RECOMMENDATION

RECOMENDATION DPP013

COMMERCIAL, SPONSORSHIP & INFOMERCIAL DELIVERY USING AS11 X6

TECHNICAL REQUIREMENTS

Abstract

This document outlines a set of technical requirements for delivery of programmes using the AMWA AS-11 X6 UK DPP HD file format.

It describes technical parameters for High Definition (HD) commercials, sponsorship, and infomercial files, which must be adhered to if the commissioning broadcaster has specified delivery compliant to this document.

The document is set out as follows:
Video– HD format, origination
Audio – Audio requirements, track allocations
Files – HD file format, video, audio, subtitles and timecodes
Metadata – Table of descriptive metadata fields

thedpp.com/filedelivery

Version 2.0

TABLE OF CONTENTS

1 Video 2

2 Audio 3

3 Files 4

4 Metadata 5

5 Normative References 8

1 VIDEO

1.1 Video Format

1.1.1 High Definition

All Commercial/Sponsorship material delivered for UK HD TV transmission must be:

• 1920 x 1080 pixels in an aspect ratio of 16:9
• 25 frames per second (50 fields) interlaced - now known as 1080i/25
• Colour sub-sampled at a ratio of 4:2:2

The HD format is fully specified in **ITU BT.709-6** "Parameter values for the HDTV standards for production and international programme exchange."

1.2 Origination

Material may be originated with either interlaced or progressive scan but shall be delivered interlaced as per **AMWA AS-11 X6**.

1.3 Video Level Tolerance

In practice it is difficult to avoid generating signals slightly out of range and it is considered reasonable to allow a small tolerance, which has been defined as follows under **EBU Recommendation R 103**.

RGB components and the corresponding Luminance (Y) signal should not normally exceed the preferred minimum and maximum code values of 20 and 984 respectively.

Slight transient overshoots and undershoots may be filtered out before measuring, and an error will only be registered where the out of gamut signals total at least 1% of active picture area. Many monitoring devices are designed to detect errors to this specification.

2 AUDIO

2.1 Audio Requirements

Stereo audio is expected for Commercial/Infomercial/Sponsorship transmission.

Commercial copy that is not stereo should be delivered with phase coherent mono sound on both the channels of a stereo pair so that it may be handled exactly as stereo. It must meet all the stereo standards regarding levels, balance, and phase.

Stereo audio must be capable of mixing down to Mono without causing any noticeable phase cancellation.

2.2 Audio Channel Allocations

Each file must contain one MXF audio essence track per sound field group. All files shall include at least two essence tracks, each with two channels. All sound field groups and channels must be labelled in the MXF file according to **SMPTE ST 377-4**.

Currently, broadcasters only accept stereo commercials, with or without embedded audio description. For 5.1 sound requirements, please contact broadcasters in advance.

The stereo final mix must be placed in the first essence track. If an optional audio description (AD) track is included, it should follow the **BBC WHP 198** specification and be placed in the second essence track. If the second essence track does not contain AD, it must remain silent. All audio essence tracks must be uncompressed, 24-bit, 48 kHz.

The following table outlines the two currently implemented use cases:

Usecase	Essence Track	Sound Group	Audio Content	Audio Content Language	Channel Number	Channel Label
Stereo Without AD	1	Stereo	Main Audio	EN	1	Left
					2	Right
	2	Stereo	Unused Audio	ZXX	3	Left
					4	Right
Stereo With AD	1	Stereo	Main Audio	EN	1	Left
					2	Right
	2	AD Studio Signal	Audio Description	EN	3	Narrative
					4	Studio Signal Data

3 FILES

3.1 HD Files

The file format used for this HD Commercial and Sponsorship specification shall be based on the UK DPP HD Shim version 1.1 of the **AMWA AS-11 X6 specification.**

3.1.1 HD Video

The video essence encoding and its mapping to the MXF file must be identical to that described by the UK DPP HD Shim version 1.1 of the **AMWA AS-11 X6** specification.

The video essence encoding and its mapping to the MXF file must be identical to that described by the UK DPP HD Shim.

3.1.2 HD Audio

All audio tracks must be encoded as PCM with a sample rate of 48kHz at a depth of 24bits/sample.

3.2 Subtitles

3.2.1 Closed Subtitles

If Closed Subtitles are included in the MXF file, then the following requirements - which are additional to AS-11 - shall apply:

a. The Closed Subtitles shall be World System Teletext (**ITU-R BT 653**) subtitles.
b. These WST subtitles shall be mapped into VANC Data Packets in conformance with **Free TV Australia Operational Practice OP-47**.
c. These VANC Data Packets shall be mapped into ANC Frame Elements as specified in **SMPTE ST 436-1**. Each ANC Frame Element containing WST subtitle data shall be labelled with a line number of 575 – Field 2.
d. The VBI Descriptor packet in the Embedded OP47 data essence shall point to Line 335 - Field 2
e. There must be an OP-47 packet per frame and the packet must contain one line of teletext data.
f. Teletext lines not occupied by subtitle headers or subtitle data should be filled with Page 8FF sub page 3F7E.
g. A KLV Fill Item shall be added after the SMPTE ST 436-1Data Element so as to have the same number of bytes in each Edit Unit and the essence for every Essence Element always at the same byte offset from the beginning of an Edit Unit. The file therefore will have a simple Index Table.
h. Subtitles shall finish with a clear page code at least 6 frames before the end of the on-air duration, excluding the 5-second freeze or living hold.

3.3 Timecodes

Timecode must be as specified in the **AMWA AS-11 UK DPP HD** specification. To ensure compatibility with downstream systems it is very important that timecode is continuous and inserted in the file exactly as specified.

4 METADATA

Specification details can be found on the **AMWA AS-11 X6 Specification GitHub**.

Identifiers	Mandatory	Definition
Identifier value	Yes	The ID Itself
Identifier type	Yes	Type of identifier (e.g. "clock number")
Identifier type	Yes	The entity responsible for issuing the identifier (e.g. Clearcast)
Relevant XML structure shall be used based on type (commercial, sponsorship, infomercial)		
Brand	No	The name of the product or service being advertised
Campaign	No	The name of the campaign to which the content/material belongs
Title	Yes	Title of the content/material being advertised
Version	Yes	Unique identifier of version (currently not implemented - any text accepted)
Manifestation	No	Information related to the intended platform
Originator	Yes	Agency responsible for producing the commercial
Supplier	Yes	Entity responsible for the delivery of the copy to the publisher
Subtitle language	No	ISO code to identify the language of closed captions
Advertiser	Yes	The advertiser whose product or service has been advertised

In Vision Access Services		
Open captions present or not present	Yes	Presence of open captions (element choice)
Caption Language	Yes if open caption present	ISO code to identify the language of open captions
Caption Type	Yes if open caption present	To identify type of open caption (e.g. Hard of hearing or translation)
Signing present or not present	Yes	Presence of signer (element choice)
Signing language	Yes if signer present	ISO code to identify the language of open captions (e.g. British Sign Language)
Signing Type	Yes if signer present	Indicates if the copy is composite signer or signer only
Content details		
Audio Comments	No	A description of the subjective quality of the audio in the programme including notes on any global characteristics or audio treatments
Video Comments	No	A description of the subjective quality of the video in the programme including notes on any global characteristics or video treatments
PSE Test Device	Yes	Name and version of the device used to perform PSE test or name of entity who performed the test
PSE Test Passed	Yes	Boolean indication the result of test (pass with warning shall be communicated as pass)
Audio Loudness Specification	Yes	The Audio Loudness Specification to which the maker of the programme intended the finished (ready for transmission) audio content to comply (in case of UK commercials it is always EBU R 128 or EBU R 128 s1)

Content details		
Compliance to specifications is achieved / not achieved	Yes	Result of loudness measurement (element choice)
Explanation (loudness)	Yes if loudness specification not met	An explanation for any failure to fully comply with all provisions of the indicated Audio Loudness Specification, such as the content being "intentionally quiet" or "silent"
Programme Loudness Value	No	The "Programme Loudness Value" in LKFS (also known as "LUFS") as measured in accordance with the indicated Audio Loudness Specification. It will not always be possible to reproduce the measurement without further information such as which audio channels were measured, what anchor was used, or if part of the content was excluded from the measurement. This is intended to give an indication of the degree to which the content deviates from the indicated “Audio Loudness Specification”

5 NORMATIVE REFERENCES

The following documents contain provisions, which, through reference in this text, constitute provisions of this DPP Recommendation. At the time of publication, the editions indicated were valid.

1. **BT.709-6: 06/2015**
   ITU Radiocommunications Sector – Parameters for the HDTV standards for production and international programme exchange
2. **AMWA AS-11 X6**
   AMWA – MXF Program Contribution - UK DPP HD
3. **R103:2020**
   EBU Recommendation – Video Signal Tolerance in Digital Television Systems
4. **AMWA AS-11 UK DPP HD**
   AMWA – MXF Program Contribution - UK DPP HD
5. **SMPTE ST 377-4**
   SMPTE Standard – MXF Multichannel Audio Labelling Framework
6. **BBC WHP 198**
   Provides the specification of the audio description studio signal
7. **R48-2005**
   EBU Technical Recommendation – Allocation of audio tracks on digital television recorders
8. **R123:2009**
   EBU Recommendation – EBU Audio Track Allocation for File Exchange
9. **Free TV Australia Operational Practice OP-47**
   Free TV Operational Practice OP-47 describes the technical/operational practices associated with the storage and distribution of closed caption/subtitling data in the vertical ancillary space.
10. **SMPTE ST 436-1:2013**
    SMPTE standard describing the carriage of Vertical Interval (VI) data and Ancillary (ANC) packets (HANC and VANC) in an MXF file.
11. **IMSC 1.1**
    TTML profiles for internet media subtitles and captions
12. **ISO 639.2**
    Codes for the representation of names and languages

Version Control:

Version	Date	Notes
V2.0	17-05-2025	First publication of technical delivery requirements for programme delivery as DPP Recommendation DPP013. This publication supersedes previous the previous publication – *Commercials and Sponsorship Delivery – version 1.3.1 (2020).*

Document Accuracy:
Every attempt has been made to ensure that the information contained in this document is accurate. Errors in this document should be reported to the DPP on **info@thedpp.com**

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