



Compact MPEG-TS, IPTV & Satellite Monitor DVMon

- ✓ TS & Content Monitoring
- ✓ ASI, DVB-S/S2, IP
- ✓ Modern HTML5 UI
- ✓ DVStation Compatible MIB



DVMon provides exceptional performance and economy for remote monitoring of television transmissions.

Built on the latest technology and utilizing a stable and robust enterprise grade Linux operating system, DVMon can be used with remote control or directly via any standards-compliant web browser.

Alternatively, interworking with an SNMP system is a breeze with the DVStation compatible MIB.

Performance. Economy. Reliability.
The new standard.



Key Features

DVMon provides immediate visibility of QoS/QoE issues by combining extensive real time analysis and troubleshooting features with a comprehensive historical logging system presenting insight into past trends and incidents.

ASI, Satellite and IP Monitoring

DVMon provides simultaneous monitoring of traditional ASI or DVB-S/S2 satellite interfaces together with multi-stream IP monitoring.

Transport Stream

The complexity of the MPEG Transport Stream remains the leading cause of service issues in today's television transmission systems. With in-depth TS analysis and monitoring, problems can be quickly identified and resolved.

Flexible Configurations

DVMon allows mixing and matching between ASI, ASI and IP, DVB-S/S2, DVB-S/S2 and IP, or IP only. Additional features can be added via remote software upgrade or license installation.

Familiar and Easy

Using best industry practices for usability and clarity of presentation, the all new DVMon GUI is familiar and easy to use – providing quick access to the root of the problem without fiddling with awkward controls and dialogs.

Content Monitoring

Beyond technical analysis and monitoring of physical and transport stream parameters, DVMon provides direct monitoring and analysis of the content of the MPEG streams. This includes detection and alarming of audio tone or silence, and video freeze or blackout.

The system also displays the status of the MPEG-TS encryption key status indicator, so that problems can be identified with the MUX or encryption system.

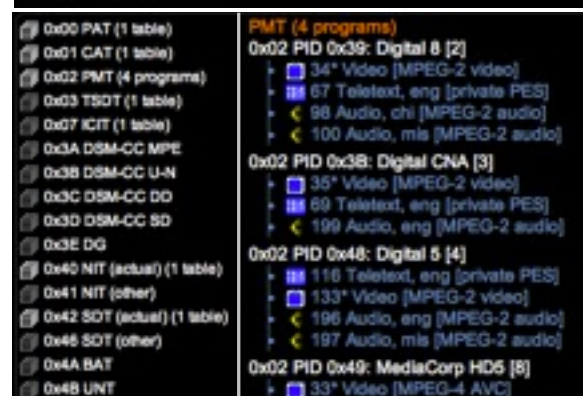
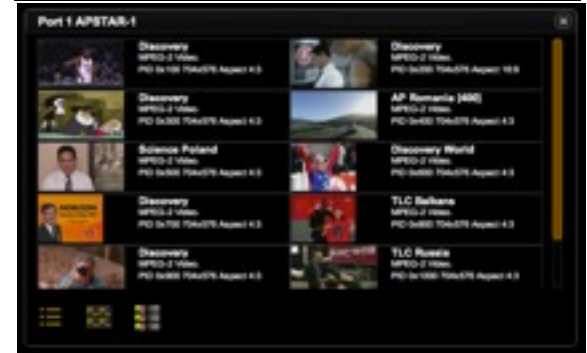
Monitoring and Deep Technical Analysis

Looking at the content alone is not enough. Once a problem is found, it needs to be fixed. Quickly!

In addition to its monitoring features, DVMon provides deep technical analysis of all transport stream parameters, including TS bit rates by PID, a break down view of each service and the respective components, the standard TR101-290 health checks, and a detailed decode of SI tables and descriptors.

Further, the DVMon SI Table Decode system is built on an extensible Table Decode Engine. This data-driven parser allows extending the decode capabilities of DVMon beyond the standard tables to include custom, proprietary or user-defined tables.

Finally, virtually every measurement has customizable alarm threshold settings. If a parameter exceeds the user-defined limit, the DVMon can be easily configured to execute any number of “alarm action scripts”. While a library of default scripts such as GPI, TRAP and pop up message is available, additional scripts can be added for custom behaviors.



Historical Logging

DVMon can be configured to take periodic samples of most measurement parameters, for example, service bit rate, RF modulation quality, or IP bit rate. The sample interval can be individually set for each measurement type. Log files can be searched and/or exported in CSV or plain text formats.

Bandwidth Log									
Date	Time	Port	Profile	PID	PIDType	MeanBW_bps	MinBW_bps	MaxBW_bps	IntPeriod_s
2015-11-24	19:31:20	1		0x0023 (Digital CNA [3])	Video	3632120	3628710	3635481	30
2015-11-24	19:31:20	1		0x0043 (Digital 8 [2])	Teletext, eng	303858	303207	304712	30
2015-11-24	19:31:20	1		0x0045 (Digital CNA [3])	Teletext, eng	303908	303207	303959	30
2015-11-24	19:31:20	1		0x0074 (Digital 5 [4])	Teletext, eng	303909	303207	304712	30
2015-11-24	19:31:20	1		18	SI (EIT)	141646	133170	151227	30
2015-11-24	19:31:20	1		0x0061 (Digital 5 [4])	Audio, eng	132819	132418	133170	30
2015-11-24	19:31:20	1		0x0062 (Digital 8 [2])	Audio, chi	132869	132418	133922	30
2015-11-24	19:31:20	1		0x0063 (Digital CNA [3])	Audio, chi	132869	132418	133922	30
2015-11-24	19:31:20	1		0x0064 (Digital 8 [2])	Audio, jpn	132869	132418	133170	30

RF Monitoring

With its L-Band interface, the system provides signal integrity measurements for DVB-S and DVB-S2 (including support for 16APSK and 32APSK). Aside from displaying a detailed constellation diagram, DVMon also displays key modulation quality parameters such as Signal Level, MER/EVM and SNR. Alarms can be set on key RF measurements falling outside user-defined thresholds.



Combined IP Monitoring

Using a dedicated Ethernet port for monitoring, DVMon surveys all of the IP flows detected containing MPEG Transport Streams. Streams can be unicast or multicast.

For multicast streams, DVMon supports a straightforward GUI for IGMP JOIN/LEAVE where “bookmarking” commonly used flows is feasible. Further in-depth transport stream monitoring and analysis using the same TS features available for ASI and/or RF, can also be done.

Nickname	Flow	Bitrate
UDP_1125	192.158.12.4:2001 > 202.45.1.1:8000	65 Mbps
UDP_2100	192.158.12.4:2002 > 202.45.1.2:8000	13 Mbps
UDP_3375	192.158.12.4:2003 > 202.45.1.3:8000	57 Mbps
UDP_4400	192.158.12.4:2004 > 202.45.1.4:8000	13 Mbps
UDP_5625	192.158.12.4:2005 > 202.45.1.5:8000	45 Mbps
UDP_6300	192.158.12.4:2006 > 202.45.1.6:8000	18 Mbps
UDP_7875	192.158.12.4:2007 > 202.45.1.7:8000	7 Mbps
UDP_8800	192.158.12.4:2008 > 202.45.1.8:8000	16 Mbps
UDP_9225	192.158.12.4:2009 > 202.45.1.9:8000	9 Mbps
UDP_101000	192.158.12.4:2010 > 202.45.1.10:8000	64 Mbps
UDP_11275	192.158.12.4:2011 > 202.45.1.11:8000	13 Mbps
UDP_121500	192.158.12.4:2012 > 202.45.1.12:8000	13 Mbps
UDP_131625	192.158.12.4:2013 > 202.45.1.13:8000	11 Mbps
UDP_141750	192.158.12.4:2014 > 202.45.1.14:8000	13 Mbps
UDP_15375	192.158.12.4:2015 > 202.45.1.15:8000	10 Mbps

Digital Program Insertion (DPI) Monitoring

The optional DPI Auditor analysis application offers a range of logging and reporting capabilities for monitoring and auditing the accuracy of digital program insertion.

Based on the ANSI/SCTE 35 2001 standard (formerly known as DVS-253 and also known as ITU-T J.181), the DPI Auditor provides detailed drill down into DPI “CUEI” messages as well historical logging of all relevant DPI events, such as “SPLICE”, “SCHEDULE”, and “CANCEL”.

Date	Time	Port	Profile	CmdType	Action	PID	EventID	Services
2017-03-17	22:06:55	1		Insert	splice	730	24	[344]
2017-03-17	22:06:57	1		Insert	splice	530	1	[341]
2017-03-17	22:06:25	1		Insert	splice	730	24	[344]
2017-03-17	22:06:27	1		Insert	splice	530	1	[341]
2017-03-17	22:06:46	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:06:47	1		Insert	splice	530	1	TNT E HD [341]
2017-03-17	22:07:06	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:07:06	1		Insert	splice	530	1	TNT E HD [341]
2017-03-17	22:07:26	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:07:28	1		Insert	splice	530	1	TNT E HD [341]
2017-03-17	22:07:47	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:07:49	1		Insert	splice	530	1	TNT E HD [341]
2017-03-17	22:08:57	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:08:59	1		Insert	splice	530	1	TNT E HD [341]
2017-03-17	22:08:39	1		Insert	splice	730	24	CRN HD [344]
2017-03-17	22:08:39	1		Insert	splice	530	1	TNT E HD [341]

Type	# files	Total Size
DPI/SCTE-35	1	22.33 KB
Grand Total	1	22.33 KB

Available Logs			
Name	Last Access	Size	Delete
dpi-log_20170317_001	2017-03-28 23:34:28	22.33 KB	
dpi-log_20170328_001	2017-03-28 23:41:40	17.33 KB	

IP Logging

DVMon monitors all MPEG-TS video flows present on the Ethernet. Additionally, the DVMon can be configured to take periodic samples of IP and TS bit rate for each flow. Measurement samples are immediately available via the HTML GUI.

Date	Time	Port	Profile	Alias	Avg_IP_Bandwidth_bps	Avg_TS_Bandwidth_bps
2016-05-25	23:06:50	0	182.16.168.192:34518_161.16.168.192:1234		22580992	22120346
2016-05-25	23:06:50	0	182.16.168.192:38240_161.16.168.192:4444		5105664	4899296
2016-05-25	23:06:50	0	182.16.168.192:42764_161.16.168.192:2222		38114829	37320868
2016-05-25	23:07:20	0	182.16.168.192:34518_161.16.168.192:1234		22588009	22117426
2016-05-25	23:07:20	0	182.16.168.192:38240_161.16.168.192:4444		5104841	4998490
2016-05-25	23:07:20	0	182.16.168.192:42764_161.16.168.192:2222		38915559	38104818
2016-05-25	23:07:50	0	182.16.168.192:34518_161.16.168.192:1234		22584598	22114088
2016-05-25	23:07:50	0	182.16.168.192:38240_161.16.168.192:4444		5003294	4899059

System Specifications

In addition to the standard models listed here, custom configurations are available. Please contact our sales manager for more information.

TS Specifications	
Relevant Standards	<ul style="list-style-type: none"> • ISO13818-1 • EN 50083-9 • ETSI TR 101 290
Measurements	<ul style="list-style-type: none"> • Supports DVB, ATSC, ISDB standards • TR 101 290 • PCR Measurements • Bandwidth by PID • Bandwidth by Service • Table decode and display • Video loss & freeze frame alarms • Audio loss & tone alarms • Stream capture • Template verification • Historical Logging and reporting

RF Specifications	
Relevant Standards	ETSI EN 302 307 (DVB-S.2) ETSI EN 300 421 (DVB S)
RF Input	BNC
Impedance	75 Ω
Signal Level	-60 to -30 dBm
Frequency Range	950 to 2150 MHz
Constellation Support	QPSK, 8PSK, 16APSK, 32 APSK
Symbol Rate	200 kb/s to 45 Mb/s
LNB Power	13V/18V 400mA
Interleave	DVB-S: 1/2, 2/3, 3/4, 5/6, 7/8 DVB-S2: 1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
Roll Off	0.20, 0.25, 0.35
Measurements	Graphical Constellation Display Carrier level MER EVM SNR BER: DVB-S – Viterbi and Reed-Solomon FEC modes DVB-S2 – LDPC and BCH FEC short and normal modes

IP Specifications	
Interface	10/100/1000 Base T
Packet Format	UDP or RTP
Multicast	IGMP v1/v2
Measurements	<ul style="list-style-type: none"> • IP Bit Rate • Payload (TS) Bit Rate • MDI (RFC-4445)

Common Specifications	
CPU	Intel® Core-i5
RAM	4 GB
OS	Enterprise Linux
UI	HTML5 via standards-compliant web browser
Management Interface	10/100/1000 RJ-45 Ethernet
Other Interfaces	<ul style="list-style-type: none"> • Full HD HDMI Video Output • DisplayPort Video Output • Dual GigE Ethernet • USB 2.0