# OC192

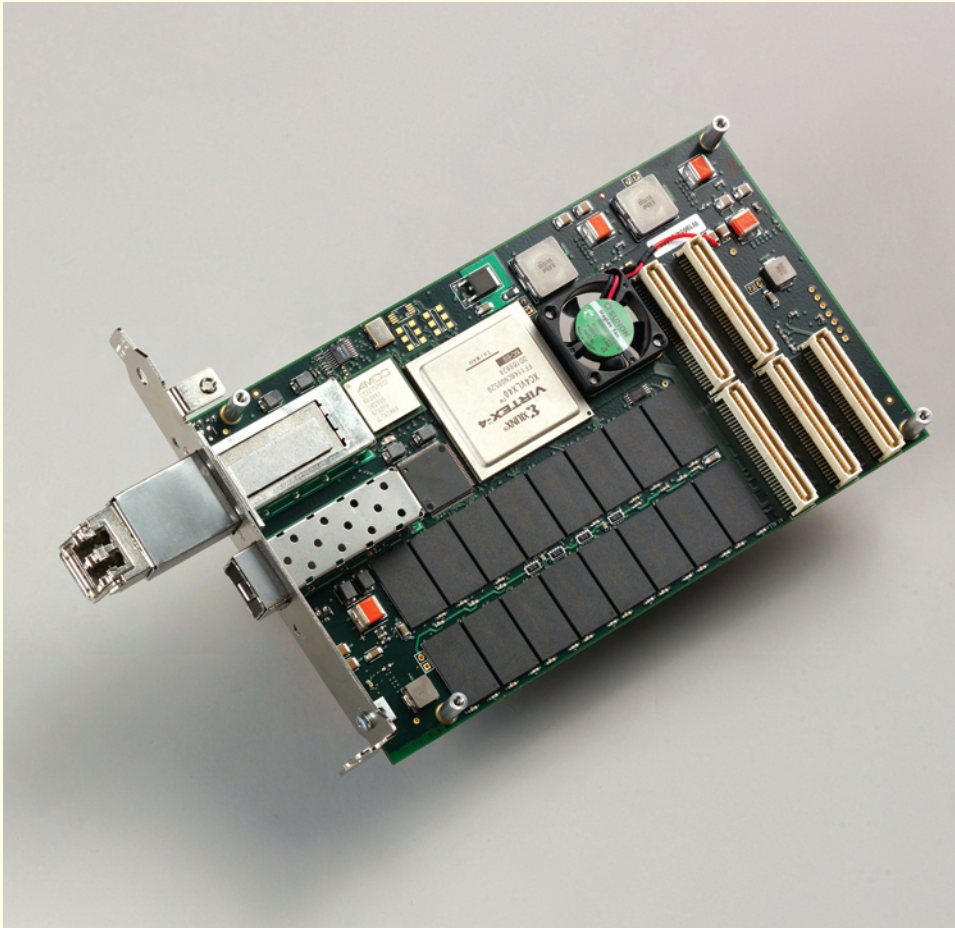**Optical carrier multi-rate interface for up to OC192/STM64/10GbE**



## Description

The OC192 is a mezzanine board that pairs with an EDT main board (for PCI or PCI Express) to support multiple standards. It has two form-factor pluggable transceivers:: one XFP to support SONET OC192, SDH STM64, or 10GbE; and one optional SFP to support SONET OC3/12/48, SDH STM1/4/16, or 1GbE.

EDT provides FPGA configuration files to support raw, framed, framed and descrambled, header, or payload data. Custom configuration files can be requested.

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

## Applications

Telecommunications network monitoring

Ethernet monitoring

SONET/SDH to ethernet conversion

## Features

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

Channel 0 (SFP): One optional SFP for 1GbE (electrical or optical) or OC3/12/48 (STM1/4/16), 155.52, 622.08, or 2488.32 Mb/s – 850, 1310, or 1550 nm

Channel 1: One XFP for 10GbE (electrical or optical) or OC192 (STM64), 9953.28 Mb/s – 850, 1310, or 1550 nm; other ITU frequencies are possible

FPGA: One programmable Xilinx Virtex 4 LX XC4VLX40

DRAM: Up to 4 GB (DDR2) for snapshot recording and data buffering

# Specifications

| | | |
|---|---|---|
| **Product Type** | OC192 is an optical carrier mezzanine board for up to OC192/STM64/10GbE; it requires a main board. | |
| **FPGA Resources** | One programmable FPGA (Xilinx Virtex 4 LX XC4VLX40), plus FPGA resources on main board | |
| **Memory** | SRAM | 0 |
| | DRAM (DDR2) | 2 or optional 4 GB; 4 GB is needed for snapshot recording at rates of OC48/STM16 or faster with PCI SS or PCI GS main board |
| **Clocks** | Channel 0 VCXO – can be set to: | 125, 155.52, 156.25, or 166.62857 MHz |
| | Channel 1 VCXO – can be set to: | 125, 155.52, 156.25, 166.62857, 161.13281, 167.33165, or 173.37075 MHz |
| **Data Rates** | Data rates are dependent on data format and main board. | |
| **Data Format (I/O)** | Channel 0 | 1GbE (electrical or optical) or SONET OC3/12/48 (SDH STM1/4/16) |
| | Channel 1 | 10GbE (electrical or optical) or SONET OC192 (SDH STM64) |
| **Transceivers** | One SFP (optional) and one XFP (included) are available, supporting the data formats and specifications shown below. | |

| **CHANNEL 0** | **Electrical: 1GbE** | **Optical: 1GbE or OC3/12/48 (STM1/4/16)** | | |
|---|---|---|---|---|
| **(SFP)** | **(1000 Base-T)** | **850 nm** | **1310 nm** | **1550 nm** |
| Output power | – | –9 to –2.5 dBm | –9.5 to –3 dBm | –2 to 3 dBm |
| Center wavelength | – | 830 to 860 nm | 1270 to 1360 nm | 1500 to 1580 nm |
| Sensitivity | – | –18 dBm | –18 dBm | –28 dBm |
| Maximum input power | – | 0 dBm | 0 dBm | –9 dBm |
| Connector | RJ45 | LC | LC | LC |

| **CHANNEL 1** | **Electrical: 10GbE** | **Optical: 10GbE or OC192 (STM64)** | | |
|---|---|---|---|---|
| **(XFP)** | **(10G Base-CX4)** | **850 nm** | **1310 nm** | **1550 nm** |
| Output power | – | –3 to –1 dBm | –6 to –1 dBm | –1 to 2 dBm |
| Center wavelength | – | 850 nm | 1290 to 1330 nm | 1550 nm |
| Sensitivity | – | –7.5 dBm | –13 dBm | –15 dBm |
| Maximum input power | – | –1 dBm | –0.5 dBm | –1 dBm |
| Connector | CX4 | LC | LC | LC |

| | | |
|---|---|---|
| **Connectors** | One RJ45, LC, or CX4 on each transceiver as shown above | |
| **Cabling** | Consult EDT for purchase options. | |
| **Physical** | Weight | 6.5 oz. typical |
| | Dimensions | 6.6 x 4.2 x 0.5 in. (with a main board) |
| **Environmental** | 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 |
| **System and Software** | 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

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## Ordering Options

- Main board: PCI GS / PCIe8 LX
- DRAM: **2** / 4 GB
- Transceivers: 1 XFP and 1 SFP (options above)

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