

# FFV1 and Matroska reading list

A collection of web links for further reading on the combination of FFV1 (codec) and Matroska (container), as an emerging open and standards-based digital preservation solution for the digitisation of video and film materials. This combination is going through a standardisation process via the Internet Engineering Task Force (IETF) mandated by the Preforma project, and is already in use in many archives as the preservation solution for video-source digitisation. It is also under active development as a lossless preservation solution for film scans, via the RAWcooked initiative.

FFV1 in Wikipedia, includes list of archives known to be using FFV1:

- <https://en.m.wikipedia.org/wiki/FFV1>

MATROSKA in Wikipedia:

- <https://en.m.wikipedia.org/wiki/Matroska>

CASE STUDY: University of Indiana MDPI video digitisation project, file format discussion, by Mike Casey:

- <https://mdpi.iu.edu/doc/MDPIwhitepaper.pdf>

PREFORMA / No Time To Wait: Open Source and FFV1 MKV for archives (blogs, videos, interviews, slides):

- <https://www.beeldengeluid.nl/en/knowledge/blog/tools-trade>
- <https://mediaarea.net/MediaConch/2016/07/26/No-Time-To-Wait-Preservation-FFV1-Matroska-Symposium/>
- <https://github.com/preforma/notimetowait>
- <https://blogs.loc.gov/thesignal/2015/09/improving-technical-options-for-audiovisual-collections-through-the-preforma-project>

FFV1 as preservation choice - implementation risk assessments, by Peter Bubestinger:

- [http://www.av-rd.com/knowhow/video/risk\\_assessment.html](http://www.av-rd.com/knowhow/video/risk_assessment.html)
- <https://mediaarea.net/MediaConch/interviews/InterviewLewetzBubestinger.html>
- [http://download.das-werkstatt.com/pb/fsfe/presentations/2015/the\\_ffv1\\_story.pdf](http://download.das-werkstatt.com/pb/fsfe/presentations/2015/the_ffv1_story.pdf)
- <https://www.scart.be/?q=nl/content/interview-met-peter-bubestinger-en-herman-lewetz-%C3%B6sterreichische-mediathek>
- [http://download.das-werkstatt.com/pb/mthk/info/video/FAQ-digital\\_video\\_archiving.html](http://download.das-werkstatt.com/pb/mthk/info/video/FAQ-digital_video_archiving.html)

Library of Congress blog: comparing formats for video digitisation

- <https://blogs.loc.gov/thesignal/2014/12/comparing-formats-for-video-digitization/>

FFMPEG: FFV1 encoding reference:

- <https://trac.ffmpeg.org/wiki/Encode/FFV1>

FFMPEG: FFmprovizr rewrap to MKV using FFV1 with FrameMD5:

- [https://amiaopensource.github.io/ffmprovizr/#create\\_FFV1\\_mkv](https://amiaopensource.github.io/ffmprovizr/#create_FFV1_mkv)

MediaConch: conformance checker for FFV1 / Matroska:

- <https://mediaarea.net/MediaConch/documentation/FAQ.html>

MKVToolNix: toolset for manipulating Matroska files, including adding and extracting attachments, editing metadata headers, adding chapters with annotations:

- <https://mkvtoolnix.download/>

Library of Congress file formats for video digitisation:

- [http://www.digitizationguidelines.gov/guidelines/video\\_reformatting\\_compare.html?loclr=blogsig](http://www.digitizationguidelines.gov/guidelines/video_reformatting_compare.html?loclr=blogsig)
- [http://www.digitizationguidelines.gov/guidelines/FADGI\\_VideoReFormatCompare\\_pt5\\_20141202.pdf](http://www.digitizationguidelines.gov/guidelines/FADGI_VideoReFormatCompare_pt5_20141202.pdf)

New South Wales Govt: preservation file formats assessed:

- <https://web.archive.org/web/20131110105550/http://www.records.nsw.gov.au/recordkeeping/government-recordkeeping-manual/guidance/guidelines/guideline-22/digital-audio-and-video-file-formats-form/formats-and-codecs-for-digital-video-preservation>

FIXITY: FrameMD5 article, by Dave Rice:

- <http://dericed.com/papers/reconsidering-the-checksum-for-audiovisual-preservation>

FILM SCANS: FFV1 MKV as solution for film and video sources, FIAF JFP article by Reto Kromer:

- [http://www.fiafnet.org/images/tinyUpload/Publications/Journal-Of-Film-Preservation/Matroska-and-FFV1\\_Kromer\\_JFP96.pdf](http://www.fiafnet.org/images/tinyUpload/Publications/Journal-Of-Film-Preservation/Matroska-and-FFV1_Kromer_JFP96.pdf)

FILM SCANS: FFV1 MKV solution discussed by Kieran O'Leary from IFI:

- <https://kieranjol.wordpress.com/2016/10/07/introduction-to-ffv1-and-matroska-for-film-scans/>

FILM SCANS: RAWCooked: MediaArea initiative to preserve DPX sequences in FFV1 MKV:

- <https://mediaarea.net/RAWcooked>
- <https://github.com/MediaArea/RAWcooked>

CAPTURE: VRecord page in AMIA Open Source Github:

- <https://github.com/amiaopensource/vrecord#summary>

CAPTURE: Black Magic cards for VRecord:

- <https://github.com/amiaopensource/vrecord/blob/master/Resources/hardware.md>

CAPTURE: Digitisation capture software discussion, by Dave Rice:

- <http://dericed.com/papers/digitization-software-obsolence-too/>