Specific Requirements Digital Delivery

1. **Delivery of Digital Media**

MTG London requires that Digital material will be provided as per the below specification

Delivery of any content in a format other than the below specification shall have to be approved beforehand by MTG London. Any such request shall be submitted at least two weeks before the planned delivery date

2. **Delivery Specification – *High Definition Files (Preferred)***

Files will be delivered to MTG London complying with the Sony XDCam HD422 50Mbs format

Container
Format: MXF (Media Exchange Format)
Format Codec: XDCAM HD422
Profile: OP1a
Format settings: MXF files must be closed/complete
Duration: All material elements must be of exactly the same duration
Timecode: Synchronous to recorded video
Essence allocation: Video must be the first essence
Auxiliary data essences are not permitted

Video Essence
The video information within the file must conform to ITU-R BT.709, at 1125 total lines with active video being 1920 samples horizontally and 1080 lines vertically.
Format: MPEG2 Compression: 4.2.2@high
Scan type: Interlaced only
Frame rate: 25fps
Bitrate: 50Mb/s
Bitrate mode: CBR / Constant Bitrate
Field order: UFF / Upper (Top) Field First Bit depth: 8bit
Chroma subsampling: 4:2:2
GOP structure: longGOP / N=12

The following criteria also apply:

- Luminance level should not exceed 0.70 volts
- Chrominance level should not exceed 0.70 volts during bars and 0.84 volts in programme
- The video track will start at first frame of video and finish at last frame of video.

Audio Essence
The digital audio contained in the file shall be locked to video, and conform to EBU R128 for loudness and headroom. Reference level should be -18db down from the maximum full-scale digital level (DBFS) allowed by the AES/EBU digital audio standard of the tape machine.
Therefore reference = -18DBFS.

Format: PCM
Audio mode: 1 Channel per file
Bitrate mode: CBR / Constant Bitrate
Sampling rate: 48.0 kHz
Bit depth: 24bit

The following criteria also must also be considered:

- All multiple track recordings must be properly phased and separation shall correspond properly with visual separation
- There should be no discernible aberration in the lip sync. Audio sync relative to video frame shall not deviate by more than -1/+1 frame.

3. **Delivery Specification – *Standard Definition Files***

Files will be delivered to MTG London complying with IMX30 422 30Mbs format

Container
Format: MXF (Media Exchange Format)
Format Codec: IMX
Profile: OP1a
Format settings: MXF files must be closed/complete
Duration: All material elements must be of exactly the same duration
Timecode: Synchronous to recorded video
Essence allocation: Video must be the first essence
Auxiliary data essences are not permitted

Video Essence
The video information within the file must conform to ITU-R BT.601, with active video being 720 samples horizontally and 625 lines vertically.

Format: MPEG2 Compression: 4.2.2@main
Scan type: Interlaced only
Frame rate: 25fps
Bitrate: 30Mb/s
Bitrate mode: CBR / Constant Bitrate
Field order: UFF / Upper (Top) Field First
Bit depth: 8bit
Chroma subsampling: 4:2:2

The following criteria also apply:

- Luminance level should not exceed 0.70volts
- Chrominance level should not exceed 0.70 volts bars and 0.84 volts in programme
- The video track will start at first frame of video and finish at last frame of video.

Audio Essence

The digital audio contained in the file shall be locked to video, and conform to EBU R128 for loudness and headroom. Reference level should be -18db down from the maximum full-scale digital level (DBFS) allowed by the AES/EBU digital audio standard of the tape machine.
Therefore reference = -18DBFS.

Format: PCM
Audio mode: 1 Channel per file
Bitrate mode: CBR / Constant Bitrate
Sampling rate: 48.0 kHz
Bit depth: 24bit

The following criteria also must also be considered:

- All multiple track recordings must be properly phased and separation shall correspond properly with visual separation
- There should be no discernible aberration in the lip sync. Audio sync relative to video frame shall not deviate by more than -1/+1 frame.

4. Audio Configuration

High Definition files

Track one: Front Left
Track two: Front Right
Track three: Center
Track four: Low frequency effects
Track five: Left Surround
Track six: Right Surround
Track seven: Stereo mix left
Track eight: Stereo mix right
Track nine: M&E stereo left
Track ten: M&E stereo right

Standard Definition files

Track one: Stereo mix left
Track two: Stereo mix right
Track three: M&E stereo left
Track four: M&E stereo right

5. Order of Recording (HD and SD)

Long form material must conform to the specification below:

Timecode	Duration	Video	Audio 1	Audio 2	Audio 3	Audio 4
09:58:30:00	80"	100% Colour bars	1 KHz	1 KHz	1 KHz	1 KHz
09:59:50:00	7"	Clock or Ident	Silence	Silence	Silence	Silence
09:59:57:00	3"	Black	Silence	Silence	Silence	Silence
10:00:00:00	Programme	Programme	Refer to point 4	Refer to point 4	Refer to point 4	Refer to point 4

6. Textless Elements

MTG cannot accept burnt-in subtitles of dialogue in-vision, but does require opening titles, end credits, lower thirds/name straps/captions and any other on-screen graphical elements that occur during the Programme(s) to remain.

All files shall be supplied as international texted versions in original language (unless specified by MTG) with textless elements at tail, or on separate named Textless file.

The textless elements should be the same technical specifications as texted.

7. Labelling

High definition files:

Programme title_series#_episode#_duration (hhmmss)_aspect ratio_HD

Standard definition files:

Programme title_series#_episode#_duration (hhmmss)_aspect ratio

Textless files:

Programme title_series#_episode#_duration (hhmmss)_aspect ratio_HD _textless

If MTG London agrees to receive discrete audios separately, then these should be conformed to the video file, & adhere to the following naming:

Programme title_series#_episode#_L

Programme title_series#_episode#_R

Programme title_series#_episode#_C

Programme title_series#_episode#_LFE/SUB

Programme title_series#_episode#_Ls

Programme title_series#_episode#_Rs

8. **Flashing Images / Visual Patterns - Photosensitive Epilepsy (PSE)**

Flickering or intermittent lights and certain types of repetitive visual patterns can cause serious problems for some viewers who are prone to photosensitive epilepsy and should therefore be avoided.

The Ofcom guidelines can be found at:-

http://stakeholders.ofcom.org.uk/binaries/broadcast/guidance/812612/section2.pdf pgs 14-17

9. **Full MTG Technical Specifications** are available on request.

10. **Tape Delivery -** Tape specification is available on request.

11. **Contact details**

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