

## Miniature IRIG Time Code Reader and Generator Module with Real Time Clock and Multiple Battery Backup Options



### Description

The MIRG-221B module provides IRIG-B time code capability for the MEDAU/MCDAU/MWDAU-2000 miniature data acquisition unit. It can be placed in either a master or remote unit operating at up to 20 Mbps and will provide time code capability for the modules within that stack, allowing per-word or per-message time tagging capability for I/O modules in the stack that acquire bus data (e.g. 1553, ARINC-429, RS-232, etc.). All encoded time words furnished by the MIRG-221B module comply with IRIG-106-96, Chapter 4 requirements for “high time”, “low time” and “micro time” formats. The MIRG-221B receives external IRIG-B, AC (modulated) or DC (RS-422 differential TTL) time signals via dedicated input pins on its interface connector. Either of these inputs may be designated as the module’s selected time source which is then used to generate time tagging signals for output in the PCM data stream. Also generated are separate IRIG-B AC and DC time code outputs for cascading purposes. The MIRG-221B includes an on-board Real Time Clock (RTC) with a variety of battery backup options, enabling it to provide actual time of day when the selected IRIG time source is unavailable. The RTC automatically re-synchronizes itself to the module’s selected time source once it becomes available. Additional functions include an ADC for measuring and encoding the internal system temperature and voltage rails within the host stack and an RS-232 (UART) interface for output of time and module status data in ASCII format. This interface can also be used to jam time into the unit when the selected time source is unavailable.

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### MIRG-221B Datasheet

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### Features

- IRIG time code reader/generator module
- Compatible with MEDAU/MCDAU/MWDAU-2000 systems operating at up to 20 Mbps
- Accepts IRIG-B AC or DC inputs
- Time compatible with IRIG 106-96
- Generates IRIG-B, AC and DC outputs
- Use for frame time tagging, bus word time tagging
- Generates status words for transmission in PCM
- On-board Real Time Clock (RTC)
  - Provides actual time when IRIG time source not available
  - Automatically re-syncs to IRIG time every 10 sec
- Battery backup provisions for RTC
  - 250 mA-h primary Li cell on internal daughter board
  - 1000 mA-h primary Li cell in MBBU-2001 module
  - VBATT voltage rail, supplied by external battery
- “Flywheel mode” operation (runs on internal oscillator) when selected IRIG time source is unavailable
- RS-232 (UART) interface
  - Provides output of time and status in ASCII format
  - Can be used to jam time when IRIG time is unavailable
- Windows Based Setup Software Included

### Applications

- Flight test instrumentation
- Wideband testing, structural analysis
- Physical research and experimentation



CAIS  
Compatible



Management  
System  
AS9100C  
ISO 9001:2008

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