

3x3G

Three-channel interface for up to three Gb/s serial data (or 1GbE) per channel



Description

The 3x3G is a mezzanine board that pairs with an EDT main board (for PCI or PCI Express) for high-speed data transfer. It has three channels, each having one 3Gb Xilinx RocketIO transceiver and one SFP for either an electrical RJ45 1GbE (1000 Base-T) Ethernet adapter or an optical LC.

Four additional RocketIO transceivers connect to an internal 40-pin connector. Two quad-frequency oscillators allow eight different clock speeds.

EDT provides FPGA configuration files so you can output and acquire data using 8b/10b encoding. Custom configuration files can be requested.

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

Features

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

Channels 0, 1, 2: Three optional SFPs, each supporting either 1GbE (electrical or optical) or up to 3 Gb/s serial data – 850 or 1310 nm

Time code input: 1 pps or IRIG-B

Encoding: 8b/10b (other options may be available on request)

FPGA: One programmable Xilinx Virtex II Pro XC2VP7/30

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

Applications

High-bandwidth optical link

Ethernet monitoring

Fast serial interfaces for cameras and other devices

Specifications

Product Type	3x3G is a 3-channel mezzanine board for up to 3 Gb/s serial data or 1GbE per channel; it requires a main board.		
FPGA Resources	One programmable FPGA (Xilinx Virtex II Pro XC2VP7 or optional 30), plus FPGA on main board		
Memory	SRAM	0	
	DRAM (DDR)	0 or optional 512 MB or 2 GB; 2 GB is needed for snapshot recording at rates of 1.8 Gb/s or faster with PCI SS or PCI GS main board	
Clocks	106.25, 124, 125, or 152.25 MHz; custom frequencies are possible		
Data Rates	Data rates are dependent on data format and main board.		
Data Format (I/O)	Channels 0, 1, and 2	1GbE (electrical or optical) or serial data up to 3 Gb/s with 8b/10b encoding (other encoding options may be available upon request)	
Transceivers	Three optional SFPs are available, supporting the data formats and specifications shown below.		
	<u>CHANNELS 0, 1, 2 (SFPs)</u>	<u>Electrical: 1GbE (1000 Base-T)</u>	<u>Optical: 1GbE or serial data up to 3 Gb/s</u>
			850 nm
	Output power	–	–9 to –2.5 dBm
	Center wavelength	–	830 to 860 nm
	Sensitivity	–	–18 dBm
	Maximum input power	–	0 dBm
	Connectors	RJ45	LC
			1310 nm
			–9.5 to –3 dBm
			1270 to 1360 nm
			–18 dBm
			0 dBm
			LC
Connectors	One RJ45 or LC on each transceiver as shown above One 40-pin Q-strip socket		
Cabling	Consult EDT for purchase options.		
Physical	Weight	6.8 oz. typical (with all three SFPs)	
	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 SS / PCI GS / PCIe8 LX
- FPGA: XC2VP7 / 30
- DRAM: **0** / 512 MB / 2 GB
- Transceivers: 3 SFPs (options above)

Bold is default.
For more options, see main board datasheet.