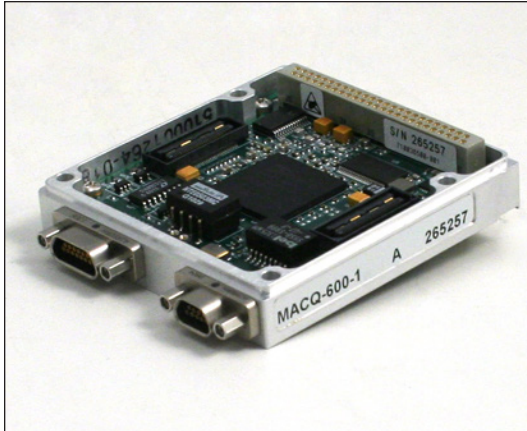## IEEE-1588 Time and Ethernet Overhead Module

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
- Supports IEEE-1588 2002 and 2008
- Includes a 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
- Up to 32,768 unique instructions
- Major frame size of up to 128K words
- 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
- Converts IEEE-1588 into IRIG-106 time using BCD or binary formatting
- Can be configured to drive the IRIG time bus to I/O modules
- Can be configured to receive the IRIG time bus
- Can sample IRIG time into its data format from IEEE-1588 or from a time module

Description

The MACQ-600-1 is a high-speed overhead module for use in the MnACQ-2000-1 stacks. The module enables the stack to operate as a wideband stand-alone data acquisition unit at up to 20 Mbps. The MACQ-600-1 IEEE-1588 time and Ethernet interface and Remote bus (R-bus) module includes a Field Programmable Gate Array (FPGA) that performs 1588 time synchronization and implements the analog overhead. It converts PCM analog acquisition data into IP packets that are sent to the Ethernet network for recording and distribution. Its 100BASE-T Ethernet port is used for data acquisition setup, configuration and transport and for stack SNMP status and control. The MACQ-600-1 data resolution is 16 bits per word and information about the module is stored in onboard non-volatile memory. Configurable parameters (using XML files or TTCWare) include IEEE-1588 PTP information and data formatting and transmission specifics.

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Management System AS9100C ISO 9001:2008