



CopyCentral
Digital File Specification

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Version **1.9**

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2 VERSION CONTROL

Version	Date	Name	Comments
1.0	18/8/2014	James Morgan-Yates	1 st Version
1.1	19/8/2014	James Morgan-Yates	Added section on line height
1.2	4/2/2015	James Morgan-Yates	Added removal of support for MPEG1 container format
1.3	26/5/2015	James Morgan-Yates	Minor tweaks to supported HD resolutions
1.4	14/7/2015	James Morgan-Yates	Correction of typo to specify MPEG 2 Layer II audio
1.4.1	22/7/2015	James Morgan-Yates	Additional of Compressor specific settings.
1.4.2	17/8/2015	James Morgan-Yates	Added little endian to PCM audio spec
1.4.3	2/12/2015	James Morgan-Yates	Added definition of pixel aspect ratio
1.5	17/03/2015	Mitch Barker	Added clock slate specifications and requirements
1.6	14/6/2017	James Morgan-Yates	Added section on Audio Description
1.7	11/1/2018	Greg Clement	Updated Screen shots for Compressor V4.4 and added new screen shots for Mpeg2 HD
1.8	30/04/2019	Greg Clement	Added Adobe Media Encoder Pro Res HQ video and audio specification.
1.9	05/11/2019	Greg Clement	Updated Audio Description section

3 INTRODUCTION

This document outlines the various file formats that CopyCentral supports for the upload of TV commercials for copy clearance.

CopyCentral is flexible and we have included support for broadcast master formats that are used for delivery to Broadcasters

All files uploaded to CopyCentral will be testing for Flashing and PSE triggers in line with Rule 2.12 and annex 1 of Ofcom Guidance Notes Section2: Harm and Offence. See <http://stakeholders.ofcom.org.uk/binaries/broadcast/guidance/831193/section2.pdf> for more information.

Files will then go through Ingest Checks at Clearcast where all “Supers” are checked for minimum text height and duration of hold. See <http://kb.clearcast.co.uk/wiki/117/supers-general> for more information and Section on Supers Height below.

4 SUPERS HEIGHT

Every video that is uploaded is passed through ingest checks. Here any super-imposed text is checked for both the duration of hold and height of the text to ensure it confirms with the BCAP code, see <http://kb.clearcast.co.uk/wiki/117/supers-general> for more information.

The minimum height of text required is dependent on the resolution of the file:

Resolution	Solid Background (lines)	Non Solid Background (lines)
720 * 576 (SD)	14	16
1024 x 576	14	16
1920 x 1080	26	30

Note: 1280 x 720 is not supported by CopyCentral.

5 CLOCK NUMBER FORMATTING

The clock number is a unique identification number. The final version of each commercial must begin with a full countdown clock, and must also show the name of the product, the commercial unique identification number and the commercial length.

This unique identification number will be used to identify your ad by ourselves and the broadcasters airing it throughout the compliance process, through to transmission and post-transmission reporting. **Clearcast will allocate an agency code.** You will receive this code once your agency has registered for copy central access.

The clock number should be 15 characters long and follows the following formats.

5.1 LINEAR/VOD STANDARD

Agency Code	(3 alpha characters)
Terminator	/
Client Code	(2 alpha characters)
Product Code	(2 alpha characters)
Unique Id.	(3 numeric characters)
Terminator	/
Duration	(3 numeric characters)

Example QQQ/CLSU001/030



5.2 TEleshopping

For Commercials over 5 minutes

Agency Code	(3 alpha characters)
Terminator	/
Client Code	(2 alpha characters)
Product Code	(2 alpha characters)
Unique Id.	(2 numeric characters)
Terminator	/
Duration	(4 numeric characters)
Example	QQQ/CLSU01/1800

6 COMMERCIALS LAYOUT / FORMAT

For TVCs delivered to Copycentral for Clearance we require the following elements to be laid out within the file:

Time-code (HH:MM:SS:FF)	Duration (HH:MM:SS:FF)	Picture	Sound
09:59:50:00	00:00:07:06	Ident Clock or Slate	Silence
09:59:57:06 (optional)	00:00:00:02	2 frames peak white	1 frame tone
09:59:57:06	00:00:02:19	Black	Silence
10:00:00:00	----	Start	start
end of Commercial	00:00:10:00	Freeze hold	Fade or cut to silence by end of commercial

7 FILES CONTAINING AUDIO DESCRIPTION

To ensure that the audio description (AD) is included in the clearance process the file uploaded to CopyCentral must be of a particular format otherwise CopyCentral will refuse to transcode and thus reject the file. Clearcast need to be able to consume the advert both without AD and with AD.

To allow this to happen the audio tracks should be laid in the following manner in the file uploaded to CopyCentral.

- 2 Tracks of Audio ONLY (CH1&2)
- Channel 1 - Audio Description (Narration)
- Channel 2 – Original stereo audio mixed down to Mono.

Note: The file uploaded to CopyCentral must only contain 2 audio channels. If the file doesn't include the AD narration as described above then it is not possible for the TVC to be cleared for AD.

8 BROADCAST MASTERS

CopyCentral supports most delivery formats (Broadcast Masters) used by companies in the UK who can deliver your content to broadcasters on your behalf. Supported formats are listed below; we accept both SD and HD.

8.1 HD FORMATS

We support several HD broadcast master formats which must be:

- 1) 1920x1080
- 2) 25 frames per second
- 3) Interlaced (Top Field first)
- 4) 4:2:2 colour sampling
- 5) 16:9 Aspect Ratio, (1:1 Pixel Aspect Ratio)
- 6) PCM Audio 2 channel (Stereo) 48Khz 16/24 bits, Little Endian (LE)

8.1.1 HD MPEG2

- Container: MXF (OP1a)
- Video: MPEG2 (IFrame Only)
- Video Profile: 422P@HL
- Bitrate: CBR @ 100Mbps

8.1.2 APPLE PRORES

- Container: MOV (QuickTime)
- Video: ProRes 422 HQ
- Video Profile: High Quality

8.1.3 AVID DNxHD

- Container: MXF (OP1a)
- Video: DNxHD (VC-3)
- Bitrate: 185Mbps

8.2 SD FORMATS

We support several SD broadcast master formats which must be:

- 1) 720 * (576/608)
- 2) 25 frames per second
- 3) Interlaced (Top Field first)
- 4) 4:2:2 colour sampling
- 7) 16:9 FHA Aspect Ratio, (1:1 Pixel Aspect Ratio)

8.2.1 MPEG2

- Container: MPEG program stream (PS)
- Video: MPEG2
- Video Profile: 422@Main, 422@High
- Bitrate: CBR @ 50Mbps
- Audio: MPEG 2 Layer II, CBR@384Kbps, 2 channel Stereo, 48Khz 16/24 bits

8.2.2 APPLE PRORES

- Container: MOV (QuickTime)
- Video: ProRes 422
- Video Profile: Normal
- Audio: PCM, 2 channel Stereo, 48Khz 16/24 bits, Little Endian (LE)

8.2.3 IMX50

- Container: MOV (QuickTime), MXF (OP1a)
- Video: IMX50
- Bitrate: 50Mbps
- Audio: PCM, 2 channel Stereo, 48Khz 16/24 bits, Little Endian (LE)

9 NON-BROADCAST MASTERS

We also accept the following non-broadcast master formats. Whilst these files are smaller meaning they are easier and quicker to upload, due to the reduction in quality we may ask for a valid flashing certificate for the actual delivered broadcast master at time of clearance.

We support several non-broadcast master formats which must be:

- 1) Video resolution: 1920x1080 (HD), 720x(576/608), 1024x576
- 2) FrameRate: 25 frames per second
- 3) Interlaced (Top Field first)
- 4) 4:2:0 or 4:2:2 colour sampling
- 8) Aspect Ratio: 16:9 (Full Height Anamorphic for SD) , (1:1 Pixel Aspect Ratio)
- 5) Container format:
 - a. MOV (QuickTime)
 - b. MPEG4
 - c. MPEG2 (***MPEG 1 container format is not supported***)
- 6) Video Codec must be one of:
 - a. MPEG2
 - i. MP@ML (SD) 8Mbps or greater
 - ii. MP@HL (1920x1080 only) 12Mbps or greater
 - iii. 422P@HL (1920x1080 only) 16Mbps or greater
 - b. H.264 (AVC), Main Profile Level 3.1 and greater:
 - i. SD: 5Mbps or greater
 - ii. HD: 8Mbps or greater
- 7) Audio can be 1 of the following:
 - a. PCM Audio 2 channel (Stereo) 48Khz 16/24 bits, Little Endian (LE)
 - b. MPEG 2 Layer II, CBR@384Kbps, 2 channel Stereo, 44.1/48Khz 16/24 bits
 - c. AAC-LC 128Kbps, 2 channel Stereo, 44.1/48Khz 16/24 bits

10 APPENDIX 1 – COMPRESSOR SETTINGS

The following section gives settings, tested in Compressor V4.4, for some of the file types.

10.1 PRO-RES 422 SD

10.1.1 VIDEO

The screenshot shows the 'Video' tab of the Compressor V4.4 settings for 'CC Pro Res 422 SD'. The interface is dark-themed with white text. At the top, there are three tabs: 'General', 'Video', and 'Audio', with 'Video' selected. Below the tabs, there is a header section for 'CC Pro Res 422 SD' with a magnifying glass icon. This section includes the file format 'QuickTime Movie', an estimated file size of '19.04 GB/hour of source', and video specifications: 'Video: Apple ProRes 422, 720 x 576 (1024 x 576), Top First, 25 fps, Rec. 601 (PAL)'. Audio specifications are listed as 'Audio: Linear PCM, 16-bit Integer (Little Endian), Stereo (L R), 48.000 kHz'. Below this is a checkbox for 'Enable video pass-through' which is unchecked. The 'Video Properties' section contains several dropdown menus and input fields: 'Frame size' is set to '720 x 576' with individual fields for '720' and '576'; 'Pixel aspect ratio' is 'PAL CCIR 601 (16:9)' with a value of '0.7031'; 'Frame rate' is '25' with '25' and 'fps' shown; 'Field order' is 'Top First'; 'Color space' is 'Rec. 601 (PAL)'. There is a checked checkbox for 'Add clean aperture information' and a '360° metadata' dropdown set to 'Automatic'. A 'QuickTime settings' section has a 'Change...' button and 'Apple ProRes 422' selected. The 'Cropping & Padding' section has a 'Cropping' dropdown set to 'Custom' and four input fields for 'Top', 'Bottom', 'Left', and 'Right' all set to '0'. The 'Padding' dropdown is set to '16x9 1.78:1' and also has four input fields for 'Top', 'Bottom', 'Left', and 'Right' all set to '0'. The 'Quality' section includes a 'Resize filter' dropdown set to 'Anti-aliased (Best)', a 'Retiming quality' dropdown set to 'Best (Motion Compensated)', a checked checkbox for 'Adaptive details', and two sliders for 'Anti-aliasing level' and 'Details level', both set to '0'. There is an unchecked checkbox for 'Dithering' and an 'Add Video Effect' dropdown at the bottom.

General Video Audio

CC Pro Res 422 SD

QuickTime Movie

Estimated file size: 19.04 GB/hour of source

Video: Apple ProRes 422, 720 x 576 (1024 x 576), Top First, 25 fps, Rec. 601 (PAL)

Audio: Linear PCM, 16-bit Integer (Little Endian), Stereo (L R), 48.000 kHz

Enable video pass-through

Video Properties

Frame size: 720 x 576 720 576

Pixel aspect ratio: PAL CCIR 601 (16:9) 0.7031

Frame rate: 25 25 fps

Field order: Top First

Color space: Rec. 601 (PAL)

Add clean aperture information

360° metadata: Automatic

QuickTime settings: Change... Apple ProRes 422

Cropping & Padding

Cropping: Custom

Top: Bottom: Left: Right: 0 0 0 0

Padding: 16x9 1.78:1

Top: Bottom: Left: Right: 0 0 0 0

Quality

Resize filter: Anti-aliased (Best)

Retiming quality: Best (Motion Compensated)

Adaptive details


Anti-aliasing level: 0

Details level: 0

Dithering

Add Video Effect

General Video **Audio**

 **CC Pro Res 422 SD**
QuickTime Movie
Estimated file size: 19.04 GB/hour of source
Video: Apple ProRes 422, 720 x 576 (1024 x 576), Top First, 25 fps, Rec. 601 (PAL)
Audio: Linear PCM, 16-bit Integer (Little Endian), Stereo (L R), 48.000 kHz

Enable audio pass-through

Audio Properties

Channel layout: **Stereo (L R)** ▾

Sample rate: **48** ▾ kHz

Sample size: **16** ▾ bits

QuickTime settings: **Change...** Linear PCM

Add Audio Effect ▾

10.2 PRO-RES HQ

10.2.1 VIDEO

The screenshot shows the 'Video' tab of a video encoding interface. At the top, there are three tabs: 'General', 'Video' (selected), and 'Audio'. Below the tabs, a summary box displays the following information:

- CC ProRes 422HQ** (with a magnifying glass icon)
- QuickTime Movie
- Estimated file size: 83.61 GB/hour of source
- Video: Apple ProRes 422 HQ, 1920 x 1080, Top First, 25 fps, Rec. 709
- Audio: Linear PCM, 24-bit Integer (Little Endian), Stereo (L R), 48.000 kHz

Below the summary box is a checkbox labeled 'Enable video pass-through' which is currently unchecked.

The 'Video Properties' section contains the following settings:

- Frame size: 1920 x 1080 (with separate fields for 1920 and 1080)
- Pixel aspect ratio: Square (with a value of 1.0000)
- Frame rate: 25 (with 'fps' label)
- Field order: Top First
- Color space: Rec. 709
- 360° metadata: Automatic
- Codec: Apple ProRes 422 HQ
- Profile: No Value
- Entropy mode: No Value
- Data rate: Computer playback
- Key Frame Interval: Automatic
- Quality: A slider set to the maximum level.
- Multi-pass:
- Frame Reordering:
- Preserve Alpha:
- Add clean aperture information:

The 'Cropping & Padding' section contains the following settings:

- Cropping: Custom (with a dropdown menu)
- Top: 0, Bottom: 0, Left: 0, Right: 0
- Padding: 16x9 1.78:1 (with a dropdown menu)
- Top: 0, Bottom: 0, Left: 0, Right: 0

The 'Quality' section contains the following settings:

- Resize filter: Anti-aliased (Best) (with a dropdown menu)
- Retiming quality: Best (Motion Compe...) (with a dropdown menu)
- Adaptive details:
- Anti-aliasing level: A slider set to 0
- Details level: A slider set to 0
- Dithering:

