MAAT

GŌN

User Manual

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Introduction

Dear Visualization Fiend,

Thanks for installing this copy of MAAT's GŌN (rhymes with "lone") goniometer plug–in, and congratulations on committing yourself to better awareness of what's happening with your music!

GŌN's functionality is wrapped in a visually unobtrusive user interface. The plug–in is responsive yet also very "light weight," demanding a minimum of CPU resources so it won't slow down your host. We've worked hard to make this a simple yet exceptionally useful and usable tool and we hope you'll dig it.

Installation & Setup

When preparing for installation of your MAAT GŌN, 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 reënable anti–malware measures or simply restart your host.

Let's Gō!

Unlike an oscilloscope, GŌN's UI lacks any knobs or switches. The straightforward user interface contains only a single button, the preference's gear icon at upper right. We know, reading is old school and such an easy tool to use as GŌN 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

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, 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 "o'scope" though I still keep mine around for troubleshooting.

In Use

A left–only or hard left panned input will display a straight line at -45º, while a right–only input will display a straight line at 45°. Mono signals result in a vertical line of varying length. For any input, the length is proportional to the input amplitude.

Figure 2 - 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 2 – A figure of eight in green "phosphor" mode

Figure 2 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 an arbitrary signal generator assigned to the left channel and another to the right and, as you alter the frequency and waveform type of each, you'll soon get a feel for how the inputs affect the resulting patterns.

Features

MAAT's goniometer has a few features hidden from the casual observer. As with most, there's a graticule, two orthogonal lines at ±45°. Since the goniometer isn't meant for measurement, instead it quickly conveys global trends and troubles, an optional autogain feature insures that you'll see an understandable display with a wide range of input amplitudes. If the input's left/right correlation relationship wanders into negative territory, the display will shift to red, regardless of the Phosphor setting. Negative correlation warns you of mono incompatibility, in that the left and right channel are out of phase with one another. This function reinforces any other correlation meters you may have running, such as our multi–band 2BC multiCORR or our free 2BusControl plug–in.

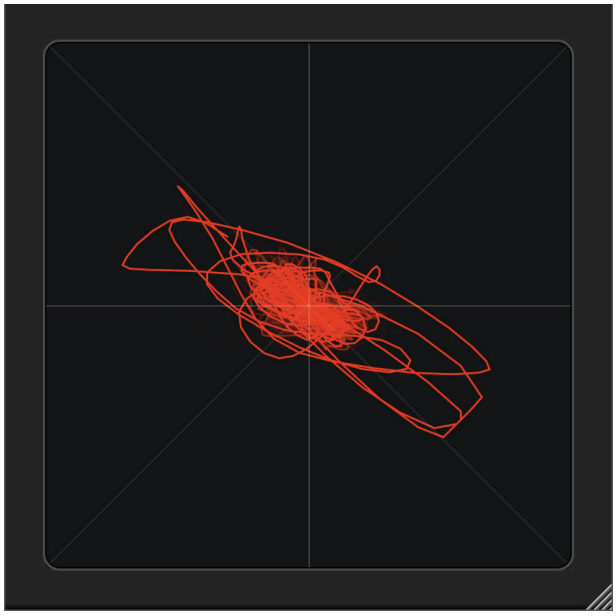

Figure 3 – The display "goes into the red" to indicate negative correlation

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're running out of headroom.

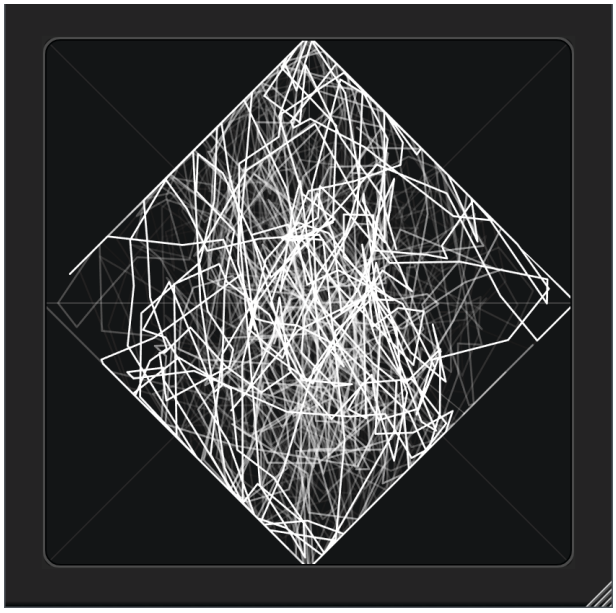

Figure 4 – A clipped display indicating excessive input amplitude

Preferences

Clicking on the gear icon in the upper right corner opens the Preferences window. The main General tab holds all user prefs while the Info tab displays credits.

Settings

General Tab

The General tab contains all user–adjustable parameters.

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

Gain

This slider controls gain, which translates into rendered size. Gain also lets you determine the onset of visual clipping, allowing you to calibrate GŌN 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 range.

Points

By default, GŌN is on 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 alternative.

Focus

The Focus control harkens back to the goniometer's osciloscope origins, and controls how wide the trace is.

Phosphor

As with Focus, the Phosphor control harkens back to the goniometer's cathode ray tube origins. At far left, the 0.0 setting, GŌN 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, the color is continuously adjustable between the three "phosphor" base colors.

Persistence

As with Focus

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.

Info Tab

This tab contains a link to open this, the user manual, along with the current version installed.

Specifications

System Requirements

- macOS: 10.8 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

Updates

Please always use the latest version of the software! You can find your current version on the Info Tab of the back panel. 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 version and product releases, please subscribe to our occasional newsletter. You'll find a opt–in form on our Contact page, or sign up for a copy of our free and very handy 2BusControl plug–in which will also subscribe you. Don't worry, we know you are busy so we only send out an average of 10 or 12 mailings a year.

Support

For product support, please visit:

https://www.maat.digital/supports

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 and 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 atny 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/

and Twitter too:

https://twitter.com/maat_digital

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

Credits

Instigator

Friedemann Tischmeyer

Product Management & UX

Oliver Masciarotte

Programming

Adam, Agent of Shield

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About This Manual

This manual was written in Adobe InDesign 15.1.1, 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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