

LoopToWav Installation Guide

Quick start

Follow these steps the first time you use LoopToWav. Each step points to the section with more detail.

1. **Install:** Put LoopToWav.component in `~/Library/Audio/Plug-Ins/Components/` and restart your DAW. If macOS blocks it, run the command shown in "Installation".
2. **Load it:** Load LoopToWav in the instrument slot of a software instrument track (see "Loading in your DAW").
3. **Name the folder:** Before your first drag, click the folder name button to the right of the logo and type the same name as your Logic project.
4. **Add a loop:** Drop an Apple Loop onto the drop zone. A WAV matched to Logic's tempo is created. Pick a key if you want one.
5. **Hand it over:** Drag the drop zone into your sampler. To write the WAV to a folder instead, click Save WAV.

Please keep in mind

- Don't delete, move or rename the WAVs you dragged into a sampler (the files inside `LoopToWav Used`). Your sampler remembers where they are.
- After your first drag, the folder name can no longer be changed (the button shows a padlock). Name it before you drag.

See "Storing and cleaning up dragged WAVs" for details.

If something goes wrong

- LoopToWav doesn't appear or won't load: "If LoopToWav does not appear or will not load"
- You can't drag, or files are missing: "Troubleshooting"

Overview

LoopToWav by piipdiip is an Audio Unit instrument for macOS. Drop an Apple Loop onto it, and it converts the loop to a 24-bit WAV matched to your DAW's tempo, and optionally to a key you choose.

LoopToWav is designed for Logic Pro and has also been tested in GarageBand. Other DAWs are not supported.

You can then drag the WAV from the drop zone straight into a plugin that does not accept Apple Loops, such as a sampler, or save it to a folder with Save WAV.

- Supported input files: .caf, .aif, .aiff, .wav, .m4a, .mp3
- Maximum length: 120 seconds. Longer files are not accepted.
- Version: 1.1.0

Requirements

LoopToWav was developed and tested in the environment below. It is built as a Universal binary (Apple Silicon and Intel), requires macOS 11.0 or later, and uses only the libraries built into macOS.

	Tested
Mac	Intel iMac
macOS	13.7.8 Ventura
Host	Logic Pro 10.8.1, GarageBand 10.4.11

Plugin format: Audio Unit (instrument) only. VST3 and AAX are not provided.

Installation

Copy LoopToWav.component into your user Components folder. No password is needed there.

1. Unzip LoopToWav-macOS.zip.
2. In Finder, choose Go → Go to Folder... and enter `~/Library/Audio/Plug-Ins/Components/`.
3. Move LoopToWav.component into that folder.
4. Restart your DAW.

If LoopToWav does not load, run this in Terminal and restart your DAW (see "Using Terminal" below). LoopToWav is not notarized by Apple, so macOS may block it.

```
xattr -dr com.apple.quarantine ~/Library/Audio/Plug-Ins/Components/LoopToWav.component
```

To install for all users instead, use `/Library/Audio/Plug-Ins/Components/`. This requires an administrator password. If LoopToWav does not load from this folder, run the command below instead of the one above.

```
sudo xattr -dr com.apple.quarantine /Library/Audio/Plug-  
Ins/Components/LoopToWav.component
```

Terminal will ask for a password. Type the password you use to log in to your Mac and press Return. Nothing appears on screen while you type; this is normal.

Using Terminal

What is Terminal? It's an app that comes with every Mac. You use it to give your Mac instructions (commands) by typing text. You don't need it for everyday work, but this guide uses it for a few settings that Finder can't change. You only paste the commands from this guide, so you don't need to understand what they mean.

Opening Terminal

1. Hold down the ⌘ (Command) key and press the Space bar. A search field (Spotlight) appears in the middle of the screen.
2. Type "Terminal" and press Return.
3. A window with lines of text opens. The last line ends with a % or \$ sign, and you can type right after it.

If Spotlight doesn't find it, open the Applications folder in Finder, then the Utilities folder, and open Terminal.

Running a command

1. Select the command in the grey box in this guide, making sure you don't miss any characters, and copy it (⌘ + C).
2. Click once in the Terminal window, then paste (⌘ + V).
3. Press Return.
4. If nothing is shown and a new line ending in % or \$ appears, it worked. If you see an error message, check that you copied the whole command and try again.

When you're done, you can close the window with the red button at the top left.

Entering a folder's location

If you drag a folder from Finder into the Terminal window, its location (called a "path", such as /Users/... or /Volumes/...) is typed in for you. This is more reliable than typing it yourself.

Don't type anything into Terminal other than the commands in this guide.

Updating

When a new version is released, replace LoopToWav.component with the new one.

1. Quit your DAW.
2. Unzip the new version's LoopToWav-macOS.zip and move LoopToWav.component into the same folder as the current one (`~/Library/Audio/Plug-Ins/Components/`). When asked, choose to replace it.
3. Start your DAW. If LoopToWav doesn't load, run the xattr command above, then restart your DAW.

After replacing, your settings, storage folder, existing projects and dragged WAVs all keep working. The current version is shown at the bottom of the ? button menu.

Uninstalling

1. Quit your DAW.
2. Delete `~/Library/Audio/Plug-Ins/Components/LoopToWav.component` (or the one in `/Library/Audio/Plug-Ins/Components/` if you installed it for all users).
3. If you like, you can also delete these folders:
 - Temp files: `~/Library/Caches/piipdiip`
 - Settings: `~/Library/Preferences/piipdiip`

If you used LoopToWav in GarageBand, the same folders are inside `~/Library/Containers/com.apple.garageband10/Data/Library/`.

Don't delete the dragged WAVs (the LoopToWav Used folder) while you still keep projects that use LoopToWav, because your samplers use those files. The default storage location, `~/Library/Application Support/piipdiip`, contains LoopToWav Used, so don't delete that whole folder. To remove only the WAVs for projects you no longer need, see "Cleaning up folders for projects you no longer need".

Loading in your DAW

Load LoopToWav in the instrument slot of a software instrument track. It is an instrument so that the host can send it the project tempo; it makes no sound itself.

Logic Pro

1. Create a Software Instrument track.
2. Click the Instrument slot and choose AU Instruments → piipdiip → LoopToWav.

GarageBand

1. Create a Software Instrument track.
2. Load LoopToWav in the instrument slot.

GarageBand keeps its own settings file and its own storage folder for dragged WAVs (LoopToWav Used), inside `~/Library/Containers/com.apple.garageband10/Data/`. The ? button menu shortens this path with `~`, so it looks the same as in Logic. The first time you save a WAV, GarageBand asks for access to your Desktop; click OK.

Using LoopToWav

Drop a loop onto the drop zone, set the tempo and key, then drag the WAV out or click Save WAV.

Control	What it does
Loop	Shows the loop's BPM, key, beat count and time signature, read from the file. If the file has no tempo data, the BPM is estimated from its length and marked est. If the estimate is wrong, click the field to correct it. Both audio (blue) and software instrument (green) Apple Loops are supported.
Tempo	Loop BPM → target BPM. Turn on Sync Logic to follow the DAW tempo. Drag the target BPM field up or down to change it (up increases, down decreases; hold Shift for steps of 0.1), or double-click it to type a value. Either way turns Sync off. Leave it empty or 0 for no stretch. While the DAW tempo is changing, LoopToWav waits until it has been stable for 0.8 seconds, then rebuilds the WAV. Tempo changes within a song are not supported.
Key	Loop key → the key you choose (Original, or one of 12 keys). The loop is transposed by the shortest distance. You can also scroll over the Key field (mouse wheel, or two fingers on a trackpad) to change it one step at a time. If the direction feels backwards, switch it with Reverse key scroll direction in the ? button menu. The choice is saved with your project — the only setting saved per project.
Key change banner	When the key changes, a large banner appears below Key, for example D → E +2 st.
Varispeed	Changes speed and pitch together, like tape.

Control	What it does
Gain	Output level, -24 to +12 dB. If the output clips, the Gain value and the word CLIPPED in the drop zone turn red. When Gain is not 0 dB, the Gain is added to the end of the WAV's file name (for example, _-3.0dB). Each time you change Gain and drag, a separate file is created for that level. Gain starts at 0 dB when you insert the plugin or open a project. It isn't saved with the project, so set Gain again if you want the same level as before.
Drop zone	Drag the converted WAV from here into another plugin.
Save to	The folder Save WAV writes to (default: Desktop). Change... picks a folder; Show opens it in Finder.
Save WAV	Copies the converted WAV to the Save to folder. The temp file is kept, so you can still drag it.
Clear	Deletes the temp file and resets the plugin.

The window can be resized, and its size is remembered.

Temp files. Converted WAVs are first written to the LoopToWav_work folder inside `~/Library/Caches/piipdiip`. When you drag, LoopToWav hands over a copy in the project's folder (see Storing and cleaning up dragged WAVs), so temp files going away doesn't affect your samplers. Each time you change a setting and the WAV is rebuilt, the previous temp file is deleted, so they don't pile up. Nothing to set up.

Storing and cleaning up dragged WAVs (important)

WAVs you drag into a sampler are saved in a folder for each project. If you delete, move or rename files in this folder, your samplers won't play them when you open the project.

This is because most samplers don't import the audio; they remember where the file is and read it from there. LoopToWav never deletes or overwrites files in this folder.

How storage works (Storage folder and Project folder)

Dragged WAVs are saved in two levels of folders.

```

LoopToWav Used      ← Storage folder (for all projects)
└─ My Song          ← Project folder (for one project)
  └─ Guitar_120bpm_D.wav
  └─ Drums_120bpm.wav
└─ 2026-10-26_231507 ← Project folder (a project you haven't named)
  └─ Bass_98bpm_Am.wav

```

	Storage folder	Project folder
What it is	The main folder that holds the WAVs from all projects	A folder created inside the Storage folder, one per project
Name and location	Default: <code>~/Library/Application Support/piipdiip/LoopToWav Used</code> . Change it with Change storage folder... in the ? button menu	Named after the folder name button to the right of the logo. You can rename it until your first drag
Scope	Shared by all projects	Per project (saved in the Logic project)

- Changing the Storage folder doesn't move the Project folders of projects that have already dragged WAVs. The new Storage folder is used only by projects that haven't dragged a WAV yet.
- If a project has more than one LoopToWav, each one gets its own Project folder.
- A Project folder is not the same as your Logic project (.logicx) or its folder. It's a folder LoopToWav creates to hold the WAVs.

The basic workflow

1. Load LoopToWav in your project. A button showing a date-and-time name (for example, `2026-10-26_231507`) appears to the right of the logo. This guide calls it the folder name button.
2. **Before your first drag**, click the folder name button, type the same name as your Logic project (the song title) and click OK. Matching names make it easy to tell which project a folder belongs to when you clean up later.
3. Convert a loop and drag it into your sampler. The WAV is copied into the song's folder, and the folder name button changes to a lock icon. From now on, the name can't be changed.
4. Save your project as usual.

If you drag without naming the folder, everything works the same, but the folder keeps its date-and-time name. Later, it will be harder to tell which song it belongs to.

Reading the folder name button

Button	Meaning	Click to
Accent-colored outline and pencil icon	Still has the date-and-time name. You can name it	Open the name dialog
Plain outline and pencil icon	Named. You can still change it	Open the name dialog
Muted color and lock icon	WAVs have been dragged, so the name is fixed	Show the folder in Finder

Hover over the folder name button to see the full folder name and an explanation. The same actions are in the Project folder section of the ? button menu.

Besides OK and Cancel, the name dialog has Use Shared (use the shared folder "Shared") and Use Date & Time (go back to a date-and-time name). Both are available only before your first drag.

Location

- Logic Pro (default): `~/Library/Application Support/piipdiip/LoopToWav Used/<folder name>/`
- GarageBand (default): `~/Library/Containers/com.apple.garageband10/Data/Library/Application Support/piipdiip/LoopToWav Used/<folder name>/` (in Finder, the `com.apple.garageband10` folder may appear as "GarageBand")

To change the location, use Change storage folder... in the ? button menu. A LoopToWav Used folder is created inside the folder you choose, and each project's folder goes inside it. Reset to default folder returns to the default.

Changing the storage folder doesn't move projects that have already dragged WAVs. LoopToWav records the folder's location in the project the first time you drag. The new storage folder is used only by projects that haven't dragged a WAV yet.

More than one LoopToWav in a project

Each LoopToWav has its own folder. A LoopToWav added on a new track starts with a new date-and-time name and no lock. The original LoopToWav's files are not affected.

To keep things easy to clean up, we recommend giving every LoopToWav in a project the same name. To do this, enter the original LoopToWav's name in the new one's folder name button, and click Use this name when asked about the existing folder. If the storage folder

was changed after the original LoopToWav dragged its WAVs, the same name will point to a different folder in the new storage location.

Shared folder (Shared)

If you reuse the same loops across several projects, you can use the shared folder "Shared". Choose Use Shared in the name dialog, or Use shared folder (Shared) in the ? button menu, and that project's folder becomes `LoopToWav Used/Shared`. When you drag the same loop with the same settings, the same file in Shared is reused, so identical WAVs don't pile up project by project.

- You can choose Shared only before the project's first drag. Until then, you can switch back to your own folder with Use Date & Time or by entering a name.
- Shared is used by several projects, so it can't be cleaned up project by project. Don't delete the Shared folder or the files in it while any project still uses it.

Don't

- **Rename, move or delete the folder or its files in Finder:** Projects that use them will lose their sound. If you renamed one by mistake, change it back and the sound returns.
- **Delete a folder that another project shares:** The folder name is saved as part of LoopToWav's settings, so in the cases below it is copied along with them, and several projects use the same folder. Don't delete it while any of them still uses it.
 - You duplicated the project with Save As
 - You saved a project containing LoopToWav as a template (every project created from that template)
 - You imported or copied a track containing LoopToWav into another project
 - You saved LoopToWav in a channel strip setting or patch and used it in another project

To use a separate folder for a new song, remove LoopToWav from that project and load it again. It gets a new date-and-time name. We recommend not including LoopToWav in templates.

If you need to change the name later

Even after the folder name button shows the lock icon, there are two ways to change the name. With either one, **WAVs already loaded in your samplers will go missing.**

- **Delete the folder and start over:** Delete the folder in Finder, and the lock is removed so you can name it again. Samplers that loaded WAVs from that folder will lose their sound. Use this only if you dragged as a test and no sampler in the project still uses those WAVs.

- **Rename the folder in Finder and enter the same name in the folder name button:** The folder with the old name no longer exists, so the lock is removed. Click the folder name button to the right of the logo, enter the same name, and click Use this name when asked about the existing folder. LoopToWav then uses that folder (as long as the renamed folder is inside the current storage folder's LoopToWav Used). Samplers you loaded earlier still look for the old folder name, so reload the files from the renamed folder in each sampler.

When files can go missing, depending on where they are stored

- **External drive:** If the storage folder is on an external drive, the files can't be found while the drive is disconnected, or if the drive is renamed. Without the drive, you can still convert and use Save WAV. When you try to drag, LoopToWav won't hand over the WAV and shows "Project folder not available" (projects that have already dragged WAVs) or "Storage folder not available" (projects that haven't) in the drop zone.
- **Your Mac's internal disk:** The files stay unless you delete or move them.
- **Opening the project on another Mac:** The files exist only on the original Mac. Copy the folder along with the project. If the user name differs, the path changes, so you will need to point your samplers to the files again. To share a project with someone else, the most reliable way is to bounce or export the sampler tracks as audio (stems). This applies to any samples loaded into a third-party sampler, not just LoopToWav.
- **After changing the storage folder:** Files dragged before the change stay in the old location, and those projects keep using it. Don't delete them.

Moving the whole LoopToWav Used folder (advanced)

To move it to another location, such as an external drive, put a "symbolic link" at the old location after moving it. When a sampler opens a file at the old location, it reads the file from the new location, so your existing projects keep playing.

1. Quit your DAW.
2. In Finder, copy the `LoopToWav Used` folder to the new location and check that everything was copied.
3. Delete the original `LoopToWav Used` folder.
4. In Terminal, create a symbolic link at the old location.
 - a. Type `ln -s` (with one space at the end).
 - b. Drag the `LoopToWav Used` folder at the new location from Finder into the Terminal window. Its location is typed in for you.
 - c. Type one space, then paste the line below.
 - d. Press Return.

```
"$HOME/Library/Application Support/piipdiip/LoopToWav Used"
```

For reference, if you moved it to an external drive named SSD, the whole command looks like this:

```
ln -s "/Volumes/SSD/LoopToWav Used" "$HOME/Library/Application  
Support/piipdiip/LoopToWav Used"
```

Leave the storage folder setting as it is. WAVs from new projects will also go through the link to the new location.

- A Finder alias is not the same as a symbolic link, and samplers may not be able to use it. Always create the link with the command above.
- The files can't be found while the drive is disconnected, or if the drive is renamed.
- Before relying on this for important projects, check with a test project that your samplers still play after the move.

Cleaning up folders for projects you no longer need

1. Choose Show storage folder in Finder in the ? button menu to open the `LoopToWav Used` folder. If you have changed the storage folder before, clean up the `LoopToWav Used` folder in the old location the same way.
2. Switch to List view and sort by Date Modified. A folder's date is updated when its project is opened or saved, so folders for projects you haven't used in a while sink to the bottom.
3. Don't judge by date alone. Check the folder name and confirm that the project is really no longer needed before deleting. Keep folders for projects you still keep, however old. If you drag a WAV in a project and close it without saving, its folder is also kept: LoopToWav can't tell whether a project was saved, so it never deletes dragged WAVs automatically.

To save disk space, turn on 16-bit WAV (smaller files) in the ? button menu. WAVs you drag from then on are about two-thirds the size. WAVs you have already dragged don't change.

Settings (? button menu)

Click the ? button to open the settings menu. It opens to the right of the plugin window, stays open while you click items, and closes when the pointer leaves it.

Item	What it does
Project folder	Shows the current project's folder name. Rename project folder... changes it (only before your first drag); Show project folder in Finder opens it. Same as clicking the folder name button to the right of the logo. Use shared folder (Shared) chooses the shared folder, and Use date & time name chooses a date-and-time name (both only before your first drag).
Storage folder	Shows where dragged WAVs are stored. Change storage folder... changes it (a LoopToWav Used folder is created inside the folder you choose), Show storage folder in Finder opens it, and Reset to default folder returns to the default. Changes apply only to projects that haven't dragged a WAV yet.
16-bit WAV (smaller files)	Off by default (24-bit). When on, WAVs are written as 16-bit, about two-thirds the size. Switching it while a loop is loaded rebuilds the WAV. When on, _16bit is added to the end of the file name.
Reverse key scroll direction	Off by default. Reverses the direction of scrolling over the Key field. When off, scrolling up moves toward the top of the key list (Original).
Skin	Classic (default), Paper Light, Studio Mono, piipdiip Blip, Ember Ash. Saved separately for each DAW.
Show help tooltips	Shows a short explanation when you hover over a control.
Help language	English or 日本語, for the tooltips.
Version	The installed version.

Each DAW keeps its own settings file:

- Logic Pro: `~/Library/Preferences/piipdiip/LoopToWav.settings`
- GarageBand:
`~/Library/Containers/com.apple.garageband10/Data/Library/Preferences/piipdiip/LoopToWav.settings`

In Finder, the `com.apple.garageband10` folder may appear as "GarageBand". In that case, the file is here:

- GarageBand (as shown in Finder):

`~/Library/Containers/GarageBand/Data/Library/Preferences/piipdiip/LoopToWav.settings`

Troubleshooting

Problem	Fix
LoopToWav does not appear or will not load	Try the steps in "If LoopToWav does not appear or will not load" below, in order.
The tempo does not follow the DAW	Make sure LoopToWav is loaded in the instrument slot of a software instrument track, not as an effect, and that Sync Logic is on. Typing a target BPM turns Sync off.
Save WAV fails in GarageBand	Open System Settings → Privacy & Security → Files and Folders, and turn on Desktop for GarageBand. Or choose another folder with Change....
Dragging shows "Project folder not available"	Connect the drive (such as an external drive) that holds this project's folder. This project keeps using the folder where it first dragged WAVs, so changing the storage folder won't help.
Dragging shows "Storage folder not available"	Connect the storage folder's drive, or change the location with Change storage folder... or Reset to default folder in the ? button menu.
A sampler reports missing files when the project opens	Check that you haven't deleted, moved or renamed the folder or files in LoopToWav Used. If you renamed one, change it back. If the folder is on an external drive, connect it.
The folder name can't be changed	The name is fixed once a WAV has been dragged, because your samplers use those files. For your next song, name the folder before your first drag.
A file is rejected	Files longer than 120 seconds are not accepted. Supported formats are .caf, .aif, .aiff, .wav, .m4a and .mp3.

If LoopToWav does not appear or will not load

Try these in order, and stop once LoopToWav appears.

1. Check that LoopToWav.component is in `~/Library/Audio/Plug-Ins/Components/`.
2. Quit Logic Pro with `⌘Q` and open it again.
3. Run the `xattr` command in Installation in Terminal, then restart Logic Pro. LoopToWav is not notarized by Apple, so macOS may be blocking it.
4. Open Logic Pro's Plug-in Manager (Logic Pro → Settings → Plug-in Manager), select LoopToWav and click Reset & Rescan Selection. Logic Pro keeps a plugin disabled once it has failed validation.
5. Restart your Mac. Or run the command below in Terminal, then open Logic Pro. This rebuilds the list of plugins that macOS keeps. After running this command, Logic Pro rescans all your installed plugins the next time it starts, so startup takes longer.

```
killall -9 AudioComponentRegistrar
```

In GarageBand, follow the same steps except step 4.

Licenses

LoopToWav includes the following components. Copyright notices and full license texts are in `THIRD-PARTY-NOTICES.txt`, included in the download.

Component	Use	License
Signalsmith Stretch	Time stretching and pitch shifting	MIT License
Signalsmith Linear	Used internally by Signalsmith Stretch	MIT License
Inter	Button text, rendered as shapes	SIL Open Font License 1.1
Space Grotesk	Logo, rendered as shapes	SIL Open Font License 1.1
JUCE 9	Plugin framework	JUCE 9 End User Licence Agreement (juce.com/legal/juce-9-licence)

JUCE includes third-party libraries for handling images and audio files (zlib, HarfBuzz, SheenBidi, LunaSVG, PlutoVG, libpng, IJG JPEG, libwebp, FLAC, libogg, libvorbis, Opus, opusfile, libopusenc, AudioUnitSDK). Their copyright notices and licenses are also in `THIRD-PARTY-NOTICES.txt`.