

Optocore & BroaMan Overview

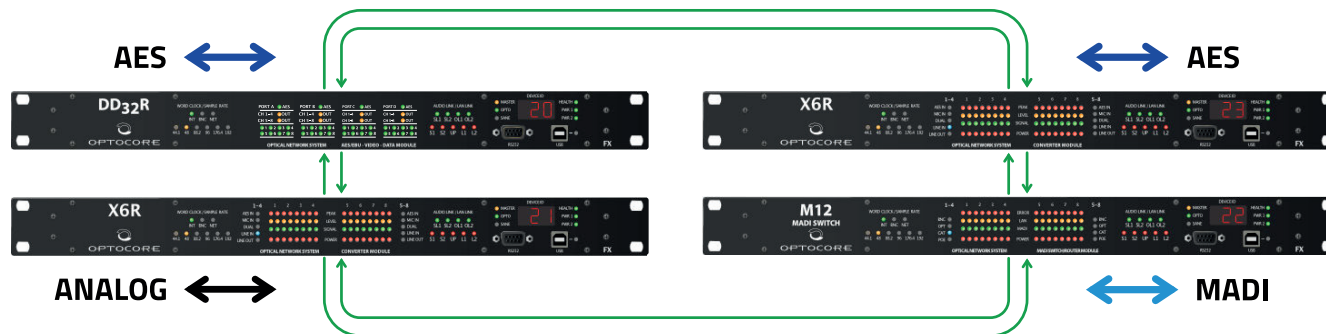
Your thorough guide to understand
the basics and a bit more

Introduction

OPTOCORE's advanced fiber optic network technology expertly handles the routing, transportation, conversion and distribution of the highest quality audio, video and data. A 2GB network can handle 1024 audio inputs with unlimited outputs, Ethernet and serial transport, word clock distribution and sample rates up to 192 kHz. It is the only system that is inherently 100% redundant, with redundant power supplies, word clock and network port and has the lowest latency of any other network on the market. Data shows that it produces just 41.6µs or 0.042ms of latency from a single device to any other device on the network no matter the number of channels, number of nodes or the distance between them.

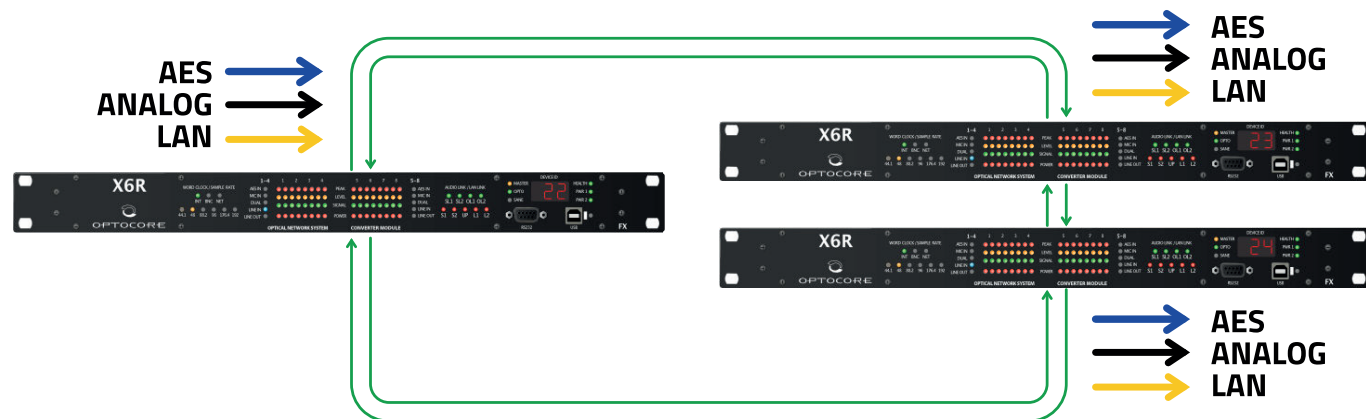
Format Converter

OPTOCORE's network devices make up the backbone of the system and are formed together in different combinations to achieve the desired signal distribution required for any live production, installation or recording. Any input is available at every other location on the network and can be exported as many times as desired. The local I/O of the device determines the signal to be output, and signals can easily be converted between Analogue, AES and MADI.



OPTOCORE for AES distribution and PA Drive

OPTOCORE's X6Rs can be loaded with analog and AES I/O cards, to function as a digital PA drive system that works with any new or old amplifier, processor, console, powered or unpowered speaker and in any combination or deployment (LR, LCR, Surround, Delays, etc). X6Rs or MAD1 units at FOH input signals from the consoles or processors, and additionally a laptop can be connected to the network and the amplifier control tunneled over the OPTOCORE network to the remote amplifier locations. Control is provided on CAT5 and the PA lines are output as AES or analog as required by your amps (or both as a primary and backup). The units are small and lightweight and can be flown from a truss, kept in a central amp location or distributed in mobile racks. And if additional speakers for delay or surround are needed for specific shows, additional X6Rs can be added; the network automatically recognises them and will start sending audio as soon as they are connected.



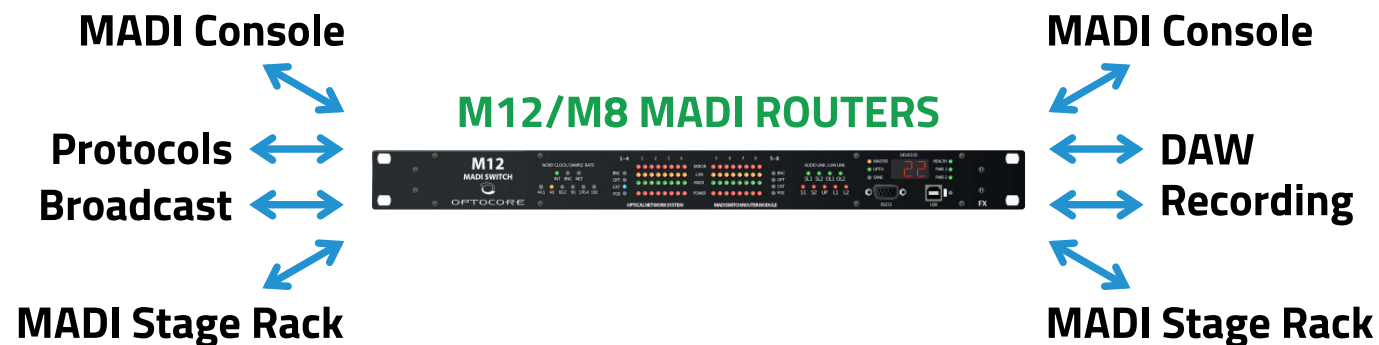
MADI Router

OPTOCORE's new M-Series of MADI routers offer 4 and 8 pairs of MADI BNC or optical ports and can either be integrated in OPTOCORE and DiGiCo networks or left as a standalone router unit and either split or combine any MADI stream to/from its multiple I/O ports. Each MADI port is independent from the others and has its own output matrix, allowing custom MADI streams to be created.

M8s and M12s can also be set up to support MADI mirroring with automatic switch over. The fallback can be triggered in 3 ways:

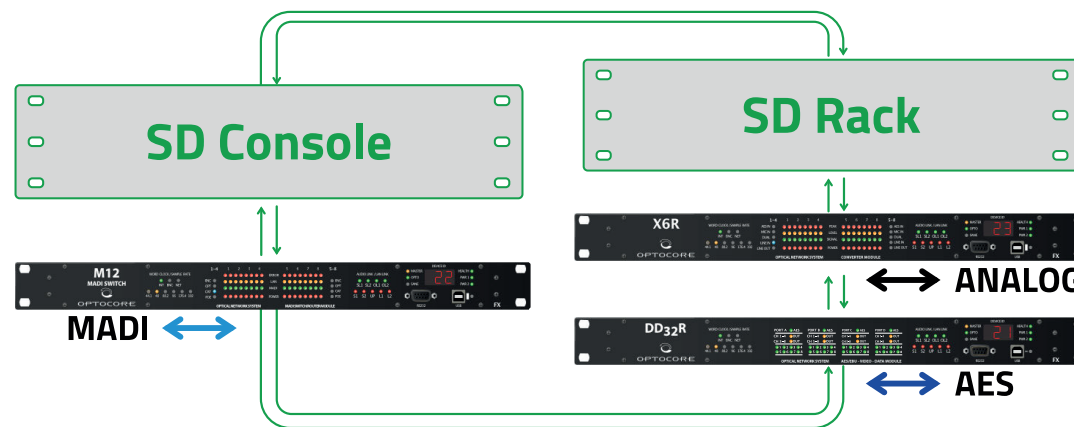
- Automatically from a GPI
- Automatically triggered by an absent MADI stream
- Fallback triggered manually via an OPTOCORE Control Software Marco.

Get more information at <http://www.optocore.com/index.php/products/madi-series/m12-bnc>



OPTOCORE DiGiCo SD-Series Integration

DiGiCo SD series consoles use OPTOCORE's coding as their onboard fiber network. Since the upgrade to the 2.21 Software, any OPTOCORE R-Series unit can be added to the DiGiCo SD network to expand the system. Control of OPTOCORE units is done straight from the SD console surface with features including routing, gain and phantom control, grouping and snapshots—and the same to the functionality of an SD Rack. OPTOCORE M-Series units can add extra MADi BNC ports or MADi Optical ports for recording, playback or FX interfaces; DD32Rs give 32 AES pairs in a simple 1RU frame for interfacing wireless mic, IEMs or DSP processors or amplifiers, while X6Rs can be used to achieve any combination of 8 Mic Inputs, 8 Line Inputs, 8 Line Outputs, 8 AES or AES with SRC up to a 64x64 I/O rack per network ID. This allows smaller fly packs and modular racks to be created, to support any size production.

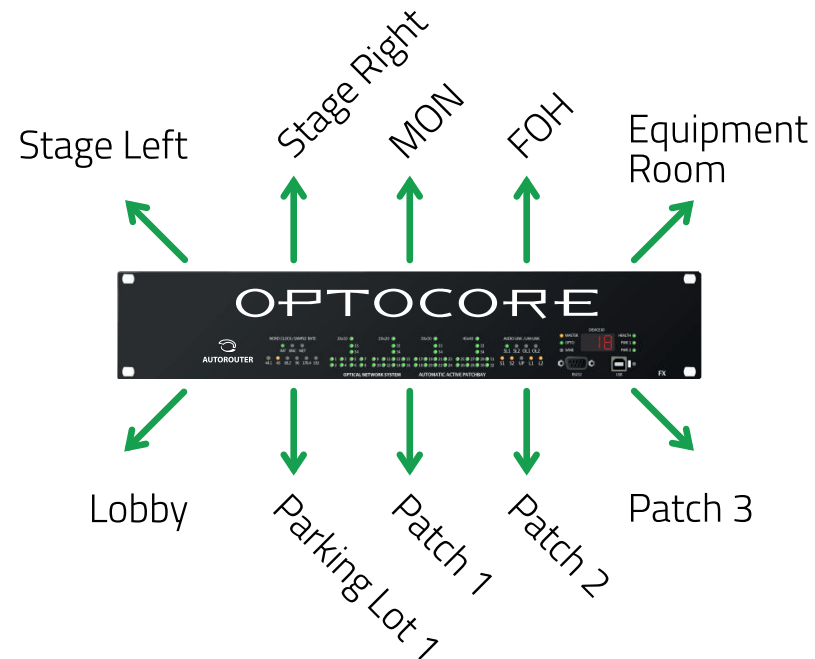


OPTOCORE AutoRouter

OPTOCORE's AutoRouter is a device that OPTOCORE released several years ago and is seeing widespread adoption in the installation and production markets. The unit works as a protocol-agnostic smart routing patch bay, turning what would normally be a redundant ring network into a redundant star topology. Duplex fibers from remote connection points are wired back to a central location where the AutoRouter lives. It senses light data coming in on its different SFP's and reconfigures its routing matrix to include all active ports. OPTOCORE, DiGiCo, Yamaha TwinLane and Avid AVB networks are all supported by the AutoRouter, making it perfect for large and small applications in many environments.

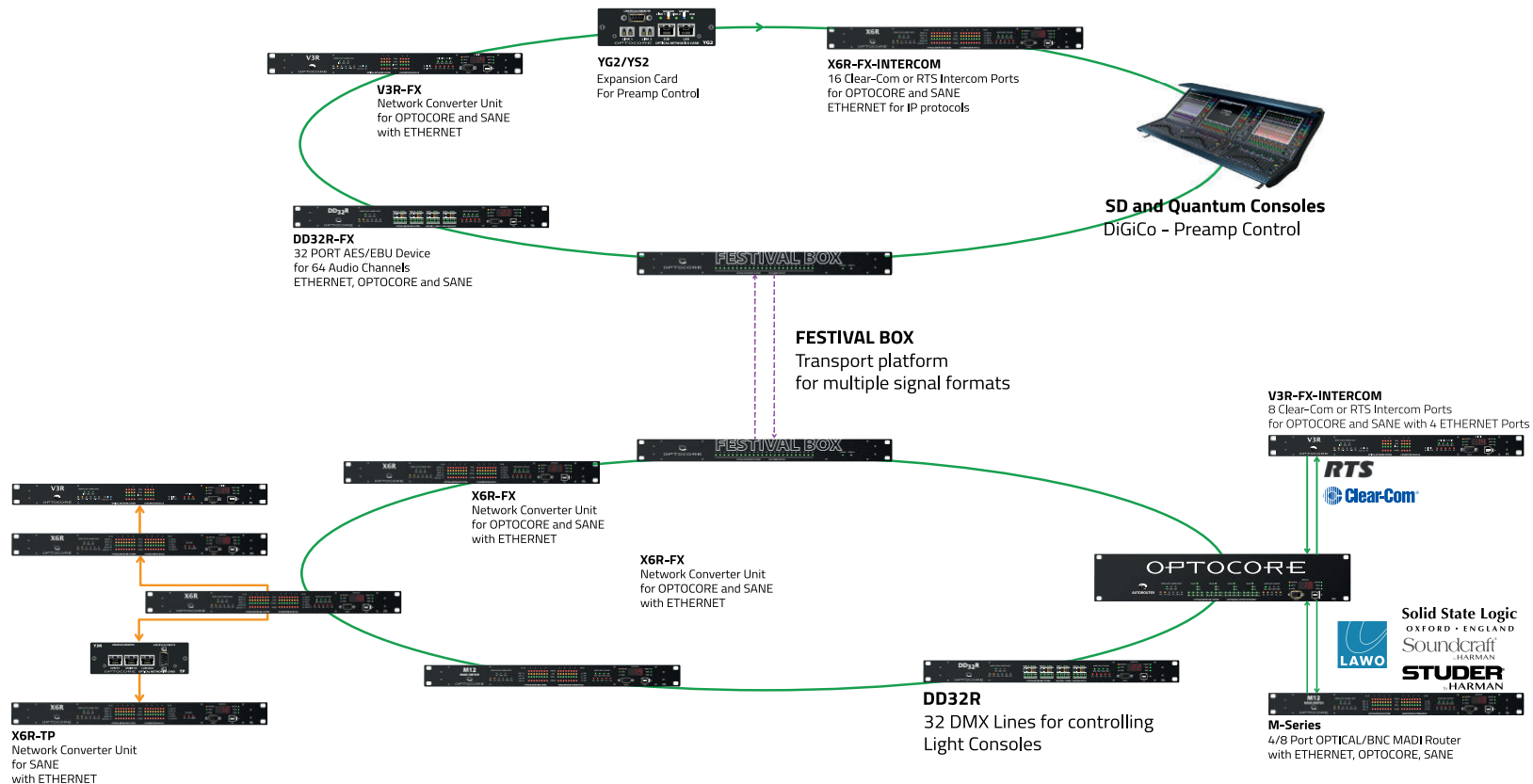
The device is scalable to range from a small system in a local church or theatre - that might only have a console and a couple of mobile racks - to large stadiums and arenas with multiple connection points distributed throughout the facility or even multiple venue campuses that require interconnected buildings to be linked onto a single network.

Get more information at <http://www.optocore.com/index.php/products/autorouter>



Console Interface

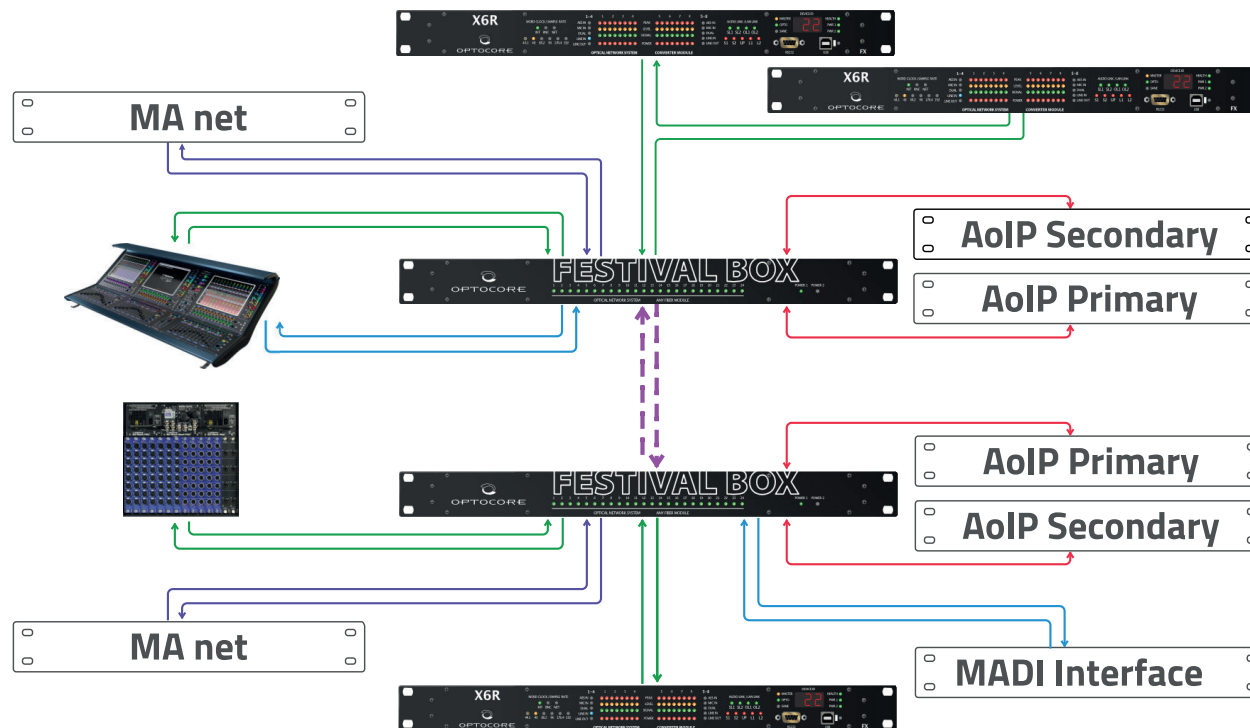
OPTOCORE is an open platform and meticulously supports open source protocols approved by the Audio Engineering Society. This means that any piece of equipment or console that supports formats such as AES and MADI can be connected to an OPTOCORE network. This allows a number of audio consoles from many different manufacturers and their preamps to be connected, and the audio and control tunneled across the network. In addition, OPTOCORE has had long-standing technical partnerships with many leading console manufacturers, and have developed emulation modes, allowing OPTOCORE preamps to be remotely controlled from up to 4 different consoles all on the same network.



Festival Box

Our FestivalBox is a new solution, that can take multiple signals from any network or digital audio format (OPTOCORE, AVB, Dante, AES67, MADI, IP, etc.) and multiplex all these signals together onto a pair of fibers, breaking out the connections at the other end for the individual stage boxes and switches. So in the event of a festival, road house or multiuse space, that on any given day could see any of 100 different consoles, this box would allow the sound crew to wheel into the facility, connect their console, their stage box, their comms, their drive, lighting control, etc without running cables through the house, or requiring hard lines to be permanently installed in conduit in advance.

Get more information at <http://www.optocore.com/index.php/products/festival-box>



BroaMan Introduction

Broadcast Manufaktur is a company that develops, manufactures and sells devices aimed at broadcasters as well as production companies, sport facilities, professional AV integrators and many more applications. The company offers customised solutions as well as standard devices for every application that requires SD/HD/3G/12G video transport or routing – whether a big and complex system for broadcast studio or OB Van, or a simple point to point for a small church, conference hall, etc.

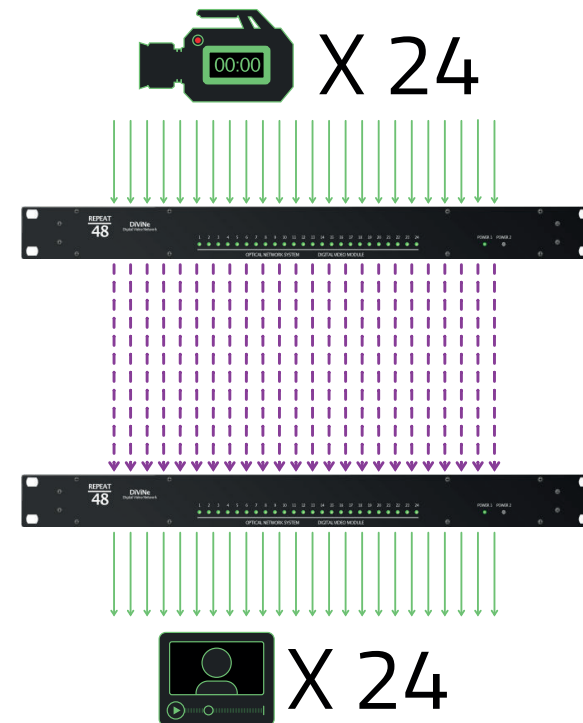
With DiViNe (Digital Video Network) all open standards can be integrated — digital video, audio and data — on the same fibre infrastructure.

BroaMan also takes advantage of sister company Optocore's (link) technologies to transport multichannel audio of different widely available formats.

Get more information at <http://www.broadcastmanufaktur.com/>

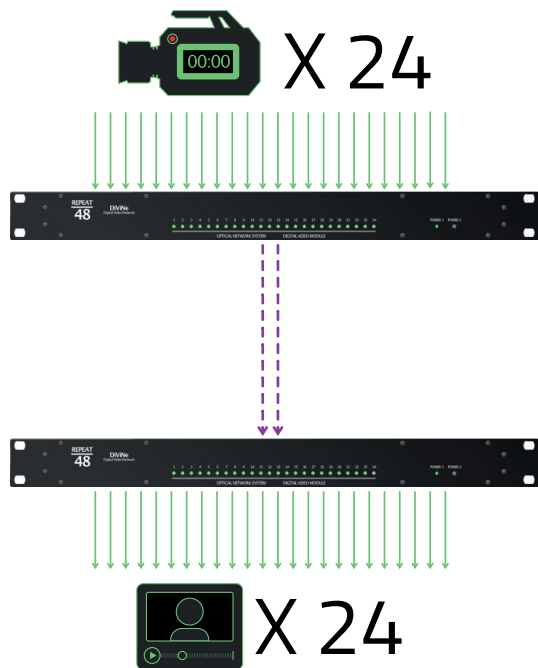
Conversion

The Repeat48 is an up to 24x 3G-SDI BNC ports electrical to optical and optical to electrical converter that can be used to change MADI and 3G-SDI from copper BNC cabling to fiber and back. Each channel is converted onto its own fiber. This also allows for Point to Multi End point distribution topologies to be utilised.



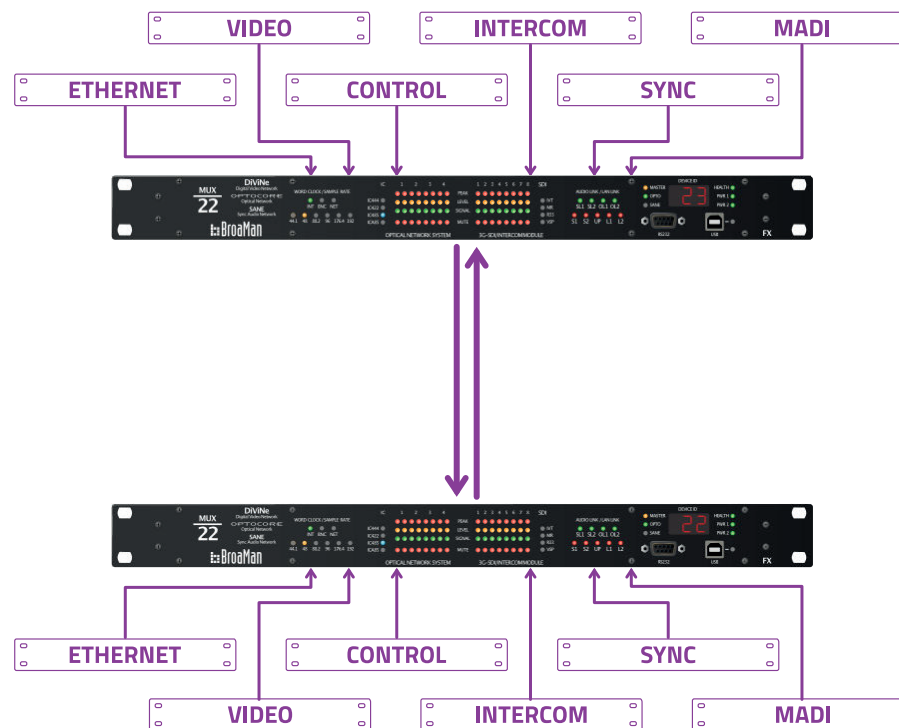
Multiplexing

When higher channel counts are being sent between 2 locations and fewer fibers are required, BroaMan units equipped with Coarse Wave Division Modules (CWDM) can take multiple video channels and different data streams and send them down a single fiber cable. The Repeat48-WDM can multiplex up to 24 3G video channels between devices with auxiliary segments on the bandwidth dedicated for tunneling IP or other optical data.



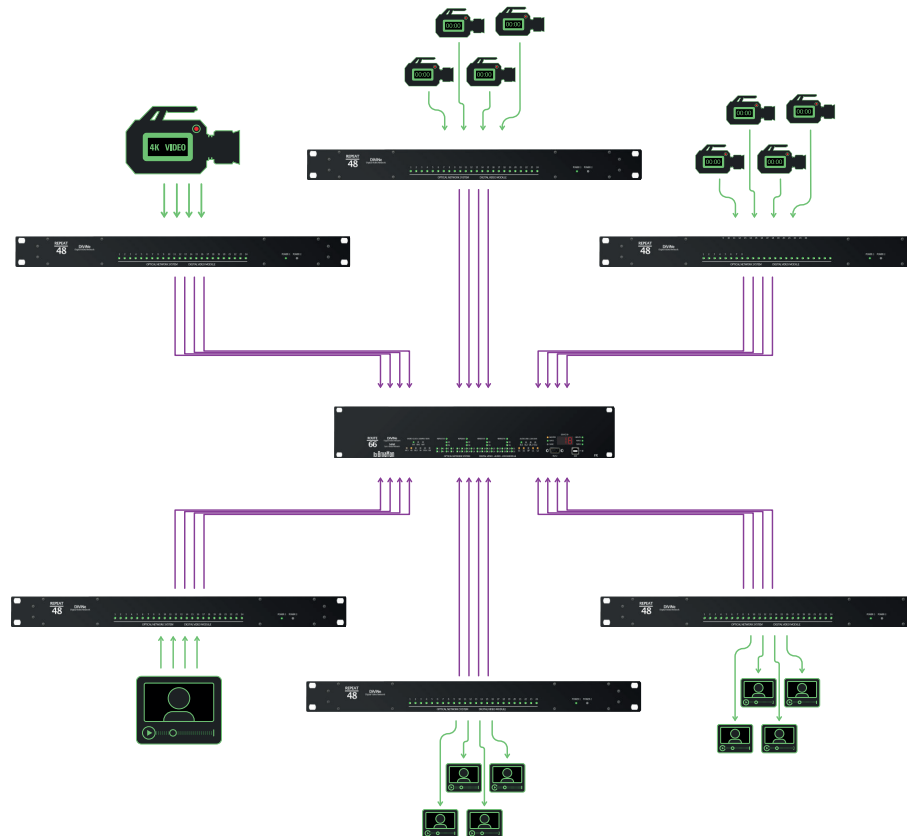
MUX22

The MUX22 is an all-in-one solution. The 1RU device gives you 8x 3G-SDI ports, auxiliary tunnels for 1GB data networks, an onboard audio card that can be populated to support MADI, AES, Analog audio or digital intercoms signal, as well as a 2GB OPTOCORE network capable of a full 768 Audio Inputs, plus data and serial transport.



Routing

The Route66 forms the backbone of the BroaMan line and gives the system the functionality of a software interface to control routing. The 40x40 routing matrix allows for any input to be sent to any endpoint either through local SDI ports on the router or through fiber connections from Repeat8's, Repeat48's or MUX22's.



In case you want to know even more

Thank you for taking the time and going through this little pamphlet of ours. This brochure is meant to give an overview of our technologies, but of course there is a lot more. If you want to get further information, visit our websites, or send us an email.

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