

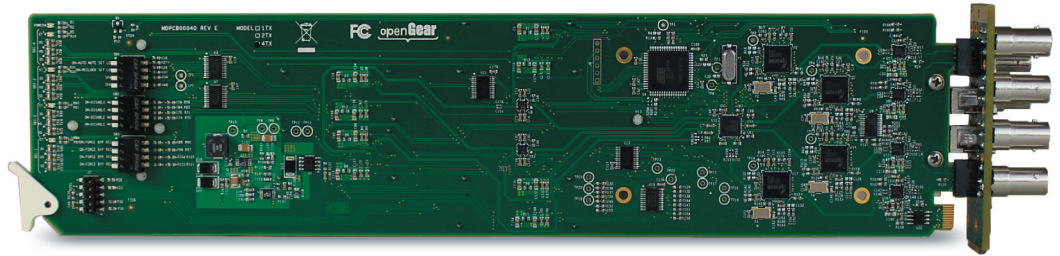
FEATURES

- ▷ Supports SMPTE
- ▷ 424M, 292M, 310M & 259M
- ▷ Reclocking at 270Mbps, 1.483Gbps, 2.970 Gbps & DVB-ASI
- ▷ Auto-detect of incoming data rate
- ▷ Card-edge LEDs for signal presence, rate & other key parameters
- ▷ Blind-mating SC fiber connectors
- ▷ 4x4 Matrix/cross-point
- ▷ 1,2,3 or 4 signals/card
- ▷ Up to 18 signals/fiber
- ▷ Up to 40 signals in 2RU
- ▷ Dashboard enabled
- ▷ Supports embedded audio & data

APPLICATIONS

- ▷ Studio links
- ▷ Signal trunking
- ▷ Signal distribution
- ▷ Campus interconnects
- ▷ Transmission links
- ▷ Telco circuits
- ▷ Outside Broadcast "B-Unit" interconnects

From 1 to 18 signals per fiber and built-in cross-points, the HD-4000 Series makes your SDI signal transport and distribution **SIMPLE!**



The HD-4000 series of modules for the openGear platform provides flexibility in how you handle your SDI signal transport. Capable of handling SDI rates from 5 Mb/sec all the way up to 3 Gb/sec uncompressed, these cards will automatically detect the incoming signal and give you full control over re-clocking and routing.

The table (below), shows the 5 different cardsets available in the HD-4000 line. With each module you get the same control features that are available both on the front card edge (via dip switches) or through the openGear DashBoard software.

Model #	Number of Signals	Number of Fibers
4100	1,	1
4200	2	2
4300	3	3
4400	4	4
4400-R1,2,3,4	4	1

But the true power of the 4000-Series is the ability to daisy chain up to five cards to create an 18-Channel, ONE Fiber, CWDM mux that is ideal for high-density signal trunking.

The HD-4000's also incorporate an integrated cross-point matrix that allows not only the ability to assign a given input signal to one or more outputs, but also to enable and disable outputs should the need arise. There's also an automatic fail-over mode that, when selected, will switch to another input should the signal in the first input somehow fail. Embedded audio is fully supported. All outputs are non-inverting and ASI capable.

The HD-4000 is the cost effective way to move all of your HD signals along with the convenience of a built-in switcher, remote monitoring and automatic fail-over protection switching. Designed and manufactured in New York.

FEATURES

The HD-4000 Series: 1 signal or 18 per Fiber

1,2,3 or 4 signals per card

We know that one size never fits all and signal transport is no exception. Whatever your signal count, our cards can be easily combined to match your requirement. In cases where signals are being optically multiplexed with a CWDM, we mount the CWDM filter directly on the card so that you don't need to waste valuable slots in your frame. And the cards are automatically detected by the Dashboard software so there is no need to set DIP switches to indicate how many signals are present on a given card. A fully populated frame with 4-channel cards will give you 40 signals in just 2 RU.

Built-in Cross Point

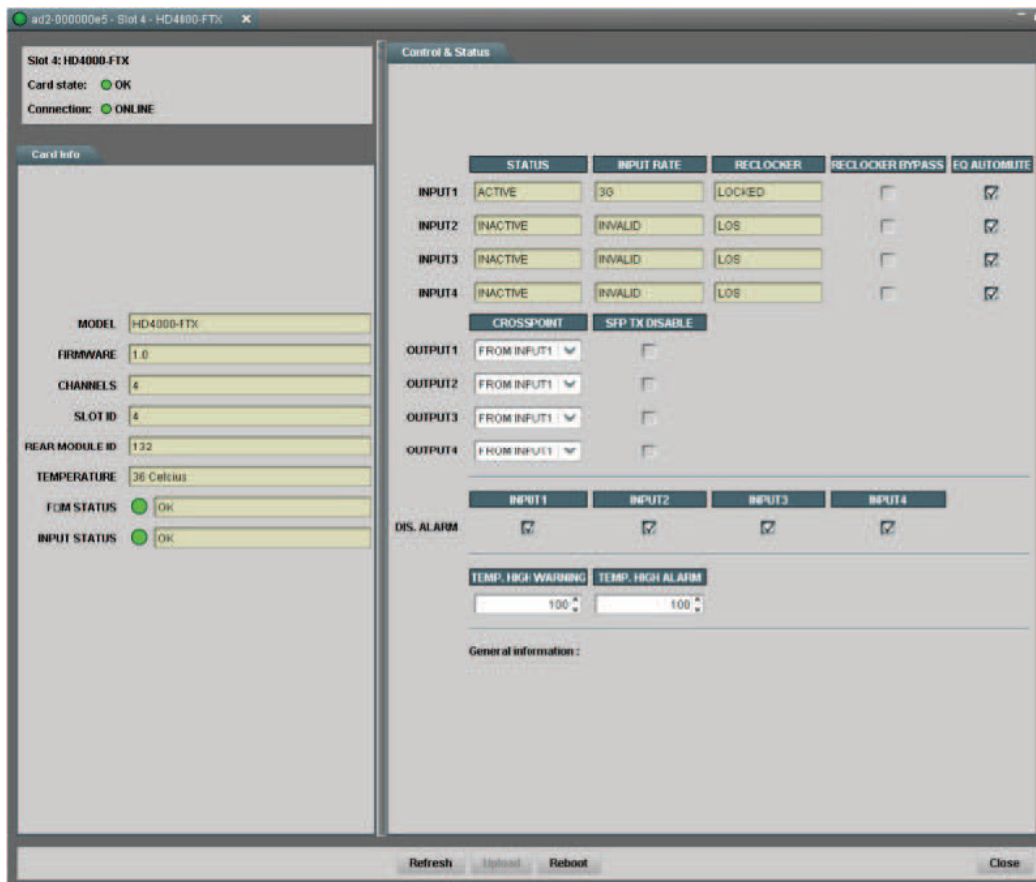
It is one thing to move HD signals over fiber but it is really nice to be able to route a given input to one or all of the outputs. Our built-in cross point gives you unprecedented control over your signal flow by allowing you to simply route signals or to turn them off entirely...all from the Dashboard or via the front-edge DIP switches. If you suddenly need an HD video DA, simply route one input to all 4 outputs of the card. It's that simple.

Protection switching

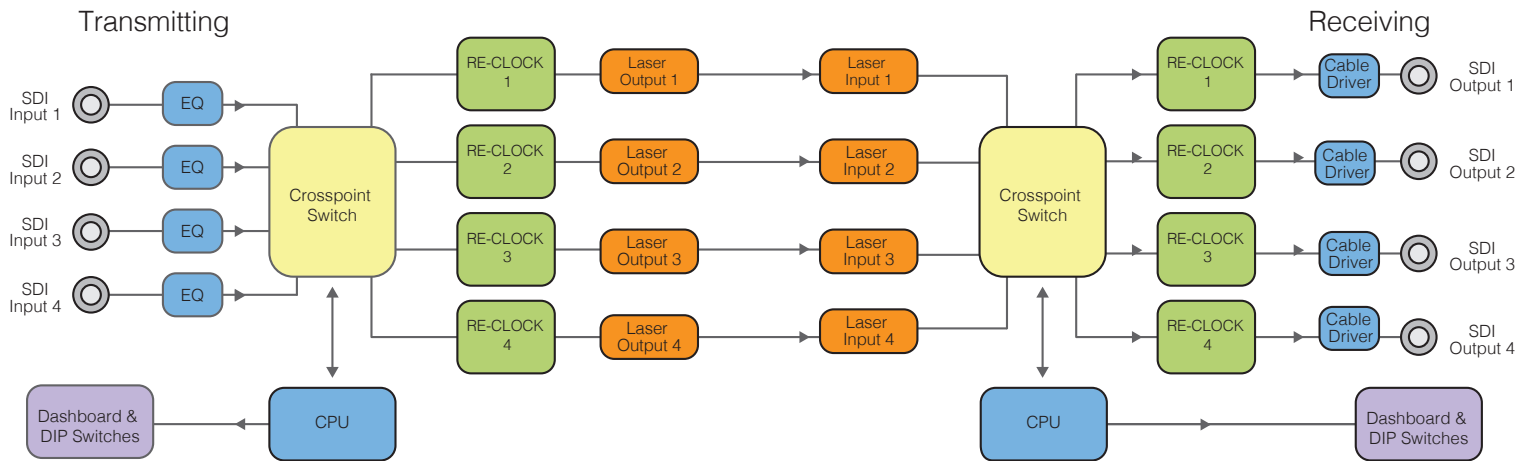
The best way to keep watch over your signals is to have access to a state-of-the-art monitoring platform like Dashboard. Once a card is inserted into an openGear frame, it is remotely monitorable through Dashboard. With the basic frame (-C) a single user can monitor at a time. With the -CN frame, multiple users can work simultaneously. And with the -CNS frame, you are SNMP enabled to integrate into your larger monitoring environment. All of the essential card and signal parameters can be seen and manipulated in an easy-to-use graphical interface including reclocking on/off, laser status, temperatures, input/output signal status, alarms and more. The Dashboard software is free and you can download it at www.opengear.tv.

Total control of your I/O with Dashboard Monitoring and Control

We understand the importance of being able to efficiently move and route HD signals throughout your facility. The HD-4000 Series provides the feature set to accomplish this while also providing the tools to enable you to recover from a signal failure or to quickly respond to changing signal needs.

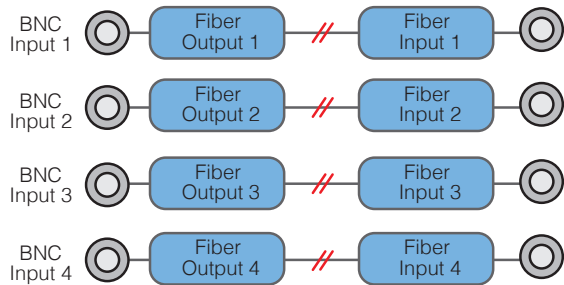


BLOCK DIAGRAM

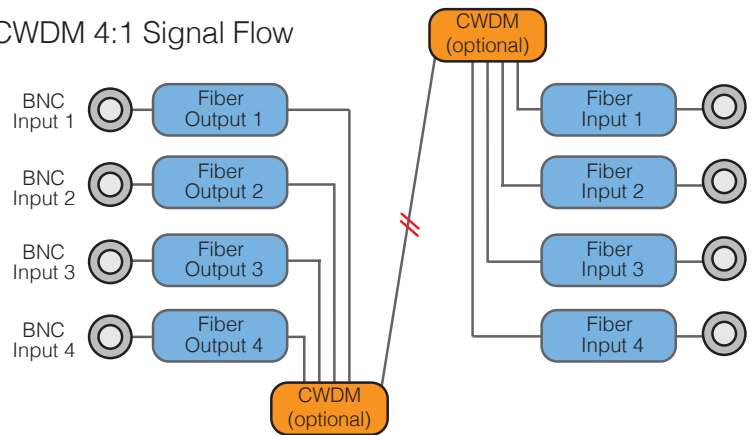


CWDM Operation & Daisy-Chaining

Basic 1:1 Signal Flow



CWDM 4:1 Signal Flow



Five 4400 cards can be daisy-chained together to make an 18 channel CWDM mux with 4 channels on the first 4 cards and two on the fifth card. This is facilitated by CWDM's that have an "express channel" that allows the 4 discrete signals to be added to the mux and then passed along to the next module for the next four channels. Please contact your local sales manager for configuring these systems

TECHNICAL SPECIFICATIONS

BNC INPUT

SDI Impedance	75 Ohms
Return Loss	>15dB up to 1.5GHz >10dB up to 3 GHz
Fiber Compatibility	Singlemode
Optical Connector	ST, LC, SC or FC
Distance Limit	Up to 40 km @ SD; Up to 24 km @ HD

Optical Input/Output

Wavelength	1310nm Std; CWDM 1271-1611 DFB
Optical Power	-5 dBm to 0 dBm
Laser Strength	Laser Class 1
Optical Sensitivity	(w/HD-SDI Signal) -20 dBm
Added Jitter	<0.03UI under 1MHz
Standards	SMPTE 259M-C, 292M, 425M, 297M & DVB/ASI

Mechanical, Environmental

Overall Dimensions (LxWxH)	13" x 3"
Weight	6 oz
Temperature Range	-0° to +70°C
Humidity Range	0 to 95% RH noncondensing
Power Requirement	12 VDC at 10w

ORDERING INFORMATION

PART #	DESCRIPTION
HD-41000G-FTX-50	1 Ch. 3.0 Gbps Multi-rate HD-SDI TX over 1 fiber, supports 5 - 2970 Mb/s, EQ & Reclocker; 1310nm, Singlemode, -2 dBm
HD-41000G-FRX-50	1 Ch. 3.0 Gbps Multi-rate HD-SDI RX over 1 fiber, supports 5 - 2970 Mb/s, EQ & Reclocker; Singlemode, -2 dBm -20 dBm Sensitivity
HD-42000G-FTX-50	2 Ch. 3.0 Gbps Multi-rate HD-SDI TX over 2 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; 1310nm, Singlemode, -2 dBm
HD-42000G-FRX-50	2 Ch. 3.0 Gbps Multi-rate HD-SDI RX over 2 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; Singlemode, -2 dBm -20 dBm Sensitivity
HD-43000G-FTX-50	3 Ch. 3.0 Gbps Multi-rate HD-SDI TX over 3 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; 1310nm Singlemode, -2 dBm
HD-43000G-FRX-50	3 Ch. 3.0 Gbps Multi-rate HD-SDI RX over 3 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; Singlemode, -2 dBm -20 dBm Sensitivity
HD-44000G-FTX-50	4 Ch. 3.0 Gbps Multi-rate HD-SDI TX over 4 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; 1310nm Singlemode, -2 dBm
HD-44000G-FRX-50	4 Ch. 3.0 Gbps Multi-rate HD-SDI RX over 4 fibers, supports 5 - 2970 Mb/s, EQ & Reclocker; Singlemode, -2 dBm -20 dBm Sensitivity
HD-4400 with one fiber operation or optional daisy chain option (up to 18 channels over 1 fiber)	

Fill in order code listed right to indicate proper wavelength HD-4400G-FTX-(*wavelength) or HD-4400G-FRX-(*wavelength)	WAVELENGTH CODES
	R1 = Includes CWDM multiplexer, wavelengths 1271-1331nm
	R2 = Includes CWDM multiplexer, wavelengths 1351, 1411-1451nm
	R3 = Includes CWDM multiplexer, wavelengths 1471-1531nm
	R4 = Includes CWDM multiplexer, wavelengths 1551-1611nm