DVStation: Advanced Monitoring for Digital Networks

Satellite Line Interface

Multi-Standard Monitoring

The Pixelmetrix satellite line interface (SLF) is a multi-standard solution for monitoring of digital satellite transmission.

The SLF supports DVB-S, Motorola DigiCipher II, and Turbo Code modulations of MPEG-2 transport streams.

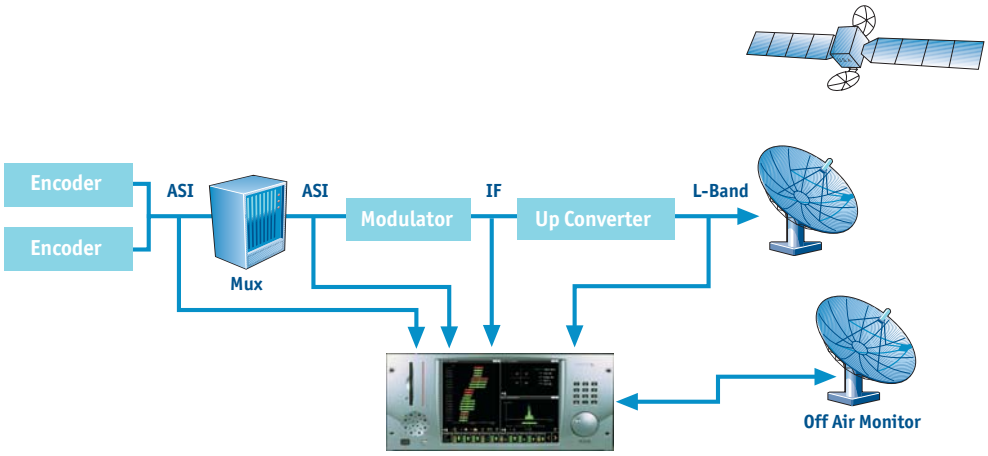
The SLF is a standard DVStation family module available for DVStation Remote Controller, DVStation DVS210, as well as portable DVStation Pod applications.

An ASI connector provides transport stream output for detailed TS analysis using the Pixelmetrix TSP-100 Transport Stream Processor.

In conjunction with the TSP-100, the module pair can perform multi-standard signal demodulation and a comprehensive suite of continuous RF, modulation, transport stream, and content validation tests.

Key Features

- DVB-S (EN 300 421) QPSK demodulator
- Motorola DigiCipher II QPSK and OQPSK demodulator
- Turbo QPSK and Turbo 8PSK demodulator
- Modulation fidelity analysis via SNR and MER, > 30 dB measurement limits
- Pre-RS BER monitoring
- Constellation visualization
- Long term logging of all measurements
- Multiple configuration profiles and round-robin scheduler for monitoring multiple transponders
- Multi-user remote access over LAN, internet, or modem connection



RF Measurements

The SLF provides signal integrity measurements of individual transponders on the L-Band feed.

RF level measurements are valid whether or not an actual signal can be demodulated, providing diagnostic information about signals that are experiencing severe path degradation or interference.

When a signal of sufficient quality to achieve FEC lock is present, symbol rate offset and center frequency offset measurements are available.

Bit error ratio measurement can help classify impairments as Gaussian or impulse noise and classify interference as continuous or intermittent.

Short duration losses of FEC lock can be detected using the lock counter.

RF measurements performed by the module are integrated into the DVStation physical Status-at-a-Glance display.

Constellation Graphical Displays

A high resolution graphical display of the constellation scatter plot can help the broadcast engineer to classify noise impairments as amplitude, phase, or pure Gaussian. Quadrature phase and imbalance distortions are also easily visually identified.

The user can control the density of the display from 512 to 2048 points.

Alarms and Remote Access

All measured parameters can be monitored unattended through user definable alarms. The comprehensive DVStation Alarm Sub-System can trigger actions that include log entries, audible alarms, SNMP traps, contact closures, transport stream recording, and even user programmable actions (email notification, SMS paging, etc).

All configuration parameters can be accessed via the local DVStation GUI, HTML browser, VNC, X window system, SNMP client, or CORBA compliant management application.

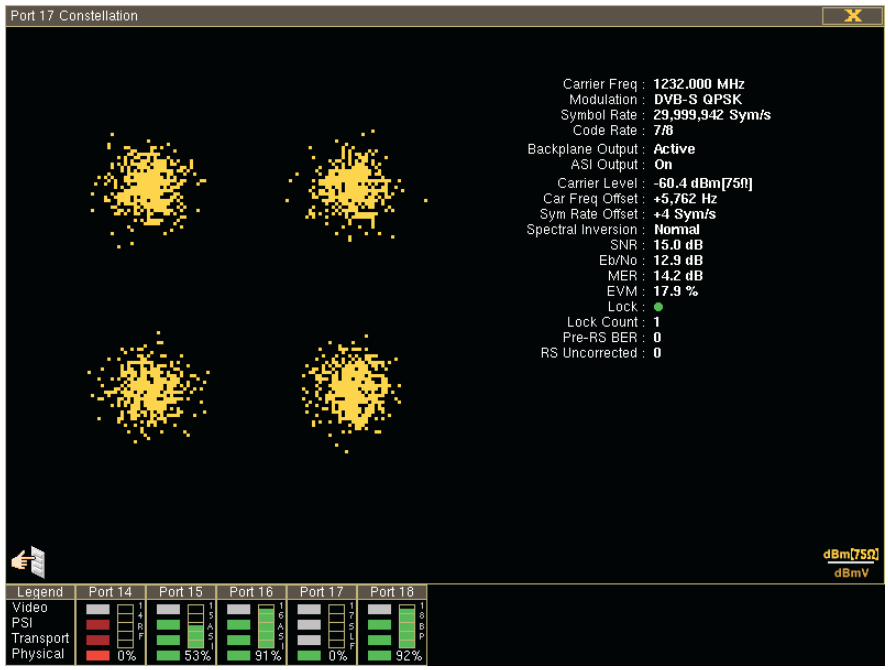
Pixelmetrix corporation

Comprehensive Transport Stream Monitoring

When used in conjunction with the Pixelmetrix TSP-100 transport stream processor, comprehensive real–time transport stream operational monitoring tests can be performed in parallel with the RF signal integrity tests:

- TR 101 290 health checks, priorities 1, 2, and 3
- Video thumbnails with freeze and blackout detection
- MHP and DSM-CC data carousels
- Bandwidth of services and individual PIDs
- Stream capture
- Automatic On-air Content Validation
- IP traffic (MPE)
- PCR Jitter

Consult the Pixelmetrix TSP-100 datasheet for more information.



Specifications

Standards
- ETSI EN 300 421 (DVB-S)
- ETSI TR 101 290 (Measurement Guidelines for DVB Systems)

Form Factor
- Standard DVStation series hot-swappable, single slot Card1 module
- DVStation Remote Controller compatible module
- DVStation Pod module

RF Input
- Connector : BNC
- Impedance : 75Ω
- Return loss : > 8 dB
- Signal level : -65 to -25 dBm
- Center frequency : 950 to 2150 MHz
- Baseband filter roll-off : α = 0.35 and α = 0.2

Transport Stream Output
- ASI interface on front panel, BNC connector
- Backplane output (for Card1 module form factor)

Demodulation
- Symbol rate : 1 to 30 MSym/s
- DVB-S QPSK at code rates of 1/2, 2/3, 3/4, 5/6, 6/7, and 7/8
- Motorola DigiCipher II QPSK, OQPSK, and QPSK with I/Q split at code rates of 1/2, 2/3, 3/4, 3/5, 4/5, 5/6, 5/11, and 7/8
- Turbo QPSK at code rates of 1/2, 2/3, 3/4, 5/6, and 7/8
- Turbo 8PSK at code rates of 2/3, 3/4-I, 3/4-II, 5/6, and 8/9

LNB Power and Control
- Power : on / off
- Voltage : 13, 14, 18, and 19 volts
- 22 kHz tone : on / off
- Maximum current : 500 mA with current limiting

Performance
- SNR and MER measurement range : > 30 dB
- Signal pull-in range : ±2 MHz

Reported Demodulation Parameters
- Signal lock and lock count
- Modulation code rate
- Spectral inversion

Measurements
- Signal level
- Carrier frequency offset
- Symbol rate offset
- SNR
- Eb/No
- MER and EVM
- Pre-RS BER (block error count for Turbo modes)
- RS uncorrected count

Graphical Presentation
- High resolution constellation display

Alarms
- Matching against expected values for all reported demodulation parameters
- Threshold alarms on all measurements

Distributor Contact

Pixelmetrix Corporation

The Americas
965 N. Nob Hill Rd.
#114 Ft. Lauderdale,
FL 33324
Tel: 954-472-5445
Fax: 954-472-6989

Asia Pacific
31 Kaki Bukit Road 3
#07-03 Techlink
Singapore 417 818
Tel: +65 6547 4935
Fax: +65 6547 4945

Europe
Haldenstrasse 24
CH 8967 Widen, AG
Switzerland
Tel: +41 79742 7454
Fax: +41 86079 742 7454

www.pixelmetrix.com

Ref: PPN30124

Pixelmetrix corporation