

R&S[®]SMCVB-KS12

ISDB-T Streams

User Manual



1179266002
Version 03

ROHDE & SCHWARZ
Make ideas real



This document describes the following software options:

- R&S®SMCVB-KS12 ISDB-T Streams (1434.4973.xx)

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1179.2660.02 | Version 03 | R&S®SMCVB-KS12

The following abbreviations are used throughout this manual: R&S®SMCV100B is abbreviated as R&S SMCV100B.

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1 Welcome to the R&S SMCVB-KS12 option

The R&S SMCVB-KS12 is a stream library that provides stream files in accordance with the ISDB-T/ISDB-T_{SB} digital standard.

This user manual contains a reference description of the functionality that the stream library provides. All functions not discussed in this manual are described in the R&S SMCV100B user manual. The latest version is available at:

www.rohde-schwarz.com/manual/SMCV100B

1.1 Key features

The R&S SMCVB-KS12 features:

- Numerous stream files in accordance with ISDB-T/ISDB-T_{SB} digital standard
- Streaming of high-quality video contents
- Streaming of high-quality audio contents
- Efficient use with dedicated streams

1.2 Installation

Required options

The equipment layout for processing files of waveform libraries includes:

- R&S SMCV100B base unit (64 MSample ARB memory, 60 MHz RF bandwidth)
- Broadcast standard option for the "TS Player" application (R&S SMCVB-Kxxx)
- Enable Broadcast Standards option (R&S SMCVB-K519)
- Stream library option (R&S SMCVB-KSxx)

For more information on stream options, see chapter "TS Player section "Required options" in the broadcast standard option user manual of the R&S SMCV100B.

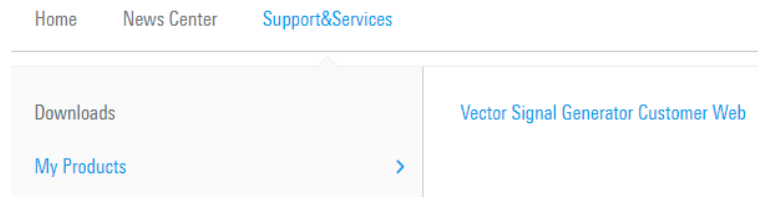
To access R&S SMCV100B libraries

R&S SMCV100B stream and waveform libraries are available for download for registered users on the "Vector Signal Generator Customer Web" at the global Rohde & Schwarz information system (GLORIS).

1. For access, register at <https://gloris.rohde-schwarz.com>:
In section "How to register", follow the instructions provided in the introduction video "How to register for GLORIS".
2. For access to the "Vector Signal Generator Customer Web", register the R&S SMCV100B:

- a) In the menu "Support&Services", select "My Products" > "Register my product".
- b) To register the R&S SMCV100B, click "Add Equipment".
- c) In the section "Information about your product", specify order number ("Material no.") and serial number ("Serial No.") of the R&S SMCV100B.

3. After product registration, log in at GLORIS.
4. In the menu bar, select "Support&Services > My Products > Vector Signal Generator Customer Web".



The "R&S SMCV100B Customer Web" page opens.

5. In the selection field "Product Selection for VSG", select "R&S®SMCV100B".

A webpage opens and displays search results for products related to the R&S SMCV100B.

Product Related Documents



To download a library file

This procedure describes how to download library files. It provides a step-by-step description for download of a stream library file. The download of waveform library files is analogous.

1. Access the "Product Related Documents" web page as described in ["To access R&S SMCV100B libraries"](#) on page 5.

2. In the search navigation bar, select "Firm-/Software" > "Waveform & Streams".

The search lists all information related to stream and waveform libraries of the R&S SMCV100B:

- R&S SMCVB-KSxx results relate to stream libraries.
- R&S SMCVB-KVxx results relate to waveform libraries.

You are searching for: Product: **R&S®SMCV100B**

All Product Documents **Firm-/Software**

[Firmware](#) [Software](#) [Driver](#) [Waveform & Streams](#) [Archive](#)

2452 Results available Sort by date ▼

Show options

SMCVB-KS10 DAB / T-DMB STREAMS

Attachments

[SMCVB-KS10 DAB / T-DMB STREAMS](#) [SMCVB-KS10 DAB / T-DMB STREAMS User Manual \(download version\)](#)

3. Optionally, deactivate the filtering to display all waveform and stream library content.

- a) On the left menu, select "Show options".
- b) Click "Filtering on. Reset all filters."

Filtering on. Reset all filters.

4. Optionally, to filter for stream library content enter *KS in the search input field.

You are searching for: Product: **R&S®SMCV100B**

All Product Documents **Firm-/Software**

[Firmware](#) [Software](#) [Driver](#) [Waveform & Streams](#) [Archive](#)

142 Results available Sort by date ▼

Show options

SMCVB-KS10 DAB / T-DMB STREAMS

Attachments

[SMCVB-KS10 DAB / T-DMB STREAMS](#) [SMCVB-KS10 DAB / T-DMB STREAMS User Manual \(download version\)](#)

5. In the search result list, navigate to the required library.
6. To download required library files, click the download link in the "Attachments" section of library product page.

For example, for DAB/T-DMB streams, click the download link "R&S SMCVB-KS10 DAB / T-DMB STREAMS".

A download dialog opens to select and save files of the stream library.

To save a library file

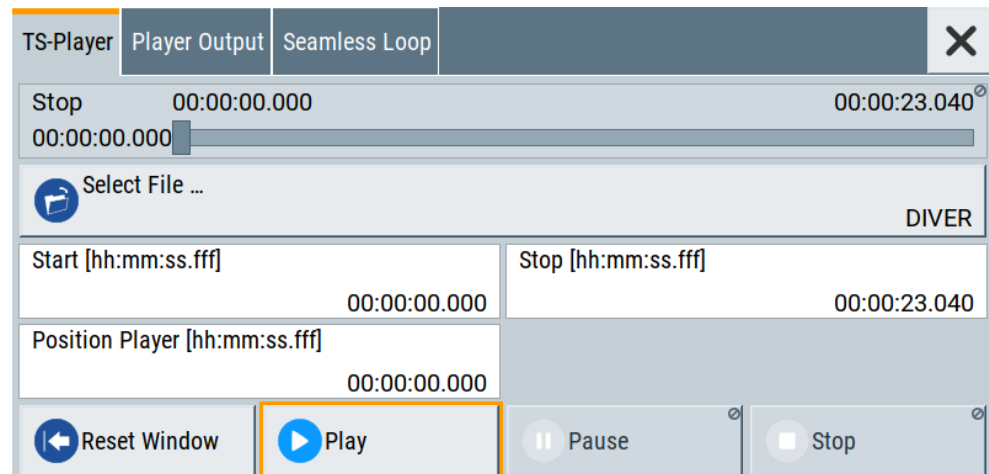
You can save the library file to several storage locations:

- External storage device (HDD, memory stick): Use external USB storage device to save large files or complete libraries. Connect the storage device to one of the USB 3.0 connectors on the rear panel of the R&S SMCV100B. If detected correctly, you can access the files on the R&S SMCV100B in the `/usb/` directory in file-select dialogs.
The R&S SMCV100B supports the following storage formats: ext2/ext3/ext4, FAT16/FAT32, NTFS (read-only), ISO9660, UDF
- Internal memory (SSD): Use the internal memory to save single files to the user directory `/var/user/` of the R&S SMCV100B, for example, using FTP via a LAN connection.

To load and play a stream library file

1. Load the file from its storage location:
 - External storage device (HDD, memory stick): Load the file from the `/usb/` directory.
 - Internal memory (SSD): Load the file from the user directory `/var/user/`

Note: Library files are encrypted files. Loading the library file at the R&S SMCV100B requires installation of the corresponding library option. See "[Required options](#)" on page 5.
2. To load the file at the R&S SMCV100B, open the "TS Player" application in digital broadcast standard ("`<Broadcast_Standard>`") dialogs:
 - a) Select "Baseband" > "`<Broadcast_Standard>`" > "Input Signal".
 - b) Select "Source" > "TS Player".
 - c) Select "TS Player" button.
 - d) Select "Select File".
3. To select the file, navigate to the storage location (1).
4. Select "TS-Player" > "Play".



The R&S SMCV100B processes the stream file.

5. Select "<Broadcast_Standard>" > "State" > "On", to activate the baseband signal.
6. In the block diagram, select "RF" > "On".

The stream file is modulated onto the RF carrier and output at the "RF 50 Ω " connector.

For more information on loading stream files, see chapter "How to generate an internal TS signal" in the broadcast standard option user manual of the R&S SMCV100B.

1.3 What's new

Compared to the previous version the documentation provides updated installation instructions to access, download and play waveform library files, see [Chapter 1.2, "Installation"](#), on page 5.

1.4 Documentation overview

This section provides an overview of the R&S SMCV100B user documentation. Unless specified otherwise, you find the documents at:

www.rohde-schwarz.com/manual/smcv100b

1.4.1 Getting started manual

Introduces the R&S SMCV100B and describes how to set up and start working with the product. Includes basic operations, typical measurement examples, and general information, e.g. safety instructions, etc. A printed version is delivered with the instrument.

1.4.2 User manuals and help

Separate manuals for the base unit and the software options are provided for download:

- **Base unit manual**
Contains the description of all instrument modes and functions. It also provides an introduction to remote control, a complete description of the remote control commands with programming examples, and information on maintenance, instrument interfaces and error messages. Includes the contents of the getting started manual.
- **Software option manual**
Contains the description of the specific functions of an option. Basic information on operating the R&S SMCV100B is not included.

The contents of the user manuals are available as help in the R&S SMCV100B. The help offers quick, context-sensitive access to the complete information for the base unit and the software options.

All user manuals are also available for download or for immediate display on the Internet.

1.4.3 Service manual

Describes the performance test for checking compliance with rated specifications, firmware update, troubleshooting, adjustments, installing options and maintenance.

The service manual is available for registered users on the global Rohde & Schwarz information system (GLORIS):

<https://gloris.rohde-schwarz.com>

1.4.4 Instrument security procedures

Deals with security issues when working with the R&S SMCV100B in secure areas. It is available for download on the internet.

1.4.5 Printed safety instructions

Provides safety information in many languages. The printed document is delivered with the product.

1.4.6 Data sheets and brochures

The data sheet contains the technical specifications of the R&S SMCV100B. It also lists the options and their order numbers and optional accessories.

The brochure provides an overview of the instrument and deals with the specific characteristics.

See www.rohde-schwarz.com/brochure-datasheet/smcv100b

1.4.7 Release notes and open source acknowledgment (OSA)

The release notes list new features, improvements and known issues of the current firmware version, and describe the firmware installation.

The software makes use of several valuable open source software packages. An open-source acknowledgment document provides verbatim license texts of the used open source software.

See www.rohde-schwarz.com/firmware/smcv100b

1.4.8 Application notes, application cards, white papers, etc.

These documents deal with special applications or background information on particular topics.

See www.rohde-schwarz.com/application/smcv100b

1.4.9 Videos

Find various videos on Rohde & Schwarz products and test and measurement topics on YouTube: <https://www.youtube.com/@RohdeundSchwarz>

2 Available transport stream files

This chapter contains a description of the available transport stream files.



2.1 Basic streams

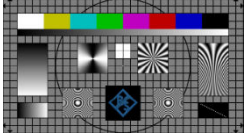
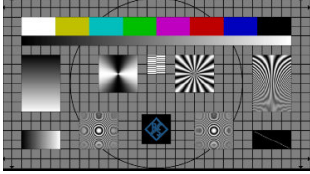


These streams are stored in the `non-BTS` subfolder.

2.1.1 Overview

Each of the ISDB-T transport streams consists of a video elementary stream (MPEG2) and an AAC-LC ADTS audio elementary stream.

The file name gives information about the video information (scene or pattern) and the size (SDTV or HDTV) of the coded video picture.

Video elementary stream	ISDBT test stream & video elementary stream	
	29 Hz	59 Hz
Codec 4:3 Test Pattern Interlaced 4:3 480 lines / 	SDTV_MPEG_Codec43 Codec43 multiburst 06 Mbps 24 frames	
Codec 16:9 Test Pattern Interlaced 16:9 480 lines / 	SDTV_MPEG_Codec169 Codec169 multiburst 06 Mbps 24 frames	

<p>Test Pattern Progressive 16:9 720 lines /</p> 		<p>HDTV_MPEG_Pattern Pattern 240 frames Note: Rotating white square moving every field (16.683 ms)</p>
<p>Test Pattern Interlace 16:9 1080 lines /</p> 	<p>HDTV_MPEG_Pattern Pattern 120 frames Note: Rotating white square moving every field (16.683 ms)</p>	
<p>Video elementary stream</p>	<p>ISDBT test stream & video elementary stream</p>	
<p>Park Interlaced 16:9 1080 lines 576 lines /</p> 	<p>29 Hz</p> <p>HDTV_MPEG_Park Park 960 frames</p>	<p>59 Hz</p>
<p>Park Interlaced 16:9 480 lines /</p> 	<p>SDTV_MPEG_Park Park 0720 0480i 960 frames 06 Mbps</p>	

2.1.2 SDTV_MPEG_Codec43 (29 hz)

TSID: 32736 (0x7FE0)

SID: 1024 (0x0400)

Length: 80x24 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.2.1 Video



Figure 2-1: Codec 4:3 test pattern

MPEG2 MP@ML

- 29.97 frames/s
- 480 lines/picture
- 720 pixels/line
- 6 Mbit/s
- Seamless at sequence end
- Moving picture

2.1.2.2 Audio

Sine burst of 400 Hz with 0 dBFS for every 24th frame with a duration of 40 ms. If the "moving spot" is located on the left side (and is moving to the right), the 400 Hz burst sounds in the left channel. If the "moving spot" is located on the right side (and is moving to the left), the 1 kHz burst sounds in the right channel. There is no burst for the remaining time.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.1.3 SDTV_MPEG_Codec169 (29 hz)

TS ID: 32736 (0x7FE0)

SID: 1024 (0x0400)

Length: 80x24 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.3.1 Video

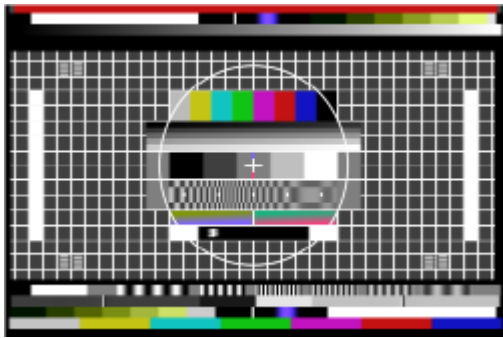


Figure 2-2: Codec 4:3 test pattern

MPEG2 MP@ML

- 29.97 frames/s
- 480 lines/picture
- 720 pixels/line
- 6 Mbit/s
- Seamless at sequence end
- Moving picture

2.1.3.2 Audio

Sine burst of 400 Hz with 0 dBFS for every 24th frame with a duration of 40 ms. If the "moving spot" is located on the left side (and is moving to the right), the 400 Hz burst sounds in the left channel. If the "moving spot" is located on the right side (and is moving to the left), the 1 kHz burst sounds in the right channel. There is no burst for the remaining time.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.1.4 HDTV_MPEG_Pattern (59 hz)

TS ID: 32736 (0x7FE0)

SID: 1024 (0x0400)

Length: 16x120 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.4.1 Video

This test pattern allows you to assess the screen geometry, sharpness, quantization and display of all fields.

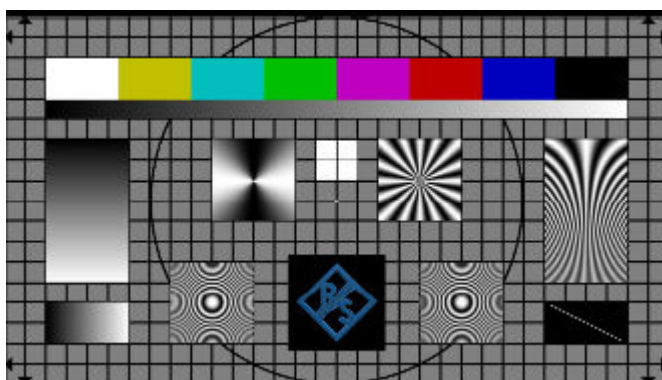


Figure 2-3: Test pattern

MPEG2 MP@HL

- 59.94 frames/s
- 720 lines/picture
- 1280 pixels/line
- 16 Mbit/s
- Seamless at sequence end
- Moving picture

2.1.4.2 Audio

Sine burst of 1 kHz with 0 dBFS at both left and right channel.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.1.5 HDTV_MPEG_Pattern (29 hz)

TS ID: 32736 (0x7FE0)

SID: 1024 (0x400)

Length: 16x120 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.5.1 Video

This test pattern allows you to assess the screen geometry, sharpness, quantization and display of all fields.

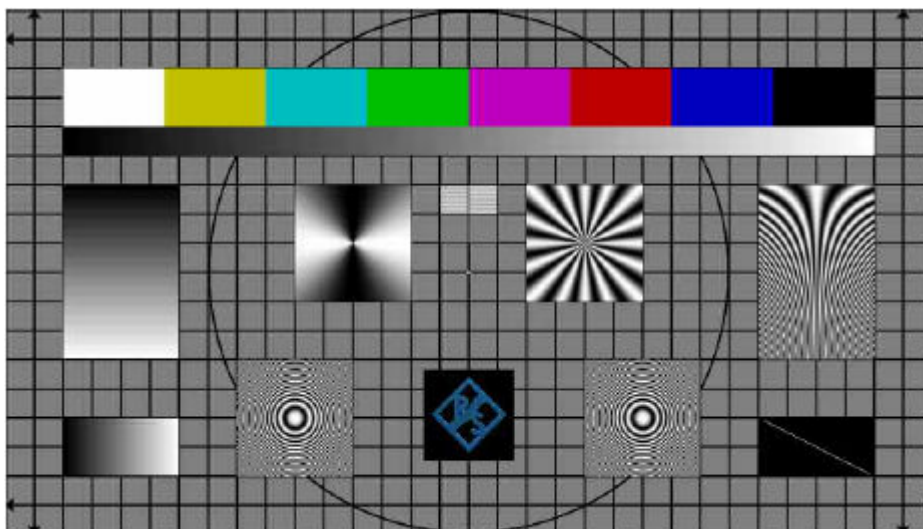


Figure 2-4: Test pattern

MPEG2 MP@HL

- 29.97 frames/s
- 1080 lines/picture
- 1920 pixels/line
- 16 Mbit/s
- Seamless at sequence end
- Moving picture

2.1.5.2 Audio

Sine burst of 1 kHz with 0 dBFS at both left and right channel.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.1.6 SDTV_MPEG_Park (29 hz)

TS ID: 32736 (0x7FE0)

SID: 1024 (0x400)

Length: 2x960 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.6.1 Video

This scene shows many details at a less critical rate of motion.

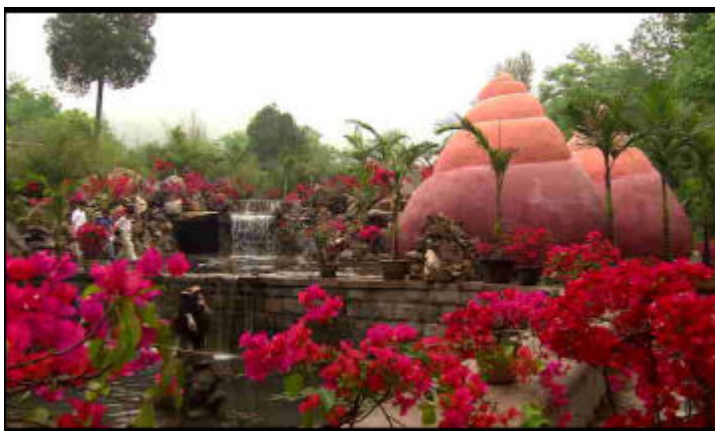


Figure 2-5: Park scene

MPEG2 MP@ML

- 29.97 frames/s
- 480 lines/picture
- 720 pixels/line
- 6 Mbit/s
- Seamless at sequence end
- Moving picture

2.1.6.2 Audio

Background noise at both left and right channel.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.1.7 HDTV_MPEG_Park (29 hz)

TS ID: 32736 (0x7FE0)

SID: 1024 (0x400)

Length: 2x960 video frames (64.064 s)

Tables: ISDB-T

Program

Program number: 1024

Service name: CH 1

2.1.7.1 Video

This scene shows many details at a less critical rate of motion.

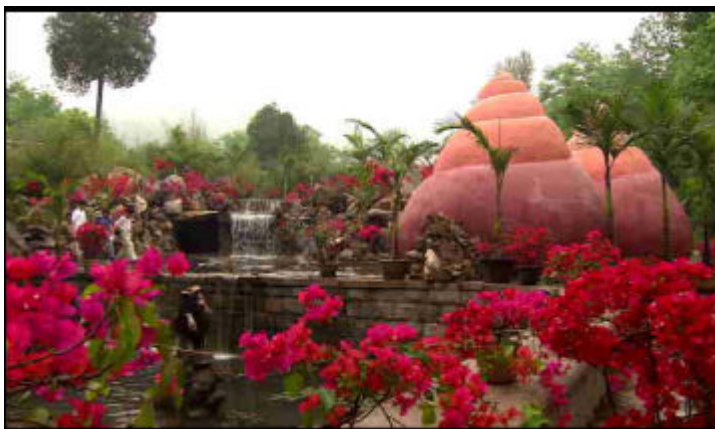


Figure 2-6: Park scene

MPEG2 MP@HL

- 29.97 frames/s
- 1080 lines/picture
- 1920 pixels/line
- 16 Mbit/s

- Seamless at sequence end
- Moving picture

2.1.7.2 Audio

Background noise at both left and right channel.

MPEG4 (AAC-LC ADTS)

- 48 ksample/s
- 144 kbit/s
- Seamless at sequence end
- Stereo

2.2 Country-specific streams

These streams are stored in the `BTS` subfolder.

2.2.1 Brazil

The transport streams described in this chapter comply with the Brazilian ISDB-Tb standard.

2.2.1.1 One*.isdbt_c (1-Layer files)

Filename	One1	One2	One3	One4	One5
Broadcaster prefix	ZYT-999				
Transmission parameters	1 layer				
Mode	Mode 3 (8K)				
Guard interval	1/8	1/16	1/8	1/16	1/16
Layer	A				
Number of segments	13				
Modulation	64QAM				
Code rate	3/4	3/4	2/3	2/3	3/4
Time interleaving	2				
Video					
Type	H.264 High Profile @L4.0				

Filename	One1	One2	One3	One4	One5
Content	Pattern	Pattern	Flowers	Flowers	Park
Aspect ratio	16:9				
Resolution	1920 x 1080				
Frame rate	30 / 1.001 Hz				
Audio					
Type	MPEG-4 HE-AAC v1 L2				
Format	LOAS / LATM				
Content	1 kHz	1 kHz	Flowers	Flowers	1 kHz
Mode	Stereo				
PID information					
Video PID	0x0201				
Audio PID	0x0202				
PMT PID	0x0020				
PCR PID	0x0200				
IIP	0x1FF0				
Tables					
PAT	Yes				
PMT	Yes	Yes	Yes	Yes	Yes
NIT	Yes	Yes	Yes	Yes	Yes
SDT	Yes	Yes	Yes	Yes	Yes
TOT	Yes	Yes	Yes	Yes	Yes
BIT	Yes	Yes	Yes	Yes	Yes
CDT	Yes	Yes	Yes	Yes	Yes
Program number	0x70E0	Yes	Yes	Yes	Yes
Network ID	0x1387				
Area code	0xA3D (São Paulo)				
Frequency	(599 + 1/7) MHz - Channel 35				
Virtual channel	35.1				
Service name	R&S HD				
Number of packets	387072				

Filename	One1	One2	One3	One4	One5
BTS frame size	4608	365568	387072	365568	696320
Number of BTS frames	84	4352	4608	4352	4352

2.2.1.2 Two1.isdbt_c (2-Layer file)

Corresponds to "Pattern01.ISDBT_C" in former release.

Filename	Two1.ISDBT_C	
Broadcaster prefix	ZYT-999	
Transmission parameters	2 layers	
Mode	Mode 3 (8K)	
Guard interval	1/16	
Layer	A	B
Number of segments	1	12
Modulation	QPSK	64QAM
Code rate	2/3	3/4
Time interleaving	4	2
Video		
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0
Content	Pattern	Pattern
Aspect ratio	4:3	16:9
Resolution	320 x 240	1920 x 1080
Frame rate	30 / 1.001 Hz	
Audio		
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM	
Content	1 kHz	1 kHz
Mode	Stereo	
PID information		
Video PID	0x0201	0x0101
Audio PID	0x0202	0x0102
PMT PID	0x1FC8	0x0020
PCR PID	0x0200	0x0100
IIP	0x1FF0	

Filename	Two1.ISDBT_C	
Tables	Layer A	Layer B
PAT		Yes
PMT	Yes	Yes
NIT	Yes	
SDT	Yes	
TOT	Yes	
BIT		
CDT		
Program number	0x70F8	0x70E0
Network ID	0x1387	
Area code	0xA3D (São Paulo)	
Frequency	(599 + 1/7) MHz - Channel 35	
Virtual channel	35.1	
Service name	R&S 1seg	R&S HD
Number of packets	382976	
BTS frame size	4352	
Number of BTS frames	88	

2.2.1.3 Two2.isdbt_c (2-Layer file)

Corresponds to "Pattern02.ISDBT_C" in former release.

Filename	Two2.ISDBT_C	
Broadcaster prefix	ZYT-999	
Transmission parameters	2 layers	
Mode	Mode 3 (8K)	
Guard interval	1/16	
Layer	A	B
Number of segments	1	12
Modulation	QPSK	16QAM
Code rate	2/3	3/4
Time interleaving	4	2
Video		
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0
Content	Pattern	Pattern

Filename	Two2.ISDBT_C	
Aspect ratio	4:3	16:9
Resolution	320 x 240	1920 x 1080
Frame rate	30 / 1.001 Hz	
Audio		
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM	
Content	1 kHz	1 kHz
Mode	Stereo	
PID information		
Video PID	0x0201	0x0101
Audio PID	0x0202	0x0102
PMT PID	0x1FC8	0x0020
PCR PID	0x0200	0x0100
IIP	0x1FF0	
Tables	Layer A	Layer B
PAT		Yes
PMT	Yes	Yes
NIT	Yes	
SDT	Yes	
TOT	Yes	
BIT		
CDT		
Program number	0x70F8	0x70E0
Network ID	0x1387	
Area code	0xA3D (São Paulo)	
Frequency	(599 + 1/7) MHz - Channel 35	
Virtual channel	35.1	
Service name	R&S 1seg	R&S HD
Number of packets	382976	
BTS frame size	4352	
Number of BTS frames	88	

2.2.1.4 Two3.isdbt_c (2-Layer file)

Corresponds to "Pattern03.ISDBT_C" in former release.

Filename	Two3.ISDBT_C	
Broadcaster prefix	ZYT-999	
Transmission parameters	2 layers	
Mode	Mode 3 (8K)	
Guard interval	1/8	
Layer	A	B
Number of segments	1	12
Modulation	QPSK	64QAM
Code rate	2/3	3/4
Time interleaving	4	2
Video		
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0
Content	Pattern	Pattern
Aspect ratio	4:3	16:9
Resolution	320 x 240	1920 x 1080
Frame rate	30 / 1.001 Hz	
Audio		
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM	
Content	1 kHz	1 kHz
Mode	Stereo	
PID information		
Video PID	0x0201	0x0101
Audio PID	0x0202	0x0102
PMT PID	0x1FC8	0x0020
PCR PID	0x0200	0x0100
IIP	0x1FF0	
Tables	Layer A	Layer B
PAT		Yes
PMT	Yes	Yes
NIT	Yes	
SDT	Yes	

Filename	Two3.ISDBT_C	
TOT	Yes	
BIT		
CDT		
Program number	0x70F8	0x70E0
Network ID	0x1387	
Area code	0xA3D (São Paulo)	
Frequency	(599 + 1/7) MHz - Channel 35	
Virtual channel	35.1	
Service name	R&S 1seg	R&S HD
Number of packets	405504	
BTS frame size	4608	
Number of BTS frames	88	

2.2.1.5 Two4.isdbt_c (2-Layer file)

Filename	Two4.ISDBT_C	
Broadcaster prefix	ZYT-999	
Transmission parameters	2 layers	
Mode	Mode 3 (8K)	
Guard interval	1/16	
Layer	A	B
Number of segments	1	12
Modulation	QPSK	64QAM
Code rate	2/3	3/4
Time interleaving	4	2
Video		2 videos
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0
Content	Pattern	Pattern & Flowers
Aspect ratio	4:3	16:9
Resolution	320 x 240	1920 x 1080
Frame rate	30 / 1.001 Hz	
Audio		
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM	

Filename	Two4.ISDBT_C	
Content	1 kHz	1 kHz & Flowers
Mode	Stereo	
PID information		
Video PID	0x0301	0x0101 & 0x0201
Audio PID	0x0302	0x0102 & 0x0202
PMT PID	0x1FC8	0x0020 & 0x0021
PCR PID	0x0300	0x0100 & 0x0200
IIP	0x1FF0	
Tables	Layer A	Layer B
PAT		Yes
PMT	Yes	Yes
NIT	Yes	
SDT	Yes	
TOT	Yes	
BIT	Yes	
CDT	Yes	
Program number	0x70F8	0x70E0 & 0x70E1
Network ID	0x1387	
Area code	0xA3D (São Paulo)	
Frequency	(599 + 1/7) MHz - Channel 35	
Virtual channel	35.1	35.1 & 35.2
Service name	R&S 1seg	R&S HD1 & R&S HD2
Number of packets	426496	
BTS frame size	4352	
Number of BTS frames	98	

2.2.1.6 Two5.isdbt_c (2-Layer file)

Filename	Two5.ISDBT_C	
Broadcaster prefix	ZYT-999	
Transmission parameters	2 layers	
Mode	Mode 3 (8K)	
Guard interval	1/16	
Layer	A	B

Filename	Two5.ISDBT_C	
Number of segments	6	7
Modulation	16QAM	64QAM
Code rate	1/2	3/4
Time interleaving	2	2
Video		
Type	H.264 High Profile @L4.0	
Content	Park	Flowers
Aspect ratio	16:9	
Resolution	1920 x 1080	
Frame rate	30 / 1.001 Hz	
Audio		
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM	
Content	1 kHz	1 kHz & Flowers
Mode	Stereo	
PID information		
Video PID	0x0101	0x0201
Audio PID	0x0102	0x0202
PMT PID	0x0020	0x0021
PCR PID	0x0100	0x0200
IIP	0x1FF0	
Tables	Layer A	Layer B
PAT	Yes	
PMT	Yes	Yes
NIT	Yes	
SDT	Yes	
TOT	Yes	
BIT	Yes	
CDT	Yes	
Program number	0x70E0	0x70E1
Network ID	0x1387	
Area code	0xA3D (São Paulo)	
Frequency	(599 + 1/7) MHz - Channel 35	

Filename	Two5.ISDBT_C	
Virtual channel	35.1	35.2
Service name	R&S HD A	R&S HD B
Number of packets	435200	
BTS frame size	4352	
Number of BTS frames	100	

2.2.1.7 Three1.isdbt_c (3-Layer file)

Filename	Three1.ISDBT_C		
Broadcaster prefix	ZYT-999		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	3	9
Modulation	QPSK	16QAM	64QAM
Code rate	2/3	3/4	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Park	Pattern	Flowers
Aspect ratio	4:3	16:9	16:9
Resolution	320 x 240	1920 x 1080	1920 x 1080
Frame rate	30 / 1.001 Hz		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	1 kHz	1 kHz	Flowers
Mode	Stereo		
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020

Filename	Three1.ISDBT_C		
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
BIT	Yes		
CDT	Yes		
Program number	0x70F8	0x70E1	0x70E0
Network ID	0x1387		
Area code	0xA3D (São Paulo)		
Frequency	(599 + 1/7) MHz - Channel 35		
Virtual channel	35.1	35.2	35.1
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	435200		
BTS frame size	4352		
Number of BTS frames	100		

2.2.1.8 Three2.isdbt_c (3-Layer file)

Filename	Three2.ISDBT_C		
Broadcaster prefix	ZYT-999		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	6	6
Modulation	QPSK	64QAM	64QAM
Code rate	1/2	2/3	3/4
Time interleaving	4	2	2
Video			

Filename	Three2.ISDBT_C		
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Flowers	Pattern	Park
Aspect ratio	4:3	16:9	16:9
Resolution	320 x 240	1920 x 1080	1920 x 1080
Frame rate	30 / 1.001 Hz		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	Flowers	1 kHz	1 kHz
Mode	Stereo		
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
BIT	Yes		
CDT	Yes		
Program number	0x70F8	0x70E1	0x70E0
Network ID	0x1387		
Area code	0xA3D (São Paulo)		
Frequency	(599 + 1/7) MHz - Channel 35		
Virtual channel	35.1	35.2	35.1
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	435200		

Filename	Three2.ISDBT_C
BTS frame size	4352
Number of BTS frames	100

2.2.1.9 Three3.isdbt_c (3-Layer file)

Filename	Three3.ISDBT_C		
Broadcaster prefix	ZYQ-327		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	3	9
Modulation	DQPSK	16QAM	64QAM
Code rate	2/3	3/4	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Park	Pattern	Flowers
Aspect ratio	4:3	16:9	16:9
Resolution	320 x 240	1920 x 1080	1920 x 1080
Frame rate	30 / 1.001 Hz		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	1 kHz	1 kHz	Flowers
Mode	Stereo		
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C

Filename	Three3.ISDBT_C		
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
Program number	0x9FF8	0x9FE1	0x9FE0
Network ID	0xCFF		
Area code	0xA3F (Santos - São Paulo)		
Frequency	(539 + 1/7) MHz - Channel 25		
Virtual channel	44.1	44.2	44.1
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	435200		
BTS frame size	4352		
Number of BTS frames	100		

2.2.1.10 Three4.isdbt_c (3-Layer file)

Filename	Three4.ISDBT_C		
Broadcaster prefix	ZYQ-327		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	6	6
Modulation	DQPSK	64QAM	64QAM
Code rate	1/2	2/3	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Flowers	Pattern	Park
Aspect ratio	4:3	16:9	16:9
Resolution	320 x 240	1920 x 1080	1920 x 1080
Frame rate	30 / 1.001 Hz		

Filename	Three4.ISDBT_C		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	Flowers	1 kHz	1 kHz
Mode	Stereo		
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
Program number	0x9FF8	0x9FE1	0x9FE0
Network ID	0xCFF		
Area code	0xA3F (Santos - São Paulo)		
Frequency	(539 + 1/7) MHz - Channel 25		
Virtual channel	10.1	10.2	10.1
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	435200		
BTS frame size	4352		
Number of BTS frames	100		

2.2.2 Argentina

2.2.2.1 Arg_conf01.isdbt_c (3-Layer file)

Filename	Arg_conf01.ISDBT_C		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	3	9
Modulation	QPSK	16QAM	64QAM
Code rate	2/3	3/4	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Flowers 84.4 kbps 320 frames 21.355 s	Codec43 2.76 Mbps 24 frames 0.96 s	Flowers 11.3 Mbps 960 frames 38.4 s
Aspect ratio	4:3	4:3	16:9
Resolution	352 x 288	720 x 576 i	1920 x 1080 i
Frame rate	15 / 1.001 Hz	25 Hz	
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	Music Flower 48.1 kbps 918 frames 39.168 s	Tone (L1k, R1kHz) @ -6 dB 64 kbps 1409 frames 60.117 s	Music Flower 64 kbps 917 frames 39.125 s
Mode	Stereo		
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A		

Filename	Arg_conf01.ISDBT_C		
PAT		Layer B	Layer C
PMT	Yes	Yes	
NIT	Yes	Yes	Yes
SDT	Yes		
TOT	Yes		
Program number	0x70F8		
Network ID	0x1387	0x70E1	0x70E0
Area code	2621		
Frequency	CH UHF user selectable		
Virtual channel	35		
Service name	R&S 1seg		
Number of packets	765952	R&S SD Layer B	R&S HD Layer C
BTS frame size	4352		
Number of BTS frames	176		

2.2.2.2 Arg_conf02.isdbt_c (3-Layer file)

Filename	Arg_conf02.ISDBT_C		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	6	6
Modulation	QPSK	64QAM	64QAM
Code rate	1/2	2/3	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	FlowerLogo 310 kbps 640 frames 21.355 s	Codec169 2.8 Mbps 24 frames 0.96 s	Mcobar 5.7 Mbps 160 frames 6.4 s
Aspect ratio	16:9	16:9	16:9
Resolution	320 x 180	720 x 576 i	1920 x 1080 i
Frame rate	30 / 1.001 Hz	25 Hz	

Filename	Arg_conf02.ISDBT_C		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	Tone (L1k, R1kHz) @ -6 dB 48 kbps 1410 frames 60.160 s	Tone (L1k, R1kHz) @ -6 dB 64 kbps 1409 frames 60.117 s	[1*] 160 kbps 1002 frames 42.752 s
Mode	Stereo		5.1
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
Program number	0x70F8	0x70E1	0x70E0
Network ID	0x1387		
Area code	2621		
Frequency	CH UHF user selectable		
Virtual channel	35		
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	382976		
BTS frame size	4352		
Number of BTS frames	88		

1*) L= 1kHz, R=3kHz, RL=4kHz, RR=5kHz, C=2kHz, W=100Hz

2.2.2.3 Arg_conf03.isdbt_c (3-Layer file)

Filename	Arg_conf03.ISDBT_C		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	3	9
Modulation	QPSK	16QAM	64QAM
Code rate	2/3	3/4	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Hockey	Hockey 5.9 Mbps 1920 frames 38.4 s	Hockey 11.8 Mbps 1920 frames 38.4 s
Aspect ratio	16:9	16:9	16:9
Resolution	320 x 180	720 x 576 p	1280 x 720 p
Frame rate	30 / 1.001 Hz	50 Hz	
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2
Format	LOAS / LATM		
Content	Tone (L1k, R1kHz) @ -6 dB 48 kbps 1410 frames 60.160 s	Hockey 160 kbps 1002 frames 42.752 s	Hockey 160 kbps 1002 frames 42.752 s
Mode	Stereo	5.1	
PID information			
Video PID	0x0301	0x0201	0x0101
Audio PID	0x0302	0x0202	0x0102
PMT PID	0x1FC8	0x0021	0x0020
PCR PID	0x0300	0x0200	0x0100
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes

Filename	Arg_conf03.ISDBT_C		
NIT	Yes		
SDT	Yes		
TOT	Yes		
Program number	0x70F8	0x70E1	0x70E0
Network ID	0x1387		
Area code	2621		
Frequency	CH UHF user selectable		
Virtual channel	25		
Service name	R&S 1seg	R&S SD Layer B	R&S HD Layer C
Number of packets	652800		
BTS frame size	4352		
Number of BTS frames	150		

2.2.2.4 Arg_conf04.isdbt_c (3-Layer file)

Filename	Arg_conf04.ISDBT_C		
Transmission parameters	3 layers		
Mode	Mode 3 (8K)		
Guard interval	1/16		
Layer	A	B	C
Number of segments	1	6	6
Modulation	QPSK	64QAM	64QAM
Code rate	1/2	2/3	3/4
Time interleaving	4	2	2
Video			
Type	H.264 Baseline Profile @L1.3	H.264 High Profile @L4.0	H.264 High Profile @L4.0
Content	Flowers 461 kbps 640 frames 21.355 s	Codec43 851 kbps 24 frames 0.801 s	Flowers 11.3 Mbps 640 frames 21.355 s
Aspect ratio	4:3	4:3	16:9
Resolution	320 x 240	720 x 480 i	1920 x 1080 i
Frame rate	30 / 1.001 Hz		
Audio			
Type	MPEG-4 HE-AAC v2 L2	MPEG-4 HE-AAC v1 L2	MPEG-4 HE-AAC v1 L2

Filename	Arg_conf04.ISDBT_C		
Format	LOAS / LATM		
Content	Tone (L1k, R1kHz) @ -6 dB 48 kbps 1410 frames 60.160 s	Tone (L1k, R1kHz) @ -6 dB 64 kbps 1409 frames 60.117 s	Tone (L1k, R1kHz) @ -6 dB 64 kbps 1409 frames 60.117 s
Mode	Stereo		
PID information			
Video PID	0x0301	0x0101	0x0201
Audio PID	0x0302	0x0102	0x0202
PMT PID	0x1FC8	0x0103	0x0203
PCR PID	0x0300	0x0100	0x0200
IIP	0x1FF0		
Tables	Layer A	Layer B	Layer C
PAT		Yes	
PMT	Yes	Yes	Yes
NIT	Yes		
SDT	Yes		
TOT	Yes		
Program number	0x70F8	0x70E1	0x70E0
Network ID	0x1387		
Area code	2621		
Frequency	CH UHF user selectable		
Virtual channel	35		
Service name	R&S 1seg	R&S HD Layer B	R&S HD Layer C
Number of packets	452608		
BTS frame size	4352		
Number of BTS frames	104		

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