DVStation-Mini^3 VSB

A Complete Solution

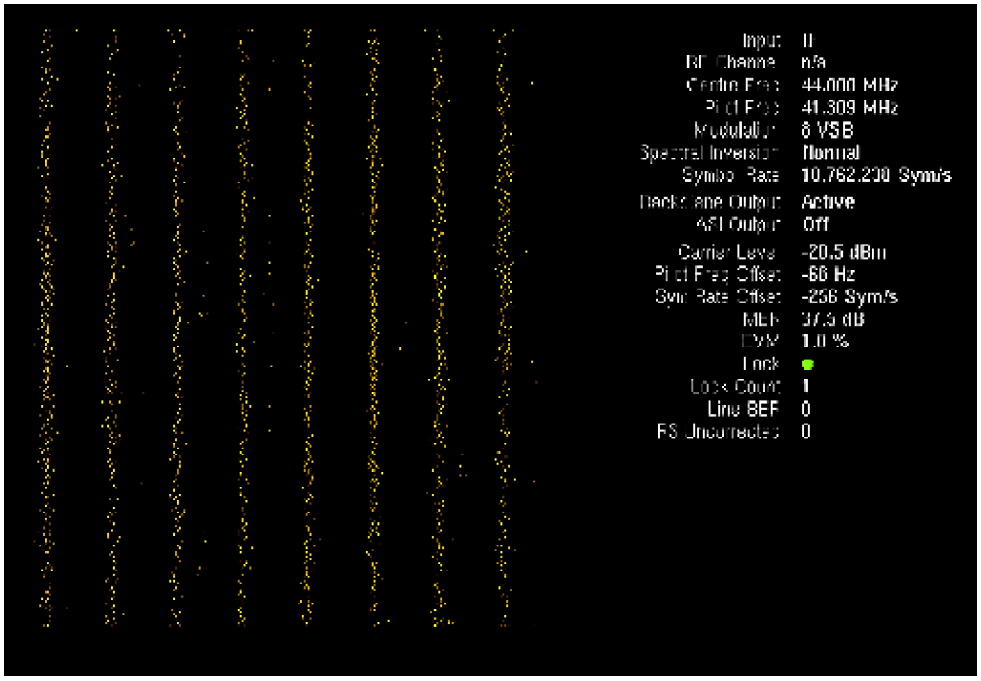
The DVStation-Mini^3 VSB is an 8VSB monitoring platform probe. It offers a complete preventive monitoring solution for ATSC DTV terrestrial broadcast networks.

The DVStation-Mini^3 VSB provides 8VSB modulation quality monitoring as well as transport stream analysis in one solution. The DVStation-Mini^3 VSB has two input ports - RF and ASI/SMPTE-310. Signal demodulation can be done on the RF input and transport stream analysis can be performed on both input ports simultaneously.

A combination of real-time signal measurements with user-configurable alarm thresholds and rich graphical displays make this probe the ideal operational monitoring and troubleshooting tool.

Key Features

- ATSC Digital Television Standard (Doc A/53B) 8VSB and 16VSB demodulator
- 8VSB RF analysis including carrier power, MER, EVM and BER (RS performance)
- Supports H.264 SD and HD video
- Long-term logging and trending of modulation and TS parameters
- Multi-user remote access over LAN, Internet or modem connection
- Real-time constellation display
- Compact 1RU module to monitor input and output of a transmitter simultaneously
- Local KVM capability - no PC required



RF Measurements & Graphical Displays

8VSB signal measurements include RF level, signal quality, symbol rate accuracy and frequency and BER. A graphical display shows actual constellation points in the I/Q plane. RF measurements are integrated into the DVStation-Mini^2 on-screen Status-at-a-Glance display.

Alarms & Remote Access

RF, modulation and transport stream parameters are monitored unattended through user-definable alarms. The comprehensive DVStation-Mini^3 alarm sub-system can trigger actions that include simple log entries, audible alarms, SNMP traps, contact closures, transport stream recording and even user-programmable actions (email notification, paging, etc). All configuration parameters and SNMP Network Management System can be accessed via remote X-Windows terminal, HTML browser, SNMP client or CORBA compliant database application.

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Comprehensive Transport Stream Monitoring

Comprehensive real-time transport stream operational monitoring tests are performed including:

- Transport Stream health check
- Bandwidth of service and individual PIDs
- PCR jitter
- Automatic On-Air Content Validation
- EIT display monitoring
- Stream capture

DVStation-Mini³ VSB front panel

DVStation-Mini³ rear panel

EIT Monitoring

EIT tables have a specified minimum repetition rate. The DVStation-Mini³ VSB checks for this as well as the structural integrity of each EIT table. The structural integrity test analyses tables for overlaps or gaps between the program entries as well as stale program entries. All these tests can be integrated with the comprehensive alarm sub-system for error notifications.

Specifications

8VSB Tuner/Demodulator

Form Factor
- 1 RU 19 inch rack-mountable
- +10 to +30 degrees Celsius, Operating

System Interfaces
- Management Port
  - 10/100/1000 Base-T
  - RJ-45 Copper Connector
- Serial Port
  - 9-pin DE-9P Connector
- GPI Contacts
  - 3 Contacts
  - 9-pin DE-9P Connector
- US 2.0 Connectors (2x)
- VGA (HD-15) Connector

Input (RF)
- Connector: 2 x BNC (IF & RF)
- Impedance: 75Ω
- Return Loss: 10 dB Typical
- RF Power Level: -25 dBm to -80 dBm*
- Tuner Center Frequency Range: 57 MHz to 855 MHz
- IF Centre Frequency: 44 MHz

Input (ASI)
- Connector: BNC
- Impedance: 75Ω
- Max input bitrate: 32 Mbps

Output
- Connector: BNC
- Impedance: 75Ω
- Return Loss: >19 dB
- Complies with EN50083-9 (Annex B)

Standards
- ATSC Digital Television Standard (Doc A/53B) J.83-Annex D, 8VSB (trellis) and 16VSB

Reported Demodulation Parameters
- FEC Frame Lock

Measurements
- RF Carrier Level
- Symbol Rate and Pilot Frequency Offset
- EVM (Error Vector Magnitude)
- RS uncorrected Packet
- Line BER
- MER (Modulation Error Ratio)

Graphical Presentations
- Constellation

Alarms
- FEC Frame Lock Acquired/Lost
- Symbol Rate and Pilot Frequency Offset Exceed User-Specified Threshold
- BER Exceeds User-Specified Threshold
- RF Carrier Level Falls Below User-Specified Threshold
- EVM (Error Vector Magnitude) or MER Exceeds Specified Threshold
- RS Uncorrected Packets Exceed Specified Threshold

Chassis Dimensions
- 342.2 mm W x 314.92 mm D x 40.01 mm H

*For QEF at 600 MHz

Pixelmetrix Corporation

The Americas
10097 Cleary Boulevard
Suite 114 Fort Lauderdale
Florida 33324, USA
Tel: +1 954 472 5445

Asia Pacific
31 Kaki Bukit Road 3
#07-03 Techlink
Singapore 417818
Tel: +65 6547 4935

Europe
Montnegre 18-24
Local 2, Baixos
08029 Barcelona, Spain
Tel: +34 93 539 6819

www.pixelmetrix.com

Distributor Contact

Pixelmetrix corporation