WT AUTOMIXER

User Guide for version 2
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Introduction

The WTAUTOMIXER plug-in is a multi channel gain sharing automixer with integrated leveler, that can be inserted to almost any DAW /Host Application supporting VST3, AU or AAX format. WT Automixer automatically controls the gains of multiple microphones and is therefore ideal for live streams, discussions panels, talk shows, church services, post production editing and for any application that requires the use of multiple microphones.

The term "automixer" can be a bit misleading, as an automixer usually does not automate the mixing itself. What an automixer does very well is to turn down / attenuate microphones which are not actively being used. **There are two benefits to this:**

First, this reduces the background noise in a mix, making the desired speech cleaner and more intelligible.

Second, when number of open microphones is reduced, there is less comb filtering happening, making the microphone in use sound much better and more coherent.
With integrated multi channel leveler, WTAutomixer V2 actually can automate mixing by adjusting the levels within the pre adjusted dB range.

WTAUTOMIXER plug-in can be inserted to 16 channels, mono or stereo. There are three Channel Groups available (A, B and C) which gives the user a possibility to use the plug-in independently for each group. Additionally, there's also Channel Group X that enables the Ducker feature.

WTAUTOMIXER is available for both Windows and macOS platforms and is tested with:
Win10 & Win11 64 bit VST3 and 64bit AAX
macOS 10.15 (Catalina) - macOS 14 (Sonoma) as 64bit VST3, AU and AAX.

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Licensing

WTAUTOMIXER license can be purchased from our web shop: https://www.wtautomixer.com/. Once the purchase has been done, you will automatically receive an email with your WTAUTOMIXER license.
One license allows activation of the plug-in for one computer. License is valid for both Windows and macOS platforms.

iLok account and iLok License Manager installation is required for the WTAUTOMIXER license. iLok dongle is not required but can be used if that is the preference. Internet access will be required for the initial installation of the product and trial.
iLok License Manager and free iLok account can be found from here: https://www.ilok.com/#!license-manager

To install WTAUTOMIXER follow these steps:
1. Download and install iLok license manager
2. Download and install WTAUTOMIXER plug-in
3. Launch the host application and either start the 7-day trial or enter the activation code received after the purchase
4. In case your host application says: "not responding" or gets stuck after the launch, please make sure that the iLok licensing window is not hiding behind any other window waiting to get the response for either the trial or activation code.
5. In case you want to be sure that your setup works well with WTAUTOMIXER, please first start the 7-day trial and only then make the purchase when you know that your setup is good to go

To Un-install the plugin, delete it from the following folders:

Windows: C:\Program Files\Common Files\VST3\WT Automixer.vst3 **and** C:\Program Files\Common Files\Avid\Audio\Plug-In\WT Automixer.aaxplugin

macOS: Macintosh HD/Library/Audio/Plug-Ins/Components/WT Automixer.component **and** Macintosh HD/Library/Audio/Plug-Ins/VST3/WT Automixer.vst3 **and** Macintosh HD/Library/Application Support/Avid/Audio/Plug-Ins/WT Automixer.aaxplugin

Theory of operation

WTAUTOMIXER plug-in uses an automatic mixing function that shares the gain of a one open microphone over the entire system, maintaining the natural ambience of one mic open.

When one person speaks, the used microphone's gain level fades up and the same time all the other non active microphone gains are reduced. When the speaker stops talking, all microphone gains are adjusted to match the level of one microphone at full gain. When many people speak at once, the gain is shared, again, to match the level of one microphone at full gain. The resulting effect is like all speakers would be sharing a one microphone. Because of the shared gain, the system output will stay pretty much constant no matter if there are two or sixteen active microphones in use. Also the background noise will stay constant regardless of number of open microphones.

Additionally, there's a multi channel leveler available to adjust the levels of the microphones within the dB range set by the user. Leveler combined with an automixer is a powerful combination as the leveler only adjusts the active channels and does not raise the noise floor by adjusting the non active channels. This behaviour can only be reach by a plugin that combines these two tools, automixer and leveler, into a one solution.

In WTAutomixer V2 ,there is also a Automixer Noise Gate feature available for a quick and dirty reduction of a background noise, caused by a video projector or air conditioning, for example. This feature is mainly made for a live podcast or live stream situations where there's no time to do any post editing and the background noise is causing issues.

Also Ducker feature found in WTAutomixer V2 can be useful when the background music or the ambience mics needs to be faded in/out automatically.

WTAUTOMIXER GUI explained

The first adjustable parameter of WTAUTOMIXER is
WT Automixer OFF / ON button:

This button turns ALL channels (1-16) of WTAUTOMIXER OFF or ON, so it can be used for example to compare how the mix would sound like without the plugin.

Also in the upper part of the plug-in UI you'll find two small screens with 8 channels each and between either **1-8 or 9-16**.
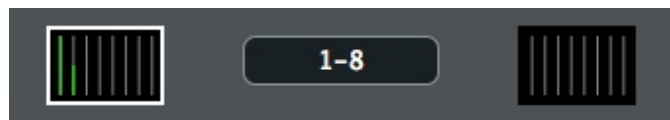

By pushing the button 1-8 gets you to the next eighth channels (9-16) and pushing it again gets you back to the first eighth channels.

The channel view itself:

AG in the upper left corner equals to Autogain. This meter tells you how much gain this particular channel is getting. Below the meter is a button for a DAW automation that is set to OFF by default but can be set to either READ or WRITE depending on the automation purposes. When recording the auto gain values to DAW, this should be set to WRITE and when reading the values from DAW this should be set to READ.

L in the center let's you adjust the Level of the channel (PRE Automix) between -48dB and +6dB. The default is 0dB. This section works also for the input metering of the channel and tells you the incoming audio signal level before the plugin. In case the leveler in use and the leveler threshold is set correctly,
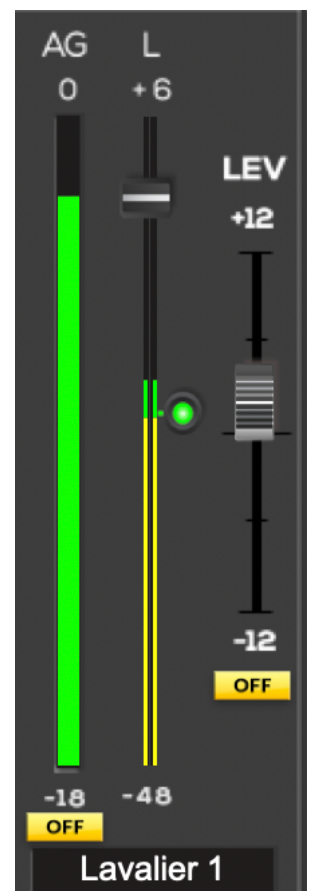
in **L** metering you will also notice if the leveler is increasing (green) or decreasing (red) the audio level within the leveler's range. The round fader (red=off, green=on) lets you adjust the leveler target threshold. Start by setting this value close to the level of incoming audio signal.

LEV on the right side shows you the virtual fader movement when leveler is adjusting the audio level to the leveler target threshold. This +-12dB fader is view only and cannot be adjusted as it only indicates how the leveler is working. Below the LEV fader is a button for a DAW automation that is set to OFF by default but can be set to either READ or WRITE depending on the automation purposes. When recording the leveler values to DAW, this should be set to WRITE and when reading the values from DAW this should be set to READ

The channel name can be typed in manually and with some of the DAWs, the channel name will be automatically imported from the DAW file. With some DAWs, the plug-in editor window needs to be closed and opened up again to receive the name from the DAW.

Sensitivity establishes the relative sensitivity of the automixer for the channels in use. Sensitivity does not change the mix levels. When the sensitivity values are equal, each microphone has an equal opportunity to take over the system.

For example, when channel 1 has greater sensitivity value than channel 2, with equal input level for both channels, channel 1 will get more gain than channel 2. In other words, if the channel 1 has sensitivity value of +2 and the channel 2 has sensitivity value of 0, it equals to a situation where the channel 1 audio input level would be 2dB higher than channel 2 input level.

Channel can be assigned to **Channel Groups** by pushing letter A below sensitivity. Every channel can be assigned to one group (A, B, C or X) and each group functions as an independent automixer, except group X, which enables to Ducker. By default, all the channels belong to group A.
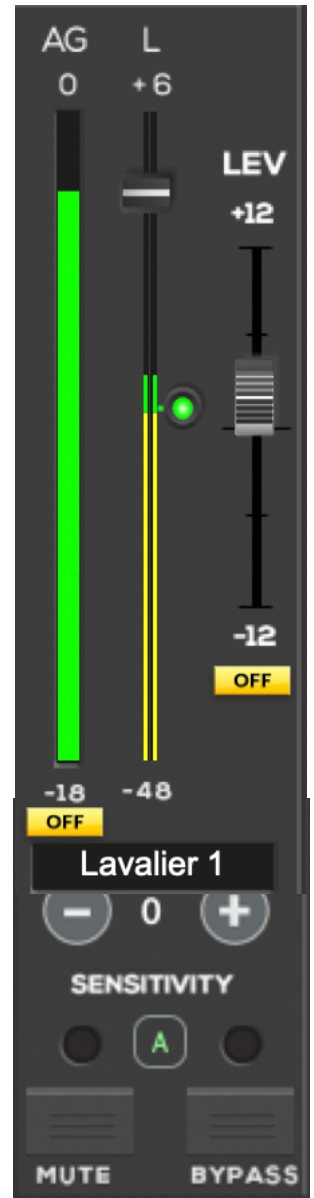
When the channel is assigned to Channel Group X, it no longer belongs to the automixing function but the **Ducker** feature is enabled and the channel will show Ducker controls: Attack, Hold, Decay and Threshold.

Additionally in **L** the level fader becomes two different faders: The right side fader determines the maximum level of this channel and the left side fader determines the level of the channel when one of the group A, B or C channel input level, adjusted by the group X channel **Threshold** control, is exceeded. In other words, Threshold decides when the Ducker starts working when the level of a channel in a group, other than group X, exceeds this Threshold value. **Attack** decides how fast the Ducker will start operating when the Threshold in the standard channel (Group A, B or C) is exceeded. The longer the Attack, the less individual unwanted bumps or coughs, etc., affects the ducker's performance. **Hold** decides how fast the Ducker will let go after the Threshold is exceeded. For example, with 5-10sec Hold time, small pauses in speech in standard channels does not lift the ducker channel music or ambience mics to the mix. **Decay** decides how fast after Hold time the level of the channel rises from the level indicated by the left side fader, to the maximum level indicated by the right side fader.

When **Bypass** is activated, the audio will go through plug-in without automixing.

When **Mute** is activated, the channel's output is muted and the channel is not included in the automixing.

Mono and Stereo
WTAutomixer plug-in can be inserted into **Mono** or **Stereo** track in DAW. When inserted to a stereo track, also the metering of the plug-in is stereo. Average of the Left & Right signal is being used for the automixing algorithm and this makes it possible to also include stereo sources into the automixer.

Automixer Noise Gate is a simple feature that can be used for turning down the background noise caused for example by air conditioning or a video projector. In case the knob is turned all the way to the left, the feature is bypassed and when turned all the way to the right,

the noise gate is at its maximum level. The good way to start with this feature is to unmute all the microphones and without talking to them, start increasing the automixer noise gate threshold until the background noise disappear. Over using this feature will cause unwanted gated effect so careful approach is recommended. This feature is designed mainly for quick & dirty approach of a live stream or a live podcast when there are no time for a post editing of the audio.

Leveler range determines the range around the threshold set by the user for the leveler. If this value is set for example to 8dB, it means that leveler will adjust the level 8dB above and below the threshold.

Autogain Decay Speed adjusts the speed on how fast the autogain drops when active channel becomes non active. If the value for Autogain Decay Speed is zero, the automixer works like a regular gain sharing automixer. If the value is increased, the total energy can momentarily be more the 100%.

With this parameter, always start with zero setting and in case any unwanted noises, like coughs or pops, start affecting the end result, increase the value a bit to allow the active channel to stay at it's maximum gain even with the unwanted noise present in the non active channels.
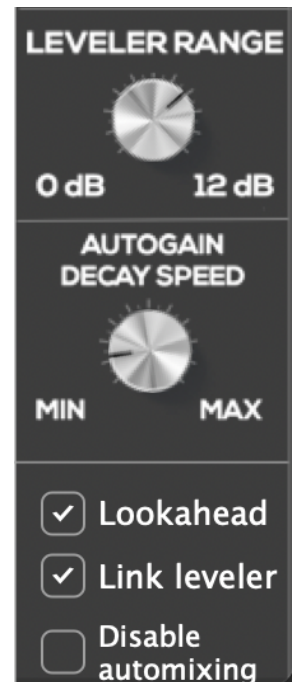
Lookahead adds time to processing allowing smoother transition for leveler and autogain. This feature is useful mainly in post editing and should be turned off for any real-time application.

Link leveler links leveler's threshold parameter for all channels. Individual channel changes can be made when disabling the link.

Disable automixing disables automixing function while leveler stays active.

DAW Automation controls the plugin operation.
When set to Off, the plugin will use its internal processing and will not send out or read automation.

When set to Write, all autogain and leveler movements are sent to the DAW automation lane. DAW automation must be enabled in write/touch/latch mode, and the plugin must be armed for automation.

Though autogain and leveler moves automatically, it is treated by the DAW as if automation is being written manually. When set to Read, the plugin uses the automation lane to define its movement, disregarding the plugin's internal processing.

Host applications

Please test your setup with your host application & WTAutomixer plug-in before the purchase, as in some cases the validation process might not work as intended.
Re-scan the plugins in order to find WTAutomixer plug-in..

We have tested WTAUTOMIXER plug-in mainly with the following hosts:

macOS 10.15.-macOS 14
Windows 10 & Windows 11
ProTools
Logic Pro
Reaper

WTAutomixer works with most of the DAWs on the market. However, most of the video editor softwares like Final Cut, DaVinci or Premiere Pro can't cope with this multi channel plug-in properly and therefore are not supported.

With vMix The host application needs to be rebooted after removing a plug-in from the audio channel to get the plug-in editor up-to-date.

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Frequently Asked Questions and User Tips

Q: Should WTAUTOMIXER be inserted to Pre or Post fader insert point?
A: Always when possible, use Post fader insert to ensure that when the channel fader is all the way down on the host application, the automixing is not interrupted by the channel that is currently not in use anymore.
If only Pre insert point is available, the best practice is to have the host application fader at unity level and then adjust fader and mute directly from the WTAUTOMIXER plug-in editor.

Q: When I use WTAUTOMIXER, the track names in my DAW aren't pulled into the plug-in.
A: The track naming feature in WTAUTOMIXER is specific to DAWs that support this functionality. DAW manufacturers have to intentionally make this function available for us to use it. In case the track name is not pulled from the DAW automatically, the track name can be typed in manually. With some DAW`s the plug-in editor window needs to be re-opened to receive the names from the DAW.

Q: Which plug-in formats does WTAUTOMIXER support?
A: For macOS 10.15.-14. VST3, AU and AAX Native are supported. For Win10 & Win11 VST3 and AAX Native are supported. 32-bit versions are not supported, only 64-bit.

Q: When using WTAUTOMIXER, some of the mics open up much easier than others and I need to adjust the sensitivity quite a bit. What am I doing wrong?
A: Please make sure that your input gain structure is taken care of so, that the input signals coming into the plug-in are within the same ball park. For example, if your lavalier 1 mic comes into the plug-in +20dB louder then the lavalier 2, you would need to set sensitivity difference of 20dB between the mics to treat them equally in the automixing process. Instead of adjusting the sensitivity level, we would advice to adjust the gains for incoming input signals to match each other.

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Q: How much is the latency of WTAUTOMIXER plug-in?
A: At 48kHz the latency is 128 samples and at 96kHz it is 256 samples so 2,67ms for both sample rates. Using lookahead buffer adds latency and should only be used in post editing.

Q: Which audio buffer length should I choose from my Host application settings and does it affect on how the plug-in works?

A: We would recommend to use shorter buffer sizes rather than extra long ones. The comparison of the audio channels in automixing algorithm reacts a bit better with shorter audio buffers like 64 or 128 samples when compared to a longer buffer like 2048 samples.

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