

TECHNICAL REQUIREMENTS

Small Items

May, 2019



GOLDBACH
MEDIA



NITRO.



Content

| | |
|--|----|
| General Information | 3 |
| Delivery of Small Items | 4 |
| Video Format | 4 |
| Audio Format | 4 |
| Time Code | 4 |
| Delivery of Small Items as a Media File | 5 |
| Delivery of Small Items on a Physical Medium | 6 |
| Appendix..... | 8 |
| Safe Areas | 8 |
| Video Signal..... | 9 |
| Audio Signal..... | 9 |
| Glossary of Terms..... | 10 |
| Cue sheet / Media sheet (example) | 12 |

General Information

If not stated otherwise in the specifications contained herein, the current recommendations of the EBU are binding.

The Media Group RTL Germany accepts small items only in high definition (HD).

At present, small items are broadcast in stereo only. In the foreseeable future, however, the technical requirements for a broadcast with multiple sound channels (5.1) will be installed. Therefore, it is already recommended now to deliver small items providing multi-channel sound (5.1) on audio tracks 3 - 8. Of course, the language version has to be the same both in stereo sound and in multi-channel sound (5.1).

Subtitling small items for the hearing impaired is currently not intended.

The broadcasting of programs and commercials / small items will only be performed with loudness control according to EBU Recommendation R 128. All commercials / small items have to be in accordance with EBU Recommendation R 128.

Delivery of Small Items

Video Format

Small items have to be recorded in the format 1080i/25. In the case of original film material it has to be encoded with 25psF.

Audio Format

Commercials / small items should be preferably produced and delivered in stereo but at least in 2-track-mono. The stereo signal has to be compatible to mono receivers and should therefore not have a negative correlation degree (higher or equal to zero). It must be ensured that at least track 1 and track 2 do include the complete program sound. Additional audio tracks may be used for multi-channel sound (5.1) though at present, small items are still broadcast in stereo only.

Time Code

The carried time code has to have a value of 00:00:00:00, 02:00:00:00 or 10:00:00:00 starting with the first picture (SOM) and has to continue ascending linearly for the whole duration of the spot. All time code tracks possibly existing on one single medium have to contain identical time code values.

Delivery of Small Items as a Media File

The delivery of small items should be realised via online file transfer, wherever possible. A secure web interface is available at:

<https://ingest.cbc-service.de/ingest-kleinmaterial/>

A one-time free registration is necessary in order to be able to deliver spots as a media file

The only wrapper or container format accepted is defined as follows:

MXF container, in which the operational pattern 1a (OP1a) with the encoding algorithm XDCAM HD 422 has to be used. The MXF file has to correspond to SMPTE RDD09-2013 with a video resolution of 1920 x 1080 pixels.

The audio signal must consist of at least two discrete audio tracks in 24 bit resolution. Additional audio tracks for multi-channel sound (5.1) are recommended but at present, small items are still broadcast in stereo only. Multiplexed data in an audio track are not allowed.

The file has to consist of the **actual complete content** of the commercial spot. A leader is not **allowed and the start frame** has to be the first visible picture or the first audible sound (SOM).

The audio track allocation of the media file has to follow exactly one of the following schemes, while at present only program tracks 1 and 2 are broadcast:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------------------------------|----------|----------|----|----|---|-----|----|----|
| XDCAM HD stereo | Stereo L | Stereo R | - | - | - | - | - | - |
| XDCAM HD multi-channel sound (5.1) | Stereo L | Stereo R | FL | FR | C | LFE | SL | SR |

The use of a Dolby-E-stream within a media file **will not be accepted**.

Delivery of Small Items on a Physical Medium

Small items delivered on a physical medium, which have been approved by CBC, will then be converted into a file format, archived and kept ready for transmission. The physical medium itself will be stored for four weeks and then properly disposed of unless there is a request to return it.

Only Professional Disc XDCAM HD will be accepted for small items.

Each Professional Disc must be accompanied by a media sheet designed according to the “Medienbegleitkarte” in the appendix. Non-detachable labels have to be affixed to the medium as such and to its cover to ensure proper traceability. Labels have to be affixed only in the label field designated by the manufacturer.

The audio track allocation has to follow exactly one of the following schemes depending on the carrier medium used:

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--|-------------|-------------|----|----|---|-----|----|----|
| XDCAM-HD stereo | stereo L | stereo R | - | - | - | - | - | - |
| XDCAM-HD multi-channel sound (5.1) | stereo L | stereo R | FL | FR | C | LFE | SL | SR |

Any unused audio tracks must contain AES-0 (Mute).

When using Professional Disc several separate spots may be on one disc. In this case, please refer to “Delivery of small items as a File”.

Contact CBC:

CBC Ingest | +49 221 456-42220 | filing@cbc.de

Appendix

Safe Areas

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 and other extraneous or improper image edges must not be visible.

Important image content such as Graphics, logos, or legal notices are not displayed fully under some circumstances on each receiver. In particular, in the creation of special forms of advertising, it is possible that content outside the Action Safe Area is cut and cannot be fully displayed.

| | Vertikal | Horizontal |
|--------------------|----------|------------|
| Action Safe Margin | 3,5 % | 3,5 % |

Scanning raster 1080i/25 and 1080psf/25: 16:9 safe areas for 16:9 presentation
Image format: 16:9 Full Format

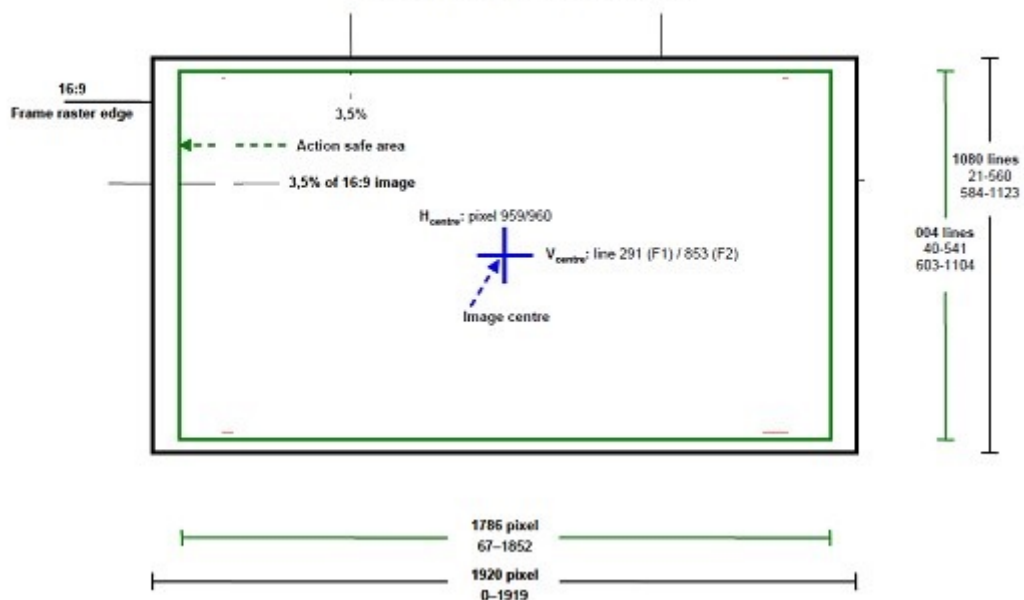


Figure 1: Safe Areas 16:9 Image

Video Signal

During the whole duration of the commercial spot the video signal has to correspond to the ITU-R BT709-6.

The maximum level of the luminance signal must not exceed 100%. This corresponds exactly to 700 mV.

The maximum level of the combined CVB signal should not be higher than 133% and not less than -33%.

The pedestal can be between 0% and 2% (maximum).

Audio Signal

The level control of the audio signals has to have a target level of -23 LUFS and a maximum deviation of +/- 0.5 LU according to EBU Recommendation R 128.

The maximum short-term loudness should not be higher than -18 LUFS (+5 LU). The maximum peak level should not be higher than -1 dBTP. According to „Practical Guidelines“(EBU Tech 3343), Item 10.1 „Commercials (Advertisements) and Trailers“. Detailed information can also be found in the documents EBU Tech 3341 - 3344.

Requirement: Loudness meter with „EBU-Mode“, (hardware or software).

Measuring devices previously used for metering of peak levels (PPM/QPPM) are NOT suitable for loudness metering.

Glossary of Terms

LU (Loudness Units):

Relative measurement unit of loudness: 1LU = 1dBr.

LUFS:

Absolute measurement unit of loudness referring to full scale

(„Loudness Units Full Scale“)

Scales:

1. 'EBU +9 scale': -18.0 LU to +9.0 LU (-41.0 LUFS to -14.0 LUFS)

2. 'EBU +18 scale': -36.0 LU to +18.0 LU (-59.0 LUFS to -5.0 LUFS)

Applying to both scales: -23.0 LUFS = 0.0 LU

Three Time Scales:

- Momentary "M" (400 ms integration)
- Short term „S“ (3 s integration)
- Integrated "I" (program- or segment-wise from start to stop)

Program Loudness:

The integrated loudness over the duration of a program - Program Loudness Level is the value (in LUFS) of program loudness.

In this context, "program" means a single commercial spot or trailer.

Loudness Range, LRA:

It describes the distribution of loudness within a program.

To control the dynamics of a commercial in a loudness normalized world where the danger of suddenly too high loudness differences does exist, the measure Loudness Range (LRA) is not suitable because the calculation is based on the short-term

loudness values (3 s interval). In the case of very short items there are not enough data points to derive a meaningful number for LRA.

An alternative could be the use of the Maximum Momentary Loudness Level (Max ML – 400 ms) and/or the Maximum Short-term Loudness Level (Max SL – 3 s). Especially for very short items (<30 s), these parameters can be effectively used to limit loudness peaks.

Maximum True Peak Level, MTPL:

The true peak level (TPL) indicates the maximum (positive or negative) value of the signal waveform in the continuous time domain; this value may be higher than the largest sample value in the time-sampled domain.

Those true peaks (unit symbol: dBTP – deciBel referenced to digital Full Scale measured with a true peak meter) can be detected with a 4x oversampling true peak meter compliant to ITU-R BS.1770.

Technical Requirements for Loudness Meter:

- The loudness algorithm has to be compliant to ITU-R BS. 1770
- K-weighting curve according to ITU-R BS. 1770
- Gating:
 - Absolute gate: blocks of audio (“M”-values) below -70 LUFS are excluded for the computation of absolute gated integrated loudness.
 - Relative gate: blocks of audio (“M”-values) that are -10 LU below absolute gated integrated loudness are excluded for the computation of absolute gated integrated loudness.
- True peak measurement with a 4x oversampling

For any further information, consult the following page: <http://tech.ebu.ch/loudness>

Additional specifications have been published in the following EBU documents:

EBU Tech 3341 Metering specification ('EBU mode')
EBU Tech 3342 Loudness Range descriptor
EBU Tech 3343 Practical Guidelines
EBU Tech 3344 Distribution Guidelines

Cue sheet / Media sheet (example)



Picassoplatz 1
D-50879 Köln / Germany
Tel.: (0221) 456 42220

Medienbegleitkarte

| | |
|-----------------------------------|-------------------------------|
| Originaltitel: <u>Kunde ABC</u> | Status: <u>Sendematerial</u> |
| Sendetitel Serie/Film: <u>TTT</u> | Staffel / Episode: <u>TTT</u> |
| Originaltitel Serie/Film: _____ | Prod.Nr.: <u>#01/11</u> |
| Sendetitel: _____ | Dateiname: _____ |

| | | | | | |
|----------------|----------|-----------|--------------|-----|--|
| Trägermaterial | Qualität | Datenrate | Codec | | |
| XDCam HD 422 | HD | 50 Mbit/s | XDCam HD 422 | | |
| Bildformat | Bildnorm | Timecode | R 128 | LRA | |
| Vollbild | 1080i/25 | VBI | ja | | |

TECHNISCHE BEMERKUNGEN

| |
|--|
| |
|--|

SEGMENTLISTE

| Used | Programm | SOM | EOM | DUR |
|-------------------------------------|-------------|-------------|-------------|-------------|
| <input checked="" type="checkbox"/> | 1. Programm | 00:00:00:00 | 00:00:20:04 | 00:00:20:04 |
| <input type="checkbox"/> | 2. | | | |
| <input type="checkbox"/> | 3. | | | |
| <input type="checkbox"/> | 4. | | | |
| <input type="checkbox"/> | 5. | | | |
| <input type="checkbox"/> | 6. | | | |
| <input type="checkbox"/> | 7. | | | |
| <input type="checkbox"/> | 8. | | | |
| <input type="checkbox"/> | 9. | | | |
| <input type="checkbox"/> | 10. | | | |
| <input type="checkbox"/> | 11. | | | |
| <input type="checkbox"/> | 12. | | | |
| | | | | 00:00:20:04 |

TONSPUREN

| Spur | Belegung | Inhalt | Format |
|------|-------------------|--------|--------|
| 1. | Mix links (ST-L) | | |
| 2. | Mix rechts (ST-R) | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |
| 11. | | | |
| 12. | | | |

SENDUNGSBEMERKUNGEN

| |
|--|
| |
| |
| |
| |

Redaktion: _____
int. Tel.: _____

Produzent: _____
Report erzeugt am: 05.08.2016