SOMA EQ

Plugin Manual

Developed by Brainworx Audio in partnership with Knif Audio and distributed by Plugin Alliance.

PLUGIN ALLIANCE   KNIF AUDIO   BRAINWORX

About the SOMA EQ Hardware and Plugin

Soma is a clear departure from the old „passive EQ's are for general shaping only" paradigm. It is the only commercially available passive EQ with real Q adjustment, which makes it more usable and accurate than other products which use only a resistor based Q adjustment which affects boost/cut amount and does not offer a wide range.

It is not surprising that this type of "real Q adjustment" passive EQs have not existed before Knif Soma. When passive circuits reigned the EQ world there was no feasible technology available for the rather complex requirements. And when engineers started to require more control, active circuits were already there and thus passive designs were abandoned until it was realized that they offer superb sonic results. It was taken for granted that they have their limitations and were used accordingly.

Well implemented real Q adjustment in passive EQs requires logic circuits and a lot of subminiature relays (around 140 pieces in Soma). Signal path in Soma is short, because frequency and Q adjustment (switching different capacitors and inductances) is executed locally and signal is taken to the front panel for gain control only.

Because reliability and long time ease of repair is important, there are no programmable IC's or microcontrollers. Only basic CMOS logic is used. Relays are rated for 100 million operations and thus it is likely that not a single one will ever break.

The MS-matrix in Soma is passive, transformer based, and does not add one single component in the signal path and thus does not degrade sonic performance. Input and output transformers have multiple windings which are switched locally, with relays, to perform sum and difference operations.

The Filter section is very simple. There is the possibility to switch S-channel high pass for 6dB/oct for "elliptical" bass equalizing.

The Filter caps are mostly polypropylene. Only in the lowest range it was necessary to use some polyester ones. Coils (enclosed in mu-metal) are hand wound by Mr.Knif and have maximum amount of taps to make the Q-adjustment possible. The Make up gain amplifier is a simple two-stage thing with moderate amount of feedback, with tubes of course. Soma has individual discrete regulators for anode supplies, mu-shielded signal transformers, all teflon/copper/silver wiring, no connectors on signal path.

Brainworx enhanced the original design with many useful features, such as two slopes for the HP filter for both channels, Input and Output Gain, M/S features, Auto Listen, Headroom parameter to add or reduce analog color and saturation, and the ground- breaking TMT (TMT, US Patent No. 10,725,727), offering an unrivaled analog experience in the box. With all the additional features, this EQ offers everything you need in a modern digital environment.

SOMA EQ

Plugin Manual

The EQ Section

Four EQ Bands

Each of the four EQ bands have similar controls. The Band Gain is controlled by the top row of knobs, the Band Q- Factor is controlled by the middle row and the Band Center Frequency is controlled by the bottom row.

❶ On Switches

Switch each EQ band and its accompanying components on and off. Use this to solo, or listen to specific bands together.

❷ Gain

Each band has a ±8dB gain control which operates in 0.5dB Steps from 0 to +-3dB and from +-3 to +-8dB in 1dB Steps.

❸ Q Control

Q control ranging in four steps from 0.5 to 1.5. and can be switched to shelf mode at right stop. Filters are Peak Filters except when in Shelf position, then its a Low-Shelf for Low and Low-Mid Bands and High-Shelf for High and High-Mid Bands.

❹ Frequency

The frequency control for each band is stepped, with 16 different positions.

Low Band: 27 - 470 Hz

Low Mid Band: 100Hz - 1.8kHz

High Mid Band: 560Hz - 10kHz

High Band: 1.5 - 27 kHz

SOMA EQ

Plugin Manual

1 EQ On

Switches the Global Channel bands and its accompanying components on or off.

2 Mute

Mutes the channel.

3 Trim

Selects a Trim Gain for the Channel. This control is not symmetrical. It runs from 0 to +3dB dB in 0.25dB steps and 0 to -8 dB.

4 HP Filter Slope

HP and LP filter slopes are gentle, with round corner, and reach 12dB/oct slope. HP filter can be switched for elliptic filter, which has 6dB/oct slope.

5 HP (High Pass Filter)

Switch between the following ranges: off/25/33/50 Hz at 12dB/oct and 140 / 200 / 280 Hz at 6dB/oct.

Tip: An „elliptic equalizer" is used during vinyl mastering to prevent playback skipping on music having wide stereo bass. The bass-to-mono elliptic EQ gets its name from the width of ellipses in the recorded groove or Lissajous patterns on an oscilloscope.

SOMA EQ

Plugin Manual

❶ LP (Low Pass Filter)

Switch between the following ranges: off/24/20/17 kHz.

❷ Auto Listen

When Auto Listen is engaged: As long as the frequency- or q-control of a specific eq-band is clicked, everything outside of the filter's bandwidth is muted. This let's you listen to the effect of a single eq-band depending on It's frequency and q. While listening, The gain is normalized.

Please check page 13 Modifier Keys.

❸ M/S

Engages Mid/Side processing. When this is set to On, the Left Channel processes the Mid (Sum) of both channels and the Right Channel processes the Side (difference) of both channels.

❹ Parameter Link

This enables or disables linking of parameters for Dual Mono and Stereo operations. When both parameters have different values and link is engaged, both parameter values remain unless one of them is touched and any control offsets between channels are lost.

❺ Power

Switches the Plugin On & Off. The indicator LED will light when the Soma is active. This parameter is linked to the BYPASS button in the Plugin Alliance Toolbar.

SOMA EQ

Plugin Manual

TMT Inside

The SOMA EQ offers 20 different eq channels, made possible by TMT. TMT is Brainworx's (TMT, US Patent No. 10,725,727) "Tolerance Modeling Technology", originally found in the bx_console line of plugins. It takes the real-world tolerances of audio components found in audio circuits into account, and offers various channels of analog audio which have realistic variances in frequency response, time constants in dynamic sections, etc. The result is digital audio that sounds as analog as possible, whereas even the L/R channels of a stereo instance will react slightly different. For more information please check www.brainworx.audio

❶ Stereo Mode

Toggles between using the same TMT channel for both units (Digital) and using two adjacent TMT channels (Analog).

❷ Channels

TMT, switches between 20 different channels. In a Stereo instance, two adjacent channel numbers will be displayed. Each channel has its own, different character!

SOMA EQ

Plugin Manual

❶ Random Channel

Whenever you instantiate a SOMA EQ plugin on a channel, it will start with the Default setup, which is Channel 1 in a flat setting. You can now randomize a channel by clicking the Random Channel button. Only the plugin instance you click on will switch to any unused channel number in that session randomly. The plugin will remember which channel numbers are already used in a session and activate an unused channel number, unless you engage more than 20 channels. At that point the plugin obviously would have to use a channel number that has already been used.

❷ Mono Maker

This tool is a critical component to several Brainworx processors, and it is an invaluable tool when mastering or tightening up a mix. Sweepable from 20 Hz to 2 kHz, this parameter folds the processed sound to mono at and below the frequency set. The most common setting is between 100–200 Hz, below which bass frequencies reside, where common practice deems that most sound should be mono. Other uses include folding an entire mix in order to check mono compatibility and avoid phase incoherency. It can be bypassed at the left stop position.

SOMA EQ

Plugin Manual

❶ Stereo Width

Make your mix wider than it originally was by increasing the Stereo Width without losing the center of your recordings! You will not lose bass drum power or vocals by making your mix wider this way... and it will not sound different played back in mono at all. If you notice your Correlation Meter (you can find a correlation meter in the bx_meter plugin) showing less than 90°, dial up the Mono Maker a bit to tighten up the low-end until acceptable levels are shown.

❷ Input Gain

The Input Gain control sets the level at the input of the plugin. The range is from -8 dB to +8 dB.

❸ Headroom

It Adjusts the internal operating level so that the Plugin produces more or less harmonics / coloration. Rotating the control clockwise will allow signals at the input to be pushed higher before they saturate, this will result in less coloration overall. By rotating counter-clockwise headroom is decreased resulting in a greater amount of saturation and more colour being added to the signal.

❹ Out Gain

Adjusts the Output Level of the plugin. The range is from -8 dB to +8 dB.

❺ Input and Output Meter

The input meter shows signal level before all processing and the output meter the level after all processing. All meters show levels in dBFS.

SOMA EQ

Plugin Manual

Top Toolbar

❶ UI Scaling

The UI size can be scaled using this menu options from 50% to 150% of its normal size.

Adapt the graphical user interface to the size and resolution of your screen. The plugin will check if the user interface will fit your screen before enlarging it. So if you accidentally chose a zoom factor which is too big for your current settings, the plugin will automatically stay at the maximum possible zoom factor.

❷ Icon

The icon closes and opens the bottom panel containing the Brainworx´s plugin only features.

❸ Undo / Redo

You can undo and redo changes you made to the controls of the Soma EQ plugin at any time. The Undo / Redo will work for as many as 32 steps. This makes experimenting and tweaking knobs easy. If you don´t like what you did... just undo it.

SOMA EQ

Plugin Manual

❶ Settings (A/B/C/D)

The Plugin offers four internal settings (A/B/C/D) which will be stored with every preset. So, one preset can contain up to four settings. You may use similar settings with more or less equalization in one setup / preset.

Now, the SETTINGS can be automated in your DAW! This way it´s possible to use different sounds for your lead vocals or drums in various sections of the song. Automate the A/B/C/D settings, and you can still tweak knobs of the individual settings without overriding multiple parameters in your DAW, which would be time-consuming.

❷ Copy / Paste

To set up variations of similar sounds you don´t have to dial in the settings several times. Let´s say you like your setting A and want to use the same sound, just with less Stereo Width, as setting B.

Simply press Copy while you are in setting A.
Switch to setting B by pressing 'B' in the settings section.
Press PASTE, now setting B is identical to setting A.
Reduce the Stereo Width on the B setting.

Now you can switch between A & B and decide which one sounds best or automate different settings for various sections of your session.

❸ M/S Monitoring (for Stereo Channels only)

Solo M: Solos the Mid (Sum) signal being processed by the plugin.
Solo S: Solos the Side (Difference) signal processed by the plugin.

SOMA EQ

Plugin Manual

Bottom Toolbar

❶ PA Logo

Clicking the Plugin Alliance logo takes you to the Plugin Alliance website via your web browser, that´s if your computer is online.

❷ License Type

The toolbar displays information about the type of license you're running: Trial licenses will be displayed along with the number of days until expiration; there is no note for full licenses as these are unlimited.

❸ $ (Icon)

If you are using a demo / trial version of our products, you can always click this icon to open a browser that redirects you to the respective product page in the Plugin Alliance store. This is where you can easily purchase a product without having to look it up on our website.

❹ Key (Icon)

Clicking on the key icon brings up the activation dialog, allowing you to manually reauthorize a device in the event of a license upgrade or addition. You can also use this feature to activate additional computers or USB ash drives.

SOMA EQ

Plugin Manual

❶ ? (Icon)

Clicking the ? icon opens up a context menu that links to the product manual PDF, as well as other helpful links, e.g. to check for product updates online. You must have a PDF reader installed on your computer to be able to read the manual.

System Requirements & FAQ (Links)

For latest System Requirements & Supported Platforms
https://www.plugin-alliance.com/en/systemrequirements.html

Particular details for your product
https://www.plugin-alliance.com/en/products.html

Installation, Activation, Authorisation and FAQ´s
https://www.plugin-alliance.com/en/support.html

Modifier Keys

Tested with Logic Pro X, Protools, Cubase, and Presonus Studio One Mac/Win.

Plugin Format	Jump between Default / Last Setting	Fine Control	Auto Listen
Modifier Keys Assignment			
AU	Option	Shift	Command
AAX	Option (Mac), Alt (Win)	Command (Mac), Ctrl (Win)	Shift
VST + VST3	Command (Mac), Ctrl (Win)	Shift	Option (Mac), Alt (Win)

SOMA EQ

Plugin Manual

Artist Presets

Brian Malouf

Brian Malouf is a multi-platinum American producer, engineer, and mixer who has worked with acts such as Michael Jackson, Queen, Madonna, Pearl Jam, Stevie Wonder, Dave Matthews Band, Tokio Hotel, Wolfmother, and All Time Low. Also serving as an executive at several major record labels over the years, his work has amassed a total of 53 gold, platinum, and double platinum records to date.

Brian Vibberts

Brian Vibberts is a Los Angeles-based 6 x Grammy-winning recording and mixing engineer who has worked with platinum artists in many genres (pop, jazz, rock, country, hip hop) and is known for working in high resolution, combining mixing techniques with software and hardware.

Carlos King

Carlos King, the grammy-nominated and multi-platinum selling engineer, is an LA native who grew up immersed in the music scene. He worked hard and snagged the position of head engineer at a busy private studio. During his tenure there, he had opportunities to record, mix and engineer major artists; Ariana Grande, Machine Gun Kelly, Fantasia and many more! His hard work paid off when he was nominated for a grammy for his work on Fantasia's album Side Effects of You. Carlos continues his career as an independent engineer and music producer/composer/songwriter for many forms of media.

SOMA EQ

Plugin Manual

Eric Racy

Eric Racy is a platinum selling mixer, producer, engineer and remixer with credits and clients that include Katy Perry, Pharrell, Tyga, Jonathan Davis, Akon, 2NE1, Ministry, Lil Wayne, Big Sean, Busta Rhymes, Photek and many more.

Lyell Evans Roeder

Lyell has carved out a unique path working across production, scoring, writing and performance - all while being the mixing force behind projects across genres and around the globe. His recent work includes a score for acclaimed Indian director Priyadarshan's most recent feature film; production for Grammy-nominated artists in the U.S. and the U.K.; original music for the BBC, Netflix, and a host of network television; and production and engineering for a wide range of new and established artists at home in Los Angeles and around the world. Lyell's many projects on the road have led to his developing a nuanced understanding of how to best take advantage of ITB and hybrid setups and made him known for his ability to bring top-tier sonics to any project, be it in a traditional studio environment or a laptop on tour.

SOMA EQ

Plugin Manual

Maor Appelbaum

Maor Appelbaum is a mastering engineer and musician. He has an extensive background with the international music industry - He is well aware of the various music styles and sounds that are developing vastly as today's technology develops. Maor has had the pleasure of mastering recordings for major international acts such as: Faith No More, Yes, Walter Trout, Eric Gales, Starset, Ill Nino, Dokken, Fates Warning, William Shatner, Gus G, Common Kings, Sepultura, Yngwie Malmsteen, Halford, Fight, Armored Saint, Lita ford, Seven The Hardway , Marco Mendoza, Angra, Treponem Pal, Wayne Hussey, Therion, Cynic, Nekromantix, Butcher Babies, Billy Sherwood, The Top Chops and more...

MIke Kalajian

MIke Kalajian is a Grammy nominated mastering engineer and owner of Rogue Planet Mastering in New York. He's mastered songs for thousands of artists including: A Day To Remember, Papa Roach, The Bronx, Saves The Day, Hands Like Houses, Saosin, Cigarettes After Sex, Drug Church, and more.

SOMA EQ

Plugin Manual

Simon Li

Simon Li mixing and mastering for Asian music giants – such as Faye Wong (王菲) and Eason Chan (陳奕迅). His recent Golden Melody Award (GMA) for mixing A-Lin's (黃麗玲) song "I remember" "我都記得" gives further testimony to his insights and industry achievements. He is mixing and mastering for over 20+ years in Hong Kong. His clients are mainly from this part of the world...Hong Kong, China, Taiwan, Singapore, Malaysia, Japan, etc. In case you guys don't know, the GMA is like "Grammy" in Taiwan.

Zardonic

Federico Augusto Ágreda Álvarez, professionally known as DJ Zardonic, is an internationally renowned DJ, composer, producer, sound designer, remixer, mixing and mastering engineer, with over 18 years of experience, hundreds of releases, headline events and festival appearances in a total of 40 countries while donning his ubiquitous Zardonic mask. Zardonic worked with acts such as Fear Factory, Bullet For My Valentine, Smash Into Pieces and more...