

## IEEE-1588 Time and Ethernet Overhead Module



### Applications

- Flight test instrumentation
- Avionics data acquisition
- Air vehicle test, certification or development
- Ethernet-based, network distributed systems

### Features

- IEEE-1588 time and Ethernet overhead module
- Includes a 10/100BASE-T Ethernet port for:
  - Data acquisition setup
  - Configuration and transport
  - SNMP status and control
- FPGA capabilities:
  - Performs 1588 time synchronization
  - Supports the logic necessary to interface to acquisition modules connected to the backplane bus
  - Converts PCM analog acquisition data into IP packets that are sent to the NPD Ethernet network for recording and distribution
- Operates as a standalone unit and interfaces to a networked instrumentation system
- Supports frame synchronization to the IEEE-1588 1PPS signal for simultaneous sample coherency across multiple network units
- Major frame size of up to 8K words for the MACQ-500-2 and up to 128K words for the MACQ-500(E)-2
- Provides PCM and Clock output of up to 20 Mbps simultaneous with Network data output
- Compatible with MCDAU and MEDAU remote I/O signal conditioning modules
- Fully supported by TTCWare configuration and setup software

### Description

The MACQ-500(E)-2 is a high-speed overhead module used in TTC's MnACQ-2000-1 networked data acquisition and encoding unit. The module enables the MnACQ-2000-1 to operate as a wideband, stand-alone data acquisition unit with maximum bit rates up to 20 Mbps.

The MACQ-500(E)-2 is an IEEE-1588 time and Ethernet interface and remote bus (R-Bus) overhead module that includes a Field Programmable Gate Array (FPGA) that performs 1588 time synchronization. Its 10/100BASE-T Ethernet port is used for data acquisition setup, configuration and transport and supports SNMP for status and control. The MACQ-500(E)-2 synchronizes to the network clock for data time-tagging and can synchronize its acquisition frame to the IEEE-1588 time for simultaneous ample coherency across in a distributed system.

Revision 06/03/2010

### MACQ-500(E)-2 Datasheet

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