# DELIVERY SPECIFICATION FOR STANDARD DEFINITION AND HIGH DEFINITION PROGRAMS AS FILES + PRODUCTION GUIDELINES

# EXECUTIVE SUMMARY

**Link to full document:**
http://www.abc.net.au/tv/independent/doc/delivery_specification_for_standard_definition_and_high_definition_programs_as_files.pdf

## Terminology

In this document, "shall" means a mandatory requirement and "should" means a non-mandatory but desirable requirement. "May" means an optional requirement.

## File Delivery Mechanism

Files may be delivered via either of the following methods:

- The internet, using Aspera fasp protocol (preferred) or functional equivalent subject to prior agreement with ABC. Contact details shall be included with the supply contract.
- Portable Drive (HDD/SSD/CF) – These drives are to be formatted with NTFS, HFS+ or exFAT file systems.

## Physical Media

The ABC prefers USB 3.0 devices, self powered via the USB interface.

Physical media shall be clearly marked with program name, duration and supplier details..

Files shall be located in the root directory of the media. No files or folders shall be present other than those specified in the supply contract.

## File Name Conventions

Typically, the ABC supply the filename convention to be used for the program file delivery, and it is the ABC's preference that suppliers name the program files exactly as specified by the ABC. Where this is not possible, the ABC needs to know what filename convention has been used, prior to delivery. Please see the full text (via the link above) for more information.

## File packaging

Each program file shall be contained in a single MXF wrapper containing video, audio and ancillary data, including descriptive metadata, as specified in SMPTE ST 378:2004, *Television — Material Exchange Format (MXF) — Operational Pattern 1a* (Single Item, Single Package).  Files shall conform to AMWA Specification AS-11 http://www.amwa.tv/downloads/specifications/AMWA_AS-11_11_2013-10-08.pdf

# File specification – Standard Definition

| Shim Parameter | Shim Value |
|---|---|
| Shim Name | ABC SD IMX |
| Shim Version | 1.0 |
| Video Encoding | SD D-10 50Mbit/s |
| Video Format | 576i50 (PAL) |
| Audio Encoding | AES3 |
| Audio Channel Arrangement | Single multi-channel |
| Audio Track Allocation | EBU R 48:2a (Stereo with silence, 4 tracks)<br>EBU R 123:4b (Stereo with M&E)<br>EBU R 123:4c (Stereo with AD) |
| Closed Caption Presence | Not present (Note 1) |
| Closed Caption Standard | NA |
| Timecode Mode | Non-drop frame |
| Default Timecode | N/A |
| Additional Descriptive Metadata Schemes | DM_AS-11_UKDPP |
| Program Segmentation | Required |
| Index Strategy Frame | Lead |
| Essence Partition Strategy | Single |
| Permitted AFD Set | 10 |

# File Specification – High Definition:

| Shim Parameter | Shim Value |
|---|---|
| Shim Name | ABC HD AVC-Intra |
| Shim Version | 1.0 |
| Video Encoding | HD AVC-Intra 100Mbit/s |
| Video Format | 1080i50 |
| Audio Encoding | PCM |
| Audio Channel Arrangement | Mono only |
| Audio Track Allocation | EBU R 48:2a (Stereo with silence, 4 tracks)<br>EBU R 123:4b (Stereo with M&E)<br>EBU R 123:4c (Stereo with AD)<br>EBU R 123:8a (Stereo with discrete MCA)<br>EBU R 123:16c (5.1 with AD)<br>[Used in conjunction with AD Flag] |
| Closed Caption Presence | Not Present (Note 1) |
| Closed Caption Standard | NA |
| Timecode Mode | Non-drop frame |
| Default Timecode | N/A |
| Additional Descriptive Metadata Schemes | DM_AS-11_UKDPP |
| Program Segmentation | Required |
| Index Strategy Frame | lead |
| Essence Partition Strategy | single |
| Permitted AFD Set | 10 |

Notes: 1. Closed captions shall be delivered as a separate file. See section 1.6 of the full text for the caption file name convention and section 3.15 of the full text for closed caption requirements.

# ABC Production Guidelines – General Information

## Colour bars
Colour bars in 100/0/100/0 format are preferred. EBU colour bars (100/0/75/0) will also be accepted.

## Program loudness requirements
For all encoding methods, program audio shall be mastered on long-format programs with average dialogue level at -24 LKFS, as specified in FreeTV OP48

## Audio description
Audio description is currently in some ABC TV audio streams. If audio description has been included in the purchase agreement and is included in the delivered file, audio track allocation shall follow template EBU R 123 4c or EBU R 123 16c (with AD flag) as detailed in Appendix D.

## Time code
Files shall contain one Timecode Track in the Material Package per SMPTE ST 377:2011 defining the authoritative program timecode. Files shall be compatible with recommendation of EBU R122 – MXF Timecode Implementation.

### Reference time code
Time code at the commencement of the file shall be 09:58:00:00 (HH:MM:SS: FF). The program content shall start at 10:00:00:00.

## Content head
A two minute leader should be provided before the beginning of the program, consisting of (in order of playout):

- 90 seconds of colour bar and line-up tone
- 27 seconds of ident clock or slate and silence
    - The ident board should consist of:
        - Program title
        - Episode number and title if applicable
        - Audio mode
        - Program number (either ABC or Supplier number)
        - Program duration
- 3 seconds of black and silence

## Content tail
All programmes shall end with a fade or cut to silence before the intended end point. Any fade out or reverb shall be complete before the programme end point. At least 10 seconds of silence and black should follow the end of the program. Textless elements should be appended after the end of the silence and black if they are included in the main program stream.

## Closed captions
Closed captions should be delivered as a separate file using EBU Tech 3264 Subtitling Exchange Format for TV content or W3C Web Video Text Tracks Format for online content. See section1.6 for Caption File Name details.

## Photosensitive epilepsy
Programs should not contain sequences of rapid flashing that may trigger photosensitive epileptic seizures in susceptible viewers. See ITU-R Recommendation BT.1702 for further information.

# ABC accepted track allocation templates

### EBU R 48 2a - Stereo with silence, 4 tracks

| Case | Program | No. of Tracks | Audio track Number | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5,6,7,8 |
| 2a | Stereo with silence | 4 | Complete mix, left | Complete mix, right | MUTE | MUTE | MUTE |

### EBU R123 4b - Stereo with M&E

| Case | Program type | No. of tracks | Audio track number | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5,6,7,8 |
| 4b | Stereo with M&E | 4 | Complete mix, left | Complete mix, right | M&E left | M&E right | MUTE |

### EBU R123 4c - Stereo with AD

| Case | Program type | No. of tracks | Audio track number | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5,6,7,8 |
| 4c | Stereo with AD | 4 | Complete mix, left | Complete mix, right | AD left | AD right | MUTE |

### EBU R 123 8a - Stereo with discrete MCA

| Case | Program type | No. of tracks | Audio track number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 8a | Stereo with Discrete MCA | 8 | Ⓢ L | Ⓢ R | MCA left | MCA right | MCA C | MCA LFE | MCA L Sur | MCA R Sur |

### EBU R 123 16c - 5.1 with AD

| Case | Program type | No. of tracks | Audio track number | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 16c | 5.1 with AD | 16 | Ⓢ Mix L | Ⓢ Mix R | AD L | AD R | MCA L Mix | MCA R Mix | MCA C Mix | MCA LFE Mix | MCA L Sur Mix | MCA R Sur Mix | MCA L EFX | MCA R EFX | MCA C EFX | MCA LFE EFX | MCA L Sur EFX | MCA R Sur EFX |