



MAAT*go*

User Manual

MAAT Labs

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Installation & Setup

When preparing for installation of your MAAT product, we recommend that you quit all applications prior to proceeding. Also, after downloading the installer and prior to installation, let any anti-malware measures you may have running scan the installer. Then, temporarily disable all anti-malware measures once scanning is complete.

To install, simply double click on the downloaded Installer for your particular operating system. The installation process will guide you through the install procedure. If you have an older OS version, restarting your host may be required. Don’t forget to reenable anti-malware measures or simply restart your host.

Licensing

MAAT software is licensed through our dongle-free, cloud-based license control framework. Cloud-based implies a connection to the public Internet, which you will need for at least one computer under your control. That net-connected computer does not have to be the host machine on which you want to run MAAT software. It can be any computer to which you have access; see Offline Activation below.

Basically, you can activate a license on any machine and that activation “sticks” or stays active for 30 days. You can have two simultaneous activations on two different machines. If you want to move the license from one machine to another, you must “retire” or deactivate one of your two activations.

Online Activation

There are two ways to activate a license; either by opening the product directly, or by using License Central which is our global licensing utility installed with every MAAT product. If the product is a plug-in, you can open an instance to start the activation process. If the product is stand-alone or “native,” then you can simply launch the product. With License Central, you can manage all your licenses within one unified interface.

In-Product Activation

To license your MAAT purchase directly within the product, instantiate an example in your preferred plug-in host. When licensing, we recommend you open a new session in your DAW just for this purpose.



Figure 1: The initial Activation dialog

Instantiate the plug-in or, if an app, launch the product. Wait for the user interface to open, then click on the Preferences' gear icon. Click on the Activate License button. Once the Activation dialog appears, paste or type in your Product Key supplied at the time of purchase. Then click on Activate Online and follow the prompts. Once your product is licensed on a particular host, clicking on the Deactivate Online button will deactivate your license on that machine. Repeat elsewhere to reactivate.

⚡ NOTE: THE ONLINE PROCESS REQUIRES LIVE INTERNET TO THE HOST MACHINE. YOU MUST HAVE AN ACTIVE INTERNET CONNECTION FOR ACTIVATION.

License Central Activation

To activate any of your MAAT products or several at once, use License Central...see below.

Offline Activation

If, for security reasons you have:

- an offline host computer not connected to the Internet
- or you plan on working without a reliable Internet connection

...it is best to go with an offline license.

This will license your MAAT product without the need to periodically contact our licensing server. If you anticipate working without the internet for more than several months at a time or, for security purposes, your studio machine is “air gapped” and has no Internet, take a moment to surrender your online license, and replace it with an offline version.

⚡ NOTE: AN OFFLINE LICENSE DOES NEED TO BE EXPLICITLY RENEWED ONCE A YEAR.

To prepare for offline activation, you will need:

1. Your Product Key!
2. Some method to move your License Confirmation file to the offline host machine.

You will need your Product Key that was supplied to you via e-mail when you purchased your MAAT product. That second requirement can be accomplished in any number of ways, but a USB flash drive is often readily available and most convenient.

The offline activation process starts with generating a License Request, with a “.maatr” file extension, which is submitted on-line to our server or via e-mail to MAAT Support <support@maatinc.zohodesk.com>. A License Confirmation file, with a “.maatc” extension, will be returned to you, which will activate your product.

To proceed, click on the Activate/Deactivate Offline button, and follow the prompts. In a year's time, 365 days from the date the maatr file was created, a full offline license must be renewed using the same maatr/maatc interchange method.

License Central

License Central, located in MAAT's Shared directory, is a free utility that validates, repairs and logs your MAAT licenses. It also displays what MAAT products you have installed and assists in downloading both updates and demos. License Central is installed alongside all MAAT products.

License Central lists all of our products, and shows you:

- If a product is installed and what licenses you have [CLOUD, SUBSCRIPTION, TRIAL, OFFLINE]
- What versions are installed, and which version installers are available for download

It also provides:

- A one-click download of an update or a demo
- A button to activate or deactivate any of your licenses
- A copyable list of all your Product Keys
- One-click generation of the MAAT diagnostic report

In Use

When you launch License Central, it scans your host computer and then attempts to match up each product found with a Product Key on our license server. That scanning happens in real time, and the process is shown as a progress bar. When quitting, this process happens in reverse.

Once all the licenses are validated, a list on the left displays all MAAT products, including License Central. Products that are not installed are grayed out, and installed products are displayed in high contrast. To the right of each product entry is a check mark, which indicates that the product is licensed.

Selecting a product entry displays information about the installed version and if an update is available for download.

Controls

There are two persistent buttons along the top. At upper left is Check for Updates, which refreshes the list of installed products, and pings our server again for currently available versions to download. It also recreates your Product Key list.

At upper right, the Activate/Deactivate button brings up the familiar blue and orange MAAT license window, allowing you to deactivate or return your license to the Cloud. If you have requested a 365 day Offline license, use the Create License Request function in the MAAT license window, and have received your “.maatc” confirmation file, you can take your license offline. Finally, you can also paste in a Product Key to activate a new license.

Note:	365 day Offline licenses require a license confirmation file as supplied by MAAT’s support department.
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If any product is out of date, a third Download Update button will appear when that product is selected. This button is an express method for updating your MAAT products.

At bottom left of the License Central window is an Auto–Refresh check box, which is selected by default. Deselecting that will prevent License Central from frequently scanning your host for changes including new installs. It starts a scan every 3 seconds, waiting for completion of that scan, then begins a new 3 second countdown before starting the next scan. If you find that License Central is interrupting you workflow while scanning, then disable Auto–Refresh.

Preferences

In License Central, the Preferences’ gear icon brings up the Preferences window with four tabs.

Paths

For those who set up alternate directories for the management of their plug–ins in a DAW, two alternate plug–in paths can be defined. These directories will be also included when License Central searches.

Keys

This tab lists all of your Product Keys that are known to our license server. Please take a moment to copy all of your Product Keys, paste them into a text or word processor file, and print out a hard copy. Your Product Keys are your proof of purchase and, without them, your purchase will not work and we cannot provide product support.

Troubleshooting

The Troubleshooting tab has one button, which generates a Diagnostics Report. This report, automatically written to the Desktop, gathers useful, non–personal information about your machine’s state that our support team can use to diagnose any problems.

Info

As with all our products, the Info tab lists credits, copyright information, and the version number you are running.

Let’s Go!

The straightforward user interface contains nine buttons, one linear “slider,” along with the preference’s gear icon at upper right and a goniometer situated at the bottom.



Figure 3: MAATgo’s user interface

We know, reading is *so* old school and such an easy tool to use as MAATgo would seem to be self evident, wouldn’t you think? However, before you dive in with this tool, we want to make a few things clear so you will get the best use out of your purchase. Thanks for struggling through this part!

Old Skool

In the Golden Age of consumer high fidelity, some preamplifiers had not only a “balance” knob, but stereo/mono blend controls and even an oscilloscope to instantaneously display amplitude, frequency and the phase relationship between left and right channels. Marantz was one of several manufacturers that sometimes included an oscilloscope be-

hind their distinctive blue filter, while the Apt Corporation’s legendary, groundbreaking Holman Preamplifier had a range of channel steering switches and a continuous stereo/mono blend control.



Figure 4: The Holman Preamp had some very nice features

In the pro world, all inline and split mixing consoles have basic monitor controls, and some provide more granular, in–depth control over how playback is routed and presented. Today, with in–the–box–mixing, some of those chores have moved to dedicated monitor controller hardware. MAATgo combines manual channel steering controls with a balance control and goniometer. *A what?!* Technically, a goniometer is a device that measures angles. A protractor and plumb line serve nicely unless you’re interested in measuring audio! For that, the oscilloscope mentioned earlier was the instrument of choice, with the left channel feeding the vertical deflection amplifier while the right channel fed the horizontal.

The resulting display is called a Lissajous curve or figure of eight, and plots amplitude and phase versus time for both channels. MAAT’s goniometer is an updated version of that same instrument, no need for an “o’scope” though we still keep ours around for hardware troubleshooting.

Back in the Analog Era, most hi–fi enthusiasts had “separates,” individual stereo components, each serving one purpose. With the advent of “computer audio,” that rig can be reduced to a personal computer feeding a DAC or digital–to–analog converter. In turn, the DAC feeds a power amplifier. Same goes for modern pros. While this minimalist setup eliminates a preamplifier, it has only a volume control and most DAWs and player applications lack any other controls other than vol-

ume, plus mute and “phase invert” if you’re lucky. Enter MAATgo, a preamp or monitor controller’s worth of advanced controls. When any of the controls are disabled, they are completely “out of circuit,” and do not affect the sound quality. When any control is enabled, it’s operating using double precision floating point math, to ensure maximum fidelity. Also, MAATgo will operate at up to 384 kHz, compatible with the highest fidelity lossless files and streams presently available.

In Use

Balance

First, a word or more about phantom imaging. When identical information is played out of two identical loudspeakers situated in a equilateral triangle relative to the listener’s head, a “phantom” image of the sound source is created in the middle space between the two speakers. As the renowned psychoacoustic researcher Diana Deutsch would point out if asked, sensation is not perception. Sound pressure on your ear drums creates sensation. Your brain processes that stimulus, and attempts to make sense of it. In a complicated auditory scene unfolding over time, your brain constructs a virtual soundstage in your head; the perception. The Balance slider alters that perception.

The horizontally oriented Balance slider controls “lateralization,” altering the gain ratio between left and right channel. In the middle, equal amplitude is delivered to both channels. As the control is moved off-center, the gain is progressively reduced in one channel or the other.

Why would you want this? There are several situations where this is useful. The most obvious is when you are listening with friends or clients and your listening position is no longer optimal. The Balance control allows you to, ahem, rebalance the stereo image so it’s perceptually “in the center” again, with your ears receiving equally loud sound despite being closer to one speaker.

Another use case is when you have slight imbalances in your signal chain’s gain or, more commonly, your speakers are less than desirably positioned or your room is asymmetrical. Again, the Balance control lets you rebalance the stereo image.

Monitor Controls

There are three rows of nine switches below the Balance control. They provide specialized channel routing and matrixing.

Balance

The BALANCE switch places the Balance slider in or out of circuit. With the BALANCE switch disable, the signal passes without change. As with all of the buttons in MAATgo, when a button is active, the button visually highlights to indicate it is modifying the signal.

MONO/DIFF

The MONO and DIFF buttons provide two common analytical tools. The MONO mode provides monaural summing of the left and right channels. This mode sums or adds together the left and right channels; arithmetically L + R.

The DIFF mode provides stereo listening of the difference between the left and right channels. This is a subtraction of mono information from left and right, and can also be thought of as the portion of the signal *that is not mono*, the “stereo” part of the signal. The difference signal removes all audio that is common to both left and right, leaving a “hole in the middle” where monaural is usually perceived. The mono information in a recording provides the “phantom center,” the part of the signal that subjectively “appears to be in the middle” of both speakers. In a home theater setup, the dedicated (front) center channel signal is what is explicitly routed to the “dialog” loudspeaker.

If you are listening to a true monaural recording and you place MAATgo in DIFF mode, you should hear...nothing (!) since there is, by definition, no difference between left and right. On many old recordings, DIFF mode will reveal that only the reverberation is stereo and all the instruments and vocal are mono. When playing a mono phonograph record with a stereo cartridge and MAATgo in DIFF mode, you should hear *only* groove wall noise and distortion, unless your turntable and cartridge aren’t set up properly. More on that in a bit...

For both pros and audiophiles, listening in DIFF mode tells you about how much “stereo spread” a recording has, which can be visually confirmed by how wide is the goniometer display (see below). For a variety of reasons, the difference signal can also be very distorted, which may or may not be what you want.

SWAP

Situated in the second row, the SWAP LR button causes the left signal to appear in the right channel and vice versa. In pro circles, this is commonly referred to as “flip.” This monitor mode is useful for quickly confirming amplitude matching, in conjunction with the MONO mode, so you know if your room, signal chain or “ears” are not quite calibrated.

It’s also useful for listening with an analytical mindset, when you want to identify a particular aspect of a mix. Flipping the soundstage horizontally helps you to better focus in on individual elements in a song. Lastly, some recordings have the soundstage reversed from what you’d expect; the “audience” or “stage” perspective. The SWAP LR button let’s you quickly address that.

L/R ONLY

The LEFT ONLY and RIGHT ONLY buttons provide monaural soloing of only the left channel or right channel information. Again, this is

useful for analyzing a dense mix, when some more subtle aspects might be hard to subjectively isolate. It is also useful to identify problems in your signal chain; rub or buzz in a loudspeaker, hum in the electronics, or distortion somewhere in your overall system.

Polarity

The third row of buttons is concerned with polarity. Don't confused polarity with phase. *They are not the same!* Polarity affects all frequencies equally. Whenever you see "phase" in print, the author usually means polarity but is not aware of the difference. Phase is frequency-dependent temporal or time shift, while polarity is frequency-blind.

Mathematically (groan), the Ø LEFT button inverts the polarity of only the left channel, so - L + R or minus left plus right. Swapping the left and right terms, we have the equivalent R - L or right minus left. The Ø RIGHT button mirrors the Ø LEFT button, resulting in L - R. The Ø LEFT and Ø RIGHT buttons product a very interesting and unnatural psychoacoustic effect...try it!

These buttons are also useful for checking that your speakers are "phased" properly. Again, it has nothing to do with phase. Rather, it's polarity so you may have connected the red to black from amp to speaker, rather than red to red (and black to black), and this let's you check. If one speaker has its connections flipped around, the low frequencies will be severely reduced. Activating the Ø RIGHT button will restore your bass information and fill the "hole in the middle" with that phantom center image mentioned earlier. Conversely; if your loudspeakers are hooked up correctly, activating the Ø RIGHT button will cause a loss of low frequencies and a bizarre, nonsensical soundstage.

That same trick is useful for "burning in" or exercising a new set of loudspeakers. Because loudspeakers are electromechanical, they may need up to 200 hours of use before they sound as the designer expected. To burn in your new speakers, place them physically close to each other, with their woofers facing each other and separated an inch or so apart. Grab a lossless monaural pink noise soundfile, preferable an HRA version so as to exercise the tweeters. You can download a few test files here:

- https://maat-digital-downloads.s3.us-west-1.amazonaws.com/public/docs/MAATgo_Test_Files.zip

Next, set your player or DAW in loop or repeat mode. Polarity invert either the left or right channel, *not both*, and start playback with the sound not too loud, at about 80dB SPL A weighted. You will notice that, with one channel inverted, much less sound "leaks" out from the speakers as the acoustic energy is being cancelled by one channel's polarity inversion. Once the setup is done, let 'em "cook" for the desired time.

The same setup mentioned above can be used to aid in speaker placement. Set your speakers in an equilateral triangle or slightly wider across the front. Play a **monaural** white noise file at moderate levels, and

invert polarity on the right channel. Also make sure to disable the Balance control, and mute any subwoofers you may have running. Since the left and right channel are playing opposite polarity of the same signal, you will experience a low frequency null or amplitude dip when listening at the apex of the triangle. While listening, have your lovely assistant (of course you have an assistant, don't you?!) move only one speaker to achieve the most profound null. The null will never be perfect, no sound at all, but you should hear a strong cancellation at the listening position. You can speed the result by moving your head around, forward and back plus left and right, hunting for the null. Then, have your assistant move the speaker in response to what you heard. Eventually, you will arrive at a satisfying null at the listening position.

One last use of POLARITY, and that is for achieving a maximally diffuse or distributed soundstage. As with the above use case, cue up a mono source, maybe a voice or spoken word track if possible. It doesn't have to be hi-fi, so a talking book will do. Enable the polarity reversal, then disable it. Do this repeatedly while relocating the speakers to arrive at the most pleasing spatial presentation with polarity reversal disabled. Sometimes the best speaker location to yield a solid low frequency null will not be the same location to provide the largest spatial impression, as it really depends on the peculiarities of your room and loudspeaker's directivity.

The Ø BOTH button in the middle is often called an absolute polarity function or, erroneously, "absolute phase." Again, strictly speaking, these controls have nothing to do with phase. What the Ø BOTH button does do is invert polarity *in both speakers simultaneously*. Some folks can hear this change, while others cannot. Another way to think of this; when you play only a snare drum hit, maybe at the count off at the beginning of a rock song, does the loudspeaker driver initially push out toward you, or in and away from you. Some listeners find they like the sound better with absolute polarity inverted, while others like things as they are. This preference is as individual as your own taste and each recording you queue up.

Note that, under laboratory conditions, humans can detect a difference between polarities but, in normal listening environments with loudspeaker playback, the room is always present and that muddies up any polarity discrimination. Even with headphones, there is no real world example of absolute polarity inversion, so your brain has no reference experiences with which to construct a sensible perception.

Goniometer

Technically, a goniometer is a device that measures angles. A protractor and plumb line serve nicely unless you're interested in measuring audio! For that, an oscilloscope was the instrument of choice back in the day, with the left channel feeding the vertical amplifier while the right channel fed the horizontal.

The resulting display is called a Lissajous curve or figure, and plots amplitude versus time for both channels. MAAT’s goniometer is an updated version of that same instrument, no need for an “scope” though I still keep mine around for troubleshooting.

A LEFT ONLY input will display a straight line at -45°, while a right-only input will display a straight line at +45° referenced to vertical. Mono signals result in a vertical line of varying length.



Figure 5 - A hard-panned mono input produces a variable length line at 45°

Moving away from simple signals produces more complex patterns, from ellipses and figures of eight with tones to chaotic “ball of wool” results when displaying typical music.

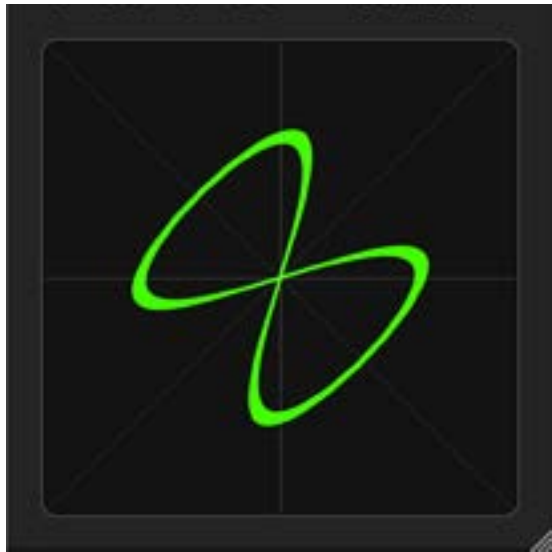


Figure 6 – A figure of eight in green “phosphor” mode

Figure 6 shows a classic figure of eight display with analog left-only sine input and a 2x frequency sine in the right channel. If you’re unfamiliar with an audio goniometer, set up your own test with test signal files or your favorite test CD, and you’ll soon get a feel for how the inputs affect the resulting patterns.

Features

MAATgo’s goniometer has a few features hidden from the casual observer. As with most, there’s a graticule; two orthogonal lines at $\pm 45^\circ$. MAATgo’s goniometer isn’t meant for measurement, instead it quickly conveys global trends and troubles, while an optional autogain feature insures that you’ll see an understandable display with a wide range of input amplitudes. With autogain disabled, the size or deviation from the center is strictly proportional to the input amplitude.

To visually warn of excess input amplitude, the display will clip. If you push the input hard, you will notice that the display starts to accumulate along the edges or boundary of the display, producing a four-sided “diamond” or square that is rotated 45°. Use this as an early warning that you may be running out of headroom. That is, you may be electronically pushing your system past it’s limits. If you have the necessary additional tools, such as an actual oscilloscope hanging off your speaker terminals, you can adjust gain in MAATgo’s preferences so that the goniometer starts to clip when your amplifier also starts to clip.

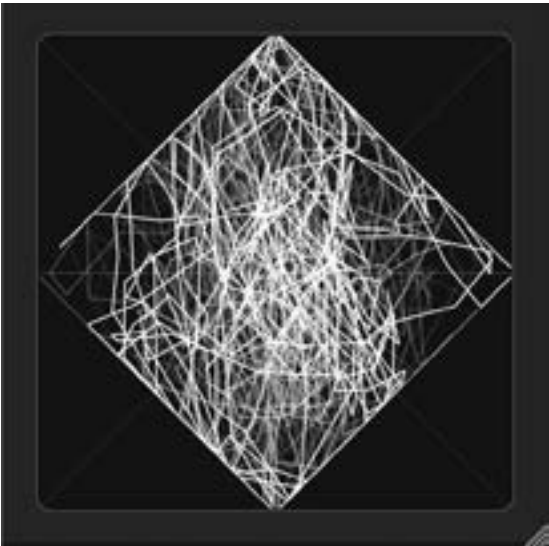


Figure 7 – A clipped display indicating excessive input amplitude

The Preferences settings, discussed later in this document, offer fine adjustment of the goniometer’s behavior and appearance. This includes the aforementioned gain, plus time constants, “phosphor” or color, and the method used to “paint” the display.

Correlation

If the input’s left/right correlation relationship wanders into negative territory, the goniometer’s display will change to red, regardless of the Phosphor setting. Negative correlation warns you of (center panned) mono information potentially dropping out, in that the left and right channel are out of phase with one another at some frequencies. You may notice this happening with reverb tails, as high fidelity reverberation really should be “decorrelated,” or highly chaotic. So, out of phase reverb is not uncommon.



Figure 8 – The display “goes into the red” to indicate negative correlation

You will notice that, when you enable either of the channel polarity modes, Ø LEFT or Ø RIGHT, the goniometer transitions to red. This is because one entire channel has been phase inverted *at all frequencies*.

Preferences

Clicking on the gear icon in the upper right corner opens the Preferences window. This is not a “modal” window, it remains active even in the background, so you can make adjustments to the goniometer and see the result in real time. The main General tab controls the behavior of the Balance control and the Goniometer tab holds all remaining user prefs, while the Info tab displays credits and allows you to activate or deactivate your license.

Settings

General Tab

The General tab contains one control, the amount of attenuation when the Balance control is centered. The factory default setting is -4.5 dB or 4.5 decibels quieter. This means that, when the BALANCE control is enabled, and the control is in the middle or center position, the overall gain of both left and right channel is reduced by 4.5 dB. This is a compromise setting and you may wish to change it, so we provide a range of 0 dB or unity gain (no change when centered), to 6 dB.

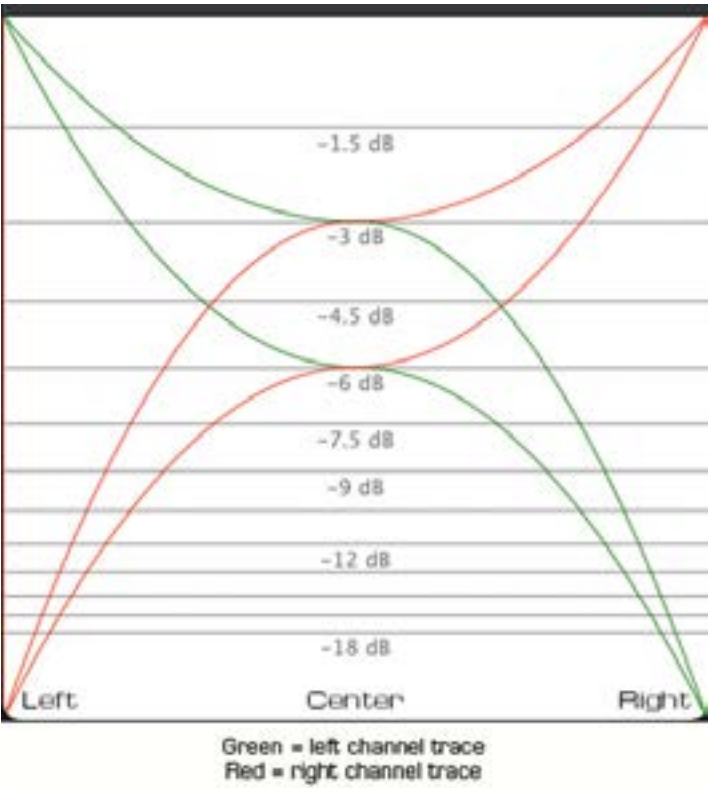


Figure 9 – The “gain law” for the balance control at -3 and -6 settings

The reason why the Balance control is typically -4.5 dB of gain has to do with summing or adding together two signals. Since you are playing audio out of two loudspeakers instead of one, the result will “build up” or sound louder. Just how loud depends on how alike the left and right channel are. Monaural signals are, as mentioned earlier, reproduced with equal amplitude in both channels. They need to be reduced by 6 dB in order to be perceived at the same loudness as if only one speaker was playing. Stereo information is different for each channel and does not constructively add. Most music is composed of both mono and stereo information, so 4.2 quieter is a nice compromise.

Goniometer Tab

The General tab contains all user-adjustable parameters.

The collection of controls include gain, focus, phosphor color and persistence.

Gain

This slider controls displayed gain, which translates into rendered size. Gain also lets you determine the onset of visual clipping, allowing you to calibrate MAATgo to your particular signal flow.

Auto-Gain

As expected, Auto-gain provides automatic input gain to decouple the input signal level from the display size. This check box affords a reasonable display at most any usable input level. It does this at the expense of

rendering absolute amplitude properly, as quiet passages will be painted as quite small.

Points

By default, MAATgo is in vector mode. In Points mode, every sample is drawn as a single dot. In the default Vector mode, the dots are connected by continuous line segments. Vector mode replicated an oscilloscope’s method of display, while Points mode offers a less visually dense, digital alternative.

Focus

The Focus control hearkens back to the audio goniometer’s CRT or cathode ray tube oscilloscope origins, and controls how wide the trace is.

Phosphor

As with Focus, the Phosphor control also evokes the goniometer’s CRT origins. At far left, the 0.0 setting, MAATgo produces a trace whose color matches the legacy amber “P3” phosphor, while in the center (0.5) the color aligns with the green “P1” phosphor. At far right, the 1.0 setting, the trace is white as seen with a “P4” display. Unlike a monochrome CRT, where the color or wavelength is literally defined by the band-gap of the phosphor on the face of the tube, in MAATgo the color is continuously adjustable between the three “phosphor” base colors. So, go with what makes sense to you!

Persistence

As with Focus, Persistence is a legacy setting, and can be thought of as a time constant; how long does the trace of a particular sample remain on-screen. This is a personal preference so, again, go with what makes sense to you.

Save State

The Save State as Global Default button’s label says it all. This function saves the state of the plug-in as a default preset. This allows you to pre-define all settings so the plug-in opens predictably each time you instantiate, just the way you like it.

Info Tab

This tab contains a link to open this, the user manual, along with the current version installed. It also contains a button to modify your license setting on our server. See the section on Licensing at the beginning of this user manual for more information on that. Also take a look at the License Central section later in this user manual.

Native Version

The bundled native version of MAATgo, MAATgo.app, is identical to the plug-in versions with the exception of a Preferences menu for macOS and Audio Setup button at top for Windows. The standalone real time app can be found in the Applications:MAAT folder on macOS, and the

Program Files\MAAT folder on Windows.

Settings for the standalone version include I/O, sample rate and buffer size selection. The input selector has a simple signal presence meter, while the output has an associated Test button. The Test function sends a 440 Hz tone to the designated output port.

Sample rate choices are dictated by your hardware’s capabilities. There is also an audio input mute check box to prevent feedback. This mute is enabled by default on launch when the designated input and output are the same to prevent feedback or “howlround.”

In Use

Depending on your audio interface, there are several ways to provide an input to the native version of MAATgo. Some hardware drivers have a “loopback” ability. Dig into the documentation for your favorite DAC or interface for more information on loopback capabilities.

A more common approach is to use a virtual audio driver which, in the Windows world, is often referred to as a “virtual soundcard.” Being a driver, this product class provides audio routing to and from a software-only virtual device. For Windows, we recommend VB-Audio’s HIFI-CABLE & ASIO-Bridge, a “donationware” virtual soundcard. See:

<https://vb-audio.com/Cable/#DownloadASIOBridge>

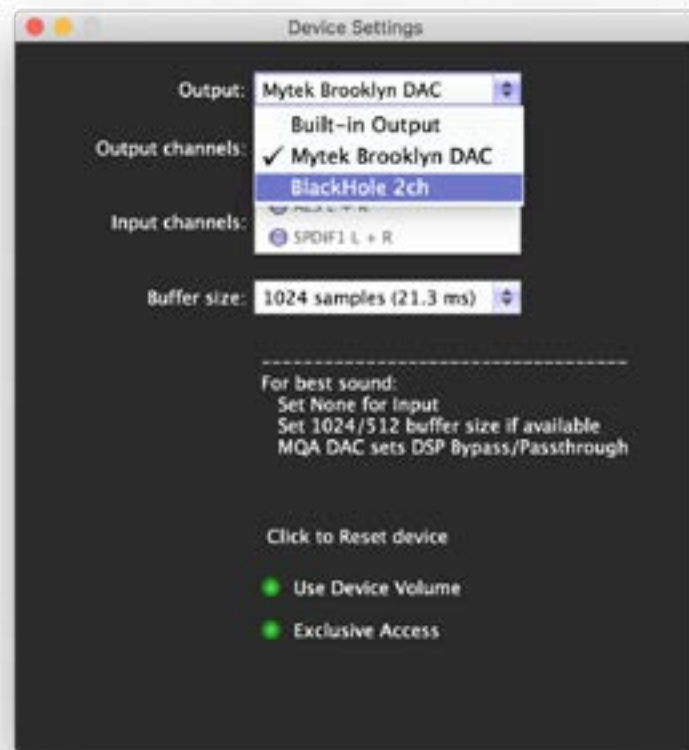
Although that product is cross-platform, for macOS we recommend Existential Audio’s excellent and free BlackHole:

<https://existential.audio/blackhole/>

When using a virtual driver for macOS or Windows, the signal flow is as follows: the output of your player, which normally feeds your DAC, is instead routed to the input of the virtual driver. Then, the output of the virtual driver is assigned to MAATgo’s input. Finally, the output of MAATgo is assigned to your DAC. The virtual driver becomes a gateway to insert MAATgo into what would normally be a direct connection between player and DAC.

The output of your player application should be assigned to the virtual driver. Figure 10 below shows macOS examples of the configuration menus for the highest fidelity, audio-only, cross-platform player applications. The upper image is from Amarra Luxe’s Device Settings window, while the lower image shows Audirvana’s Audio Output Selector menu. Notice the “Blackhole” entry in both. For TIDAL, Qobuz and other audio-only player applications, selecting the virtual driver is similar.

Once the virtual driver’s input is set as the output of your player, assign the driver’s output to MAATgo’s input. Then, assign MAATgo’s output to your normal conversion device; your USB DAC or integrated hi-fi separate.



- Select BlackHole in Audio MIDI Setup. In the Output tab, check that the Channel Volume is set to maximum or 1.0 (0 dB).
- If you are using a multi-output device, due to issues with macOS, a 2 channel audio driver must be enabled and listed as the top device in the Multi-Output.

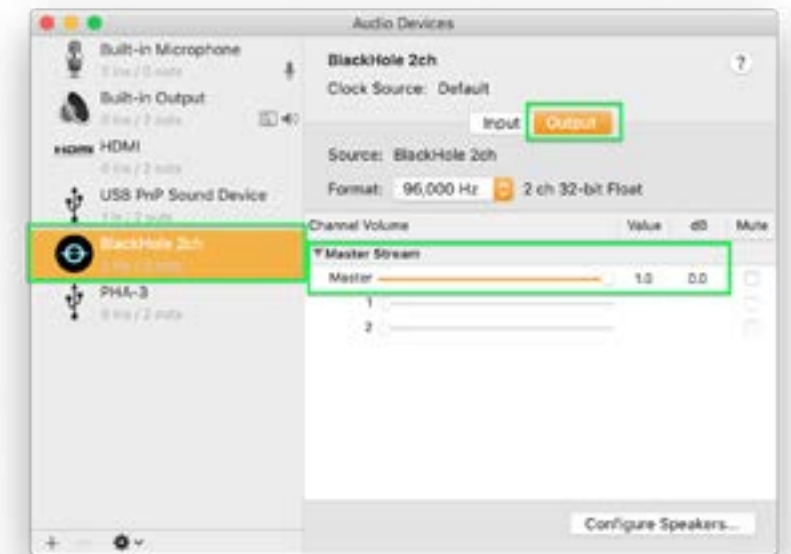


Figure 11 – Blackhole settings in Audio MIDI Setup



Figure 10 – The virtual driver, Blackhole, as it appears in Amarra Luxe and Audirvana

Note that, in newer versions of macOS, security has been improved to prevent hijacking of your computer's subsystems by malware. When using BlackHole, double check the following settings:

- In System Preferences → Security & Privacy → Privacy → Microphone, make sure that your audio player application has microphone access enabled.

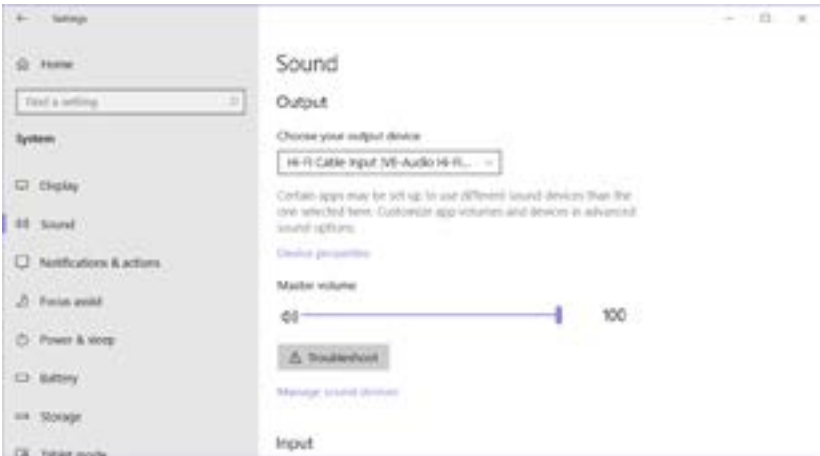


Figure 11 – Virtual drivers, as they appear in macOS and Windows

Specifications

System Requirements

- macOS: 10.9 and newer, 64 bit only
- Windows: 7 and newer, 32 & 64 bit
- 4GB RAM minimum

Supported Formats

- 44.1 to 384 kHz sample rate
- AAX, AU, VST 2, VST 3

Supported Sample Rates

- 44.1 to 384 kHz

Updates

Please always use the latest version of the software! You can find your current version on the Info Tab in Preferences. You can download the latest version simply by visiting:

<http://maat.digital/support/#installers>

For optimal security and stability, you should always stay up to date with Operating System revisions, and we keep up with compatibility changes to our products. We also continue to optimize for reduced CPU load, and this very user manual gets its own improvements.

To stay up to date with the latest developments, please watch out for our occasional newsletter. Don't worry, we know you are busy so we only send out an average of 12 mailings a year.

License Central

License Central, located in MAAT's Shared directory, is a free utility that validates, repairs and logs your MAAT licenses. It also displays what MAAT products you have installed and assists in downloading both updates and demos.

License Central lists all of our products, and shows you:

- If a product is installed and what licenses you have [CLOUD, SUBSCRIPTION, TRIAL, OFFLINE or TEMP OFFLINE]
- What versions are installed, and version installers are available for download

It also provides:

- A one–click download of an update or a demo
- A button to activate or deactivate any of your licenses
- A copyable list of all your Product Keys
- One–click generation of the MAAT diagnostic report

It also fixes license issues automagically.

In Use

When you launch License Central, it scans your host computer and then attempts to match up each product found with a Product Key on our license server. That scanning happens in real time, and the process is shown as a progress bar. When quitting, this process happens in reverse.

Once all the licenses are validated, a list on the left displays all MAAT products, including License Central. Products that are not installed are grayed out, and installed products are displayed in high contrast. To the right of each product entry is a check mark, which indicated that the product is licensed.

Selecting a product entry displays information about the installed version and if an update is available for download.

Controls

There are two persistent buttons along the top. At upper left is Check for Updates, which refreshes the list of installed products, and pings our server again for currently available versions to download. It also recreates your Product Key list.

At upper right, the Activate/Deactivate button brings up the familiar blue and orange MAAT license window, allowing you to deactivate or return your license to the Cloud, and to switch to a 30 day temporary offline license. If you have requested a 365 day full offline license, use the Create License Request function in the MAAT license window, and have received your “.maatc” confirmation file, you can also take your license offline. Finally, you can also paste in a Product Key to activate a new license.

Note:

Switching to 30 day temp offline requires that your license be already activated. 365 day full offline licenses require a license confirmation file as supplied by MAAT’s support department.

If any product is out of date, a third Download Update button will appear when that product is selected. This button is an express method for updating you MAAT products.

At bottom left of the License Central window is an Auto–Refresh check box, which is selected by default. Deselecting that will prevent License

Central from frequently scanning your host for changes including new installs. It starts a scan every 3 seconds, waiting for completion of that scan, then begins a new 3 second countdown before starting the next scan. If you find that License Central is interrupting you workflow while scanning, then disable Auto–Refresh.

Preferences

In License Central, the Preferences’ gear icon brings up the Preferences window with four tabs.

Paths

For those who set up alternate directories for the management of their plug–ins in a DAW, two alternate plug–in paths can be defined. These directories will be also included when License Central searches.

Keys

This tab lists all of your Product Keys that are known to our license server. Please take a moment to copy all of your Product Keys, paste them into a text or word processor file, and print out a hard copy. Your Product Keys are your proof of purchase and, without them, your purchase will not work and we cannot provide product support.

Troubleshooting

The Troubleshooting tab has one button, which generates a Diagnostics Report. This report, automatically written to the Desktop, gathers useful, non–personal information about your machine’s state that our support team can use to diagnose any problems.

Info

As with all our products, the Info tab lists credits, copyright information, and the version number you are running.

Share The Love

Would you like to help us in our quest for better sound quality? Help support MAAT by sharing the love... Like us on Facebook!

<https://www.facebook.com/maatdigital/>

Instagram

<https://www.instagram.com/maat.digital/>

and Twitter too:

https://www.twitter.com/maat_digital

Please tell your friends and colleagues about us. We really appreciate it, and thank you for supporting better quality audio.

Support

For product support, please visit:

<https://www.maat.digital/support>

Credits

- Instigator
 - Oliver “OMas” Masciarotte
 - Product Management & UX
 - Oliver “OMas” Masciarotte
 - Programming
 - Adam, Agent of Shield
 - Inspiration
 - Tomlinson “Tom” Holman
- VST is a trademark of Steinberg Media Technologies GmbH.

About This Manual

Afterword

This manual was written in Adobe InDesign CC 19, and is set in Robert Slimbach’s Minion Pro and Myriad Pro. The cover page is set in Aldo Novarese’s modernist geometric Eurostyle.

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