Sim 1 Tonic



U-SYNC Quick Start Guide

For Nome Firmware 5.0 For U-SYNC 1.4.1

This PDF is a step by step guide on how to sync your Nome and your DAW with U-SYNC.

Please note that, as of now, U-SYNC is for Mac only.

If you need more information about U-SYNC, please refer to the U-SYNC manual.

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1. Prerequisites for all DAWs

1.1 - Sync a machine to the Nome

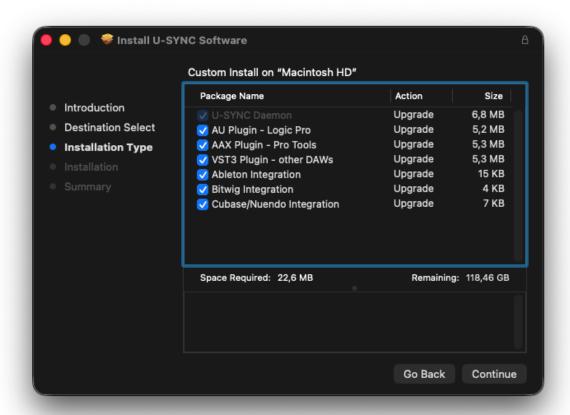
This PDF <u>only</u> explains how to sync the Nome and your DAW together. In order to sync your machines (and record them on the grid), you will need to **sync them to your Nome**, either via MIDI Clock or Analog clock (using the "ANLG" port on the Nome).

So start **DAWless**, and <u>sync a machine to your Nome</u>. Make sure this machine **starts and stops** when pressing the Nome's play button, and that it **follows** the Nome's tempo.

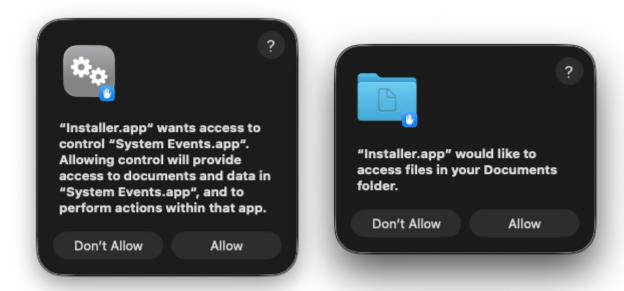
If you struggle with this, please reach out to the community on the Facebook Group or the Forums.

1.2 - Install U-SYNC

Download and install the U-SYNC software from https://simntonic.com/support Select the correct integrations and plugins for your DAW (in doubt, select everything):



Make sure to allow all necessary permissions:

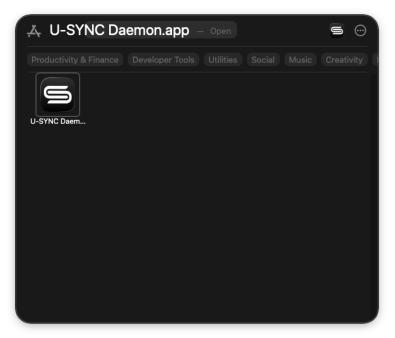


1.3 - Check the U-SYNC Daemon is running

Once installed, the U-SYNC Daemon should automatically start. It's a daemon, i.e. a background program, which lives in the tray icon bar at the **top right** of your screen:



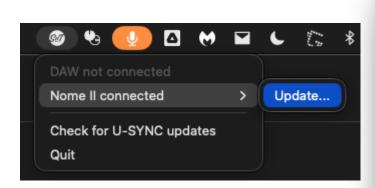
If you cannot see the Daemon in the tray icon bar, start it manually:



1.4 - Make sure your Nome is up to date

Connect your Nome to your Mac and check that it appears in the list of devices connected when clicking on the U-SYNC Daemon tray icon.

Then make sure you have the **latest Nome Firmware**. You can do this from the U-SYNC Daemon:





1.5 - Do not disable Plugin Delay Compensation in your DAW

In order to get your machines to start "in the past" (i.e. a negative shift), due to a lack of a time machine, U-SYNC uses your DAW's Plugin Delay Compensation mechanism.

It is **enabled by default** in all DAWs, so unless you have turned it off before, you have nothing to do. If you're unsure, please google how to check it in your DAW.

1.6 - Optional: automatically start your machines with the DAW

By default, starting your DAW's playback will only start the sync with the Nome. Then you can press one of the play buttons on the Nome to start your machines.

If you want your machines to start automatically when you press Play in your DAW, you need to enable **autoplay** on your Nome:

Press, scroll with the wheel to PL (AutoPLay setting), and press the wheel to change its value.

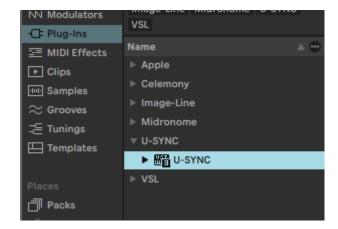
Set it to buth MIDI outputs), and finally press again to exit the settings.

(more info about the autoplay in section 6.5 of the Nome Manual)

2. Ableton

2.1 - Load the VST Plugin

Start Ableton, and load the U-SYNC plugin on an empty **MIDI Track**:



The plugin should already show the device's tempo:



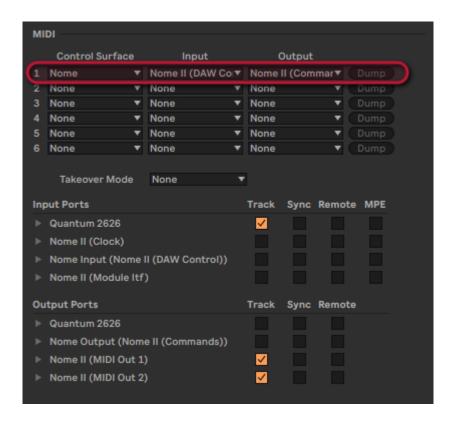
Then press play in Ableton: Ableton's playback starts, and the "SYNC" on **both** the device and the plugin will light up:



(if not, please see the Troubleshooting section in the U-SYNC manual)

2.2 - Add the Nome Control Surface

Open Ableton Settings and go to **Link, Tempo & MIDI**. Add a Control Surface in the list, selecting Control Surface: **Nome**, Input: **DAW Control**, and Output: **Commands**



(Many users believe they need to enable "**Sync"** on the Nome's inputs, but as shown above <u>this</u> is <u>not</u> needed for U-SYNC)

2.3 - Choose how you want to monitor

At this point, everything should be sync'ed already: Ableton, the Nome, and your connected machine(s). But there might be some latency, *i.e.* some time difference between Ableton and your recording's timing.

This can easily be compensated using the *shift* slider in the U-SYNC plugin. But first we need to choose how you want to monitor (i.e. hear the instruments that you are currently recording): through an audio interface or through Ableton.

2.3.1 - Monitoring through an audio interface ("direct monitoring")

If you can monitor through your audio interface, do it.

This type of monitoring has **no latency**, and makes your life easier when it comes to recording on the grid.

In this case, make sure to have all tracks Monitor set to "Off":

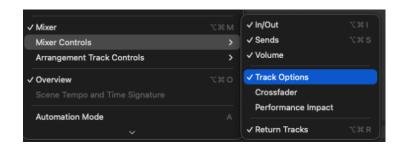


2.3.2 - Monitoring through Ableton

Maybe your audio interface does not let you monitor through the hardware directly, or maybe you want to add effects on the inputs, or to play a MIDI keyboard through a software instrument.

For the recordings to be on the grid, all you need is to **disable** "Keep Latency" on the tracks with the monitoring set to **In** or **Auto**.

(to see it, enable "Track Options"in View -> Mixer Controls)





Pro Tip: when monitoring through Ableton, you will have to accept that you will hear your track with Latency from:

- 1. your audio interface
- 2. the plugin's latency (including the U-SYNC plugin see below)

This latency <u>does **not**</u> affect the recordings. But if it is a problem while monitoring, try to use a lower buffer size or enable the "Reduced Latency When Monitoring" setting.

See the Ableton article about Latency for more info.

2.4 - Check if you have plugins with large latencies

In Ableton you can hover your mouse over a plugin (over the plugin name) to see how much latency that plugin has. For example the **Auto Shift** audio effect has 32ms latency:



To get the latency of a **whole track**, add up all the latencies of the plugins on this track.

You can see the latency of the U-SYNC plugin just like any other, by hovering your mouse over it.

It should be 20ms, and then increase if you have a negative value on the *shift* slider.

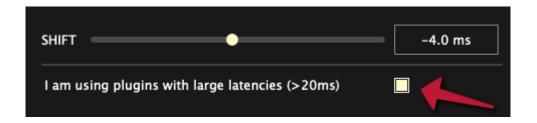


Because U–SYNC uses Ableton's Delay Compensation, if a track **has more latency** than the U-SYNC plugin itself, it will push the timing of the Nome backwards by the difference.

For example a track with **32ms** latency, while the U-SYNC track only has **20ms**, will move everything back by **12ms**.

In this case you have 2 solutions:

- You can compensate using the *shift* slider (adding 12ms to the current value)
- You can check the "I am using plugins with large latencies" checkbox, which will set the U-SYNC's plugin latency to 250ms

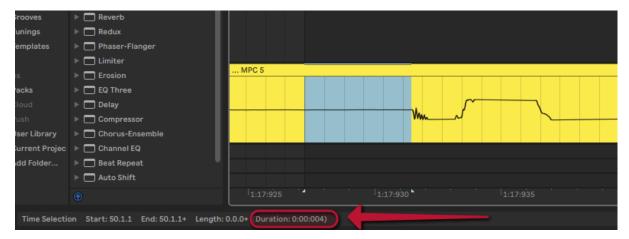


2.5 - Record on the grid

Now record your machine over 2 bars.

Then Zoom all the way in, on the **start of the second bar**. Select the difference between the recording and the start of the bar in milliseconds.

The duration of your selection appears at the bottom of the window.



(in this example, 4ms)

Then open the U-SYNC plugin, press the gear icon and write the **opposite** of this value in the "shift" slider (so *-4ms* in this example)



Note: *shifting* the timing means that the Nome's internal clock and any machine connected to it will move **backward or forward in time**. This way you can "move" your recordings right on the grid.

You can now try recording again, and everything should line up nicely.

Pro Tip: while U-SYNC keeps that latency as stable as possible, there will always be other factors (usually the machines themselves) making your recordings' timing move a tiny bit. A good practice is to make sure your recordings are just <u>after</u> the beginning of the bar, so they are never clipped when editing the recordings.

2.6 - Save as a Preset

Unless you change your setup, this value written in the U-SYNC plugin (in our example -4ms) should stay the same. So it's recommended you save it somehow, using the whole session as a template, or simply saving the U-SYNC plugin as a preset.

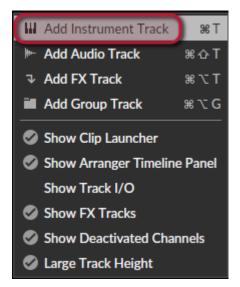


3. Bitwig

3.1 - Load the VST Plugin

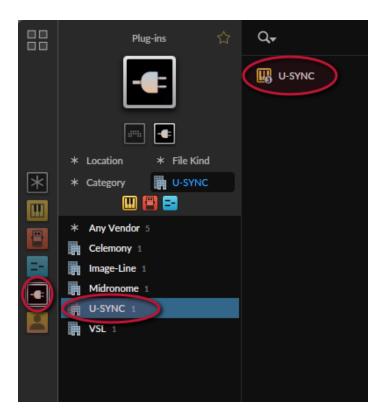
Start Bitwig, open or create a project, and create a new **Instrument Track**:





Pro Tip: name it "U-SYNC" so you know this track is dedicated to the U-SYNC plugin.

Then load the U-SYNC plugin on the track by adding it in the list of devices at the bottom.



The plugin should already show the device's tempo:



Then press play in Bitwig: Bitwig's playback starts, and the "SYNC" on **both** the device and the plugin will light up:



(if not, please see the Troubleshooting section in the U-SYNC manual)

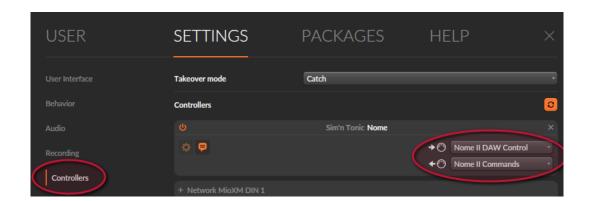
3.2 - Add the Nome Controller

Open Bitwig Settings and go to **Controllers**. The Nome should already appear in the list, if so simply press on it.

If not try clicking a few times, and if this does not help, add it manually:

Add Controller → Hardware Vendor: Sim'n Tonic → Product: Nome.

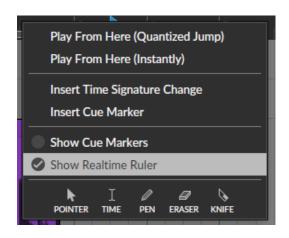
If not selected already, select the correct input and output as shown:



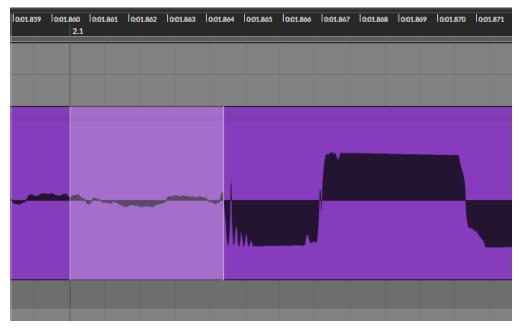
3.3 - Record on the grid

Now record your machine over 2 bars.

Then right click the Ruler and click Show Realtime Ruler.



Then Zoom all the way in, on the start of the second bar. Measure the difference between the recording and the start of the bar in milliseconds.



(in this example, 4ms)

Then open the U-SYNC plugin, press the gear icon value in the "shift" slider (so -4ms in this example)



and write the opposite of this



Note: *shifting* the timing means that the Nome's internal clock and any machine connected to it will move **backward or forward in time**. This way you can "move" your recordings right on the grid.

You can now try recording again, and everything should line up nicely.

Pro Tip: while U-SYNC keeps that latency as stable as possible, there will always be other factors (usually the machines themselves) making your recordings' timing move a tiny bit. A good practice is to make sure your recordings are just <u>after</u> the beginning of the bar, so they are never clipped when editing the recordings.

3.4 - Save as a Preset

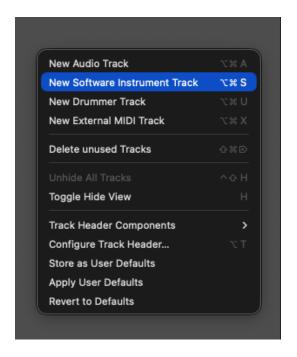
Unless you change your setup, this value written in the U-SYNC plugin (in our example -4ms) should stay the same. So it's recommended you save it somehow, using the whole session as a template, or simply saving the U-SYNC plugin as a preset:



4. Logic Pro

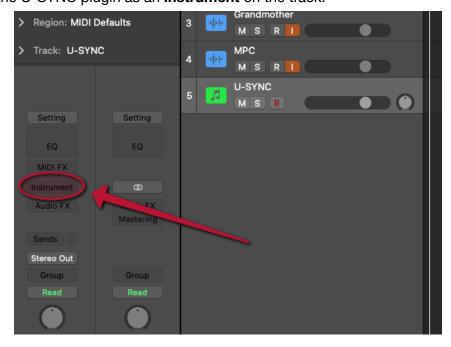
4.1 - Load the AU Plugin

Start Logic, open or create a project, and create a new **Software Instrument Track**:



Pro Tip: name it "U-SYNC" so you know this track is dedicated to the U-SYNC plugin.

Then load the U-SYNC plugin as an instrument on the track:



You will find the plugin in: AU Generators \rightarrow U-SYNC \rightarrow U-SYNC



The plugin should already show the device's tempo:



Then press play in Logic: Logic's playback starts, and the "SYNC" on **both the device and the plugin** will light up:



(if not, please see the Troubleshooting section in the U-SYNC manual)

4.2 - Settings impacting latency

At this point, everything should be sync'ed already: Logic, the Nome, and your connected machine(s). But there might be some latency, *i.e.* some time difference between Logic and your recording's timing.

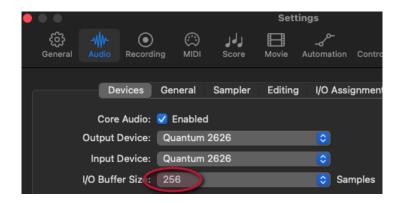
This can easily be compensated using the *shift* slider in the U-SYNC plugin (we will do that in the next section). But first we need to make sure the latency is **stable**.

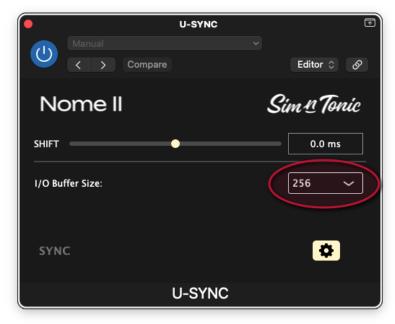
So here is a list of settings that will affect the latency.

4.2.1 - The I/O Buffer Size

The I/O Buffer Size affects the latency, but it should be automatically compensated by U-SYNC, as long as you set it correctly in the plugin

- In the plugin, press the gear icon
- Then set the same I/O Buffer Size as the one you have in Logic settings, in Settings \rightarrow Audio \rightarrow Devices





4.2.2 - Do not select the U-SYNC Track

Logic changes the timing of what the plugin sends when its track is **selected or record-enabled**. So make sure not to select the track.

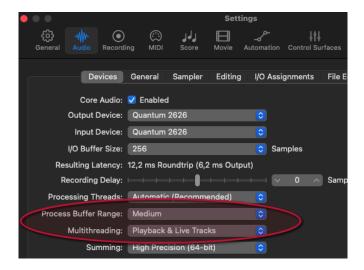
If it is selected while the playback is running, you will see a red exclamation mark in the plugin:



4.2.3 - The "Process Buffer Range" and "Multithreading" settings

Also in the Logic Settings, in **Settings** \rightarrow **Audio** \rightarrow **Devices**, make sure to set

- "Process Buffer Range" to Small or Medium
- "Multithreading" to Playback & Live Tracks

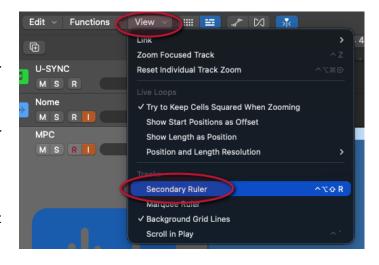


4.3 - Record on the grid

Now that all the settings are as they should be, record your machine over 2 bars.

Then Press $View \rightarrow Secondary Ruler$ to see the time in seconds.

To get this to show milliseconds as well, open Logic Settings, and select



the correct display in $View \rightarrow General \rightarrow Display Time As$:



Then Zoom all the way in, on the **start of the second bar**. Select the difference between the recording and the start of the bar - measure how much that is in milliseconds.



(in this example, 4ms)

Then open the U-SYNC plugin, press the gear icon and write the **opposite** of this value in the "shift" slider (so *-4ms* in this example)



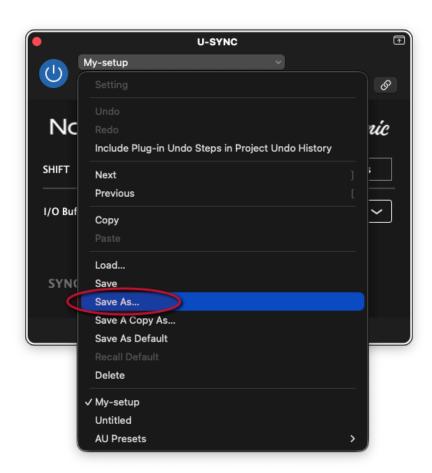
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4.4 - Save as a Preset

Unless you change your setup, this value written in the U-SYNC plugin (in our example -4ms) should stay the same. So it's recommended you save it somehow, using the whole session as a template, or simply saving the U-SYNC plugin as an AU preset:



5. Other DAWs

U-SYNC supports many more DAWs: Pro Tools, Studio One, Cubase, Nuendo, Reaper, FL Studio, and Luna.

For those DAWs, please follow those general steps:

- Follow section 1 to install and set up U-SYNC
- Load the U-SYNC plugin in your DAW, as a virtual instrument
- Check your DAW's specific settings in section 5 of the U-SYNC manual
- Record your machine over 2 bars
- Measure the distance (in milliseconds) from the recording to the start of the bar
- Adjust by entering the **opposite** of this value in the U-SYNC plugin's "shift" slider
- Save the plugin settings as a session template or plugin preset

For Cubase & Nuendo, follow section 6.3 of the U-SYNC manual to set up the bi-directional sync.

For FL Studio, please check the section 2.4 about plugins with large latencies.

Dedicated sections for those DAWs might come in this PDF in the future.