

Technical specifications
For the delivery of TV programmes, TV sequences and films to DR
- DIGITAL FILE TRANSFER -

In order to assure the correct registration of all TV programmes, a number of current technical standards and procedures shall be complied with so that the programmes in question can be edited and/or broadcast with the highest possible quality.

1.1 General conditions

All video and audio signals shall comply with the official technical texts of the **EBU** (European Broadcasting Union) **OFFICIAL TECHNICAL TEXTS**, including Technical Standards, Recommendations, Statements and Information. These publications can be found at: <http://tech.ebu.ch/publications>
Detailed specifications can also be found in Annex 1.

1.1.1 HD

DR prefers HD format 720p/50, 1080p/25 or 1080i/50.
60 hz. HD material will only be accepted from countries where this is the standard format.

1.1.2 SD

DR prefers SD format 576i/25 in aspect ratio 16:9 anamorphic.

1.1.3 Image aspect ratio

DR broadcasts in the 16:9 aspect ratio. A copy of DR's 16:9 manual can be provided by the DR department who placed the order. Material in 14:9 and 4:3 letterbox aspect ratios will not be accepted.

1.1.4 Approval

In the event that the finished programme or programme footage does not meet the approval of DR with respect to the technical specifications and norms mentioned in this document, the product in question will be returned to the producer to allow for additional post production processing within the deadlines specified by DR and at no additional cost to DR. See also the terms of the production contract concerning DR's authority as regards approval.

1.2 Finished programmes ready for broadcast

DR is able to receive material via the technologies described in Annex 2. However, the specifications in the license agreement will always determine the delivery method in each case.

The material will not be post-edited by DR and shall therefore adhere to current standards for sound and video tolerance levels (see paragraph 1.6).

1.3 Guidelines for sequences or programmes requiring further editing

See Annex 1 regarding:

Feature films
Documentaries
Series
Children's programming
Material for the production of spots/trailers

1.4 Digital recording log

Each programme/sequence shall be accompanied by a digital recording log (for example a document or text file on a hard drive or similar). As a minimum, it should include the following:

Title: The title of the programme (alternatively working title/episode no. etc)
File name: Recognizable identification of the file
Recorded by: Organization/name/date/telephone of the person responsible for the programme
Aspect ratio: 16:9 format (note any 4:3 content), HD or SD
File format: Information regarding Codec, frame rate and resolution.
Audio: Information about the audio on each track, mono/stereo/multi-channel etc.
Duration: The duration of the programme in hours, minutes, seconds and frames

1.5 Subtitles in Danish

DR handles the subtitling of the programme unless otherwise agreed with the producer/supplier.

Invision subtitles (those which form a part of the video signal) cannot be used, as the DVB-T standard must be followed.

In cases where there is an agreement that the producer is to deliver subtitles, these shall be provided in the Screen PU PAC-format or EBU STL-format. Files with subtitles should be sent to DR by e-mail at: DRtekst@dr.dk.

Unless otherwise specified in the contract, materials should be delivered 14 weekdays prior to broadcast.

1.6 Norms & tolerances for programmes & sequencecs submitted to DR

Programme audio:	
Mono	Same audio on tracks 1 + 2
Stereo	Track 1 = Left, Track 2 = Right
IT-audio/non-deeped (100%)	Track 3 + 4
Multi-channel audio	Track 1 = Left (stereo) Track 2 = Right (stereo) Track 3 = Multi-channel audio left Track 4 = Multi-channel audio right Track 5 = Multi-channel audio centre Track 6 = Multi-channel audio LFE Track 7 = Multi-channel audio left surround Track 8 = Multi-channel audio right surround <i>DR does not accept Dolby E in video files.</i>
Audio level	As of 2012, EBU Recommendation R128 (loudness) must be observed.
Safe area	EBU Recommendation R95 shall be observed.

Note: DR requires that the indicated duration matches the contents precisely, without test tone, colour bars and black. See Annex 1.

Annex 1 – General guidelines for sequences or programmes requiring further editing

1 Feature films:

1.1 Video:

In general, DR wishes to broadcast programmes in their original aspect ratio without cropping.

DR prefers (in order of preference)	Aspect ratio	Acceptable	Not acceptable
1	2,35:1	16:9 Letterbox Anamorphic	Pan Scan Full Screen
2	1,85:1	16:9 FHA (Full Height Anamorphic)	Pan Scan
3	1,66:1	16:9 FHA (Full Height Anamorphic)	Pan Scan
4	1,33:1	4:3	

Invision subtitles (those which form a part of the video signal) are not acceptable. If these are found in the programme, footage without subtitles shall be provided so that the sequence or sequences in question can be replaced.

1.2 Audio:

Stereo, Prologic Surround or 5.1 surround sound.
Original mono is acceptable, track 1+2 dual mono final mix.

2 Documentaries:

2.1 Video:

DR prefers to translate and insert graphics itself (e.g. captions with the names of participants).

The bottom 1/3 of the screen is to be used for Danish subtitles and should therefore be kept free of other graphics.

DR prefers a version with graphics and captions (e.g. names of the participants) and footage without graphics and captions OR a version without graphics and captions but with credits.

Advertising breaks in programmes can be accepted if they can easily be edited out.

2.2 Audio:

Track 1+2 Stereo original final mix with no “voice over”/dubbing. DR does not accept one foreign language translated to another (e.g. spoken Japanese with English subtitles). In such cases, DR prefers to translate the spoken language directly in the Danish subtitles.

Track 3+4 Stereo original final mix with no “commentator/narrator”

Documentaries requiring a Danish narration will be dubbed by DR. These programmes may not contain audio level changes (“deeped” sequences). Audio Description (visual interpretation) should be placed on the first free sound track.

3 Series:

3.1 Video:

16:9 FHA (Full Height Anamorphic)

4:3 Series originally produced in the 4:3 aspect ratio are acceptable.

14:9 letterbox is not acceptable.

Advertising breaks in programmes can be accepted if they can easily be edited out.

Invision subtitles (those which form a part of the video signal) are not acceptable. If these are found in the programme, footage without subtitles shall be provided so that the sequence or sequences in question can be replaced.

3.2 Audio:

Stereo, Prologic Surround or 5.1 surround sound.

Original mono is acceptable, track 1+2 dual mono final mix.

4 Children's programming:

4.1 Video:

16:9 FHA (Full Height Anamorphic)

4:3 Programmes originally produced in the 4:3 aspect ratio are acceptable.

14:9 letterbox is not acceptable.

Sequences without text are required, so that episode titles and credits can be translated into Danish.

Programmes with dubbing or lecturing in Danish shall be furnished with the necessary credits for the voices.

4.2 Audio:

Stereo, Prologic Surround or 5.1 surround sound.

Track 1+2 Final mix

Track 3+4 Music and sound effects (M&E)

Tracks with music and sound shall not be supplied with level changes ("deeped" sound) to accommodate narrations or commentaries.

The title melody and the like shall be furnished without vocals on the music and effects tracks.

5 Trailers & spots

5.1 Video:

16:9 FHA (Full Height Anamorphic)

4:3 Footage originally produced in the 4:3 aspect ratio is acceptable.

14:9 letterbox is not acceptable.

5.2 Audio:

DR prefers commentary/narration on tracks 1+2 (stereo) and music/sound effects on tracks 3+4. Alternatively, a stereo mix on tracks 1+2 is acceptable.

DR provides the narration for all trailers/spots.

DR does not accept any footage with narration or with changes in the sound levels ("deeped" sound) to accommodate narration.

Annex 2 – Technical specifications for Delivery of programme material to DR as data-files

1 Media:

Hard drive: USB or Firewire connection
Format: Windows PC or MAC
RAM: P2, SD, SDHC
File transfer: Faspex/Connect, Client via Ascent142 and DigiDelivery.
Aspera License: 14182, Customer ID: 2688, Bandwidth: 300Mbit/s

Alternatively via FTP

Software from Signiant and FTP programmes that support FTPS and SFTP can also be used for file transfer. File exchange must be specified in the license agreement.

Notification email address at DR: drfiletransfer@dr.dk

2 SD file formats:

Picture format: PAL 720x576 16:9
Pillarbox format for 4:3 material is acceptable.
Letterbox format is NOT acceptable.

DVCpro 50 (preferred format)

Alternate formats (upon agreement only): IMX 50, ProRes 422 (HQ), P2 or DNx

Wrapper: MXF OP1a or QuickTime

3 HD file formats:

Picture format (preferred): 720p/50, 1080i/50^{1 2}
Picture format (accepted): 1080p/25

DVCpro HD 720p/50 (DR's primary format)
ProRes 422 (HQ) (1920x1080i)

Alternate formats (upon agreement only): XDCam HD, DNxHD

Wrapper: MXF OP1a or QuickTime

In the event that a supplier wants to deviate from the specifications above, this must be agreed upon with the receiving department at DR. If the supplier is to deliver a series of programmes, DR prefers to receive a test file before delivery of the remaining programmes.

¹ Notation for 1080i/25 in the USA is 1080i/50 where 50 indicates Fields/sec.

² Frame- and field-rates of 23.98, 29.97 and 59.94 can be accepted for material from the USA.