VIAVI Solutions

VIAVI
MVP-200 Digital Video Probe
PathTrak Video Monitoring

The VIAVI MVP-200 combines a digital video monitoring probe with a full, laboratory-grade Moving Picture Experts Group (MPEG) analyzer for troubleshooting. Developed for video service providers who must ensure the quality of service (QoS) for digital video networks, the MVP-200 is a cost-effective, scalable solution for monitoring, problem isolation, and troubleshooting.

The MVP-200 Solution

SimulTrak™ II enables users to monitor MPEG digital video on Gigabit Ethernet circuits with a breadth, depth, and accuracy never before available. They can now monitor up to 300 programs simultaneously for TR 101-290 parameters. Newly provided timing health monitoring includes program clock reference (PCR) accuracy, jitter with nanosecond resolution, and PCR drift and frequency offset.

Key Features

- Increase visibility with simultaneous monitoring of all programs
- Maximize alarm usefulness with unique thresholds for each stream and program
- Transport stream recording for offline analysis
- Reduce costs by combining a full-time probe with a feature-rich MPEG-2 analyzer
- Multi-port design decreases per-port analysis and deployment costs
- Powerful API enables the MVP-200 to communicate results data with multiple OSS systems

Monitoring QoS

The ability to customize monitoring profiles based on program source and content is vital to ensure the usefulness of the monitoring system. For example, engineers may define unique monitoring profiles for high definition (HD) content, standard definition (SD) content, as well as international and local programming. It also enables customization of thresholds for each program and for each monitoring point in the network.
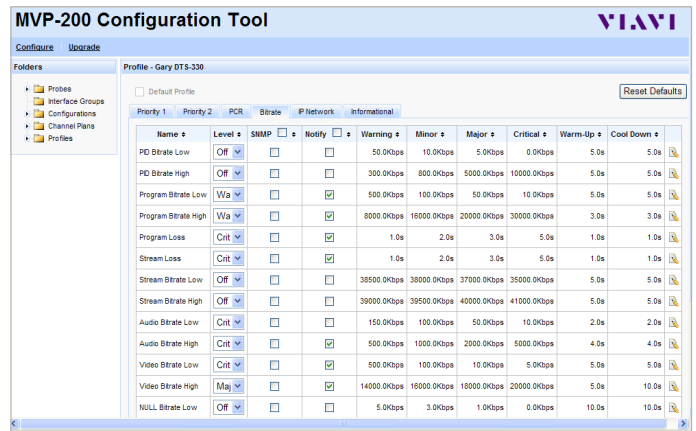
The VIAVI MVP-200 provides the following event threshold capabilities:

- Define unique monitoring profiles for over 40 measurements

- Multiple levels of threshold violation: warning, minor, major, and critical

- For each item monitored, users can define the level of violation that generates an event

The flexibility of the MVP-200 allows users to define the method used to join transport streams for monitoring. Users may choose to employ Internet Group Management Protocol (IGMP) from the MVP-200 to actively join transport streams or connect to the network using passive methods such as SPAN ports or network TAPs.
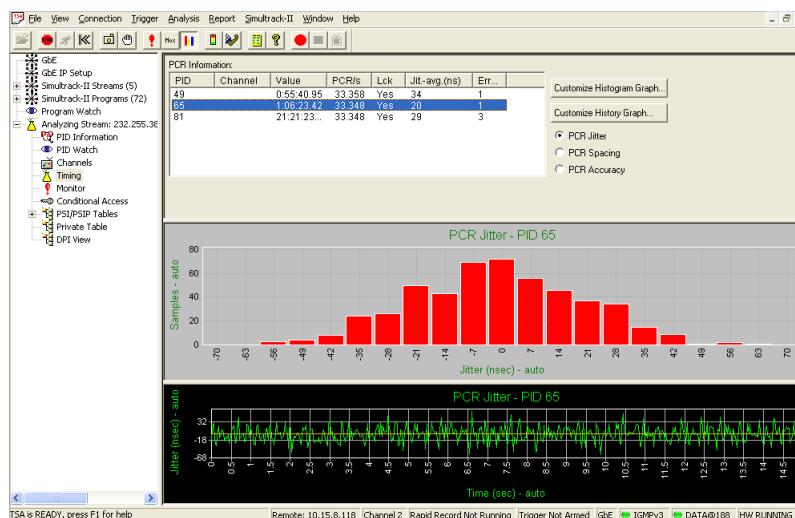
Troubleshooting Analysis

When needed, users can initiate the Detailed Analysis and Troubleshooting mode of the MVP-200. Focusing on a selected transport stream or program gives users the ability to remotely isolate problems and troubleshoot specific issues. Analysis of tables and metadata, video/audio timing comparisons for lip-sync analysis, PID-based utilization graphs, PCR timing graphs, and much more can eliminate costly dispatches unless absolutely necessary.

Troubleshooting mode has no impact on the monitoring functions of the MVP-200 eliminating the need for users to choose between monitoring functions and troubleshooting analysis. Each MVP-200 also has over 300 GB of hard disk drive space available for recording selected video transport streams to later provide to equipment manufacturers or for analyzing offline.

Configuration Tool

A web-based configuration tool allows users to create, store, and distribute configurations to probes. This tool supports user-defined grouping of units and interfaces along with status indicators. The MVP-200 configuration tool changes such as channel lineups and event thresholds enable easy distribution to probes throughout the network.
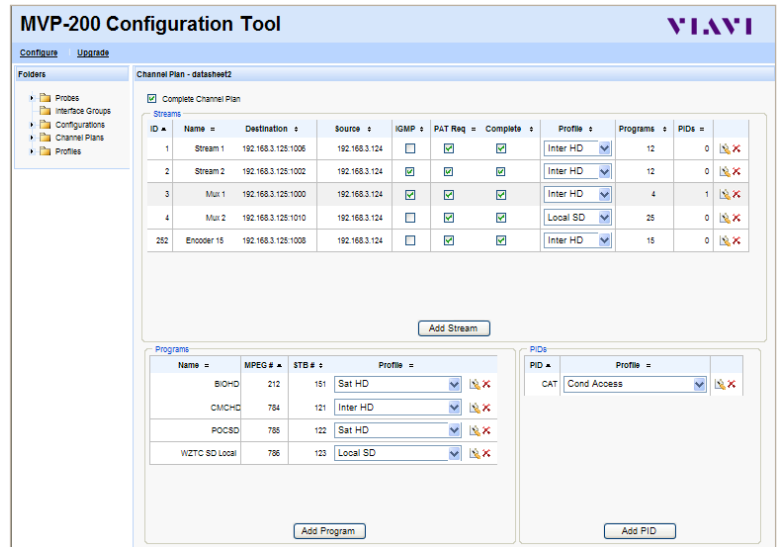
Scalability

Multiple MVP-200 units can be deployed in a system environment for monitoring at key points in the network. Or deploy a single MVP-200 and use a single PC to control it without having to deploy or integrate it into a full system. This scalability enables providers to leverage their initial investment as needs grow and evolve from a few stand-alone units to a larger centralized monitoring system with full analysis capabilities.

Additional Interfaces

For troubleshooting, the MVP-200 also supports asynchronous serial interface (ASI) for use separately or in conjunction with the Gigabit Ethernet interface to monitor and troubleshoot problems such as:

• validating transcoder operation

• comparing multiplexer input and output for proper configuration and operation

• monitoring and validating source video feeds

• ensuring error-free transport network operation

• monitoring timing health

• comparing video and voice PID timing drift for lip-sync issues

API

Integration of the MVP-200 can enhance the monitoring systems for many users. VIAVI provides an open Extensible Markup Language (XML)-based API for complete integration of monitoring functionality. Lighter integration users may choose to support a subset of these capabilities or employ the simple network management protocol (SNMP) trap generation feature of the MVP-200.

Conclusion

The MVP-200 is a highly scalable MPEG monitor/analyzer that combines the needs of both a system-integrated monitoring probe with all the features of a stand-alone digital video analyzer. Highly scalable with laboratory-grade results the MVP-200 addresses the needs of both network monitoring groups and troubleshooting engineers simultaneously in a single scalable, affordable package.

Related Products

The VIAVI PathTrak Video Monitoring System helps segment video problems in minutes—not hours—by proactively monitoring video, voice over IP (VoIP), and high-speed data (HSD) carriers for radio frequency (RF) and MPEG impairments.
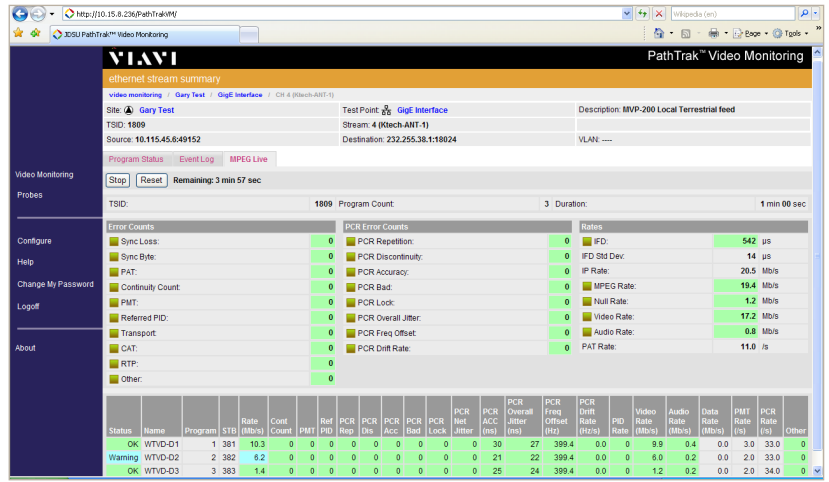
Specifications

MVP-200 Digital Video Probe

Chassis (W x H x D)	Industrial 19-in, 2U rack-mount
	42.5 x 8.9 x 50.8 cm
	(16.75 x 3.5 x 20. in)
Memory	2 GB RAM
Storage	300 GB for transport stream recording (400 GB total)
Regulatory compliance	FCC, CE, MET

Power requirements

MVP200 AC-powered chassis	110 to 220 VAC
	135 W (400 W max)
	−48 VDC
MVP200 −48VDC DC-powered chassis option	−48 VDC 135 W (400 W max)

Interface options (chassis supports 2 interfaces)

Gigabit Ethernet (1000BaseT, 1000BaseLX, 1000BaseSX, 1000BaseZX)

ASI Input

Software (included)

Transport Stream Analyzer (ATSC and DVB)

SimulTrack™ II for Gigabit Ethernet

Web server Configuration Tools

MVP-200 Software (optional)

Transport Stream Record	Provides the ability to record a selected TS to the HDD
Digital Program Insertion	Analysis of SCTE-35 DPI
Frame Capture	Allows capture of IP over MPEG frames
XML API	API for use in centralized monitoring system
XSI/OpenTV	Analysis of XSI/OpenTV format
MHP Analysis	Analysis of MHP/DCM-CC

System Software (optional)

PathTrak Video Monitoring	System Centralized monitoring and management system

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