



File Delivery Specifications for Nine / International / SVOD:

These combined technical specifications list the five versions of the programme which shall be supplied:

1. Nine local/domestic version: ProRes.
2. Nine local/domestic version: .mxf XD-CAM.
3. International Seamless version: ProRes.
4. International Seamless version: low res proxy .mp4 (720p x 1280)
5. SVOD Seamless version: trimmed – no board/textless – programme only.

All programme versions shall be supplied via an agreed file delivery mechanism, or on a physical hard drive. Hard drive to be NTFS formatted, and USB 3.0 speed is preferable. A USB-powered drive is also preferred. The hard drive must contain external labelling of contents.

Common Video Requirements:

The Product will be of the highest quality suitable for HDTV television broadcast without further processing of picture or sound as to which the Licensee will be the sole judge.

High Definition is a 1080 active line, 1920 pixel wide, 25 frames per second, 2:1 interlaced signal produced in agreement with the specifications of ITU-R BT.709.

Any originated 24 frame (23.98p) product shall be converted to 25 (50i) by means of a speed change, not a standards conversion using frame interpolation or motion compensation.

Any native 59.94i product shall be converted to 50i by a Ph.C or motion vector compensated standards conversion.

If the 59.94i material essentially contains an embedded 23.98 fps programme via 3:2 pull-down, then that 23.98 frame product must be first extracted from the 59.94i master via 3:2 cadence detection & removal. Then the resulting 23.98 fps programme can be speed changed to 25 (50i) in the normal required method.

In addition to the HD versions of the programme, Nine may request UHD TV (4K) versions, if available. Format to be mutually agreed upon. See FreeTV OP73 for more details on UHD. <http://www.freetv.com.au/>

Common Audio Requirements:

- Audio Loudness on the Stereo soundtrack shall measure -24LKFS. True Peak (TP) not to exceed -2dB TP.
- Audio Loudness on the 5.1 soundtrack shall measure -24LKFS. True Peak (TP) not to exceed -2dB TP.

Compliance to -24LKFS using only the *dialog* component of the mix is acceptable and encouraged, using the 'Dialog Intelligence' feature of many loudness correction devices.

To this aim, a suitable BS.1770-4 compliant loudness meter will be used as the measuring instrument. See OP59 for more detail. <http://www.freetv.com.au/>

Correct audio sync is to be maintained at all times with the video.

1. Nine Local/Domestic Version - ProRes:

The programme shall be supplied in High Definition (HD), as the TEXTED breaks version, with any Textless material at the tail of the programme, 1 minute after end credits. (See below for examples of Texted & Textless)

The HD file format shall be the **1080/50i ProRes422 (HQ)** 220 Mbit/sec codec, *with up to* 16 PCM audio tracks, supplied as a .mov file. The 16:9 Aspect Ratio image shall occupy full screen height, and use interlaced scan, Upper Field First, even if the production format is 25p.



AUDIO

All audio tracks shall be present as individual mono audio essences, not as stereo pairs.

The audio configuration shall be a Stereo Full Mix on tracks 1 & 2 ($L_t R_t$ or $L_o R_o$), Stereo Music And Effects (M+E) on tracks 3 & 4 and a 5.1 Surround Sound Full Mix on tracks 5 to 10 inclusive. *If available*, 5.1 M+E on tracks 11 to 16 is desirable.

Any supplied 5.1 audio shall be mixed in such a way that it will create an acceptable downmix to 2.0 stereo L_t and R_t if required, using industry standard downmix parameters.

- The audio track layout for this programme configuration shall be:

1.	Stereo Left Full Mix
2.	Stereo Right Full Mix
3.	M+E Stereo Left
4.	M+E Stereo Right
5.	5.1 Front Left
6.	5.1 Front Right
7.	5.1 Centre
8.	5.1 LFE*
9.	5.1 Left Surround
10.	5.1 Right Surround
11.	M+E 5.1 Front Left
12.	M+E 5.1 Front Right
13.	M+E 5.1 Centre
14.	M+E 5.1 LFE*
15.	M+E 5.1 Left Surround
16.	M+E 5.1 Right Surround

**Note on LFE use/misuse:*

The LFE Channel should be used as intended; as an occasional low frequency special effects channel only, and not simply for bass that is filtered off from the main channels.

An ID/Clapper Board should be present at the head of the file for identification purposes, with the title of the programme/episode number, *exactly as it appears on-screen*. In addition, the Clapper Board shall include:

- Duration of Programme.
- Audio Status and Track Layout
- Version (Local / Domestic)

Required Layout/Timecode:

00:58:00:00 – Start of file: [Black Video / Mute Audio]

00:58:30:00 – Colour Bars (75%) & 1 kHz Audio Tone (All relevant tracks which contain audio, -20dB)

00:59:30:00 – ID/Clapper Board

00:59:50:00 – Countdown

00:59:58:00 – Black

01:00:00:00 – Start Of Programme

If programme is already compiled into segments (ie Domestic Version), then the head of each segment shall have a 10 second countdown. Each segment shall start on an even timecode number (ie Segment two might start at T/C 01:09:00:00). There should be a minimum 20 seconds of black between segments, not including countdown.

Compiled programmes are required to contain a 3-5 second texted playoff, which can consist of a still or moving graphic, listing the title of the programme, or title & episode of the programme if appropriate.

‘C’ classified programmes must also contain 5 sec. playons at the start of segments as well as playoffs.



2. Nine Local/Domestic Version - .mxf XD-CAM:

An .mxf encoded version of the local/domestic programme is to be supplied *in addition to* the ProRes422 version, to facilitate ease and expediency when content is delivered to the National Playout Centre (NPC). [See separate .mxf XD-CAM 422 HD 1080/50i delivery specifications.]

The main difference from the ProRes version 1 above is the number of audio channels and their layout, listed below:

- The track layout of the .mxf version shall be:

1. Stereo Left
2. Stereo Right
3. 5.1 Front Left
4. 5.1 Front Right
5. 5.1 Centre
6. 5.1 LFE
7. 5.1 Left Surround
8. 5.1 Right Surround

3. International Seamless version – ProRes

The programme shall be supplied in High Definition (HD), as the TEXTED seamless version, with any Textless material at the tail of the programme, 1 minute after end credits. (See below for examples of Texted & Textless)

The HD file format shall be the **1080/50i ProRes422 (HQ)** 220 Mbit/sec codec, *with up to* 16 PCM audio tracks, supplied as a .mov file. The 16:9 Aspect Ratio image shall occupy full screen height, and use interlaced scan, Upper Field First, even if the production format is 25p.

AUDIO

All audio tracks shall be present as individual mono audio essences, not as stereo pairs.

The audio configuration shall be a Stereo Full Mix on tracks 1 & 2 (L_t R_t or L_o R_o), Stereo Music And Effects (M+E) on tracks 3 & 4 and a 5.1 Surround Sound Full Mix on tracks 5 to 10 inclusive. *If available*, 5.1 M+E on tracks 11 to 16 is desirable.

Any supplied 5.1 audio shall be mixed in such a way that it will create an acceptable downmix to 2.0 stereo L_t and R_t if required, using industry standard downmix parameters.

- The audio track layout for this programme configuration shall be:

1. Stereo Left Full Mix
2. Stereo Right Full Mix
3. M+E Stereo Left
4. M+E Stereo Right
5. 5.1 Front Left
6. 5.1 Front Right
7. 5.1 Centre
8. 5.1 LFE*
9. 5.1 Left Surround
10. 5.1 Right Surround
11. M+E 5.1 Front Left
12. M+E 5.1 Front Right
13. M+E 5.1 Centre
14. M+E 5.1 LFE*
15. M+E 5.1 Left Surround
16. M+E 5.1 Right Surround

**Note on LFE use/misuse:*

The LFE Channel should be used as intended; as an occasional low frequency special effects channel only, and not simply for bass that is filtered off from the main channels.

An ID/Clapper Board should be present at the head of the file for identification purposes, with the title of the programme/episode number, *exactly as it appears on-screen*. In addition, the Clapper Board shall include:

- Duration of Programme.
- Audio Status and Track Layout
- Version (International / Seamless)



Required Layout/Timecode:

00:58:00:00 – Start of file: [Black Video / Mute Audio]
00:58:30:00 – Colour Bars (75%) & 1 kHz Audio Tone (All relevant tracks which contain audio, -20dB)
00:59:30:00 – ID/Clapper Board
00:59:50:00 – Countdown
00:59:58:00 – Black
01:00:00:00 – Start Of Programme

4. International Seamless version: low res proxy .mp4 (720p x 1280)

A proxy file of the International Seamless version shall be provided, as .mp4 with a resolution of 720 x 1280, progressive scan. Frame rate of either 25p or 50p is acceptable. Video bitrate can be in the range of 4 Mb/s. The audio track shall be the stereo full mix and can be 160 kb/s AAC.

5. SVOD Seamless version

A trimmed 'Picture to Picture' version suitable for Subscription Video On Demand services shall be supplied. There shall be only 1 second of black at the start of the file before programme start, and 1 second of black after programme finish. No breaks, ID/Clapper Boards, test signals or textless material shall be supplied on this SVOD version.

The programme shall be supplied in High Definition (HD), as the TEXTED version.

The HD file format shall be the **1080/50i ProRes422 (HQ)** 220 Mbit/sec codec, with 8 PCM audio tracks, supplied as a .mov file. The 16:9 Aspect Ratio image shall occupy full screen height, and use interlaced scan, Upper Field First, even if the production format is 25p.

AUDIO

All audio tracks shall be present as individual mono audio essences, not as stereo pairs.

The audio configuration shall be a Stereo Full Mix on tracks 1 & 2 (L_t R_t or L_o R_o), and a 5.1 Surround Sound Full Mix on tracks 3 to 8 inclusive.

Any supplied 5.1 audio shall be mixed in such a way that it will create an acceptable downmix to 2.0 stereo L_t and R_t if required, using industry standard downmix parameters.

- The audio track layout for this programme configuration shall be:

1. Stereo Left Full Mix
2. Stereo Right Full Mix

3. 5.1 Front Left
4. 5.1 Front Right
5. 5.1 Centre
6. 5.1 LFE*
7. 5.1 Left Surround
8. 5.1 Right Surround

**Note on LFE use/misuse:*

The LFE Channel should be used as intended; as an occasional low frequency special effects channel only, and not simply for bass that is filtered off from the main channels.

Required Layout/Timecode:

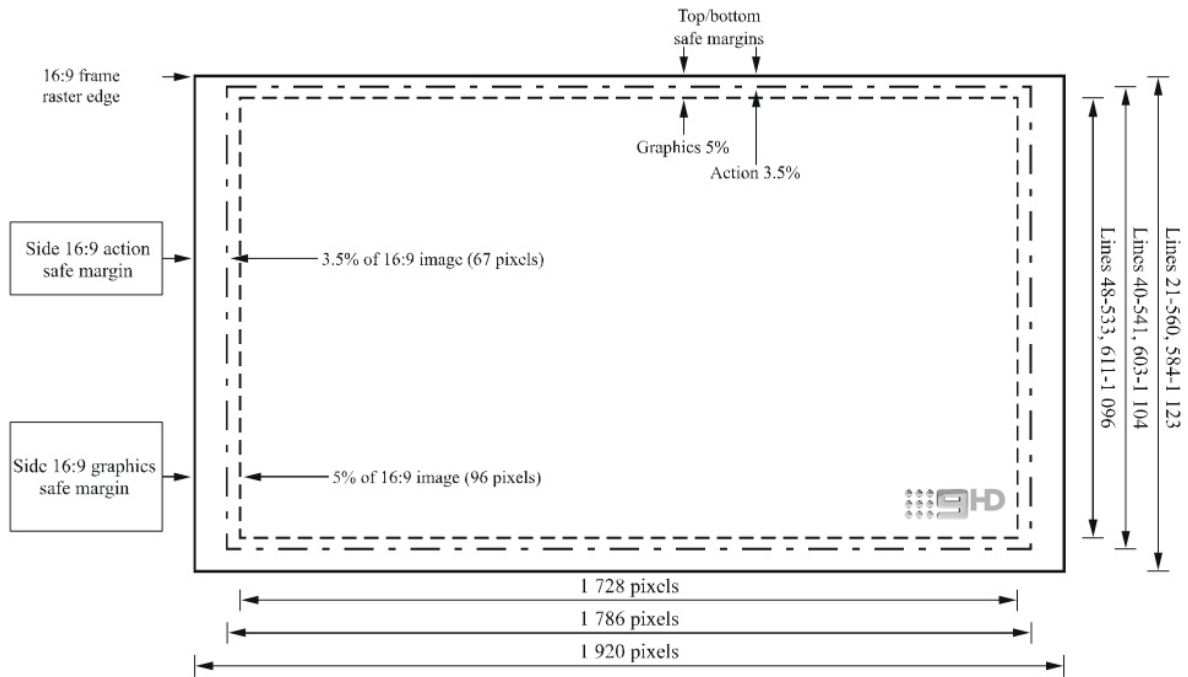
00:59:59:00 – Start of file: [Black Video / Mute Audio]
01:00:00:00 – Start Of Programme



Graphic / Action Safe Areas:

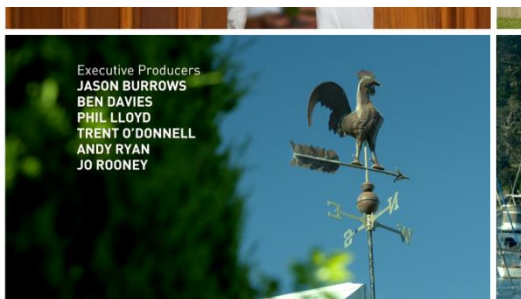
16:9 programmes should preferably be 16:9 graphic/action safe, but 14:9 graphic/action safe, or 4:3 graphic/action safe is also acceptable. Below is the 16:9 HD graphic/action safe area chart.

16:9 Graphic / Action Safe Area Chart:

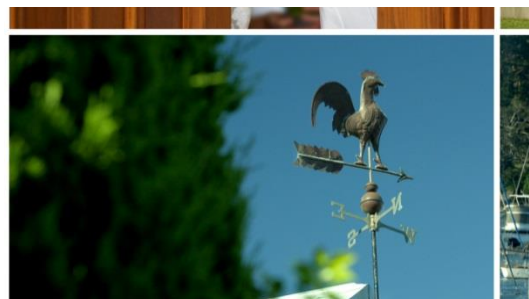


- Please note the position of the 9 HD Watermark in the lower right corner of image, and avoid placing text supers in that position.

Texted/Textless example frames:



TEXTED



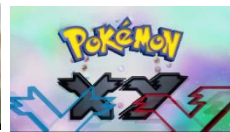
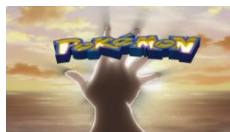
TEXTLESS



Texted Playoff examples:



Animated Texted Playoff example:



Please direct any questions on these technical specifications to:

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