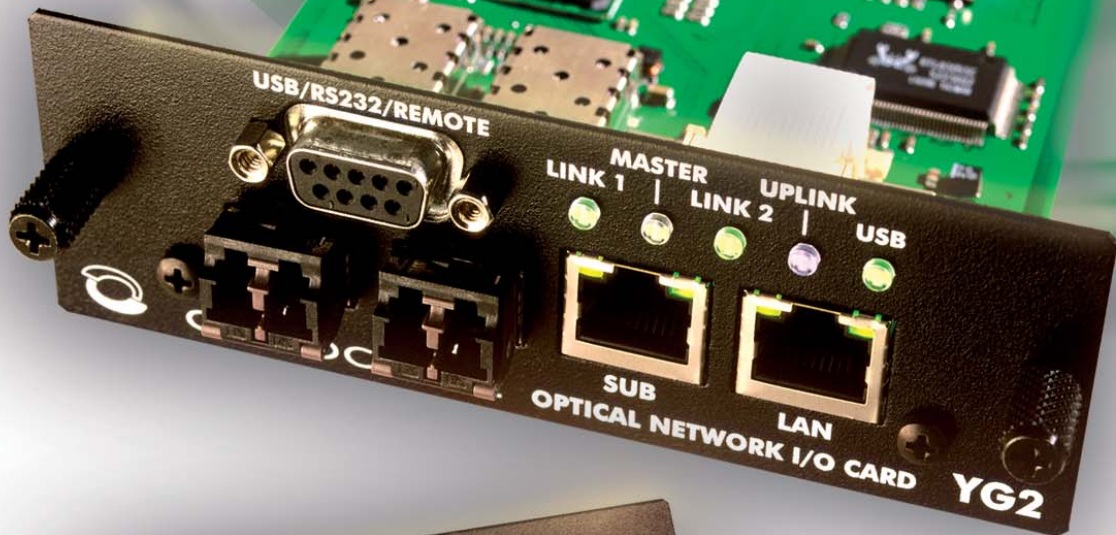
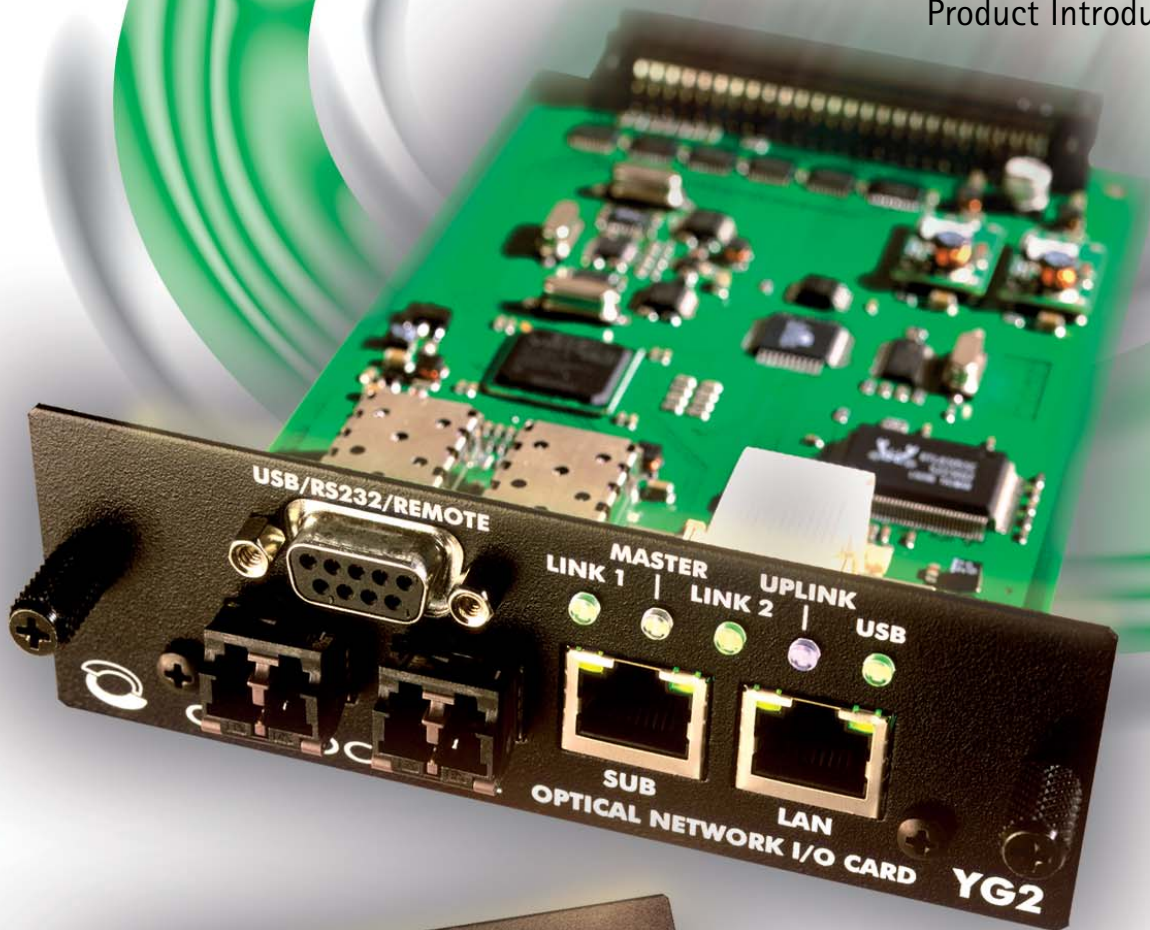


OPTOCORE

YG2/YS2 Cards for
YAMAHA mini YGDAL Slots
Product Introduction



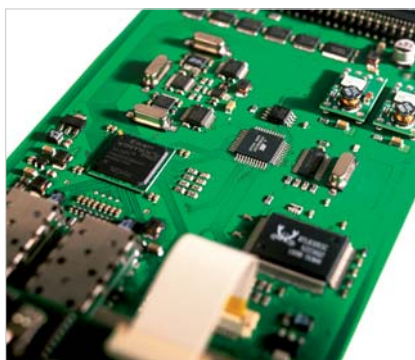
Optocore's YG2/YS2 modules bring the pioneers of digital sound processing and the pioneers of audio networking together.

Up to 64 audio inputs and 64 audio outputs per YG2 module can be transmitted to and from any Yamaha device, while multiple modules can provide up to 512 audio channels per Optocore network ring on one single fibre pair. The Optocore protocol is the same found in all Optocore branded products as well as other manufacturer brands of devices equipped with an Optocore connection.

The YG2 main module has full access to all 16 Inputs and 16 Outputs of a mini YGDAI slot. Each YS2 sub module connects an additional 16 channels of I/O to and from the YG2 module via CAT5 cables, up to the full 64 I/O channel complement.

The YG2 offers full network remote or local control of all advanced features such as matrix assign, gain, phantom, and complete network status monitoring via computer, enabling your Yamaha product to become a fully equipped member of the Optocore network. However, it is not necessary to use a computer for normal operation as each Yamaha product may still maintain control of all of its local functions via the work surface or front panel controls.

In addition, the YG2 includes a full 10/100MBit Virtual Ethernet Switch to form a single large standard Ethernet switch embedded in Optocore devices for plug-and-play Ethernet usage. Remote control of Yamaha or Optocore Mic Pre's-A/D Converters directly from the console work surface is also possible as the Optocore protocol transports the necessary data with no additional hardware or interface.



The YG2 is compatible with sample rates up to 96kHz, and can either generate or accept Word clock from Yamaha or any external source.

Applications:

- Live Sound Systems – concerts, live entertainment, special event production
- Permanent Installation – stadiums, opera/performing art centers, broadcast facilities, theatres
- Broadcast – Radio, TV, and remote broadcast
- High Bandwidth Requirements – light shows, computer networking
- Security Systems – public emergency action notification systems, PA announcements, shopping malls
- Zone Mixing – conference centers, exhibition buildings, airports, train stations
- Weight Critical Applications – cruise ships, broadcast vans

Key Features of YG2 / YS2 cards:

- 128 channels, 24 bit, 44.1k to 96kHz audio transmission to/from Optocore
- 16 In / 16 Out per YG2 or YS2 module to/from Yamaha mini YGDAI slot
- single channel matrix to/from any network point
- ultra low latency CAT5 connection between YG2 / YS2 (overall 21µs)
- Optocore Control Software for monitoring and controlling the entire network
- Virtual 10/100MBit Ethernet Switch for plenty of control data distribution
- RS422 port for tunnelling Yamaha's Remote port to any point
- RS232 and USB port for computer control/monitoring

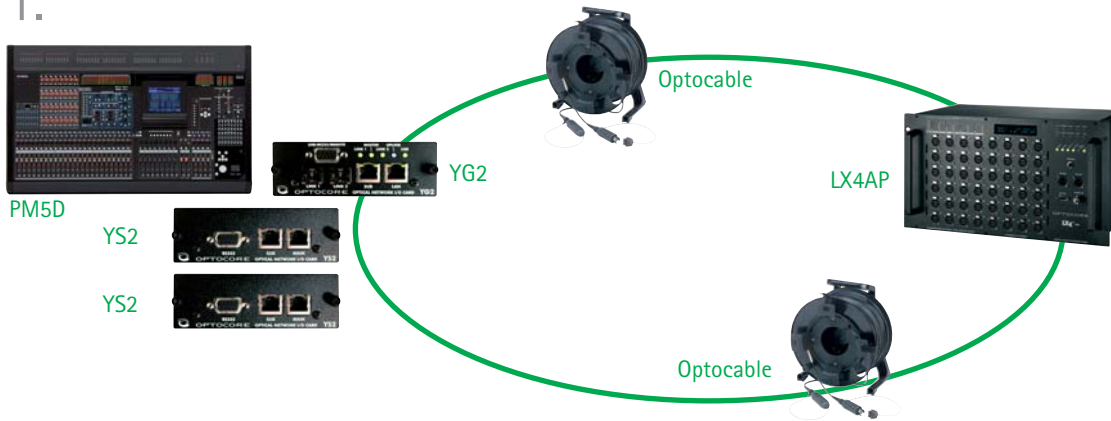
16 inputs / 16 outputs	8 inputs / 8 outputs
1 YG2 plus 3 YS2 = 64 In / 64 Out	1 YG2 plus 7 YS2 = 64 In / 64 Out
PM5D / PM5D-RH	DIO8 for PM1D / PM1DV2
M7CL Series	DME32
LS9 Series	AD824
DM2000	DA824
DM1000	
O2R96	
O1V96	
DME64N / DME24N	
All future products with YGDAI slot	



System examples:

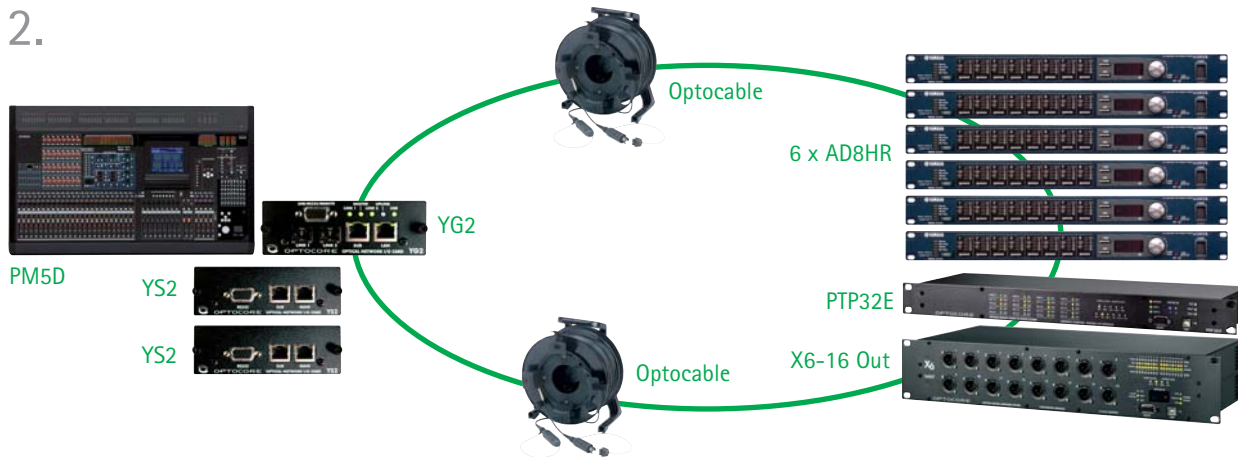


1.



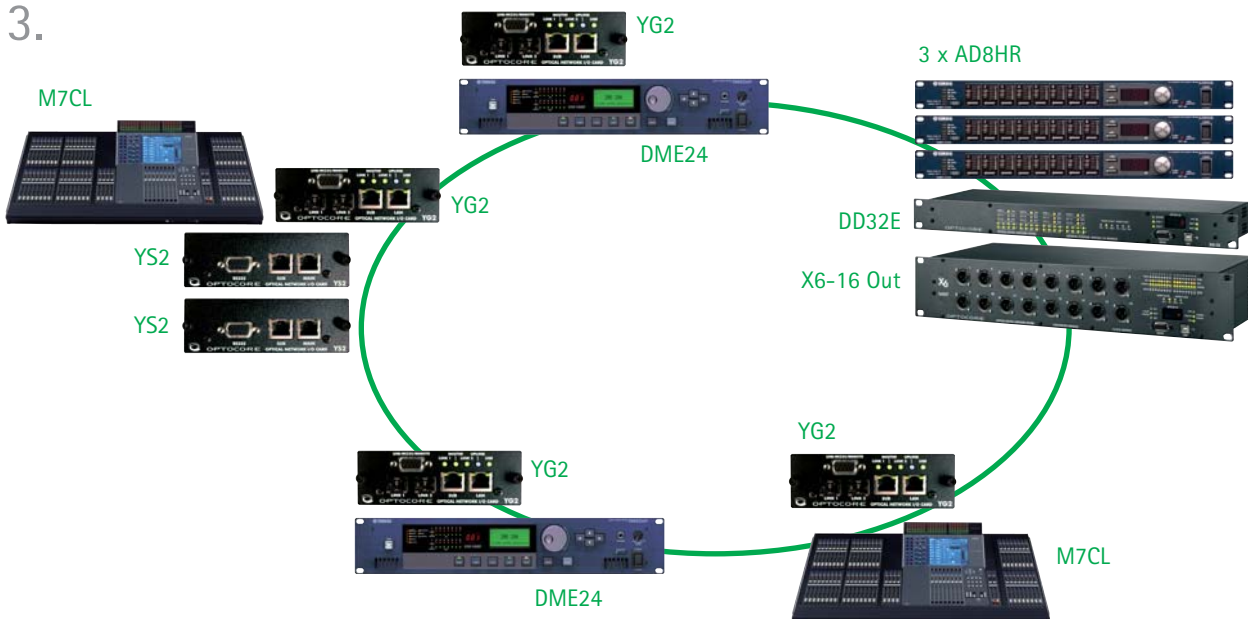
The most easy-to-use complete 48/16 snake/multicore requires just 2 fibre optic cables to build an optical redundant stage front end with true 1dB step mic preamp resolution, excellent analog performance and control/scene recall of LX4AP directly from the console, in just 6RU.

2.



The complete 48/16 snake/multicore for systems with Yamaha AD8HR in 9RU. The Remote Port for controlling the AD8HRs is also transported.

3.



System example for a theatre application. The Ethernet for controlling DME24 and Remote Port for controlling AD8HR is also transported.

OPTOCABLE

Optocore is a patented, synchronous optical fibre network system specially designed to meet the requirements of the professional live audio, broadcast, studio, permanent installation, emergency notification and video industries.

We developed an audio and video network from conception to finished protocol without the compromises of security, latency, bandwidth and jitter inherent to systems which try to adapt inappropriate low-cost simple data networks built for computer data exchange, never intended or designed for professional production requirements.

Some Outstanding Optocore Features:

- **Ultra low latency – 41,6µs over all devices from any point to any point**
Due to our unique synchronous design the digital delay over the complete network from any point to any point is just 41,6µs – this includes the matrix and remains constant regardless of the number of nodes on the network.

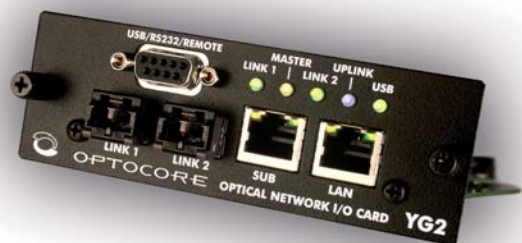
- **Fibre optic cable has very low weight, and offers the highest possible security and longest distance**
Fibre optic cables are the lightest – a typical network duplex fibre cable weights 5,8kg/km (20 lbs/mile). Compare this with an unshielded CAT5 cable at 38kg/km (135 lbs/mile) or with your snake or multicore. Transmission distances between devices of 700m (2300 feet) on multimode cables, and up to 110km (68 miles) on singlemode cables is standard on the Optocore protocol.
- **Built-in second ring for fibre cable redundancy**
The second ring provides cable redundancy – if a cable breaks, the network recovers in one sample cycle!
- **High Bandwidth – 1Gbit/s for 512 audio channels or you can re-allocate the bandwidth to suit your needs. For example, it is possible to add more data or video channels in place of audio channels.**

- **Complete Signal Integration on One Fibre**
In addition to audio, the Optocore protocol allows the transport of any kind of signal simultaneously such as Video, DMX, MIDI and various control data like Ethernet, RS422, RS485. Via Ethernet you can transmit anything using converter boxes – e.g. Video, Intercom, USB, RS232, CAN. With Optocore there is really no need to lay down additional cables anymore.
- **Scaleable System**
As your requirements grow, you simply add devices to enlarge the system with new features or higher channel count.
- **No central switch**
Every Optocore device acts like a full-featured switch, eliminating the need for a central switch. A central switch failure in other networks means your network is down. Optocore's redundant system with shared protocol means your network is not vulnerable to a central switch failure.
- **Single channel matrix**
Every device has full access to all channels and can individually extract any channel on a single channel basis.

For more outstanding Optocore features please visit: www.optocore.com

Technical Specifications YG2/YS2	
Audio I/O	16IN / 16OUT, 24bit
Audio Routing	Single Channel Matrix included
Sample Rate	44.1 / 48 / 88.2 / 96kHz ± 0.3%
Optocore System Clock Jitter	< 5ps RMS
Digital Network Delay	41,6µs from any point to any point
YGDAI to/from Optocore delay	1 sample
Clock Synchronisation	from/to Network, from/to YGDAI slot
Optical I/O YG2	2 pluggable LC Transceivers, single- or multimode
Additional I/O YG2	SUB, Ethernet, Yamaha Remote Port, USB, RS232
Additional I/O YS2	SUB, MAIN, RS232
Size	160x100x40mm (mini YGDAI module)
Power Consumption	3,5 Watts

Technical Specifications are subject to change without notice.



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