

## Specifications

### Signal inputs

<b>MPEG-2 transport stream</b>	
Asynchronous serial interface (ASI) acc. to DVB-A010 Data rate Mode	BNC connector (75 Ω) on front <b>and</b> rear panel 270 Mbit/s packet or continuous
Synchronous parallel interface (SPI) acc. to DVB-A010 Clock Mode	25-pin connector on rear panel LVDS 84.375 kHz to 20 MHz TRP, 8 bit (8 bits data) T10, 10 bit (8 bits data, 1 bit DVALID, 1 bit PSYNC)
Synchronous serial interface (SSI) acc. to SMPTE-310M Data rate	BNC connector (75 Ω) on rear panel only with option R&S DVRG-B6 19.392658 Mbit/s
<b>Video serial digital 270 Mbit/s</b>	
SDI acc. to ITU-R B.T.601/656 or SMPTE 259M	BNC on rear panel, 800 mV ( $V_{pp}$ ), 75 Ω, only with option R&S DVRG-B4

### Signal outputs

Input signals are applied to outputs of the same type if the Record menu on the R&S DVRG has been selected.

<b>MPEG-2 transport stream</b>	
Asynchronous serial interface (ASI) acc. to DVB-A010 Data rate Mode	BNC connector (75 Ω) on front <b>and</b> rear panel, plus loop-through output of ASI input on rear panel 270 Mbit/s packet or continuous, selectable
Synchronous parallel interface (SPI) acc. to DVB-A010 Clock Mode	25-pin connector on rear panel 84.375 kHz to 20 MHz TRP, 8 bit (8 bits data) 1 bit PSYNC automatically generated and 1 bit DVALID configurable: – exactly 188 bytes active – constantly active with packet length of 204 or 208 bytes T10, 10 bit as recorded (8 bits data, 1 bit DVALID, 1 bit PSYNC)
Synchronous serial interface (SSI) acc. to SMPTE-310M Data rate	BNC connector (75 Ω) on rear panel only with option R&S DVRG-B6 19.392658 Mbit/s
<b>Video serial digital 270 Mbit/s</b>	
SDI acc. to ITU-R B.T.601/656 or SMPTE 259M	BNC connector on rear panel, 800 mV ( $V_{pp}$ ), 75 Ω, only with option R&S DVRG-B4

### Signal characteristics

<b>GTS generator</b>	for generating transport streams acc. to ISO/IEC 1-13818
Interfaces	outputs: ASI, SPI and SSI
Length of transport stream packets	ATSC: 188/208 bytes (selectable) DVB: 188/204 bytes (selectable)

Sequence length	endless and seamless generation with repetition of video, audio and data contents
Data rate	675 kbit/s to 160 Mbit/s (including null packets)
Net data rate	max. 90 Mbit/s
Data volume	max. 80 Mbyte payload
PCR jitter Form Frequency Amplitude	configurable (only GTS mode) sine, rectangle and triangle 1 mHz to 100 kHz 0 ms to 1 ms, increment 0.1 μs
Signal set	moving picture sequences and test patterns with test tones, for 625 and 525 lines DVB/ATSC systems, additional signals via options (R&S DV-HDTV, R&S DV-TCM)
<b>TRP generator and recorder (8 bit)</b>	for recording and replaying signals of any content
Interfaces	inputs and outputs: ASI, SPI and SSI
Max. data rate	160 Mbit/s from memory or hard disk if 2 hard disks are installed 90 Mbit/s if one hard disk is installed
Min. data rate	675 kbit/s
Max. data volume	limited only by size of hard disk
Replay data rate	automatic data rate recognition for MPEG-2-compliant transport streams on the basis of PCR values; can be modified by user
Endless replay	packet-exact cut at transition from end of file to beginning of file
<b>T10 generator and recorder (10 bit)</b>	for recording and replaying signals of any content (specifically of partial transport streams)
Interfaces	inputs and outputs: SPI
Max. data rate	160 Mbit/s from memory or hard disk if 2 hard disks are installed 90 Mbit/s if one hard disk is installed
Min. data rate	675 kbit/s
Max. data volume	limited only by size of hard disk
<b>SDI generator and recorder</b>	for recording and replaying signals of uncompressed serial video signals acc. to ITU-R B.T. 601/656 or SMPTE 259M and SDTI signals
Interfaces	inputs and outputs: SDI
Data rate	270 Mbit/s
Max. data volume	limited only by size of hard disk
Formats	8 bit SDI 10 bit SDI including all ancillary data and embedded audio SDTI
Endless replay	seamless (frame-exact cut at transition from end of file to beginning of file)

## Functions

<b>Replay</b>	
Types	transport stream seamless and endless (GTS); transport stream 8/10 bit (TRP, T10), endless; SDI 8/10 bit seamless and endless (SDI, S10)
Replay and storage of signal segments:	
TRP/T10 signals Min. length Increment	1 s 100 ms, packet-exact
SDI/S10 signals Min. length Increment	1 frame 1 frame
Replay using external clock	84.375 kHz to 20 MHz via SPI input (clock)
<b>Recording</b>	
Types	transport stream 8/10 bit (TRP, T10) SDI 8/10 bit (SDI, S10)
Externally controlled recording via separate trigger input on rear panel	
Function modes Single Multiple	single automatic storage after trigger signal repeated storage of individual segments for more than one trigger signal; as many as 128 files/trigger events can be automatically recorded
Parameter File size Post-trigger/stop delay	8 Mbyte up to hard disk capacity (recording to RAM up to 80 Mbyte file size) 0% to 100% of file size

## PC platform

Operating system	MS Windows NT 4.0 embedded, Service Pack 5
Main memory (RAM)	256 Mbyte (80 Mbyte reserved as data buffer)
System hard disk	IDE $\geq$ 20 Gbyte
DVD drive	read: DVD-ROM and CD-ROM
CD-R/RW drive (option R&S DVRG-B5)	DVD-ROM read, CD-ROM read and write
Software	only for software released for R&S DVRG by Rohde & Schwarz
<b>Interfaces (rear panel)</b>	
VGA	15-pin sub-D connector, for SVGA or TFT monitor
PS/2	PS/2 connector, combined for mouse and keyboard
Serial interface	9-pin sub-D connector, RS-232-C, 9.6 kBaud to 115 kBaud, connection to other devices and remote control (SCPI)
Parallel interface	25-pin sub-D connector, printer output
Network	RJ45 connector, Ethernet 100baseT for 100 Mbit/s, TCP/IP, remote control (SPCI) and system integration

## Operation

From instrument	keys, rollkey and LC display on front panel or via external keyboard, mouse and monitor (display and operation of LC display of R&S DVRG or R&S DVRG Commander)
Remote control	SCPI commands via TCP/IP (Ethernet 100baseT) or via serial interface (RS-232-C) with R&S DVRG Remote software (conversion of SCPI commands to TCP/IP interface received via RS-232-C interface of R&S DVRG) R&S DVRG Commander software

## R&S DVRG Commander software

<b>System requirements</b>	
Operating system	Windows 95, 98, 2000, NT and XP
Processor	Pentium I, 200 MHz
Memory	32 Mbyte
Hard disk	4 Mbyte
Ethernet	TCP/IP
<b>Functions</b>	remote control of all basic functions of R&S DVRG

## General data

Operating temperature range	+5°C to +40°C
Permissible temperature range	+5°C to +40°C
Storage temperature range	-40°C to +70°C
<b>Mechanical resistance</b>	
Vibration, sinusoidal	5 Hz to 150 Hz, max. 2 g at 55 Hz, 55 Hz to 150 Hz, 0.5 g const., meets DIN EN 60068-2-6, DIN EN 61000-1 and MIL-T-28800 D class 5
Vibration, random	10 Hz to 300 Hz, acceleration 1.2 g (rms)
Shock	40 g shock spectrum, meets MIL-STD- 810 D and MIL-T-28800 D class 3 and 5
Climatic resistance	95% rel. humidity, cyclic test at +25°C/ +40°C, meets DIN EN 60068-2-30
Electromagnetic compatibility	meets EN 50081-1 and 50082-2 (EMC directive of EU)
Power supply	88 V to 264 V/47 Hz to 63 Hz
Dimensions (W x H x D)	427 mm x 88 mm x 450 mm
Weight (without options)	9.7 kg