MBX1553

MIL-STD-1553 Multiplex Bus Switch

Our MBX1553 Multiplex Bus Switch leads the industry with impressive MIL-STD-1553 system configuration capabilities. The non-blocking design of the MBX1553 allows any line replacement unit (LRU) to be connected to any bus without moving a wire. The MBX1553 is capable of operating in MIL-STD-1553A, MIL-STD-1553B, or mixed device bus simulations. Count on the MBX1553 to support reconfiguration in any MIL-STD-1553 test lab.

Features

- Up to 16 transformer-coupled LRU ports
- Up to 16 MIL-STD-1553 bus connections
- Control and Status via EIA-232 port
- Front-panel LCD indicates switch status
- Configuration stored in non-volatile memory - previous configuration is restored at power-up with no user-intervention required
- Supports both MIL-STD-1553A and MIL-STD-1553B
- Multiple switches can be connected to provide additional LRU inputs or bus outputs
- Passive Switching Matrix - does not impact latency

The MBX1553 Multiplex Bus Switch is designed to enhance virtually any MIL-STD-1553 system by providing a "virtual patch panel" housed in a 19" rack-mountable 1U chassis. This 16x16 crosspoint switch provides differential connections from 16 transformer-coupled LRU ports to 16 MIL-STD-1553 differential buses. The LRU units can be any MIL-STD1553 device: bus controller (BC), remote terminal (RT), or bus monitor (BM). Although the switch supports 16 non-redundant LRUs, it can also be used with dual (or more) redundant devices. The MBX1553 eliminates time consuming bus rewiring between different avionics simulations or test scenarios.

Benefits

Automate Tests, Reduce Errors

Connect via EIA-232 and remotely change LRU-to-Bus connections. Write scripts in PERL, TCL, or other scripting languages using the simple, but powerful CLI. Running the same scripts reduces human errors in wiring and configuration.

Share Expensive Resources, Save Money

Move limited BC, RT, BM, analyzers, recorders, or other devices from bus to bus.

Wire Once, Save Time

Connect all LRU devices and busses under test once. Then make connection changes with the switch. Eliminates time consuming bus rewiring when changing avionics simulations or test scenarios.

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The MBX1553 switch provides 16 LRU ports via standard concentric twinax connectors on the front of the unit. The 16 bus port connections, which utilize the same type of connectors, are available on the rear of the unit. Multiple switches may also be connected together if more LRU inputs or bus connections are desired.

The MBX1553 switch configuration is controlled via an internal processor and associated EIA-232 serial port. LRU ports may be selectively connected to (or disconnected from) a specified bus. The internal controller ensures that each LRU is not simultaneously connected to more than one bus. The serial port also provides switch status when commanded, allowing a user to remotely view the current switch configuration.

The switch also provides a front panel display which indicates the current switch state, which is useful if the operator control device is not located in close proximity to the unit.

The MBX switch command set is thoroughly documented in the user's guide, allowing the user to provide control through a dumb terminal or to write separate communication software. An optional Windows NT® based configuration utility is available that enables the user to control the MBX1553 switch from a desktop PC, without user knowledge of the switch's command set.

Figure 1: Application Example

Multiple MBX switches can be used in existing bus configurations such as classrooms, labs, or production test facilities, where LRUs are located no more than 20 ft. from the MBX switch.

MIL-STD-1553 BUS Max Length = 300 feet (100m)
(70Ω termination at both ends of each bus cable)