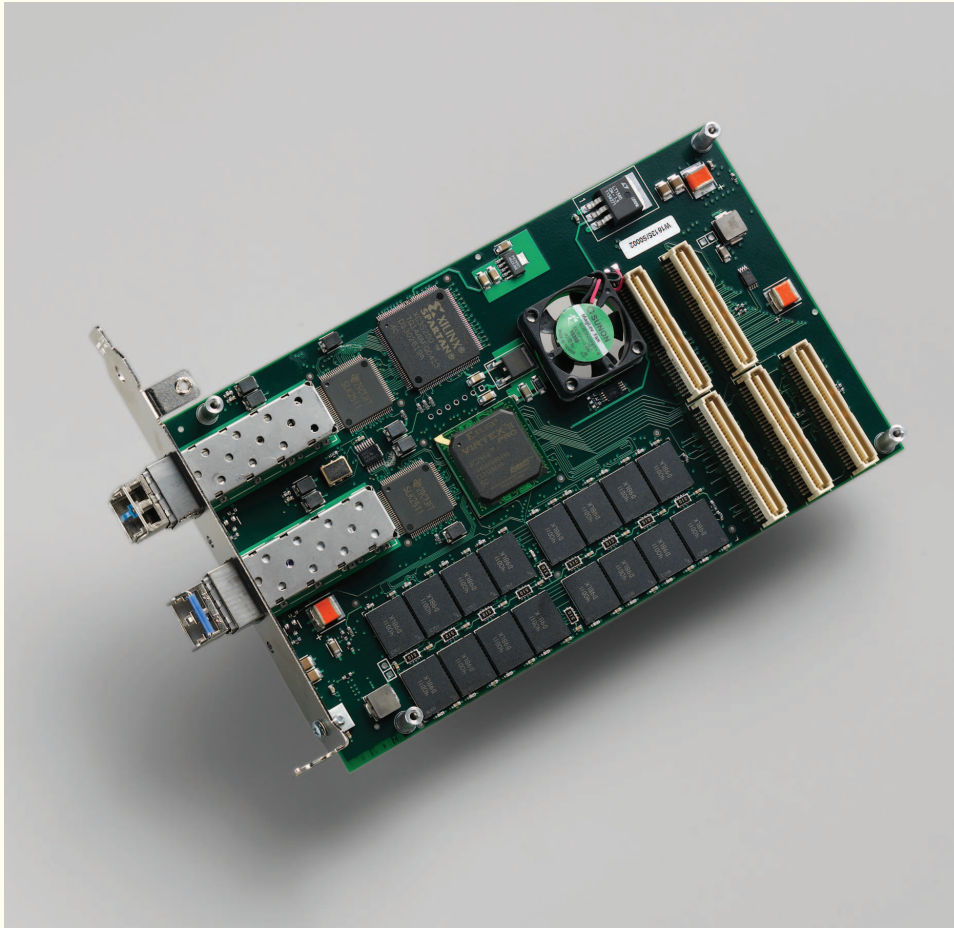


# OCM

Optical carrier multi-rate interface for up to OC48/STM16/1GbE



## Description

The OCM is a mezzanine board that pairs with an EDT main board (for PCI or PCI Express) to support 1GbE (optical or electrical), OC3/12/48 (STM1/4/16), or both.

The OCM has two volt-controlled crystal oscillators (VCXOs), either programmable or settable to multiple frequencies. It also has two small form pluggable (SFP) transceivers. Each SFP supports 1GbE (electrical or optical) or OC3/12 (STM1/4), and one also supports OC48 (STM16). The board has up to 2 GB of DRAM for snapshot recording and data buffering.

EDT provides FPGA configuration files so you can input and output raw data, detect to a SONET/SDH frame, or descramble a framed signal. Custom configuration files can be requested.

The main board supplies DMA, plus additional memory and programmable FPGA resources.

## Features

Mezzanine board – pairs with an EDT main board (in a PCI, PCI-X, or PCIe bus), which adds DMA, programmable FPGA resources, and memory

Channel 0: One SFP for 1GbE (optical or electrical) or OC3/12/48 (STM1/4/16), 155.52, 622.08, or 2488.32 Mb/s – 1310 nm

Channel 1: One SFP for 1GbE (optical or electrical), OC3/12 (STM1/4), or OC3/12/48 (STM1/4/16), 155.52, 622.08, or 2488.32 Mb/s – 1310 nm

FPGAs: Two programmable (one Xilinx Spartan 3 XC3S200 and one Xilinx Virtex II Pro XC2VP4)

DRAM: Up to 2 GB (DDR) for snapshot recording and data buffering

Clocks: Two settable or programmable VCXOs (one per channel), 10 to 215 MHz

## Applications

Telecommunications network monitoring

Ethernet monitoring

SONET/SDH to ethernet conversion

# Specifications

<b>Product Type</b>	OCM is an optical carrier multi-rate mezzanine board (with oscillators for up to OC48/STM16/1GbE; it requires a main board).		
<b>FPGA Resources</b>	Two programmable FPGAs (plus FPGA resources on main board): Channel 1 One Xilinx Spartan 3 XC3S200 Channel 0 One Xilinx Virtex II Pro XC2VP4), plus FPGA on main board		
<b>Memory</b>	SRAM	0	
	DRAM (DDR)	0 or optional 512 MB or 2 GB; 2 GB is needed for snapshot recording at rates of OC48/STM16 or faster with PCI SS or PCI GS main board	
<b>Clocks</b>	Two VCXOs (one per channel, for internal reference)	Either can be set to 125, 155.52, 156.25, or 166.62857 MHz or programmed to any frequency from 10 to 215 MHz	
<b>Data Rates</b>	Dependent on such factors as data format, main board, and system variables.		
<b>Data Format (I/O)</b>	Channel 0	1GbE (electrical or optical) or SONET OC3/12/48 (SDH STM1/4/16)	
	Channel 1	1GbE (electrical or optical) or SONET OC3/12 (SDH STM1/4) or optional OC3/12/48 (STM1/4/16)	
<b>Transceivers</b>	Two SFPs are included, supporting the data formats shown below.		
	<b><u>CHANNEL 0</u></b> <b>(SFP)</b>	<b><u>Optical 1310 nm</u></b> <b>OC3/12/48 (STM1/4/16)</b> <b>or 1GbE (1000 Base-LX)</b>	<b><u>Electrical</u></b> <b>1GbE (1000 Base-T)</b>
	Output power	-9.5 to -3 dBm	-
	Center wavelength	1270 to 1360 nm	-
	Sensitivity	-18 dBm	-
	Maximum input power	0 dBm	-
	Connector	LC	RJ45
	<b><u>CHANNEL 1</u></b> <b>(SFP)</b>	<b><u>Optical 1310 nm</u></b> <b>OC3/12 (STM1/4)</b>	<b><u>Optical 1310 nm</u></b> <b>OC3/12/48 (STM1/4/16)</b> <b>or 1GbE (1000 Base-LX)</b> <b><u>Electrical</u></b> <b>1GbE (1000 Base-T)</b>
	Output power	-15 to -8 dBm	-9.5 to -3 dBm
	Center wavelength	1270 to 1360 nm	1270 to 1360 nm
	Sensitivity	-28 dBm	-18 dBm
	Maximum input power	0 dBm	0 dBm
	Connector	LC	LC
<b>Connectors</b>	One RJ45 or LC on each transceiver as shown above		
<b>Cabling</b>	Consult EDT for purchase options.		
<b>Physical</b>	Weight	3.5 oz. typical	
	Dimensions	6.6 x 4.2 x 0.5 in. (with a main board)	
<b>Environmental</b>	Temperature	Operating 0° to 40° C Non-operating -40° to 70° C	
	Humidity	Operating 1% to 90%, non-condensing at 40° C Non-operating 95%, non-condensing at 45° C	
<b>System and Software</b>	For details on system requirements and EDT-provided software driver packages, see specifications for your EDT main board		

## Support

EDT offers engineer-to-engineer customer support, from phone consultation to custom design of hardware, firmware, and software. Contact us for options and details.

## Contact

**Engineering Design Team (EDT), Inc.**  
1400 NW Compton Drive, Suite 315  
Beaverton, Oregon 97006  
800-435-4320 / 503-690-1234 (phone)  
503-690-1243 (fax)  
www.edt.com

## Ordering Options

- Main board: PCI SS / PCI GS / PCIe8 LX
- DRAM: **0** / 512 MB / 2 GB
- Transceivers: (options above)

**Bold** is default. For more options, see main board detail. **Ask** about custom options.