

# MBIM-232D-2

## 2-Channel RS-232/422/485 Bus Monitor Module

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## Overview

The MBIM-232D-2 is a 2-channel RS-232 bus monitor module for use in TTC's MEDAU/MCDAU/MnACQ/MWDAU-2000 series products. The module supports serial communications per the EIA-RS-232 standard at baud rates from 50 baud up to 230.4 Kbaud on a per-channel basis (921.6 Kbaud in Kulite mode). High, low and micro timestamping are provided on a per-datapacket basis.

## Applications

- Aircraft instrumentation
- Avionics
- Lab test

## Key Features

- 2-channel RS-232/422/485 bus monitor module
- Compatible with RS-232 Honeywell PPT Transducers, Model PPT, PPT-R and PPT2
- Compatible with Rosemount Micro Air Data Transducer (Model 2014MB)
- Compatible with Paroscientific Pressure Transducers (Series 1000, 6000, and 9000)
- Compatible with Kulite pressure scanner model KMPS-1-32/64
- Programmable RS-232 characteristics:
  - + RS-232, RS-422 or RS-485 operation
  - + Baud rates from 50 to 230,400 Baud (921,600 in Kulite mode)
  - + 5, 6, 7, or 8 data bits
  - + 1, 1.5, or 2 stop bits
  - + Odd, even, or no parity
- Timestamp per channel with high, low and micro time
- As a bus monitor:
  - + Supports EIA-RS-232 standard
- Multiple operating modes:
  - + Available on a per-channel basis
  - + FIFO, current value table or double buffer mode
- One (1) external sync. pulse provided for per channel
- Multiple modules in a single chassis
- Programmable data organization to pack two bytes into one PCM word and select which byte is the most significant byte
- Data packetization modes:
  - + Gap intervals in increments of 10ms or 249us w/ message length qualification
  - + Sync patterns of 3 to 6 bytes in length w/message length qualification
  - + Alternating sync patterns of 2 or 3 bytes per pattern
  - + PCM format controlled and sync pulse output for external system synchronization
- Microsoft Windows application software included

INFO: CURTISSWRIGHTDS.COM  
EMAIL: DS@CURTISSWRIGHT.COM

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## Specifications

### General

- Supply current: +5V @ 200mA max., +15V @ 1mA, -15V @ 1mA
- Temperature:
  - + Operating Temperature: -31°F to +185°F (-35°C to +85°C) (box ambient temp)
  - + Storage Temperature: -67°F to +212°F (-55°C to +100°C)

### Dimensions and Mechanical

- Compatibility: Operates in any MEDAU/MCDAU/MnACQ/MWDAU-20XX unit
- Dimensions (WxLxH): 2.49x 2.63x 0.40" (63.25 x 66.80 x 10.16mm)
- Weight: 1.6 oz (44.9 grams)
- Unit connectors: MDM25S
- Mating connectors: MM212-025-161-45WD (Airborn) or MDM25PH006LA174
- Backshells (optional): MM-232-025-000-4100 (Airborn)

### Operating Modes (Per Channel)

- Modes: FIFO, current value table, double buffer, Honeywell PPT, Rosemount, Paroscientific, or Kulite
- Packetized: Serial data can be packetized based on sync word occurrence (3 to 6 words), detection of idle time (programmable), or based on PCM instructions and output sync pulse.
- Non-packetized: A channel operating with non packetized data must operate in the FIFO mode only.
- Data buffer size: FIFO: 2K word per channel
- CVT: 2K word per channel
- Double buffer: 2K word per buffer

### Programmable Features (Per Channel)

- Data bits: 5, 6, 7, or 8
- Stop bits: 1, 1-1/2, or 2
- Parity: Odd, even, or none
- Baud rate: Any Baud rate from 50 baud to 230.4 Kbaud (921.6 Kbaud in Kulite mode)
- Signal level: Signal level: RS-232, RS-422 or RS-485

### Standard Position PCM Data Format

- Format: Data is sampled and formatted for insertion into the MEDAU/MCDAU/MnACQ/MWDAU PCM stream based on each channel's operating mode
- Word length: Compatible with PCM word lengths from 8 to 16 BPW
- FIFO mode: Channel selection (1 of 2) and FIFO sample
- CVT mode: Channel selection (1 of 2) and data/time word select
- Double buffer mode: Channel selection (1 of 2) and data/time word select
- Word flags: Available to indicate stale, overflow, error, and first word of a data packet

### Sync Output (Per Channel)

- Level: RS-422 differential
- Duration: High, 1.5 microseconds +/- 100 nanoseconds

### Timestamping (Per Channel)

- Availability: Timestamping is available for the CVT or double buffer modes.
- Format: Supports high, low and micro timestamps per data packet
- Time coding: Supports binary and BCD weighted time words
- Data flags (mode dependent): Each data word includes stale, overflow, and error flag.

## Ordering Information

Contact [Curtiss-Wright](https://www.curtisswright.com) for ordering information.