PROGRAM DELIVERY

TECHNICAL SPECIFICATION
2025 DOMESTIC VERSION 1.0

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1 OVERVIEW

This Network Ten Pty Limited ABN 91 052 515 250 ('Network 10) document outlines all the technical and delivery requirements associated with a program that has been commissioned for transmission in Standard Definition (SD) and High Definition (HD) on the 10 network being the channels currently known as "10", "10 Bold" and "10 Peach"

All program content delivered to Network 10 will undergo a Quality Control process. Content that fails to abide by the standards and specifications noted in the following document may be rejected and returned to the supplier for correction. Network 10 reserves the right to manipulate metadata for program compliance purposes as specified by Free TV Australia.

2 SPECIFICATIONS FOR DELIVERY

2.2 VIDEO

2.2.1 Format

Programs are to be packaged in a single MXF wrapper containing compressed video, audio and ancillary metadata using the 'Operational Pattern 1a' (SMPTE 378:2004). The below contains specifications for both Standard Definition (SD) and High Definition (HD).

For Standard Definition, video is to be encoded using the IMX50 compression: MPEG-2 XDCAM 422 Long GOP @50Mbp/s. The video format must be 576i50; 625 lines interlaced at 25fps, top field first, with a resolution of 720x576.

For High Definition, video is to be encoded using either HD AVC-Intra compression: VC3 1080i @120Mbp/s (DNxHD120) or XDCAM compression: MPEG-2 HD422 Long GOP @50Mbps (XDCAM HD 50). The video format must be 1080i50; 1080 lines interlaced at 25fps with a resolution of 1920x1080.

XDCAM MPEG HD422 Long GOP @50Mbps (XDCAM HD 50) is preferred.

2.2.2 Aspect Ratio

The primary format material is 16F16, filling a 16:9 screen vertically and horizontally without geometric mismatch. Sub-formats which can be viewed without distortion in 16F16 are permitted. In the case of the active picture ratio being 2.35:1 (21:9) or 1.85:1, the picture should be centered vertically between black bars in a 16:9 frame, filling the width of the frame with no geometric distortion.

2.2.3 Time Code

The file is to feature one continuous, ascending time code throughout the length of the file as defined by the Timecode Track in the material package (SMPTE ST 377-1:2011). First vision of the program is to commence at 01:00:00:00.

2.2.4 Illegal Colors

Illegal colours must not be present in the video signal. Video parameters must strictly comply with ITU R BT.709-5. Should it be found that a program does not comply with this specification; the program may be rejected for quality assurance purposes.

2.2.5 Photosensitive Epilepsy

Programs should not contain sequences of rapid flickering that may trigger photosensitive epileptic seizures in susceptible viewers.

2.2.6 On Screen Graphics

All on screen graphics must be contained within the 16:9 safe title zone. In addition to this, all graphics, including the opening and closing titles must comply with the specifications defined in the document specified below:

10.05.SPEC_Network Watermark Locations 2022 1.1

2.2.7 Picture Quality

For assurance purposes, a program will undergo a technical assessment where picture quality will be reviewed. The following summarizes parameters associated with image quality.

The picture image must be sharp, well lit and distinguishable. Free from digital compression artifacts, and excessive noise, the picture should not be grainy unless used sparingly for artistic effect.

There must be no visible contouring / artifacts caused by digital processing, and quantization noise must not be apparent. The program must be free of excessive black crushing and highlight compression, whilst the use of colour correction legalizers must not cause visible artifacts on screen. Colour renditions of skin tones must be realistic and continuous throughout unless used for an artistic effect.

The picture must be smooth and continuous, with no break of image during motion. Staggering and jagged movement, a result of field dominance issues, should not be present in the program.

There should be no visual disturbances or moiré effects within elements of fine detail i.e. shirts. There is to be no horizontal or vertical aliasing i.e. field or frame rate fluctuations.

2.3 AUDIO

2.3.1 Format

For both Standard Definition (SD) and High Definition (HD) programs, the coding of audio channels is PCM 24 bit @ 48 kHz.

2.3.2 Audio Channel Configuration

The minimum audio shall be a stereo pair (Lo and Ro). Where available, Dolby Surround (ProLogic II) encoded stereo pair (Lt & Rt) is preferred.

Archival product may be accepted with a stereo pair or Mono soundtrack.

Stereo recordings

Track 1 shall carry the left channel

Track 2 shall carry the right channel

If used:

Track 3 shall carry the M and E left

Track 4 shall carry the M and E right

If the M and E is a mono recording, it shall be carried on Track 3.

For a mono soundtrack, the program sound shall be dual recorded in phase on both tracks 1 and 2 (dual mono).

The true peak of recorded program level shall not exceed -2dBFS so long as it is monitored

on a true peak meter complying with recommendation ITU-R BS.1770 (see Free TV OP-59).

Program loudness must measure -24LKFS in accordance with FreeTV OP-59.

Where volume compression is used, it must be restricted to 6db of compression, and the onset of compression should not occur below 0VU.

Dynamic range should not be excessive.

Correct lip synchronization shall be maintained at all times.

Dolby Encoded Audio

The preferred audio requirement should be a Dolby Surround (ProLogic II) encoded stereo pair (Lt & Rt)

The Lt and Rt stereo pair shall have a combined dialogue loudness measuring -24LKFS on typical dialogue segments.

The true peak of recorded program level shall not exceed -2dBFS so long as it is monitored

on a true peak meter complying with recommendation ITU-R BS.1770 (see Free TV OP-59).

2.3.4 Audio Parameters

The following audio parameters apply to all program content broadcasted on Network 10 in compliance with (Free TV OP-59).

Parameter	Value
Audio reference tone level	-20 dBFS
Audio reference tone frequency	1kHz
Audio reference tone duration	Minimum 1 minute
Audio reference tone polarity	In-phase, all channels
Average loudness	-24 LKFS
Maximum true peak level	-2 dBTPS

2.3.5 Loudness Levels

Program loudness must measure an average level of -24 LKFS, as specified in (Free TV OP-59). The true peak of recorded program level shall not exceed -2dBFS, so long as it is monitored on a true peak meter complying with recommendation ITU-R BS.1770-3 .

Where volume compression is used, it must be restricted to 6db of compression, and the onset of compression should not occur below 0VU. The dynamic range should not be excessive and correct lip synchronization must be maintained at all times.

2.3.6 Sound Quality

Audio must be clear and distinguishable with minimum background noise. The sound must be free of spurious signals such as clicks, noise, hum and any analogue distortion.

Dialogue must be free of distortion, and distinguishable throughout the program unless manipulated for artistic effect.

Audio levels must be appropriate to the scene portrayed, suitable for domestic listening situations, whilst dynamic range must adhere to advised audio parameters (listed above).

Stereo audio must be appropriately balanced and free from phase differences, which cause audible cancellation in mono. Use of excessive compression in order to comply with audio peak level requirements should be avoided.

3 PROGRAM REQUIREMENTS

3.1 Duration and Segmentation

It is the standard policy of Network 10 for the first episode only of a new series that is broadcasting during primetime (1930 – 2130) to have a reduced break. The first segment should run anywhere between 13 minutes to 20 minutes. Executive Production will confirm which Programs require this structure with producers.

For all other program series content and feature films, refer to the following guidelines.

3.1.1 Program Series

30-Minute Programs

- 4 segments / 3 breaks

- Total duration: 21:30 minutes (min/max = 30 sec under/over)

- Maximum segment duration: 8 minutes

- Average segment duration: 6 minutes

- Minimum segment duration: 4 minutes (final segment can be shorter)

30-Minute 'C' Classified Programs

- 3 segments / 2 breaks

- Total duration: 24:00 minutes

- Average segment duration: 8 minutes (time split evenly across the segment parts)

30-Minute 'P' Classified Programs

- 1 segment / 0 breaks

- Total duration: greater than 29 minutes and less than 30 minutes

1-Hour Programs

- 6 segments / 5 breaks

- Total duration: 42:30 minutes (min/max = 30 sec under/over)

- Maximum segment duration: 12 minutes

- Average segment duration: 8 minutes

- Minimum segment duration: 6 minutes (final segment can be shorter)

90-Minute Programs

- 8 segments / 7 breaks

- Total duration: 65:00 minutes (min/max = 30 sec under/over)

- Maximum segment duration: 12 minutes

- Average segment duration: 8 minutes

- Minimum segment duration: 6 minutes (final segment can be shorter)

120-Minute Programs

- 10 segments / 9 breaks

- Total duration: 85:00 minutes (min/max = 30 sec under/over)

- Maximum segment duration: 12 minutes

- Average segment duration: 8 minutes

- Minimum segment duration: 6 minutes (final segment can be shorter)

30-Minute Religious and Home Shopping Programs

- 1 segments / 0 breaks

- Total duration: 28:30 minutes

* No extensions to this will be approved other than in exceptional circumstances.

3.1.2 Feature Films

Feature films scheduled during the afternoon/primetime hours will follow the below break/duration structure.

Duration (hrs / mins)	Number of Breaks	Timeslot (hrs / mins)
1:10:00 – 1:12:29	7	1:40:00
1:12:30 – 1:14:59	7	1:40:00
1:15:00 – 1:17:29	7	1:45:00
1:17:30 – 1:19:59	7	1:45:00
1:20:00 – 1:22:29	8	1:50:00
1:22:30 – 1:24:59	8	1:55:00
1:25:00 – 1:27:29	8	1:55:00
1:27:30 – 1:29:59	8	2:00:00
1:30:00 – 1:32:29	8	2:00:00
1:32:30 – 1:34:59	8	2:05:00
1:35:00 – 1:37:29	8	2:05:00
1:37:30 – 1:39:59	8	2:10:00
1:40:00 – 1:42:29	9	2:15:00
1:42:30 – 1:44:59	9	2:20:00
1:45:00 – 1:47:29	9	2:20:00
1:47:30 – 1:49:59	9	2:25:00
1:50:00 – 1:52:29	9	2:25:00
1:52:30 – 1:54:59	9	2:30:00
1:55:00 – 1:57:29	10	2:35:00
1:57:30 – 1:59:59	10	2:35:00
2:00:00 – 2:02:29	10	2:40:00
2:02:30 – 2:04:59	10	2:40:00
2:05:00 – 2:07:29	10	2:45:00
2:07:30 – 2:09:59	10	2:45:00
2:10:00 – 2:12:29	11	2:50:00
2:12:30 – 2:14:59	11	2:55:00
2:15:00 – 2:17:29	11	2:55:00
2:17:30 – 2:19:59	11	3:00:00
2:20:00 – 2:22:29	12	3:05:00
2:22:30 – 2:24:59	12	3:10:00
2:25:00 – 2:27:29	12	3:10:00
2:27:30 – 2:29:59	12	3:15:00
2:30:00 – 2:32:29	12	3:15:00
2:32:30 – 2:34:59	12	3:20:00

Maximum segment duration is 12 minutes unless an arrangement has been made prior with the Network On-Air Channel Manager.

3.2 Program Layout

Timecode	Duration	Picture	Sound
00:59:00:00	30"	100% colour bar and tone. (75% is acceptable)	Audio line-up level shall be -20dBFS (equaling 0VU). (-18dBFS is acceptable)
00:59:30:00	20"/15"	Clapper / Board (for file deliveries the clapper may be 15", followed by 5" cue sheet segment details)	Mute
00:59:50:00	8"	Countdown from 10"	Tone on count
00:59:58:00	2"	Black	Mute
01:00:00:00	-	Program	Program
End of Segment	-	Minimum of 5"of black must be left at the end of a segment, followed by the next segment's clapper and countdown.	Mute audio in between segments except on the 10" countdown.
End of Program	-	Minimum of 30" black at the end of tape deliveries	Mute
Elements	-	Placed at the end of the program i.e. textless material. Should commence no later than 1 minute after the credits and logos.	-

At the time the program is broadcast, a 12 frame fade in/out of black will be placed at the start and end of each program segment.

Adding playoffs to a program that is supplied to Network 10 is not required.

If supplying a 'C' children's classified program, please refer to your contract in relation to playoff requirements.

3.3 Program Clapper

All program submissions are to contain a clapper which follows the below layout. On screen details/graphics are to be contained within the 16:9 safe title, with a font size no smaller than Arial 80.

- Program Title (please state program version in title, for example if there is a version 2, V2)

- Episode Title (if applicable)

- Episode Number (if applicable)

- Episode Catalogue Number

- Audio Format (e.g. stereo/mono)

- Aspect Ratio (e.g. 16:9 full frame)

3.4 On-Air Acknowledgement of Country Guidelines

Paramount believe we have a global responsibility to use our platform to amplify, celebrate and show respect for diverse voices and perspectives. Having launched our Reconciliation Action Plan in 2020, we are particularly committed to achieving reconciliation through the power of media, as well as to advocate for a more inclusive and empowered future for all Aboriginal and Torres Strait Islander peoples.

Please refer to our On-Air Acknowledgement Of Country Guidelines. The purpose of these guidelines is to foster effective communication of Paramount ANZ's Acknowledgement of Country through the best practice scenarios that we aim to execute in our on-air content.

3.5 Program End Credits

As per current industry standards to curb audience erosion and maximize accelerated audience flow, Network 10 has an end credit policy for all programming. This policy was implemented 1st February 2025.

• Sponsor acknowledgements, production logos and credits should be overlayed as a lower-third strap over final content

- End credits are not to include crew details

• A pointer is to be placed prior to screening of end logos, in the following form: "for a full credit list go to [nominated URL]"

- Examples of nominated URLs are 10play.com.au/[program name] or www.[programname].com.au.
- Check with Network 10 Programming on the nominated URL where the end credits will be listed.

• Production companies are required to supply a soft copy of the extended end credits for inclusion on the 10play.com.au website.

• The crew credit list should be provided as a word document (Arial 12pt font), and emailed to the appropriate Network 10 contact.

3.6 Network 10 End Logo Tag

All commissioned programs must contain the current Network End Logo as the absolute last event of a program.

3.7 Live or As Live Programs

A test signal (colour bars or Phillips test pattern with reference audio tone) is required before the program is scheduled for air. Supers, graphics packages and any available vision with associated audio mix should also be supplied ideally two weeks prior to telecast (or one week at minimum).

In addition, a lip sync test must be performed prior to the telecast date.

This will enable all parties to ensure that graphics are within the safe areas, colours are in line with the code of practice guidelines and audio is within the specifications outlined

4 FILE DELIVERY REQUIREMENTS

4.1 File Based Delivery

Programs are to be packaged in a single MXF wrapper containing compressed video, audio and ancillary metadata using the 'Operational Pattern 1a' (SMPTE 378:2004) as per format defined in 2.2.1 Video Format specifications.

4.2 File Naming Convention

When delivering programs to Network 10 on an external delivery device please ensure that the following details are in included within the file name:

Program name:

Series:

Episode:

Replacement copy (if required)

For example - the following would be the file name for the third episode in the first series of a program named "New Show": **new.show.s01.e03**

If an amended version is required to replace the original file then "replacement" is to be added to the end of the file name: **new.show.s01.e03.replacement**

In naming the file do not leave a space in the name. Replace any spaces in a file title with a period (.) or dash (-)

4.3 Storage Device Labelling

All storage devices must be appropriately labelled as follows:

1. Program Title

2. Episode Title (if applicable)

3. Episode Number (if applicable)

4. Episode Catalogue Number

4.4 Cue Sheet

A cue sheet must be provided with each program. Separate cue sheets are to be supplied should there be multiple episodes delivered. For file deliveries, segment metadata should directly follow the clapper for 5 seconds.

This shall contain:

• Program Title

• Episode Title (if applicable)

• Episode Number (if applicable)

• Episode Catalogue Number

• Audio Format (eg. stereo/mono)

• Aspect Ratio – 16:9 (full frame)

• Segment durations and total duration

• Music Cue Sheets setting out the durations, titles, usage types, names of all performers, composers, publishers and copyright owners, and where available, the International Standard and Recording Code, record label, catalogue number and tracking number, of all music and sound recordings contained in the Program

Each numbered segment must have frame accurate start of segment (SOM) and End of Segment (EOM) time code information.

Cue sheets can be supplied electronically in conjunction with Program Metadata file

Label as: **new.show.s01.e03_cusheet**

4.5 Program Metadata

The following metadata is required for onboarding processes. Please supply metadata in PDF or Word format and email the following:

TEN-Materials Materials@networkten.com.au

Property Field	Field Definition	Validation
Series Synopsis Extra Short	Title utilized for Sorting Removes leading articles like "the", "an", "a", etc.	max 100 characters
Series Synopsis Short	Title utilized for Sorting. Removes leading articles like "the", "an", "a", etc.	max 240 characters
Series Synopsis Long	Synopsis of the series	max 1024 characters
Season Synopsis Extra Short	Title utilized for Sorting Removes leading articles like "the", "an", "a", etc.	max 100 characters
Season Synopsis Short	Title utilized for Sorting. Removes leading articles like "the", "an", "a", etc.	max 240 characters
Season Synopsis Long	Synopsis of the season	max 1024 characters
Episodic Synopsis Extra Short	Title utilized for Sorting Removes leading articles like "the", "an", "a", etc.	max 100 characters
Episodic Synopsis Short	Title utilized for Sorting. Removes leading articles like "the", "an", "a", etc.	max 240 characters
Episodic Synopsis Long	Synopsis of the episode	max 1024 characters
Contributor information	Writer, Director, Producer	
Cast information	Full name/s	
... table continues next page		

Year of production	local production, 3rd party, acquisitions,	
Country of origin	The country where the asset was produced.	
Language of origin	Language in which the content is produced	

4.6 Late Program Delivery

If a program is to be delivered on the day of broadcast, please liaise with the Programming Materials Coordinator and/or Network 10's Content Services Manager to determine delivery logistics. Digital Betacam tape or XDCAM disc copy may be requested to accompany the file for contingency purposes.

4.7 Promotional Material

If contractually obliged to supply an un-mixed master for promotional purposes, please ensure that a colour graded un-mixed master is delivered to Network 10 as soon as possible during post production.

5 FILE FORMAT QUICK REFERENCE GUIDE

Type	Standard Definition	High Definition (Preferred)	High Definition (Optional)
Wrapper	OP1a (MXF)	OP1a (MXF)	OP1a (MXF)
Format	IMX 50	XDCAM HD 50	DNxHD 120
Codec	MPEG-2	MPEG-2	VC-3
CBR or VBR	CBR	CBR	CBR
Average Bit Rate	50Mbp/s	50Mbp/s	120Mbp/s
Video Standard	PAL	PAL	PAL
Frame Size	720x576	1920x1080	1920x1080
Scan Type	Interlaced (50i)	Interlaced (50i)	Interlaced (50i)
Frame Rate	25fps	25fps	25fps
Chroma	4:2:2	4:2:2	4:2:2
Audio Format	PCM 24 bit @ 48 kHz	PCM 24 bit @ 48 kHz	PCM 24 bit @ 48 kHz
Audio Channel Layout	Track 1: Left Stereo (Lo/Lt) Track 2: Right Stereo (Ro/Rt) Track 3: M&E Left Track 4: M&E Right	Track 1: Left Stereo (Lo/Lt) Track 2: Right Stereo (Ro/Rt) Track 3: M&E Left Track 4: M&E Right	Track 1: Left Stereo (Lo/Lt) Track 2: Right Stereo (Ro/Rt) Track 3: M&E Left Track 4: M&E Right

6 DISCLOSURE REQUIREMENTS

Disclosure Requirements of Commercial Arrangements in Factual Programs

The Commercial Television Industry Code of Practice requires that all commercial arrangements involving an independent producer or presenter under which products or services are featured or endorsed be disclosed in the program.

Factual programs are current affairs programs, documentary programs and infotainment programs. Infotainment programs are programs where the dominant purpose is to present factual information in an entertaining way, and which employ presenters to do so.

The following requirements apply to all Factual programs commissioned by Network 10:

(a) If the Producer enters into a Commercial Arrangement in relation to any third party's

products or services which are endorsed or featured in the Program, the Producer must disclose the existence and details of that Commercial Arrangement to Network 10.

(b) The Producer will also require each presenter it employs to appear in the Program to inform the Producer of any Commercial Arrangement under which the presenter agrees to endorse or feature a third party's products or services in the Program and the Producer will in turn disclose the existence and details of such Commercial Arrangement to Network 10.

(c) Where the Producer or any presenter has such a Commercial Arrangement, the Producer

must ensure that the existence of that commercial arrangement is disclosed either during the

program or in the credits of the program in a way that adequately bring the existence of any such commercial arrangement to the attention of viewers and is readily understandable to a reasonable person.

(d) For the purpose of this clause, "Commercial Arrangement" means an agreement or arrangement under which the Producer or a presenter of the Program agrees with a third party to endorse or feature the third party's products or services in the program in exchange for consideration. For the avoidance of doubt, the free provision of a product or service for review is not a Commercial Arrangement.

7 REFERENCES

For further information on Technical Specifications, please refer to the Engineering Section of the Free TV Aust website:

http://www.freetv.com.au/content_common/pg-engineering-guides.seo

OP30: Quality Specification for the international and national exchange of programs in SDTV and HDTV Formats

OP59: Measurement & Management of Loudness in Soundtracks for Television Broadcasting