



HDTV Sequences DV-HDTV

Comprehensive collection of high-resolution transport and elementary streams

- ◆ Large choice of transport streams compatible with DVB and ATSC
- ◆ All video streams also available as elementary streams for individual combination with Stream Combiner™ software
- ◆ Ready for use with DVRG or DVG
- ◆ Sequence length of up to 32 seconds
- ◆ Support of all customary video formats and frame rates
- ◆ Different audio formats: MPEG-1 Layer 2 and AC-3
- ◆ Endless replay with non-interrupting transition from sequence end to sequence start for video and audio in the event of replay by DVRG



ROHDE & SCHWARZ

The DV-HDTV option from Rohde&Schwarz is a versatile combination of MPEG-2-coded streams for high-definition TV. Its versatility enables the testing of diverse units to almost all worldwide standards. In addition to several video formats for the European and American television, MPEG-coded and AC-3-coded audio data are supplied.

All video streams, with audio streams combined to transport streams, can be loaded to the DVG and DVRG from Rohde&Schwarz, and directly replayed. To combine individual transport streams with the Stream Combiner™ software, all the elementary streams used are stored individually on the CD-ROMs. This allows easy creation of customized MPEG-2-compliant transport streams.

The transport streams supplied are stored in the GTS format, which was developed by Rohde&Schwarz, and which allows endless, continuous and errorfree replay also at the transition between the beginning and the end of a stored sequence. The Stream Combiner™ software can also create transport streams in the GTS format.

Characteristics

Video and audio formats

The collection of transport and elementary streams comprises a variety of sequences. They are based on several test patterns and real film sequences. All video sequences are available as elementary streams in various resolutions and frame rates. They are complemented by audio signals in different formats, both in MPEG-1 Layer 2 and AC-3. The transport streams are designed to comply with the DVB and ATSC standards according to the formats of the video streams included. Furthermore, the transmission path (terrestrial, cable or satellite), defined by the transport stream, varies.

Applications

Besides the differentiation into audio and video formats, the collection can be subdivided into three groups:

- ◆ Transport streams for replay by DVG and DVRG
- ◆ Transport streams for replay by DVRG
- ◆ Elementary streams for the creation of transport streams with the Stream Combiner™ software for replay by DVRG or DVG

Due to the different lengths of the video and audio frames (e.g. ATSC: 33.366 ms/32 ms), an even number of video frames does not always result in an even number of audio frames. In the ATSC standard this is only possible at 32.032 seconds. Hardware limitations of the MPEG-2 Measurement Generator DVG may interrupt audio signals at the transition between sequence end and sequence start.



Frame examples taken from the transport and elementary stream collection

Installation

The installation depends on the device. On the DVRG, the transport streams can be replayed directly from a CD via the CD-ROM drive or the CD burner option within the DVRG, or can be copied to the hard disk with WindowsNT Explorer.

The option is installed on the DVG via a PC. The transport streams are replayed to the DVG with a special cable, which is supplied with Stream Combiner™. If Stream Combiner™ is not available, the cable can be ordered as an inexpensive alternative via the Transport Stream Update Option DVG-Z1.

The Stream Combiner™ software can either directly access the elementary streams from CD-ROM, or the elementary streams can be copied from the CD-ROM to the hard disk for ease of operation.

Documentation

Comprehensive documentation (see box) describes the characteristics of each transport stream. The relevant transport stream parameters and a description of the video and audio elementary streams are documented. The length of the sequence (time and number of frames) and the generator to be used (DVG and/or DVRG) are also provided. Thus, the documentation complements the library of transport and elementary streams as an effective tool.

Transport Streams PRK1080IGTS and PRK1080I_L.GTS

	PRK1080I.GTS	PRK1080I_L.GTS
TS ID:	5002 (0x138A)	5003 (0x138B)
Length:	240 videoframes (9.600 s)	720 videoframes (38.400 s)
Runs on:	<input type="checkbox"/> DVG (20MByte)	<input type="checkbox"/> DVG (20MByte)
	<input checked="" type="checkbox"/> DVG (32MByte)	<input type="checkbox"/> DVG (32MByte)
	<input checked="" type="checkbox"/> DVRG	<input checked="" type="checkbox"/> DVRG
Tables:		<input checked="" type="checkbox"/> DVB <input type="checkbox"/> ATSC
Transmission: (descriptor)		<input type="checkbox"/> Satellite <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Terrestrial

Program:

Program 1: Service_name: PARK MPEG
Program 2: Service_name: PARK AC-3

Video:



Park scene from the transport and elementary stream collection

MPEG-2 MP@HL		Single stream shared by both programs (PID 0x0100)		
Frames/s	Lines/picture	Pixels/line	Mbit/s	
<input checked="" type="checkbox"/> 25	<input type="checkbox"/> 480	<input type="checkbox"/> 704	<input checked="" type="checkbox"/> 16	<input checked="" type="checkbox"/> Seamless at sequence end
<input type="checkbox"/> 29.97	<input type="checkbox"/> 720	<input type="checkbox"/> 1280		<input checked="" type="checkbox"/> Scene cuts
<input type="checkbox"/> 50	<input checked="" type="checkbox"/> 1080	<input checked="" type="checkbox"/> 1920		<input checked="" type="checkbox"/> Moving Picture
<input type="checkbox"/> 59.94				
<input type="checkbox"/> 24				
				<input checked="" type="checkbox"/> One PES per videoframe

Audio:

Background noise

Program 1: MPEG-1 Layer 2 Stereo

Program 2: AC-3 (3/2 LFE)

ksample/s	kbit/s	PRK1080I.GTS	PRK1080I_L.GTS
<input type="checkbox"/> 32	<input type="checkbox"/> 192	<input type="checkbox"/> Seamless at sequence end	<input checked="" type="checkbox"/> Seamless at sequence end
<input type="checkbox"/> 44.1	<input type="checkbox"/> 256	<input type="checkbox"/> Continuous tone	<input type="checkbox"/> Continuous tone
<input checked="" type="checkbox"/> 48	<input checked="" type="checkbox"/> 384		

Specifications

Video formats supported			
Frequency in Hz	Sampling	Number of lines	Number of columns
24	progressive	1080	1920
25	interlaced	1080	1920
50	progressive	720	1280
29	interlaced	1080	1920
59	progressive	720	1280
59	progressive	480	704
Audio formats supported		MPEG-1 Layer 2 and AC-3	
Video contents		Fireworks Public park Shark and other fish in the aquarium HDTV test pattern Colour bars Horizontal ramp Horizontal frequency sweep	
Sequence length		up to 32.032 seconds	

Ordering information

HDTV Sequences for DVG and DVRG	DV-HDTV	2085.7650.02
Transport Stream Upgrade on CD-ROM with special parallel cable for installation on DVG	DVG-Z1	2069.0419.00
Stream Combiner™	DVG-B1	2068.9835.02
MPEG-2 Measurement Generator	DVG	2068.8600.03
DTV Recorder Generator	DVRG	2083.1302.02

Certified Environmental System
ISO 14001
REG. NO 1954

Certified Quality System
ISO 9001
DQS REG. NO 1954



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