

Audio

[Русский](#)

The Main Idea

The AUDIO section covers three different tasks that are easy to confuse:

- EXTRACT;
- SOUND IN VIDEO;
- CONVERT.

These are the modes of the section: a row of buttons under the ribbon. Each one has a tooltip that explains it. If in doubt, hold the cursor over a mode for a second.

Mode: Extract Audio

Makes separate audio files from video containers. The video is not copied into the result.

Use it to:

- take WAV out of MOV/MP4/MKV/MXF;
- get FLAC/M4A/MP3/Opus from a video;
- extract all audio streams;
- make a LUFS report or a normalized audio delivery.

The Target keeps the structure of the Source.

Mode: Sound In Video

Makes a new video file: the video streams are copied, and the selected audio streams are changed inside the container.

Technically this is `-c:v copy` plus processing of the audio stream.

Use it when you need to:

- change the sample rate of the audio in a video;
- change PCM/AAC parameters without re-encoding the picture;
- normalize the sound without touching the picture;
- make a MOV/MKV/MP4 with a new audio stream.

Container advice:

- PCM/FLAC is safer in MOV or MKV.
- AAC/MP3 usually suit MP4.
- The **Source** container is good when the source file is already compatible with the selected audio format.

Mode: Convert Audio

Processes separate sound files from the Source:

- WAV;
- FLAC;
- M4A;
- MP3;
- AAC;
- Opus.

Use it for:

- resampling of libraries;
- normalization of music/speech;
- batch conversion WAV -> FLAC/M4A/MP3/Opus;
- downmix to mono/stereo.

Profiles

The main presets:

- **WAV 24/48** - PCM WAV for editing.
- **WAV float 48 kHz** - 32-bit float for restoration.

- **FLAC 24-bit 48 kHz** - lossless archive audio.
- **M4A 384k** - AAC for review/delivery.
- **M4A 256k** - compact AAC.
- **Video copy + PCM 24/48 SoX** - the sound inside MOV, the video is not touched.
- **Video copy + AAC 384/48 SoX** - AAC inside the container.
- **MP3 LAME V0** - high-quality VBR.
- **MP3 Insane 320** - CBR 320.
- **Opus 192k** - modern compact audio delivery.
- **M4A 384k LUFS -14** - two-pass loudnorm.
- **WAV stereo downmix** - downmix.
- **5.1 Matrix WAV** - matrix-compatible stereo.
- **Copy all audio streams** - extract all streams without re-encoding.
- **LUFS report** - loudness analysis without encoding.

The audio presets are shown as buttons. A button does not only choose the name of the mode: it also changes the parameters below at once: workflow, format, Copy container, bitrate, LUFS, channels and other related fields. Colors of the groups: Copy/remux - dark green, lossless/PCM - dark teal, lossy delivery - dark orange.

Source Filter

The **Source file filter** field limits the extensions. If it is empty, the operation takes its own supported types.

On the audio page these are available:

WAV W64 FLAC M4A M4B AAC MP3 Opus OGA OGG AIF AIFF CAF AU SND
AC3 E-AC3 DTS MKA APE WV TAK TTA MPC AMR AWB SPX DSF DFF
MP4 M4V MOV MKV MXF AVI WEBM MPG MPEG MTS M2TS TS 3GP

The Source is scanned recursively; the Target repeats the structure of the subfolders.

Format

Available:

- **Copy** - the selected audio stream is not re-encoded.

- **WAV** - PCM.
- **FLAC** - lossless, **-compression_level 8**. The same level is used for FLAC inside video (for example in the archive FFV1) and in the CLI profiles, so that one format is not encoded in different ways.
- **ALAC** - Apple Lossless in M4A.
- **M4A / AAC** - AAC delivery.
- **MP3** - LAME.
- **Opus** - modern compact audio.

Copy is not compatible with every change. If the sample rate, bit depth, LUFS or channels change, a re-encode is needed.

For **Copy** there is a container policy:

- **Auto** - picks a practical container by codec and channels: AAC stereo/mono -> M4A, AC3/E-AC3/DTS -> the codec's own file, unknown or multichannel AAC -> MKA.
- **M4A** - forces M4A for compatible streams, otherwise falls back to MKA.
- **MKA** - always Matroska Audio.
- **Codec file** - writes an elementary file where possible: AAC, AC3, E-AC3, DTS, FLAC, MP3 and so on.

Sample Rate, Bit Depth And Resampler

Sample rate:

- **COPY** ;
- **44.1 kHz** ;
- **48 kHz** ;
- **96 kHz** .

Bit depth:

- **COPY** ;
- **16-bit** ;
- **24-bit** ;
- **32-bit float** .

Resampler:

- `SoX 100% quality` - every change of the rate goes through libsoxr with `precision=33`.

The available rates are grouped by multiples: Copy/source, 44.1/88.2/176.4 kHz and 48/96/192 kHz.

Streams

Modes:

- `First stream`;
- `All streams`;
- `By index`;
- `By language`.

The audio stream index counts from zero: `a0` is the first audio stream.

Selection by language uses the container tags: `eng`, `rus`, `ukr` and others.

LUFS

Fields:

- `LUFS`: off, -14, -16, -23.
- `LUFS mode`: off, report, one-pass, two-pass.

Recommendations:

- `Report only` - measure the material first.
- `One pass` - fast.
- `Two pass` - more accurate and better for the final normalization.
- `-14` - often used for streaming-style loudness.
- `-23` - a broadcast-style target.

Channels

Choices:

- `Keep`;
- `Stereo`;

- `Mono`;
- `Dual mono`;
- `5.1 Matrix`.

`5.1 Matrix` adds DPLII matrix compatibility when the sound is downmixed to stereo.

MP3 / LAME

Choices:

- `VBR V0` (about 245 kbps);
- `Insane 320`;
- `By bitrate`.

For music V0 is usually better. For strict systems that need CBR, choose 320.

The same scale works in the ENCODE (ARCHIVE, EDITING, STORAGE, DELIVERY) and COLOR sections when `Audio = MP3`, and in the CLI through `AUDION_MP3_LAME_PRESET`. The default is `v0` everywhere.

`By bitrate` is limited to 320 kbps: MPEG-1 Layer III cannot go higher, and LAME lowers a bigger value silently, so the file name would promise a bitrate that the file does not have.

Audio Report

After processing, these files are written:

```
audio_report.md
audio_report.json
```

The report contains:

- the source file;
- the stream selection;
- the input audio parameters;
- the output path;
- the codec/format;
- the LUFS data, if it was measured;

- the errors per file.

Common Solutions

Need To Take WAV Out For Editing

Profile `WAV 24/48`, mode `EXTRACT`, stream `First stream` or `All streams`.

Need To Change The Sound In A Video Without Re-encoding The Picture

Profile `Video copy + PCM 24/48 SoX` or `Video copy + AAC 384/48 SoX`, mode `SOUND IN VIDEO`.

Need To Process Folders With The Same File Names

Just use a Source with subfolders: the Target keeps the structure.

Need Only To Know The Loudness

Profile `LUFS report`, LUFS mode `Report only`, no overwrite.

Need To Cut A Piece Out Of A Sound File

This is not done here but in the CUT section: WAV, FLAC, MP3 and the others are cut there exactly on the sample, and the piece is written as it was or in a format from the same set as in this section. Details:

`TRIM_EN.md`.