

DISNEY CHANNEL GERMANY, SWITZERLAND AND AUSTRIA
A division of The Walt Disney Company (Germany) GmbH

TECHNICAL SPECIFICATIONS FOR COMMERCIAL DELIVERIES

May 2018

1. General:

- **HD:** Disney prefers all material deliveries in HD according to the specification listed below.
- **EBU R.128:** In accordance with the EBU Recommendation R.128 and the subsequent decisions of major German Broadcasters to adopt R.128 for playout of their various channels, DISNEY will adopt R.128 from August 31, 2012.

In consequence, any material delivered to DISNEY to be broadcast on any of DISNEY's channels should match the requirements of EBU recommendation R.128. Material delivered that does not match R.128 is subject to a normalization process that will alter the audio of the content. The owner of the programme is required to deliver the programme in accordance with R.128 specifications to avoid a normalization process. For further information, please see clause 4 »EBU Recommendation R.128«.

2. Delivery of commercials

DISNEY Channels will accept material delivered electronically in form of a video file. Delivery, material and quality tests will be conducted by Disney Channels to ensure that the compatibility of the format meets with Disney Channels specifications and that the Disney Channels verifies this after conclusion of a successful quality and delivery test.

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3. Specification for HD (High Definition) file delivery

General

Container	MXF OP 1a (SMPTE 378M)
Timecode Start	00:00:00:00
Programme Start	First picture, no slate, no colour-bars or similar
Programme End	4 Frames black and silence after the last frame of content

Video Essence

Video Signal Specification	ITU-R BT.709
Video Encoding	XDCAM HD 422 (MPEG 2 422P@HL)
Data rate	50 Mbit/s CBR
Resolution	1920 x 1080 (stored 1920 x 1088)
Framerate	25 fps (50i)
Interlacing	Top field first
GOP	IBBP (length: 12) - sequence header on each GOP - first GOP closed
Aspect Ratio:	16:9

Audio Essence

Audioformat:	AES-3 (SMPTE 382M)
Total audio essences:	max. 8
Channel per essence:	1
Sampling Rate:	48 kHz
Channel configuration:	8 channels @ 24 bit
Audio Encoding	PCM (1-4) and Dolby E (5-8)

Audio Channel Configuration

Track 1 - 2:	Stereo total mix German
Track 3 - 4:	Stereo total mix German - no Mute
Track 5 - 6:	Dolby E 5.1 German (optional) or Mute
Track 7 - 8:	Mute

Dolby E Channel Configuration

Channel 1:	Front Left
Channel 2:	Front Right
Channel 3:	Center
Channel 4:	LFE
Channel 5:	Surround Left
Channel 6:	Surround Right
Channel 7:	Left total mix or Mute
Channel 8:	Right total mix or Mute

4. Audio Specification - EBU Recommendation R.128

General information:

The EBU recommendation R.128 was formulated by the workgroup PLOUD of the European Broadcast Union (EBU) in Geneva. In addition to the basic recommendation R.128 there are four documents providing thorough explanation to the recommendation, which are available as PDF documents on the EBU Website <http://tech.ebu.ch/loudness>:

EBU Tech 3341	Metering Specification ('EBU mode')
EBU Tech 3342	Loudness Range descriptor
EBU Tech 3343	Production guidelines
EBU Tech 3344	Distribution guidelines

Disney has adopted EBU R.128 since August 31, 2012. Any material delivered to Disney intended for broadcast on any of Disney's channels from that date should be delivered in accordance with R.128.

Basic Requirements

- EBU mode' loudness meter (hardware or software) according ITU-R BS.1770 and EBU Tech Doc 3341.
- Audiometers designed to meter peak levels (PPM/QPPM) are not suited for the loudness measurement process.

Audio Level

Applicable to all programs:

Integrated loudness according to EBU R-128:	-23,0 LUFS (+/- 1 LU)
Maximum True Peak:	-1 dBTP (stereo content) -3 dBTP (multi channel content)

Applicable to short program elements

(Interstitials, promos, commercials):

Integrated loudness according to EBU R.128:	-23,0 LUFS (+/- 1 LU)
Maximum True Peak:	-1 dBTP (stereo content) -3 dBTP (multi channel content)
Maximum Short Term Loudness:	-20,0 LUFS
Maximum Momentary Loudness:	-15,0 LUFS

Recommended (not mandatory) for all programs:

Loudness Range:	12 LU (stereo) 18 LU (Dolby 5.1)
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