

1. SCOPE

This Operational Practice will be valid during the interim transitional period, until the implementation by Australian broadcasters of the MXF file format. The document outlines the file format specifications to be used for the delivery of a commercial as a file on either a physical or electronic medium. If a physical medium is used then this document also specifies the number of commercials on each medium.

All other aspects of digital delivery of commercials are defined by OP-29. This includes video, audio and closed caption requirements, quality considerations, commercial timing, alignment signals, commercial identification and the delivery system requirements.

2. REFERENCES

This Operational Practice references the following documents:

- AS/NZS 13818.1:2002 Information technology – Generic coding of moving pictures and associated audio information. Part 1: Systems*
- AS/NZS 13818.2:2002 Information technology – Generic coding of moving pictures and associated audio information. Part 2: Video*
- AS/NZS 13818.3:2002 Information technology – Generic coding of moving pictures and associated audio information. Part 3: Audio*

- SMPTE 377M – 2004 Material Exchange Format (MXF) - File Format Specification*
- SMPTE 381M – 2005 Material Exchange Format (MXF) - Mapping MPEG Streams into the MXF Generic Container (Dynamic)*
- SMPTE RP210.8 – 2004 Metadata Dictionary Registry of Metadata Element Descriptions*
- SMPTE 335M – 2001 Metadata Dictionary Structure*
- SMPTE 302M – 2002 Mapping of AES3 Data into MPEG-2 Transport Stream*
- Free TV Australia OP-29 Digital Delivery Formats For Commercials*

3. COMMERCIALS DELIVERED IN A FILE FORMAT

3.1. Minimum File Format Specification

The minimum specification for the file format of the commercial product shall be an MPEG-2 Transport Stream, Program Stream or Packetised Elementary Streams with the following parameters:

Profile and Level	4:2:2 Profile @ Main Level
Video and Audio bitrate	Minimum 15Mbps, maximum 25Mbps.
GOP structure	Long GOP Sequence header must be output for every GOP
Maximum GOP length	15

3.2. Minimum Audio Format Specification

Audio may either be compressed and carried within the MPEG-2 transport stream or uncompressed.

If compressed audio is carried within the MPEG-2 transport stream then it should be at a minimum bitrate of 384kbps. If uncompressed audio is carried within the MPEG-2 transport stream, then it should be as per SMPTE 302M – 2002.

If uncompressed audio is carried in a file separate to the video file, then the audio file format should be PCM WAV at 48Khz sampling rate and minimum 16 bit quantisation.

All baseband audio aspects, such as multi-channel capability and video/audio lip synchronisation, are defined in OP-29.

3.3. Number of Commercials Delivered on Physical Medium

If delivery of commercials is via a physical medium, then the maximum number of commercials delivered on a single unit should be agreed by all parties (distributor and destination).

3.4. Distribution Method

The distribution method used for the delivery as a file should be agreed by all parties (distributor and destination) and must comply with all details of this interim specification.

4. MATERIAL EXCHANGE FORMAT (MXF)

Australian television broadcasters are investigating the requirements for implementation of the SMPTE Material eXchange Format (MXF). The specifications under consideration include:

- SMPTE 377M - (MXF) File Format Specification (Standard),
- SMPTE 335M and RP210 (with modifications which incorporate Australian requirements),
- SMPTE 381M - (MXF) Mapping MPEG streams into the MXF Generic Container (Dynamic).

When the MXF OP is finalised and MXF file transfer is adopted it is expected that this interim OP will be phased out.