

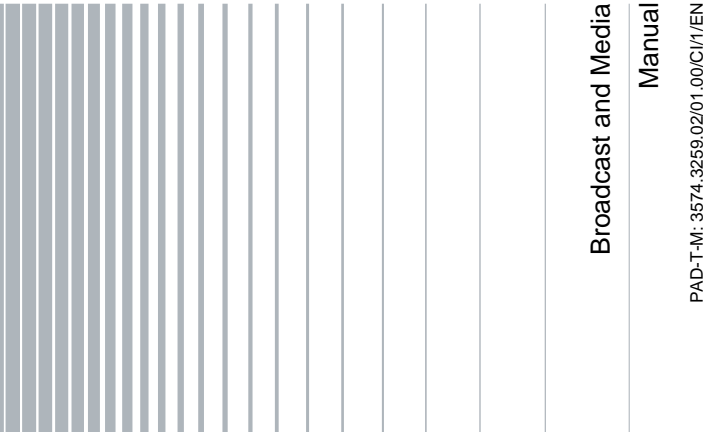
R&S®CLGD-K2

Basic Waveform Library

Manual



2118.7475.02 – 02



The Manual describes the content of the basic waveform library:

R&S®CLGD-K2 2118.7469.02

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The following abbreviations are used throughout this manual:

R&S®CLGD-K2 is abbreviated as R&S CLGD-K2

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1 Getting Started

This package contains waveforms files (*.wv) to be played on the arbitrary waveform generator (ARB) of the R&S CLGD (see "[System Requirements](#)" on page 4).

1.1 Contents of the Package

- This document
- Waveforms files (*.wv) described in "[Available Waveform Files](#)" on page 7.
- License file `RSCLGD-999999-K2_encrypted.lic`.

1.2 Version History



For information on the current firmware version refer to the release notes of the instrument.

1.2.1 Version 01.10

Initial release for R&S CLGD, supports the following waveforms:

- `FM_22CH_6_66MHz.wv`
- `PAL_B_2TON_7MHz.wv`
- `ATV_PAL_DK_CHINA_8MHz.wv`
- `PAL_G_2TON_8MHz.wv`
- `ATV_PAL_I_8MHz.wv`
- `Rectangle_15_675kHz.wv`
- `ATV_SECAM_L_8MHZ.wv`

1.2.2 Version 01.20

Waveform library extended by the following waveforms:

- `ISDB-T.wv`
- `ISDB-T_2layers_partial.wv`

1.3 System Requirements

- R&S CLGD DOCSIS cable load generator (2118.6956.02).
- Firmware versions 1.3.2-79280 and higher.

1.4 Installation Instructions



The files are encrypted for reasons of protection. Copying or recording the waveform files with the intention of using them on another playback device is prohibited!

Within this chapter, the R&S CLGD user manual (2118.7223.02) is referenced. The user manual is delivered with the R&S CLGD and is also available using the R&S CLGD Web GUI.

1.4.1 Installing the Extended Waveform Library (R&S CLGD-K2)

To install the basic waveform library files on the R&S CLGD, proceed as follows:

1. Connect to the R&S CLGD using the Web GUI, and check the currently installed R&S CLGD firmware version:
 - a) Navigate to "Home".
 - b) Select "Unit Information" > "Software Version (svn)".
The current firmware version is displayed.
 - c) Make sure that version 1.3.2-79280 or higher is installed.
Note: The latest firmware version is available for download from the R&S website.
2. Copy the waveform files to the R&S CLGD using the file upload described in the R&S CLGD user manual, chapter 2.14, section "Load Configurations".
After the file upload is successfully completed, the waveforms are displayed with an open lock icon and are ready to be used, see [Figure 1-1](#).

User Files

Files on device:

- ATV_PAL_I_8MHz.wv 12800189
- PAL_0_2T0N_8MHz.wv 8640187
- 28Hz
- ATV_SECAM_I_8MHz.wv 14400188
- FH_22CH_6_6MHz.wv 24000187
- Rectangle_15_675kHz.wv 8970
- 40Hz
- 411
- PAL_0_2T0N_7MHz.wv 8640187
- 45Hz
- IP_400MHz
- ATV_PAL_DP_CHINA_8MHz.wv 12800189
- atb
- NewSettings.eFg 6208
- /Factory 010b

File Upload (Method: html5)

Select files
Add files to the upload queue and click the start button.

Filename	Status	Size
ATV_PAL_DP_CHINA_8MHz.wv	100%	12.2 mb
ATV_PAL_I_8MHz.wv	100%	12.2 mb
ATV_SECAM_I_8MHz.wv	100%	13.7 mb
FH_22CH_6_6MHz.wv	100%	22.9 mb
PAL_0_2T0N_7MHz.wv	100%	8.2 mb
PAL_0_2T0N_8MHz.wv	100%	8.2 mb
Add Files		Start Upload
		100% 77.5 mb

Figure 1-1: R&S CLGD file upload

2 Available Waveform Files

This chapter contains the description of the available waveform files sorted by signal type.

2.1 FM Signal

Filename: `FM_22CH_6_66MHz.wv`

Modulation: FM signal modulated with ± 75 kHz deviation and random noise. The noise is band-limited white with uniform distribution. The file contains 22 carriers, equally spaced with a carrier spacing of 300 kHz.

2.2 PAL B Analog TV Signal

Filename: `PAL_B_2TON_7MHz.wv`

Modulation: Analog TV Std. B, channel bandwidth 7 MHz, video PAL color bars 75 %

Modulation depth: 10 %, group delay pre-correction general

Sound carrier 1: FM carrier at 5.5 MHz, carrier/vision level -13 dB, AF 1 kHz mono, FM deviation 30 kHz, no pilot tone available

Sound carrier 2: FM carrier at 5.742 MHz, carrier/vision level -20 dB, AF 1 kHz mono, FM deviation 30 kHz, no pilot tone available

2.3 PAL DK China Analog TV Signal

Filename: `ATV_PAL_DK_CHINA_8MHz.wv`

Modulation: Analog TV Std. D, channel bandwidth 8 MHz, video PAL color bars 75 %

Modulation depth: 12.5 %, group delay pre-correction flat

Sound carrier: FM carrier at 6.5 MHz, carrier/vision level -13 dB, AF 1 kHz mono, FM deviation 50 kHz

2.4 PAL G Analog TV Signal

Filename: PAL_G_2TON_8MHz.wv

Modulation: Analog TV Std. B, channel bandwidth 8 MHz, video PAL color bars 75 %

Modulation depth: 10 %, Group delay pre-correction general

Sound carrier 1: FM carrier at 5.5 MHz, carrier/vision level -13 dB, AF 1 kHz mono, FM deviation 30 kHz, no pilot tone available

Sound carrier 2: FM carrier at 5.742 MHz, carrier/vision level -20 dB, AF 1 kHz mono, FM deviation 30 kHz, no pilot tone available

2.5 PAL I Analog TV Signal

Filename: ATV_PAL_I_8MHz.wv

Modulation: Analog TV Std. I, channel bandwidth 8 MHz, video PAL color bars 75 %

Modulation depth: 12.5 %, group delay pre-correction flat

Sound carrier: FM carrier at 6.0 MHz, carrier/vision level -17 dB, AF 1 kHz mono, FM deviation 50 kHz

2.6 Rectangle for CMX Tests

Filename: Rectangle_15_675kHz.wv

Modulation: Rectangular signal with 15.675 kHz fundamental frequency. First modulation sidebands are offset by 6 dBc relative to the carrier. Total bandwidth is limited to about 400 kHz.

2.7 SECAM L Analog TV Signal

Filename: ATV_SECAM_L_8MHz.wv

Modulation: Analog TV Std. L, channel bandwidth 8 MHz, video SECAM color bars 75 %

Modulation depth: 3 %, group delay pre-correction TDF

Sound carrier 1: AM carrier at 6.5 MHz, carrier/vision level -10 dB, AF 1 kHz mono, AM modulation depth 54 %

Sound carrier 2: NICAM carrier at 5.85 MHz, carrier/vision level -27 dB, PRBS only

2.8 ISDB-T

Filename: ISDB-T.wv

Modulation: This file plays a not decodable ISDB-T signal. The spectrum of this signal is according to ARIB STD-B31.

Filename: ISDB-T_2layers_partial.wv

This waveform file plays two OFDM frames in a seamless loop. The signal is error-free decodable. It carries an MPEG-2 transport stream containing null packets with 0xFF payload.

[Table 2-1](#) and [Table 2-2](#) show the OFDM and coding parameters of the waveform.

Table 2-1: OFDM parameters of ISDB-T_2layers_partial.wv

ISDB-T Mode	Mode 3 (8K FFT)
Guard Interval	1/8

Table 2-2: Coding parameters of ISDB-T_2layers_partial.wv

	Layer A	Layer B
Constellation	QPSK	64QAM
Code Rate	2/3	3/4
Time Interleaving Length	4	2
Number of Segments	1 (partial reception)	12