

# R&S<sup>®</sup>SMCVB-KS10

## DAB/T-DMB Streams

### User Manual



1179264802  
Version 04

**ROHDE & SCHWARZ**  
Make ideas real



This document describes the following software option:

- R&S®SMCVB-KS10 DAB/T-DMB Streams (1434.4896.xx)

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1179.2648.02 | Version 04 | R&S®SMCVB-KS10

Throughout this document, R&S® is indicated as R&S.

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# 1 Welcome to the R&S SMCVB-KS10 option

The R&S SMCVB-KS10 is a stream library that provides stream files in accordance with the DAB/T-DMB 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](http://www.rohde-schwarz.com/manual/SMCV100B)

## 1.1 Key features

The R&S SMCVB-KS10 features:

- Numerous stream files in accordance with the DAB/T-DMB 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 register for access to the 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 the section "How to register", follow the instructions provided in the introduction video "How to register for GLORIS".
2. Register to GLORIS with the creation of a personal account.

Mr.
  Mrs.
  Ms.
  No information

First Name  Last Name

Email

Country  City

Company

Reason for registration  
 Please tell us the reason for your registration (i.e. which product you have or what kind of information you want to get). If you already have a contact person at Rohde & Schwarz, please add the email address of your contact as well.

Password  Retype Password

I accept the [Terms of Use](#) for a global Rohde & Schwarz Extranet account  
 I accept the following [Marketing Permission](#)  
 I want to register for e-commerce

Register Now

3. For access to the "Vector Signal Generator Customer Web", provide the following information:
- Specify that you want access to the "Vector Signal Generator Customer Web".
  - Include the material number and serial number of your device.  
The label is located on the rear panel of the R&S SMCV100B.
- a) When using a new GLORIS account, fill the information in the "Reason for registration" field.

Reason for registration

Please tell us the reason for your registration (i.e. which product you have or what kind of information you want to get). If you already have a contact person at Rohde & Schwarz, please add the email address of your contact as well.

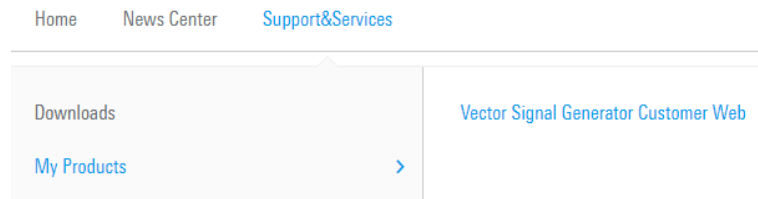
- b) When using an existing GLORIS account, click "Customer support" and fill in the information into an email.

**Contact**

E-Mail [Customer Support](#)

### To access "Product Related Documents"

1. Log in to GLORIS.
2. In the menu bar, select "Support&Services > My Products > Vector Signal Generator Customer Web".



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

3. 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



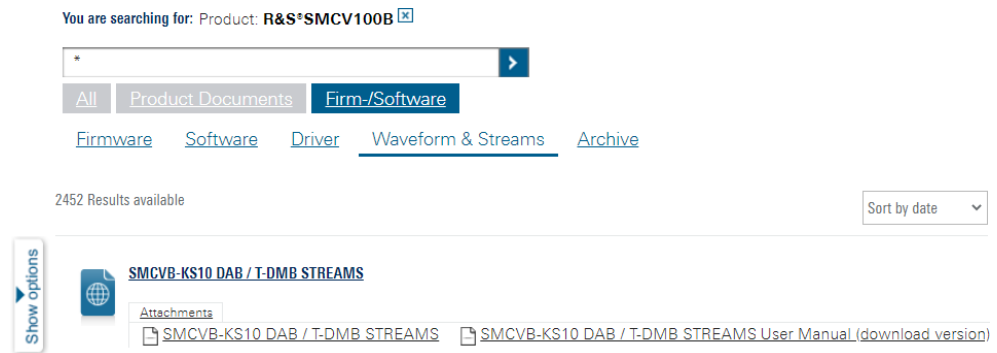
#### To download a library file

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" webpage as described in "[To access "Product Related Documents"](#)" on page 6.
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:

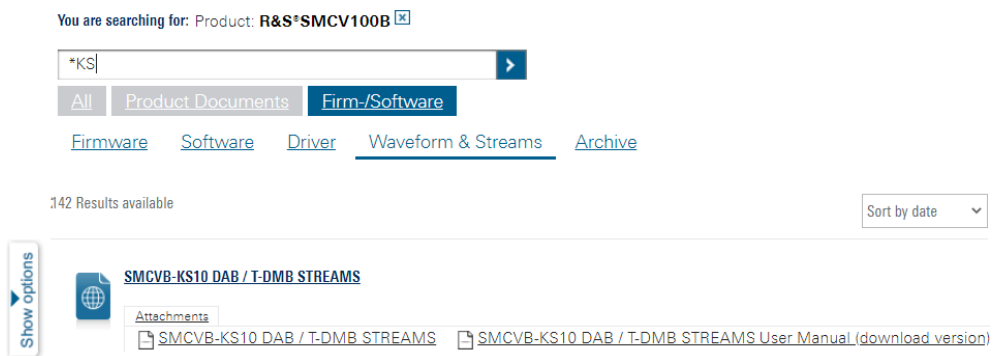
- R&S SMCVB-KSxx results relate to stream libraries.
- R&S SMCVB-KVxx results relate to waveform libraries.



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.



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 the 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

- ▶ Save the library file to one of the following storage locations:
  - External storage device (HDD, memory stick): Use an 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 the file-select dialogs.



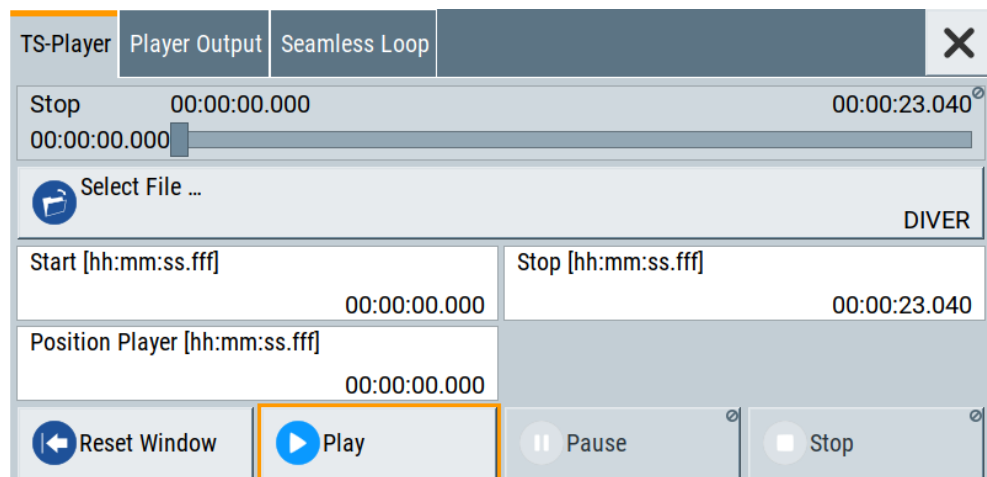
The R&S SMCV100B supports the following storage formats: ext2/ext3/ext4, FAT16/FAT32, NTFS (read-only), ISO9660, UDF

- 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  $\Omega$ " 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](http://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 Specifications and product brochures

The specifications document, also known as the data sheet, contains the technical specifications of the R&S SMCV100B. It also lists the firmware applications 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](http://www.rohde-schwarz.com/brochure-datasheet/smcv100b)

### 1.4.7 Calibration certificate

The document is available on <https://gloris.rohde-schwarz.com/calcert>. You need the device ID of your instrument, which you can find on a label on the rear panel.

### 1.4.8 Release notes and open source acknowledgment

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

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

[www.rohde-schwarz.com/firmware/smcv100b](http://www.rohde-schwarz.com/firmware/smcv100b)

### 1.4.9 Application notes, application cards, white papers, etc.

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

For some application sheets, see also:

[www.rohde-schwarz.com/application/smcv100b](http://www.rohde-schwarz.com/application/smcv100b)

### 1.4.10 Videos

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

## 2 DAB streams

### 2.1 1.dab\_c to 14.dab\_c

For file descriptions, see chapter [Chapter 2.1, "1.dab\\_c to 14.dab\\_c"](#), on page 13 on page 6.

#### 2.1.1 General information for all files

DAB mode	1
ETI mode	ETI (NI, G.703)
Audio sample frequency	48 kHz
Subchannel	1
Audio mode	Stereo
Transport mode	Stream audio
Ensemble ID	0x1000
Service ID	0x1000
Subchannel ID	0
Bit rate	128 kbps
Service component type	Audio
Ensemble name	Audio test
Subchannel service name	Audio 1
Convolution coding	Unequal (UEP)
Protection level	3

#### 2.1.2 File-specific information

Name	Description	Number of frames	Duration of 1 cycle
1.dab_c	Sinus 100 Hz / 20 s	830	19 s
2.dab_c	Sinus 10 kHz / 20 s	510	12 s
3.dab_c	16 tone / 32 s / -0.5 dB	1320	31 s
4.dab_c	Sinus 1 kHz / 60 s / -18 dB	2480	59 s
5.dab_c	Sinus 1 kHz / 20 s	820	19 s

Name	Description	Number of frames	Duration of 1 cycle
6.dab_c	Applause	330	7 s
7.dab_c	Bach 1	630	15 s
8.dab_c	Bach 2	690	16 s
9.dab_c	Synthetic audio 1	1400	33 s
10.dab_c	Synthetic audio 2	1040	24 s
11.dab_c	Synthetic audio 3	1120	26 s
12.dab_c	Synthetic audio 4	1350	32 s
13.dab_c	Frequency sweep	830	19 sc
14.dab_c	Park scene, additional 25 Hz tone with decreasing level.	2060	49 s

## 2.2 BER\_1kHz.dab\_c

Data signals with payload "0" for BER tests in accordance to EN50248, chapter 7.1.4

### 2.2.1 General information

ETI short name	BER_Test
DAB mode	1
Length	5000 frames
ETI mode	ETI (NI, G.703)
Duration	120 s
Ensemble name	BER-Test
Ensemble ID	0x1000
Audio sample frequency	48 kHz

## 2.2.2 Service information

Service	Description	Type	Bit rate/ kbps	Audio mode	Transport mode	Code rate	Packet address
1	1 kHz full-scale (0 dB), 192 kbit	Audio	192	Stereo	Stream audio		
2	All zero	Data	384		Packet data	0.5	0x1
3	All zero	Data	192		Packet data	0.5	0x2
4	All zero	Data	128		Packet data	0.5	0x3
5	All zero	Data	96		Packet data	0.5	0x4
6	All zero	Data	64		Packet data	0.5	0x5
7	All zero	Data	32		Packet data	0.5	0x6
8	All zero	Data	16		Packet data	0.5	0x7
9	All zero	Data	8		Packet data	0.5	0x8

Service	Service ID	Subchannel ID	Service component type	Subchannel service name	Convolution coding	Protection level
1	0x1000	1	Audio	1 kHz 0 dB 192 kbit	Unequal (UEP)	3
2	0xe0100000	2	Packet mode	Data 384 kbit	Equal (EEP)	3A
3	0xe0100001	3	Packet mode	Data 192 kbit	Equal (EEP)	3A
4	0xe0100002	4	Packet mode	Data 128 kbit	Equal (EEP)	3A
5	0xe0100003	5	Packet mode	Data 96 kbit	Equal (EEP)	3A
6	0xe0100004	6	Packet mode	Data 64 kbit	Equal (EEP)	3A
7	0xe0100005	7	Packet mode	Data 32 kbit	Equal (EEP)	3A
8	0xe0100006	8	Packet mode	Data 16 kbit	Equal (EEP)	3A
9	0xe0100007	9	Packet mode	Data 8 kbit	Equal (EEP)	3A

## 2.3 CISPR\_Test1.dab\_c

1 kHz sinus, audio levels "full scale", "silent", "-6dB" in accordance to CISPR13

### 2.3.1 General information

ETI short name	EN 13 20
DAB mode	1
Length	5000 frames
ETI mode	ETI (NI, G.703)
Duration	120 s
Audio sample frequency	48 kHz
Audio mode	Stereo
Transport mode	Stream audio
Ensemble ID	0x1000
Bit rate	128 kbps
Service component type	Audio
Ensemble name	EN 55013 55020
Convolution coding	Unequal (UEP)
Protection level	3

### 2.3.2 Service information

Service	Description	Service ID	Subchannel ID	Subchannel service name
1	1 kHz tone -6 dB	0x1001	1	1 kHz -6 dB
2	1 kHz tone silent (digital zero)	0x1002	2	1 kHz silent
3	1 kHz tone 0 dB (digital full scale)	0x1003	3	1 kHz 0 dB

## 2.4 CISPR\_Test2.dab\_c to CISPR\_Test6.dab\_c

For file descriptions, see chapter [Chapter 2.4, "CISPR\\_Test2.dab\\_c to CISPR\\_Test6.dab\\_c"](#), on page 16 on page 10.



### 2.4.1 General information

ETI short name	EN 13 20
DAB mode	1
Length	5000 frames
ETI mode	ETI (NI, G.703)
Duration	120 s
Audio sample frequency	48 kHz
Service	1
Audio mode	Stereo
Transport mode	Stream audio
Ensemble ID	0x1000
Service ID	0x1001
Subchannel ID	1
Bit rate	192 kbps
Service component type	Audio
Ensemble name	EN 55013 55020
Convolution coding	Unequal (UEP)
Protection level	3

### 2.4.2 File-specific information

Name	Description	Subchannel service name
CISPR_Test2.dab_c	1 kHz sinus, audio level 0 dB (digital full scale) in accordance to CISPR13	1 kHz 0 dB
CISPR_Test2_V2.dab_c	Same content as CISPR_Test2.dab_c but the last frame is complete. For legacy reasons, the CISPR_Test2.dab_c file remains in the library.	
CISPR_Test3.dab_c	1 kHz sinus, audio level -6 dB in accordance to CISPR13	1 kHz -6 dB
CISPR_Test4.dab_c	1 kHz sinus, audio level "silent" (digital zero) in accordance to CISPR13	1 kHz silent
CISPR_Test5.dab_c	1 kHz sinus, audio level -10 dB in accordance to CISPR13	1 kHz -10 dB
CISPR_Test6.dab_c	1 kHz sinus, audio level -60 dB (near silence) in accordance to CISPR14	1 kHz -60 dB

## 2.5 ETI\_empty\_for\_prbs.dab\_c

Empty stream for PRBS measurements

### 2.5.1 Purpose

This ETI file contains one single stream mode subchannel of 1152 kbps (protection level EEP 3-A"). This subchannel completely fills the MSC.

Therefore these tests permit to determine, if the following applies:

- The baseband decoder and the rest of the decoder chain are able to handle such a large subchannel.
- Since energy dispersal (i.e. a PRBS sequence) is applied to the transmitted DAB signal, the file can also be used to measure bit error rates, e.g. after the Viterbi decoder.

Most DAB modulators allow you to replace the content of an existing a subchannel by a PRBS sequence. In such a case, the file is a kind of "template" for arbitrary PRBS sequences.

### 2.5.2 General ensemble information

Ensemble name	'Empty Stream' (abbreviated name: 'Empty'; flag field 0xf800; character set EBU basic core)
Ensemble ID	0xce80
Transmission mode	1
PAD encoder flags	No restrictions (all optimizer steps used).
Ensemble country	Malta (ecc and country code: E0C)
International table for PTy codes	All countries, except for North America
Ensemble time zone	Europe/Malta
Alarm announcements	Alarm announcements are not supported.
DAB time format (FIG0/10)	Long-form version

### 2.5.3 Service information

For service 1 ('All zeros')

Service name	'All Zeros' (abbreviated name: 'Zero'; flag field 0x0f00; character set EBU basic core)
Service ID	0xe0ccaffe (data service)
Primary service component	No user application signaling

Service name	'All Zeros' (abbreviated name: 'Zero'; flag field 0x0f00; character set EBU basic core)
Service component carried in	Stream 0
SCIdS	0 (automatically assigned)

## 2.5.4 Stream information

For stream 1

Subchannel ID	22 (automatically assigned)
Bit rate	1152 kbps (864 CUs, starting at CU 0)
Reassign unused bit rate.	Yes
Service component	Empty subchannel (protocol: stream mode subchannel insertion (no DMB!))
Service component type	Stream mode
Service component used by	Data service 'All zeros ' (primary service component)
Protection level	EEP 3-A

## 2.6 RED\_Sine+\_120s\_eti\_ni\_file.dab\_c

For measurements according to ETI EN 303 345.

### 2.6.1 File description

ETI short name	EN 303 345
DAB mode	1
Length	5000 frames
ETI mode	ETI (NI, G.703)
Duration	120 s
Audio sample frequency	48 kHz
Audio frequency	1 kHz, -3 dBFS
Service	1
Audio mode	Mono
Transport mode	Stream audio
Ensemble ID	0x1000
Service ID	0x1001

RED\_Sine+\_120s\_eti\_ni\_file.dab\_c

<b>Subchannel ID</b>	1
<b>Bit rate</b>	128 kbps
<b>Service component type</b>	Audio
<b>Ensemble name</b>	RED_1kHz-3dB
<b>Convolution coding</b>	Equal (EEP)
<b>Protection level</b>	3-A

## 3 T-DMB/DAB stream specification

### 3.1 Video

Packet type	Pes packet					
Input type	Composite		S Video		SDI	
Source size	QCIF		QVGA		CIF	
Frame rate	10	15	20	25	30	
IDR period	1x	2x	/2			

### 3.2 Audio

Packet type	Pes packet				
Input type	AES/EBU		Analog		
Frequency	44100		48000		
Channels	Mono		Stereo		
Analog gain (dB)	0	1	2	3	4
Number of sub-frames	1	2	3	4	5

### 3.3 Output configuration

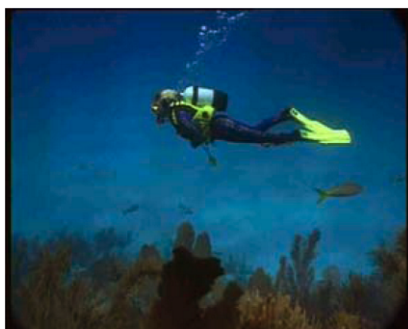
Information period		Bit rate	
PCR	100 ms	Total	256 kbps – 1152 kbps
PSI	500 ms	Video	136 kbps - 1023 kbps
OCR	700 ms	Audio	56

### 3.4 Device

Device	ETI [NI]			
DAB mode	1	2	3	4
Country	Germany / Korea [South]			
Protection level	1-A1-B	2-A2-B	3-A3-B	4-A4-B
Ensemble name	Rohde & Schwarz			
Service name	R&SDMB			
Channel	1			

### 3.5 Description of streams

#### 3.5.1 Stream diver



#### 3.5.2 Size

5.760 kB / 960 frames

#### 3.5.3 Video

Packet type	Pes packet
Input type	SDI
Frame rate	25/s, 30/s
IDR period	1x

### 3.5.4 Audio

<b>Packet type</b>	<b>Pes packet</b>
Input type	AES/EBU
Frequency	48000
Channels	Stereo
Pcm volume	4
Number of subframes	1

### 3.5.5 Video/audio encoding

<b>Video encoding</b>	<b>ISO/IEC 14496 (MPEG-4) part 10 AVC Base Line Profile Level 1.3</b>
Picture encoding	I,P
GOP structure	Flexible
Audio encoding	ISO/IEC 14496 (MPEG-4) part 3 BSAC Base Line Profile Level 1.3 HE-AAC V1 HE-AAC V2

### 3.5.6 Device ETI[NI]

<b>Country</b>	<b>Germany (25/s), Korea[South] (30/s)</b>
Ensemble name	Rohde & Schwarz
Service name	R&SDMB
Channel	1

### 3.5.7 T-DMB stream table BSAC (25 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
X01	1152	1023	56	25	CIF	1	3-A
X02	800	620	56	25	CIF	1	3-A
X03	720	540	56	25	CIF	1	3-A
X04	640	460	56	25	QVGA	1	3-A
X05	640	460	56	25	CIF	1	3-A

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
X06	576	400	56	25	QVGA	1	3-A
X07	576	400	56	25	CIF	1	3-A
X08	544	384	56	25	QVGA	1	3-A
X09	544	384	56	25	CIF	1	3-A
X10	512	360	56	25	QVGA	1	3-A
X11	512	360	56	25	CIF	1	3-A
X12	480	320	56	25	QVGA	1	3-A
X13	400	256	56	25	QVGA	1	3-A
X14	384	240	56	25	QCIF	1	3-A
X15	384	240	56	25	QVGA	1	3-A
X16	256	136	56	25	QCIF	1	3-A
X17	576	400	56	25	QVGA	1	1-A
X18	576	400	56	25	QVGA	1	2-A
X19	576	400	56	25	QVGA	1	3-A
X20	576	400	56	25	QVGA	1	4-A
X21	576	410	56	25	QVGA	1	1-B
X22	576	410	56	25	QVGA	1	2-B
X23	576	410	56	25	QVGA	1	3-B
X24	576	410	56	25	QVGA	1	4-B
X25	576	400	56	25	QVGA	2	1-A
X26	576	400	56	25	QVGA	2	2-A
X27	576	400	56	25	QVGA	2	3-A
X28	576	400	56	25	QVGA	2	4-A
X29	576	410	56	25	QVGA	2	1-B
X30	576	410	56	25	QVGA	2	2-B
X31	576	410	56	25	QVGA	2	3-B
X32	576	410	56	25	QVGA	2	4-B
X33	576	400	56	25	QVGA	3	1-A
X34	576	400	56	25	QVGA	3	2-A
X35	576	400	56	25	QVGA	3	3-A
X36	576	400	56	25	QVGA	3	4-A
X37	576	410	56	25	QVGA	3	1-B
X38	576	410	56	25	QVGA	3	2-B



Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
X39	576	410	56	25	QVGA	3	3-B
X40	576	410	56	25	QVGA	3	4-B
X41	576	400	56	25	QVGA	4	1-A
X42	576	400	56	25	QVGA	4	2-A
X43	576	400	56	25	QVGA	4	3-A
X44	576	400	56	25	QVGA	4	4-A
X45	576	410	56	25	QVGA	4	1-B
X46	576	410	56	25	QVGA	4	2-B
X47	576	410	56	25	QVGA	4	3-B
X48	576	410	56	25	QVGA	4	4-B

### 3.5.8 T-DMB stream table AAC-V1 (25 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
Y01	1152	877	56	25	CIF	1	3-A
Y02	800	592	56	25	CIF	1	3-A
Y03	720	527	56	25	CIF	1	3-A
Y04	640	462	56	25	QVGA	1	3-A
Y05	640	462	56	25	CIF	1	3-A
Y06	576	410	56	25	QVGA	1	3-A
Y07	576	410	56	25	CIF	1	3-A
Y08	544	384	56	25	QVGA	1	3-A
Y09	544	384	56	25	CIF	1	3-A
Y10	512	358	56	25	QVGA	1	3-A
Y11	512	358	56	25	CIF	1	3-A
Y12	480	332	56	25	QVGA	1	3-A
Y13	400	268	56	25	QVGA	1	3-A
Y14	384	255	56	25	QCIF	1	3-A
Y15	384	255	56	25	QVGA	1	3-A
Y16	256	151	56	25	QCIF	1	3-A
Y17	576	410	56	25	QVGA	1	1-A
Y18	576	410	56	25	QVGA	1	2-A

## Description of streams

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
Y19	576	410	56	25	QVGA	1	3-A
Y20	576	410	56	25	QVGA	1	4-A
Y21	576	410	56	25	QVGA	1	1-B
Y22	576	410	56	25	QVGA	1	2-B
Y23	576	410	56	25	QVGA	1	3-B
Y24	576	410	56	25	QVGA	1	4-B
Y25	576	410	56	25	QVGA	2	1-A
Y26	576	410	56	25	QVGA	2	2-A
Y27	576	410	56	25	QVGA	2	3-A
Y28	576	410	56	25	QVGA	2	4-A
Y29	576	410	56	25	QVGA	2	1-B
Y30	576	410	56	25	QVGA	2	2-B
Y31	576	410	56	25	QVGA	2	3-B
Y32	576	410	56	25	QVGA	2	4-B
Y33	576	410	56	25	QVGA	3	1-A
Y34	576	410	56	25	QVGA	3	2-A
Y35	576	410	56	25	QVGA	3	3-A
Y36	576	410	56	25	QVGA	3	4-A
Y37	576	410	56	25	QVGA	3	1-B
Y38	576	410	56	25	QVGA	3	2-B
Y39	576	410	56	25	QVGA	3	3-B
Y40	576	410	56	25	QVGA	3	4-B
Y41	576	410	56	25	QVGA	4	1-A
Y42	576	410	56	25	QVGA	4	2-A
Y43	576	410	56	25	QVGA	4	3-A
Y44	576	410	56	25	QVGA	4	4-A
Y45	576	410	56	25	QVGA	4	1-B
Y46	576	410	56	25	QVGA	4	2-B
Y47	576	410	56	25	QVGA	4	3-B
Y48	576	410	56	25	QVGA	4	4-B

### 3.5.9 T-DMB stream table AAC-V2 (25 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
Z01	1152	877	56	25	CIF	1	3-A
Z02	800	592	56	25	CIF	1	3-A
Z03	720	527	56	25	CIF	1	3-A
Z04	640	462	56	25	QVGA	1	3-A
Z05	640	462	56	25	CIF	1	3-A
Z06	576	410	56	25	QVGA	1	3-A
Z07	576	410	56	25	CIF	1	3-A
Z08	544	384	56	25	QVGA	1	3-A
Z09	544	384	56	25	CIF	1	3-A
Z10	512	358	56	25	QVGA	1	3-A
Z11	512	358	56	25	CIF	1	3-A
Z12	480	332	56	25	QVGA	1	3-A
Z13	400	268	56	25	QVGA	1	3-A
Z14	384	255	56	25	QCIF	1	3-A
Z15	384	255	56	25	QVGA	1	3-A
Z16	256	151	56	25	QCIF	1	3-A
Z17	576	410	56	25	QVGA	1	1-A
Z18	576	410	56	25	QVGA	1	2-A
Z19	576	410	56	25	QVGA	1	3-A
Z20	576	410	56	25	QVGA	1	4-A
Z21	576	410	56	25	QVGA	1	1-B
Z22	576	410	56	25	QVGA	1	2-B
Z23	576	410	56	25	QVGA	1	3-B
Z24	576	410	56	25	QVGA	1	4-B
Z25	576	410	56	25	QVGA	2	1-A
Z26	576	410	56	25	QVGA	2	2-A
Z27	576	410	56	25	QVGA	2	3-A
Z28	576	410	56	25	QVGA	2	4-A
Z29	576	410	56	25	QVGA	2	1-B
Z30	576	410	56	25	QVGA	2	2-B
Z31	576	410	56	25	QVGA	2	3-B

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
Z32	576	410	56	25	QVGA	2	4-B
Z33	576	410	56	25	QVGA	3	1-A
Z34	576	410	56	25	QVGA	3	2-A
Z35	576	410	56	25	QVGA	3	3-A
Z36	576	410	56	25	QVGA	3	4-A
Z37	576	410	56	25	QVGA	3	1-B
Z38	576	410	56	25	QVGA	3	2-B
Z39	576	410	56	25	QVGA	3	3-B
Z40	576	410	56	25	QVGA	3	4-B
Z41	576	410	56	25	QVGA	4	1-A
Z42	576	410	56	25	QVGA	4	2-A
Z43	576	410	56	25	QVGA	4	3-A
Z44	576	410	56	25	QVGA	4	4-A
Z45	576	410	56	25	QVGA	4	1-B
Z46	576	410	56	25	QVGA	4	2-B
Z47	576	410	56	25	QVGA	4	3-B
Z48	576	410	56	25	QVGA	4	4-B

### 3.5.10 T-DMB stream table BSAC (30 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
A01	1152	877	56	30	CIF	1	3-A
A02	800	592	56	30	CIF	1	3-A
A03	720	527	56	30	CIF	1	3-A
A04	640	462	56	30	QVGA	1	3-A
A05	640	462	56	30	CIF	1	3-A
A06	576	410	56	30	QVGA	1	3-A
A07	576	410	56	30	CIF	1	3-A
A08	544	384	56	30	QVGA	1	3-A
A09	544	384	56	30	CIF	1	3-A
A10	512	358	56	30	QVGA	1	3-A
A11	512	358	56	30	CIF	1	3-A

## Description of streams

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
A12	480	332	56	30	QVGA	1	3-A
A13	400	268	56	30	QVGA	1	3-A
A14	384	255	56	30	QCIF	1	3-A
A15	384	255	56	30	QVGA	1	3-A
A16	256	151	56	30	QCIF	1	3-A
A17	576	410	56	30	QVGA	1	1-A
A18	576	410	56	30	QVGA	1	2-A
A19	576	410	56	30	QVGA	1	3-A
A20	576	410	56	30	QVGA	1	4-A
A21	576	410	56	30	QVGA	1	1-B
A22	576	410	56	30	QVGA	1	2-B
A23	576	410	56	30	QVGA	1	3-B
A24	576	410	56	30	QVGA	1	4-B
A25	576	410	56	30	QVGA	2	1-A
A26	576	410	56	30	QVGA	2	2-A
A27	576	410	56	30	QVGA	2	3-A
A28	576	410	56	30	QVGA	2	4-A
A29	576	410	56	30	QVGA	2	1-B
A30	576	410	56	30	QVGA	2	2-B
A31	576	410	56	30	QVGA	2	3-B
A32	576	410	56	30	QVGA	2	4-B
A33	576	410	56	30	QVGA	3	1-A
A34	576	410	56	30	QVGA	3	2-A
A35	576	410	56	30	QVGA	3	3-A
A36	576	410	56	30	QVGA	3	4-A
A37	576	410	56	30	QVGA	3	1-B
A38	576	410	56	30	QVGA	3	2-B
A39	576	410	56	30	QVGA	3	3-B
A40	576	410	56	30	QVGA	3	4-B
A41	576	410	56	30	QVGA	4	1-A
A42	576	410	56	30	QVGA	4	2-A
A43	576	410	56	30	QVGA	4	3-A
A44	576	410	56	30	QVGA	4	4-A

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
A45	576	410	56	30	QVGA	4	1-B
A46	576	410	56	30	QVGA	4	2-B
A47	576	410	56	30	QVGA	4	3-B
A48	576	410	56	30	QVGA	4	4-B

### 3.5.11 T-DMB stream table AAC-V1 (30 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
B01	1152	877	56	30	CIF	1	3-A
B02	800	592	56	30	CIF	1	3-A
B03	720	527	56	30	CIF	1	3-A
B04	640	462	56	30	QVGA	1	3-A
B05	640	462	56	30	CIF	1	3-A
B06	576	410	56	30	QVGA	1	3-A
B07	576	410	56	30	CIF	1	3-A
B08	544	384	56	30	QVGA	1	3-A
B09	544	384	56	30	CIF	1	3-A
B10	512	358	56	30	QVGA	1	3-A
B11	512	358	56	30	CIF	1	3-A
B12	480	332	56	30	QVGA	1	3-A
B13	400	268	56	30	QVGA	1	3-A
B14	384	255	56	30	QCIF	1	3-A
B15	384	255	56	30	QVGA	1	3-A
B16	256	151	56	30	QCIF	1	3-A
B17	576	410	56	30	QVGA	1	1-A
B18	576	410	56	30	QVGA	1	2-A
B19	576	410	56	30	QVGA	1	3-A
B20	576	410	56	30	QVGA	1	4-A
B21	576	410	56	30	QVGA	1	1-B
B22	576	410	56	30	QVGA	1	2-B
B23	576	410	56	30	QVGA	1	3-B
B24	576	410	56	30	QVGA	1	4-B

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
B25	576	410	56	30	QVGA	2	1-A
B26	576	410	56	30	QVGA	2	2-A
B27	576	410	56	30	QVGA	2	3-A
B28	576	410	56	30	QVGA	2	4-A
B29	576	410	56	30	QVGA	2	1-B
B30	576	410	56	30	QVGA	2	2-B
B31	576	410	56	30	QVGA	2	3-B
B32	576	410	56	30	QVGA	2	4-B
B33	576	410	56	30	QVGA	3	1-A
B34	576	410	56	30	QVGA	3	2-A
B35	576	410	56	30	QVGA	3	3-A
B36	576	410	56	30	QVGA	3	4-A
B37	576	410	56	30	QVGA	3	1-B
B38	576	410	56	30	QVGA	3	2-B
B39	576	410	56	30	QVGA	3	3-B
B40	576	410	56	30	QVGA	3	4-B
B41	576	410	56	30	QVGA	4	1-A
B42	576	410	56	30	QVGA	4	2-A
B43	576	410	56	30	QVGA	4	3-A
B44	576	410	56	30	QVGA	4	4-A
B45	576	410	56	30	QVGA	4	1-B
B46	576	410	56	30	QVGA	4	2-B
B47	576	410	56	30	QVGA	4	3-B
B48	576	410	56	30	QVGA	4	4-B

### 3.5.12 T-DMB stream table AAC-V2 (30 frames/s)

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
C01	1152	877	56	30	CIF	1	3-A
C02	800	592	56	30	CIF	1	3-A
C03	720	527	56	30	CIF	1	3-A
C04	640	462	56	30	QVGA	1	3-A

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
C05	640	462	56	30	CIF	1	3-A
C06	576	410	56	30	QVGA	1	3-A
C07	576	410	56	30	CIF	1	3-A
C08	544	384	56	30	QVGA	1	3-A
C09	544	384	56	30	CIF	1	3-A
C10	512	358	56	30	QVGA	1	3-A
C11	512	358	56	30	CIF	1	3-A
C12	480	332	56	30	QVGA	1	3-A
C13	400	268	56	30	QVGA	1	3-A
C14	384	255	56	30	QCIF	1	3-A
C15	384	255	56	30	QVGA	1	3-A
C16	256	151	56	30	QCIF	1	3-A
C17	576	410	56	30	QVGA	1	1-A
C18	576	410	56	30	QVGA	1	2-A
C19	576	410	56	30	QVGA	1	3-A
C20	576	410	56	30	QVGA	1	4-A
C21	576	410	56	30	QVGA	1	1-B
C22	576	410	56	30	QVGA	1	2-B
C23	576	410	56	30	QVGA	1	3-B
C24	576	410	56	30	QVGA	1	4-B
C25	576	410	56	30	QVGA	2	1-A
C26	576	410	56	30	QVGA	2	2-A
C27	576	410	56	30	QVGA	2	3-A
C28	576	410	56	30	QVGA	2	4-A
C29	576	410	56	30	QVGA	2	1-B
C30	576	410	56	30	QVGA	2	2-B
C31	576	410	56	30	QVGA	2	3-B
C32	576	410	56	30	QVGA	2	4-B
C33	576	410	56	30	QVGA	3	1-A
C34	576	410	56	30	QVGA	3	2-A
C35	576	410	56	30	QVGA	3	3-A
C36	576	410	56	30	QVGA	3	4-A
C37	576	410	56	30	QVGA	3	1-B



## Description of streams

Name[.DA B_C]	Total bitrate	Video bitrate	Audio bitrate	Frame rate	Video size	DAB mode	Protection level
C38	576	410	56	30	QVGA	3	2-B
C39	576	410	56	30	QVGA	3	3-B
C40	576	410	56	30	QVGA	3	4-B
C41	576	410	56	30	QVGA	4	1-A
C42	576	410	56	30	QVGA	4	2-A
C43	576	410	56	30	QVGA	4	3-A
C44	576	410	56	30	QVGA	4	4-A
C45	576	410	56	30	QVGA	4	1-B
C46	576	410	56	30	QVGA	4	2-B
C47	576	410	56	30	QVGA	4	3-B
C48	576	410	56	30	QVGA	4	4-B

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