

Open-Source Tools and Resources

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Summary

- introduction
- the FFmpeg family
- other open-source pieces of software
- conclusion

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CLI and/or GUI

- command-line interface (CLI)
- graphical user interface (GUI)

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MD5 Checksums

Windows comes with:

CertUtil

macOS and Linux come with:

md5

md5deep

shasum

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FFmpeg

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FFmpeg Components

- ffmpeg
- ffplay
- ffprobe
- libavutil
- libavcodec
- libavformat
- libavdevice
- libavfilter
- libswscale
- libswresample

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Data Transformations

demultiplex: libavformat

decode: libavcodec

filter: libavfilter

encode: libavcodec

multiplex: libavformat

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File Transformations

ffmpeg (CLI)

→ ffmpeg.org

FFmpeg Cookbook for Archivists

→ avpres.net/FFmpeg/

ffmprovisr

→ amiaopensource.github.io/ffmprovisr/

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Metadata Extraction

MediaInfo (GUI, CLI)

→ mediaarea.net/MediaInfo

ffprobe (CLI)

→ ffmpeg.org

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Media Players

VLC (GUI)

→ www.videolan.org/vlc/

mpv (CLI)

→ mpv.io

ffplay (CLI)

→ ffmpeg.org

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A Graphical User Interface

FFCommand Engine (GUI)

→ github.com/ColorlabMD/FFCommand_Engine

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Other Software

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	avantages	disavantages
TIFF DPX OpenEXR	data easier to process	bigger files
JPEG 2000 FFV1	smaller files	data complexer to process

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The Missing Piece of Software

RAWcooked (CLI)

→ mediaarea.net/RAWcooked

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RAWcooked

- encoding into Matroska (.mkv) using FFV1 video codec and FLAC audio codec
- all metadata preserved
- decoding with bit-by-bit reversibility
- possibility to embed sidecar files (e.g. MD5, LUT, XML)
- compatibility with media players

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Quality Control

QCTools (GUI), **qcli** (CLI)

→ bavc.org/preserve-media/preservation-tools

QCTools Documentation

→ bavc.github.io/qctools/

AV Artifact Atlas

→ bavc.github.io/avaa/

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Optical Sound Extraction

AEO-Light (GUI)

→ usc-imi.github.io/aeo-light/

AEO-Light Manual

→ github.com/usc-imi/aeo-light/releases/download/v2.2-beta/AEO-Light-2.2-beta-Manual.pdf

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DCP Encoder (and Player)

DCP-o-matic (GUI)

→ dcpomatic.com

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AMIA Open Source (1)

vrecord (CLI)

→ github.com/amiaopensource/vrecord

audiorecorder (CLI)

→ github.com/amiaopensource/audiorecorder

LTOpers (CLI)

→ github.com/amiaopensource/ltopers

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AMIA Open Source (2)

The Cable Bible

→ amiaopensource.github.io/cable-bible/

Open Workflows and Resources

→ github.com/amiaopensource/open-workflows

Time-Based Media Art Resources

→ github.com/amiaopensource/time-based-media-art

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AMIA Open Source (3)

Analog Inspection

→ [github.com/amiaopensource/
analog-inspection](https://github.com/amiaopensource/analog-inspection)

AV Python Carpentry

→ [github.com/amiaopensource/
av-python-carpentry](https://github.com/amiaopensource/av-python-carpentry)

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FADGI

Federal Agencies Digital Guidelines Initiative (USA)

→ [digitizationguidelines.gov](https://www.digitizationguidelines.gov)

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IFI Irish Film Archive

IFI Scripts (by Kieran O'Leary)

→ github.com/kieranjol/IFIscripsts

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