R&S®SMCVB-KS14
DVB-T2 MI Streams
User Manual

1179268302
Version 04

ROHDE&SCHWARZ
Make ideas real

This document describes the following software options:

- R&S®SMCVB-KS14 DVB-T2 MI Streams (1434.5057.xx)

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1179.2683.02 | Version 04 | R&S®SMCVB-KS14

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

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1 Welcome to the R&S SMCVB-KS14 option

The R&S SMCVB-KS14 is a stream library that provides stream files in accordance with the DVB-T2 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-KS14 features:

- Numerous stream files in accordance with DVB-T2 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:

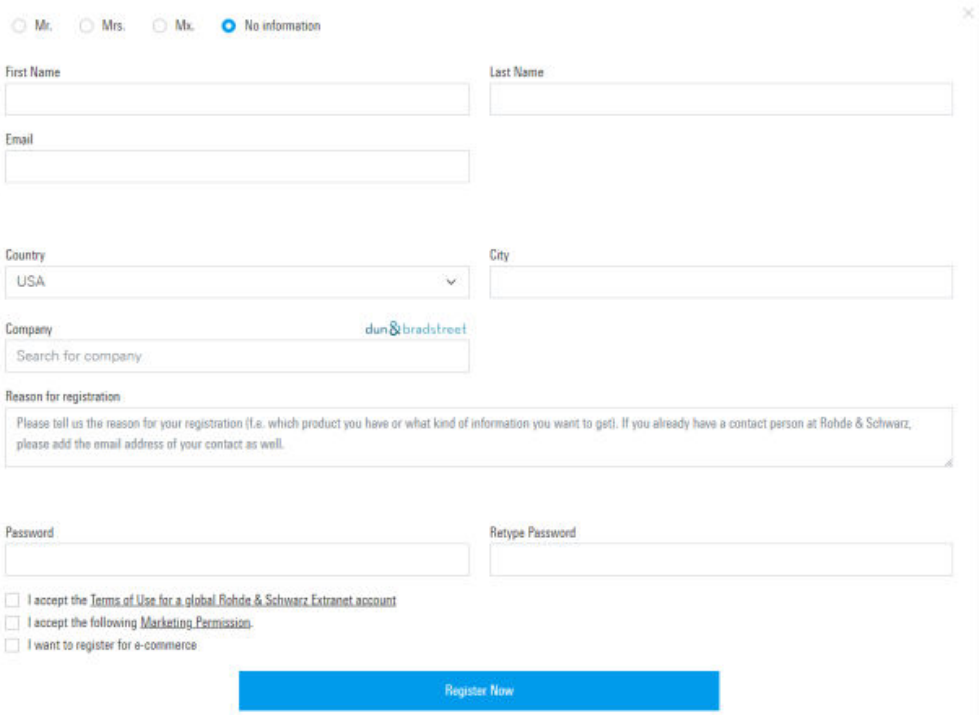
- R&S SMCV100B base unit (64 MSample ARB memory, 60 MHz RF bandwidth)
- Broadcast standard option for the "TS Player" application (R&S SMCVB-Kxxx)
- Enable Broadcast Standards option (R&S SMCVB-K519)
- Stream library option (R&S SMCVB-KSxx)

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).

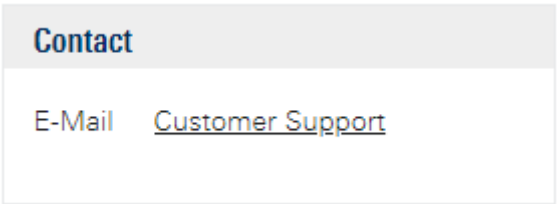
1. For access, register at https://gloris.rohde-schwarz.com:
   In the section "How to register", follow the instructions provided in the introduction video "How to register for GLORIS".
2. Register to GLORIS with the creation of a personal account.



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.

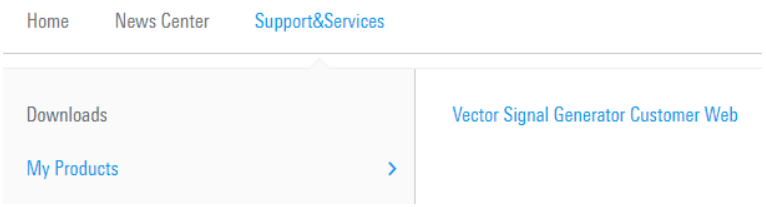
   a) When using a new GLORIS account, fill the information in the "Reason for registration" field.

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



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".

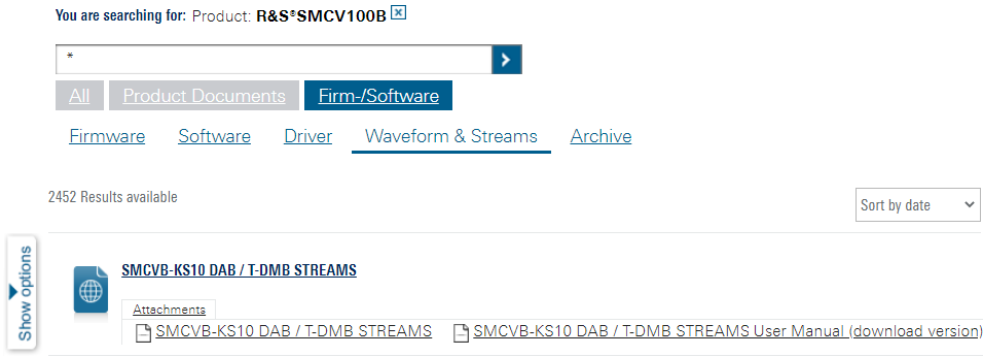
   A webpage opens and displays search results for products related to the R&S SMCV100B.

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".

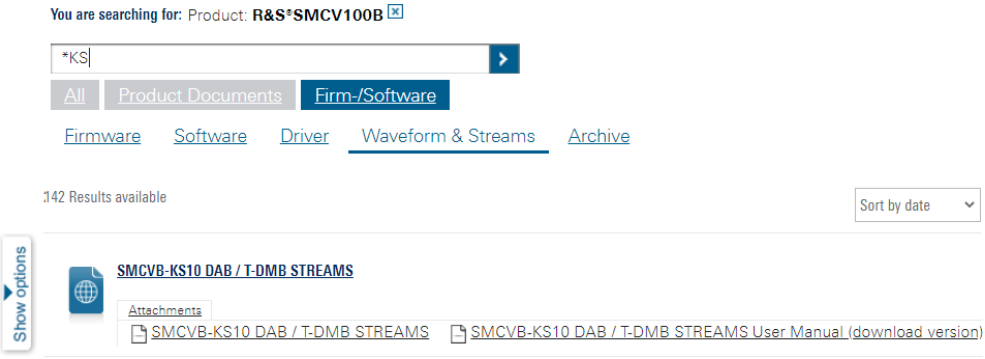
   The search lists all information related to stream and waveform libraries of the R&S SMCV100B:
   - R&S SMCVB-KSxx results relate to stream libraries.
   - R&S SMCVB-KVxx results relate to waveform libraries.



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.".

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.

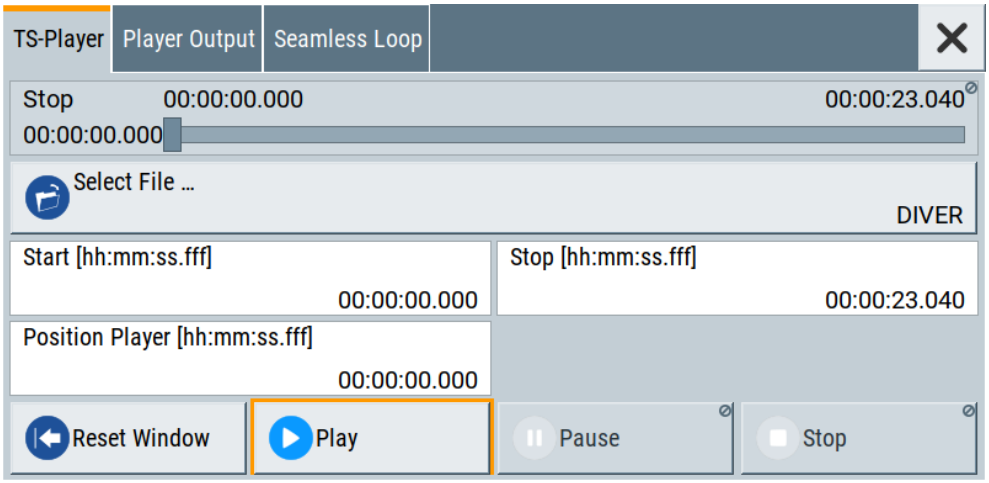
The R&S SMCV100B supports the following storage formats: ext2/ext3/ext4, FAT16/FAT32, NTFS (read-only), ISO9660, UDF

- 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 Ω" connector.

For more information on loading stream files, see chapter "How to generate an internal TS sinal" 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 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

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

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

1.4.10 Videos

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

2 Available DVB-T2 MI stream files

The R&S SMCVB-KS14 stream library contains the following files.

Transport stream files / recall files	Remark
K227_Content_Files_180Sec	These files can be used by a DVB T2 gateway or the BCMux to generate the corresponding T2-MI streams. If a DVB T2 gateway or the BCMux is not available, the corresponding T2-MI stream files from disk 4 to 9 must be used instead.
K227_T2MI_60Sec	
K227_T2MI_180Sec	
K227_T2MI_MultiProfile_T2_T2Lite	T2 profile: T2-MI PID 0x1000, T2-MI SID 0x0 T2-Lite profile: T2-MI PID 0x1001, T2-MI SID 0x1
BCMux recall files	Dedicated files for DTG, NorDig and V&V test cases to generate the corresponding T2-MI files. DTG recall files are according with "D-Book 7.0 part A v 3". NorDig recall files are according with "NorDig-Unified_Test_specification_ver_2.2.2" and "NorDig-Unified_Test_plan_ver_2.4". V&V recall files are according with "V&V Parameter Sets79" and "V&V Parameter Sets82".

All file names contain the related test case of the DVB.org Verification & Validation group or DTG, e.g. "VV400" or "DTG201". This mapping assigns the T2-MI files to the corresponding content files.

2.1 File descriptions

The available transport stream files are described in the Microsoft Excel file `LIB-K57_SFU-K227_Content_Overview_<version>.xls`. As an alternative file format, a separate PDF file for each tab in Excel is provided.

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