

# TECHNICAL SPECIFICATION FOR COMMERCIAL AND SPONSORSHIP CONTENT DELIVERY

Material can only be delivered through TVN Media Transfer <https://transfer.tvnmedia.pl>

VIDEO	
Container	MXF OP-1a or MOV (Quicktime)
Codec	XDCAM HD422
Bitrate	50Mbps CBR
Frame rate	25 frames per second
Chroma subsampling	4:2:2
Frame size (pixels)	1920x1080
Aspect ratio	16:9
Scan type	Interlaced
Field order	Top field first
Colour space	EBU R103
AUDIO	
Allocation of audio tracks	2 (stereo) EBU R48: 2a
Loudness	-23LUFS (EBU R128 and ITU BS.1770-2)
Format	LPCM
Sample rate	48 kHz
Sample size	16 or 24 bit

## VIDEO:

Action Safe Area and Graphics Safe Area should be compliant with EBU Recommendation R95: Safe areas for television production <https://tech.ebu.ch/docs/r/r095.pdf>

## AUDIO:

Required loudness is -23LUFS for a 30-second measurement window.

The sound parameters should be compliant with EBU R128 and ITU BS.1770-2 standards.

Allocation of audio tracks: EBU R48: 2a <https://tech.ebu.ch/docs/r/r048.pdf>

## PHOTOSENSITIVE EPILEPSY:

All content to be aired by Broadcasters operating on OFCOM license must pass HARDING TEST: [https://en.wikipedia.org/wiki/Harding\\_test](https://en.wikipedia.org/wiki/Harding_test)

## CAUTION!

Materials containing both music and speech must account for a balanced, physiological sound perception, i.e. the subjective feeling of a listener while listening to the Material should be balanced and the loudness should stay similar through the whole Material. Therefore, TVN Media reserves the right to air the material characterised by a loudness level corresponding to the loudness level of other Materials aired directly prior to and after the advertising Material according to the recommendations of The National Broadcasting Council (KRRiT).

The Material Producer takes the whole responsibility for audio to video synchronization. TVN Media does not verify the quality of post-synchronization.