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### Combo

**Drivers and Software** Documentation Specifications

### **EDT Combo Mezzanine Board**

## **Features**

- 16 E1/T1 line interfaces
- Four E3/T3 line interfaces
- 16 ECL differential inputs/outputs
- Large Xilinx FPGA
- Two large synchronous static memory banks (PCI SS) or one memory bank up to 1 GB (PCI GS)
- LVDS External clock that can be used to synchronize the output data
- 16 independent DMA channels to host memory
- Fast transfers using a 66 MHz 32-bit PCI

# **Applications**

- Telecommunications network monitoring
- Satellite data processing
- Telecommunications switching

# **Description**

The combo is a mezzanine board for the PCI SS, PCI GS, or PCIe8 LX main board, and provides multiple telecommunication and ECL interfaces that can be used for complex, user-defined telecommunications applications. A large Xilinx Virtex $^{™}$ -E (PCI SS) or Virtex $^{™}$ -II Pro (PCI GS) FPGA and associated memory allows the user to process large amount of telecommunications serial or ECL data. The high-speed 16-channel DMA controller allows flexible access to host memory.

# **Specifications**

# PCI Local Bus Compliance (when mounted on PCI SS/GS Main board)

PCI Version PCI 2.2 Data Width 32 bits Number of slots 1

Transfer Size Up to 256 bytes per transfer

DVMA (direct virtual memory access)

PCI local bus memory Approximately 1 KB

space

Clock Rate 33 MHz or 66 MHz

External Connectors High-density 68-pin AMP™ connector (part number

High-density 15-pin AMP™ receptacle (part number

PCI SS: XCV1000E or optional XCV600E, XCV2000E User Interface Xilinx

PCI GS: XC2VP50 or optional XC2VP70

User definable LED

Debug connector, 20-pin .100" x .100" square pins,

**PCI SS:** Two 256K x 36-bit word synchronous static **Local Memory** 

RAM or optional no RAM, 512K x 36-bit word RAM, or

1M x 36-bit word RAM

PCI GS: 1M x 36-bit word synchronous static RAM or optional 2M x 36-bit word RAM (with XC2VP70)

PCI GS: 200-pin SODIMM socket for optional DDR **Dvnamic Memory** 

memory module. Up to 1 gigabyte.

16 differential ECL signals; input or output

in groups of four

Standard ECL signal levels, terminated

through 50 ohms to -2V

E3/T3 Transformer coupled

Four independent E3/T3 interfaces

Jumpers select input/output or both on eight differential connector pins

75-ohm coaxial cable over 1100 feet at speeds up to 51.84 MB per second

Compliant with ANSI T1.102-1993. Telcordia GR-499-CORE and G.823 for jitter tolerance

B3ZS or HDB3 encoder/decoder

E1/T1 16 independent input/output E1/T1

interfaces<

Jumpers select input/output or both on 16 differential connector pins

1.544 MB per second (T1), 2.048 MB per second (E1)

Waveforms meet G.703 and T1.102

specifications

Exceeds transmit return loss specification

ETSI ETS-300166 Jitter attenuation

Transmit return loss exceeds ETSI ETS

300166

HDB3 or B8Zs encoder/decoder Analog/Digital and remote loopback

**Physical** 

**ECL** 

Number of Slots

4.2" x 6.6" Dimensions

**Environmental** 

Temperature Operating: 0° to 44° C

Non-operating: -40° to 70° C

Heat Output: TBD

Operating: 1% to 90% non-condensing at 40° C  $\,$ Humidity

Non-operating: 95% non-condensing at 45° C

Power 2 amps at 5V

## **Software**

Device Drivers for Sun Solaris (Intel and SPARC platform), Windows, and Linux are included with purchase of the board. Drivers for VxWorks and MacOS are available on request.

## Support

EDT provides several levels of customer support, from phone consultation to custom design of hardware, firmware, or software, at hourly rates. Technical support is also provided though the Support section of this web site.

# Third-party support

Technisys, Inc. provides a family of interface panels designed to provide an easy and economical method of interfacing to the EDT Combo and other EDT products. See their web site, www.tsys-



inc.com

# **Ordering**

Ordering options are listed below. To order, contact our sales department or your distributor. Be sure to specify which cable will be needed (if any).

PCI SS Combo

PCI SS Main board Xilinx option: XCV600E or XCV2000E PCI SS Main board static memory option: no RAM, 512K x 36-bit word RAM, or 1M x 36-bit word RAM

PCI GS Combo

PCI GS Main board Xilinx option: XC2VP70 PCI GS Main board static memory options:  $1M \times 36$ -bit word RAM (XC2VP50) or  $2M \times 36$ -bit word RAM (XC2V70) PCI GS Main board dynamic memory option: 1 gigabyte DDR RAM

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