16 Channel Transmit Controller Board

PRODUCT DESCRIPTION

16 Channel Transmit Controller Board is an air-cooled 3U cPCI board. The Transmit Control Board receives data over Ethernet port and sends out the analog differential signals to the backplane connector interface.

The board is used in Naval application for multiple sonar systems.

KEY FEATURES

- Digital to Analog Conversion + Signal Conditioning filters
- Channel synchronisation across all 16 DAC channels with < 30ns accuracy
- Channel synchronisation across multiple cards with < 50ns accuracy
- Sampling rate supported up to 1 Msp’s
- Dynamic master support for run-time failure recovery
  - One of the slave card becomes master upon failure of master card
  - Ability to work in partially degraded condition
- Remote field upgrade support via Ethernet
- Onboard temperature monitoring

SPECIFICATIONS

FPGAs / Processor

- Xilinx Virtex-5 FX70T FPGA with high-performance PowerPC 440 Embedded Processor

Interfaces

- One Ethernet interface provided for management
- Two Gigabit Ethernet connectors accessible from fascia plate
- RS232, JTAG and LEDs accessible from fascia plate
- RS422 & RS232 signal terminated on backplane
- Four MLVDS transceivers
- cPCI back plane interface

Software / IP

- Linux Operating system on Virtex-5 FPGA

Additional Information

- Onboard temperature sensors to monitor board and FPGA temperatures
MECHANICAL

- Available as air-cooled board in 3U cPCI form factor

POWER CONSUMPTION

- The unit consumes 13.8W
- Input voltage is 3.3V and 5V from cPCI backplane

ENVIRONMENTAL

- Qualification: Thermal cycling and Random Vibration
- Temperature range: -10°C and +50°C (Operational)

PART NUMBER(S)

The following variants of this board are available:

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<tr>
<th>Part Numbers</th>
<th>Variants</th>
<th>Features</th>
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<tr>
<td>CH1021</td>
<td>16 channel Transmit Control board, detailed in the above datasheet</td>
<td>16 input channels, Air cooled board in 3U cPCI form factor</td>
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<tr>
<td>CH1020</td>
<td>32 Channel Transmision Control board, conduction cooled</td>
<td>32 input channels, Conduction cooled board in 6U VME form factor</td>
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<td>CH1022</td>
<td>32 Channel Transmision Control board, air cooled</td>
<td>32 input channels, Air cooled board in 6U VME form factor</td>
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