

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	Dalet
Product (Note 6)	DALET AmberFin Platform (Transcoder)
Product Version (Note 6)	10.4.102.61657
Test Report Date	09 September 2014

OVERALL TESTING RESULT	PASS
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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)

F1.1	R1.0
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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)

Not Tested	Not Tested
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GENERIC FUNCTION CATEGORIES		Functionality Tested
File Writers	Products that write 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. http://www.amwa.tv/projects/rules/as-11/	Tested
File Readers - Players	Products that have the ability to read AS-11 DPP HD files and then play 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.	Tested
File Readers - Transcoders	Products that have the ability to read AS-11 DPP HD files and then transcode the contents to a different format. Transcoded output files are then tested following the Player testing procedure.	Tested

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

Template version	v1.0	09 September 2014	Release version
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NOTES	
Note 1	Writer Functionality, File Conformance Test Suite: This identifies the tests carried out on AS-11 DPP OUTPUTS of the product and describes the file conformance tests used. This document is available from the DPP Compliance page on the DPP website.
Note 2	Reader Functionality, File Reader Tests: 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.
Note 3	Input media used: For Writer tests this identifies the INPUT MEDIA files and / or SDI and metadata sources to be used for the creation of output AS-11 DPP files specified.
Note 4	Input AS-11 DPP files used: For Reader tests this identifies the a set of AS-11 DPP test files that are used as INPUTS to the product.
Note 5	This Product Test Report is also known as the TEST REPORT for the purposes of applying for AMWA Certification.
Note 6	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.
Note 7	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	
Writer Test Procedure	<p>Stage 1: 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: PASS, WARNING, PASS with CONDITIONS, and FAIL. Some tests may just have PASS or FAIL. 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>Stage 2: 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 'Reader' functionality then this will also require a 'Pass' or 'Pass with Conditions', in order for the Product Test Report to be issued.</p>
Reader Test Procedure	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 ' Writer ' functionality then this will also require a 'Pass' or 'Pass with Conditions', in order for the Product Test Report to be issued.
Application to AMWA	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	
What it means	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".
What it DOES NOT mean	<ul style="list-style-type: none"> a) All files produced by a Writer are always fully conformant to the "AMWA AS-11 UK DPP" Shims b) Files from Writers will always work correctly with Readers c) Files from Writers will never be rejected by UK Broadcasters d) All modes and features of the product have been tested



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.

COMPLETING THE FORM	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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GENERAL	OEM Name	Dalet
	Product Name	DALET AmberFin Platform (Transcoder)
	Product Version	10.4.102.61657

DEVICE OPERATION	Can the product be used to Write AS-11 DPP HD files?	Y
	Can the product be used to Read AS-11 DPP HD files?	Y
	Give details of the range of product features 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.	Transcode, edit metadata, insert metadata.
	For these product features, please detail the capabilities , the and any restrictions on the capabilities	Default configuration for transcode to HD DPP requires input file to be 1920x1080 @ 25i.

CONFIGURATION	Details of product configuration in order to use the features: for example, output settings.	When installing, tick "UK Digital Production Partnership (DPP)" option. In GUI, in Global Preset click ..., select Import, select "DPP-Profiles.tpl". In Active Profile Groups, Transcode + QC, select "AS-11".
	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							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 metdata	Source media used (File name or SDI) (DPP or OEM supplied in brackets)	Product features used to produce the file	
AmberFin_R61657_DPP_Writer_Test _Input_A_uk-dpp-hd-16ch.mxf	Approx 10 mins	Single	16	Writer Test Input DM - A	DPP_Writer_Test_Input_A.mov (DPP)	DM XML I/p, complete T/L from file	PASS
AmberFin_R61657_DPP_Writer_Test _Input_C_uk-dpp-hd-16ch.mxf	Approx 10 mins	2 parts	16	Writer Test Input DM - B	DPP_Writer_Test_Input_C.mov (DPP)	DM Manual i/p, complete T/L from file, segmentation timing as per DM	PASS
AmberFin_R61657_DPP_Writer_Test _Input_C_30min_uk-dpp-hd-4ch	Approx 30 mins	Single	4	Any	Any 30 mins of "programme" type material, from any file format, plus line-up and ident (OEM to supply)	iCR DPP metadata tools used to enter metadata manually to produce AS-11 DPP HD file	PASS

NOTES	
Writer Test Procedure	<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 possibly 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>
Amberfin's instructions/comments	<p>Import input file into iCR Library (drag and drop). Right-click imported file in Library, select Launch Job -> UK-DPP-HD 16ch.</p> <p>Click Job Status tab, wait for job to complete (if an error message saying "Cannot load source xml" pops up, ignore it). Right-click on completed job, select</p>

	<p>Locate the imported output file in the Library and double-click on it to load it into the Player.</p> <p>Click Timeline tab. If Segment Track is not visible then click on Show/Hide Segment Track button. Right-click on the Segment Track and select Segment Table Click on UK DPP tab. Enter appropriate metadata (note total number of parts and total programme duration need to be entered). Click Save button. Click Hide the UK DPP tab. In the Player window, click Unload.</p>
Input artefacts	<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>Input content (files) will be provided by the Lab, as shown above</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>SDI</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 Royalty Free.</p>
Output artefacts (DPP files) to be produced	<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>

OEM	Dalet
Product	DALET AmberFin Platform (Transcoder)
Version	10.4.102.61657
File	AmberFin_R61657_DPP_Writer_Test_Input_A_uk-dpp-hd-16ch.mxf
File ref	184
Date	08 September 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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39	The property SingleSequence should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC
40	The property ConstantBFrames should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC. There are no B-Frames.
41	The property CodedContentType should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC
42	The property LowDelay should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC
43	The property ClosedGOP should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC
44	The property IdenticalGOP should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC
45	The property MaxGOP should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC. The essence is Intra-Frame only.
46	The property BitRate should not really be used in the MPEG2VideoDescriptor because: This is not intended for use with AVC

PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes)
P	Test 1	Media Player checks:	Note media duration audio plays ok video plays ok qty of audio channels a/v in sync and same length
P	Test 2	DPP Metadata tool	DPP Metadata Validation
P	Test 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 (Misc)	All the following: AQC 1 AQC 2 mxf analyser	a1 AVC syntax: SMPTE RP 2027:2011 Class 100 a2 SPS and PPS location 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: AQC 1 AQC 2 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
W	Tests 7 - 8 (Essence Descriptors)	All the following: mxfdump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value

OEM	Dalet
Product	DALET AmberFin Platform (Transcoder)
Version	10.4.102.61657
File	AmberFin_R61657_DPP_Writer_Test_Input_C_uk-dpp-hd-16ch.mxf
File ref	185
Date	08 September 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

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PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes)
P			Note
P	Test 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	DPP Metadata tool	DPP Metadata Validation
P	Test 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 (Misc)	All the following: AQC 1 AQC 2 mxf analyser	a1 AVC syntax: SMPTE RP 2027:2011 Class 100 a2 SPS and PPS location 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: AQC 1 AQC 2 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
W	Tests 7 - 8 (Essence Descriptors)	All the following: mxfdump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value

OEM	Dalet
Product	DALET AmberFin Platform (Transcoder)
Version	10.4.102.61657
File	AmberFin_R61657_DPP_Writer_Test_Input_C_30min_uk-dpp-hd-4ch
File ref	186
Date	09 September 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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PASS / FAIL	Test	Tool	Error or Warning Category (refer to accompanying notes)
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P	Test 2	DPP Metadata tool	DPP Metadata Validation
P	Test 3	mxFXML 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 (Misc)	All the following: AQC 1 AQC 2 mxF analyser	a1 AVC syntax: SMPTE RP 2027:2011 Class 100 a2 SPS and PPS location a3-6 Video essence: frame size, 25 fps, interlaced, 10 bit a7 Sound Essence Bytes a8 Closed Captions
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W	Tests 7 - 8 (Essence Descriptors)	All the following: mxFDump, MXFDump	b1-112 Consolidated Essence Descriptors: Presence and Value

Overall READER Result (DPP Test Lab review of OEM supplied test results)	PASS
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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	Dalet
Product name	DALET AmberFin Platform (Transcoder)
Product version	10.4.102
Date of tests	10/09/2014

6b Table 2 - PRODUCT DESCRIPTION and CAPABILITIES (OEM to complete)	
Brief description of product / product type	Transcoder; HD/SD SDI and File inputs; HD/SD SDI and File outputs; monitor outputs
What are its primary functions in relation to AS-11 UK DPP Reader tests? Please list the main ones.	i) AS-11 DPP HD file input decode to baseband (SDI/analogue audio) outputs; ii) AS-11 DPP HD file input to new file format outputs (eg: MPEG 50 Long GOP); iii) AS-11 DPP HD file input decoded to monitor outputs.
Does the device render both video and audio from the AS-11 DPP file for use by the device?	Yes, including 16 channels of audio
Player functionality: Does the device render to video on to a display? If so how is this presented to the display?	Yes, HDMI monitoring output
Player functionality: Is audio decoded to outputs suitable for monitoring purposes?	Yes, Audio L and R monitoring output, with selectable routing of input channels from I/P file
Transcode functionality: Does the device render the AS-11 DPP video to a different file format as part of its operation?	Yes, a range of output file formats and file wrappers are supported. Some allow for multichannel audio.
Does the device perform a partial file read of video and/or audio?	Yes, sub-clips may be produced
Is there a display of media Timecode?	Yes, on the monitor output
Does the device read AS-11 DM (descriptive metadata) and/or UK DPP DM? If so how is this used and displayed?	Yes, UK DPP DM read and displayed on monitor.
Is there any display of programme segmentation / programme parting?	Yes, as In/Out Timecodes on the monitoring output
Does the product have the capability to jog, shuttle and jump to a new T/C?	Yes

6e NOTES (OEM to complete if there are any other relevant details)
For transcode tests, clips were converted to MPEG2 50Mbit MXF Op1a and played out using AmberFin iCR.

DECLARATION	
7 DECLARATION	<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>