

# COMCAST TECHNOLOGY SOLUTIONS

## DIGITAL/OLV FORMAT SPECS

The following are the audio and video technical specifications for Digital spots submitted to Comcast Technology Solutions.

### FILE LAYOUT FOR COMCAST TECHNOLOGY SOLUTIONS

For all digital spots submitted to Comcast Technology Solutions, spots must be submitted at below length:

Spec	Leading Black	Slate	Black	Spot	Trailing Black
"Slated"	0 sec/0 frames	5 sec/150 frames	2 sec/60 frames	15 sec/450 frames, 30 sec/900 frames, 60 sec/1800 frames, 90 sec/2700 frames, 120 sec/3596 frames, 5 min/8992 frames	0 sec/0 frames
"Unslated"	0 sec/0 frames	0 sec/0 frames	0 sec/0 frames	15 sec/450 frames, 30 sec/900 frames, 60 sec/1800 frames, 90 sec/2700 frames, 120 sec/3596 frames, 5 min/8992 frames	0 sec/0 frames

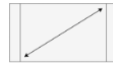
\*\*If you already have an active CAD account, Digital file layout will match what your account is already set to for broadcast files

### DIGITAL VIDEO FORMATS

	Recommended Format - Quicktime	MPEG	Quicktime
<b>Stream Type</b>	H.264	MPEG-2 TS MPEG-2 PS	Apple ProRes 422
<b>Extension</b>	.mp4/.mov	.mpg	.mov
<b>Video Bitrate</b>	5 – 20 Mbps (CBR or VBR)	5 - 20 Mbps (CBR or VBR)	40 - 100 Mbps (VBR)
<b>Frame Rate</b>	29.97 23.976 24 59.94 **native frame rate is preferred	29.97 23.976 24 59.94 **native frame rate is preferred	29.97 23.976 24 59.94 **native frame rate is preferred
<b>GOP Structure</b>	N/A	Closed GOP	N/A
<b>Chroma</b>	4:2:0	4:2:0, 4:2:2	4:2:2
<b>Interlacing</b>	Progressive Interlaced Upper First	Progressive Interlaced Upper First	Progressive Interlaced Upper First
<b>Aspect Ratio</b>	16:9 1:1 4:5 9:16 (See frame sizes below)	16:9 1:1 4:5 9:16 (See frame sizes below)	16:9 1:1 4:5 9:16 (See frame sizes below)
<b>Audio Type</b>	LPCM	MPEG-1 Layer 2	LPCM

For questions on spots, contact Comcast Technology Solutions  
Customer Support at 855-858-1942

## ACCEPTED HORIZONTAL FRAME SIZES



FRAME SIZE	ASPECT RATIO	FRAME RATE
1920x1080	16:9	29.97, 23.976, 24
1280x720	16:9	29.97, 23.976, 59.94
1248x702	16:9	59.94
1080x1080	1:1	29.97, 23.976, 24
720x480/486	4:3/3:2	29.97, 23.976, 24

## ACCEPTED VERTICAL FRAME SIZES



FRAME SIZE	ASPECT RATIO	FRAME RATE
1080x1920	9:16	29.97, 23.976, 24
1536x1920	4:5	29.97, 23.976, 24
1080x1350	4:5	29.97, 23.976, 24
946x1080	4:5	29.97, 23.976, 24
854/864x1080	4:5	29.97, 23.976, 24
608x1080	9:16	29.97, 23.976, 24
540x960	9:16	29.97, 23.976, 24

## DIGITAL AUDIO

	PCM	MPEG
Encoding Type	LPCM	MPEG-1 Layer 2
Number of Channels	2- Stereo	2 - Stereo
PIDs/Channel per PID	1/2	1/2
Channel 1	Stereo Left	Stereo Left
Channel 2	Stereo Right	Stereo Right
Bit Depth	16	16
Bit Rate	1536 Kbps	384 Kbps
Sampling Rate	48KHz	48KHz
Instantaneous Peak Audio Max	-8dBFS	-8dBFS
Average Peak Audio Max	-10dBFS	-10dBFS
Average Levels	-20dBFS	-20dBFS

## CAD DIGITAL DESTINATIONS

DESTINATION	CALL LETTER
ABC Connected TV, Full Episode Player	ABC-CTV, ABC-FEP
Amazon Connected TV, OLV	AMAZON-CTV, AMAZON-OLV
CBS Connected TV, Full Episode Player, CBS Sports Full Episode Player	CBS-CTV, CBS-FEP, CBSSPORTS-FEP
ESPN Full Episode Player	ESPN-FEP
Facebook	FACEBOOK
Flashtalking OLV	FLASHTALKINGOLV
Fox Full Episode Player	FOX-FEP
FreeWheel OLV	FREEWHEELOLV
Google	GOOGLE
Gray Media Full Episode Player	GRAYMEDIA-FEP
GumGum	GUMGUM
Hulu Connected TV, OLV	HULU-CTV, HULUOLV
Innovid	INNOVIDOLV
Instagram	INSTAGRAM
Katz Connected TV, Full Episode Player	KATZ-CTV, KATZ-FEP
MLB Network	MLBOLV
NBC Connected TV, Full Episode Player	NBC-FEP, NBCU-FEP, NBC-CTV
Pandora	PANDORALOV
Paramount Plus Full Episode Player	PARAMOUNTPLUS-FEP
Pinterest	PINTERESTOLV
Precision	PRECISIONOLV
Premion Full Episode Player	PREMION-FEP
Reddit	REDDITOLV
Roku	ROKUOLV
Samba	SAMBAOLV
Snapchat	SNAPCHATOLV
Spotify	SPOTIFYOLV
Teads	TEADS
Telemundo Connected TV, Full Episode Player	TELEMUNDO-CTV, TELEMUNDO-FEP
TikTok	TIKTOK
Twitter	TWITTEROLV

Univision Connected TV, Full Episode Player	UNIVISION-CTV, UNIVISION-FEP
Viacom Full Episode Player	VIACOM-FEP
Video AMP	VIDEOAMPOLV
VuHaus	VUHAUSOLV
YouTube	YOUTUBE-CTV