FIG 1 The MPEG-2 Monitoring System R&S®DVM 50 is cost-efficient and compact.

The new MPEG-2 Monitoring System R&S®DVM 50 (FIG 1) can monitor up to two MPEG-2 transport streams and integrates seamlessly into the R&S®DVM family.

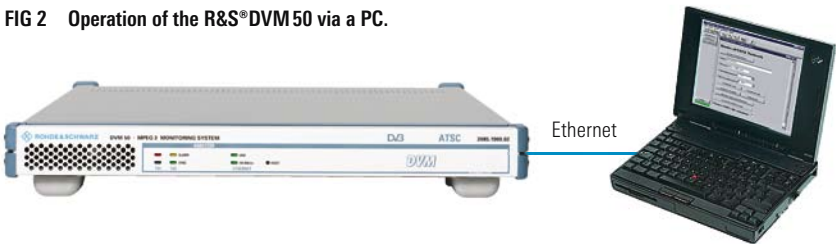
MPEG-2 Monitoring System R&S®DVM 50

Cost-efficient monitoring of up to two transport streams

Systems for any task

With its outstanding price/performance ratio, the new MPEG-2 Monitoring System R&S®DVM 50 is designed primarily for users who wish to monitor up to two MPEG-2 transport streams at a favourable price, such as terrestrial broadcasting network operators. To read about other members of the DVM family, the R&S®DVM 100 / R&S®DVM 120, refer to [1]. News No. 182 focused on the family flagship, the R&S®DVM 400 [2]. For an overview of the main differences between the systems, see page 48.

FIG 2 Operation of the R&S®DVM 50 via a PC.



R&S®DVM 50: seamlessly integrated

Occupying only one height unit, the R&S®DVM 50 is equipped with a fast analyzer board and monitors one transport stream and optionally two in parallel. It is operated either locally on a PC –

Instruments of the R&S®DVM family in comparison

The **R&S®DVM 400** was designed specifically for use in development and for portable use at different points in the network. It features a high-resolution colour display and a keypad, making it easy to operate without additional accessories. It also has a parallel transport stream interface (*SPI*) and a reference clock input for high-precision time measurements such as *PCR* jitter and data rates. It can be expanded into a powerful recorder and generator by adding the necessary options.

The **R&S®DVM 100** and **R&S®DVM 50** are especially suitable for monitoring transport streams. The R&S®DVM 100 can – together with the R&S®DVM 120 and other options – monitor up to 20 transport streams in a minimum of space. The R&S®DVM 50 is designed for cost-efficient monitoring of one or two transport streams in one place. Operation of the R&S®DVM 50 requires a local PC.

The **R&S®DVM 120** is not a stand-alone unit; it is used to expand the R&S®DVM 100 and R&S®DVM 400 for monitoring additional transport streams and is operated via the R&S®DVM 100 or the R&S®DVM 400.

Despite their focus on monitoring applications, the R&S®DVM 100 and R&S®DVM 50 also provide detailed analysis options. The analysis functions of the R&S®DVM 100 and R&S®DVM 400 can also be used for the transport streams monitored by the R&S®DVM 120.

Main differences between the instruments of the R&S®DVM family.	**R&S®DVM 50** 	**R&S®DVM 100** 	**R&S®DVM 400** 
Height	1 unit	1 unit	4 units
Number of transport streams monitored in parallel	1 to 2	1 to 4 (2 in basic version); expandable to 20 with 2 × R&S®DVM 120 and options	1 to 4 expandable to 20 with 2 × R&S®DVM 120 and options
Local operation	PC required	via external monitor, keyboard and mouse	integrated colour display, keypad and rotary knob; external keyboard and mouse if necessary
Signalling of results:			
User interface	●	●	●
Front panel LEDs	●	●	–
Alarm relay	–	●	●
SNMP	● (via local PC)	●	●
Remote control	via *VNC* server on local PC	via *VNC* server on the instrument	via *VNC* server on the instrument
Monitoring and analysis functions	available with all models		
***TS* capture (automatic recording of *TS* with up to 384 Mbytes)**			
Recorder and generator options	–	–	●
Reference clock input	–	–	●
***SPI* input and output**	–	–	●

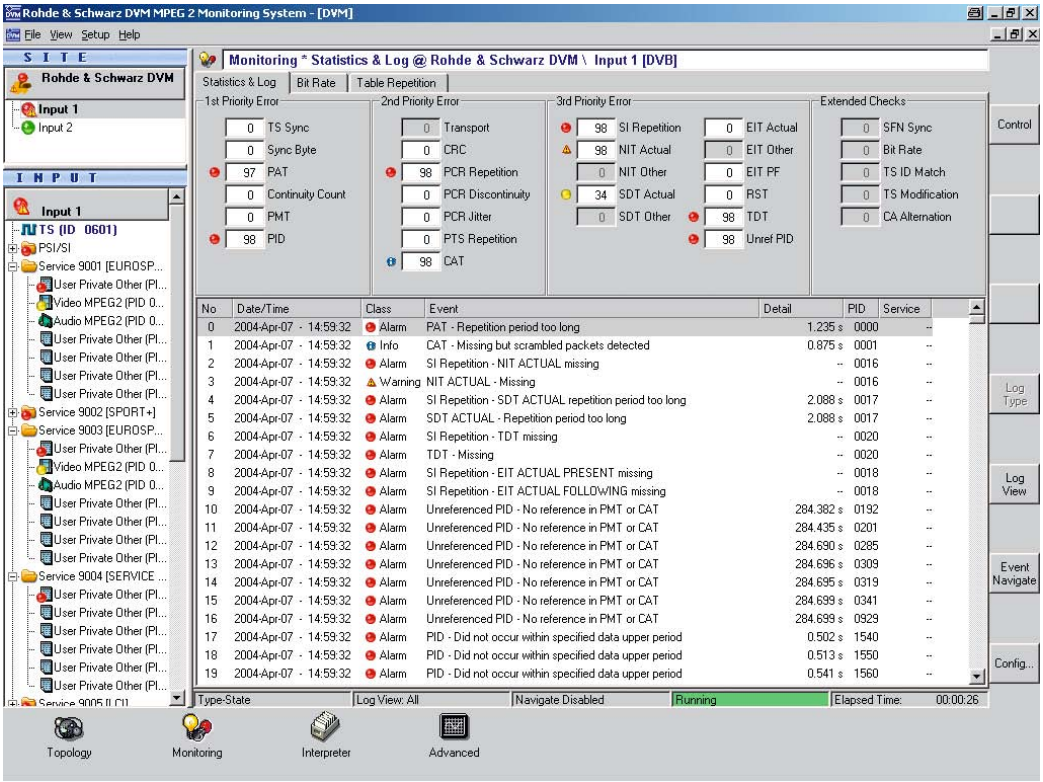


FIG 3
Graphical user interface of the R&S®DVM50 with report and error counter display.

with which it is connected via Ethernet – or remotely via network access to this PC. It can also be easily integrated into a network management system via the *SNMP*; the control software running on the PC supports this protocol (FIG 2).

The graphical user interface – which is identical on all the instruments of the R&S®DVM family – provides a straightforward display of the measurement results in different views and allows the system to be easily operated and quickly configured (FIG 3).

The measurement functionality is also as extensive as that of the R&S®DVM100. The system monitors all parameters listed in the Measurement Guidelines TR 101 290*) under priorities 1, 2 and 3 plus many other parameters necessary for effective monitoring. Analysis functions that can be optionally activated allow the R&S®DVM50 to be used for detailed analyses of *PCR* jitter, table contents and many other parameters, including data broadcast applications such as *MHP* transmissions or *SSU*.

Abbreviations

MHP	Multimedia home platform
PCR	Program clock reference
SNMP	Simple network management protocol
SPI	Synchronous parallel interface
SSU	System software update
TS	Transport stream
VNC	Virtual Network Computing (remote-control software from RealVNC company)

Summary

The R&S®DVM family from Rohde & Schwarz provides flexibly configurable instruments for MPEG-2 monitoring, development and production applications: from the favourably priced monitoring instrument for one or two transport streams to the portable MPEG-2 allrounder. Additional functions can be added later – often simply via a key code.

Thomas Tobergte

Data sheets and Technical Information on the R&S®DVM50 at www.rohde-schwarz.com (search term: DVM)

REFERENCES

[1] MPEG-2 Monitoring System R&S®DVM100/120: Comprehensive monitoring of MPEG-2 transport streams. News from Rohde & Schwarz (2003) No. 179, pp 29–33

[2] Digital Video Measurement System R&S®DVM400: Comprehensive MPEG-2 analysis – also for mobile use. News from Rohde & Schwarz (2004) No. 182, pp 46–49

*) The only measurement not supported is the buffer fill (priority 3.3).