

DTS MPEG over Satellite Transmission Analysis

Realtime monitoring and testing



Key Features

- Supports 8PSK Turbo, QPSK Turbo, QPSK DVB, QPSK DCII modulation schemes
- Provides RF measurements for correlation between MPEG and RF layer issues
- Features an easy-to-use graphical interface minimizes training requirements
- Performs complete real-time analysis and monitoring verifies stream contents, service plans, PIDs, rates, timing parameters, and TR101 290. Event logs, triggers and reports for baselining and comprehensive monitoring
- Identifies problems and collects evidence of faulty equipment or content to maximize response and resolution from vendors and content providers
- Monitors both sides of the satellite service (i.e. L-Band or I/F and ASI) with same equipment

As transportation of digital programming over satellite proliferates—both as a means to supply service providers with content and to supply service directly to customers—Satellite Service Operators not only have to ensure that the physical characteristics of their Digital “Broadcast” channels are within parameters, but also must ensure that the underlying content, or digital payload, is error free.

The headends of operations that facilitate digital programming over satellite rely on finely tuned, optimized equipment that compensates for pre-determined degradations that result from transmission. These compensatory actions encompass physical layer adjustments such as levels of signal-to-digital-content adjustments. This includes “de-jittering” the timing information present in digital video signals to counteract network latency. However, at times even these highly resilient networks and network elements encounter situations that exceed “worst-case” scenarios and program degradation becomes visible.

Analyzing the physical layer characteristics of a Quadrature Phase Shift Key (QPSK or its many variants) modulated RF signal does not provide the needed depth of insight into its digital payload. As a result, operators must be able to gain visibility into the underlying “content” or MPEG-2 protocol layer to ensure programming content as well as other parameters including PCR (timing) data and PSI/SI (table) data. To address this need and enable expedited resolution of network trouble, JDSU offers satellite interfaces for the following industry-leading TruStream™ Digital Video Test and Monitoring products: the DTS-300, DTS-200 and the NetComplete™ Digital & IP Video Service Monitoring Application.

Specifications
General Specifications

Dimensions	5.5 x 14.5 x 1.2 in (PIM)
Weight	1 lb (PIM)

RF Interface

RF Interface Type	75 ohm, F81 connector
Modulation Types	8PSK Turbo, QPSK Turbo, QPSK DVB, QPSK DCII

Standards Compliance	DVS-031, DVB and DAVIC
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Symbol Rate	Variable rate from 256 ks/s to 30Ms/s
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FEC Decoder	DVB/Digicypher II and Turbo code
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Tunable Frequency Range	950 to 2150 MHz (L-Band) and 70 MHz (I/F)
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Frequency Resolution	1 kHz
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Channel Bandwidth	30 MHz nominal
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Input Signal Level	- 25 to -70 dBm @ 950 to 2150 MHz (L-Band) + 5 to -40 dBm @ 70 MHz (I/F)
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Input Impedance	75 ohms @ L-Band and I/F
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Input Return Loss	> 8 dB
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De-Interleaver Code Rates

- Turbo QPSK, Rate 1/2, 2/3, 3/4, 5/6, 7/8
- Turbo 8PSK, Rate 2/3, 3/4, 2.05, 3/4, 2.10, 5/6, 8/9
- QPSK, DVB, Rates of 1/2, 2/3, 3/4, 5/6, 7/8
- QPSK, DCII, Rates of 5/11, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 7/8

LNB control specification	DiSEqC™ 1.0
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DiSEqC™ is a trademark of EUTELSAT

LNB control Band Select	High band/Low Band control using 13/18V selection
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LNB control Polarity Select	Vertical/Horizontal selection control using 22kHz on/off
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Key RF Results

Status	Viterbi and Reed-Solomon lock
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Average Channel Power	Minimum, Maximum, Mean and Current shall be reported. (accuracy +/- 3dB from -25 to -65dBm for L-B and & 0 to -40 dBm for 70 MHz I/F)
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Signal to Noise Ratio	Minimum, Maximum, Mean and Current shall be reported. (accuracy +/- 3dB from 0 to 25dB for L-Band & 0 to 18 dB for 70 MHz I/F)
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Ordering Information
PSK Application Module

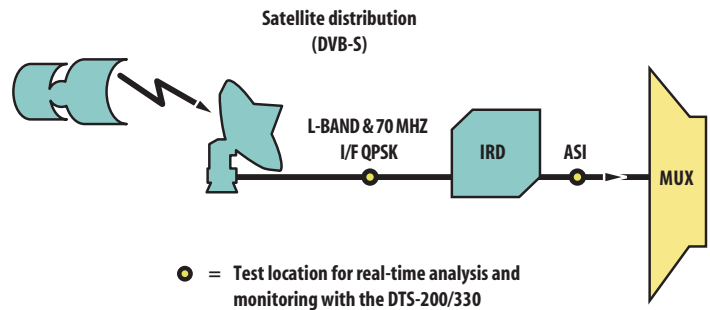
DTS-200 Satellite Interface Analysis Module	7553/91.11
DTS-200 Satellite Interface Analysis & Record Module	7553/91.13
DTS-330 Satellite Interface Analysis Module	7551/92.71
DTS-330 Satellite Interface Analysis & Record Module	7551/92.72

Additional Application modules available

DTS-200 ASI Analyzer	7553/91.07
DTS-200 ASI Analyzer/Recorder	7553/91.09
DTS-200 Gigabit Ethernet Analyzer	7553/91.19
DTS-200 QAM Analyzer	7553/91.15
DTS-200 QAM Analyzer/Recorder	7553/91.17
DTS-330 Gigabit Ethernet Analyzer	7551/92.80
DTS-330 QAM Analyzer	7554/92.80
DTS-330 QAM Analyzer/Recorder	7554/92.81

Related QAM testing products from JDSU

Digital Service Activation Meter (DSAM)	IDSAM3600B
Stealth Digital Analyzer (SDA) 5000	ISDAPACK2



MPEG over Satellite verification at all points of a Satellite network

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