

TECHNICAL GUIDELINES & PACKAGING Broadcast Material

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1. Introduction

These technical guidelines apply to all program contributions that are broadcast or published by RTL Deutschland channels and RTL+. They form the basis of every production contract.

The picture and sound quality of all television productions must meet the quality standards that can be achieved with state-of-the-art production equipment.

The means of production must always be kept up to date with the latest technology.

In principle, all equipment and materials used in production must comply with broadcast standards. Continuity is required during 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 systems must be taken into account during recording.

Prior to delivery of the broadcast material, an editorial and initial technical final acceptance should already have taken place on the production side.

In their essential technical details, the values specified in these guidelines correspond to the recommendations of the European Broadcasting Union (EBU).

2. Technical guidelines

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 coding 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 maximum content light level.

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

UHD see also "Grading guidelines UHD HDR & SDR"

2.1.2. HD signal

HD video signals must comply with the coding parameters according to ITU-R BT.709-6. The field dominance must always be on the first (odd) field.

2.1.3. SD signal

SD video signals must comply with the coding parameters according to ITU-R BT.601. Active picture information must extend from line 23 to line 310 in the first field and from line 336 to line 623 in the second field. The first half of line 23 must be keyed out. In particular, use for WSS is not permitted.

The field dominance must always be on the first (odd) field.

2.2. Audio signal

2.2.1. Loudness control

Programs are broadcast with loudness control in accordance with EBU Recommendation R 128. All productions must be delivered with loudness standardization.

The audio signals must be levelled in such a way that an average program loudness (integrated loudness) of -23 LUFS (+/- 0.2 LU) is achieved. In addition, a digital peak level of -1 dBTP (dB True Peak) must not be exceeded. The dynamic range (LRA = Loudness Range) of the program should <u>not</u> exceed 20 LU if possible.

(Detailed information on this can be found in the documents EBU Tech 3341 to 3344).

https://tech.ebu.ch/publications/r128

https://tech.ebu.ch/publications/tech3341

https://tech.ebu.ch/publications/tech3342

https://tech.ebu.ch/publications/tech33433

https://tech.ebu.ch/publications/tech33444

2.2.2. Sound level

There must be no mute or test tones in the program; exceptions (e.g. the removal of expressions harmful to minors) must be documented. In the case of multi-channel mixing, care must be taken to ensure that the downmix is stereo-compatible. Beyond the measurable values of Recommendation R 128, there should be a balanced and natural mix across the entire program.

Dialogue must be clearly audible from the overall mix at normal listening volume (regardless of whether it is a mono, stereo or 5.1 recording). This is particularly important for background effects and background music. Many viewers find it difficult to follow program dialogues if they do not stand out sufficiently from the background sound.

To make transitions between program elements pleasant for the viewer, the start and end of the program should not be louder than average. Scenes with comparable

content should also be mixed at a similar volume throughout the entire program

segment. Attention should also be paid to an appropriate and not excessive level of the

indicative.

Each mixture is finally approved by RTL Deutschland GmbH's quality control

department and checked for these mixing ratios.

2.3. Timecode

All delivered AV material must contain timecode information. The time code must be

continuous and increasing. For multi-part deliveries, please note point 2.7. LTC and

VITC (if available) must have identical values. If the material is delivered in separate

carriers or files (e.g. image and sound separately), the timecode must be synchronous

or continuously increasing on all units.

For file-based delivery, the time code should start at 00:00:00. For tape-based

delivery, the program starts at 10:00:00:00.

2.4. Sound track assignment

For broadcast material, the German broadcast version should always be supplied in

stereo on tracks 1 and 2. Unused audio tracks should contain AES-0 (mute). All audio

tracks must be synchronized to each other and to the picture, regardless of the format.

The track assignment for 5.1 mixes must always correspond to the assignment scheme

(channels 3 to 8) FL - FR - C - LFE - SL - SR.

Permitted audio track assignments can be found in Appendix A.

In principle, the assignment of the audio tracks must be listed in the accompanying

information. Audio track assignments other than those listed in Appendix A are only

permitted on a case-by-case basis after consultation with RTL.

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

HD: 8 channels (tracks) with one track each

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. Other sizes will not be accepted. HD productions that have been subsequently "up-converted" to UHD require individual consultation with RTL.

2.5.2. HD signals

The technical image size of the active image is 1920 x 1080 square pixels. Other sizes will not be accepted. SD productions that have been subsequently "up-converted" to HD require individual consultation with RTL.

2.5.3. SD signals

The technical image size of the active image is 720×576 non-square pixels. Other sizes will not be accepted. The preferred aspect ratio is 16:9.4:3 image content requires individual consultation with RTL.

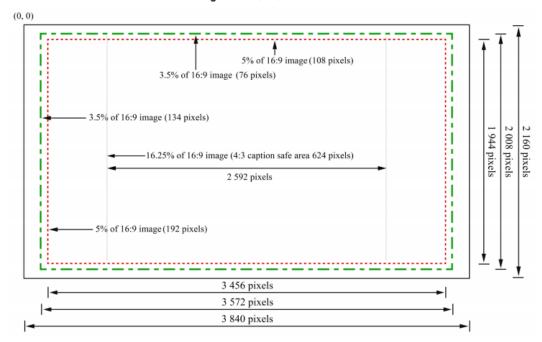
2.6. Image important part

In order to ensure that the image-critical parts are displayed on (consumer) devices, the safety margins (action safe area) defined in EBU R95 must be observed (Fig. 2.1). Modern TV receivers usually display images with pixel accuracy. Therefore, objects that do not belong to the scene (e.g. microphone algae) and other interfering signals or unclean picture edges must not be visible.

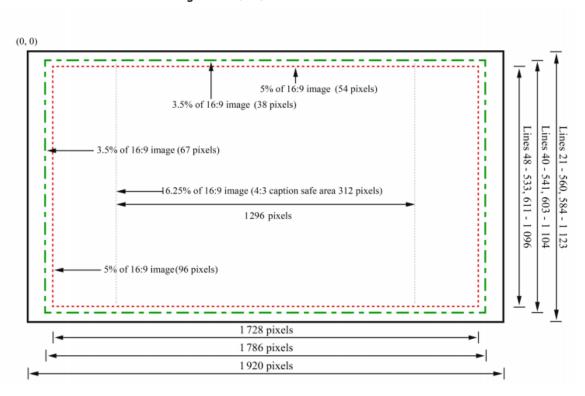
	Vertical	Horizontal
Action Safe Margin	3,5 %	3,5 %

Scanning raster 2160p 16:9 safe areas for 16:9 presentation

Image format: 16:9 Full Format



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

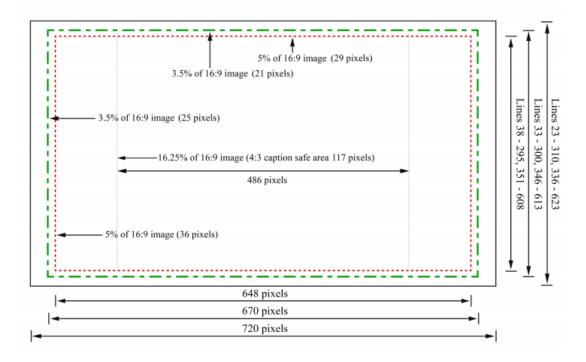


Figure 2.1: Safe Areas 16:9 image

2.7. File delivery

Preferred delivery is file delivery via Movie2Me via TCP/UDP port 9000. This involves a one-off mandatory test and the associated procedure under point 5.

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

A Professional Disc may only ever contain one file. The file may only consist of the program segments and the extra segments (see Appendix C). It must have the first visible picture 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 must not exceed 160 minutes; longer program parts must be divided into several files or several discs. Each file starts again at the time code 00:00:00:00.

File lengths of up to 240 minutes are also permitted if they are delivered at least 3 working days before broadcast / online provision.

It must therefore have no technical credits. Technical credits are not required.

The last extra segment is the information panel with a duration of 1 second.

The audio track assignment must correspond exactly to one of the schemes listed in Appendix A, whereby unused audio tracks should contain AES-0 (mute).

Each file should be named as follows:

Special characters

Only the letters or characters "A - Z", "a - z", "_" and the digits "0 - 9" may be used before the file extension (e.g.: .mxf).

Spaces, special characters and umlauts are not permitted. The file extension (e.g.: .mxf) must be in lower case.

Transmitt er or platform	Broadcast title** (max. 20 characters)	Season (for series)	Episode (for series)	Episode title** (max. 20 characters)	Par t	Picture quality	Version	Sound format	Version	Ending
RTL VOX RTLplus* 	IamaSendTitle	S1	E1	IAmAnEpisodeTitle	1v3 2v3 	HD UHD_HDR UHD_SDR 	SF *** CF **** OnlineSF 	DE51 DE20 	V1 V2 FSK12 	.mxf .mov

- * Important: + is a special character and must not appear in the file name
- ** Please do not use abbreviations
- *** SF=broadcast recording
- **** CF=Cleanfeed

Example (max. 120 characters incl. file extension)

RTL_lchBinEinSendungitel_S99_E1020_lchBinEinEpisodentitel_1v2_UHD_HDR_OnlineSF_DE20_DE51_FSK12_V10.mxf

2.7.1. UHD signals

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

The associated audio data stream must contain 8 or 16 channels.

2.7.2. HD signals

The file delivery must comply with the RTL broadcast file format in the MXF container in accordance with OP1a. The video data stream must be encoded with the XDCAM HD422 coding algorithm and 1920x1080 pixels, 50 Hz interlaced. The encoding takes place as MPEG2 422P@HL, Long GOP with a 4:2:2 sampling and a video net data rate of 50 Mbit/s. The MXF file must comply with SMPTE RDD09-2009.

If the source material was produced progressively, then the delivered material must be encoded accordingly with 1080psF/25 (see Appendix D for explanations).

The associated audio data stream must contain 8 channels.

In special cases, files can be delivered in Quicktime Apple ProRes 422 (HQ), 184 Mbit/s, 1920x1080i/25 or 1920x1080psF/25, audio 24 bit, 48 kHz by separate agreement.

2.7.3. SD signals

The file delivery must be in accordance with the RTL transmission file format in the MXF container as per OP1a. The video data stream must be encoded in IMX format (D10) at 50 Mbit/s in accordance with SMPTE 386M/356M with 50 fields per second and 720×608 pixels in accordance with SMPTE RP202.

The associated audio data stream must contain 8 channels.

2.8. Tape delivery

(only in exceptional cases and after consultation with RTL)

Each contribution on tape requires a technical lead-in to set up the playback machine, which must be recorded with the program-recording recorder. Unused audio tracks must not contain any level tone. If the delivered program is spread over several tapes, each tape must contain a technical leader.

The program recording should start at TC 10:00:00:00.

20 s before the program starts there must be an info panel with a duration of 5 s and after the program ends there should also be an info panel with a duration of 1 s. The information panel contains all the metadata required to identify the program. The font size must be selected so that it is still legible on a 9-inch monitor.

Opening/closing credits for tape-based delivery						
TC / Duration	Video	Audio				
09:59:00:00	100/0/75/0 Color bar	Level tone 1 kHz / -18 dBFS				
09:59:40:00 Info panel 5 s	Metadata to identify the program	Mute				
09:59:45:00	Black	Mute				
10:00:00:00	Program	Program				
Credits 10 s	Black	Mute				
Information board 1 s	Mute					

The sync signal, the control track and the time code must be available continuously from the beginning of the technical opening credits to the end of the closing credits. The technical credits should consist of a 100/0/75/0 color bar with 1 kHz level sound

and an audio level of -18 dBFS. A picture format label (16:9 / 4:3) is also desirable, both displayed as a circle and described by text.

2.8.1. UHD signals

No belt delivery possible

2.8.2. HD signals

HD material can be delivered on HDCAM SR. The delivery of a Professional Disc is regarded as a file delivery.

The video is encoded in 1080i/25 in MPEG4 with a 4:4:4 or 4:2:2 scan at full resolution (1920 \times 1080). If the source material was produced progressively, the broadcast material must be encoded with 1080 psF/25. The delivery of program material on other media is only permitted after consultation with RTL on a case-by-case basis.

2.8.3. SD signals

SD material can be delivered on Digital Betacam or MPEG IMX. The delivery of a Professional Disc is regarded as a file delivery.

The delivery of program material on other media is only permitted after consultation with RTL on a case-by-case basis.

2.9. Stills and animations

Still images and image sequences for the graphic image composition before or during the broadcast must be delivered RGB-coded as 24- or 32-bit Targa or TIFF files with a resolution of 1920×1080 pixels. Material that is to be keyed into the broadcast signal must contain an 8-bit alpha channel and must therefore be in 32-bit format.

Components of an animation must be delivered from 25 separate full frames per second as an image sequence with a uniform file name that includes ascending and consecutive numbering. Loops and action points must be clearly identified in a separate text file. Deviating deliveries are possible in special cases by agreement.

2.10. Subtitles for the hearing impaired

Subtitles for the hearing impaired are broadcast via DVB Bitmap Subtitles in accordance with ETSI EN 300 743.

The subtitle file may only convey the content of the program material in the form of (simplified) dialogues and plot-describing elements. The use of subtitles for other purposes (e.g. the promotion of other programs) is not permitted, nor is the use of subtitles for commentary.

2.10.1. file format

The subtitle file must be delivered in Subtitle Data Exchange Format in accordance with EBU TECH 3264-E. In addition, the delivery of a text file with timecode information is desirable. The frame rate corresponds to 25 fps / PAL, unless otherwise agreed. The subtitle file must be TC-identical to the video material supplied by RTL for subtitling. If the subtitle file is provided to RTL together with the video material, it must be TC-identical to the video material supplied. The subtitle file should have the same name as the associated media file, supplemented by the file type suffix ".stl".

2.10.2. Position in the picture

The subtitles must be positioned centrally at the bottom of the screen (line 20ff.). If there are inserts in the video file at the bottom of the screen, the subtitles should be positioned centrally at the top of the screen for the entire duration of the inserts (line 1) so that inserts are not covered by the subtitles and the subtitles do not jump between the top and bottom of the screen. Text information in the form of inserts in the image should not be included redundantly in the subtitles. A subtitle may consist of a maximum of two lines. One line may contain a maximum of 40 characters (including spaces).

2.10.3. Font for broadcasting

Font size, font and color are permanently configured to Helvetica CE55 Roman in yellow for the broadcast of subtitles for the hearing impaired for all RTL Deutschland GmbH channels. Any other information within the STL file is overwritten during the broadcast. The configuration allows the display of highlighted and italic fonts as well as positioning (left/right/top/bottom).

2.10.4. Service life

The reading time depends on the number of characters per subtitle and should be at least 1.5 seconds. The reading speed should not exceed 15 characters per second. The minimum distance between two subtitles is usually four frames. For large amounts of text/condensed dialog, the distance between subtitles can be reduced to one frame.

2.10.5. Content and spelling

Hard of Hearing (HoH) subtitles should be provided that describe essential background noises and music in addition to the spoken dialog. The subtitles must remain as close as possible to the spoken text and be synchronized with the image and sound, taking into account the cuts. Spelling must be based on the current Duden spelling rules.

3. Packaging

3.1. Fictional productions

3.1.1. General requirements for broadcast masters / archive material

The materials to be delivered must include the following program elements:

- Opening credits ("indicative")
- Main film ("Program")
- End credits ("archive or broadcast credits")
- Neutral title backgrounds for opening titles and for all overlays within the program ("textless") (please supply complete scenes)
- For tape delivery, a technical leader/trailer in accordance with point 2.8
- Information board with the following details:
 - for series: Series, season number, episode title and / or episode number, audio track assignment.
 - for films: original title and / or broadcast title, audio track assignment

Under no circumstances may black sequences be used within the program (e.g. for possible advertising).

The broadcast master and archive material have the same image field and differ only in the recording codec.

The broadcast master should be delivered via Movie2Me or by arrangement on Sony Professional Disc.

The archive material should preferably be delivered via Movie2Me in the codec Quicktime ProRes 422 HQ or XAVC 4k Intra Class 300. Alternatively, delivery can also take place on Sony Optical Disc Archive (ODA) by arrangement.

In addition to the delivery of the broadcast master and archive master, please deliver an electronic media accompanying card. The tool for completing and uploading can be found at: www.rtl-service.de - the access data can be requested via contentoperations@rtl.de.

3.1.2. Opening credits / Closing credits

Each production must be fully assembled with opening and closing credits.

The opening and closing credits must be designed in such a way that they can be separated and replaced by another opening or closing credits element during the broadcast. In detail, this means that there must either be a "hard" cut between the main film and the opening/closing credits, or the opening/closing credits must be separated from the main film by fade-ins and fade-outs. Under no circumstances may the music or other sound events overlap.

In the case of a separation by apertures, ensure that the maximum pause (black) between the two program elements does not exceed 10 frames.

It should also be noted that there is neither an original sound nor an edit within two seconds before and after the cut.

3.1.2.1. Opening credits

A: Series

As a rule, the series opening credits (indicative) are produced by RTL Deutschland GmbH Marketing and made available to the commissioned producer for further editing of the episodes. The production of episode titles and the episodically changing credits at the beginning of each episode (front credits) is carried out by the producer.

To produce the front credits, the producer receives the specifications for typography, typesetting and positioning from Marketing der RTL Deutschland GmbH. For legal reasons, the corresponding font must be purchased by the producer.

B: TV movie

For TV movies, the complete opening title sequence is usually edited by RTL Deutschland GmbH Marketing. In these cases, the opening title sequence contains the main title (including logo design and animation) as well as the names of the most important actors and staff members (credits).

To produce the opening title sequence, the producer shall deliver the first 10 minutes of the broadcast-ready picture version including the German mix (broadcast version) to the producer designated by RTL at Marketing der RTL Deutschland GmbH. It is essential to ensure that the sequence to be edited has already undergone all necessary post-production steps (color matching, editing of fades, any retouching) before delivery to Marketing der RTL Deutschland GmbH.

3.1.2.2. **End credits**

A distinction is made between archive credits and broadcast credits, which are usually broadcast.

The broadcast credits (credits bar/belly band) are created automatically using the information from the list of contributors at RTL and broadcast.

To ensure that the broadcaster can use the broadcast credits (usually credits bar/belly band) without any problems and in a visually flawless manner, it should be noted that the last 15 seconds of the broadcast should generally remain free of belly bands inherent in the broadcast and that the position is suitable for the use of a credits bar. Every program must be provided with archive credits that can be separated from the main program. The archive credits may be used for overnight repeats, VOD or international distribution. It is also required for archival purposes.

The archive credits are produced by the producer.

All significant contributors to the production must be named in the archive credits after consultation with the respective editorial team (also taking copyright into account). Sample credits are listed in Appendix E. The archive credits end with the final animation "on behalf of ...". White scroll titles are to be produced on a black background.

The length of the credits should be as short as possible and should not significantly exceed 30 seconds (including the integration of the final animation). Please note that the credits must be legible (font size, font width, running speed, number of credits should be adjusted accordingly). The entire length of the credits must not be silent. If music is used, it must be included in the music message.

A current version of the final animation is available for download at www.rtl-service.de. Copyright and year are not mentioned.

In addition, all significant contributors to the production (also taking into account copyright) must be listed on the website www.rtl-service.de under "List of contributors" after consultation with the respective editorial team. These names must be used in the same wording in the opening and closing credits. The list of contributors is therefore a mirror image of the credits in digital list form. The access data for the list of contributors can be requested from eva-lotte.hill@rtl.de. Further information can be found in the "Help" section of the same website.

3.1.2.3. Mentions in the opening credits and archive credits

Before the titles are produced, consultation and approval of the content of the title lists by the responsible editorial team is necessary.

The circle of persons named in the introduction and archive credits is generally based on the following overview:

SERIES	MOVIES
Opening credits	Opening credits
main actors (these are usually placed in the specially designed and therefore do not need to be presented in the indicative be mentioned separately a second time)	Leading actor
Episode title (may vary depending on the design of the opening credits) be set)	(not applicable here)
Naming the prominent supporting actors (no more than four)	(not applicable here)
Book	Book
Music	Music
Cut	Cut
Camera	Camera
Editorial office	Editorial office
Producer	Producer
Direction	Direction
End credits	End credits
All other names of contributors to the production are	e listed in the list of contributors.

The broadcast credits are a shortened version of the archive credits. The broadcasters reserve the right to determine the selection of mentions in the opening and (archive and broadcast) credits.

3.1.3. Exchange formats marketing of RTL Deutschland GmbH

For an exchange of image material between production and marketing at RTL Deutschland GmbH, which is intended for further processing, it usually makes sense to use files in the codec of the online post-production process. In this way, further conversion of the data can be avoided.

It should be noted that RTL Deutschland GmbH's marketing department prefers to work with the Quicktime Apple ProRes 422 HQ codec due to internal work processes.

In particular, for the production of the title sequence of movies, please send us the image sequence to be edited in the above-mentioned standard.

3.1.4. Neutral Title backgrounds / Textless

Please play the neutral image backgrounds of sequences with titles, subtitles, time or location information in full scene length. This is absolutely necessary to ensure the possibility of changing the font or creating a different language version.

3.1.5. Complementary and separate sound systems

3.1.5.1. Mix without music

The mix without music is primarily required for the trailer cut and, like the main mix, includes all dialog, sounds and atmospheres in mixed form, but no score or source music.

The mix without music must be embedded in the video files to be delivered in accordance with Appendix A for selected formats.

3.1.5.2. Combined MnE nat. (music & effects national)

In the MnE nat. all necessary atmospheres and sounds are mixed together with the music used in the main mix in a ratio that corresponds to that of the main mix. It must be ensured that a dubbed version can be created without further work.

The MnE nat. is to be embedded in the video files to be delivered in accordance with Annex A for selected formats.

3.1.5.3. Separate sound systems

In addition to the sound systems embedded in the video files, the following separate sound systems synchronized to the respective video file must be supplied as discrete .wav files with a resolution of 24 bit and a sampling rate of 48 kHz, depending on the production. For 5.1 productions, the separate sound systems must be supplied in 2.0 and 5.1.

Transmission takes place via Movie2Me in up to three folders per film or episode:

I. Combined MnE intl. (music & effects international)

In the combined MnE intl. all the necessary atmospheres and sounds are mixed together with rights-free music in a ratio that corresponds to that of the main mix.

The MnE intl. may only contain music tracks that have been cleared for world distribution. Music that has not been legally cleared must be replaced accordingly so that there are no gaps and an international dubbed version can be created without further work.

II DME intl. (DX-, MX- & FX-Stems)

The DME stems are to be delivered without any other additions in mixed form (fade-ins, fade-outs and fades) in accordance with the level ratios of the broadcast version.

The dialog (DX stems) must be isolated. The effects (FX stems) consist of the necessary atmospheres, sounds and effects without music, mixed together in a ratio that corresponds to that of the main mix. The music (MX stems) must be provided as an international version analogous to the combined MnE intl.

III Optionals (OX-Stems)

Optionals can be delivered as OX stems. These can be additional effects or alternative mix templates for synchronization (e.g. wallah or vocals).

3.1.6. Score music (composed music)

The music compositions used in the main mix are to be delivered per film or season of a series collected in a folder as .wav files with a resolution of 24 bit and a sampling rate of 48 kHz via Movie2Me.

This compilation must contain all music tracks individually in full length that were created specifically for the production (score music), including any playback music for vocal interludes. The level ratios should reach full scale (according to the standard of the carrier material).

The following metadata is required: track title, artist, album title, composer and music publisher with label code as a separate TXT file or included in the music file.

3.1.7. Original turning material

For all productions, please send us original material worthy of archiving (e.g. neutral flight recordings or establishing shots) on hard disk or alternatively, by arrangement, on Sony Optical Disk Archive (ODA)

If the delivery of selected original files has been agreed for the contractual production, this shall be understood to mean the following:

- all settings used in the last cut in the original standard (e.g. Red, RAW, 4k, 444)
- all settings worth archiving (e.g. neutral flight recordings or Establisher)
- Cut list (EDL)
- Project files of the conforming and grading system
- VFX sequences (single image)

A directory of the files contained must be available as a PDF file on each medium; this directory must be enclosed with the medium in paper form upon delivery.

3.2. Nonfictional productions

3.2.1. General requirements Transmission materials

The broadcast material to be delivered should be delivered without interruptions. This means that the broadcast must not contain any interruptions due to "blacks" or program elements that indicate the commercial breaks (precaps, bumpers, etc.).

Bumpers and any precaps, recaps etc. are recorded after the uninterrupted broadcast segment and added directly from the broadcast processing to the corresponding commercial break during the broadcast.

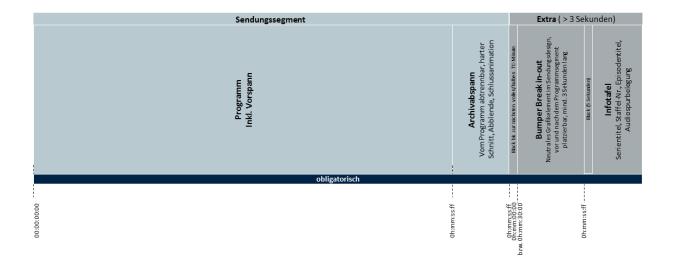
All elements except the information board should be played at the beginning of a full minute or, if applicable, half a minute. All extra segments must be fully edited and playable in sound and vision. The order and assignment of the elements to the commercial breaks should be clear from the accompanying media card. Time codes should be given on the media card for the possible advertising breaks (alternative details possible). At these positions, there should be a "smooth" cut without audio overhangs or fades. The information board should be positioned approx. 5 seconds black after the last element.

(For more information on the media accompanying card, see point 3.3. An example of a completed media card can be found in Appendix B).

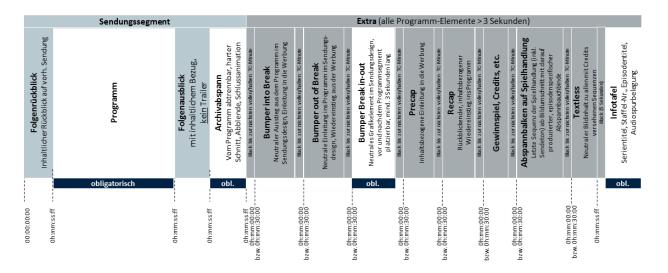
The masters submitted for delivery must contain an information plate at the end with the following information: Series, season number, episode title and / or episode number, audio track assignment

The broadcast materials must include at least the following program elements:

Alle **Segmente** unterbrechungsfrei in einem File zusammengestellt. Maximale Filelänge: 130 Minuten. Die Schnitt- bzw. Tonkonfektionierung darf nicht zwingend zu Werbeunterbrechungen führen. Programmanteile > 130 Minuten sind in mehrere Files zu unterteilen. Jedes File startet neu bei TC 00:00:00:00. Die Extra-Segmente werden am Ende des letzten Files zusammengestellt.



The following program elements can also be added to the master:



Please note that program elements with a length of less than 3 seconds cannot be broadcast for technical reasons.

Deviations from this procedure (e.g. for shows with moderated commercial breaks) must be agreed in advance with the responsible editorial team and the respective broadcast schedule.

RTL broadcast scheduling (Tel. 0221-456-72331 to -72337)

VOX, VOXup broadcast scheduling (Tel: 0221-456 83500 to -83502)

RTLplus broadcast scheduling (Tel: 0221-456-72349)

NITRO broadcast scheduling (Tel: 0221-456-72306)

The approximate net broadcast length of a format can be found in the respective commissioned production contract. Before completion of the final cut version, the actual net broadcast length including the small broadcast segments to be broadcast must be agreed with the corresponding broadcast schedule.

3.2.2. Opening credits / Closing credits / Graphic package

Each production must be fully assembled with opening and closing credits.

With regard to the opening credits, the graphics package including opening credits is generally produced by RTL Deutschland GmbH Marketing and made available to the commissioned producer for further processing of the episodes. The production of episodically changing credits (e.g. belly bands) is carried out by the producer.

For the production of these titles, the producer receives the specifications for typography, typesetting and positioning from RTL Deutschland GmbH Marketing.

For legal reasons, the corresponding font must be purchased from the producer himself.

The creation of archive credits by the producer is mandatory.

The broadcasters distinguish between archive credits and the broadcast credits that are usually broadcast.

The broadcast credits (credits bar) are created automatically using the information from RTL's list of contributors and broadcast.

To ensure that the broadcaster can use the program credits (usually credits bar/belly band) without any problems and in a visually flawless manner, it is important to ensure that the last 15 seconds of the program remain free of belly bands and any other overlays and that the position is suitable for the use of a credits bar, etc.

The archive credits may be used for overnight reruns, VOD or international distribution. It is also required for archival purposes.

The credits within the archive credits must include all editorial and production staff significantly involved in the production (also taking copyright into account). A proposal adapted to the production must be agreed with the responsible editorial department of the broadcaster. Sample credits are listed in Appendix E.

The archive credits end with the final animation "on behalf of ...". It is to be produced as a white scroll title on a black background.

The length of the credits should be as short as possible and should not significantly exceed 30 seconds (including the integration of the final animation). Please note that the credits must be legible (font size, font width, running speed, number of credits should be adjusted accordingly). The entire length of the credits must not be silent. The music must be included in the music message. A current version of the closing animation is available for download at www.rtl-service.de. There is no need to mention the copyright and year.

The credits must be designed in such a way that they can be separated and replaced by another credits or opening credits element during the broadcast. In detail, this means that there must either be a "hard" cut between the main program and the credits, or the credits must be separated from the main film by fading in and out. Under no circumstances may the music or other sound events overlap.

In the case of separation by fades, it must be ensured that the maximum pause (black) between the two program elements does not exceed 10 frames. Furthermore, it must be ensured that neither an original sound nor a cut takes place within two seconds before and after the cut.

In addition, all significant contributors to the production (also taking into account copyright) must be listed on the website www.rtl-service.de under "List of contributors" after consultation with the respective editorial team. The same wording must be used in the archive credits. The list of contributors is thus a mirror image of the credits in digital list form. The access data for the list of contributors can be requested from eva-lotte.hill@rtl.de. Further information can be found in the "Help" section of the same website.

3.2.3. Exchange formats marketing of RTL Deutschland GmbH

For an exchange of image material between production and marketing at RTL Deutschland GmbH, which is intended for further processing, it usually makes sense to use files in the codec of the online post-production process. In this way, further conversion of the data can be avoided.

Please note that RTL Deutschland GmbH's marketing department prefers to work with the following codec due to internal work processes:

Quicktime Apple IMX 50 (SD)

Quicktime XDCAM HD 422 / 50 Mbit (HD)

Footage for other high-quality further processing (e.g. in graphic elements / design): Quicktime Apple ProRes 422 HQ or ProRes 4444

Only with agreed UHD production

ProRes 422 HQ UHD 3840x2160p, 25/50fps, 10 bit, ITU-R BT.709, ITU-R BT.2020 ProRes 4444 UHD 3840x2160p, 25/50fps, 12 bit (16 bit for alpha channel), ITU-R BT.709

ProRes 4444 XQ UHD 3840x2160p, 25/50fps, 12 bit (16 bit for alpha channel), ITU-R BT.2020

3.2.4. Cleanfeed

The clean feed must be produced with the same picture field and identical timecode to the master. It should not contain any graphic overlays, such as belly bands, so that all neutral image backgrounds can be archived in comparison to the master.

Purely graphic elements such as logo jingles can of course remain identical to the master.

The clean feed should be delivered with separate audio tracks (sounds/atmos, original sound, commentary speakers, music). Please refer to Appendix A for the sound track assignment. If a 5.1 mix has been agreed for the production, only the respective additional stereo mixes are required on the clean feed.

The purpose of the clean feed is to be able to easily create program trailers, edits and best-of versions.

3.2.5. Pro Tools Session

If a 5.1 mix has been agreed for the production, please deliver a separate Pro Tools session. This session should contain the respective 5.1 mix and the corresponding stereo mix, as well as all other mixes and audio tracks relevant for archiving (5.1 and stereo) in the latest version of Pro Tools available on the market. The transfer should be made via Movie2Me.

3.3. Accompanying information

Each production and each broadcast file must be accompanied by specific information. The labeling or naming must be done in such a way that the accompanying information can be clearly assigned to the program material.

The media accompanying card must be submitted online via www.rtl-service.de.

The individual program elements of the medium to be delivered as well as any suggestions for commercial breaks must be noted on the media accompanying card with time code information.

3.3.1. Accompanying media card

The media accompanying card must contain all the technical information required by RTL in accordance with Annex B. Each carrier medium and each cover must be labeled in such a way that both can be assigned to the corresponding media accompanying card.

3.3.2. Metadata file as electronic media companion card (EMC)

Technical and content-related information must be supplied in the form of an XML file.

Mandatory information is for example:

- Channel title

- Audio format

- Data rate audio track assignment

- Picture format picture standard

- Segmentation length / segment list

- Episode title - advertising cut suggestions

To generate the XML file, RTL provides an Internet page at www.rtl-service.de. The access data for this page can be requested from RTL / Content Operations (contentoperations@rtl.de).

4. Material to be supplied for licensed third-party program

4.1. Broadcast material

4.1.1. Delivery format

File or tape format must comply with the criteria specified in section 2.7 (file-based delivery) or 2.8 (tape-based delivery). Additional audio tracks can be delivered as separate WAV files (24 bit, 48 kHz). The delivery of alternative formats is possible after consultation with RTL Material Coordination (material coordination@rtl.de).

4.1.2. File delivery

Files should be delivered via the Movie2Me file transfer system. An account for the delivery will be created by RTL. Alternative delivery methods are possible after consultation with RTL Material Coordination (materialcoordination@rtl.de).

4.1.3. Labeling

The content of each delivered tape/file must be clearly recognizable by means of a tape label, file name and/or an accompanying delivery document that includes the tape/file name and the corresponding content.

The following information should be mentioned:

For movies: Movie title, soundtrack assignment

For series episodes: series title, season, episode title, episode no., audio track assignment

4.1.4. Subtitles for the hearing impaired

If available, an STL document containing subtitles for the hearing impaired (closed captions) should be delivered by e-mail. For more information on STL delivery, see paragraph 2.10.

4.1.5. **Fonts**

If RTL Deutschland GmbH acquires the right to dub a program and create a Germanlanguage version with German titles and inserts, the fonts used for the original titles and inserts shall be named.

4.1.6. Required contents

All video material must include opening credits including the program title and full closing credits including the dubbing cast credits (if applicable). Fades to black in the program should be avoided or should not be longer than 1 second.

Depending on the program type and the language version purchased, the following content is required:

4.1.6.1. Fictional program

Version	Required video content	Required audio content
German version	 Texted version incl. German titles and inserts, textless at tail 	German 2.0*German 5.1*
German-language version with two- channel sound rights	Texted version incl. German titles and inserts, textless at tail	 German 2.0* German 5.1 Original language 2.0* Original language 5.1
German subtitled version (OmU)	 Texted version incl. German subtitles Complete textless version or texted version incl. German titles and inserts (without German subtitles) 	 Original language 2.0* Original language 5.1*
Original version for synchronization	Texted version incl. original titles and inserts, textless at tail	 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	Texted version incl. original titles and insertsComplete textless version	Original language 2.0*Original language 5.1*

^{*}Audio content marked with an asterisk should be included in the video file. Additional audio tracks can be supplied as separate WAV files.

4.1.6.2. Nonfictional program / documentaries

Version	Required video content	Required audio content
German version	 Texted version incl. original titles and inserts Complete textless version 	German 2.0*German 5.1*
German-language version with two- channel sound rights	 Texted version incl. original titles and inserts Complete textless version 	 German 2.0* German 5.1 Original language 2.0* Original language 5.1
German subtitled version (OmU)	 Texted version incl. German subtitles Complete textless version or texted version incl. German titles and inserts (without German subtitles) 	 Original language 2.0* Original language 5.1*
Original version for synchronization	 Texted version incl. original titles and inserts Complete textless version 	 Original language 2.0* Original language 5.1* Mix without speaker 2.0 Mix without speaker 5.1 Optional/helper tracks (if available)
Original version for subtitling	Texted version incl. original titles and insertsComplete textless version	Original language 2.0*Original language 5.1*

^{*}Audio content marked with an asterisk should be included in the video file. Additional audio tracks can be supplied as separate WAV files.

4.1.6.3. Additional sounds for trailer production

If available, the following discrete tones should be supplied for use in trailer production:

- Music
- Effects
- Language

4.2. Advertising materials and text documents

4.2.1. Advertising materials

Material	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, labeled 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 program title logo
Press Pack	.pdf file	To contain: Series Synopsis Episodic Billings Cast List Cast Biographies Character Descriptions Location Descriptions Key Production Talent Descriptions Plus any other relevant program details

4.2.2. Moving image advertising materials

Material	Format	Description
Promotional Trailer	60' HD 1080i/25 File	Texted trailer with textless elements at the end, and split audio
Electronic Press Kit (EPK) or Featurette	HD 1080i/25 file	 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 program 15-20 minutes (max) of key highlights of program Behind-the-scenes footage 1-3 minutes (max) clips Mondo Shoots (in front of green screen)
	.jpeg file	Mobile/Desktop Wallpapers

Web and Social Content (if available)

4.2.3. Text documents

Material	Format	Description
Front & End Credit List	.pdf	Per episode
Music Cue Sheet	.pdf	Per episode
Post Production Script Aka Dialogue Script	.pdf	Time-coded dialog script with screen captions Per episode
Summary of 3rd Party restrictions, limitations, credits, and other licensee obligations	.pdf	Per episode
Cast list	.xls	
Synchronous cast list	online	Entry of all entries in the "List of contributors" on the website www.rtl-service.de

5. Delivery

5.1. Procedure for file-based delivery / test

To ensure that the file formats to be supplied are fully compatible with the file formats used by RTL for editing, archiving and broadcasting, RTL and the supplying production company must carry out a corresponding test once before the first delivery.

The subject of this check is the technical clarification of the delivery route via Movie2Me. In addition, the compatibility of the software and codecs used for file creation with the systems in use at RTL is checked using sample test files supplied.

If, after a successful test, there are changes in the production chain at a later date that affect the file creation, a new test is required. The supplying production company must inform RTL of any upcoming changes.

5.2. Contact person

Material delivery:

RTL Technology GmbH

Program provision

Picasso Square 1

50679 Cologne

Phone: +49 221 456 42410

Email: contentoperations@rtl.de

File technical questions:

RTL Technology GmbH

Filing

Picasso Square 1

50679 Cologne

Phone: +49 221 456 42230

Email: specifications@rtl.de

5.3. Delivery address

RTL Technology GmbH

Content Operations/Filing

Goods Delivery East

Picassoplatz 1/ Access via Auenweg 11

50679 Cologne

6. Appendix

6.1. Appendix A: Sound track assignment

The following assignment of audio tracks applies to RTL:

A1: Broadcast material

2.0 German docutainment

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
			Atmo /	Atmo /				
			original	original			Voice Over	Voice Over
Contents	Mix	Mix	sound	sound	MnE nat.	MnE nat.	/ Speaker	/ Speaker
Language								
version	German	German	-	-	-	-	German	German
Format	Stereo (L)	Stereo (R)	Mono	Mono	Stereo (L)	Stereo (R)	Mono	Mono

2.0 German Fiction

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
			Mix without	Mix without				
Contents	Mix	Mix	music	music	Silent	Silent	Silent	Silent
Language								
version	German	German	German	German	-	=	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silent	Silent	Silent	Silent

2.0 German Soap

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
Contents	Mix	Mix	Mix without	Mix without	Silent	Silent	Mix rights-	Mix rights-
			music	music			free	free
							music	music
Language								
version	German	German	German	German	-	_	German	German
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silent	Silent	Stereo (L)	Stereo (R)

2.0 two-channel sound

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
Contents	Mix	Mix	Mix	Mix	Silent	Silent	Silent	Silent
Language								
version	German	German	English	English	-	-	-	-
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silent	Silent	Silent	Silent

2.0 two-channel sound

documentary

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
					Mix minus	Mix minus	Voice Over	Voice Over
Contents	Mix	Mix	Mix	Mix	Narrator	Narrator	/ Speaker	/ Speaker
Language								
version	German	German	English	English	-	-	German	German
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Mono	Mono

2.0 German

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
Contents	Mix	Mix	Silent	Silent	Silent	Silent	Silent	Silent
Language								
version	German	German	-	_	-	-	-	-
Format	Stereo (L)	Stereo (R)	Silent	Silent	Silent	Silent	Silent	Silent

5.1 German

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
Contents	Mix	Mix	Mix	Mix	Mix	Mix	Mix	Mix
Language								
version	German	German	German	German	German	German	German	German
Format	Stereo	Stereo	5.1 (FL)	5.1 (FR)	5.1 (R)	5.1 (LFE)	5.1 (SL)	5.1 (SR)

A2: Cleanfeed

2.0 German Dokutainment Clean

	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8
			Atmo /	Atmo /				
	Mix minus	Mix minus	original	original			Voice Over /	Voice Over /
Contents	Narrator	Narrator	sound	sound	MnE nat.	MnE nat.	Speaker	Speaker
Language								
version	-	-	-	_	-	-	_	_
Format	Stereo (L)	Stereo (R)	Mono	Mono	Stereo (L)	Stereo (R)	Mono	Silent

A3: Original version for dubbing

2.0 English

Z.O Eligilari	2.0 English										
	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8			
Contents	Mix	Mix	MnE intl.	MnE intl.	Silent	Silent	Silent	Silent			
Language											
version	English	English	-	-	-	-	-	-			
Format	Stereo (L)	Stereo (R)	Stereo (L)	Stereo (R)	Silent	Silent	Silent	Silent			

A4: Source material

2.0 English documentary

The English decall to the state of the state										
	Track 1	Track 2	Track 3	Track 4	Track 5	Track 6	Track 7	Track 8		
			Mix minus	Mix minus						
Contents	Mix	Mix	Narrator	Narrator	Silent	Silent	Silent	Silent		
Language										
version	English	English	-	-	-	_	-	-		
	Stereo									
Format	(L)	Stereo (R)	Stereo (L)	Stereo (R)	Silent	Silent	Silent	Silent		

6.2. Appendix B: Example of an accompanying media card

Medienbegleitkarte RITL Originaltitel: Originaltitel Sender: RTL **Produzent:** Name der Sendetitel: Sendetitel Sendedatum: 28.04.2017 Produktionsfirma Staffel/Episode: Staffel-Nr / Episode-Nr Sendezeit: 17:00 Name: Fassung: Sendefassung Medium: File Vorname Name MA Dateiname: Originaltitel_Sendefitel_Sendefassung_Staffel_Nr__Episode__20170428_1700_20170410_160911 Prod.-Comp. Video Audio Redaktion: Qualität Spur-Nr Belegung Inhalt Format HD Name der Redaktion Deutsch Stereo **Datenrate** 50 MBit/s Mix Deutsch Stereo Telefon: XDCAM HD 422 Codec Mix Deutsch Telefon-Nr. Prod.-Firma. Mix Bildformat 1,78:1 FF (16:9) 5.1 5 Mix Deutsch Bildstandard 1080i/25 Mix Deutsch Mix Deutsch max.mustermann@cbc.de 5.1 Mix Deutsch Hier werden Besonderheiten zu dem Bild- bzw. Tonmaterial hinterlegt. Segmentenliste Pflicht-Break: Nein Länge: 00:11:30:00 **DUR** 00:11:11:9 Тур SOM EOM 00:11:11:09 Programm 00:00:00:00 Abspann 00:11:30:00 00:00:18:16 Bumper Break in-out 00:12:00:00 00:12:35:00 00:00:35:00 z. B.: ist von TC 00:05:00:14: bis TC 00:07:12:01 einsetzbar Precap1 00:13:00:00 Recap1 00:14:00:00 00:14:22:00 00:00:22:00 00:15:00:00 00:15:43:00 00:00:43:00 z. B.: ist von TC 00:08:05:00: bis TC 00:09:10:15 einsetzbar Gewinnspie z. B.: Anmoderation Werbeschnittsatz Bemerkung SOM 00:00:00:00 BR1 Break 1 00:00:55:00 BR2 ESH 00:11:11:09 00:11:30:00 EOM Hier werden allgemeine Angaben zu Werbeschnitten bzw. Einblendungen hinterlegt, die nicht direkt in den betreffenden Zeilen eingetragen werden können Einblendungen/Secondary Events SOM 00:00:20:00 1 00:00:30:00 I 00:00:10:00 Einblendung oben z. B.: Typo rechts oben 00:00:50:00 00:01:50:00 Einblendung unten z. B.: Bauchbinde unter 00:01:00:00 00:00:10:00 z. B.: vertikaler werblicher Balken in Bewegung 00:02:00:00 00:00:10:00 Skyscraper Product Placement Cut in z. B.: werblicher Balken statisch, horizontal oder vertikal 00:04:20:00 00:04:45:20 00:00:25:20 00:05:10:00 00:05:20:00 00:00:10:00 Sonstiges Corner Logo Animation z. B. Hinweis auf Inside App

Page 1 of 1

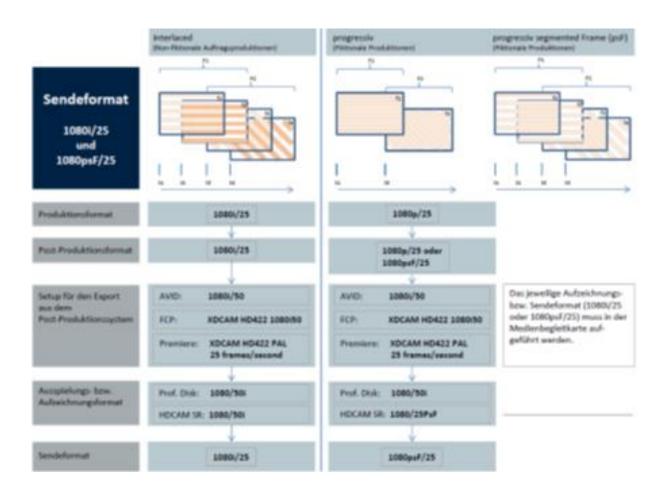
6.3. Appendix C: Segments of shipment files

see

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

Summary of packaging

6.4. Appendix D: Transmission format 1080i/25 or 1080psf/25



6.5. Appendix E: Examples of key contributors mentioned

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
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	

7. Changes in the document

Version	Created	Changes	Authors
2.9	08.07.24	Adding versioning documentation	D. Gageos
		2. Adjustment EBU R 128 measurement tolerance	
		from 0.5 LU to 0.2 LU (<u>here</u>)	
		3. Links to EBU documents added (<u>here</u>)	
		4. Adaptation of the email address for technical	
		queries from <u>filing@rtl.de</u> to <u>specifications@rtl.de</u>	
		(<u>here</u>)	
		5. New full Specifications in English (auto translation)	