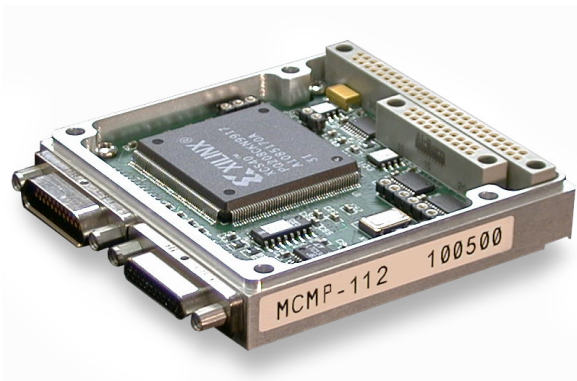


MCMP-112

Chapter 8 Compatible MIL-STD-1553 Composite Output Module

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Key Features

- Composite PCM Output Module
- Acquires 1553 Data from up to Eight MBIM-553-8 Modules
- Provides 1 Composite Output Stream
 - + Selected Messages, or
 - + All Data from Selected Buses
- 16-bit Discrete Word per Module
- Voice Input Channel
 - + Uses CVSD Voice Encoding
- Meets IRIG-106-96, Chapter 8 Requirements
- Future Expansion Capability via Optional Plug-in Modules
 - + PCM and ARINC-429 Data Merged to the Chapter 8 Output Stream
- Multiple Modules in a Single Stack
- Windows 95/98/NT/2000 Software Included

Applications

- 1553 Instrumentation
- Avionics Bus Acquisition
- Lab Test

Overview

The MCMP-112 is a MIL-STD-1553 Composite Data Output Module for use in Curtiss-Wright's MEDAU-2000 and MCDAU-2000 products. The module creates a high speed, 100% composite data output stream in accordance with IRIG-106-96, Chapter 8 requirements. The composite data output stream contains all or selected subsets of acquired avionics (1553) data (captured with MBIM-553-8 modules within the same stack), along with other data sources such as time, voice and discretes.

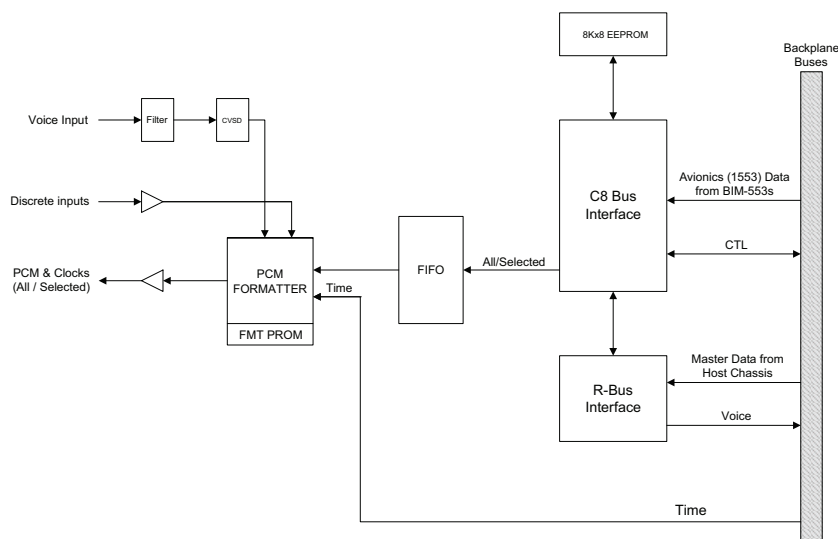


Figure 1: MCMP-112 block diagram

Specifications

Description

The MCMP-112 Composite Data Module is a member of the MEDAU/MCDAU product family. The module is used to create a high speed data composite output stream containing all or selected subsets of acquired avionics (1553) data. Other data sources can be merged with the avionics data such as time, voice and discretes. Refer to the “MCMP-112 Block Diagram” for the following discussion.

The main functional areas of the module include the Backplane Bus Interfaces, the Composite output formatter, the Voice Input Conditioner, and the Discrete Input Conditioner.

Backplane Bus Interfaces

The MCMP-112 module is compatible with Curtiss-Wright’s MEDAU-2000 and MCDAU-2000 product families. The module can be placed in units configured to operate either as “master units” or “remote units” and can furnish a composite output stream in either configuration.

The MCMP-112 retrieves avionics data from the host stack’s “C8” backplane bus. All 1553 and time tag data acquired with the installed MBIM-553-8 modules appears on the C8 bus. All data is then available for selection and placement on the composite output.

Composite Data Formatter

Avionics data available over the internal “C8” bus can be transmitted on the Composite output stream. The user can program the unit for “all” data or “selected” 1553 message data to appear in the output. The user can also individually disable the data from any avionics bus channel (each MBIM-553-8 module provides one channel).

Avionics data is FIFO-buffered to preserve channel order and maintain data coherency.

The following user-programmable features are available in the Composite output:

- Message Selection
- Bit Rate (96 selections up to 12 Mbps)
- PCM Output Coding (NRZ-L or RNRZ-L)
- All Data or Selected Data
- CVSD Voice Sampling Rate
- Merge/No Merge selection for
 - + Bus Data
 - + Voice Data
 - + Discrete Words

Voice Data

The MCMP-112 module accepts a user voice channel, conditions the input, and encodes the voice using the CVSD algorithm. The encoded results are available for transmission in the Composite output.

Discrete Data

The MCMP-112 module accepts a 16-bit discrete word channel, conditions the inputs, and encodes the data as a single data word. The encoded results are available for transmission in the Composite output.

Specifications

General

- Supply Current: +5V @ 100 mA, +/-15V@30 mA, supplied by host stack
- Power Consumption: 1.5 Watts max. from the 28V supply
- 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-2000 Series equipment. Multiple modules can be used within the same stack.
- Dimensions (WxLxH): 2.49x 2.63x 0.40" (63.25 x 66.80 x 10.16mm)
- Weight: 2 oz (57 grams)
- Connectors: MDM37S
- Mating Connectors: MDM37P-H006LA174 or Airborn™ MM212-037-161-45WD
- Backshells (optional): Airborn™ EMI/RFI MM-232-037-000-4100

Overall Capability

- Inputs: Handles data from up to 8 MIL-STD-1553 Buses. Acquires 1 analog voice channel and one 16-bit discrete word.
- Outputs: Module supports one format into the Composite Output (All/Selected Data) at rates up to 12 Mbps.

General I/O Functions

- 1553 Inputs: Accepts data from up to 8 MIL-STD-1553 Buses. Data is acquired with MBIM-553-8 modules installed in the host MEDAU/MCDAU stack.
- Voice Inputs: Accepts and conditions 1 analog voice input
- Voice Encoding: Performs CVSD encoding prior to merging to the Composite output
- Discrete Inputs: Accepts a 16-bit discrete word for merging into the composite output
- Time Tag: Frame time tag words are available in the composite output. High Time and Low Time (straight binary or BCD) and Micro Time (straight binary) are supported. Requires the use of the MIRG-101B module within the same stack.
- Buffering: FIFO buffering is provided on the composite output.
- Compatibility: Compatible with IRIG-106-96, Chapter 8
- Format: User programmable including message selection, bit rate, PCM output coding, clock source selection, "all" or "selected" data, CVSD sampling rate, and Merge/No Merge for discrete words, 1553 bus data, and voice
- 1553 Data: Contains "all" acquired 1553 messages or "selected" messages on a message by message basis (on-board EEPROM)
- Ancillary Data: Contains analog voice channel (CVSD encoded), 16-bit discrete word, and frame time tag word(s)
- Output Bit Rate: Programmable up to 12 Mbps

Ordering Information

Contact [Curtiss-Wright](#) for ordering information.

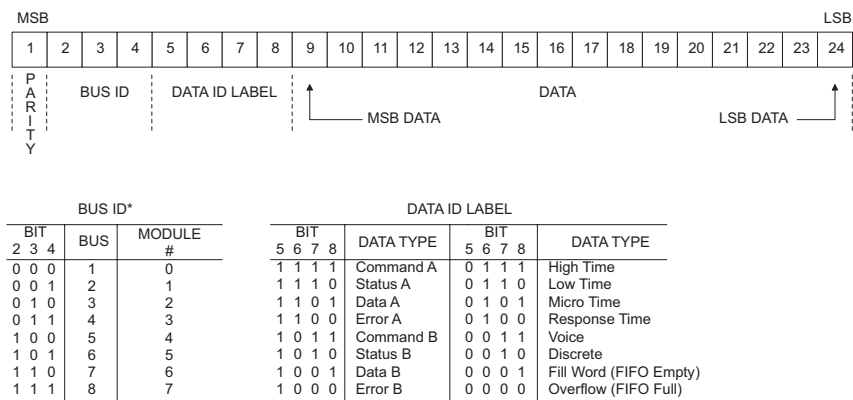


Figure 1: Chapter 8 word construction