



# How to Install & Use 'Replace MP4 Audio with WAV' (macOS Quick Action)

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## Overview

**Replace MP4 Audio with WAV** is a macOS Quick Action designed for audio post-production workflows. It lets you quickly replace the audio in an **.mp4** video file with a selected **stereo .wav** - ideal for final mix delivery, client approvals, or versioning.

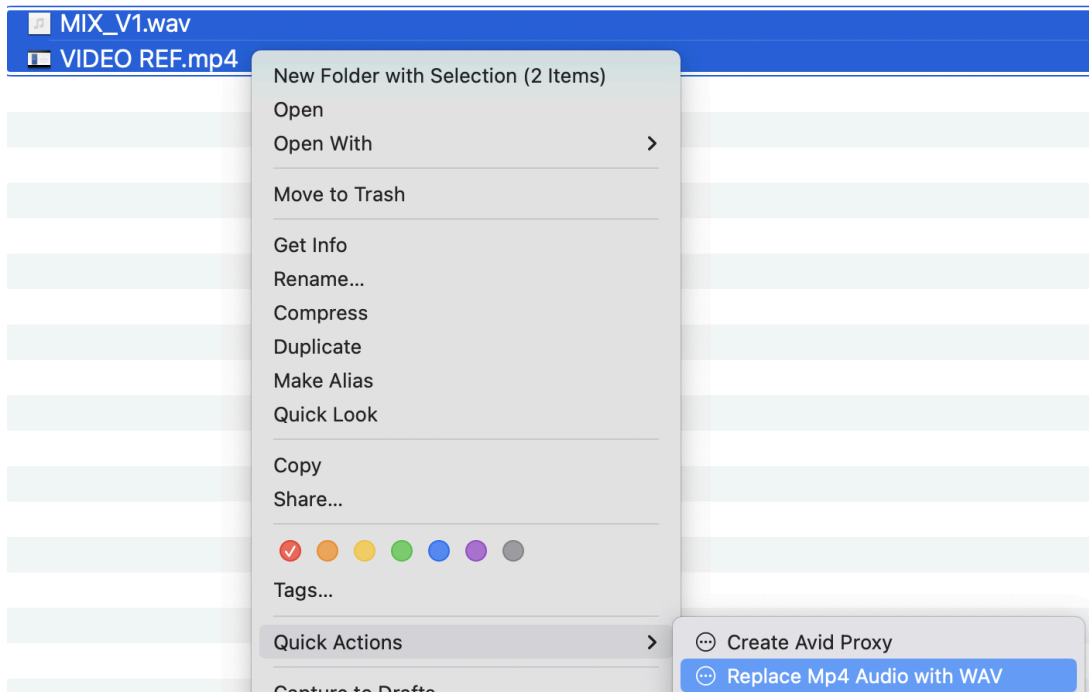
*(If this all seems too complicated, the setup time is 10-15 minutes. All you need to do is install the apps, the script, and possibly change a couple System Preferences. You will have mp4 and wav merging in a single click / keystroke. No more loading files into a video transcoder or dealing with the Avid Video Engine. That said, if you are not a tinkerer - this is likely not for you)*

The Quick Action is created using **Automator**, macOS's built-in automation tool. Automator acts as the bridge between Finder and a background FFmpeg script, allowing you to run a media-processing workflow with a single right-click or keyboard shortcut.

Under the hood, the workflow uses **FFmpeg**, an open-source media tool, installed via **Homebrew**, a command-line package manager for macOS. FFmpeg runs in the background to combine the video from your **.mp4** with the audio from your **.wav**, without affecting your original files.

When you run the Quick Action on two files (an **.mp4** and a **.wav**) **simultaneously selected** in the finder, it:

- Uses the original **video** from the selected **.mp4**
- Replaces the **audio** with the selected **.wav**, encoded as **AAC 320 kb/s\***
- Saves a new **.mp4** file in the **same folder as the .wav**
- **Renames it to match the .wav filename**  
(e.g. **Final\_Mix\_0505.wav** → **Final\_Mix\_0505.mp4**)
- Leaves your original files untouched
- Sends a **macOS notification** when the merge is complete



This can be done by right-clicking in the finder or using a custom keyboard shortcut.

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## Requirements (Before Installation)

To use this Quick Action, you'll need:

### 1. Basic Awareness Of:

- Trying Automator - macOS's built-in automation tool. (All you need to do is install the script and save it)
- Finder Quick Actions (can you right-click?)
- Using the **Terminal** in macOS Utilities for setup (All commands are copy and pastable. Installation may take 5+ minutes based on connection)
- Changing **System Preferences**

### 2. Install Homebrew (if you don't already have it)

Homebrew is a package manager for macOS. You'll use it to install FFmpeg.

In **Terminal**, found in macOS Utilities folder, paste and hit enter.

```
/bin/bash -c "$(curl -fsSL  
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Then follow the directions for User PW and installation (This may take 5+ minutes depending on connection speed and CPU):

### 3. Install FFmpeg with Homebrew

FFmpeg is the command-line tool that performs the audio replacement.

In **Terminal**, paste and hit enter,

```
brew install ffmpeg
```

Then confirm it's installed with:

```
which ffmpeg
```

You should see something like:

```
/opt/homebrew/bin/ffmpeg
```

If `which ffmpeg` does not return a path, make sure FFmpeg was installed using Homebrew in a standard location. If you used **MacPorts** or another method, or if you customized your shell `$PATH`, you may need to manually update the script to point to the correct FFmpeg path.

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## How to Install the Quick Action

### 1. Download this custom workflow file

[Replace MP4 Audio with WAV.workflow](#)

### 2. Install it

- Unzip the file
- Double-click the `.workflow` file (Depending on macOS version it may warn you about installing files from the internet)
- Click *Install* when Automator prompts you
- It will now appear under **Finder > Quick Actions** when you right-click a file

### 3. (Optional) Add a keyboard shortcut

- Go to **System Settings > Keyboard > Keyboard Shortcuts > Services**
  - Scroll to **Files & Folders**
  - Find **Replace MP4 Audio with WAV**
  - Click **Add Shortcut** and assign something simple (I like using unused function keys like F13).
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## System Settings You *May* Need to Adjust

Depending on your version of macOS, you may be prompted to approve permissions the first time you run this workflow. If the Quick Action doesn't appear to run, or fails silently, check the following:

### 1. Grant Full Disk Access to Automator and Terminal

Go to:

**System Settings > Privacy & Security > Full Disk Access**

Make sure these apps are listed and enabled:

- Automator
- Terminal
- (Optional) iTerm or another terminal app if you use one

If they're not listed:

- Click the “+” button
- Navigate to: `/Applications/Utilities/Automator.app`
- Repeat for Terminal

## 2. Approve Automation Permissions (if prompted)

Go to:

**System Settings > Privacy & Security > Automation**

Check that:

- Automator is allowed to control Finder
- Automator is allowed to run AppleScripts

These prompts usually appear the first time the workflow runs. Approve them when requested.

## 3. Enable the Quick Action in Finder (if needed)

If you don't see the workflow in the Finder context menu:

- Right-click any file
- Go to **Quick Actions > Customize**
- Enable **Replace Audio with WAV** from the list

### **Additional Note:**

On the first run, the workflow may silently fail or display a vague error message (e.g. "The action could not be completed").

If that happens, go to **System Settings > Privacy & Security > Automation**, and make sure **Automator is allowed to control Finder** and other system apps.

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## How to Use It

### 1. In Finder, simultaneously select exactly:

- One **.mp4** file (your original video), e.g.:  
`Video_Reference_v1.mp4`
- One **.wav** file (your final audio), e.g.:  
`Final_Mix_0505.wav`

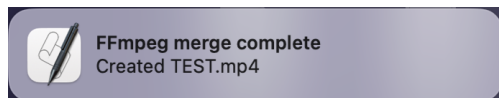
### 2. Right-click → Quick Actions → Replace MP4 Audio with WAV

- or press your assigned keyboard shortcut

### 3. The new **.mp4** file will:

- Appear in the **same folder as the .wav**
- Be named after the **.wav** file:  
`Final_Mix_0505.wav` → `Final_Mix_0505.mp4`

### 4. You'll get a macOS desktop notification when it's done. 🎉🎉🎉🎉🎉



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## Behaviors

This section explains how the Quick Action handles inputs, duration mismatches, and output formatting.

### Output File Location and Naming

- The new **.mp4** file is saved in the **same folder** as the **.wav** file.

- The output is named after the `.wav`, with a `.mp4` extension.  
Example: `Mix_v2.wav` → `Mix_v2.mp4`
- If the `.wav` and `.mp4` files have the same name, the output `.mp4` will automatically be renamed with `_updated_<timestamp>` to avoid overwriting the original video and to clearly indicate that the audio has been replaced.

### Audio and Video Duration Mismatches

- If the **audio is shorter** than the video, it is padded with silence to match the video's length.
- If the **audio is longer**, it is automatically trimmed to match the video's duration.
- This ensures that even if the audio mix ends a few seconds early, the video will still play to the end with silence - avoiding awkward cutoffs or sync issues.

### Audio Re-encoding

- The audio is encoded as **AAC at 320 kb/s**.
- This ensures high-quality playback and compatibility with `.mp4` players.
- If your `.wav` is mono or a different sample rate (like 44.1kHz), FFmpeg will automatically convert it to stereo 48kHz during the merge.

### Video Handling

- The original video stream is **copied without re-encoding**.

### Input Requirements

- The workflow expects exactly **one .mp4 and one .wav** file.
- If either file is missing or invalid, an alert will appear with instructions.

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### System Compatibility

I am not a software developer - I wanted a faster way to swap out WAVs in `.mp4s` without opening another app. I put this workflow together for my own use, and it's been tested on both **Apple Silicon and Intel Macs**, running **macOS Sonoma** and **Ventura**. It's been reliable and consistent in both cases.

I haven't tested it on every version of macOS, however based on how Automator, Quick Actions, and FFmpeg work across different systems, here's a general guide to what you can expect:

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### Estimated Compatibility

macOS Version	Status	Notes
<b>Sequoia (15.x)</b>	✅ Fully Compatible	Automator and Homebrew confirmed working in early release
<b>Sonoma (14.x)</b>	✅ Confirmed Working	Tested on Apple and Intel Macs
<b>Ventura (13.x)</b>	✅ Confirmed Working	Tested on Apple and Intel Macs
<b>Monterey (12.x)</b>	⚠️ Likely Compatible	May require permissions or checking FFmpeg's path
<b>Big Sur (11.x)</b>	⚠️ Should Work	Homebrew path may vary ( <code>/usr/local/bin/ffmpeg</code> )
<b>Catalina (10.15)</b>	⚠️ Unstable	Automator is still there, but FFmpeg support may be flaky
<b>Mojave (10.14) or earlier</b>	❌ Not Recommended	Too many moving parts are outdated or unsupported

If you're running into issues, the most common fixes involve checking **Privacy & Security settings** or making sure FFmpeg is properly installed via Homebrew.

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(for the audiophiles)

## \* Why AAC 320 kb/s was used

A few practical reasons:

1. It offers a reliable balance of **high audio quality**, **manageable file size**, and **broad compatibility** across playback platforms.
2. **Compression efficiency** - AAC at 320 kb/s is nearly indistinguishable from uncompressed PCM for stereo dialogue and music, while significantly reducing file size. A typical AAC file is around 2.4 MB per minute compared to 10 MB or more per minute for uncompressed PCM.
3. **Standard practice for delivery previews** - Many networks, clients, and editors expect AAC in H.264 **.mp4** wrappers for screening or approval copies.
4. While it is possible to use **uncompressed PCM (WAV) audio**, that is better suited for **.mov** containers and workflows that require full-resolution audio for broadcast, archival, or post-production finishing.