.

Third Party Control Systems

Riedel's MediorNet allows for seamless integrations with third-party control and monitoring systems. A well-established range of control protocols, including ProBel SW-P-08, Ember+, SNMP, is implemented by default in MediorNet and enables users to address their specific control and monitoring requirements.

Due to its open design, users have various options to monitor and control MediorNet via third-party solutions. These include L-S-B's VSM, AXON's Cerebrum, BFE's KSC Commander, Atos' BNCS, Skyline's DataMiner and many more.

This open philosophy enables users to integrate MediorNet quickly and easily into existing workflows, while simplifying and optimizing the overall user experience.