

R&S®WV-K53, R&S®SFU-K223 DAB+ Streams Specifications



CONTENTS

Definitions	3
Specifications.....	4
Ordering information	30

Definitions

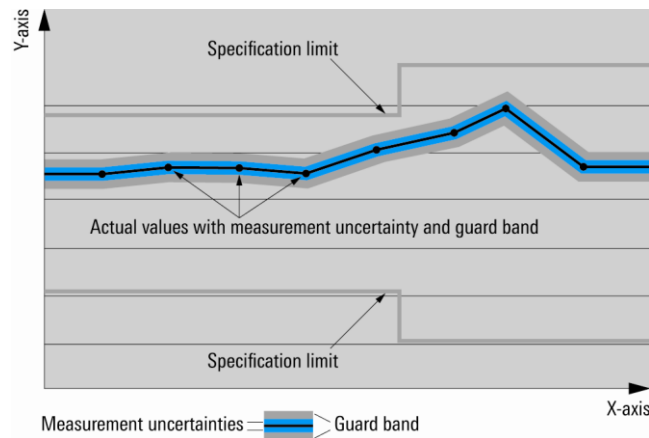
General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 minutes warm-up operation
- Specified environmental conditions met
- Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $<$, \leq , $>$, \geq , \pm , or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design.

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with $<$, $>$ or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)

Characterize product performance by means of a representative value for the given parameter (e.g. nominal impedance). In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties

Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

Specifications

The scope of DAB+ stream applications depends on the R&S®SFx-K22 TRP player option of the R&S®SFx.

DAB+ streams	sequences in line with ETS 300 799 TRP player (R&S®SFx-K22)	see description of option for details required for playout
Transmission	transmission mode	depends on loaded stream and transmission mode setting used in R&S®SFU, R&S®SFE, R&S®SFE100
	stream format	ETI NI G.703
Signal set overview	streams	DAB+ and DAB/DAB+
	number of streams	5 DAB streams 1 DAB+/DAB streams 1 DAB+ stream
	playback	endless
	audio, data	not seamless
	general ensemble information	depends on loaded stream
	labels	DAB+ audio variety, DAB/DAB+ audio mix, DAB+ audio changes, DAB+ CISPR13/14, data services, multiplex1/multiplex 2 (reconfiguration), MPX_RED
	identifier	0xdab1, 0xdab2, 0xdab3, 0xdab4, 0xd06c, 0xdabf, 0x1000
	transmission mode	1
	country	Germany (d) (ECC and country code: e0d)
	program type (PTY) codes	all countries except those in North America
	time zone	Europe/Berlin, UTC
	time format	long form
Signal set		depends on loaded stream
DAB+ audio variety	file name	eti1_file.dabp_c
General ensemble information	ensemble label	'DAB+-Variety' (abbreviated label: 'DAB+-Var'; flag field: 0xff00; character set: EBU basic core)
	ensemble identifier	0xdab1
	transmission mode	1
	ensemble country	Germany (D) (ECC and country code: e0d)
	international table for PTY codes	all countries except those in North America
	ensemble time zone	Europe/Berlin
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'192kbps-PL1-Surr' (abbreviated label: '192PL1-S'; flag field: 0xe0f8; character set: EBU basic core)
	service identifier	0xd07b (audio service)
	program type (PTY)	information (PTY code 3; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	speech (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	service 2	
	service label	'192kbps-PL3-Ster' (abbreviated label: '192PL3'; flag field: 0xe0e0; character set: EBU basic core)
	service identifier	0xd07c (audio service)
	program type (PTY)	leisure (PTY code 23; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	park scene (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 3	
	service label	'160kbps-PL3-Ster' (abbreviated label: '160PL3'; flag field: 0xe0e0; character set: EBU basic core)
	service identifier	0xd07d (audio service)
	program type (PTY)	serious classical (PTY code 14; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	Bach (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 4	
	service label	'128kbps-PL3-Surr' (abbreviated label: '128PL3-S'; flag field: 0xe0f8; character set: EBU basic core)
	service identifier	0xd07e (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	frequency sweep (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	service 5	
	service label	'96kbps-PL4-Surr' (abbreviated label: '96PL4-S'; flag field: 0xe0f8; character set: EBU basic core)
	service identifier	0xd07f (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	different sines on each channel (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	service 6	
	service label	'96kbps-PL3-Mono' (abbreviated label: '96PL3-M'; flag field: 0xe0f8; character set: EBU basic core)
	service identifier	0xd080 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	16 tone (mono) (audio: live source or playlist)
	service component carried in	stream 6
	SCIdS	0 (automatically assigned)
	PAD data	SLS PAD1 (application: MOT slideshow) DLS PAD1 (application: dynamic labels) Journaline PAD1 (application: Journaline®)
	service 7	
	service label	'48kbps-PL4-Ster' (abbreviated label: '48PL4'; flag field: 0xe0e0; character set: EBU basic core)
	service identifier	0xd081 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	10 kHz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 7
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 8	
	service label	'Secondary-SCs' (abbreviated label: 'Secondar'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xd082 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	speech (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	service component label	'192kbps-PL1-Surr' (abbreviated label: '192PL1-S'; flag field: 0xe0f8; character set: EBU basic core)
	secondary service component 1	park scene (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 2
	SCIdS	1 (automatically assigned)
	service component label	'192kbps-PL3-Ster' (abbreviated label: '192PL3'; flag field: 0xe0e0; character set: EBU basic core)
	secondary service component 2	Bach (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 3
	SCIdS	2 (automatically assigned)
	service component label	'160kbps-PL3-Ster' (abbreviated label: '160PL3'; flag field: 0xe0e0; character set: EBU basic core)
	secondary service component 3	frequency sweep (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 4
	SCIdS	3 (automatically assigned)
	service component label	'128kbps-PL3-Surr' (abbreviated label: '128PL3-S'; flag field: 0xe0f8; character set: EBU basic core)
	secondary service component 4	different sines on each channel (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 5
	SCIdS	4 (automatically assigned)
	service component label	'96kbps-PL4-Surr' (abbreviated label: '96PL4-S'; flag field: 0xe0f8; character set: EBU basic core)
	secondary service component 5	16 tone (mono) (audio: live source or playlist)
	service component carried in	stream 6
	SCIdS	5 (automatically assigned)
	PAD data	SLS PAD1 (application: MOT slideshow) DLS PAD1 (application: dynamic labels) Journaline PAD1 (application: Journaline®)
	service component label	'96kbps-PL3-Mono' (abbreviated label: '96PL3-M'; flag field: 0xe0f8; character set: EBU basic core)
	secondary service component 6	10 kHz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 7
	SCIdS	6 (automatically assigned)
	service component label	'48kbps-PL4-Ster' (abbreviated label: '48PL4'; flag field: 0xe0e0; character set: EBU basic core)

Stream information	stream 1	
	subchannel mode	audio
	bit rate	192 kbps (288 CUs)
	protection level	EEP 1-A
	subchannel identifier	2 (automatically assigned)
	service component	speech (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '192kbps-PL1-Surr' (primary service component) audio (program) service 'Secondary SCs' (primary service component '192kbps-PL1-Surr')
	stream 2	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	1 (automatically assigned)
	service component	park scene (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '192kbps-PL3-Ster' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '192kbps PL3 Ster')
	stream 3	
	subchannel mode	audio
	bit rate	160 kbps (120 CUs)
	protection level	EEP 3-A
	subchannel identifier	0 (automatically assigned)
	service component	Bach (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '160kbps-PL3-Ster' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '160kbps PL3 Ster')
	stream 4	
	subchannel mode	audio
	bit rate	128 kbps (96 CUs)
	protection level	EEP 3-A
	subchannel identifier	3 (automatically assigned)
	service component	frequency sweep (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '128kbps-PL3-Surr' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '128kbps-PL3-Surr')
	stream 5	
	subchannel mode	audio
	bit rate	96 kbps (48 CUs)
	protection level	EEP 4-A
	subchannel identifier	4 (automatically assigned)
	service component	different sines on each channel (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '96kbps-PL4-Surr' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '96kbps-PL4-Surr')

Stream information (cont.)	stream 6	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs)
	protection level	EEP 3-A
	subchannel identifier	5 (automatically assigned)
	service component	16 tone (mono) (audio: live source or playlist)
	service component used by	audio (program) service '96kbps PL3 Mono' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '96kbps PL3 Mono')
	X-PAD service component	SLS PAD1 (application: MOT slideshow)
	bit rate	8000 bps
	X-PAD application type	12 (automatically assigned)
	X-PAD service component	DLS PAD1 (application: dynamic labels)
	bit rate	200 bps
	X-PAD application type	2 (automatically assigned)
	X-PAD service component	Journaline PAD1 (application: Journaline®)
	bit rate	6000 bps
	content providers	Fraunhofer Research News PAD1: 6000 bps
	X-PAD application type	4 (automatically assigned)
	stream 7	
	subchannel mode	audio
	bit rate	48 kbps (24 CUs)
	protection level	EEP 4-A
	subchannel identifier	13 (automatically assigned)
	service component	10 kHz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '48kbps PL4 Ster' (primary service component) audio (program) service 'Secondary SCs' (secondary service component '48kbps PL4 Ster')
DAB DAB+ audio mix	file name	eti2_file.dabp_c
General ensemble information	ensemble label	'DAB/DAB+-Mix' (abbreviated label: 'DAB/DAB+'; flag field: 0xff00; character set: EBU basic core)
	ensemble identifier	0xdab2
	transmission mode	1
	ensemble country	Germany (D) (ECC and country code: e0d)
	international table for PTY codes	all countries except those in North America
	ensemble time zone	Europe/Berlin
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'192kbps L II' (abbreviated label: '192-L-II'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07b (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	synthetic audio 1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 2	
	service label	'160kbps-L-II' (abbreviated label: '160-L-II'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07c (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	synthetic audio 2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	service 3	
	service label	'128kbps-L-II' (abbreviated label: '128-L-II'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07d (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	synthetic audio 3 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 4	
	service label	'192kbps-DAB+' (abbreviated label: '192-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07e (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	frequency sweep stereo (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	service 5	
	service label	'96kbps-DAB+' (abbreviated label: '96-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07f (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	sines (stereo) (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	service 6	
	service label	'64kbps-DAB+' (abbreviated label: '64-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd080 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	100 Hz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 6
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 7	
	service label	'40kbps-DAB+' (abbreviated label: '40-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd081 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	10 kHz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in SCIdS	stream 7 0 (automatically assigned)
	service 8	
	service label	'24kbps-DAB+' (abbreviated label: '24-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd082 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	1 kHz/-6 dB sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in SCIdS	stream 8 0 (automatically assigned)
Stream information	stream 1	
	subchannel mode	audio
	bit rate	192 kbps (140 CUs)
	protection level	UEP 3
	subchannel identifier	7 (automatically assigned)
	service component	synthetic audio 1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '192kbps-L-II' (primary service component)
	stream 2	
	subchannel mode	audio
	bit rate	160 kbps (116 CUs)
	protection level	UEP 3
	subchannel identifier	8 (automatically assigned)
	service component	synthetic audio 2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '160kbps-L-II' (primary service component)
	stream 3	
	subchannel mode	audio
	bit rate	128 kbps (96 CUs)
	protection level	UEP 3
	subchannel identifier	9 (automatically assigned)
	service component	synthetic audio 3 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '128kbps-L-II' (primary service component)
	stream 4	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	10 (automatically assigned)
	service component	frequency sweep stereo (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '192kbps-DAB+' (primary service component)

Stream information (cont.)	stream 5	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs)
	protection level	EEP 3-A
	subchannel identifier	11 (automatically assigned)
	service component	sines (stereo) (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '96kbps·DAB+' (primary service component)
	stream 6	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	subchannel identifier	12 (automatically assigned)
	service component	100 Hz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '64kbps·DAB+' (primary service component)
	stream 7	
	subchannel mode	audio
	bit rate	40 kbps (30 CUs)
	protection level	EEP 3-A
	subchannel identifier	13 (automatically assigned)
	service component	10 kHz sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '40kbps·DAB+' (primary service component)
	stream 8	
	subchannel mode	audio
	bit rate	24 kbps (18 CUs)
	protection level	EEP 3-A
	subchannel identifier	14 (automatically assigned)
	service component	1 kHz/−6 dB sine (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '24kbps·DAB+' (primary service component)
DAB+ audio changes	file name	eti3_file.dabp_c
General ensemble information	ensemble label	'DAB+-Audiochange' (abbreviated label: 'DAB+-Chn'; flag field: 0xf034; character set: EBU basic core)
	ensemble identifier	0xdab3
	transmission mode	1
	ensemble country	Germany (D) (ECC and country code: e0d)
	international table for PTY codes	all countries except those in North America
	ensemble time zone	Europe/Berlin
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'64kbps·Stereo·1' (abbreviated label: '64·Str1'; flag field: 0x61d1; character set: EBU basic core)
	service identifier	0xd07b (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except those in North America)
	program language	German (language code 8)
	primary service component	audio reconfigs stereo1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 2	
	service label	'64kbps-Stereo-2' (abbreviated label: '64-Str2'; flag field: 0x61d1; character set: EBU basic core)
	service identifier	0xd07c (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	audio reconfigs stereo2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	service 3	
	service label	'128kbps-Surround' (abbreviated label: '128-Surr'; flag field: 0xe0f0; character set: EBU basic core)
	service identifier	0xd07d (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	audio reconfigs surround1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 4	
	service label	'64kbps-Surround' (abbreviated label: '64-Surr'; flag field: 0xe0f0; character set: EBU basic core)
	service identifier	0xd07e (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	audio reconfigs surround2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	service 5	
	service label	'128kbps-Mix' (abbreviated label: '128-Mix'; flag field: 0xe0f0; character set: EBU basic core)
	service identifier	0xd07f (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	audio reconfigs mix1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	service 6	
	service label	'64kbps-Mix' (abbreviated label: '64-Mix'; flag field: 0xe0f0; character set: EBU basic core)
	service identifier	0xd080 (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	audio reconfig mix 2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 6
	SCIdS	0 (automatically assigned)

Stream information	stream 1	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	subchannel identifier	6 (automatically assigned)
	service component	audio reconfigs stereo1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '64kbps stereo 1' (primary service component)
	stream 2	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	subchannel identifier	15 (automatically assigned)
	service component	audio reconfigs stereo2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '64kbps stereo 2' (primary service component)
	stream 3	
	subchannel mode	audio
	bit rate	128 kbps (96 CUs)
	protection level	EEP 3-A
	subchannel identifier	16 (automatically assigned)
	service component	audio reconfigs surround1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '128kbps surround' (primary service component)
	stream 4	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	subchannel identifier	26 (automatically assigned)
	service component	audio reconfigs surround2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '64kbps surround' (primary service component)
	stream 5	
	subchannel mode	audio
	bit rate	128 kbps (96 CUs)
	protection level	EEP 3-A
	subchannel identifier	27 (automatically assigned)
	service component	audio reconfigs mix1 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '128kbps-mix' (primary service component)
	stream 6	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	subchannel identifier	28 (automatically assigned)
	service component	audio reconfigs mix2 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component used by	audio (program) service '64kbps-mix' (primary service component)

DAB+ CISPR13/14	file name	eti4_file.dabp_c
General ensemble information	ensemble label	'DAB+-CISPR13/14' (abbreviated label: 'DAB+-CIS'; flag field: 0xff00; character set: EBU basic core)
	ensemble identifier	0xdab4
	transmission mode	1
	ensemble country	Germany (D) (ECC and country code: e0d)
	international table for PTY codes	all countries except North America
	ensemble time zone	Europe/Berlin
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'1k-fullscale' (abbreviated label: '1k-full'; flag field: 0xfe00; character set: EBU basic core)
	service identifier	0xd07b (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	1 kHz sine, full-scale CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	service 2	
	service label	'1k--6dB-CISPR13' (abbreviated label: '1k--6dB'; flag field: 0xfe00; character set: EBU basic core)
	service identifier	0xd07c (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	1 kHz sine, -6 dB CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	service 3	
	service label	'1k--10dB-CISPR13' (abbreviated label: '110-surr'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xd07d (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	1 kHz sine, -10 dB CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 4	
	service label	'1k--60dB-CISPR14' (abbreviated label: '110-surr'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xd07e (audio service)
	program type (PTY)	education (PTY code 5; code for all countries except North America)
	program language	German (language code 8)
	primary service component	1 kHz sine, -60 dB CISPR14 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)

Stream information	stream 1	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	17 (automatically assigned)
	service component	1 kHz sine, full-scale CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	audio configuration	MPEG audio layer II
	service component used by	audio (program) service '1k-fullscale ' (primary service component)
	stream 2	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	18 (automatically assigned)
	service component	1 kHz sine, –6 dB CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	audio configuration	MPEG audio layer II
	service component used by	audio (program) service '1k –6dB CISPR13' (primary service component)
	stream 3	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	19 (automatically assigned)
	service component	1 kHz sine, –10 dB CISPR13 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	audio configuration	MPEG audio layer II
	service component used by	audio (program) service '1k –10dB CISPR13' (primary service component)
	stream 4	
	subchannel mode	audio
	bit rate	192 kbps (144 CUs)
	protection level	EEP 3-A
	subchannel identifier	20 (automatically assigned)
	service component	1 kHz sine, –60 dB CISPR14 (protocol: audio subchannel insertion (layer 2 or HE-AAC v2))
	audio configuration	MPEG audio layer II
	service component used by	audio (program) service '1k –60dB CISPR14' (primary service component)
Data services	file name	eti5_file.dabp_c
General ensemble information	ensemble label	'Data Services' (abbreviated label: 'Data'; flag field: 0xf000; character set: EBU basic core)
	ensemble identifier	0xd06c
	transmission mode	1
	ensemble country	Germany (D) (ECC and country code: e0d)
	international table for PTY codes	all countries except North America
	ensemble time zone	Europe/Berlin
	DAB time format (FIG0/10)	long form

Service information	service 1	
	service label	'192kbps·LII·A' (abbreviated label: '192LII·A'; flag field: 0xe0f8; character set: EBU basic core)
	service identifier	0xd220 (audio service)
	program type (PTY)	serious classical (PTY code 14; code for all countries except North America)
	program language	German (language code 8)
	primary service component	Bach (live coded) (audio: live source or playlist)
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	PAD data	SLS PAD1 (application: MOT slideshow) DLS PAD1 (application: dynamic labels) Journaline PAD1 (application: Journaline®)
	service 2	
	service label	'96kbps·DAB+·A' (abbreviated label: '96DAB+A'; flag field: 0xe0f4; character set: EBU basic core)
	service identifier	0xd210 (audio service)
	program type (PTY)	pop music (PTY code 10; code for all countries except North America)
	program language	German (language code 8)
	primary service component	Herre (audio: live source or playlist)
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	PAD data	SLS PAD2 (application: MOT slideshow) DLS PAD2 (application: dynamic labels) Journaline PAD2 (application: Journaline®)
	service component label	'Audio' (abbreviated label: 'Audio'; flag field: 0xfc00; character set: EBU basic core)
	service 3	
	service label	'192kbps·LII' (abbreviated label: '192·LII'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07b (audio service)
	program type (PTY)	serious classical (PTY code 14; code for all countries except North America)
	program language	German (language code 8)
	primary service component	Bach (live coded) (audio: live source or playlist)
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	PAD data	SLS PAD1 (application: MOT slideshow) DLS PAD1 (application: dynamic labels) Journaline PAD1 (application: Journaline®)
	service component label	'Audio1' (abbreviated label: 'Audio1'; flag field: 0xfc00; character set: EBU basic core)
	secondary service component 1	BWS simple (application: MOT broadcast website)
	service component carried in	stream 4
	SCIdS	1 (automatically assigned)
	service component label	'BWS·Simple' (abbreviated label: 'BWS·Simp'; flag field: 0xff00; character set: EBU basic core)

Service information (cont.)	service 4	
	service label	'96kbps-DAB+' (abbreviated label: '96-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd07c (audio service)
	program type (PTY)	pop music (PTY code 10; code for all countries except North America)
	program language	German (language code 8)
	primary service component	Herre (audio: live source or playlist)
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	PAD data	SLS PAD2 (application: MOT slideshow) DLS PAD2 (application: dynamic labels) Journaline PAD2 (application: Journaline®)
	service component label	'Audio2' (abbreviated label: 'Audio2'; flag field: 0xfc00; character set: EBU basic core)
	secondary service component 1	BWS full (application: MOT broadcast website)
	service component carried in	stream 4
	SCIdS	1 (automatically assigned)
	service component label	'BWS-Full' (abbreviated label: 'BWS-Full'; flag field: 0xff00; character set: EBU basic core)
	service 5	
	service label	'SLS-Slide-NOW' (abbreviated label: 'SL-NOW'; flag field: 0xd038; character set: EBU basic core)
	service identifier	0xe0dcafe1 (data service)
	primary service component	SLS SL NOW (application: MOT slideshow)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 6	
	service label	'SLS-Slide-Abs' (abbreviated label: 'SL-Abs'; flag field: 0xd038; character set: EBU basic core)
	service identifier	0xe0dcafe2 (data service)
	primary service component	SLS SL ABS (application: MOT slideshow)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 7	
	service label	'SLS-HdrUpd-NOW' (abbreviated label: 'HU-NOW'; flag field: 0x093c; character set: EBU basic core)
	service identifier	0xe0dcafe3 (data service)
	primary service component	SLS HU NOW (application: MOT slideshow)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	service 8	
	service label	'SLS-HdrUpd-Abs' (abbreviated label: 'HU-Abs'; flag field: 0x093c; character set: EBU basic core)
	service identifier	0xe0dcafe4 (data service)
	primary service component	SLS HU ABS (application: MOT slideshow)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 9	
	service label	'BWS-Simple' (abbreviated label: 'BWS-Simp'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xe0dcafe5 (data service)
	primary service component	BWS simple (application: MOT broadcast website)
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	service component label	'BWS' (abbreviated label: 'BWS'; flag field: 0xe000; character set: EBU basic core)
	secondary service component 1	Bach (live coded) (audio: live source or playlist)
	service component carried in	stream 1
	SCIdS	1 (automatically assigned)
	PAD data	SLS PAD1 (application: MOT slideshow) DLS PAD1 (application: dynamic labels) Journaline PAD1 (application: Journaline®)
	service component label	'192kbps-LII' (abbreviated label: '192-LII'; flag field: 0xe1f0; character set: EBU basic core)
	service 10	
	service label	'BWS-Full' (abbreviated label: 'BWS-Full'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xe0dcafe6 (data service)
	primary service component	BWS full (application: MOT broadcast website)
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	service component label	'BWS' (abbreviated label: 'BWS'; flag field: 0xe000; character set: EBU basic core)
	secondary service component 1	Herre (audio: live source or playlist)
	service component carried in	stream 2
	SCIdS	1 (automatically assigned)
	PAD data	SLS PAD2 (application: MOT slideshow) DLS PAD2 (application: dynamic labels) Journaline PAD2 (application: Journaline®)
	service component label	'96kbps-DAB+' (abbreviated label: '96-DAB+'; flag field: 0xe1f0; character set: EBU basic core)
	service 11	
	service label	'EPG' (abbreviated label: 'EPG'; flag field: 0xe000; character set: EBU basic core)
	service identifier	0xe0dcafe7 (data service)
	primary service component	EPG (application: electronic program guide (EPG))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	service 12	
	service label	'Journaline' (abbreviated label: 'Journal'; flag field: 0xfe00; character set: EBU basic core)
	service identifier	0xe0dcafe9 (data service)
	primary service component	Journaline full (application: Journaline®)
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)

Service information (cont.)	service 13	
	service label	'TPEG-Mobile.Info' (abbreviated label: 'TPEG-M.I'; flag field: 0xf418; character set: EBU basic core)
	service identifier	0xe0dcafea (data service)
	primary service component	TPEG (application: TPEG (traffic and travel information))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	service 14	
	service label	'TPEG-Encr/Journy' (abbreviated label: 'TPEG-E/J'; flag field: 0xf460; character set: EBU basic core)
	service identifier	0xe0dcafeb (data service)
	primary service component	TPEG encrypted/Journaline (application: TPEG (traffic and travel information))
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
Stream information	stream 1	
	subchannel mode	audio
	bit rate	192 kbps (140 CUs)
	protection level	UEP 3
	subchannel identifier	25 (automatically assigned)
	service component	Bach (live coded) (audio: live source or playlist)
	audio configuration	MPEG audio layer II (stereo, 48 kHz, no MPEG surround)
	service component used by	audio (program) service '192kbps LII A' (primary service component) audio (program) service '192kbps LII' (primary service component 'Audio1') data service 'BWS Simple' (secondary service component '192kbps LII')
	X-PAD service component	SLS PAD1 (application: MOT slideshow)
	bit rate	8000 bps
	X-PAD application type	12 (automatically assigned)
	X-PAD service component	DLS PAD1 (application: dynamic labels)
	bit rate	200 bps
	X-PAD application type	2 (automatically assigned)
	X-PAD service component	Journaline PAD1 (application: Journaline®)
	bit rate	6000 bps
	content providers	Fraunhofer Research News PAD1: 6000 bps
	X-PAD application type	4 (automatically assigned)

Stream information (cont.)	stream 2	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs)
	protection level	EEP 3-A
	subchannel identifier	26 (automatically assigned)
	service component	Herre (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR off, no MPEG surround)
	service component used by	audio (program) service '96kbps DAB+ A' (primary service component 'Audio') audio (program) service '96kbps DAB+' (primary service component 'Audio2') data service 'BWS Full' (secondary service component '96kbps DAB+')
	X-PAD service component	SLS PAD2 (application: MOT slideshow)
	bit rate	8000 bps
	X-PAD application type	12 (automatically assigned)
	X-PAD service component	DLS PAD2 (application: dynamic labels)
	bit rate	200 bps
	X-PAD application type	2 (automatically assigned)
	X-PAD service component	Journaline PAD2 (application: Journaline®)
	bit rate	6000 bps
	content providers	Fraunhofer Research News PAD2: 6000 bps
	X-PAD application type	4 (automatically assigned)
	stream 3	
	subchannel mode	packet mode
	bit rate	64 kbps (48 CUs)
	protection level	EEP 3-A
	enhanced packet mode	no
	assigned bit rate	64000 bps
	subchannel identifier	27 (automatically assigned)
	service component	SLS SL NOW (application: MOT slideshow)
	service component used by	data service 'SLS Slide NOW' (primary service component)
	bit rate	16000 bps
	packet address	1 (automatically assigned)
	SCID	0 (automatically assigned)
	service component	SLS SL ABS (application: MOT slideshow)
	service component used by	data service 'SLS Slide Abs' (primary service component)
	bit rate	16000 bps
	packet address	2 (automatically assigned)
	SCID	1 (automatically assigned)
	service component	SLS HU NOW (application: MOT slideshow)
	service component used by	data service 'SLS HdrUpd NOW' (primary service component)
	bit rate	16000 bps
	packet address	3 (automatically assigned)
	SCID	2 (automatically assigned)
	service component	SLS HU ABS (application: MOT slideshow)
	service component used by	data service 'SLS HdrUpd Abs' (primary service component)
	bit rate	16000 bps
	packet address	4 (automatically assigned)
	SCID	3 (automatically assigned)

Stream information (cont.)	stream 4	
	subchannel mode	packet mode
	bit rate	96 kbps (72 CUs)
	protection level	EEP 3-A
	enhanced packet mode	no
	assigned bit rate	87100 bps
	subchannel identifier	28 (automatically assigned)
	service component	BWS simple (application: MOT broadcast website)
	service component used by	audio (program) service '192kbps LII' (secondary service component 'BWS Simple') data service 'BWS Simple' (primary service component 'BWS')
	bit rate	64000 bps
	content providers	BWS simple (Journaline): 32000 bps BWS simple (surround): 32000 bps
	packet address	5 (automatically assigned)
	SCID	4 (automatically assigned)
	service component	BWS full (application: MOT broadcast website)
	service component used by	audio (program) service '96kbps DAB+' (secondary service component 'BWS Full') data service 'BWS Full' (primary service component 'BWS')
	bit rate	16000 bps
	content providers	BWS full: 16000 bps
	packet address	6 (automatically assigned)
	SCID	5 (automatically assigned)
	service component	Journaline full (application: Journaline®)
	service component used by	data service 'Journaline' (primary service component)
	bit rate	7100 bps
	content providers	Deutsche Welle Nachrichten: 1000 bps Deutsche Welle News: 1000 bps Deutsche Welle News (Hindi): 1000 bps Fraunhofer Research News: 4000 bps Journaline ticker: 100 bps
	packet address	7 (automatically assigned)
	SCID	6 (automatically assigned)

Stream information (cont.)	stream 5	
	subchannel mode	packet mode
	bit rate	24 kbps (18 CUs)
	protection level	EEP 3-A
	enhanced packet mode	no
	assigned bit rate	24000 bps
	subchannel identifier	29 (automatically assigned)
	service component	EPG (application: electronic program guide (EPG))
	service component used by	data service 'EPG' (primary service component)
	bit rate	21000 bps
	content providers	EPG: 17000 bps EPG test files: 4000 bps
	packet address	8 (automatically assigned)
	SCID	7 (automatically assigned)
	service component	TPEG (application: TPEG (traffic and travel information))
	service component used by	data service 'TPEG Mobile.Info' (primary service component)
	bit rate	2000 bps
	packet address	9 (automatically assigned)
	SCID	8 (automatically assigned)
	service component	TPEG encrypted/Journaline (application: TPEG (traffic and travel information))
	service component used by	data service 'TPEG Encr/Journey' (primary service component)
	bit rate	1000 bps
	packet address	10 (automatically assigned)
	SCID	9 (automatically assigned)
DAB reconfiguration	file name	eti_subchannel_reconfig.dabp_c
DAB multiplex 1		
General ensemble information	ensemble label	'Multiplex 1' (abbreviated label: 'Mux 1'; flag field: 0xc0e0; character set: EBU basic core)
	ensemble identifier	0xdabf
	transmission mode	1
	PAD encoder flags	no restrictions (all optimizer steps used)
	ensemble country	Germany (D) (ECC and country code: E0D)
	international table for PTY codes	all countries except North America
	ensemble time zone	Europe/Berlin
	alarm announcements	alarm announcements are not supported.
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'56kbps/EEP3-A' (abbreviated label: '56/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd121 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? 2 (audio: live source or playlist)
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	announcements	no announcements

Service information (cont.)	service 2	
	service label	'72kbps/EEP4-A' (abbreviated label: '72/4-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd122 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	words 2 (audio: live source or playlist)
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 3	
	service label	'192kbps/UEP4' (abbreviated label: '192/UEP4'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd123 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? (audio: live source or playlist)
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 4	
	service label	'96kbps/EEP3-A' (abbreviated label: '96/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd124 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? 3 (audio: live source or playlist)
	service component carried in	stream 6
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 5	
	service label	'96kbps/UEP3' (abbreviated label: '96/UEP3'; flag field: 0xc3e0; character set: EBU basic core)
	service identifier	0xd125 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	words (audio: live source or playlist)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 6	
	service label	'72kbps/EEP3-A' (abbreviated label: '72/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd126 (audio service)
	primary service component	words 3 (audio: live source or playlist)
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	announcements	no announcements

Service information (cont.)	service 7	
	service label	'72kbps/EEP3-A' (abbreviated label: '72/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd126 (audio service)
	primary service component	words 3 (audio: live source or playlist)
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 8	
	service label	'Subch. Change' (abbreviated label: 'Subch.'; flag field: 0xfc00; character set: EBU basic core)
	service identifier	0xd127 (audio service)
	primary service component	Is there anybody out there? 4 (audio: live source or playlist)
	service component carried in	stream 8
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 9	
	service label	'Journaline®' (abbreviated label: 'Journali'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xe0d00128 (data service)
	primary service component	Journaline ticker (application: Journaline® ticker)
	service component carried in	stream 7
	SCIdS	0 (automatically assigned)
Stream information	stream 1	
	subchannel mode	audio
	bit rate	72 kbps (36 CUs, starting at CU 0)
	reassign unused bit rate	yes
	protection level	EEP 4-A
	subchannel identifier	11 (automatically assigned)
	service component	words 2 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR on, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '72kbps/EEP4-A' (primary service component)
	stream 2	
	subchannel mode	audio
	bit rate	192 kbps (116 CUs, starting at CU 36)
	reassign unused bit rate	yes
	protection level	UEP 4
	subchannel identifier	12 (automatically assigned)
	service component	Is there anybody out there? (audio: live source or playlist)
	audio configuration	MPEG audio layer II (stereo, 48 kHz, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '192kbps/UEP4' (primary service component)
	stream 3	
	subchannel mode	audio
	bit rate	96 kbps (70 CUs, starting at CU 152)
	reassign unused bit rate	yes
	protection level	UEP 3
	subchannel identifier	14 (automatically assigned)
	service component	words (audio: live source or playlist)
	audio configuration	MPEG audio layer II (mono, 24 kHz (half sampling rate), no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '96kbps/UEP3' (primary service component)

Stream information (cont.)	stream 4	
	subchannel mode	audio
	bit rate	56 kbps (42 CUs, starting at CU 222)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	21 (automatically assigned)
	service component	Is there anybody out there? 2 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR on, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '56kbps/EEP3-A' (primary service component)
	stream 5	
	subchannel mode	audio
	bit rate	72 kbps (54 CUs, starting at CU 264)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	23 (automatically assigned)
	service component	words 3 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR on, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '72kbps/EEP3-A' (primary service component)
	stream 6	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs, starting at CU 318)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	24 (automatically assigned)
	service component	Is there anybody out there? 3 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 32 kHz, SBR off, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '96kbps/EEP3-A' (primary service component)
	stream 7	
	subchannel mode	packet mode
	bit rate	8 kbps (6 CUs, starting at CU 390)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	enhanced packet mode	no
	assigned bit rate	8000 bps
	subchannel identifier	50 (manually assigned)
	service component	Journaline ticker (application: Journaline® ticker)
	service component used by	data service 'Journaline®' (primary service component)
	bit rate	8000 bps
	packet address	9 (automatically assigned)
	SCID	9 (automatically assigned)
	stream 8	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs, starting at CU 396)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	60 (manually assigned)
	service component	Is there anybody out there? 4 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 32 kHz, SBR off, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service 'Subch. Change' (primary service component)

DAB multiplex 2		
General ensemble information	ensemble label	'Multiplex 2' (abbreviated label: 'Mux 2'; flag field: 0xc0e0; character set: EBU basic core)
	ensemble identifier	0xdabf
	transmission mode	1
	PAD encoder flags	no restrictions (all optimizer steps used)
	ensemble country	Germany (D) (ECC and country code: E0D)
	international table for PTY codes	all countries except North America
	ensemble time zone	Europe/Berlin
	alarm announcements	alarm announcements are not supported
	DAB time format (FIG0/10)	long form
Service information	service 1	
	service label	'64kbps/EEP4-B' (abbreviated label: '64/4-B'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd121 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? 2 (audio: live source or playlist)
	service component carried in	stream 4
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 2	
	service label	'64kbps/EEP3-A' (abbreviated label: '64/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd122 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	words 2 (audio: live source or playlist)
	service component carried in	stream 1
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 3	
	service label	'160kbps/UEP3' (abbreviated label: '160/UEP3'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd123 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? (audio: live source or playlist)
	service component carried in	stream 2
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 4	
	service label	'96kbps/EEP4-A' (abbreviated label: '96/4-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd124 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	Is there anybody out there? 3 (audio: live source or playlist)
	service component carried in	stream 6
	SCIdS	0 (automatically assigned)
	announcements	no announcements

Service information (cont.)	service 5	
	service label	'128kbps/UEP4' (abbreviated label: '128/UEP4'; flag field: 0xe1f0; character set: EBU basic core)
	service identifier	0xd125 (audio service)
	static program type (PTY)	education (PTY code 5; code for all countries except North America)
	static language of primary service component	German (language code 8)
	primary service component	words (audio: live source or playlist)
	service component carried in	stream 3
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 6	
	service label	'Journaline®' (abbreviated label: 'Journali'; flag field: 0xff00; character set: EBU basic core)
	service identifier	0xe0d00128 (data service)
	primary service component	Journaline ticker (application: Journaline® ticker)
	service component carried in	stream 7
	SCIdS	0 (automatically assigned)
	service 7	
	service label	'Subch. Change' (abbreviated label: 'Subch.'; flag field: 0xfc00; character set: EBU basic core)
	service identifier	0xd127 (audio service)
	primary service component	Is there anybody out there? 4 (audio: live source or playlist)
	service component carried in	stream 8
	SCIdS	0 (automatically assigned)
	announcements	no announcements
	service 8	
	service label	'96kbps/EEP3-A' (abbreviated label: '96/3-A'; flag field: 0xc238; character set: EBU basic core)
	service identifier	0xd126 (audio service)
	primary service component	words 3 (audio: live source or playlist)
	service component carried in	stream 5
	SCIdS	0 (automatically assigned)
	announcements	no announcements
Stream information	stream 1	
	subchannel mode	audio
	bit rate	64 kbps (48 CUs, starting at CU 0)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	11 (automatically assigned)
	service component	words 2 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR on, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '64kbps/EEP3-A' (primary service component)
	stream 2	
	subchannel mode	audio
	bit rate	160 kbps (116 CUs, starting at CU 48)
	reassign unused bit rate	yes
	protection level	UEP 3
	subchannel identifier	12 (automatically assigned)
	service component	Is there anybody out there? (audio: live source or playlist)
	audio configuration	MPEG audio layer II (stereo, 48 kHz, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '160kbps/UEP3' (primary service component)

Stream information (cont.)	stream 3	
	subchannel mode	audio
	bit rate	128 kbps (84 CUs, starting at CU 164)
	reassign unused bit rate	yes
	protection level	UEP 4
	subchannel identifier	14 (automatically assigned)
	service component	words (audio: live source or playlist)
	audio configuration	MPEG audio layer II (joint stereo (intensity stereo), 24 kHz (half sampling rate), no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '128kbps/UEP4' (primary service component)
	stream 4	
	subchannel mode	audio
	bit rate	64 kbps (30 CUs, starting at CU 248)
	reassign unused bit rate	yes
	protection level	EEP 4-B
	subchannel identifier	21 (automatically assigned)
	service component	Is there anybody out there? 2 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 48 kHz, SBR on, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '64kbps/EEP4-B' (primary service component)
	stream 5	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs, starting at CU 278)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	23 (automatically assigned)
	service component	words 3 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 32 kHz, SBR off, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '96kbps/EEP3-A' (primary service component)
	stream 6	
	subchannel mode	audio
	bit rate	96 kbps (48 CUs, starting at CU 350)
	reassign unused bit rate	yes
	protection level	EEP 4-A
	subchannel identifier	24 (automatically assigned)
	service component	Is there anybody out there? 3 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 32 kHz, SBR off, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service '96kbps/EEP4-A' (primary service component)
	stream 7	
	subchannel mode	packet mode
	bit rate	8 kbps (6 CUs, starting at CU 398)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	enhanced packet mode	no
	assigned bit rate	8000 bps
	subchannel identifier	51 (manually assigned)
	service component	Journaline ticker (application: Journaline® ticker)
	service component used by	data service 'Journaline®' (primary service component)
	bit rate	8000 bps
	packet address	9 (automatically assigned)
	SCID	9 (automatically assigned)

Stream information (cont.)	stream 8	
	subchannel mode	audio
	bit rate	96 kbps (72 CUs, starting at CU 404)
	reassign unused bit rate	yes
	protection level	EEP 3-A
	subchannel identifier	61 (manually assigned)
	service component	Is there anybody out there? 4 (audio: live source or playlist)
	audio configuration	DAB+ (stereo, 32 kHz, SBR off, no MPEG surround)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service 'Subch. change' (primary service component)
Test radio equipment directive (RED)	file name	RED_Sine+_120s_eti_ni_file.dabp_c
General ensemble information	ensemble label	RED_1kHz-3dB
	ensemble identifier	0x1000
	transmission mode	1
	PAD encoder flags	no restrictions (all optimizer steps used)
	ensemble country	Germany (1)
	table for PTY codes	determined by Ensemble Country
	ensemble time zone	UTC
	Alarm announcement	alarm announcements are not supported
	DAB time format	long-form version
Service information	service 1	
	service label	Sine+
	service identifier	0x1001
	static program type	no program type
	static language op primary service component	no static language
	primary service component	1kHz sine -3dB full scale
	SCIdS	0 (automatically assigned)
	announcements	no announcements
Stream information	stream1	
	subchannel mode	audio
	bit rate	128 kbps
	reassign unused bit rate	no unassigned bit rate
	protection level	EEP 3-A
	subchannel identifier	1
	service component	1kHz_-3dB (audio: live source or play list) HE-AAC v2
	audio configuration	DAB+ (mono, 48 kHz)
	PAD mode	variable size X-PAD
	service component used by	audio (program) service 'Sine+' (primary component service)
Stream support	R&S®SFU	full support of all streams
	R&S®SFE	full support of all streams
	R&S®SFE100	full support of all streams
	R&S®BTC	full support of all streams

Ordering information

Designation	Type	Order No.
DAB+ Streams (requires specific option(s))	R&S®WV-K53	2116.9387.02
DAB+ Streams (requires specific option(s))	R&S®SFU-K223	2110.4760.02

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