DVStation: Advanced Monitoring for Digital Networks

QPSK Transport Stream Processor

The QPSK TSP is a L-band QPSK signal and performance monitor module for the DVStation™ Family. It provides real-time evaluation of QPSK modulation quality, monitors RF characteristics and has a real-time implementation of the general transport stream health checks according to DVB ETR-290.

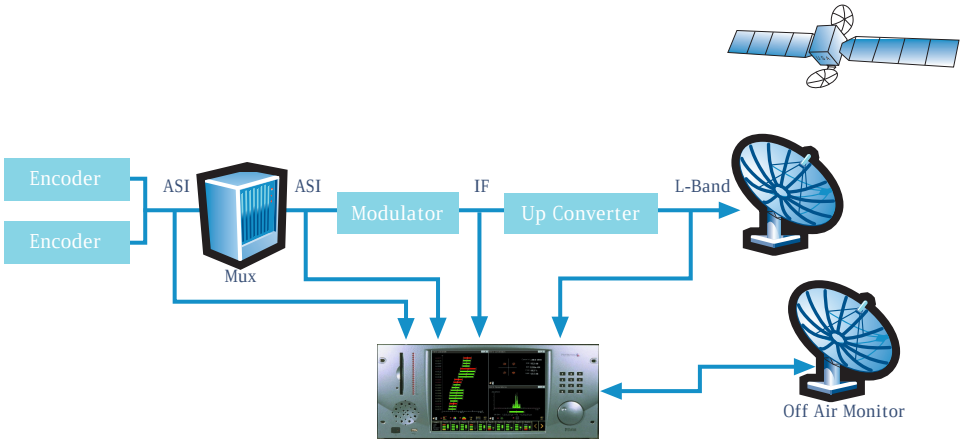
Impairments, such as Bit Error Ratio (BER) and Reed-Solomon uncorrected block error, are quickly identified.

Key Features

- Real-time constellation display
- Transport Stream Processor Functionality
- Tunable L-band input for DVB-S
- Alarm and performance logging management of:
  - RF carrier level
  - Signal to Noise Ratio (SNR)
  - Bit Error Ratio (BER)
  - Error Vector Magnitude (EVM)
  - Modulation Error Ratio (MER)
  - Reed Solomon uncorrected block counts (RS UNCORR)
- HTML, VNC, X-Window, SNMP and CORBA Remote Control

Tunable L-Band Input

The QPSK TSP has a wideband quadrature converter operating from 950 MHz to 2150 MHz. It allows the DVStation to connect directly to DVB-S systems.



Signal and Performance Monitor

DVStation™ QPSK TSP can monitor RF carrier frequency/level, Signal to Noise Ratio (SNR), Bit Error Ratio (BER), Error Vector Magnitude (EVM), Modulation Error Ratio (MER) as well as Reed-Solomon uncorrected block counts.

Impairment detection and problem isolation of picture quality, transport protocol, and RF signal performance with full time correlation is achieved by combining the DVStation™ QPSK TSP, and Quality Monitor Module (QMM).

A quick look at the DVStation™ log file reveals the full relationship between RF signal impairments and quality.

Impairment Detection

The QPSK TSP supports specific measurement functions and status indicators for use in evaluating and monitoring received signals.

Alarm thresholds can be set on any of the DVStation™ QPSK TSP's parameters:

- RF signal level threshold
- Signal to Noise Ratio (SNR) threshold
- Error Vector Modulation (EVM) threshold
- Bit Error Rate (BER) threshold

Correlating quality data with other modules such as TSP or QMM enables impairment sources to be quickly identified.

Real-time Constellation Display

The constellation measurement is based on a matrix of 1000 I/Q symbol points. It shows real-time display of the QPSK constellation.

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Transport Stream Processor Functionality

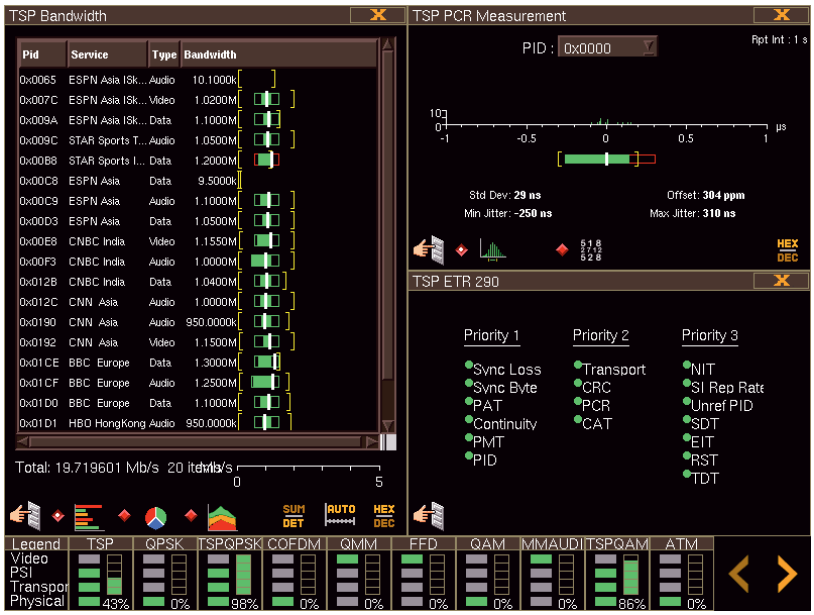
In addition to QPSK RF measurement, QPSK TSP offers full TSP functionality, allowing you to monitor both QPSK signals and the embedded transport stream with one card.

Transport Stream functionality includes bandwidth by service, transport stream capture, and automatic on-air content validation.

Model

PSK110 receives QPSK and analyzes both QPSK signals and the transport stream.

Function	PSK110
Table Decode	●
PID View	●
Packet Interval	●
PCR Jitter	●
ETR290	●
PID Bandwidth	●
Constellation	●
Symbol Rate	●
SNR	●
BER	●
EVM	●
MER	●
L-Band Input	●



Specifications

Input Signal Format

- Connector type: F connector (75Ω)
- 950 to 2150 MHz QPSK signal
- Symbol rate 3 to 30 Mbaud
- Code rate 1/2, 2/3, 3/4, 5/6, 6/7, 7/8
- Power level –25 to –65 dBm

Impairment Detection

- RF carrier level
- RF carrier frequency level
- Signal to Noise Ratio (SNR)
- Bit Error Rate (BER)
- Error Vector Magnitude (EVM)
- Modulation Error Ratio (MER)
- Reed Solomon uncorrected block error counts (RS UNCORR)

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