

R&S® DVSG

Digital Video Signal Generator

Specifications



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Definitions

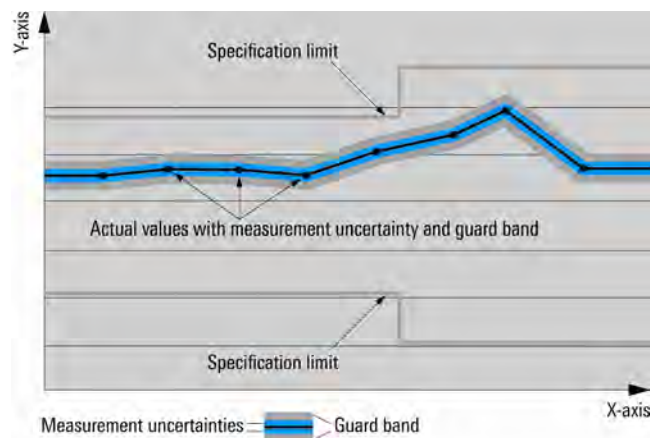
General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 minutes warm-up operation
- Specified environmental conditions met
- Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $<$, \leq , $>$, \geq , \pm , or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design.

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with $<$, $>$ or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)

Characterize product performance by means of a representative value for the given parameter (e.g. nominal impedance). In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties

Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

AV signal generator (R&S®DVSG-K10 option)

Video standard and interface		HDMI / DVI	BNC	SCART ¹	D4 ¹	VGA
Video resolutions		CEA-861-ID				
Standard definition						
480i; 59 Hz RGB / YCbCr / YPbPr / NTSC	6, 7	●/●/–/–	●/–/●/●	●/–/●/●	●/–/●/●	–
480i; 60 Hz RGB / YCbCr / YPbPr / NTSC	6, 7	●/●/–/–	●/–/●/●	●/–/●/●	●/–/●/●	–
576i; 50 Hz RGB / YCbCr / YPbPr / PAL	21, 22	●/●/–/–	●/–/●/●	●/–/●/●	●/–/●/●	–
High definition						
480p; 59 Hz RGB / YCbCr / YPbPr	1	●/●/–	●/–/●	–/–/–	●/–/●	–
480p; 60 Hz RGB / YCbCr / YPbPr	1	●/●/–	●/–/●	–/–/–	●/–/●	–
576p; 50 Hz RGB / YCbCr / YPbPr	17, 18	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 25 Hz RGB / YCbCr / YPbPr	61	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 29 Hz RGB / YCbCr / YPbPr	62	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 30 Hz RGB / YCbCr / YPbPr	62	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 50 Hz RGB / YCbCr / YPbPr	19	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 59 Hz RGB / YCbCr / YPbPr	4	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 60 Hz RGB / YCbCr / YPbPr	4	●/●/–	●/–/●	–/–/–	●/–/●	–
720p; 100 Hz RGB / YCbCr / YPbPr	41	●/●/–	–/–/–	–/–/–	–/–/–	–
720p; 119 Hz RGB / YCbCr / YPbPr	47	●/●/–	–/–/–	–/–/–	–/–/–	–
720p; 120 Hz RGB / YCbCr / YPbPr	47	●/●/–	–/–/–	–/–/–	–/–/–	–
1080i; 50 Hz RGB / YCbCr / YPbPr	20	●/●/–	●/–/●	–/–/–	●/–/●	–
1080i; 59 Hz RGB / YCbCr / YPbPr	5	●/●/–	●/–/●	–/–/–	●/–/●	–
1080i; 60 Hz RGB / YCbCr / YPbPr	5	●/●/–	●/–/●	–/–/–	●/–/●	–
1080p; 23 Hz RGB / YCbCr / YPbPr	32	●/●/–	●/–/●	–/–/–	–/–/–	–
1080p; 24 Hz RGB / YCbCr / YPbPr	32	●/●/–	●/–/●	–/–/–	–/–/–	–
1080p; 25 Hz RGB / YCbCr / YPbPr	33	●/●/–	●/–/●	–/–/–	–/–/–	–
1080p; 29 Hz RGB / YCbCr / YPbPr	34	●/●/–	●/–/●	–/–/–	–/–/–	–
1080p; 30 Hz RGB / YCbCr / YPbPr	34	●/●/–	●/–/●	–/–/–	–/–/–	–
1080p; 50 Hz RGB / YCbCr / YPbPr	31	●/●/–	–/–/–	–/–/–	–/–/–	–
1080p; 59 Hz RGB / YCbCr / YPbPr	16	●/●/–	–/–/–	–/–/–	–/–/–	–
1080p; 60 Hz RGB / YCbCr / YPbPr	16	●/●/–	–/–/–	–/–/–	–/–/–	–
High definition 3D Frame Packing						
720(1470)p; 25 Hz RGB / YCbCr / YPbPr		●/●/–	●/–/●	–/–/–	●/–/●	–
720(1470)p; 29 Hz RGB / YCbCr / YPbPr		●/●/–	●/–/●	–/–/–	●/–/●	–
720(1470)p; 30 Hz RGB / YCbCr / YPbPr		●/●/–	●/–/●	–/–/–	●/–/●	–
720(1470)p; 50 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
720(1470)p; 59 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
720(1470)p; 60 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
1080(2205)p; 24 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
1080(2205)p; 25 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
1080(2205)p; 29 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
1080(2205)p; 30 Hz RGB / YCbCr / YPbPr		●/●/–	–/–/–	–/–/–	–/–/–	–
VESA resolutions						
VGA (640 × 480 pixel); 60 Hz		●	–	–	–	●
SVGA (800 × 600 pixel); 60 Hz		●	–	–	–	●
XGA (1024 × 768 pixel); 60 Hz		●	–	–	–	●
WXGA (1280 × 768 pixel); 60 Hz		●	–	–	–	●
SXGA (1280 × 1024 pixel); 60 Hz		●	–	–	–	●
HD Ready 1 (1360 × 768 pixel); 60 Hz		●	–	–	–	●
WXGA+ (1440 × 900 pixel); 60 Hz		●	–	–	–	●
UXGA (1600 × 1200 pixel); 60 Hz		●	–	–	–	●
WSXGA (1680 × 1050 pixel); 60 Hz		●	–	–	–	●
WUXGA (1920 × 1200 pixel); 60 Hz		●	–	–	–	–

¹ SCART and D4 cannot be used in parallel.

Color depths					
8 bit	•	•	•	•	•
10 bit	•	•	•	•	•
12 bit	•	–	–	–	–
Color sampling					
4:2:0	•	•	•	•	–
4:2:2	•	–	–	–	•
4:4:4	•	–	–	–	•
Video variation range (digital)					
Overall amplitude	0 % to 200 %		step size 0.1 %		
Luminance amplitude	0 % to 200 %		step size 0.1 %		
Chrominance amplitude	0 % to 200 %		step size 0.1 %		
Offset	0 % to 100 %		step size 0.1 %		
Resolution clipping	none, 5 bit to 11 bit				
Audio standard and interface					
Supported interfaces	HDMI, AUDIO DIG OUT				
Audio source	file (AVG), sinewave generator (internal)				
Frequency range	100 Hz to 20000 Hz				
Level range	0 dBFS (full scale) to –99.9 dBFS				
Format	PCM 16 bit, 20 bit, 24 bit				
Sampling rate	32 kHz, 44.1 kHz, 48 kHz				
Modes	mono, stereo, up to 8 channels (in line with CEA-861-D)				
Basic signal library					
More than 120 still pictures and moving pictures with different resolution and in raw data format:					
<ul style="list-style-type: none"> • AV Main: multi-motion test sequences, lip sync test pattern, static test pattern for geometry, brightness, contrast, color measurement; general-purpose test pattern • AV EBU: test pattern in line with EBU TECH 3321/3325 • AV VESA: test pattern for PC resolutions • AV 3D: live sequences and test pattern for 3D-TV in accordance to HDMI1.4a standard specification 					
Supported display test standards					
<ul style="list-style-type: none"> • CISPR 20 • EBU TECH 3321/3325 • VESA FPD2 					

AV signal generator extension (R&S®DVSG-B10 option)

Video memory	size	4 Gbyte
	length	387 frames (12 bit) to 1031 frames (8 bit) at 1920 x 1080 pixel
Stream library	AV extension	
Resolution	1080p	
Color space	ITU.709, RGB, RGB_TV, xvYCC	
Sequences	live sequences: Bernina cinemascope (1, 2, 3, 4), colored indoor (1, 2, 3) artificial test patterns: horizontal grid, motion artefacts	

AVG pattern import (included in R&S®DVSG-K10/B10 option)

Supported input formats	
Video	*.BMP, *.TIFF, *.YUV10, *.YUV16, *.V210, *.QNT
Audio	*.WAV; multi channel audio up to 8 channels
Supported output formats	
Format	*.AVG, for R&S®DVSG-K10 and R&S®DVSG-B10
File size	up to 4 GB
Video	
Resolutions acc. CEA-861 ID	1, 4, 5, 6, 7, 16, 17, 18, 19, 20, 21, 22, 31, 33, 34, 41, 44; 2D and 3D formats
3D formats	side-by-side, top-bottom, frame packing
Color space	RGB, RGB TV, ITU601, ITU709, xvYCC
Color depth	8 bit, 10 bit, 12 bit
Color sampling	4:2:0, 4:2:2, 4:4:4
Audio	
Frequency range	100 Hz to 20 000 Hz
Level range	0 dBFS (full scale) to -99.9 dBFS
Format	PCM 16 bit, 20 bit, 24 bit
Sampling rate	32 kHz, 44.1 kHz, 48 kHz
Modes	mono, stereo, up to 8 channels (in line with CEA-861-D)
Sampling rate	32 kHz, 44.1 kHz, 48 kHz

AV signal player (R&S® DVSG-B30 option)

Video standard and interface		HDMI	BNC	SCART ²	D4 ²	SDI/HD-SDI
Video resolutions	CEA-861-ID					
Standard definition						
480i; 59 Hz RGB / YC _b C _r / YP _b P _r / NTSC	6, 7	●/●/-/-	●/-/●/●	●/-/●/●	●/-/●/●	-/●/-/-
480i; 60 Hz RGB / YC _b C _r / YP _b P _r / NTSC	6, 7	●/●/-/-	●/-/●/●	●/-/●/●	●/-/●/●	-/●/-/-
576i; 50 Hz RGB / YC _b C _r / YP _b P _r / PAL	21, 22	●/●/-/-	●/-/●/●	●/-/●/●	●/-/●/●	-/●/-/-
High definition						
480p; 59 Hz RGB / YC _b C _r / YP _b P _r	1	●/●/-	●/-/●		●/-/●	-/●/-
480p; 60 Hz RGB / YC _b C _r / YP _b P _r	1	●/●/-	●/-/●		●/-/●	-/●/-
576p; 50 Hz RGB / YC _b C _r / YP _b P _r	17, 18	●/●/-	●/-/●		●/-/●	-/●/-
720p; 50 Hz RGB / YC _b C _r / YP _b P _r	19	●/●/-	●/-/●		●/-/●	-/●/-
720p; 59 Hz RGB / YC _b C _r / YP _b P _r	4	●/●/-	●/-/●		●/-/●	-/●/-
720p; 60 Hz RGB / YC _b C _r / YP _b P _r	4	●/●/-	●/-/●		●/-/●	-/●/-
1080i; 50 Hz RGB / YC _b C _r / YP _b P _r	20	●/●/-	●/-/●	not defined	●/-/●	-/●/-
1080i; 59 Hz RGB / YC _b C _r / YP _b P _r	5	●/●/-	●/-/●		●/-/●	-/●/-
1080i; 60 Hz RGB / YC _b C _r / YP _b P _r	5	●/●/-	●/-/●		●/-/●	-/●/-
Color depths						
8 bit		●	●	●	●	●
Video resolution conversion						
All input formats	to 1920 × 1080i; 1280 × 720p; 720 × 480i/576i					
Audio support						
Mono, stereo, up to 8 channels						
Basic signal library						
Continuously extended library containing:						
<ul style="list-style-type: none"> • Test pattern (still and moving) <ul style="list-style-type: none"> - For tests of color, geometry, motion blur, pixel overdrive, contrast - ITU test lines (SD only) - Teletext (SD only) • Critical live sequences <ul style="list-style-type: none"> - Natural sequences with typical artifacts such as noise, film judder, blocking and other coding artifacts • Promotion sequences 						
High-quality sequences for display promotion						
Custom pattern						
Format	MPEG-2 transport stream in line with ISO/IEC 1-13818					
File type	TS, TRP, GTS, AVP					
Video coding	MPEG-2 (MP@ML) MPEG-2 (MP@ML) H.264/AVC (MP) H.264/AVC (MP)					
Audio coding	MPEG-1/MPEG-2 layer I, AC3					
Max. length of moving pictures	up to hard disk volume					

² SCART and D4 cannot be used in parallel.

TS player and recorder (R&S®DVSG-K20 option)

Playing of Rohde & Schwarz TS seamless loop library

Format		in line with ISO/IEC 1-13818
File type	MPEG-2 transport stream	GTS (Rohde & Schwarz proprietary)
Sequence length		endless and seamless generation with repetition of video, audio, and data contents
Data rate		675 kbit/s to 214 Mbit/s (including null packets)
Useful data rate		max. 90 Mbit/s
Data volume		max. 80 Mbyte useful data
Storage medium	hard disk	total: 250 Gbyte min. available: 160 Gbyte
Basic signal set		selection of transport streams for testing MPEG-2 SDTV (25 Hz, 29.97 Hz) signal processing; general DVB and ATSC transport stream testing; moving picture sequences and test patterns with test tones for 625 and 525 lines (For detailed information, refer to the "Stream Libraries for Rohde & Schwarz TS Generators" data sheet. Further transport streams are available as options; see below.)
Interface characteristics	simultaneous output	2 x ASI/SMPTE 310M, 1 x SPI
Length of transport stream packets	ATSC	188/208 byte (settable)
	DVB	188/204 byte (settable)
PCR jitter	form	sine, rectangle, and triangle
	frequency	1 mHz to 100 kHz
	amplitude	0 s to 10 ms
	increment	0.1 µs

Playing of TS and binary bit stream

Format		in line with ISO/IEC 1-13818
File type	MPEG-2 transport stream (binary format)	8 bit 10 bit
Max. file size		limited only by size of hard disk
Min. data rate		125 kbit/s
Max. data rate	buffer	214 Mbit/s
	hard disk	min. 90 Mbit/s typ. 214 Mbit/s
Storage medium	hard disk	total: 250 Gbyte min. available: 160 Gbyte
Interface characteristics		
Supported interfaces	simultaneous output	2 x ASI/SMPTE 310M, 1 x SPI
Number of signals that can be replayed/generated simultaneously		1
Determination of data rates	automatic or manual	on the basis of the obtained PCR values
Endless replay		frame-exact cut at transition from end of file to beginning of file
Seamless loop (realtime update of TS values)	selectable	continuity counter PCR/PTS/DTS TOT/TDT

Recording of TS bit stream

Format		in line with ISO/IEC 1-13818
File type	MPEG-2 transport stream (binary format)	8 bit 10 bit
TS packet length	in line with recorded signal	188/204 byte
Max. file size		limited only by size of hard disk
Min. data rate		125 kbit/s
Max. data rate	buffer	214 Mbit/s
	hard disk	min. 90 Mbit/s typ. 214 Mbit/s

Transport stream libraries and tools

SDTV sequences	part of R&S®DVSG-K20 option	selection of transport streams for testing MPEG-2 SDTV (25 Hz, 29.97 Hz) signal processing; general DVB and ATSC transport stream testing
HDTV sequences	R&S®DV-HDTV	selection of transport streams for testing MPEG-2 HDTV signal processing
H.264 stream library	R&S®DV-H264	selection of transport streams for testing H.264 SDTV and HDTV signal processing
DVB-H stream library	R&S®DV-DVBH	selection of transport streams for testing entire DVB-H signal processing chain
Test Card M sequences	R&S®DV-TCM	selection of transport streams for testing various DTV receiver and decoder STB functions
ISDB-T stream library	R&S®DV-ISDBT	selection of transport streams for testing SDTV and HDTV signal processing
MediaFLO™ Streams	R&S®SFU-K222	selection of transport streams for testing FloTV receivers
ISDB-T Streams	R&S®SFU-K224	selection of transport streams for testing ISDB-T _b receivers
CMMB Streams	R&S®SFU-K225	selection of transport streams for testing CMMB receivers
ATSC Mobile DTV Streams	R&S®SFU-K226	selection of transport streams for testing ATSC MDTV receivers
Advanced stream combiner	R&S®DV-ASC	comprehensive software tool for generating transport stream files in GTS (Rohde & Schwarz proprietary) or TRP format

For detailed information, refer to the "Stream Libraries for Rohde & Schwarz TS Generators" data sheet.

Signal interface characteristics

Signal interfaces for AV signal generator and AV signal player

Analog composite video		
Connector	CCVS	1 × BNC, female, 75 Ω
	SCART	1 × SCART, 75 Ω
Standard		NTSC M/N (SMPTE 170M), PAL B/G/M/N (ITU-R BT.470)
Luminance level	nominal, NTSC	714 mV ± 1.5 %
	nominal, PAL	700 mV ± 1.5 %
Sync level	nominal, NTSC	285.5 mV ± 1.5 %
	nominal, PAL	300 mV ± 1.5 %
Burst amplitude	nominal, NTSC	285.5 mV ± 2.0 %
	nominal, PAL	300 mV ± 2.0 %
Chrominance level	nominal, NTSC	714 mV ± 2.5 %
	nominal, PAL	700 mV ± 2.5 %
DC pedestal	selectable, NTSC	0 IRE, +7.5 IRE
Luminance signal-to-noise ratio	quiet line, weighted	> 83 dB
	quiet line, unweighted	> 77 dB
SC/H phase	nominal, PAL NTSC	0° ± 5°

Analog component video		
Connector	G/Y, B/P _b , R/P _r	3 × BNC, female, 75 Ω
	SCART	1 × SCART, 75 Ω
	D4	14-pin D video connector, female
Standard		RGB, YP _b P _r , (SMPTE/EBU N10 and SMPTE 274M)
Video format		SDTV, HDTV
Synchronization	SDTV	bi-level
	HDTV	tri-level
	GBR	G
	YP _b P _r	Y
Level	nominal	700 mV ± 2.0 %

Analog S-Video		
Connector	S-VIDEO	4-pin mini DIN, 75 Ω
	SCART	1 × SCART, 75 Ω
Standard		Y, C (PAL and NTSC)

Analog video – VGA		
Connector		VGA 15-pin D-Sub, female, rear
Standard		RGB (VESA)

Digital video – HDMI		
Connector	HDMI	high-definition multimedia interface, 19-pin, female, rear
Version		HDMI 1.3c, HDMI 1.4a compatible
Maximum pixel clock		165 MHz
DVI Mode	RGB only, no audio, no AVI info frame (Auxiliary Video Info)	ON, OFF
HDCP	switchable	ON, OFF (standard)
Display data channel (DDC)	display of sink device information	

SCART interface signaling		
Input selection		composite
		component
		Y/C
Format (WSS)		OFF, 4:3, 16:9

Digital video – SDI/HD-SDI (R&S® DVSG-K30 option)		
Connector	HD-SDI	1 x BNC, female, rear, 75 Ω
Standard	SDI	270 Mbit/s, in line with SMPTE 259M
	HD-SDI	1.485 Gbit/s, in line with SMPTE 292M

Analog audio		
Connector	L-Out, R-Out	RCA jack, female
	SCART	1 x SCART

Digital audio		
Connector	HDMI	19-pin HDMI, female
	AUDIO DIG OUT	TOSLINK, optical
	SDI/HD-SDI	BNC, embedded audio

Signal interface for MPEG-2 transport stream player and recorder

Serial inputs		
Number		1, rear
Connector		BNC, 75 Ω
Mode		ASI, SMPTE 310M (user-selectable)
ASI		270 Mbit/s, 188/204 byte, in line with EN 50083-9 (2002)
SMPTE 310M		19.392658 Mbit/s, 188 byte, in line with BP 400 SMPTE
Max. cable length		180 m

Serial outputs		
Number		1, front 1, rear
Connector		BNC, 75 Ω

Mode		ASI, SMPTE 310M (user-selectable)
ASI		270 Mbit/s, 188/204 byte (selectable), packet/continuous (selectable), in line with EN 50083-9 (2002)
SMPTE 310M		19.392658 Mbit/s, 188 byte, in line with BP 400 SMPTE
Maximum cable length		180 m

Parallel input/output (switchable)		
Number		1, rear
Connector		25-pin, female, rear
Synchronous parallel interface		SPI, in line with EN 50083-9
Level		LVDS
Clock		84.375 kHz to 20 MHz
Mode	8 bit (TRP)	8 bit data
	10 bit (T10)	8 bit data, 1 bit data valid, 1 bit packet sync

General data of base unit

System data

System	operating system	PC platform Windows XP Embedded 250 Gbyte internal hard disk
Local control	display	VGA 640 x 480 pixel
	control	rotary knob, hardkeys and softkeys
Extended local control		external mouse and keyboard via USB
Remote control	command set	SCPI 1999.5
	interface	Ethernet 10/100BaseT
	connectors	
Ethernet		RJ-45, rear
USB		USB 2.0, front and rear
AC supply input		IEC 60320 C14, rear

Operating data

Power supply	input voltage range, AC supply frequency	100 V to 240 V \pm 10 %, 50 Hz to 60 Hz \pm 5 %, 1.8 A to 0.8 A
Electromagnetic compatibility		in line with EN 55011 class B, EN 61326
	power factor correction	in line with EN 61000-3-2
Immunity against RF fields		up to 10 V/m
Environmental conditions		
Operating temperature range ³		+5 °C to +45 °C, in line with EN 60068-2-1, EN 60068-2-2
Storage temperature range		-20 °C to +60 °C
Climatic resistance		85 % rel. humidity, cyclic test at +25 °C/+40 °C
Mechanical resistance		
Vibration	sinusoidal	5 Hz to 150 Hz, max. 2 g at 55 Hz, 55 Hz to 150 Hz, 0.5 g constant, in line with EN 60068-2-6
	random	10 Hz to 300 Hz, acceleration 1.2 g RMS, in line with EN 60068-2-64
Shock		40 g shock spectrum, in line with EN 60068-2-27, MIL-STD-810E
Electrical safety		in line with IEC 61010-1, EN 61010-1 and UL 61010-1, CSA C22.2 No. 61010-1
Dimensions	W x H x D	235 mm x 155 mm x 465 mm (9.25 in x 6.11 in x 18.3 in) (3 height units)
Weight	fully equipped	5.6 kg (12.35 lb)
Recommended calibration interval		3 years
Standard warranty period		1 year

³ Reduced LCD brightness at higher operating temperatures.

Ordering information

Designation	Type	Order No.
Base unit		
Digital Video Signal Generator	R&S®DVSG	2113.0008.02
Accessories: printed quick start guide, operating manual with firmware on CD, power cable		
Options		
AV Signal Generator	R&S®DVSG-K10	2113.0314.02
AV Signal Generator Extension	R&S®DVSG-B10	2113.0208.02
TS Player and Recorder	R&S®DVSG-K20	2113.0320.02
AV Signal Player	R&S®DVSG-B30	2113.0237.02
SDI/HD-SDI Output	R&S®DVSG-K30	2113.0337.02
Stream libraries		
HDTV Sequences	R&S®DV-HDTV	2085.7650.02
H.264 Stream Library	R&S®DV-H264	2085.9052.02
DVB-H Stream Library	R&S®DV-DVBH	2085.8704.02
Test Card M Sequences	R&S®DV-TCM	2085.7708.02
ISDB-T Stream Library	R&S®DV-ISDBT	2085.9146.02
MediaFLO™ Streams	R&S®SFU-K222	2110.2968.02
ISDB-T Streams	R&S®SFU-K224	2110.4777.02
CMMB Streams	R&S®SFU-K225	2112.3649.02
ATSC Mobile DTV Streams	R&S®SFU-K226	2110.3812.02
TS creation tool		
Advanced Stream Combiner (dongle for USB interface)	R&S®DV-ASC	2085.8804.03
Recommended extras		
Printed operating manual (English)		2113.1862.12
Keyboard with USB Interface (US keyboard)	R&S®PSL-Z2	1157.6870.04
Mouse with USB Interface, optical	R&S®PSL-Z10	1157.7060.02
19" Adapter (R&S®DVSG with second instrument)	R&S®ZZA-T33	1109.4458.00
19" Adapter (R&S®DVSG with spare slot)	R&S®ZZA-T34	1109.4464.00
Documentation of R&S®DVSG Calibration Values	R&S®DVSG-DCV	2082.0490.33
Service options (Service options can only be ordered in connection with the purchase of an instrument.)		
Repair service		
One-Year Repair Service following the warranty period	R&S®RO2DVSG	please contact your local sales office
Two-Year Repair Service following the warranty period	R&S®RO3DVSG	please contact your local sales office
Four-Year Repair Service following the warranty period	R&S®RO5DVSG	please contact your local sales office
Calibration service		
Two-Year Calibration Service	R&S®CO2DVSG	please contact your local sales office
Three-Year Calibration Service	R&S®CO3DVSG	please contact your local sales office
Five-Year Calibration Service	R&S®CO5DVSG	please contact your local sales office

Option identification: R&S®DVSG-Bxxx = hardware option; R&S®DVSG-Kxxx = software option.

For product brochure, see PD 5213.9892.12 and www.rohde-schwarz.com

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PD 5213.9892.22 | Version 04.00 | June 2010 | R&S®DVSG
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