

Technical Information



SDTV/HDTV hardware decoder for the R&S® DVM family

Realtime decoding of SDTV and HDTV signals

- Supported video encoding standards:
 - MPEG-2
 - H.264 / AVC / MPEG-4 part 10
- Supported audio encoding standards:
 - MPEG-1/MPEG-2
 - MPEG-4
 - Dolby Digital
- On-screen display functionality
- Analog and digital video outputs including HDMI/DVI
- Available for the R&S®DVM50/100/100L/120 and R&S®DVM400

Specifications

The hardware decoder is available for all models of the R&S®DVM family. It decodes the video and audio signals contained in the transport stream, allowing users to quickly identify the programs and to immediately view and assess the picture quality. The decoder is internally connected to the TS analyzer board. It is thus possible to decode any program of any transport stream fed to the TS analyzer board. The transport stream can either be externally applied (BNC connectors) or can be supplied by the internal RF demodulators.

The decoder supports the SDTV and HDTV formats. Various display types for video display can be connected via numerous interfaces, including the DVI / HDMI interface. The Digital Video Measurement System R&S®DVM400 already includes a screen for displaying the graphical user interface. The decoded picture can be directly shown on the integrated display.

With the decoder, all models of the R&S®DVM family additionally feature an on-screen display (OSD) function that provides an informative and quick overview of the technical characteristics of the signal. The video and audio signals of a program are decoded at the same time. The decoder supports MPEG-2 and H.264 for video signals and all common formats for audio signals from MPEG-1 Layer II to Dolby Digital.

Video formats

Standard definition	MPEG-2 (MP@ML) H.264/AVC (MP) 480i/576i
High definition	MPEG-2 (MP@HL) H.264/AVC (HP) 1080i, 720p, 480p/576p, 480i/576i

Audio formats

MPEG-1/MPEG-2	Layer II
MPEG-4	AAC
Dolby Digital	AC-3

Video and audio interfaces

Format	Type	R&S®DVM50 / R&S®DVM100 / R&S®DVM100L ¹ / R&S®DVM120 ²		R&S®DVM400	
		Front	Rear	Front	Rear
<i>Audio</i>					
8 channel AES/EBU	digital	-	-	-	25 pole
S/PDIF optical a) Decoded stereo b) Coded (e.g. AC3)	digital	-	-	-	TOS-Link
L / R stereo	analog	-	headphone jack	loud-speaker ³	headphone jack
HDMI	digital	DVI-I ⁴			DVI-I ⁴
<i>Video</i>					
(HD)-SDI / CCVS	digital / analog	-	BNC ⁵	-	2 x BNC ⁶
HDMI / DVI ⁷	digital	DVI -I ⁴	-	-	DVI -I ⁴
R or Y (HD/SD)	analog				
G or Cr (HD/SD)	analog				
B or Cb (HD/SD)	analog				
Y/C R&S®DVM400 internal	analog	-	-	integrated display ⁸	-

Available connectors for different signal formats

Abbreviations

AC-3	Audio coding 3
AES	Audio Engineering Society
B	Blue
C	Color subcarrier
Cb	Color difference component (B-Y)
CCVS	Composite color video signal
Cr	Color difference component (R-Y)
DVI-I	Digital video interface - integrated
EBU	European Broadcasting Union
G	Green

HD	High definition
HDMI	High definition multimedia interface
L	Left
R	Red / Right
S/PDIF	Sony/Philips digital interface
SD	Standard definition
SDI	Serial digital interface
TOS-Link	Toshiba fiberoptical connector for dig. audio
Y	Luminance component

1 If RF inputs are installed, only the DVI-I connector will be available.

2 For each installed analyzer.

3 Mono.

4 References under Audio and Video refer to the same connector.

5 (HD)-SDI and CCVS share a BNC connector (selectable).

6 One for (HD)-SDI and one for CCVS.

7 The connector is DVI-I but HDMI (including audio) and DVI protocols are supported

8 Displayed picture has standard-definition resolution.

Ordering information

The hardware decoder is available for the following instruments:

R&S®DVM50	model	3 or later
R&S®DVM100	model	3 or later
R&S®DVM100L	model	2 or later
R&S®DVM120	model	3 or later
R&S®DVM400	model	2 or later

Installation of the decoder requires a TS analyzer board.

The two TS analyzer boards of an R&S®DVM120 can be equipped with a decoder.

R&S®DVM SDTV Decoder for R&S®DVM50/100/100L/120	R&S®DVM-B30	2085.5570.02
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R&S®DVM SDTV Decoder for R&S®DVM400	R&S®DVM400-B30	2085.5540.02
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R&S®DVM HDTV Decoder Upgrade for R&S®DVM-B30 / DVM400-B30	R&S®DVM-K32	2085.5486.02
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R&S®DVM Optional SDI/HD-SDI Video Output for HDTV / SDTV Decoder	R&S®DVM-K30	2085.5440.02
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RF and Decoder Integration Set for R&S®DVM-B50/B51/B52 and R&S®DVM400-B30; for R&S®DVM400	R&S®DVM400-B500	2085.5563.02
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