



DVProbe-S2

MULTI-STANDARD MONITORING FOR DVB-S2, DVB-DSNG AND DVB-S

The Pixelmetrix DVProbe-S2 monitoring probe is a compact and affordable multi-standard solution for the monitoring of digital satellite transmission. It supports DVB-S2, DVB-DSNG and DVB-S modulations.

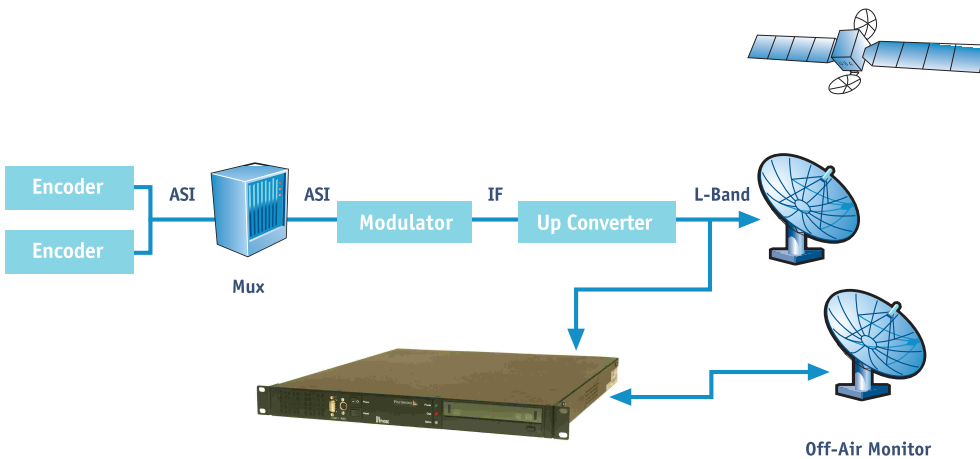
The device connects directly to the DVB-S2 RF network at either the uplink or downlink point for monitoring both RF and Transport Stream parameters. Packaged as a 1RU rack-mount system with power, network, and RF input connections all on the back of the unit, it integrates easily even into space conscious environments.

The system performs multi-standard signal demodulation and a comprehensive suite of continuous RF, modulation, transport stream and content validation tests.



KEY FEATURES

- DVB-S2 (EN 302 307) QPSK/8PSK/16APSK/32APSK
- DVB-DSNG (EN 301 210) QPSK/8PSK/16QAM options
- DVB-S (EN 300 421) QPSK
- DVB-S2 CCM and VCM mode capable
- Both pilot and no pilot mode support
- DVB-S2 short and normal frames capable
- Modulation fidelity analysis via SNR and MER
- 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 DVProbe-S2 provides signal integrity measurements of individual transponders on the L-Band feed.

Carrier level measurements provide a signal strength indication.

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

Bit error ratio measurement can help classify impairments as Gaussian or impulse noise.

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

RF measurements performed by the modules 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 types of noise impairments such as Gaussian and phase noise.

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 user-programmable actions (email notification, SMS alerts, etc).

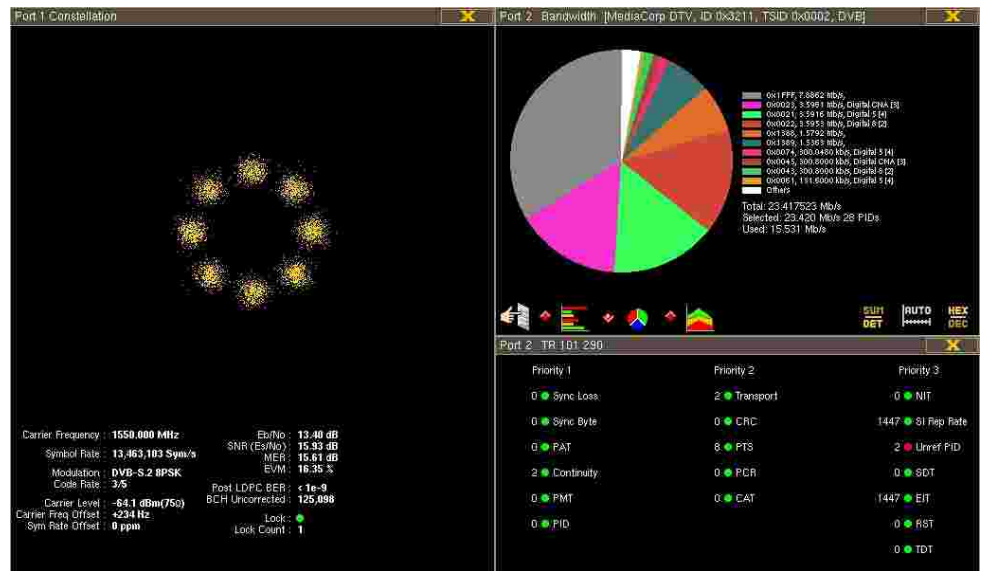
All configuration parameters can be accessed remotely using a convenient HTML browser or VNC client. Alternatively, computer control is possible using an SNMP manager or CORBA compliant management application.



COMPREHENSIVE TRANSPORT STREAM MONITORING

The system also includes comprehensive operational monitoring of the transport stream – performed in real time and in parallel with the RF signal integrity tests:

- TR 101 290 health checks, priorities 1, 2 and 3
- MPEG-2/H.264 Video thumbnails with freeze and blackout detection
- Bandwidth of services and individual PIDs
- Stream capture
- Automatic On-Air Content Validation (OCV)



SPECIFICATIONS

Standards

- ETSI EN 302 307 (DVB-S2)
- ETSI EN 301 210 (DVB-DSNG)
- ETSI EN 300 421 (DVB-S)
- ETSI TR 101 290 (Measurement Guidelines for DVB Systems)

Form Factor

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

Demodulation

- Symbol rate: 1 to 30 MSym/s (optional 45M)
- Baseband filter roll-off: 0.20, 0.25, 0.35
- All code rates applicable to selected modulation standard

LNB Power and Control

- Power: on/off
- Voltage: 13 and 18 volts
- 22 kHz tone: on/off
- Maximum current: 350 mA with current limiting

Reported Demodulation Parameters

- Signal lock and lock count
- Code rate
- Spectral inversion

Graphical Presentation

- High resolution constellation display

Alarms

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

Measurements

- Carrier level
- Carrier frequency offset
- Symbol rate offset
- SNR
- Eb/No
- MER and EVM
- Pre/Post-Viterbi (DVB-S/DVB-DSNG)
- Pre/Post-LDPC (DVB-S2)
- RS/BCH uncorrected count

Options

- 16APSK/16QAM support
- 32APSK support
- 45 MSym/s support
- SMA 50Ω connector

Network Management

- SNMP MIB for NMS integration
- HTML Web Browser
- VNC Remote Client

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