

**DPP Compliance Programme**  
**AMWA AS-11 DPP**  
**Product Test Report** (See note 5, on next page)  
 DPP Lab, BBC R&D, Centre House, 56 Wood Lane, W12 7SB, UK

OEM	Tedial
Product (Note 6)	Tarsys MAM
Product Version (Note 6)	v4
Test Report Date	23 February 2015

<b>OVERALL TESTING RESULT</b>	<b>PASS</b>
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HD Test Artifacts Used	
Writer Functionality	Reader Functionality
File Conformance Test Suite	File Reader Tests
(Note 1, on next page)	(Note 2, on next page)

<b>F1.2</b>	<b>R1.1</b>
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SD Test Artifacts Used	
Writer Functionality	Reader Functionality
File Conformance Test Suite	File Reader Tests
(Note 1, on next page)	(Note 2, on next page)

<b>Not Tested</b>	<b>Not Tested</b>
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GENERIC FUNCTION CATEGORIES		Functionality Tested
<b>File Writers</b>	Products that <b>write</b> AS-11 UK DPP HD files. Tests are carried out to determine whether a file written by a device conforms to the AMWA AS-11 UK DPP HD Shim v1.1 as defined by the rules for conformance [available at the link below], as well as the requirements for Descriptive Metadata.  <a href="http://www.amwa.tv/projects/rules/as-11/">http://www.amwa.tv/projects/rules/as-11/</a>	<b>Tested</b>
<b>File Readers - Players</b>	Products that have the ability to read AS-11 DPP HD files and then <b>play</b> the contents of the file to a video and audio monitor. These devices may additionally include the ability to display Timecode, Descriptive Metadata and Programme Parting/Segmentation information. It is not a requirement that products should have all possible functionality. Products are only tested for the features that they have.	<b>Not applicable</b>
<b>File Readers - Transcoders</b>	Products that have the ability to read AS-11 DPP HD files and then <b>transcode</b> the contents to a different format. Transcoded output files are then tested following the Player testing procedure.	<b>Tested</b>

AMWA CERTIFICATION AUTHORITY
The <b>AMWA Certification Authority</b> uses these TEST REPORTS as the basis for awarding Certification. Please see the web page below.  <a href="http://www.amwa.tv/certification">http://www.amwa.tv/certification</a>

Template version	v1.1	06 February 2015	Release version
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<b>Product Test Report - Update</b> Test Report R1011 re-issued as version R1011a with Product changed from Tarsys to Tarsys MAM	07/04/2015
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NOTES	
<b>Note 1</b>	<b>Writer Functionality, File Conformance Test Suite:</b> This identifies the tests carried out on AS-11 DPP <b>OUTPUTS</b> of the product and describes the file conformance tests used. This document is available from the DPP Compliance page on the DPP website.
<b>Note 2</b>	<b>Reader Functionality, File Reader Tests:</b> This identifies the File Reader Test procedure, including the list of tests carried out by the OEM on their own product, with the results to be noted. This document is available from the DPP Compliance page on the DPP website.
<b>Note 3</b>	<b>Input media used:</b> For <b>Writer</b> tests this identifies the <b>INPUT MEDIA</b> files and / or SDI and metadata sources to be used for the creation of output AS-11 DPP files specified.
<b>Note 4</b>	<b>Input AS-11 DPP files used:</b> For <b>Reader</b> tests this identifies the a set of AS-11 DPP test files that are used as <b>INPUTS</b> to the product.
<b>Note 5</b>	This <b>Product Test Report</b> is also known as the <b>TEST REPORT</b> for the purposes of applying for AMWA Certification.
<b>Note 6</b>	The test results (and any Certificate ultimately issued) will be tied to the version of the product tested. This means that an actual 'release' of a product must be submitted for testing.
<b>Note 7</b>	Certain faults are classed as 'warnings'; certain faults are classed as 'errors' but result in 'Pass with Conditions' rather than 'Fail'. The overall test result takes the worst case result from individual tests. That is, if any individual test result is a 'Fail' then the overall test result is a 'Fail'.

TEST PROCEDURE - Overview	
<b>Writer Test Procedure</b>	<p><b>Stage 1:</b> Once signed up to the DPP Compliance Programme, the OEM should send some representative file samples to the DPP lab to be tested. The File Conformance Test Report then shows how they performed against the conformance criteria. Individual tests <i>may</i> have one of four outcomes: <b>PASS</b>, <b>WARNING</b>, <b>PASS with CONDITIONS</b>, and <b>FAIL</b>. Some tests may just have <b>PASS</b> or <b>FAIL</b>. If the initial files tested are a 'Fail' then new files will need to be submitted once the product has been updated with a fix for the issue. Once the files are a 'Pass', or 'Pass with Conditions' then the manufacturer can move to step 2 and formally request that the lab test the product at Certification Level.</p> <p><b>Stage 2:</b> The OEM will need to provide the lab with additional information about the product's functionality and operation using the Initial OEM Product Submission Form. The Lab, in discussion with the OEM, will then agree the method(s) by which the product being tested will create files for Certification Level Testing. Once stage 2 testing has been completed and the Product Test Report (showing Pass or Pass with Conditions) is issued to the OEM. They can then go ahead and apply for Certification from the AMWA. Please note: If the device also includes '<b>Reader</b>' functionality then this will also require a 'Pass' or 'Pass with Conditions', in order for the Product Test Report to be issued.</p>
<b>Reader Test Procedure</b>	File Reader testing is primarily 'self-serve'. The test procedure may be carried out by the OEM at any time. It principally involves downloading the set of AS-11 UK DPP HD Reader test files and asking the product to read each one, and the OEM recording the results. The ability to do this is assessed by The DPP Test Lab against set criteria which include checks for player functionality, and transcode functionality if present. (This is subject to change as new files and tests are included). A declaration form is to be completed and the results returned to the DPP Lab. Results are verified and if they are a 'Pass' or 'Pass with Conditions' a Product Test Report is issued to the OEM. Please note: If the device also includes ' <b>Writer</b> ' functionality then this will also require a 'Pass' or 'Pass with Conditions', in order for the Product Test Report to be issued.
<b>Application to AMWA</b>	Once a Product Test Report has been issued by the DPP, an OEM may follow the AMWA procedure to apply for Certification.

PASS or PASS WITH CONDITIONS	
<b>What it means</b>	The capability of version X of product Y to read and / or write AMWA AS-11 UK DPP HD Shim files has been tested by the DPP Compliance Lab and all the tests performed (as referenced in this report) under the specified "realistic" operating conditions have either "Passed" or "Passed with Conditions".
<b>What it DOES NOT mean</b>	<ul style="list-style-type: none"> <li>a) All files produced by a Writer are always fully conformant to the "AMWA AS-11 UK DPP" Shims</li> <li>b) Files from Writers will always work correctly with Readers</li> <li>c) Files from Writers will never be rejected by UK Broadcasters</li> <li>d) All modes and features of the product have been tested</li> </ul>



Overall WRITER Result	Pass
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**WRITER SUBMISSION FORM - For DPP Compliance Testing of PRODUCT to Certification Level**

The OEM is to complete the following sheet and submit it to the DPP Compliance Programme, together with any output files, for testing to be undertaken.

<b>COMPLETING THE FORM</b>	All required information should be detailed below. Please see the notes section below and also comments (In blue) for guidance on what is required. Please adjust the size of fields as necessary.
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<b>GENERAL</b>	OEM Name	Tedial
	Product Name	Tarsys MAM
	Product Version	4.0

<b>DEVICE OPERATION</b>	Can the product be used to <b>Write</b> AS-11 DPP HD files?	YES
	Can the product be used to <b>Read</b> AS-11 DPP HD files?	YES
	Give details of the <b>range of product features</b> that were used in writing these test files: from inputs used through to output being produced; e.g. ingest; transcode; edit metadata. Details for each individual file submitted should be provided in the table below.	Editing: cut and paste Transcoding (to AVC-Intra) Insertion ident/clock+line-up black or living hold and audio tones Metadata AS11-DPP insertion
	For these product features, please detail the <b>capabilities</b> , the and any restrictions on the capabilities	Editing: paste of the selected source interval to create a new sequence Transcoding from QT (DV, Mpeg2, ProRes), MXF (DV, MPEG2, DNxHD, AVC-Intra), AVI (DV, MPEG2) to MXF (AVC-Intra). Insertion according to technical standard programme layout/format and for audio tones BLITS 18dBfs and EBU 1kHz Metadata AS11-core, AS11-segmentation and AS11-UKDPP

<b>CONFIGURATION</b>	Details of product configuration in order to use the features: for example, output settings.	N/A [DPP Lab note: No user configuration]
	Sufficient information must be provided to allow a configuration to be replicated by the test lab.	
	If necessary any detailed configuration settings could be attached as an appendix to this report	

AS-11 DPP FILES		List all AS-11 DPP MXF files submitted for testing, with details?					DPP LAB USE Result: P, C, W, F
New file name	Duration of file (hh:mm:ss:ff)	Number and duration of parts (Segmentation)	Number of audio channels	Source of DPP metadata	Source media used (DPP or OEM supplied in brackets)	Product features used to produce the file	
TEDIAL_HD_A_v2.mxf	Approx 10 mins	Single	16	Writer Test Input DM - A	<b>DPP_Writer_Test_Input_A.mov</b> (DPP) for the entire output file	DM Text or XML i/p if possible, otherwise manual (please say), the complete output file is from input file.	Pass
TEDIAL_HD_B_v2.mxf	Approx 10 mins	2 parts	16	Writer Test Input DM - B	<b>DPP_Writer_Test_Input_B.mov</b> (DPP) for the first and second parts of the finished programme.	Input media is source file, DM Text or XML i/p if possible, otherwise manual (please say), T/L to be built by product, including, bars, ident clock, black and segmentation timing as per DM [Note: Use the DM set B to identify the part breaks (segmentation) and build the programme on the timeline with local black/ident added between parts.]	Pass
TEDIAL_HD_C_v2.mxf	Approx 30 mins	Single	4	DM present in AS-11 DPP source file, plus edited DM as described in last cell.	<b>516.HD_C.mxf</b> (DPP)	DM Manual i/p to override the DM present in the source file, as follows: <b>Add further segmentation</b> as below: > end of Part 1 at 10:09:56:20 > start of Part 2 at 10:10:27:22 > end of Part 2 at 10:20:24:17 > start of Part 3 at 10:20:55:19 <b>Replace Ident clock between parts</b> with Local Tedia ident clock <b>Edit DM</b> as below: > Programme Title to be "Tedia test" > Loudness standard to be "None" > Completion date to be 12-01-2015	Pass

NOTES	
<b>Writer Test Procedure</b>	<p>Tests should use the equipment under realistic operational conditions to produce DPP files.</p> <p>The Lab will test that common workflows for the particular equipment under test are capable of producing valid DPP files.</p> <p>We're not out to trick equipment into producing non-conformant files, nor are we interested in testing every possible configuration a piece of equipment might have.</p> <p>Equipment is not required to produce all allowed variants of AS-11 DPP files.</p> <p>The test Lab is not part of the QA process for product development.</p> <p>We're not testing the equipment's ability to analyse and validate its input.</p> <p>While we encourage OEMs to produce stable equipment that copes well in the presence of faulty input, we're not testing that here. As such, all input artefacts (audiovisual essence, metadata values) will conform to the relevant specifications.</p>
<b>Input artefacts</b>	<p>Different types of equipment will require different types of input.</p> <p>Using different input as stimulus will also test different aspects and workflows within the same equipment.</p> <p><b>Input content (files) will be provided by the Lab, as shown above</b></p> <p>Content will be provided in a variety of formats intended to represent likely operational inputs. Not all equipment is expected to utilise all available input artefacts. The variety on offer is designed to support the range of equipment submitted for testing and to exercise the various aspects of that equipment. For instance, a transcoder might behave differently if asked to produce a DPP file from MPEG2 essence, than if asked to do the same from AVC-Intra essence.</p> <p>Descriptive metadata (DM) will identify audio track layout and programme segmentation timecodes. The DM does not necessarily match the content of the media.</p> <p><b>SDI</b></p> <p>Equipment may require HD SDI as input. This is sufficiently standardised that it can be sourced locally. All files submitted to the Lab may be used to test other equipment, so content sourced on SDI must be <b>Royalty Free</b>.</p>
<b>Output artefacts (DPP files) to be produced</b>	<p>Outputs need to reflect the advertised capabilities of the equipment, and test a range of the (user-configurable, as opposed to developer-configurable) variation allowed by the specification. They should also be representative of real programmes likely to be delivered to broadcasters.</p> <p>The following features need to be considered in light of these requirements:</p> <p>Duration (30 minutes say, to represent a typical finished programme, and other shorter test files of say 5 to 10 minutes)</p> <p>Segmentation or programme parts</p> <p>Audio channel count (4, 16 channels)</p> <p>Audio track layout</p> <p>Other options such as additional data streams, but only if they are advertised in the user interface for AS-11 DPP files</p> <p>The number of files required will depend on the functionality of the equipment under test.</p> <p>There are no Writer tests that do not result in an AS-11 DPP file.</p>

<b>Document version</b>	v1.1	3/9/14	Second issue - Overall result panel and column added, layout revised
<b>Document Notes</b> 1) This document is now a second issue and will likely change in the future. This will include the revision of existing tests and addition of new ones.			

OEM	Tedial
Product	Tarsys MAM
Version	v4
File	TEDIAL_HD_A_v2.mxf
File ref	526
Date	23 June 2014

**WRITER TESTING: FILE TEST REPORT**

**Test Result Key**

P	PASS
W	PASS with Warning
C	PASS with Conditional Error
F	FAIL with Critical Error

	Fault Description
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18	IRT::40431 (Validity of UUIDs) - They must be unique in the file [Warning]
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PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes) Note
P	Test 1	(1) Media Player checks:	media duration audio plays ok video plays ok qty of audio channels a/v in sync and same length
P	Test 2	(2) DPP Metadata tool	DPP Metadata Validation
P	Test 3	(3) mxf2xml validation	c1-12 Mandated DM is present c13-36 DM conditional & mandated values in range c37-40 Line-up and Ident T/C in range, part T/Cs c41 Timecode timebase is 25 fps b61, b87 Exactly 1 audio channel in a track
P	Test 4 - 6, 8 (Misc)	All the following: (4) AQC 1 (5) AQC 2 (6) mxf analyser (8) AVCi analysis script	a1 AVC syntax: SMPTE RP 2027:2011 Class 100 a2 SPS and PPS location a34 Invalid idr_pic_id sequence a3-6 Video essence: frame size, 25 fps, interlaced, 10 bit a7 Sound Essence Bytes a8 Closed Captions
P	Tests 4 - 6 (MXF)	All the following: (4) AQC 1 (5) AQC 2 (6) mxf analyser	a12 MXF Conformance a13 Op1a a14 Header Partition Status a15 KLV Fill following Header Metadata a16 Random Index Pack presence a17 KLV Alignment Grid a18 Index Table presence a19 Index Table location a20 Index Table completeness a21 Index Table correctness a22 Essence Container a23 Essence Container Wrapping a24 Essence Container Location a25 Essence Container Parent Partitions a26 Essence Track Referencing a27 1 Material Package Picture Track a28 Picture Essence Elements Used a29 4 or 16 Material Package Sound Tracks a30 Sound Essence Elements Used a31 Material Package Sound Track Numbers a32 1 Material Package Timecode Track a33 Footer Presence
P	Test 7 (Essence Descriptors)	All the following: (7) mxfdump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value

OEM	Tedial
Product	Tarsys MAM
Version	v4
File	TEDIAL_HD_B_v2.mxf
File ref	527
Date	23 June 2014

**WRITER TESTING: FILE TEST REPORT**

<b>Test Result Key</b>
<b>P</b> PASS
<b>W</b> PASS with Warning
<b>C</b> PASS with Conditional Error
<b>F</b> FAIL with Critical Error

	Fault Description	PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes) Note
1		P	Test 1	(1) Media Player checks:	media duration
2		P			audio plays ok
3		P			video plays ok
4		P			qty of audio channels
5		P			a/v in sync and same length
6		P	Test 2	(2) DPP Metadata tool	DPP Metadata Validation
7		P	Test 3	(3) mxf2xml validation	c1-12 Mandated DM is present
8		P			c13-36 DM conditional & mandated values in range
9		P			c37-40 Line-up and Ident T/C in range, part T/Cs
10		P			c41 Timecode timebase is 25 fps
11		P			b61, b87 Exactly 1 audio channel in a track
12		P	Test 4 - 6, 8 (Misc)	All the following:	a1 AVC syntax: SMPTE RP 2027:2011 Class 100
13		P		(4) AQC 1	a2 SPS and PPS location
14		P		(5) AQC 2	a34 Invalid idr_pic_id sequence
15		P		(6) mxf analyser	a3-6 Video essence: frame size, 25 fps, interlaced, 10 bit
16		P		(8) AVCi analysis script	a7 Sound Essence Bytes
17		P			a8 Closed Captions
18	IRT::40431 (Validity of UUIDs) - They must be unique in the file [Warning]	W	Tests 4 - 6 (MXF)	All the following:	a12 MXF Conformance
19		P		(4) AQC 1	a13 Op1a
20		P		(5) AQC 2	a14 Header Partition Status
21		P		(6) mxf analyser	a15 KLV Fill following Header Metadata
22		P			a16 Random Index Pack presence
23		P			a17 KLV Alignment Grid
24		P			a18 Index Table presence
25		P			a19 Index Table location
26		P			a20 Index Table completeness
27		P			a21 Index Table correctness
28		P			a22 Essence Container
29		P			a23 Essence Container Wrapping
30		P			a24 Essence Container Location
31		P			a25 Essence Container Parent Partitions
32		P			a26 Essence Track Referencing
33		P			a27 1 Material Package Picture Track
34		P			a28 Picture Essence Elements Used
35		P			a29 4 or 16 Material Package Sound Tracks
36		P			a30 Sound Essence Elements Used
37		P			a31 Material Package Sound Track Numbers
38		P			a32 1 Material Package Timecode Track
39		P			a33 Footer Presence
40		P	Test 7 (Essence Descriptors)	All the following: (7) mxfdump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value



OEM	Tedial
Product	Tarsys MAM
Version	v4
File	TEDIAL_HD_C_v2.mxf
File ref	528
Date	23 June 2014

**WRITER TESTING: FILE TEST REPORT**

**Test Result Key**

<b>P</b>	PASS
<b>W</b>	PASS with Warning
<b>C</b>	PASS with Conditional Error
<b>F</b>	FAIL with Critical Error

	Fault Description
1	
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	PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes) Note
	P	Test 1	(1) Media Player checks:	media duration audio plays ok video plays ok qty of audio channels a/v in sync and same length
	P	Test 2	(2) DPP Metadata tool	DPP Metadata Validation
	P	Test 3	(3) mxf2xml validation	c1-12 Mandated DM is present c13-36 DM conditional & mandated values in range c37-40 Line-up and Ident T/C in range, part T/Cs c41 Timecode timebase is 25 fps b61, b87 Exactly 1 audio channel in a track
	P	Test 4 - 6, 8 (Misc)	All the following: (4) AQC 1 (5) AQC 2 (6) mxf analyser (8) AVCi analysis script	a1 AVC syntax: SMPTE RP 2027:2011 Class 100 a2 SPS and PPS location a34 Invalid idr_pic_id sequence a3-6 Video essence: frame size, 25 fps, interlaced, 10 bit a7 Sound Essence Bytes a8 Closed Captions
	W	Tests 4 - 6 (MXF)	All the following: (4) AQC 1 (5) AQC 2 (6) mxf analyser	a12 MXF Conformance a13 Op1a a14 Header Partition Status a15 KLV Fill following Header Metadata a16 Random Index Pack presence a17 KLV Alignment Grid a18 Index Table presence a19 Index Table location a20 Index Table completeness a21 Index Table correctness a22 Essence Container a23 Essence Container Wrapping a24 Essence Container Location a25 Essence Container Parent Partitions a26 Essence Track Referencing a27 1 Material Package Picture Track a28 Picture Essence Elements Used a29 4 or 16 Material Package Sound Tracks a30 Sound Essence Elements Used a31 Material Package Sound Track Numbers a32 1 Material Package Timecode Track a33 Footer Presence
	P	Test 7 (Essence Descriptors)	All the following: (7) mxfdump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value

<b>Overall READER Result</b> (DPP Test Lab review of OEM supplied test results)	<b>Pass</b>
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**FILE READER TEST results - For DPP Compliance Testing of PRODUCT to Certification Level**

6a Table 1 - GENERAL DETAILS (OEM to complete)	
OEM name	Tedial
Product name	Tarsys MAM, with Ficus, Mediabox
Product version	4
Date of tests	03/11/2014

6b Table 2 - PRODUCT DESCRIPTION and CAPABILITIES (OEM to complete)	
Brief description of product / product type	Ficus : The User interface to control file ingest, export, transcode operation, metadata reporting and metadata entry. MediaBox: The processing back end, doing the file manipulation, reading and writing. Tarsys: System Database
What are its primary functions in relation to AS-11 UK DPP Reader tests? Please list the main ones.	Extract descriptive metadata AS-11 (core, UK DPP and segmentations) and technical metadata Transcode to proxy copy
Does the device render both video and audio from the AS-11 DPP file for use by the device?	Yes
Player functionality: Does the device render to video on to a display? If so how is this presented to the display?	No
Player functionality: Is audio decoded to outputs suitable for monitoring purposes?	No
Transcode functionality: Does the device render the AS-11 DPP video to a different file format as part of its operation?	Yes
Does the device perform a partial file read of video and/or audio?	No
Is there a display of media Timecode?	No
Does the device read AS-11 DM (descriptive metadata) and/or UK DPP DM? If so how is this used and displayed?	Yes. XML structured and later saved in Tarsys database
Is there any display of programme segmentation / programme parting?	No
Does the product have the capability to jog, shuttle and jump to a new T/C?	No

6e NOTES (OEM to complete if there are any other relevant details)

DECLARATION	
<b>7 DECLARATION</b>	<p>The detailed test results for File Reader Tests, and the resulting overall READER result, is based on information provided by the OEM in self testing. When submitting the detailed test results the OEM representative signed the following declaration confirming that they agreed to the statement below. The details were then reviewed by the DPP Test Lab to determine the overall READER result shown at the top of this page.</p>
<p>"I confirm that the information in this report has been completed honestly and is an accurate representation of the results obtained. Also, that these results provide a fair assessment of the product's ability to read and work with AS-11 DPP files in a way reasonably expected for a product of this type and functionality, and that these results were achieved when using the product in a configuration which would reasonably be regarded as normal operational use."</p>	