

EXC-1553UNET/Px

The EXC-1553UNET/Px is an intelligent, single- or dual-channel, multifunction MIL-STD-1553 interface device. Its small size and ability to interface through USB or Ethernet interfaces make it a complete solution for developing, testing and performing system simulation of the MIL-STD-1553 bus, both in the lab and in the field. In addition, this device provides 8 I/O Discrete signals and an IRIG B input. The EXC-1553UNET/PxS is the single function version of the device with a single RT and no error injection.

The EXC-1553UNET/Px shares its API with the entire Px family so that applications currently running on our PCIe, PCI, ExpressCard, or PCMCIA cards, will run without change on this device.

Multiple units can operate via USB ports on the same computer. In addition, multiple units can operate on the same network, by programming each one with a unique IP address, and can be accessed from any computer on the network.

General Features

- ◆ Host interface: user selectable USB 2.0 or Ethernet 100 Mbps
- ◆ Up to two independent MIL-STD-1553A/B channels
- ◆ Transformer or Direct Bus coupling
- ◆ Real-time operation
- ◆ 32-bit Time Tag
- ◆ Programmable Time Tag resolution (RT and Bus Monitor modes)
- ◆ Programmable interrupts
- ◆ 8 Discrete I/O signals
- ◆ External Time Tag clock input
- ◆ IRIG B input (standard IRIG B120 serial time code)
- ◆ Power source: computer USB ports, USB power supply, battery (optional)
- ◆ Smart power management for power saving and battery charging

Channel Specifications

- ◆ Multifunction (Px) operating modes:
 - RT mode – up to 32 remote terminals
 - BC/Concurrent-RT mode – bus controller and up to 32 remote terminals
 - Bus Monitor mode – triggerable bus monitor
- ◆ Single function (PxS) operating modes:
 - RT mode – single remote terminal
 - BC mode – bus controller
 - Bus Monitor mode – triggerable bus monitor
- ◆ Single function (PxS) can be ordered with the RT number locked (contact our sales department)
- ◆ Internal Concurrent Monitor in RT, BC and BC/RT modes
- ◆ 64K x 8 dual-port RAM
- ◆ Independent MIL-STD-1553 dual-redundant channels
- ◆ Both 1553A and 1553B protocol capability
- ◆ Multiple-RT simulation (up to 32 RTs)
- ◆ Multibuffering of data (RT mode)
- ◆ Major/Minor frames (BC mode)
- ◆ Asynchronous frames (BC mode)
- ◆ Automatic retry (BC mode)
- ◆ Programmable broadcast mode
- ◆ Service Request Processing (SRP)
- ◆ Loopback mode (Bus A to Bus B) enables complete built-in test plus cable testing
- ◆ Error injection capabilities (multifunction only):
 - Word count
 - Bit count
 - Incorrect sync
 - Incorrect RT address
 - Incorrect parity
 - Non-contiguous data
 - Manchester
- ◆ MIL-STD-1760 Option:
 - Checksum error detection
 - Checksum error injection
 - Header words

Physical Characteristics

- ◆ Dimensions (without battery): 98.5mm x 76mm x 18mm (not including connectors)
- ◆ Weight (two channels, basic configuration): 180g (not including battery)

Operating Environment

- ◆ Operating Temperature: -40° to + 75°C
- ◆ Humidity: 5% - 90% noncondensing
- ◆ MTBF:
 - P1: 231,400 hours at 25°C, G_F, S217F
 - P2: 209,440 hours at 25°C, G_F, S217F

Host Interface

- ◆ USB 2.0 or 100 Mbps Ethernet
- ◆ Power:
 - P1: 5V @ 650 mA (max.)
 - P2: 5V @ 850 mA (max.)

Software Support

- ◆ C drivers for Windows
- ◆ MerlinPlus software for Windows
- ◆ *Exalt Plus*: Excalibur Analysis Laboratory Tools for Windows Version 8.1 or later (optional)

Ordering Information

- ◆ **EXC-1553UNET/P1-M or -C**
One multifunction MIL-STD-1553 channel
- ◆ **EXC-1553UNET/P1S-M or -C**
One single function MIL-STD-1553 channel
- ◆ **EXC-1553UNET/P2-M or -C**
Two multifunction MIL-STD-1553 channels
- ◆ **EXC-1553UNET/P2S-M or -C**
Two single function MIL-STD-1553 channels

Note: “-M” specifies Trompeter BJ157 connectors (or equivalent) mounted on the front panel
 “-C” specifies a hard-wired 1553 cable with Trompeter CJ70 connectors (or equivalent)

- ◆ Additional Options:
 - 1760 1760 protocol support
 - D 1553 Direct Bus coupling
 - P Mounting plate
 - B Internal rechargeable battery

These specifications are subject to change without notification



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