

R&S[®]SMCVB-KS12

ISDB-T Streams

User Manual



1179266002
Version 02

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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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

You can find detailed installation instructions in the supplement document of the R&S SMCV100B user manual and in the R&S SMCV100B user manual describing firmware versions FW 4.90.002.xx and later of the R&S SMCV100B.

1.3 What's new

Compared to the previous version there are editorial changes only.

1.4 Documentation overview

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

2 Available transport stream files

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



2.1 Basic streams

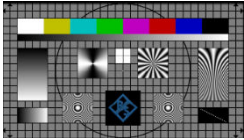
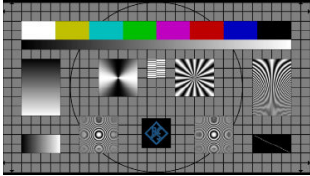
These streams are stored in the `non-BTS` subfolder.



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> | |

| Video elementary stream | ISDBT test stream & video elementary stream | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------|
| | 29 Hz | 59 Hz |
| <p>Park Interlaced 16:9 1080 lines 576 lines /</p>  | <p>HDTV_MPEG_Park Park 960 frames</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

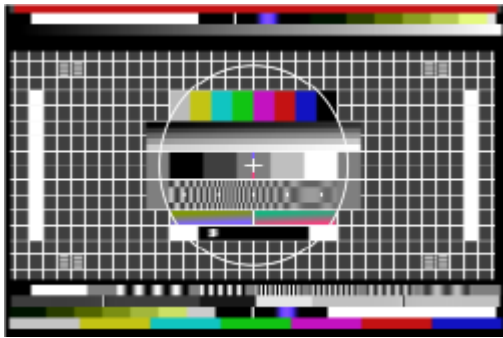


Figure 2-2: Codec 4:3 test pattern

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.

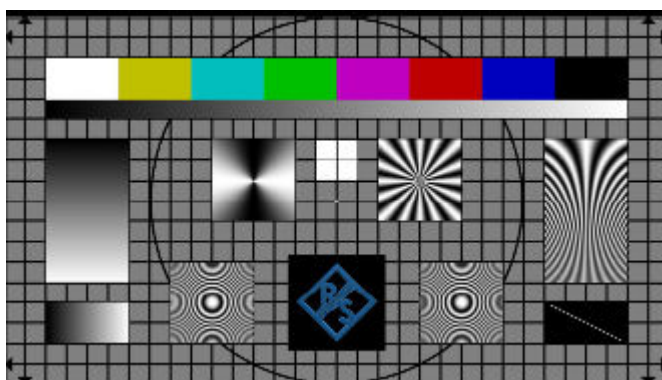


Figure 2-3: Test pattern

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.

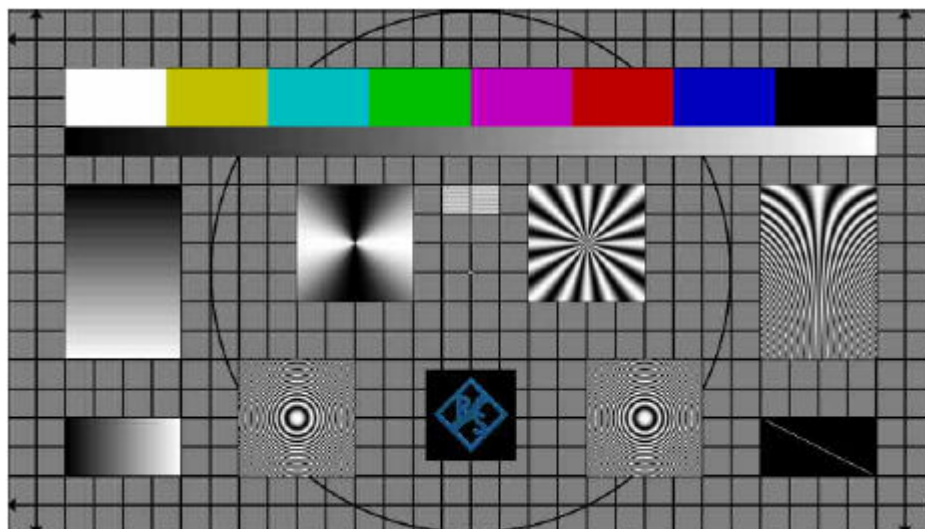


Figure 2-4: Test pattern

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.

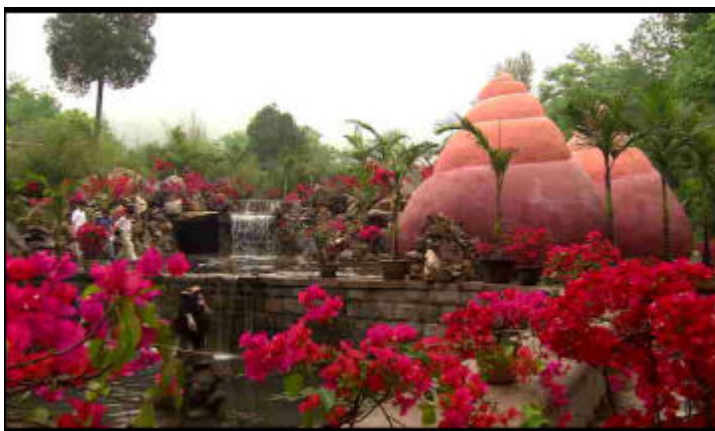


Figure 2-5: Park scene

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.

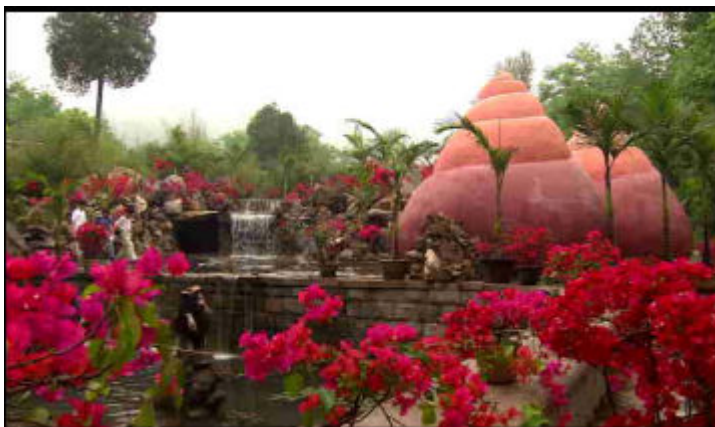


Figure 2-6: Park scene

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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