

## PMC MIL-STD-1553A/B Bus Monitor

### MMZ540



The PMC MIL-STD-1553A/B Bus Monitor (MMZ540) provides powerful SBA-like bus monitoring functions in a flexible, space-saving PCI Mezzanine Card (PMC) form factor.\* The 1553 Bus Monitor connects 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 MMZ540 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
- 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

\* MMZ540 replaces MMZ538

*Excellence You Can Measure*



## PMC MIL-STD-1553A/B Bus Monitor

### MMZ540 SPECIFICATIONS

#### Inputs

MIL-STD-1553A/B Bus . . .Raw MIL-STD-1553A/B bus traffic  
Inputs . . . . .Primary Bus and Secondary Bus  
Bus Connector Type . . . . .Triax  
Interface Coupling . . . . .Transformer or isolated

#### Outputs

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

#### Monitor Functions

Monitoring:  
· Redundant bus  
· 100% bus loading  
· Parameterizes gap time, response time, errors, data, command, and status

Stack:  
· Stack size of 256K words  
· Collect intermessage gap and response times, errors, data, commands, and status  
· Provides a triggered snapshot of all traffic in chronological order allowing analysis of data in context with other messages

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  
· High bit count  
· Low bit count  
· Parity error  
· Sync pattern error  
· Inverted sync  
· Early response  
· No response error  
· Two bus error

Supports:  
· Mode codes  
· Broadcast commands

#### Parameterization Variables

Data Words:  
· Command Word of associated message, 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

#### MUXbus II 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 Mouse . . . . .Fill-in-the-blank displays with list-pick selections  
API . . . . .Application Programming Interface for remote setup (optional)

#### General Requirements

System Chassis . . . . .1 PMC slot  
Rear Panel . . . . .1 slot: primary and secondary bus (2 triax)  
Maximum per Chassis/System . . . . .32 per chassis, 32 per system  
Power . . . . .+5V @ 0.2A, +3.3V @ 1.5A  
Power Dissipation . . . . .2.6W (typical)  
Operating Temperature . . . . .0° to 50° C  
Dimensions . . . . .75mm x 150mm (PMC standard)  
Status Display . . . . .10 LEDs

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