

PMC MIL-STD-1553A/B Bus Monitor

MMZ538



The PCI Mezzanine Card (PMC) MIL-STD-1553A/B Bus Monitor provides SBA-like bus monitoring functions.* The 1553 Bus Monitor connects directly to the 1553 bus and provides complete bus monitoring, data capture, and error detection capabilities. Additionally, it provides data for the system's bus activity display and MUXbus II stack output functions for bus protocol analysis during avionics development and integration phases. The Bus Monitor allows all 1553 bus traffic to be archived for post-analysis or to be real-time processed by FPP algorithms to decode 1553 data and to display parameters in real time or for post-analysis.

KEY FEATURES

- Complies with MIL-STD-1553A/B standards for bus monitoring
- Incorporates SBA-like monitoring, error detection, and reporting features using a single PMC slot
- Displays 1553 bus traffic in real time
- Parameterizes 1553 words to uniquely identify Command Status Response and Data Words
- Provides MUXbus II output for optimized real-time tape/disk archiving
- Allows all 1553 bus traffic to be archived and used in real time and during post-analysis

** One of the first MIL-STD-1553 bus analyzers, our SBA 100 is considered the de facto standard for providing simultaneous Bus Controller simulation, Remote Terminal simulation, and bus monitoring capabilities.*



Excellence You Can Measure

PMC MIL-STD-1553A/B Bus Monitor

MMZ538 SPECIFICATIONS

Inputs

MIL-STD-1553A/B BusRaw MIL-STD-1553A/B bus traffic
InputsPrimary Bus and Secondary Bus
Bus Connector TypeTriax
Interface CouplingTransformer, direct, or isolated

Outputs

MUXbus IIParameter tag and data (16-bit tag
and 32-bit data with zero or status in
the upper 16 bits)

Functions

Monitoring:

- Redundant bus
- 100% bus loading
- Parameterizes gap time, response time, errors, data, command, and status

Stack:

- Stack size of 256K words
- Collect gap and response time, errors, data, command, and status

Bus Activity Monitor Page:

- Tracks 64K unique command words
- Scrolls through display via scroll bar or one line at a time
- Provides 32-bit error counter for all errors in each message
- Provides 32-bit counters for normal and RT-RT commands
- Percent of error for each command

Performs the Following Statistics for All Commands:

- Number of normal commands
- Number of normal RT-RT commands
- Number of errors for all commands
- Percent of errors for all commands

Error Detection Types:

- Manchester encode high error
- Manchester encode low error
- Non-contiguous data (via mid-bit or word) gap error
- High bit count
- Low bit count
- Parity error
- Sync pattern error
- High word count
- Invalid command error
- Low word count
- Inverted sync
- Status response error
- Early response
- No response error
- Two bus error
- Dead bus gap between data words

Supports:

- Mode codes
- Broadcast commands
- Superseding commands

Parameterization Variables

Data Words:

- Command Word, Primary or Secondary Bus, Bus Number, Word Position

Command and Status Response Words:

- Command, Primary or Secondary Bus, Bus Number

Response Time and Error Words:

- RT Address, Primary or Secondary Bus, Bus Number

Gap Time:

- Bus Number

Bus Merging Stack

- Allows efficient spooling and recording of all messages
- Uses a single parameter per bus; each MUXbus II word contains a 1553 word plus errors and word type
- Merges traffic from up to 32 1553 buses for bus correlation and display of 1553A/B bus traffic

Program Setup and Control

Keyboard and MouseFill-in-the-blank OSF/Motif™ displays
with list-pick selections

ASCII Text FileUser-created description

APIApplication Programming Interface for
remote setup (optional)

General Requirements

System Chassis1 PMC slot

Rear Panel1 slot: primary & secondary bus (2
triax)

Maximum per Chassis/System ..32 per chassis, 32 per system

Power5V @ 1 A

EnvironmentSee ZCM596 Mezzanine Carrier and
System 550 chassis data sheets

Dimensions75mm x 150mm (PMC std.)

Status Display12 LEDs

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