

SystemTrace[®]

MIL-STD-1553 Monitor Scalable Synchronized Instrumentation

Applications

- Software Test & Evaluation
- System Integration
- Performance Monitoring
- Operational Test (Land, Sea, Air)
- Mission Monitoring
- Diagnostics & Prognostics



SystemTrace 1553 Probe Card (STX-1553)
and Chassis (STX-BU)

1553 Probe

The STX 1553 Probe, powered by ITCN's Real-Time Trace™ technology, is designed for use in the SystemTrace® STX platform for network-centric instrumentation. The 1553 Probe is capable of monitoring and recording activity on up to four dual redundant MIL-STD-1553 buses. This allows the analysis of data transfers between all devices that participate in data transfers on the network. Data is monitored by symbolically specifying 1553 Terminals, Sub Addresses, Messages, Mode Codes, and Data Words; selecting the items from this list as "Events" (Filters) on the bus for the Probe to monitor and record. Conditions for Event recording may be setup by the user, such as number of Event occurrences, elapsed time, or a dependence on the occurrence of other Events. Up to 256 unique Events (Filters) may be monitored per channel for each data collection session. Activity on the Bus may be recorded at the RT, RT+SA, Message, Mode Code, or Data Word level; or any combination of these.

In addition to event capture, a parallel circular history buffer with a 100K window may be enabled allowing the module to collect a "window" of activity from the time the target is powered up until the History buffer is triggered or the Monitor is stopped. Pre- or post-trigger events may be designated to provide activity preceding and following the trigger.

Features and Benefits

- Simultaneous Real-Time Non-Intrusive (RTNI) monitoring of up to 4 fully loaded 1553 dual redundant buses per probe card (physical connection to 8 bus stubs)
- Scalable with up to two probe cards per STX module and up to 32 modules
- Windows® GUI for easy set-up and analysis of up to 32 SystemTrace modules of any type (VME or 1553)
- Long-term data acquisition and storage via SystemTrace STX module
- Self-contained, compact design using the SystemTrace STX platform
- Run-time bus statistics provide bus loading and health monitoring
- Built-in State Machine, Timer/Counter, and Data Comparators provide intelligent data collection
- Programmable and reusable data collection scenarios
- 100K Event history buffer for collecting unfiltered bus traffic around a trigger
- 128K Event snapshot buffer for collecting filtered bus traffic around a trigger
- Time-correlated data collection across up to 64 probes (32 modules)
- Up to 256 Data Element Filters for each channel
- Set-up and control via Ethernet (10/100 Base-T) TCP/IP
- Cross module triggers provide internal and external triggering of state machine and events
- Run-time data display for formatted Data Words including Bit fields
- 1.6 billion Event log disk for long term data collection of filtered bus traffic

Specifications

Platform	SystemTrace STX, PXI Form Factor
Size	3U, 4HP, PXI Form Factor
Architecture	PCI, IP
Interface	TCP/IP over Ethernet, 10/100 Base-T (via STX Chassis)
User Event Filters	256 per channel (4 channels)
State Machine	64 levels, and 1 continuous
External Event Triggers	4 bi-directional, routed via STX backplane to TSL
Timers/Counters	Two, configurable as timer or counter, used in state machine
Comparators	Full data type comparison for event qualification
Timestamp Resolution	20 n sec
Time Sync	PRT 100 μ sec
Event Trace Buffer	131,000 Records
Event History Buffer	112,000 Records
Software Compatibility	SystemTrace STX Embedded Probe Software
1553 Interface	Holt Integrated Circuits HI 1567CDI (receive only)
Data Types Supported	Bits, Unsigned Bitfields, Signed Magnitude Bitfields, Unsigned Word, User Scale & Offset
1553 Physical Interface	CJ-70 Trompeter, Triaxial, Transformer or Direct Coupled
1553 Activity Detection	All 1553 Command/Status/Data Words, Manchester Encoding Error, Parity Error, Bit Count High, Bit Count Low, Inverted Sync, Inter word Gap, Word Count High, Word Count Low, Terminal Address Error, Early Response, Status Word Exception, Alternate Bus Superseding Commands, Both Bus Transmit, Reserved Mode Code, RT No Response
Performance Statistics Provided	Per second counts of bit errors, message errors, untracked data and protocol errors. Errors are decoded to indicate problem areas. Available per RT and cumulative totals

Note: All specifications are subject to change without notice.

Ordering Information

<u>Model</u>	<u>Description</u>
STX-1553	Bus Monitor Probe: four dual redundant 1553 buses
STX-BU	SystemTrace Chassis (Base Unit)

Note: The STX-1553 probe card will not operate without a SystemTrace Chassis.

Contact ITCN's sales staff for detailed information about our test equipment and services at 800-439-4039, or visit our website at www.itcninc.com.

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