

HardingFPA – XHD Format and Codec Support.

HardingFPA-XHD Analyser frame sizes supported:

1920x1080p24	1920x1080i24	1920x1080p25	1920x1080i25
1920x1080p29.97	1920x1080i29.97	1920x1080p50	1920x1080i50
1920x1080p60	1920x1080i60		
1440x1080p24	1440x1080i24	1440x1080p25	1440x1080i25
1440x1080p29.97	1440x1080i29.97	1440x1080p50	1440x1080i50
1440x1080p60	1440x1080i60		
1280x720p24	1280x720p25	1280x720p29.97	1280x720p50
1280x720p60	960x720p24	960x720p25	960x720p29.97
960x720p50	960x720p60		
768x576p25	768x576i25	768x576p27.97	768x576i29.97
702 – 720 x 576p25	702 – 720 x 576i25		
702 – 720 x 486p29.97	702 – 720 x 486i29.97		
702 – 720 x 480p29.97	702 – 720 x 480i29.97		
640x480p29.97	640x480i29.97		
384x288p25	384x288i25		
352x288p25	352x288i25		
320x240p29.97	320x240i29.97		

Files Format Support:

The HardingFPA Analyser modules will analyse any movie file for which the computer it is installed on has the codec. These codecs are generally not provided with the HardingFPA System (but see FFmpeg notes below); therefore any required codecs may need to be installed on the computers to be used.

In general, if the file can be viewed correctly using QuickTime (or Media Player) on the computer that the HardingFPA is running on, then the HardingFPA will be able to analyse it, although the frame size and frame rate must be within the supported ranges, otherwise the Analyser will dismiss the job.

The HardingFPA uses the following frameworks to access video frames:

- FFmpeg
- QuickTime
- DirectShow (on Windows only)

When presented with a file, a framework is selected based on the movie file extension.

.MXF Files:

An attempt is made to open the MXF file using the HardingFPA internal MXF library. This library has support for OP1A and OP ATOM wrapped MXF files with the following Codecs:

- D10 (IMX)
- DV
- DVCPRO
- DVCPRO HD
- DNxHD

If the HardingFPA's internal MXF library does support the MXF file format, then the HardingFPA's FFmpeg library is used to decode these frames. The HardingFPA MXF library includes support for AVID MXF files as well as MXF time code tracks.

If the MXF file format is **not** supported by the HardingFPA's internal MXF library, an attempt is made to use the HardingFPA's FFmpeg library to open the file directly. If this attempt is successful the MXF time code track is not supported. To compensate for this an attempt will be made to use the VITC information, if any, embedded in the video material.

If all else fails, the HardingFPA will attempt to use QuickTime (and for Windows systems, DirectShow) using any codecs installed in the system. If this is successful, an attempt will be made to use the VITC information, if any, embedded in the video material.

.MOV Files:

The host computer's QuickTime library will be used to open QuickTime files. File support depends on the QuickTime Codecs that are installed on the HardingFPA's host computer. The QuickTime library supports QuickTime time code tracks. The HardingFPA does not support multi-track QuickTime movies.

Other Files

Firstly the use of FFmpeg is attempted, followed (on Windows systems) by an attempt to use the DirectShow framework.

Why use FFmpeg

On HardingFPA Windows systems, FFmpeg now replaces DirectShow when possible. This is because it provides a consistent set of embedded Codecs that allow for consistent results, across platforms and installations.

On Mac based HardingFPA system, FFmpeg provides more file format support.

- If a previous version of the HardingFPA used DirectShow or QuickTime, and a newer version uses FFmpeg, there is a possibility that the results will differ due to the slight differences between codec algorithms. The use of FFmpeg in current and future versions of the HardingFPA product range will mitigate this problem.
- FFmpeg in many cases removes the requirement of purchasing 3rd party MXF support and Codecs as the HardingFPA's MXF library, in conjunction with FFmpeg, now fulfills this requirement.

The HardingFPA's FFmpeg library supports the following Codecs:

D10 (IMX), DV, DVCPRO, DVCPRO HD, DNxHD, MPEG1VIDEO, MPEG2VIDEO, H261, H263, RV10, RV20, MJPEG, MJPEGB, MPEG4, MSMPEG4V1, MSMPEG4V2, MSMPEG4V3, WMV1, WMV2, H263P, H263I, FLV1, H264, INDEO3, VP3, THEORA, ASV1, ASV2, FFV1, MSVIDEO1, SNOW, XVID, FFMVHUFF, INDEO2, FRAPS, VP5, VP6, VP6F, FFH264.

End. 04/1/2010