

TECHNICAL SPECIFICATIONS

Material for Broadcast

v2.7 / November 2022

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Contents

- 1. Introduction..... 4
- 2. Technical Requirements..... 5
 - 2.1. Video Signal 5
 - 2.1.1. UHD Signal 5
 - 2.1.2. HD Signal..... 5
 - 2.1.3. SD Signal 5
 - 2.2. Audio Signal 6
 - 2.2.1. Loudness Control..... 6
 - 2.2.2. Sound Level 6
 - 2.3. Time Code 7
 - 2.4. Audio Track Assignment..... 8
 - 2.5. Aspect Ratio..... 8
 - 2.5.1. UHD Signals..... 8
 - 2.5.2. HD Signals 8
 - 2.5.3. SD Signals..... 8
 - 2.6. Safe Area 9
 - 2.7. File-Delivery..... 11
 - 2.7.1. UHD Signals..... 12
 - 2.7.2. HD Signals 12
 - 2.7.3. SD Signals..... 12
 - 2.8. Tape-Delivery 13
 - (only in exceptional cases and after consultation with RTL)..... 13
 - 2.8.1. UHD-Signals..... 14
 - 2.8.2. HD Signals 14
 - 2.8.3. SD Signals..... 14
 - 2.9. Stills and Animations..... 14
 - 2.10. Subtitles / Closed Captioning (CC) 15
 - 2.10.1. File Format..... 15
 - 2.10.2. Positioning in Picture 15
 - 2.10.3. On-Air Font Type 16
 - 2.10.4. On-Screen Display Time..... 16
 - 2.10.5. Content and Spelling 16
- 3. Required Material for Licensed Programs 16
 - 3.1. Broadcast Material 16
 - 3.1.1. Delivery Format 16
 - 3.1.2. File Delivery Method 17
 - 3.1.3. Labeling..... 17
 - 3.1.4. Accompanying Closed Captions..... 17
 - 3.1.5. Fonts and Graphic Elements..... 17
 - 3.1.6. Required Content..... 17
 - 3.2. Promotional Material and Paper Deliverables..... 20
 - 3.2.1. Promotional Material 20
 - 3.2.2. Other Promotional Material 21
 - 3.2.3. Documents..... 21
- 4. Contact 22

4.1.	Material delivery:.....	22
4.2.	File technical questions:	22
4.3.	Delivery address.....	22
5.	Appendix	23
5.1.	Appendix A: Audio Track Assignment.....	23
5.2.	Appendix B: Data Sheet Example	25

1. Introduction

The technical guidelines described herein apply to all programs intended for transmission on any of the channels of RTL Deutschland GmbH – they are the basis of each production contract.

The picture and sound quality of television productions has to adhere to the quality standards which can be achieved utilizing modern means of production.

These means of production have to be constantly kept on the cutting edge of technology.

The basic requirement is that all production material and equipment has to adhere to the broadcast standard and this adherence is highly recommended throughout all phases of production.

In order to achieve optimum picture and sound quality of the television program, the physical and technical possibilities as well as the limitations of the television system have to be taken into account when recording begins.

Once RTL has received the broadcast material, its quality and compatibility for transmission will be assessed via technical and editorial inspection and approval.

It is important that the technical details of the audio/video content correspond to the guidelines recommended by the European Broadcasting Union (EBU).

2. Technical Requirements

2.1. Video Signal

No invalid signal levels according to EBU R103 and "Video Range" may be included in the broadcast content.

2.1.1. UHD Signal

HDR PQ: UHD video signals must comply with the encoding parameters according to ITU-R BT.2020, ITU-R BT.2100 and SMPTE ST 2084 and be generated with 1000 nit (peak luminance), or with specification of the max. content light level.

SDR: UHD video signals must comply with the coding parameters according to ITU-R BT.709.

UHD see also document "Grading Guidelines UHD HDR & SDR"

2.1.2. HD Signal

High definition video signals have to adhere to the encoding parameters according to the ITU-R BT.709-6 standard. The content must not contain any illegal video signals. The field dominance always has to be on the first (odd) field.

2.1.3. SD Signal

SD video signals have to adhere to the encoding parameters according to the ITU-R BT.601 standard. Active image information needs to be from line 23 to line 310 in the first field and line 336 to line 623 in the second field range. The first half of line 23 has to be blanked out. In particular, a use for WSS is inadmissible. The content must not contain any illegal video signals. The field dominance always has to be on the first (odd) field.

2.2. Audio Signal

2.2.1. Loudness Control

The broadcasting of programs will only be performed with loudness control according to EBU Recommendation R 128. All productions have to be in accordance with EBU Recommendation R 128.

The level control of the audio signals has to be done in a way that an average program loudness (I=Integrated) of -23 LUFS (+/- 0.5 LU) is achieved. Besides, the digital maximum true peak level (Tpmax) must not exceed -1 dBTP.

The program loudness range (LRA) should preferably not be higher than 20 LU (detailed information can be found in the documents EBU Tech 3341 – 3344).

2.2.2. Sound Level

There must not be any audio mute or test tones in the program; all exceptions (e.g. removal of obscene language) have to be documented. The downmix of a multi-channel mix has to be stereo-compatible. The whole program must be produced in a balanced and natural mix also adhering to the Recommendation R 128.

Dialogues should be easily perceivable within the total mix of the program at a normal volume level regardless of whether the signal is mono, stereo or Dolby 5.1. Particular attention has to be given to background effects and background music. It has to be noted that many viewers have difficulties following dialogue program if it is not sufficiently distinguishable from the background sound.

In order to smoothen the transitions between different program elements the loudness at the beginning and at the end of the programs must not be above average. Scenes with a comparable content should be mixed identically within the same program segment. The sound level of the program identification must be adequate and not too high.

Each and every mix will undergo a final check in the quality control department focusing on the above mentioned conditions.

2.3. Time Code

All delivered AV material has to contain time code information. The time code has to be continuous and steady. LTC and VITC (if any) have to have identical values. If the material is delivered in separate volumes or files (e.g. images and sound separately or in a program file), the time code has to be in sync on all units, has to be continuously ascending and must not be duplicated.

For file-based delivery the timecode starts at 00:00:00:00 and for tape-based delivery at 10:00:00:00

2.4. Audio Track Assignment

The German program audio of broadcast material should always be on track 1 and 2 and in stereo. Unused tracks have to be AES-0 (mute). All audio tracks have to be synchronized to the video image regardless of the format.

Track assignments in 5.1 mixes have to adhere to the following pattern:

FL (track 3) – FR (track 4) – C (track 5) – LFE (track 6) – SL (track 7) – SR (track 8)

Compliant audio track assignments can be found in appendix A.

The audio track designation has to be listed in an accompanying information (media data sheet). Audio track assignments other than those listed in appendix A will only be permitted after consultation with RTL.

UHD: 8 or 16 channels (tracks) with one track

HD: 8 channels (tracks) with one track

SD: 1 channel (track) with 8 tracks

2.5. Aspect Ratio

2.5.1. UHD Signals

The technical image size of the active image is 3840 x 2160 square pixels. Deviating sizes are not accepted. HD productions that have been subsequently "upconverted" to UHD require individual consultation with RTL.

2.5.2. HD Signals

The picture size of the active image size is 1920x1080 square pixels. Other sizes are not accepted. SD productions which have been "up-scaled" into HD require individual agreement with RTL.

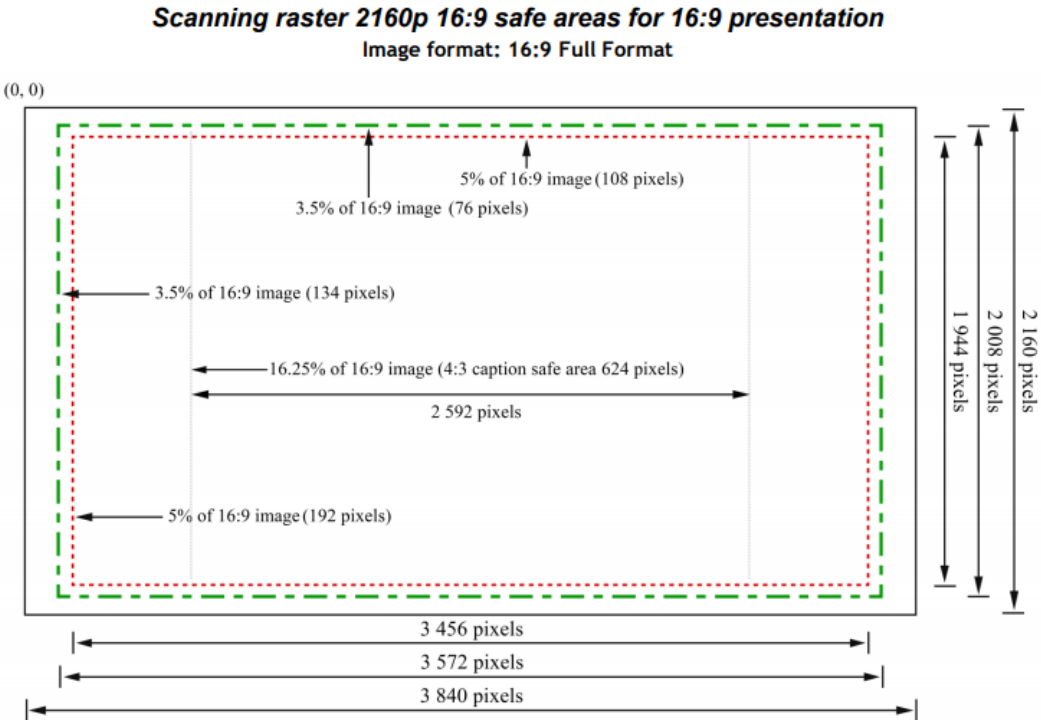
2.5.3. SD Signals

The picture size of the active image is 720x576 non-square pixels. Other sizes are not accepted. The preferred aspect ratio is 16:9. Image content in 4:3 requires individual agreement with RTL.

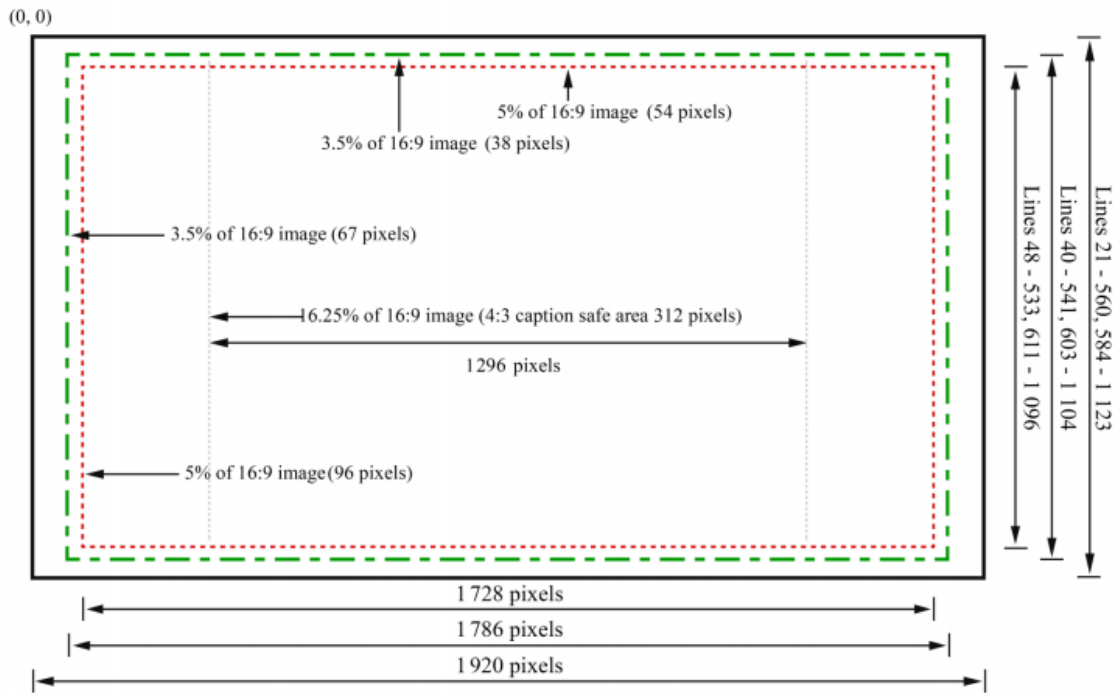
2.6. Safe Area

To ensure adequate display of the important parts of the image on consumer devices, the defined EBU R95 safety margin (action safe area) has to be observed (Fig. 2.1). Modern TV receivers are set up to be pixel-exact. Therefore, objects which are not intended as part of the scene (such as microphone booms) and other extraneous or improper image edges must not be visible.

	Vertical	horizontal
action safe margin	3,5 %	3,5 %



Scanning raster 1080i and 1080psf 16:9 safe areas for 16:9 presentation
Image format: 16:9 Full Format



Scanning raster 576i 16:9 safe areas for 16:9 presentation
Image format: 16:9 Full Format

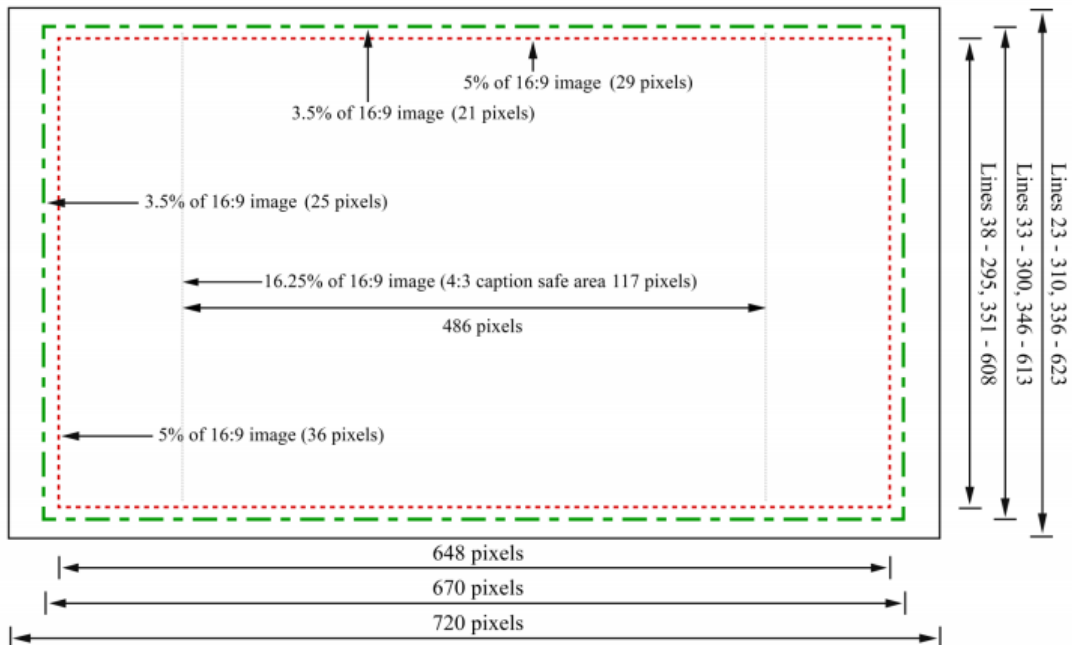


Figure 2.1: Safe Areas 16:9 Image

2.7. File-Delivery

Preferred delivery is file delivery via Movie2Me via TCP/UDP port 9000. This is associated with a one-time mandatory test.

The delivery of a Professional Disc is considered as a file delivery.

A Professional Disc may only contain one file at a time. The file may only consist of the shipment segments and the extra segments (see Appendix C). It must have the first visible image or the first audible sound as the start frame. The time code should start at 00:00:00:00.

The maximum length of a file may not exceed 130 minutes, longer program parts are to be divided into several files, respectively several discs. Each file starts at the time code 00:00:00:00.

Therefore, it must not have technical credits. A technical trailer is not required.

The last extra segment represents the info panel with a duration of 1 s.

The designation of audio tracks has to match exactly one of the schemes listed in appendix A and should designate unused tracks as AES-0 (mute).

Each file has to be named as follows:

Special Characters

Following characters are allowed: "A-Z", "a-z", "_", "0-9"
 File suffix has to be written in lower-case letters
 Blanks and other special characters are not allowed

Title * (max. 20 char.)	Season (series)	Episode No. (series)	Episode-Title * (max. 20 char.)	Codec_Pixel_AspectRatio_Framerate	Program type	Language and Audio Format	Version	File Suffix
IAmATitle	S1	E1	IAmAnEpisodeTitle	ProRes422_1080p_185_2398fps IMX50_576i_178_25fps XDCAMHD422_1080i_178_2997fps	texted textless clean feature	GER20_ENG20 MOS ENG20_GER51 GER51_20	V1 V2mov .mxf ...

* please do not use abbreviations

Example (max. 120 characters incl. file suffix)

IAmATitle_S1_E1_IAmAnEpisodeTitle_ProRes422_1080p_185_2398_texted_GER20_ENG20_V1.mov

2.7.1.UHD Signals

File delivery must be according to the RTL master file format in MXF container according to OP1a according to SMPTE 377. The video data stream must be encoded using the XAVC 4k Intra Class 300 encoding algorithm and 3840x2160 pixels, 25p or 50p and with a 4:2:2 sampling, see SMPTE RDD32. The HDR PQ MXF file must conform to ITU-R BT2020 and the SDR MXF file must conform to ITU-R BT709.

The associated audio stream must contain 8 or 16 channels

2.7.2.HD Signals

The file has to be delivered in a MXF container which is OP1a compliant and it has to correspond to the RTL broadcast file format. The video stream has to be encoded with the XDCAM HD422 and 1920 x 1080 pixels, 50 Hz interlaced algorithm. The encoding has to be effected according to MPEG2 422P@HL, Long GOP with a 4:2:2-sampling and a net video data rate of 50 Mbit/s. The MXF file has to match the SMPTE standard RDD09-2009.

If the original material has been produced progressively the broadcast material has to be 1080psF/25.

The accompanying audio data stream has to include 8 channels.

In particular cases and only by special agreement, file delivery may take place in Quicktime Apple ProRes 422 (HQ), 184 Mbit/s, 1920x1080psF/25 or 1920x1080i/25, Audio 24 bit, 48 kHz.

2.7.3.SD Signals

The file has to be delivered in a MXF container which is OP1a compliant. The video stream has to be encoded in IMX (D10) with 50 Mbit/s SMPTE 386M/356M standard with 50 fields per second and 720 x 608 pixels according to SMPTE standard RP202. The accompanying audio data stream has to include 8 channels regardless of whether all the channels carry information.

2.8. Tape-Delivery

(only in exceptional cases and after consultation with RTL)

Each delivered tape requires a line-up sequence recorded on the same machine on which the program content has been recorded in order to correctly calibrate the playback equipment. Unused audio tracks must not contain a reference tone. If the program is delivered via multiple tapes, each tape has to contain a line-up sequence. The program should start recording at TC 10:00:00:00.

The information table contains all the metadata that are needed to identify the program. For tape-based material, the information table has to be placed 20 seconds before the program begins with a duration of 5 seconds and at the end of the recording with a duration of 1 second. The font size on the information table (containing the aspect ratio and program material identification) has to be easily readable on a 9-inch monitor.

Line-up sequence in tape-based delivery		
TC / Duration	Video	Audio
09:59:00:00	100/0/75/0 Color bars	Reference tone 1 kHz -18 dBFS
09:59:40:00 Information Table 5 s	Metadata to identify the program	Mute
09:59:45:00	Black	Mute
10:00:00:00	Program	Program
10 s	Black	Mute
Information Table 1 s	Metadata to identify the program	Mute

The sync signal, the control track and time-code have to start with the test signal and have to be ascending and continuous all over the content and line-up sequence. There should be picture identification format (16:9 / 4:3) shown as both a circle and as text description in the test signal.

2.8.1.UHD-Signals

No tape delivery possible

2.8.2. HD Signals

The delivery of HD content can be made via HDCAM SR. Material delivery on Professional Disc is considered as file-based delivery.

The video coding has to be done in 1080i/25 MPEG4 with a 4:4:4 or 4:2:2 sampling at full resolution (1920 x 1080). If the original source material is film footage or if the original material has been produced progressively the broadcast material has to be 1080psF/25.

The delivery of program material via other media is permitted only after consultation with RTL.

2.8.3. SD Signals

The delivery of SD material can be made via Digital Betacam or MPEG IMX. Material delivery on Professional Disc is considered as file-based delivery.

The delivery of program material via other media is permitted only after consultation with RTL.

2.9. Stills and Animations

Still images and image sequences for graphic picture composition before or during the broadcast have to be RGB encoded as 24 or 32-bit Targa or TIFF and have to have a resolution of 1920 x 1080 pixels. Material to be keyed into the broadcast signal has to include an 8-bit alpha channel and is mandatory as part of the 32-bit format.

Components of an animation have to be delivered as 25 separate frames per second as a sequence of images with a single file name that contains ascending and continuous numbering. Loops and action points have to be clearly marked in a

separate text file. Only after prior agreement will deviations from these guidelines be permitted.

2.10. Subtitles / Closed Captioning (CC)

The broadcasting of subtitles is done via DVB bitmap subtitles according to ETSI EN 300 743 standard. The subtitle file may include only the program content in the form of (simplified) dialogues and action-descriptive elements.

The use of subtitles for other purposes such as advertising for other programs is not permitted.

2.10.1. File Format

The subtitle file must be delivered in Subtitle Data Exchange Format according to EBU TECH 3264-E. In addition, the delivery of a text file with timecode information is desirable.

The subtitle file delivered must correspond to the delivered video material, i.e. with the same frame rate (25 fps, unless otherwise agreed) and time code. The accompanying subtitle file should have the same name as the associated media file and feature the date type suffix "stl".

2.10.2. Positioning in Picture

Closed captions must be centered at the lower edge of the picture (lines 20 et. Seq.). In case of open captions at the lower edge of the picture, the closed captions must be centered at the upper edge of the picture (line 1) during the entire duration of the inserts so that the closed captions will not overlay the open ones. During beginning/end credits, all closed captions should be placed at the upper edge to avoid jumping captions. Texts included as open captions should not be redundantly included in the closed ones. Only two lines are allowed in one caption and only 40 characters (incl. blanks) are allowed in each line.

2.10.3. On-Air Font Type

The subtitle's font size, type and color are predefined as Helvetica CE55 Roman in yellow for broadcasts on any channel of the RTL Deutschland GmbH. Any other setup of the STL-file will be overridden. During broadcast, bold characters and italics as well as different text positions (left/right/top/bottom) can be displayed.

2.10.4. On-Screen Display Time

Each CC's display time should last for at least 1.5 seconds (according to the amount of characters). A human reading speed of 15 characters per second should not be exceeded. The gap between two captions should be four frames. In case of closely spaced dialogues, the gap may be reduced to one frame only.

2.10.5. Content and Spelling

The CC file should contain HOH-subtitles including descriptions of essential background sounds and music in addition to the spoken dialogue. The caption's content should be as verbatim as possible and in synch with the audio as well as the video in order to correspond to the film's editing done in the delivered dubbed version. Current German spelling rules according to the Duden Spelling Dictionary apply.

3. Required Material for Licensed Programs

3.1. Broadcast Material

3.1.1. Delivery Format

File or tape format must be in accordance with paragraph 2.7 (file-delivery) resp. 2.8 (tape-delivery).

Additional audio stems can be delivered as separate WAV files (24 bit, 48 kHz).

Delivery of alternative formats is possible after consultation with RTL's License Material Coordination team (materialcoordination@rtl.de).

3.1.2. File Delivery Method

File delivery should be made via Movie2Me file delivery system. If necessary, an account for each supplier will be created by RTL.

Alternative delivery methods are possible after consultation with RTL's License Material Coordination team (materialcoordination@rtl.de).

3.1.3. Labeling

Each tape's/file's content must be clearly identifiable by tape label, file name, information table and/or accompanying delivery note including both tape/file names and content.

The following information should be given:

For movies: Movie title, Audio routing

For series episodes: Series title, Season/Year, Episode title, Episode no., Audio routing

3.1.4. Accompanying Closed Captions

If available, an STL-document including German Closed Captions for the hard of hearing should be delivered via e-mail. For further information with regard to CC delivery, see paragraph 2.10.

3.1.5. Fonts and Graphic Elements

If RTL Deutschland GmbH acquires the right to dub a program and create a localized version including German titles and captions, please inform RTL's License Material Coordination team about the fonts used for the original titles and captions.

If available, after-effects/graphic packages should be delivered in addition to the broadcast material.

3.1.6. Required Content

Each program has to have opening credits including program title and end credits with dubbing actors (where appropriate).

The dubbing card as part of the end credits also has to have details on dubbing directors and dubbing script adaptors.

Fade-to-Blacks should be avoided within the program or should not be longer than 1 second. Depending on program type and language version of the acquired program the following content is required:

3.1.6.1. Fictional Programs

Acquired Version	Required Video Content	Required Audio Content
German version	<ul style="list-style-type: none"> Texted version incl. German titles and captions, Textless at tail 	<ul style="list-style-type: none"> German 2.0* German 5.1*
German version with granted SAP rights (=original version as secondary audio programming)	<ul style="list-style-type: none"> Texted version incl. German titles and captions, Textless at tail 	<ul style="list-style-type: none"> German 2.0* German 5.1 Original language 2.0* Original language 5.1
German subtitled version	<ul style="list-style-type: none"> Texted version incl. German subtitles Fully textless version or Texted version incl. original titles and captions (without German subtitles) 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1*
Original version for dubbing	<ul style="list-style-type: none"> Texted version incl. original titles and captions, Textless at tail 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1* M&E 2.0 M&E 5.1 Optional/helper tracks (if available)
Original version for subtitling	<ul style="list-style-type: none"> Texted version incl. original titles and captions Fully textless version 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1*

*Audio content marked with an asterisk is preferably to be included in the delivered video. Other audio content can be delivered as separate WAV tracks

3.1.6.2. Factual Programs / Documentaries

Acquired Version	Required Video Content	Required Audio Content
German version	<ul style="list-style-type: none"> Texted version incl. German titles and captions Fully textless version 	<ul style="list-style-type: none"> German 2.0* German 5.1*
German version with granted SAP rights (=original version as secondary audio programming)	<ul style="list-style-type: none"> Texted version incl. German titles and captions Fully textless version 	<ul style="list-style-type: none"> German 2.0 * German 5.1 Original language 2.0* Original language 5.1
German subtitled version	<ul style="list-style-type: none"> Texted version incl. German subtitles Fully textless version or Texted version incl. original titles and captions (without German subtitles) 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1*
Original version for dubbing	<ul style="list-style-type: none"> Texted version incl. original titles and captions Fully textless version 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1 Mix minus narration 2.0* Mix minus narration 5.1 Optional/helper tracks (if available)
Original version for subtitling	<ul style="list-style-type: none"> Texted version incl. original titles and captions Fully textless version 	<ul style="list-style-type: none"> Original language 2.0* Original language 5.1*

*Audio content marked with an asterisk is preferably to be included in the delivered video. Other audio content can be delivered as separate WAV tracks

3.1.6.3. Additional Audio Stems for Trailer Production

If available, the following discrete audio stems should be delivered for use in the production of on-air trailers:

- Music
- Effects
- Dialogue

3.2. Promotional Material and Paper Deliverables

3.2.1. Promotional Material

Deliverable	Format	Description
Publicity Stills	18x24cm 300 dpi (min) .jpeg file	10 – 15 images of professionally shot photo stills of cast, with mix of single cast and group cast shots, labelled by cast name(s) per series
Production Stills	18x24cm 300 dpi (min) .jpeg file	10 – 15 images per episode of behind the scenes & action shot images representing essential scenes. Images must be of first class quality and suitable for publication.
Photo Captions List	.pdf	List of photo captions with full description of scene, copyright notice and/or photo credit
Key Artwork	.psd layered file	Official poster artwork
Title Treatment	.eps file	Official programme title logo
Press Pack	.pdf file	To contain: <ul style="list-style-type: none"> • Series Synopsis • Episodic Billings • Cast List • Cast Biographies • Character Descriptions • Location Descriptions • Key Production Talent Descriptions • Plus any other relevant programme details

3.2.2. Other Promotional Material

Deliverable	Format	Description
Promotional Trailer	60' HD 1080i/50 File	Texted trailer with textless elements at the end, and split audio
Electronic Press Kit (EPK) or Featurette	HD 1080/50i file	To contain: <ul style="list-style-type: none"> • Cast Interviews: 2-3 minutes (max) with each key cast member • Crew Interviews: 2-3 minutes (max) with key crew – Director, Producer etc. • Clips of programme 15-20 minutes (max) of key highlights of programme • Behind-the-scenes footage 1-3 minutes (max) clips • Mondo Shoots (in front of green screen)
Web and Social Content (if available)	.jpeg file	Mobile/Desktop Wallpapers

3.2.3. Documents

Deliverable	Format	Description
Front & End Credit List	.pdf	Per episode
Music Cue Sheet	.pdf	Per episode
Post Production Script <i>Aka Dialogue Script</i>	.pdf	Time-coded dialogue script with screen captions Per episode
Summary of 3rd Party restrictions, limitations, credits, and other licensee obligations	.pdf	Per episode
Cast List	.xls	
List of dubbing actors, dubbing director, dubbing script adaptor	online	Entry of all dubbing actors on the website www.rtl-service.de under "MITWIRKENDENLISTE"

4. Contact

4.1. Material Delivery

RTL Technology GmbH
Programmbereitstellung
Picassoplatz 1
50679 Köln, Germany

Phone.: +49 221 456 42410

Email: programmarchiv@rtl.de

4.2. Technical Queries:

RTL Technology GmbH
Content Quality & Processing
Picassoplatz 1
50679 Köln, Germany

Phone: +49 221 456 42230

Email: specifications@rtl.de

4.3. Delivery Address

RTL Technology GmbH
Programmarchiv/Content Quality & Processing
Warenanlieferung Ost
Picassoplatz 1/ Access via Auenweg 11
50679 Köln, Germany

5. Appendix

5.1. Appendix A: Audio Track Assignment

The audio tracks have to be designated as follows:

A1: Program Material

2.0 German Docutainment

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Atmo / Original- Audio	Atmo / Original- Audio	Music & Effects	Music & Effects	Speaker	Speaker
Language	German	German	-	-	-	-	German	German
Format	Stereo (L)	Stereo (R)	Mono	Mono	Stereo (L)	Stereo (R)	Mono	Mono

2.0 German Fiction

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix minus Music	Mix minus Music	Silence	Silence	Silence	Silence
Language	German	German	German	German	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence

2.0 German Sales

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Music & Effects	Music & Effects	Silence	Silence	Silence	Silence
Language	German	German	-	-	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence

2.0 German Soap

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix minus Music	Mix minus Music	Silence	Silence	Mix license free Music	Mix license free Music
Language	German	German	German	German	-	-	German	German
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Stereo (L)	Stereo (R)

2.0 Dual-Language Programme

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix	Mix	Silence	Silence	Silence	Silence
Language	German	German	English	English	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence

2.0 Dual-Language Programme Documentary

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix	Mix	Mix minus Speaker	Mix minus Speaker	Speaker	Speaker
Language	German	German	English	English	-	-	German	German
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)

2.0 German

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Silence	Silence	Silence	Silence	Silence	Silence
Language	German	German	-	-	-	-	-	-
Format	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence	Silence	Silence

5.1 German

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix	Mix	Mix	Mix	Mix	Mix
Language	German	German	German	German	German	German	German	German
Format	Stereo	Stereo	5.1 (FL)	5.1 (FR)	5.1 (C)	5.1 (LFE)	5.1 (SL)	5.1 (SR)

A2: Cleanfeed

2.0 German Docutainment Clean

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix minus Speaker	Mix minus Speaker	Atmo / Original-Audio	Atmo / Original-Audio	Music (& Effects)	Music (& Effects)	Speaker	Silence
Language	-	-	-	-	-	-	-	-
Format	Stereo (L)	Stereo (R)	Mono	Mono	Stereo (L)	Stereo (R)	Mono	Silence

A3: Original Version for Synchronizations

2.0 English

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Music & Effects	Music & Effects	Silence	Silence	Silence	Silence
Language	English	English	-	-	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence

A4: Original Material

2.0 English Documentary

	<i>Track 1</i>	<i>Track 2</i>	<i>Track 3</i>	<i>Track 4</i>	<i>Track 5</i>	<i>Track 6</i>	<i>Track 7</i>	<i>Track 8</i>
Content	Mix	Mix	Mix minus Speaker	Mix minus Speaker	Silence	Silence	Silence	Silence
Language	English	English	-	-	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silence	Silence	Silence	Silence

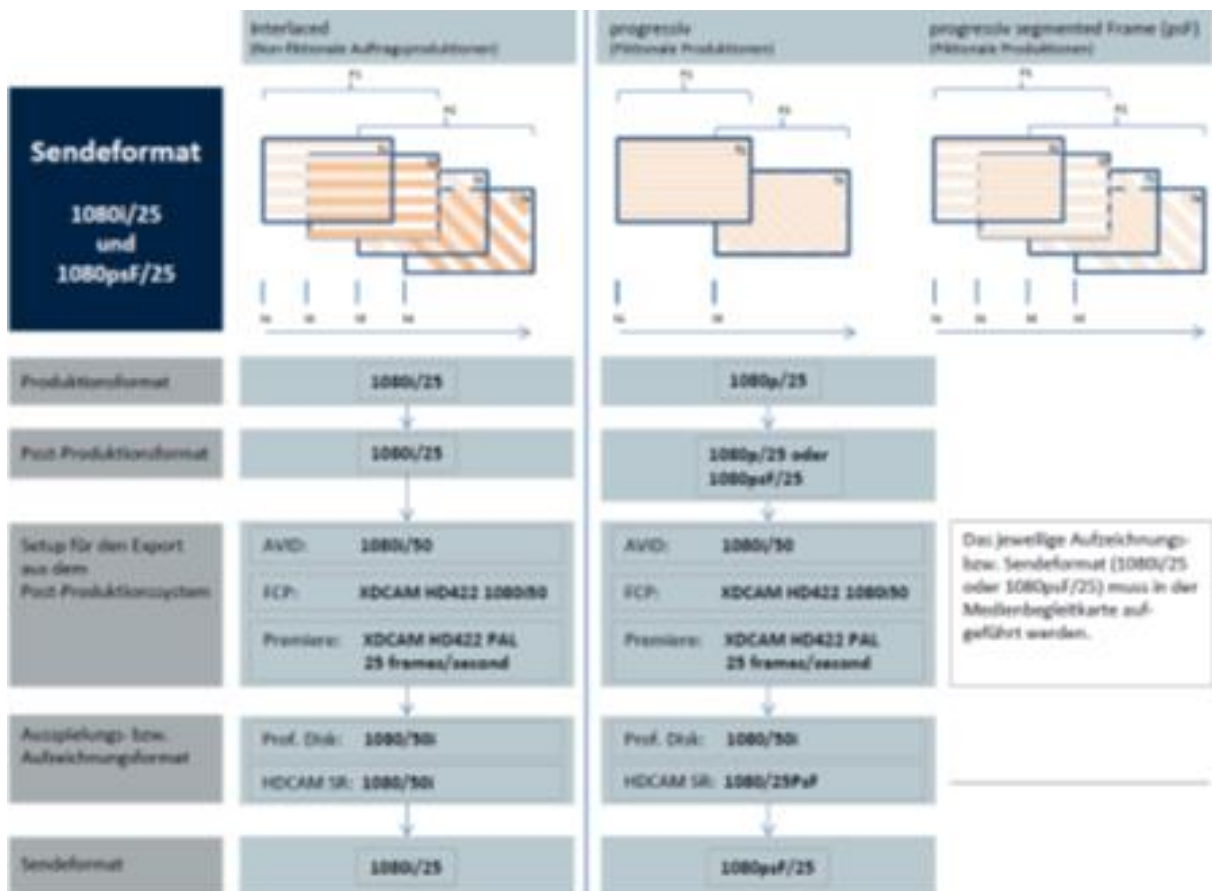
5.3. Appendix C: Segmentation of Broadcast Material

Available as „Konfektionierung von Sendefiles 2.0 (Kurzfassung)“ under:

<https://www.rtl-service.de/richtlinien.html>

(overview)

5.4. Appendix D: Formats 1080i/25 resp. 1080psf/25



5.5. Appendix E: Role Names for Cast and Crew

Autor	Executive Producer RTL	Realisation
Kamera	Executive Producer VOX	Redaktion
Produktionsfirma	Experte	Redaktion NITRO
Regie	Gast	Redaktion ORF
Schnitt	Gastgeber	Redaktion RTL
Ton	Gefördert durch	Redaktion SUPER RTL
Im Auftrag von	Grafik	Redaktion VOX
	Hauptdarsteller	Redaktionsleitung
	Headautor	Redaktionsleitung RTL
Action-Kamera	Head-Cutter	Redaktionsleitung SUPER RTL
Action-Regie	Head-Realisator	Redaktionsleitung VOX
Architekt	Herstellungsleitung	Regie
Associate Producer	Idee	Regie (2nd Unit)
Außenrequisite	Innenarchitekt	Regie Einspieler
Ausstattung	Innenrequisite	Requisite
Autor	Jury	Schnitt
Autor der Literaturvorlage	Kamera	Schnitt Einspieler
Bühnenbild	Kamera (2nd Unit)	Script Consultant
Cameo-Auftritt	Kamera Einspieler	Set-Design
Casting	Kamerakran	Sprecher
Chefautor	Koproduzent	Steadycam
Choreographie	Kostüm	Story Editor
Co-Producer	Kostümbild	Storyboard
Copyrights Einspieler	Lichtsetzende Kamera	Subproduzent
Co-Regie	Luftaufnahmen	Synchron-Dialogbuchautor
Creative Consultant	Mit freundlicher Unterstützung durch	Synchron-Dialogregie
Creative Producer	Mitwirkender	Synchronsprecher
Creator	Moderation	Szenenbild
Darsteller	Musik	Teamleitung Fiction SUPER RTL
Dialogbuch	Musikalische Leitung	Technische Leitung
Dialogregie	Musiker	Titelmusik
Dramaturgie	Nebendarsteller	Ton
Drehbuch	Producer	Ton (2nd Unit)
Ein Format von	Produktionsfirma	Übersetzer
Executive Producer	Produktionsleitung	Verlag
Executive Producer NITRO	Produzent	

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