

# R&S<sup>®</sup>SMCVB-KV13

## HD Radio<sup>™</sup> Waveforms

### User Manual



1179278302  
Version 05

**ROHDE & SCHWARZ**  
Make ideas real



This document describes the following software option:

- R&S®SMCVB-KV13 HD Radio™ Waveforms (1434.5434.xx)

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

# Contents

<b>1</b>	<b>Welcome to the R&amp;S SMCVB-KV13 option.....</b>	<b>5</b>
1.1	Key features.....	5
1.2	Installation.....	5
1.3	What's new.....	10
1.4	Documentation overview.....	10
1.4.1	Getting started manual.....	10
1.4.2	User manuals and help.....	10
1.4.3	Service manual.....	11
1.4.4	Instrument security procedures.....	11
1.4.5	Printed safety instructions.....	11
1.4.6	Specifications and product brochures.....	11
1.4.7	Calibration certificate.....	11
1.4.8	Release notes and open source acknowledgment.....	12
1.4.9	Application notes, application cards, white papers, etc.....	12
1.4.10	Videos.....	12
<b>2</b>	<b>Available waveform files.....</b>	<b>13</b>
2.1	AM folder.....	13
2.2	CC folder.....	15
2.3	FM folder.....	16
<b>3</b>	<b>NON-Available waveform files.....</b>	<b>20</b>
	<b>Index.....</b>	<b>21</b>



# 1 Welcome to the R&S SMCVB-KV13 option

The R&S SMCVB-KV13 is a waveform library that provides waveform files in accordance with HD Radio Technology.

This user manual contains a reference description of the functionality that the waveform 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-KV13 features:

- Numerous waveform files in accordance with HD Radio Technology
- Efficient use with dedicated waveforms

## 1.2 Installation

Installation of the waveform library and playing of HD Radio waveforms does not require additional licensing at the license holder. The option R&S SMCVB-KV13 already provides licensed HD Radio waveforms.

### Required options

The equipment layout for processing files of waveform libraries includes:

- R&S SMCV100B base unit, including arbitrary waveform generator (64 MSample ARB memory, 60 MHz RF bandwidth)
- Waveform library option (R&S SMCVB-KVxx)

For more information on ARB options, see chapter "Using the arbitrary waveform generator (ARB)" in the R&S SMCV100B user manual.

### 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   
 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 register for access to HD Radio waveforms

The access area for HD Radio waveforms is restricted and only accessible for authorized customers from iBiquity Digital Corporation. If the company of the customer is listed as an authorized customer, the access will be granted. If the company is not listed as an authorized partner, the access will be denied.

Requires the license R&S SMCVB-KV13.

- ▶ For access to the area for HD Radio waveforms, provide the following information:
  - Specify that you want access to the HD Radio waveforms.
  - 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 (f.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](#)

The registration process for HD Radio waveforms can take up to one working week.

### 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".

Home   News Center   **Support&Services**

---

Downloads

[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

**R&S®SMCV100B**



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

[All](#) [Product Documents](#) [Firm-/Software](#)

2528 Results available

**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 7.

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 \(download version\)](#)

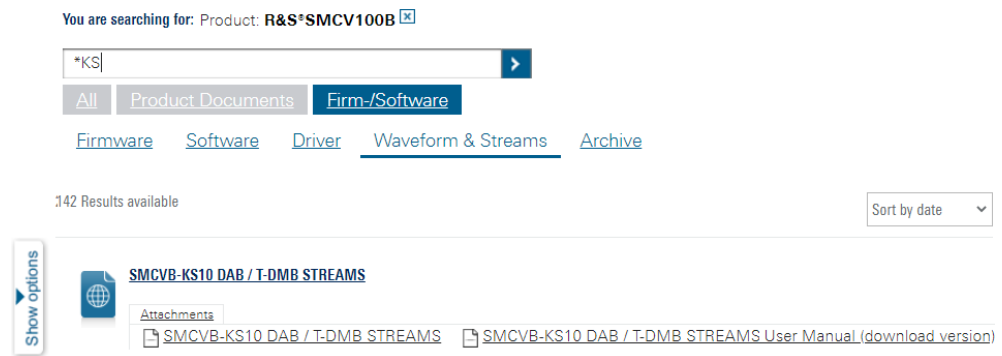
3. Optionally, deactivate the filtering to display all waveform and stream library content.

- 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.





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 waveform library file

1. Load the waveform 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, select the file in the dialog "Baseband" > "ARB" > "Load Waveform".
3. To select the file, navigate to the storage location (1).

4. Select "ARB" > "State" > "On".

The R&S SMCV100B processes the waveform file.

5. In the block diagram, select "RF" > "On"

The waveform file is modulated onto the RF carrier and output at the RF 50  $\Omega$  connector.

For more information on loading waveform files, see chapter "How to create, generate and play waveform files" in the R&S SMCV100B user manual.

## 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 Available waveform files

The R&S SMCVB-KV13 waveform library contains three folders with the available waveform files. For details on the waveform files, contact iBiquity Digital Corporation.

- [AM folder](#)..... 13
- [CC folder](#)..... 15
- [FM folder](#)..... 16

### 2.1 AM folder

The folder contains the following waveform files, listed in alphabetical order:

Filename	Filename
IB_AM_e1_awgn.wv	IB_AMr208c_elawfr1124.wv
IB_AM_e1a_CW_dc.wv	IB_AMr220_elawfc28.wv
IB_AMr001_e1_cw_0_m10.wv	IB_AMr230_elawfr1005.wv
IB_AMr001_e1_cw_2_6.wv	IB_AMr230_elawfr1187.wv
IB_AMr001_e1_cw_m1_m2.wv	IB_AMr230_elawfr1261.wv
IB_AMr001_e1_cw_m30_0_30.wv	IB_AMr230a_elawfr1001.wv
IB_AMr001_e1_cw_m7p5_10.wv	IB_AMr230a_elawfr1002.wv
IB_AMr201_elawfc52.wv	IB_AMr230b_elawfc102.wv
IB_AMr201_elawfr1190.wv	IB_AMr230d_elawfr12.wv
IB_AMr208_elawfa05.wv	IB_AMr430_elwfr1016.wv
IB_AMr208_elawfa07.wv	
IB_AMr208_elawfa10.wv	
IB_AMr208_elawfb01.wv	IB_AMr430_elwfr1017.wv
IB_AMr208_elawfb02.wv	IB_AMr430_elwfr1018.wv
IB_AMr208_elawfb03.wv	IB_AMr430_elwfr1019.wv
IB_AMr208_elawfb04.wv	IB_AMr430_elwfr1020.wv
IB_AMr208_elawfb05.wv	IB_AMr430_elwfr1021.wv
IB_AMr208_elawfb102.wv	IB_AMr430_elwfr1022.wv
IB_AMr208_elawfb104.wv	IB_AMr430_elwfr1023.wv
IB_AMr208_elawfb111.wv	IB_AMr430_elwfr1024.wv
IB_AMr208_elawfb113.wv	IB_AMr430_elwfr1025.wv
IB_AMr208_elawfb119.wv	IB_AMr430_elwfr1026.wv
IB_AMr208_elawfb121.wv	IB_AMr430_elwfr1027.wv

Filename	Filename
IB_AMr208_elawfb124.wv	IB_AMr430_elwfr1028.wv
IB_AMr208_elawfb126.wv	IB_AMr440_elwfr1116.wv
IB_AMr208_elawfb128.wv	IB_AMr440_elwfr1117.wv
IB_AMr208_elawfb130.wv	IB_AMr440_elwfr1400.wv
IB_AMr208_elawfb131.wv	IB_AMr440_elwfr1401.wv
IB_AMr208_elawfb132.wv	IB_AMr440_elwfr1402.wv
IB_AMr208_elawfb134.wv	IB_AMr440_elwfr1403.wv
IB_AMr208_elawfb135.wv	IB_AMr440_elwfr1404.wv
IB_AMr208_elawfb145.wv	IB_AMr440_elwfr1407.wv
IB_AMr208_elawfb243.wv	IB_AMr440_elwfr1408.wv
IB_AMr208_elawfc00.wv	IB_AMr440_elwfr1414.wv
IB_AMr208_elawfc04.wv	IB_AMr440_elwfr1415.wv
IB_AMr208_elawfc06.wv	IB_AMr440_elwfr1431.wv
IB_AMr208_elawfc08.wv	IB_AMr440_elwfr1442.wv
IB_AMr208_elawfc10.wv	IB_AMr440_elwfr1443.wv
IB_AMr208_elawfc11.wv	IB_AMr440a_elwfr1405.wv
IB_AMr208_elawfc19.wv	IB_AMr440a_elwfr1432.wv
IB_AMr208_elawfc20.wv	IB_AMr450_elawfa10.wv
IB_AMr208_elawfc23.wv	IB_AMr450_elwfr1465.wv
IB_AMr208_elawfc24.wv	IB_AMr450_elwfr1466.wv
IB_AMr208_elawfc26.wv	IB_AMr450_elwfr1467.wv
IB_AMr208_elawfc27.wv	IB_AMr450_elwfr1468.wv
IB_AMr208_elawfc29.wv	IB_AMr450_elwfr1469.wv
IB_AMr208_elawfc30.wv	IB_AMr450_elwfr1470.wv
IB_AMr208_elawfc31.wv	IB_AMr450_elwfr1471.wv
IB_AMr208_elawfc32.wv	IB_AMr450_elwfr1472.wv
IB_AMr208_elawfr1221.wv	IB_AMr450_elwfr1473.wv
IB_AMr208_elawfr1249.wv	IB_AMr450_elwfr1474.wv
IB_AMr208_elawfr1260.wv	IB_AMr450_elwfr1475.wv
IB_AMr208a_elawfb00.wv	IB_AMr450_elwfr1507.wv
IB_AMr208a_elawfb138.wv	IB_AMr450_elwfr1508.wv
IB_AMr208a_elawfc33.wv	IB_AMr450_elwfr1509.wv
IB_AMr208a_elawfc34.wv	IB_AMr450_elwfr1510.wv

Filename	Filename
IB_AMr208b_elawfr1123.wv	IB_AMr500_elwfr1764.wv
IB_AMr208c_elawfa11.wv	

## 2.2 CC folder

The folder contains the following waveform files, listed in alphabetical order:

Filename	Filename
CC_TTN_FMr440a_elwfr001.wv	CC_TTN_FMr440a_elwfr035.wv
CC_TTN_FMr440a_elwfr002.wv	CC_TTN_FMr440a_elwfr036.wv
CC_TTN_FMr440a_elwfr003.wv	CC_TTN_FMr440a_elwfr037.wv
CC_TTN_FMr440a_elwfr004.wv	CC_TTN_FMr440a_elwfr038.wv
CC_TTN_FMr440a_elwfr005.wv	CC_TTN_FMr440a_elwfr039.wv
CC_TTN_FMr440a_elwfr006.wv	CC_TTN_FMr440a_elwfr040.wv
CC_TTN_FMr440a_elwfr007.wv	CC_TTN_FMr440a_elwfr041.wv
CC_TTN_FMr440a_elwfr008.wv	CC_TTN_FMr440a_elwfr042.wv
CC_TTN_FMr440a_elwfr009.wv	CC_TTN_FMr440a_elwfr043.wv
CC_TTN_FMr440a_elwfr010.wv	CC_TTN_FMr440a_elwfr044.wv
CC_TTN_FMr440a_elwfr011.wv	CC_TTN_FMr440a_elwfr045.wv
CC_TTN_FMr440a_elwfr012.wv	CC_TTN_FMr440a_elwfr046.wv
CC_TTN_FMr440a_elwfr013.wv	CC_TTN_FMr440a_elwfr047.wv
CC_TTN_FMr440a_elwfr014.wv	CC_TTN_FMr440a_elwfr048.wv
CC_TTN_FMr440a_elwfr015.wv	CC_TTN_FMr440a_elwfr049b.wv
CC_TTN_FMr440a_elwfr016.wv	CC_TTN_FMr440a_elwfr050.wv
CC_TTN_FMr440a_elwfr017.wv	CC_TTN_FMr440a_elwfr050b.wv
CC_TTN_FMr440a_elwfr018.wv	CC_TTN_FMr440a_elwfr051.wv
CC_TTN_FMr440a_elwfr019.wv	CC_TTN_FMr440a_elwfr051b.wv
CC_TTN_FMr440a_elwfr019b.wv	CC_TTN_FMr440a_elwfr052.wv
CC_TTN_FMr440a_elwfr020.wv	CC_TTN_FMr440a_elwfr053.wv
CC_TTN_FMr440a_elwfr020b.wv	CC_TTN_FMr440a_elwfr054.wv
CC_TTN_FMr440a_elwfr021.wv	CC_TTN_FMr440a_elwfr055.wv
CC_TTN_FMr440a_elwfr022.wv	CC_TTN_FMr440a_elwfr056.wv
CC_TTN_FMr440a_elwfr023.wv	CC_TTN_FMr440a_elwfr057.wv
CC_TTN_FMr440a_elwfr024.wv	CC_TTN_FMr440a_elwfr058.wv

Filename		Filename
CC_TTN_FMr440a_elwfr025.wv		CC_TTN_FMr440a_elwfr065.wv
CC_TTN_FMr440a_elwfr026.wv		CC_TTN_FMr440a_elwfr070.wv
CC_TTN_FMr440a_elwfr027.wv		CC_TTN_FMr440a_elwfr071.wv
CC_TTN_FMr440a_elwfr028.wv		CC_TTN_FMr440a_elwfr072.wv
CC_TTN_FMr440a_elwfr029.wv		CC_FMr440d_elwfr011.wv
CC_TTN_FMr440a_elwfr030.wv		
CC_TTN_FMr440a_elwfr031.wv		
CC_TTN_FMr440a_elwfr032.wv		
CC_TTN_FMr440a_elwfr033.wv		
CC_TTN_FMr440a_elwfr034.wv		

## 2.3 FM folder

The folder contains the following waveform files, listed in alphabetical order:

Filename		Filename
IB_FM_e1_awgn.wv		IB_FMr230c_elwfr1022.wv
IB_FM_e1_CW_dc.wv		IB_FMr230d_elbwfr1032.wv
IB_FMr001_e1_cw_0_100.wv		IB_FMr230d_elwfr1025.wv
IB_FMr001_e1_cw_0_m100.wv		IB_FMr230f_elwfr1023.wv
IB_FMr001_e1_cw_0_m200.wv		IB_FMr430_elwfr1080.wv
IB_FMr001_e1_cw_10_20.wv		IB_FMr430_elwfr1082.wv
IB_FMr001_e1_cw_50_100.wv		IB_FMr430_elwfr1083.wv
IB_FMr001_e1_cw_m275_0_275.wv		IB_FMr430_elwfr1086.wv
IB_FMr001_e1_cw_m50_0.wv		IB_FMr430_elwfr1087.wv
IB_FMr001_e1_cw_m80_m90.wv		IB_FMr430_elwfr1088.wv
IB_FMr201_elwfc52.wv		IB_FMr430_elwfr1089.wv
IB_FMr201_elwfr1189.wv		IB_FMr430_elwfr1090.wv
IB_FMr208_elwfr1122.wv		IB_FMr430_elwfr1091.wv
IB_FMr208_elwfr1185.wv		IB_FMr430_elwfr1092.wv
IB_FMr208_elwfr1246.wv		IB_FMr430_elwfr1093.wv
IB_FMr208_elwfr1247.wv		IB_FMr430_elwfr1094.wv
IB_FMr208_elwfr1248.wv		IB_FMr430_elwfr1095.wv
IB_FMr208c_elwfa05.wv		IB_FMr430_elwfr1096.wv



Filename		Filename
IB_FMr208c_elwfa98.wv		IB_FMr430_elwfr1097.wv
IB_FMr208c_elwfa99.wv		IB_FMr430_elwfr1098.wv
IB_FMr208c_elwfc00.wv		IB_FMr430_elwfr1099.wv
IB_FMr208c_elwfc03.wv		IB_FMr430_elwfr1100.wv
IB_FMr208c_elwfc08.wv		IB_FMr430_elwfr1101.wv
IB_FMr208c_elwfc09.wv		IB_FMr430_elwfr1102.wv
IB_FMr208c_elwfc10.wv		IB_FMr430_elwfr1152.wv
IB_FMr208c_elwfc201.wv		IB_FMr430a_elwfr1081.wv
IB_FMr208c_elwfc203.wv		IB_FMr430a_elwfr1085.wv
IB_FMr208c_elwfc204.wv		IB_FMr440_elwfr1111.wv
IB_FMr208c_elwfc206.wv		IB_FMr440_elwfr1112.wv
IB_FMr208c_elwfc209.wv		IB_FMr440_elwfr1113.wv
IB_FMr208c_elwfc210.wv		IB_FMr440_elwfr1114.wv
IB_FMr208c_elwfc211.wv		IB_FMr440_elwfr1115.wv
IB_FMr208c_elwfc227.wv		IB_FMr440_elwfr1243.wv
IB_FMr208c_elwfc230.wv		IB_FMr440_elwfr1274.wv
IB_FMr208c_elwfc27.wv		IB_FMr440_elwfr1301.wv
IB_FMr208c_elwfc28.wv		IB_FMr440_elwfr1302.wv
IB_FMr208c_elwfc30.wv		IB_FMr440_elwfr1315.wv
IB_FMr208c_elwfc546.wv		IB_FMr440_elwfr1332.wv
IB_FMr208c_elwfc547.wv		IB_FMr440_elwfr1343.wv
IB_FMr208c_elwfc548.wv		IB_FMr440_elwfr1362.wv
IB_FMr208c_elwfc90.wv		IB_FMr440_elwfr1523.wv
IB_FMr208d_elbwfc46.wv		IB_FMr440_elwfr1707.wv
IB_FMr208d_elwfa141.wv		IB_FMr440_elwfr1708.wv
IB_FMr208d_elwfc208.wv		IB_FMr440a_elwfr1275.wv
IB_FMr208d_elwfc538.wv		IB_FMr440a_elwfr1276.wv
IB_FMr208d_elwfc540.wv		IB_FMr440a_elwfr1277.wv
IB_FMr208d_elwfc542.wv		IB_FMr440a_elwfr1278.wv
IB_FMr208d_elwfc549.wv		IB_FMr440a_elwfr1279.wv
IB_FMr208e_elwfc12.wv		IB_FMr440a_elwfr1303.wv
IB_FMr208e_elwfc13.wv		IB_FMr440a_elwfr1304.wv
IB_FMr208g_elwfc94.wv		IB_FMr440a_elwfr1305.wv

Filename		Filename
IB_FMr208i_elwfa58.wv		IB_FMr440a_elwfr1314.wv
IB_FMr208j_elwfa105.wv		IB_FMr440a_elwfr1331.wv
IB_FMr208j_elwfa106.wv		IB_FMr440a_elwfr1342.wv
IB_FMr208j_elwfa107.wv		IB_FMr440b_elwfr1300.wv
IB_FMr208j_elwfa109.wv		IB_FMr440b_elwfr1307.wv
IB_FMr208j_elwfa11.wv		IB_FMr450_elwfc31.wv
IB_FMr208j_elwfc89.wv		IB_FMr450_elwfr1380.wv
IB_FMr220_elwfa108.wv		IB_FMr450_elwfr1381.wv
IB_FMr220_elwfr1121.wv		IB_FMr450_elwfr1382.wv
IB_FMr220a_elwfc100.wv		IB_FMr450_elwfr1383.wv
IB_FMr220a_elwfc101.wv		IB_FMr450_elwfr1384.wv
IB_FMr220a_elwfc553.wv		IB_FMr450_elwfr1385.wv
IB_FMr220a_elwfc555.wv		IB_FMr450_elwfr1386.wv
IB_FMr220b_elwfr1119.wv		IB_FMr450_elwfr1387.wv
IB_FMr220b_elwfr1120.wv		IB_FMr450_elwfr1388.wv
IB_FMr220c_elwfr1191.wv		IB_FMr450_elwfr1389.wv
IB_FMr230_elwfc14.wv		IB_FMr450_elwfr1390.wv
IB_FMr230_elwfr1061.wv		IB_FMr450_elwfr1391.wv
IB_FMr230_elwfr1270.wv		IB_FMr450_elwfr1392.wv
IB_FMr230_elwfr1272.wv		IB_FMr450_elwfr1502.wv
IB_FMr230_elwfr1273.wv		IB_FMr450_elwfr1503.wv
IB_FMr230_elwfr143.wv		IB_FMr450_elwfr1504.wv
IB_FMr230a_elwfa153.wv		IB_FMr450_elwfr1505.wv
IB_FMr230a_elwfc102.wv		IB_FMr450_elwfr1506.wv
IB_FMr230a_elwfr1000.wv		IB_FMr450_elwfr1520.wv
IB_FMr230a_elwfr1001.wv		IB_FMr450_elwfr1723.wv
IB_FMr230a_elwfr1003.wv		IB_FMr500_elwfr1703.wv
IB_FMr230a_elwfr1004.wv		
IB_FMr230a_elwfr1005.wv		
IB_FMr230a_elwfr1006.wv		
IB_FMr230a_elwfr1007.wv		
IB_FMr230a_elwfr1008.wv		
IB_FMr230a_elwfr1009.wv		

Filename		Filename
IB_FMr230a_elwfr1011.wv		
IB_FMr230a_elwfr1012.wv		
IB_FMr230a_elwfr1013.wv		
IB_FMr230a_elwfr1037.wv		
IB_FMr230a_elwfr1271.wv		
IB_FMr230b_elwfr1002.wv		
IB_FMr230b_elwfr1010.wv		
IB_FMr230b_elwfr1024.wv		
IB_FMr230c_elwfd204.wv		

### 3 NON-Available waveform files

The HD Radio waveforms listed in this section are not available, because they are either outdated, only for demo use or restricted to a specific customer group. If you need these files, contact iBiquity Digital Corporation.

Filename		Filename
IB_FMr208d_elbwfa25.wv		IB_FMr500_elwfr1704.wv
IB_FMr440_elwfr1251.wv		IB_FMr500_elwfr1705.wv
IB_FMr440_elwfr1252.wv		IB_FMrMCV_u0wfr1763.wv
IB_FMr440_elwfr1253.wv		
IB_FMr440_elwfr1254.wv		IB_AMr500_elwfr1764.wv
IB_FMr440_elwfr1255.wv		
IB_FMr440_elwfr1265.wv		CC_FMr440d_elwfr012.wv
IB_FMr440_elwfr1266.wv		CC_FMr440d_elwfr013.wv
IB_FMr440_elwfr1267.wv		CC_FMr440d_elwfr014.wv
IB_FMr440_elwfr1268.wv		
IB_FMr440_elwfr1269.wv		

# Index

## A

Application cards .....	12
Application notes .....	12

## B

Brochures .....	11
-----------------	----

## C

Calibration certificate .....	11
-------------------------------	----

## D

Data sheets .....	11
Documentation overview .....	10

## G

Getting started .....	10
-----------------------	----

## H

Help .....	10
------------	----

## I

Installation .....	5
Instrument help .....	10
Instrument security procedures .....	11

## K

Key features .....	5
--------------------	---

## L

Libraries	
Access .....	5
Download file .....	8
Load file .....	9
Play file .....	9
Required options .....	5
Save file .....	9

## O

Open source acknowledgment (OSA) .....	12
--	----

## R

Release notes .....	12
---------------------	----

## S

Safety instructions .....	11
Security procedures .....	11
Service manual .....	11
Specifications .....	11

## U

User manual .....	10
-------------------	----

## V

Videos .....	12
--------------	----

## W

Waveform files .....	13, 20
AM folder .....	13
CC folder .....	15
FM folder .....	16
Welcome .....	5
What's new .....	10
White papers .....	12