Acterna DTS MPEG over Terrestrial Broadcast Analysis

Realtime monitoring and testing

As the transportation of Digital Programming over Terrestrial Broadcast becomes ever increasingly prevalent in the industry, the Terrestrial Broadcast Service Operators have to not only ensure the physical characteristics of their Digital "Broadcast" channels are within parameters, but also have to ensure that the underlying content or digital payload is error free too. Terrestrial Broadcast as a means of transmission of Digital content is becoming more and more pervasive as it continues to be used not only to supply service providers with content, but also provide services directly to the consumer as free-to-air service and pay-services.

The transmission and repeater sites of such Operations have finely tuned and optimized equipment that compensate for one another and any pre-determined degradations caused as a result of transmission between them. These compensatory actions range from physical layer adjustments such as levels of signal to digital content adjustments like "de-jittering" the timing information present in Digital Video signals to compensate for network latency. However, at times even these highly resilient networks and network elements end up in situations outsides their "worst-case" scenario use cases and program degradation becomes visible.

Analyzing the physical layer characteristic of a 8 level - Vestigial Side Band (8VSB) modulated RF signal does not the provide much insight into its digital payload, and as such the Operators have to be able to gain visibility into the underlying "content" or MPEG-2 protocol layer to ensure programming content and other parameters like PCR (timing) data, PSI/SI (table) data etc. Acterna is proud to introduce the DVB-Terrestrial Broadcast interface into the ever-popular DTS MPEG Analyzer to help troubleshoot and fix such problems.

Call Acterna today for a demonstration or for more product information.

Highlights

- Supports 8VSB modulation scheme used in ATSC Terrestrial Broadcasting
- RF measurements for correlation between MPEG and RF layer issues
- Easy-to-use graphical interface minimizes training requirements
- Modular mainframe allows for easy interchange of multiple interfaces. Access MPEG streams at traditional, RF, or Data test points, and test both the MPEG and carrier signals
- Complete real-time analysis and monitoring to verify stream contents, service plans, PIDs, rates, timing parameters, and TR101 290. Event logs, triggers and reports for baselining and comprehensive monitoring
- Identify problems and collect evidence of faulty equipment or content to maximize response and resolution from vendors and content providers
- Monitor both sides of your Terrestrial Broadcast service (i.e. 8VSB and ASI) with same equipment

ACTERNA™
Communications Test and
Management Solutions

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	8-VSB
Standards Compliance	ATSC A-53, DVB and DAVIC
Symbol Rate	Fixed 10.7622 Ms/s
FEC Decoder	A-53B, DVB
Tunable Frequency Range	50 to 870 MHz
Frequency Resolution	12.5 kHz
Channel Bandwidth	6 MHz
Input Signal Level	<30 dBmV
	(-8 dBm for broadcast)
Input Impedance	75 ohms
Input Return Loss	> 6 dB
De-Interleaver Code Rates	Supports
	Reed-Solomon 207, 187, t =10

Key RF Results

Status   Tuner and FEC lock Indicators

Average Channel Power
Minimum, Maximum, Mean and Current shall be reported. (accuracy +/- 3dB from -25 to −65dBm)

Signal to Noise Ratio
Minimum, Maximum, Mean and Current shall be reported

Modulation Error Ratio
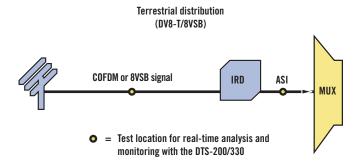Minimum, Maximum, Mean and Current shall be reported

Error Vector Magnitude
Minimum, Maximum, Mean and Current shall be reported

Bit Error Rate
Pre- and Post-FEC Range: 1.0×10^{-9} to 1.0×10^{-2}

Error indicators
Reed-Solomon Correctable/Uncorrectable Errors, Symbol Errors, Pilot Frequency Errors

Ordering Information

8VSB Application Module

DTS-200 MPEG Analyzer COFDM Interface Module 7553/91.26	7553/91.26
DTS-200 MPEG Analyzer 8VSB Interface Module 7553/91.22	7553/91.22
DTS-330 MPEG Analyzer COFDM Interface Module 7554/91.24	I7554/9224
DTS-330 MPEG Analyzer 8VSB Interface Module	I7554/9221

Additional Application modules available

DTS-200 ASI Analyzer 7553/91.07	7553/91.07
DTS-200 ASI Analyzer/Recorder 7553/91.09	7553/91.09
DTS-200 Gigabit Ethernet Analyzer 7553/91.19	7553/91.19
DTS-200 MPEG Analyzer QAM-8Mhz Interface Module 7553/91.42	7553/91.42
DTS-200 MPEG Analyzer Satellite Interface Module 7553/91.11	7553/91.11
DTS-200 MPEG Analyzer COFDM Interface Module 7553/91.26	7553/91.26
DTS-330 ASI Analyzer 7554/92.10	I7554/9210
DTS-330 ASI Analyzer/Recorder 7554/92.50	I7554/9250
DTS-330 Gigabit Ethernet Analyzer 7551/92.80	I7554/9280
DTS-330 MPEG Analyzer QAM-8Mhz Interface Module 7554/92.82	I7554/9282
DTS-330 MPEG Analyzer Satellite Interface Module 7554/92.71	I7554/9271
DTS-330 MPEG Analyzer COFDM Interface Module 7554/91.24	I7554/9224

**Terrestrial distribution
(DV8-T/8VSB)**

COFDM or 8VSB signal   IRD   ASI   MUX

◉ = **Test location for real-time analysis and monitoring with the DTS-200/330**

MPEG over Terrestrial Broadcast verification at all points of a Terrestrial Broadcast network.

DIGITAL SATELLITE
DISEqC 1.0
EQUIPMENT CONTROL

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DTS8VSB/DS/CAB/09-05/AE