

System Trace[®]

VME Monitor

Scalable Synchronized Instrumentation

Applications

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



ST-201 VME Probe

Overview

The ST-201 VME Backplane Monitor, powered by ITCN's Real-Time Trace™ technology, is designed for use in VME 32 and 64 systems. The ST-201 is capable of monitoring and recording activity on all four VME backplane buses [Data Transfer Bus (DTB), Arbitration Bus, Interrupt Bus, and Utility Bus]. This allows the analysis of data transfers between processors or any other device that participates in data transfers and VME bus arbitration.

VME protocol interactions can be analyzed by specifying occurrences on the Arbitration, Utility, and Interrupt buses as "Events" for the module to monitor and record. Any specific occurrence, or group of occurrences, on the bus may be recorded by setting up the module to identify them as events and selecting the recording action. 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. An event may be designated as a pre- or post-triggering point for a recording. Activity on the Data Transfer Bus may be recorded as address range or variable events. Activity on the Utility, Interrupt, and Arbitration buses are recorded as special events.

In addition to event capture, a parallel circular history buffer with a 256K window may be enabled allowing the VME probe to collect all activity from the time the target is powered up until the history buffer is triggered or the monitor is stopped. After monitoring sessions are completed, the bus data collected may be uploaded and displayed by the analysis program.

Features

- Simultaneous RTNI monitoring of up to 32 VME Chassis
- Long-term data acquisition and storage
- User-friendly Windows[®] GUI for setup and analysis
- Time-correlated data collection
- Easily programmable event (capture) filters
- Filtered, triggerable event trace buffer
- Long term filtered event log disk
- Unfiltered, triggerable event history buffer
- Set-up and control via Ethernet TCP/IP
- Four cross module triggers
- Two timer/counters
- Run-time data displays
- Complex triggers and filters (64 level state machine)
- Programmable data collection scenarios
- Multiple scenarios per session
- Open data interface
- Self-contained, compact design using the SystemTrace[®] STX platform

Benefits

- Supports entire life-cycle of system, reducing instrumentation costs
- Long-term collection allows capture of infrequent events
- System-wide view of operations correlated in time aids analysis
- Remote monitoring capability
- Multiple collection scenarios lower session costs
- Collecting only “data of interest” increases length of observation time and decreases analysis time
- Real-time, Non-Intrusive (RTNI) monitoring
- Scalable architecture supports changing requirements

Specifications

Platform	SystemTrace® Backplane Probe, VME form factor
Size	6U, 4HP, VME form factor (Uses one 6U card Slot, P1/P2 connectors)
Supported Protocol	Meets ANSI/VITA 1-1994, VME64
User Event Filters	256
Filter Criteria	Address, Cycle Type, address Modifiers, Cycle Status, Bus Error, Data Comparison
State Machine	64 levels + 1 continuous
External Event Triggers	4 bi-directional, multi-drop, routed via TSL front connectors
Timers/Counters	Two, configurable as timer or counter, used in state machine
Comparators	Full data type comparison for Event qualification
Timestamp Resolution	15 n sec
Time Sync PRT	100 µ sec
Event Trace Buffer	One million records
Event History Buffer	256K records
Event Log Disk	40 or 60 GBytes standard. User adjustable limits.
GUI Software Compatibility	Windows XP, 2000
Supported Architectures	VME 32, VME 64, VITA 1-1994. Custom engineered interface adapters also available.
Data Types Supported	Bits, Unsigned Bitfields, Signed Magnitude Bitfields, Signed, Unsigned, Floating Point, Double Precision Floating Point, User Scale and Offset provided
Transfer Types Monitored	A64, A40, A32, A24, A16, D32, D16, D08 (EO), MBLT, M32, BLT
Network Interface	RJ-45, 10/100 Base-T
Performance Statistics Provided	Per second count of Bus Busy Time, Data Transfer Busy Time, Bus Grants, Reads, Writes, Interrupts Acknowledged
Power Source	VME backplane or external connector
Power Consumption	25W measured, 40W max

Note: All specifications are subject to change without notice.

Ordering Information

<u>Model</u>	<u>Description</u>
ST-201	VME Backplane Monitor

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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