



madVR Envy

Lip Sync Guide

www.madvrenvy.com

Revision 1.0

This guide provides a couple FAQs to help you troubleshoot and resolve any issues with lip sync. It also explains some techniques to help you evaluate and accurately dial-in the perfect amount of lip sync.

Q. How can I best troubleshoot lip sync issues?

A. Envy does not introduce any variable audio delay. So regardless of the resolution, frame rate, HDR/SDR etc, the needed delay is always the same.

If your AVR/AVP supports auto-lip sync:

Many consumer-level AVRs support auto-lip sync. If so, just ensure that the auto-lip sync feature is turned on in the AVR. Also, to begin with, please check the Envy "HDMI Configuration" menu and make sure the Lip Sync setting there is set to Neutral (at least for now).

Also, make sure there is additional delay per input set in the AVR. For instance, many AVRs that support auto-lip sync allow you to also specify an additional +/- offset that it will apply on top of the auto-calculated value, and on a per input basis. Therefore, please make sure all per-input lip-sync offsets in the AVR are set to zero. If you find that small adjustments are necessary, you can tweak these on a per input basis in the AVR (or in the Envy HDMI Configuration menu, but setting in the AVR is optimal instead), however this is usually not necessary and may cause more harm than good.

If your AVR/AVP does not support auto-lip sync.

Note that many higher-end processors may not support auto lip sync currently (check their documentation). Therefore, the audio delay must be set manually, as follows.

- A. First, please check the Envy "HDMI Configuration" menu and make sure the Lip Sync setting there is set to Neutral. In cases where the AVR/AVP does not support auto lip sync, this menu setting has no effect whatsoever. This can sometimes be confusing, as people often make adjustments to this setting, but without seeing any change in the delay. So please set this to Neutral and then ignore it completely, to avoid confusion later (especially if someone else may come along later and work on the system).
- B. Next, go into the AVR/AVP settings and check every source input and make sure no individual delay is being applied per input.
- C. Then set one global audio delay in the AVR/AVP. We recommend starting at 100ms and test

your lip-sync results from there. Then adjust up or down. See the other FAQ in this document for tips on dialing in lip sync. Note that some people try small changes, such as

1ms or 5ms at a time. We find it is usually best to adjust in increments of 40ms, which is approximately one frame at 23.976. Note that many people cannot detect any difference in smaller increments, such as 20ms.

- D. Once dialed in, you should find that this delay works for all sources and content types. If it doesn't, first try with another movie that has the same resolution, frame rate and signal type. This is important, because we reported cases where customers found a particular movie's lip-sync was out of sync, compared to most/all other movies, with or without any Envy.
- E. If you find that the lip sync is still off with other movies, bypass the Envy entirely and test again. You may likely find that the same delay difference exists, in which case it is not something the Envy is causing or can fix. In which case you might track the issue down to an external HDMI device, extender, etc. If necessary, you can set a variable delay in most AVR/AVPs on a per input basis.

Q. What is the best way to set lip sync for the Envy?

If your AVR supports auto lip sync, that is usually easiest and best. Otherwise, it can be set manually in the AVR. Please see the details below:

- A. Check your AVR user manual and menus to look for the auto lip sync function. Most mainstream AVRs (and some soundbars) like Marantz, Denon, Yamaha, Sony, etc support auto lip sync. Ironically, most of the higher end AVRs do not currently support auto lip sync. If your AVR does not support auto lip sync, it will provide a way for you to manually set the adjustment. The proper value will depend on not only the Envy but also the latency of the display/projector and the latency of the AVR.

Typically, the ideal value will be in the +175ms to +350ms range. Note that the lip sync adjustment in the Envy HDMI Configuration menu will NOT have any effect on AVRs that do not support auto lip sync (this setting in the Envy is only for auto lip sync fine tuning) and therefore should not be used. Most AVRs also have a way to adjust the delay globally, and then also per HDMI input, should you find that a different amount of delay is needed for different sources.

- B. If the AVR has auto lip sync, instead of manually setting the value yourself like in #1 above, just make sure this feature is enabled in the AVR. Once enabled, the AVR will automatically

select the proper value, and lip sync should be great. If you find the need to fine tune the setting, we recommend doing this in the AVR by adding a manual offset to the auto detected setting, which can usually be set separately per HDMI input, if necessary. You can also use the Lip Sync setting in the Envy HDMI Configuration menu to fine tune the setting. Although generally it is best to do this fine tuning in the AVR, making the adjustment in the Envy can provide for more advanced flexibility when combined with Envy profiles, however this degree of fine tuning is rarely ever needed.

- C. There are many ways to evaluate your lip sync setting to see if it is set ideally. Some people prefer test patterns for this, such as on the Spears and Munsil HDR Benchmark disc. Others prefer to test it with movies by watching the actor's lips.

One great test scene to evaluate and fine tune lip sync (if necessary) is the last chapter of A Star is Born. The camera is zoomed in on Lady Gaga's lips while she sings for several minutes. This gives plenty of time to watch and adjust, without having to keep rewinding.

Another great test scene is the start of the first car race in Ready Player One. There is a flare that goes up and then arcs down, until it explodes into a starburst with a loud "boom". While the flare is falling, it makes a whistling noise that changes in frequency as it drops, helping you gage when exactly it nears the point of exploding. If everything is set properly, the boom from the explosion and the starburst should hit perfectly at the same time. The whistling is also helpful in timing in your head when to expect the boom and starburst.