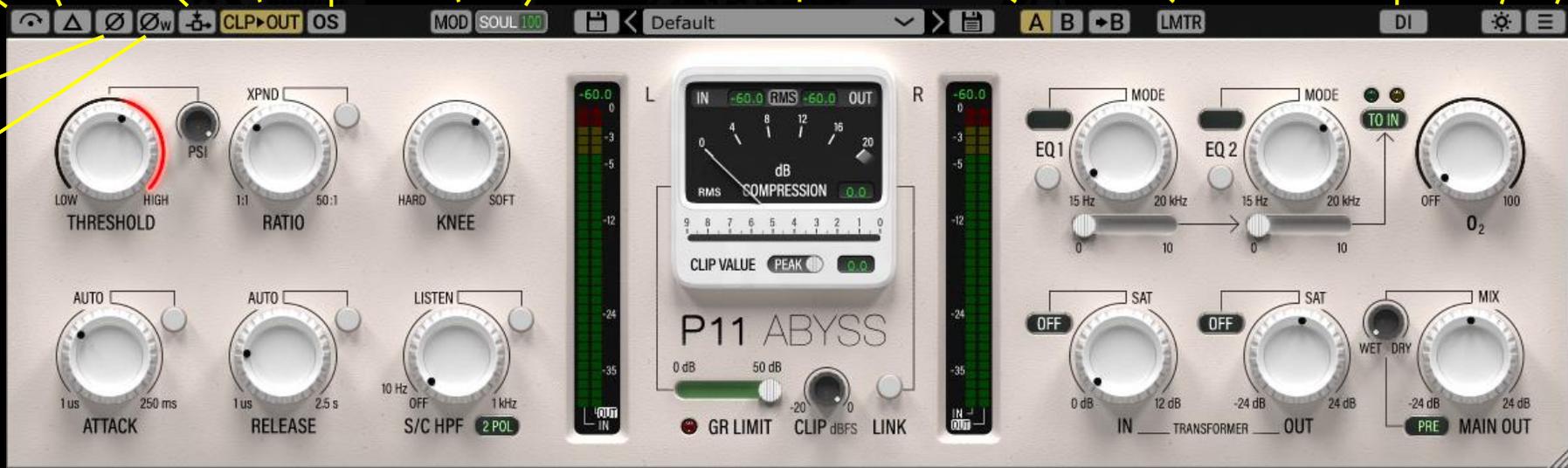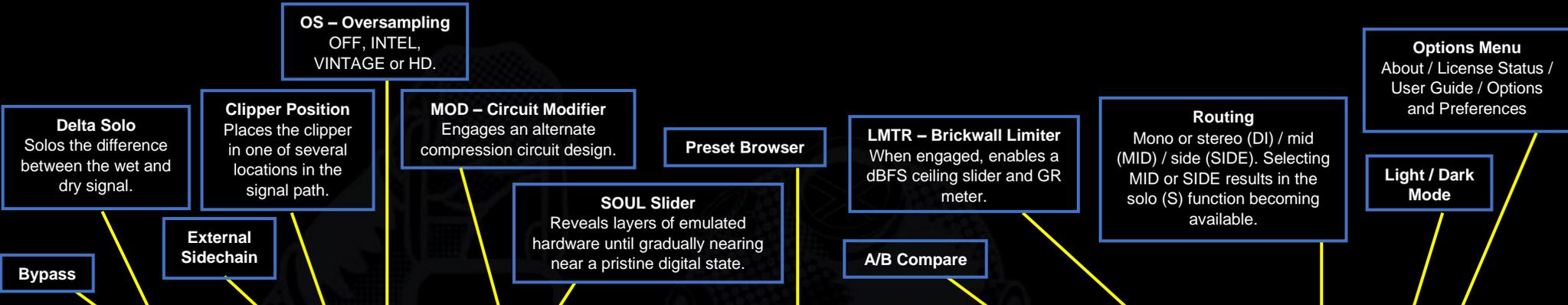# P11 ABYSS

User Guide

Version 1.0

Foreword

To what depths are we able to descend? What lies in wait for us upon arrival? What fantastical tales will we tell when we return? These are the questions that drive the bold adventurer and invigorate the ambition of the ever-inquisitive inventor. Rising from the endless expanse of yet fruitless quests that have plagued every audio engineer who has so far been engaged in a vain search to find the holy grail of compressors comes the very bounty being sought. Welcome all, to the Abyss.

Unsatisfied with the prospect of designing a compressor that simply surpasses the sound quality of anything else available in the software or hardware world, the minds at Pulsar Modular sought to be challenged by every aspect of Abyss. Can attack and release support 1 microsecond timings and maintain reliable stability? Can the threshold react steadily and musically to every subtlety, even when set to -50 dB? Can Abyss rival all the smoothness, grit, power, solidity, musicality, gentleness, openness and rhythm that is imparted by everything ranging from the finest hardware mastering compressors available to the daily hard-hitting, groove-inducing workhorse hardware that brings a mix to life? Questions that inspire imagination, ingenuity and creation abound when boundaries are pushed. Devising, designing, building, refining and nurturing Abyss has truly been a journey for the ages.

Modern producers, engineers and artists should not be constrained by the need to understand different characteristics offered by the multitude of physical compressor topologies. They should not need to project and translate that information into selecting the right tool for the right purpose. The physical limitations of a chosen hardware design made it necessary in the past. One would choose VCA when seeking deep, aggressive punch; Opto for clean, open, smooth action; Vari Mu for flowing, rhythmic pulsing. Abyss casts physically imposed rules and constraints completely aside, allowing it to masterfully exhibit any characteristic that is desired. Aggressive, punchy, smooth, open, breathy, dense, clean, dirty... it's all here at your fingertips. Abyss fulfills the dream of having a direct connection with the audio without being mired in technicalities.

Dive in and experience the infinite colors, hues and characters Abyss beautifully draws out of your audio. It is very much designed to be equally at home on individual tracks and instruments, group buses, returns and main buses. It is designed to fulfill all mixing, stem mastering and stereo mastering needs.

Now, more than ever - Pulsar Modular - **The sound is unbelievable.**

PULSAR
MODULAR

Delta Solo
Solos the difference between the wet and dry signal.

OS – Oversampling
OFF, INTEL, VINTAGE or HD.

Clipper Position
Places the clipper in one of several locations in the signal path.

MOD – Circuit Modifier
Engages an alternate compression circuit design.

Preset Browser

LMTR – Brickwall Limiter
When engaged, enables a dBFS ceiling slider and GR meter.

Routing
Mono or stereo (DI) / mid (MID) / side (SIDE). Selecting MID or SIDE results in the solo (S) function becoming available.

Options Menu
About / License Status / User Guide / Options and Preferences

External Sidechain

SOUL Slider
Reveals layers of emulated hardware until gradually nearing near a pristine digital state.

A/B Compare

Light / Dark Mode

Bypass

Dry Polarity

Wet Polarity

CLP▶OUT OS   MOD SOUL 100   Default   A B ▶B   LMTR   DI

XPND   PSI   HARD   KNEE   SOFT

THRESHOLD   LOW   HIGH   RATIO   1:1   50:1

AUTO   ATTACK   1 us   250 ms   AUTO   RELEASE   1 us   2.5 s   LISTEN   10 Hz   OFF   1 kHz   S/C HPF   2 POL

-60.0
0
-3
-5
-12
-24
-35
OUT IN

IN -60.0 RMS -60.0 OUT
0   4   8   12   16   20
dB
COMPRESSION   0.0
RMS
9 8 7 6 5 4 3 2 1 0
CLIP VALUE PEAK   0.0

P11 ABYSS

0 dB   50 dB
GR LIMIT   CLIP dBFS   LINK   -20   0

-60.0
0
-3
-5
-12
-24
-35
IN OUT

EQ 1   MODE   EQ 2   MODE   TO IN   O₂
15 Hz   20 kHz   15 Hz   20 kHz   OFF   100
0   10   0   10

OFF   SAT   OFF   SAT   WET   DRY   MIX
IN   0 dB   12 dB   OUT   -24 dB   24 dB   -24 dB   24 dB
TRANSFORMER   PRE   MAIN OUT

Core Action and Behavior
These controls influence the fundamental characteristic behavior and shape of the compression. Simple yet infinitely flexible options for reproducing characteristic behavior of any compression circuit topology are presented here. **See page 6**

The Central Scrutinizer
Presents a wealth of metering and other visual feedback to alert you of the potential consequences of everyday activities. Extended functionality is also available here to help prevent you from doing wrong things. It's a way of life. **See page 10**

Character, Depth and Color
These controls provide options to extensively alter the internal characteristics of the processed audio. These are not layered additions to the sound, but rather they profoundly and interactively manipulate the core character. **See page 14**

PULSAR MODULAR

Bypass allows the unaffected audio signal to pass through without being processed. Red indicates audio is being bypassed.

Delta solo allows you to hear the difference (or delta) between the wet and dry signal. This allows you to hear just what the plugin is adding to or removing from the unprocessed dry signal. Yellow indicates delta solo is active.
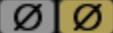
Dry polarity inverts the unaffected dry audio signal. Yellow indicates it is inverted.

Wet polarity inverts the input signal so all internal processing is applied to the inverted signal. Yellow indicates it is inverted.
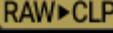
The **external sidechain** button enables use of an external source as the signal feeding the compression detector circuit. Consult the documentation for your DAW for external routing options and instructions. Yellow indicates the external sidechain is engaged.
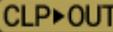
The **clipper selection** button changes the position of the clipper relative to other controls in the signal path.
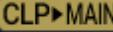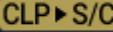
CLP▸OUT: Signal path is TRANSFORMER IN >> COMPRESSOR >> CLIP >> TRANSFORMER OUT >> MIX >> MAIN OUT. This is the default clipper position. Use this option to even out the signal after compression but prior to the output signal path to achieve firm control while allowing imparted character to remain unrestrained.

CLP▸MAIN: Signal path is TRANSFORMER IN >> COMPRESSOR >> TRANSFORMER OUT >> MIX >> CLIP >> MAIN OUT. Use this option to get 'larger than life' sound that results from pushing signal into a clipper that is simultaneously holding it back.

CLP▸S/C: Clipper is placed before the sidechain. Signal path is TRANSFORMER IN >> COMPRESSOR >> TRANSFORMER OUT >> MIX >> MAIN OUT. Use this if you want to keep the raw signal unaffected by clipping but you still want an evenly controlled signal hitting the threshold.

CLIP OFF: No clipper. This allows signal to go beyond 0 dBFS without being subject to clipping.

RAW▸CLP: Signal path is CLIP >> TRANSFORMER IN >> COMPRESSOR >> TRANSFORMER OUT >> MIX >> MAIN OUT. Use this option if you want an audibly clipped signal that is also very controlled when it hits the threshold.
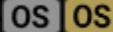
Oversampling options allow P11 Abyss to optionally operate at a multiple of the host sample rate. Yellow indicates OS is engaged. With OS off, Abyss operates with zero latency at the host sample rate (x1).

Wh en oversampling is on, different options are made available. See the descriptions of INTEL mode, VINTAGE mode and HD mode below.

INTEL (intelligent) mode operates at double the host sample rate (x2). It scans the full frequency spectrum and attenuates any aliasing signals. The amount of processing applied by this advanced filtering is highly dependent on the signal and the degree to which Abyss is being pushed.

PULSAR MODULAR

`VINTAGE` VINTAGE mode operates at double the host sample rate (x2). It applies smooth filters to upper frequencies to maintain a classic rolled-off characteristic and allows any aliasing signals to remain unfiltered. This provides the ability to creatively combine a smooth, vintage top end with modern inharmonic distortion. This is most effective when oversampling at a 44.1 kHz or 48 kHz host sample rate.

`HD` HD mode operates at an internal sample rate of 384 kHz. It utilizes the same full frequency scan filtering strategy as INTEL mode. The high sample rate and filtering mechanism make this a pristinely high-quality option at a surprisingly efficient CPU load. This mode is equally suitable for mastering duties or for key tracks when mixing.

To achieve HD oversampling, Abyss applies the following logic:
- 44.1 and 48 kHz oversamples at x8
- 88.2 and 96 kHz oversamples at x4
- 176.4 and 192 kHz oversamples at x2, disabling the HD mode and enabling the INTEL and VINTAGE modes
- 384 kHz disables oversampling options

`MOD` `MOD` The MOD switch engages an alternate circuit design that changes the compression behavior and color. Yellow indicates the MOD circuit is engaged.

With MOD engaged for example, the analog noise floor is reduced and saturation and harmonic characteristics are altered so Abyss becomes cleaner, yet denser. This is akin to modifying an already beautiful hardware compressor to make it even more versatile by expanding potential uses at the flick of a switch.

Always try both and use what sounds and feels better

`SOUL 100` As is the case with all quality hardware, the SOUL is the signature sound of audio passing through the device without any parameters of the device being engaged.

The SOUL slider ranges from 100% where the full device signature is experienced, through to 0% where the signal nears a pristine digital state while still retaining the essence of the device character. In between these extremes, all manner of analog behavior that is possible but not easily achieved in the hardware world is revealed.

Tip: Really get to know MOD, PSI, SOUL and O_2. These controls are at the heart of how Abyss is able to emulate the most beloved of hardware devices ranging from the secret weapons of mixing legends to the most exquisitely designed processors utilized by the world's topmost mastering engineers.

The preset browser allows for modification of the currently selected preset using the save icon to the left of the browser (direct save) or for creation of new presets using the save icon to the right of the browser (save as…). A red asterisk* will appear beside the left save icon indicating the loaded preset has been modified and can be overwritten.

Tip: To realize the behavior intended by the preset designer, you need to adjust the threshold because you are working with different audio than what was used to design the preset. Move the THRESHOLD knob until you see gain reduction values that are close to the value that the MAIN OUT knob is set to. From that point, the preset can be fine-tuned to your liking.

PULSAR MODULAR

A **B** **▶B** A/B allows for temporary storage of different settings for quick comparison. The arrow button allows for copying the active side to the inactive side.

Tip: When comparing settings, clicking the A/B button will perform the toggle. This is a single button, so it is not necessary to move the mouse to alternate back and forth. This makes it easy to compare without knowing which one is selected. We recommend doing this with your eyes closed for maximum focus

LMTR **LMTR** **0.0 dBFS** **GR 0.0dB** Abyss features a brickwall limiter that is positioned after the MAIN OUT in the signal path.

The limiter does not allow signal to exceed the configured dBFS value as such, it can be considered as an absolute ceiling. Pushing signal into the limiter results in a very light but thick coloration.

The ceiling can be set to a value ranging from 0 to -9 dBFS.

DI **MID** **S** **SIDE** **S** The routing switch switches processing between mono / stereo (DI), mid (MID) or side (SIDE).

When MID is selected, the center is processed and the sides pass through untreated/dry, bypassing the Abyss circuitry. When SIDE is selected, the sides are processed and the center passes through dry.

The S switch (not available if DI is selected) allows either the mid or side signals to be heard in isolation. When not selected, the full stereo image is always heard and in the case of mid or side

processing, includes the processed and dry signals as described above.

Note: Always keep in mind that an instance of Abyss is dedicated to a single ROUTING channel selection. Separate control over DI, MID or SIDE processing requires separate instances. These options are exclusive and are never combined in a single plugin instance.

☼ ☀ Switches the plugin faceplate from light mode to dark mode. Light mode is enabled by default.

Options Menu

About
License Status
User Guide ›
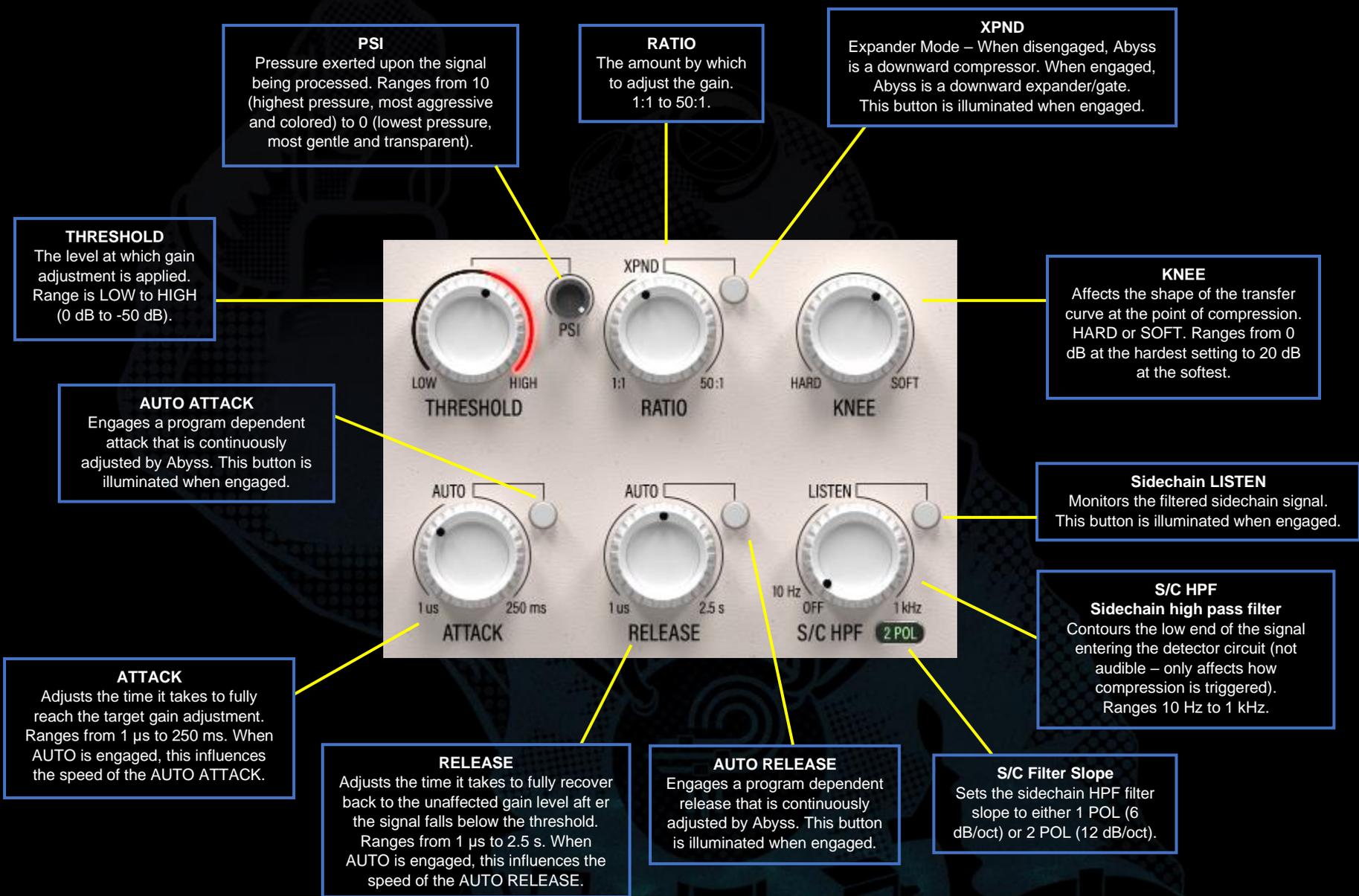Set Default Size
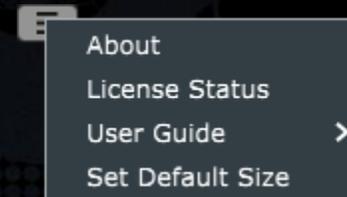
About – Check the version number or demo expiration date.

License Status – Manage your license.

User Guide – Open the EN or DE user guide.

Set Default Size – Sets the default size for new plugin instances to the size of the current instance. This is a global setting. Existing instances will not be affected.

PULSAR MODULAR

PSI
Pressure exerted upon the signal being processed. Ranges from 10 (highest pressure, most aggressive and colored) to 0 (lowest pressure, most gentle and transparent).

RATIO
The amount by which to adjust the gain. 1:1 to 50:1.

XPND
Expander Mode – When disengaged, Abyss is a downward compressor. When engaged, Abyss is a downward expander/gate. This button is illuminated when engaged.

THRESHOLD
The level at which gain adjustment is applied. Range is LOW to HIGH (0 dB to -50 dB).

KNEE
Affects the shape of the transfer curve at the point of compression. HARD or SOFT. Ranges from 0 dB at the hardest setting to 20 dB at the softest.

AUTO ATTACK
Engages a program dependent attack that is continuously adjusted by Abyss. This button is illuminated when engaged.

Sidechain LISTEN
Monitors the filtered sidechain signal. This button is illuminated when engaged.

S/C HPF
Sidechain high pass filter
Contours the low end of the signal entering the detector circuit (not audible – only affects how compression is triggered). Ranges 10 Hz to 1 kHz.

ATTACK
Adjusts the time it takes to fully reach the target gain adjustment. Ranges from 1 µs to 250 ms. When AUTO is engaged, this influences the speed of the AUTO ATTACK.

RELEASE
Adjusts the time it takes to fully recover back to the unaffected gain level aft er the signal falls below the threshold. Ranges from 1 µs to 2.5 s. When AUTO is engaged, this influences the speed of the AUTO RELEASE.

AUTO RELEASE
Engages a program dependent release that is continuously adjusted by Abyss. This button is illuminated when engaged.

S/C Filter Slope
Sets the sidechain HPF filter slope to either 1 POL (6 dB/oct) or 2 POL (12 dB/oct).

XPND

THRESHOLD — LOW — HIGH
PSI
RATIO — 1:1 — 50:1
KNEE — HARD — SOFT

AUTO
ATTACK — 1 us — 250 ms
AUTO
RELEASE — 1 us — 2.5 s
LISTEN
S/C HPF — 10 Hz — OFF — 1 kHz — 2 POL

PULSAR MODULAR

Sets the level at which gain adjustment is applied.

When in downward compression mode (default), signal that exceeds the THRESHOLD is adjusted by a factor determined by the RATIO. As the threshold is decreased, more signal will cross the threshold and the amplitude range to which dynamic adjustment is applied will be increased.

When in downward expansion/gate mode (XPND), signal that is below the THRESHOLD is adjusted by a factor determined by the RATIO. As the threshold is increased, more signal will be below the threshold and the amplitude range to which dynamic adjustment is applied will be increased.

The threshold ranges from 0 dB (HIGH) to -50 dB (LOW).

The amount of dynamic range adjustment applied is reflected in the gain meter.

The PSI (pressure) knob influences the basic nature of how Abyss handles an audio signal. PSI ranges from 10 (highest pressure) to 0 (lowest pressure).

Abyss reacts aggressively to the signal when pressure is high. Strong, assured, firm and ferocious. When pressure is fully alleviated, Abyss proudly reveals its gentle side. Calm, delicate, transparent and refined. Abyss comfortably and confidently thrives while in either of these extremes or when subject to the full range of ambient pressures that exist between the surface and the deepest trench.

PSI is a key feature in allowing Abyss to emulate the behavior of many different hardware compressors. It influences the feel of the compression by changing attack and release characteristics with every 0.1 step of the knob. Despite the power and incredible flexibility it affords, it is simple to use. Just click the knob, close your eyes, make adjustments, listen and feel how it affects the nature of the track and the relation of the track to other tracks.

Tip: Always remember to explore combinations of MOD, PSI, SOUL and O$_2$ when fine tuning your settings to really get to know what these controls impart on their own and in combination.

RATIO Determines the amount by which to adjust gain, and hence dynamic range, once the signal has passed the threshold.

Available ratios range from 1:1 to 50:1.

When the XPND button is not engaged, Abyss functions as a downward compressor, reducing the gain of the signal that rises above the threshold. Gain is reduced according to the ratio. Using the example of a 4:1 ratio, a signal will be reduced to 1/4 of the input gain when compressed, so a signal that is 8 dB over the threshold will now be 2 dB over and gain will have been reduced by 6 dB.

When the XPND button is engaged, Abyss functions as a downward expander/gate, reducing the gain of the signal that falls below the threshold. Gain is reduced according to the ratio. Using the example of a 1:2 ratio (when in XPND mode, read the ratio backwards), a signal will be reduced by 2 times the input gain when expanded, so a signal that is 2 dB under the threshold will now be 4 dB under and gain will have been decreased by 2 dB.

PULSAR
MODULAR

The XPND button is illuminated when engaged.

Tip: As seen in the examples above, even a 4:1 or a 1:2 ratio results in an appreciable degree of control over an input signal. Always think carefully about what your goals are for the input signal when choosing ratio.

The KNEE influences the abruptness of the gain adjustment at the time the threshold is crossed. This is most easily influenced by imagining a sharp angle at the HARD position, gradually transitioning to a rounded curve at the SOFT position.

Tip: In practice, softening the knee reduces noticeable transition from uncompressed to compressed signal. As such, softening the knee can be less aggressive and sound more natural by allowing affected transients to be attenuated more gradually. In simple terms, this can mean having fast attack while still allowing natural transient energy and punch to come through.

ATTACK controls the time it takes to fully reach the target gain adjustment based on the threshold and ratio settings.

The attack time ranges from 1 µs to 250 ms.

If AUTO is engaged, the attack time is continuously and dynamically determined by Abyss. The speed of the program dependent attack time can be influenced by adjusting the ATTACK knob.

The AUTO button is illuminated when engaged.

Tip: While attack is always thought of in terms of fast or slow, keep in mind that it is always relative to the input signal. What is fast for a bass guitar is slow for a snare drum, so always keep context in mind.

Tip: Setting attack fast or slow is all about how the transients should be handled (or not handled). Faster attack will affect the transient directly, controlling or manipulating it in some way. For example, this can help to even out an unbalanced performance when combined with a medium to slow release or it can help a flabby kick to become punchy and defined when combined with a fast release. Slower attack will allow the transient to pass unaffected, emphasizing the initial articulation and definition of a well captured source. Nothing is automatically good or bad – everything doesn't need more punch or more control – listen within the context of all the audio being processed and decide what it needs.

Note: Please have a read over the Tips, Tricks and Techniques section of this user guide for ways to use AUTO ATTACK and AUTO RELEASE.

RELEASE controls the time it takes to fully recover back to the unaffected gain level once the signal falls below the threshold.

The release time ranges from 1 µs to 2.5 s.

If AUTO is engaged, the release time is continuously and dynamically determined by Abyss. The speed of the program dependent release time can be influenced by adjusting the RELEASE knob.

PULSAR
MODULAR

The AUTO button is illuminated when engaged.

Tip: A faster release tends to enhance the rhythm of a signal because the controlled gain movement helps to push and pull an element forward and backward. A slower release tends to increase the density of a signal and solidify the position it occupies because it reduces the dynamic range over a more stable period of time. Attack and release characteristics are not an all or nothing proposition. Think about how multiple compressors can be used together to affect an element.

Note: Please have a read over the Tips, Tricks and Techniques section of this user guide for ways to use AUTO ATTACK and AUTO RELEASE.

S/C HPF applies a high pass filter to the detector circuit. This filter does not directly affect the sound of the processed signal.

The slope of the HPF can be adjusted using the 1 POL / 2 POL switch to the right of the S/C HPF label. The 1 POL option gives a 6 dB/oct filter slope, while the 2 POL option gives a 12 dB/oct filter slope.
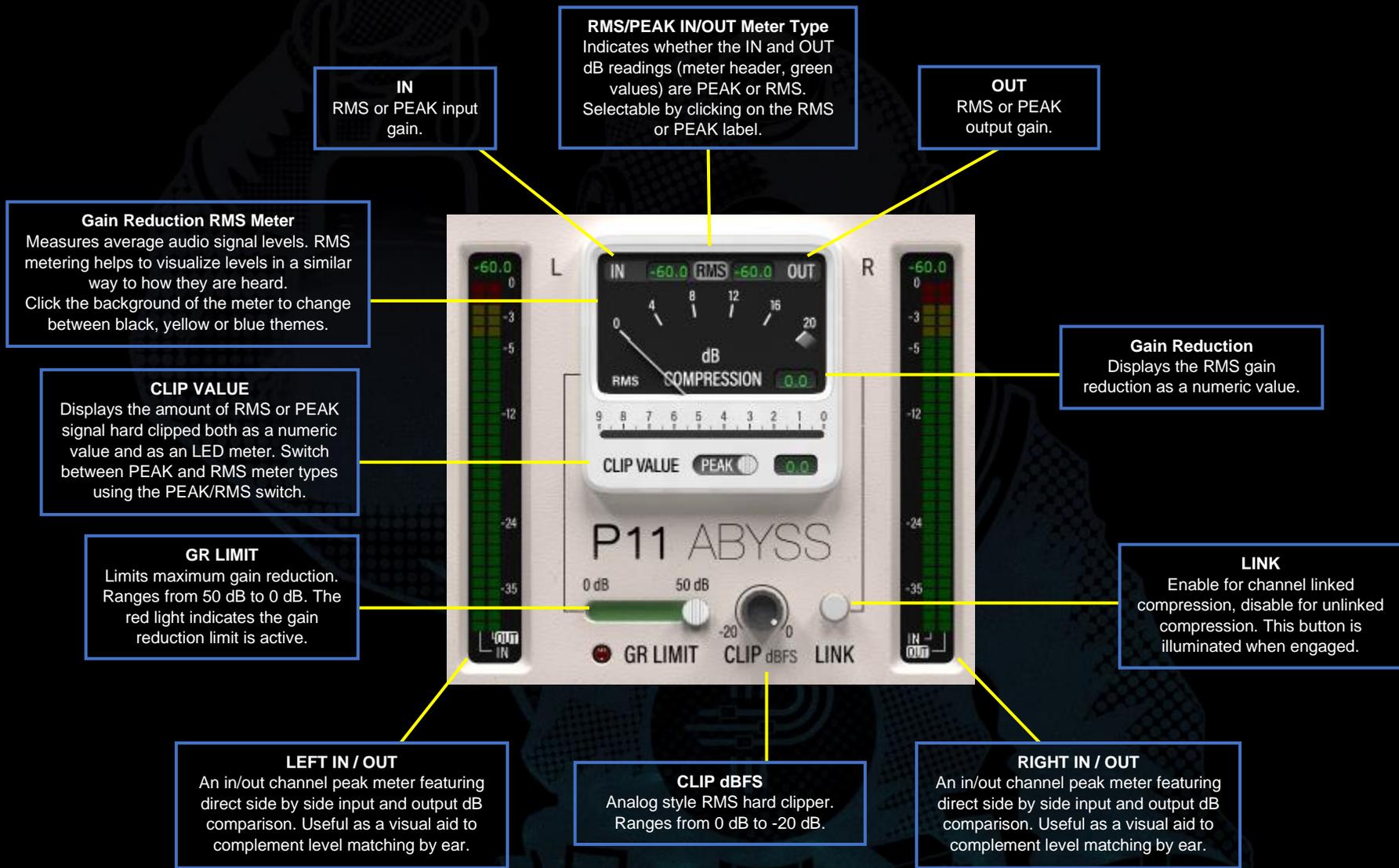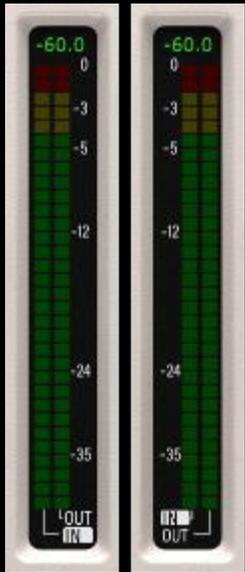
The frequency range is 10 Hz to 1 kHz.

It is not uncommon for an element to contain more energy in the lower range of frequencies it spans, despite sounding balanced to the human ear. In some cases, this energy will exceed the threshold far more than upper frequencies within the same element, and this can result in erratic dynamic response. This filter allows for attenuation of lower frequencies to encourage stable dynamic processing.

Use the LISTEN button to hear the signal fed into the detector. The LISTEN button is illuminated when engaged.

Tip: Also have a look at the sidechain input EQ section (TO SC setting of the EQ Target Switch). Used together with the S/C HPF filter, the inaudible signal that influences the detector circuit can be rebalanced and reshaped in virtually any way you can imagine. This affords very fine and flexible control over how the detector circuit is reacting to your audio beyond what the audible signal triggers.

PULSAR
MODULAR

IN
RMS or PEAK input gain.

RMS/PEAK IN/OUT Meter Type
Indicates whether the IN and OUT dB readings (meter header, green values) are PEAK or RMS. Selectable by clicking on the RMS or PEAK label.

OUT
RMS or PEAK output gain.

Gain Reduction RMS Meter
Measures average audio signal levels. RMS metering helps to visualize levels in a similar way to how they are heard.
Click the background of the meter to change between black, yellow or blue themes.

Gain Reduction
Displays the RMS gain reduction as a numeric value.

CLIP VALUE
Displays the amount of RMS or PEAK signal hard clipped both as a numeric value and as an LED meter. Switch between PEAK and RMS meter types using the PEAK/RMS switch.

GR LIMIT
Limits maximum gain reduction. Ranges from 50 dB to 0 dB. The red light indicates the gain reduction limit is active.

LINK
Enable for channel linked compression, disable for unlinked compression. This button is illuminated when engaged.

LEFT IN / OUT
An in/out channel peak meter featuring direct side by side input and output dB comparison. Useful as a visual aid to complement level matching by ear.

CLIP dBFS
Analog style RMS hard clipper. Ranges from 0 dB to -20 dB.

RIGHT IN / OUT
An in/out channel peak meter featuring direct side by side input and output dB comparison. Useful as a visual aid to complement level matching by ear.

L   IN -60.0 RMS -60.0 OUT   R

4   8   12   16
0   20
dB
RMS COMPRESSION   0.0

9 8 7 6 5 4 3 2 1 0

CLIP VALUE PEAK   0.0

P11 ABYSS

0 dB   50 dB

GR LIMIT   CLIP dBFS   LINK

-60.0   -60.0
0   0
-3   -3
-5   -5
-12   -12
-24   -24
-35   -35

OUT/IN   IN/OUT

The LED meters shows peak and RMS input and output levels simultaneously, with RMS represented as the 'solid' continuously updated LED block in the main part of the meter, and with peak represented by the 'held' LED light, which will always appear above the RMS block.

The value shown at the top of the meter is the L or R channel-specific peak or RMS value (as opposed to the LR averaged value shown in the VU meter header). Whether this displays a peak or RMS value is determined by and synchronized with the VU meter header RMS/PEAK selection.

The dB COMPRESSION gain reduction meter main window shows the RMS (Root-Mean-Square) gain reduction applied to the signal as indicated by the ballistic needle.

To the right of the needle is a display box that shows a numeric representation of the value shown by the needle.

At the bottom of the meter, either the IN label or OUT label is highlighted. If IN is selected, the value shown at the top of the meter is synchronized with the IN value shown in the VU meter header, and conversely, if OUT is selected, the value is synchronized with the OUT value shown in the VU meter header. Click either label to switch to the alternate option.

These meters provide a visual calibration aid that can be used in tandem with what you are hearing when gain matching input and output levels.

These can be very helpful to visually support what you are hearing but rely first and foremost on your ears.

Abyss is capable of GR that goes well beyond -20 dB. When this occurs, the needle will remain in the dark area below the 20 dB marker but the display box will show an accurate gain reduction value.

Along the top of the gain reduction window is the RMS/PEAK meter header. The current metering type is shown in the middle of the header and this can be switched by clicking on the RMS or PEAK label. The IN and OUT values on either side of the RMS/PEAK label show the LR averaged peak or RMS value as determined by the current metering type selection. The discrete non-averaged values for the L and R channels are shown at the top of the vertical LED meters to each side of the VU meter area.

The CLIP VALUE display shows the RMS or PEAK amount of signal that is clipped pre or post compression, depending on where the clipper is positioned in the signal path. The position can be configured using the top toolbar. The clip value is represented both in the display box to the right of the PEAK/RMS switch and in the horizontal meter above the CLIP VALUE label.

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The metering type can be switched between PEAK and RMS using the PEAK/RMS switch beside the CLIP VALUE label.

Clicking on the background of the meter changes the meter theme between black, yellow and blue options. Combine this with light or dark mode and tailor Abyss to what in inspires you visually.

Note: Changing either the header meter type or the clipper PEAK/RMS option changes the metering option only, not the way the detectors are listening. The detectors are always based on RMS.

Note: The ballistic needle and the numeric representation thereof are always RMS regardless of the header meter type selection.

Limits the maximum gain reduction to the specified value. Without this set, the compressor or expander/gate will apply gain reduction as determined by the ratio and threshold without restrictions. With this set, the gain reduction will not exceed this value.

The red LED lights up when GR LIMIT is active.

The limit ranges from 0 dB to 50 dB.

None shall pass. The CLIP knob sets the dBFS (decibels relative to full scale) RMS value at which the analog clipper hard clips the signal with beautifully transparent, pristine quality clipping. As with real-world imperfect analog clipper circuits, overshoots can sometimes occur randomly within a +0.3 dB tolerance. 'Tis but a scratch.

While the clipper operates on RMS levels, it shaves peaks without reservation. Since calculations are made within an RMS window, the clipper can be pushed in ways that a traditional peak level clipper cannot be pushed. As such it delivers transparent, high-energy output that is bigger than life.

The clipper ranges from 0 to -20 dB.

Tip: If you need to define a maximum value that cannot be exceeded but you crave use of this superb sounding clipper, you can accommodate the analog overshoot by setting the clipper to be 0.3 dB lower than your absolute ceiling. Alternatively, the limiter (LMTR) can also be used.

Tip: To best set the clipper value, ensure the RMS/PEAK IN/OUT meter header in the GR window is set to RMS since this measurement type aligns with the CLIP operation.

Note: The clipping routine can be positioned in various locations in the signal path by using the configuration option on the top toolbar.

Links the right and left channels when compressing.

When engaged, the channels are fully linked. The same amount of compression will be applied to both channels when a signal crosses the threshold on either channel (L or R). Compressing linked channels results in uniform dynamic movement and promotes a tightness or solidity in the stereo image.

When disengaged, both channels are compressed individually. Compressing each channel individually results in variable dynamic movement between each channel as the compressor

reacts uniquely to the separate signals. This can result in a widening or opening effect.

The LINK button is illuminated when engaged.

Tip: When LINK is disengaged, pay attention to transient heavy percussive elements, particularly dynamic elements or heavily accentuated elements that are panned out because they can trigger 'wandering' of the center image. The SIDECHAIN HPF and the SC EQ controls can be used to influence and smooth out the detector circuit to help with any extreme movement. Additionally, carefully considered gain reduction will help when finding the right compromise between opening the soundstage and maintaining a solid center image.

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MODE Selector
These are tied to the EQ Target Switch. Once enabled, these remain active even when the other EQ target is selected. Choices are shelf and bell. Enable and disable an EQ using the button below the EQ label. The button is illuminated when engaged.

EQ Target Indicator
Indicates an EQ Target is active. The green light on the left indicates the TO IN target is enabled. The yellow light on the right indicates the TO SC target is enabled.

EQ Target Switch
Selects the current target of EQ section controls (MODE, Frequency and Gain) to adjust. Choices are TO IN (input, prior to compression) and TO SC (sidechain detector).

Motorized EQ Frequency Selector
See MODE Selector for the relationship to the EQ Target Switch. Ranges from 15 Hz to 20 kHz.

O_2 – Dioxygen
A unique signature Pulsar Modular designed engine that breathes life into everything, making it simply sound better. Compress gently… then inject O_2, smash it… then inject O_2, do whatever you want… yes, now you get the picture, then inject O_2.

Motorized EQ Gain Slider
See MODE Selector for the relationship to the EQ Target Switch. Gain adjustment ranges in intensity from 0 to 10.

Amplifier Type Selector
Off – no transformer; A – Class A amplifier for clean signal reproduction with sharper transients; A/B – Class A/B amplifier for thicker, more characterful amplification.

MIX
Ratio of the processed (WET) signal to the input (DRY) signal prior to MAIN OUT.

MAIN OUT
-24 dB to 24 dB of clean gain.

IN Gain
Tied to the Amplifier Type Selector 0 dB to 12 dB of clean or transformer coupled gain.

OUT Gain
Tied to the Amplifier Type Selector -24 dB to 24 dB of clean or transformer coupled gain.

MIX Position Switch
Positions the MIX knob before MAIN OUT (PRE) or after MAIN OUT (POST).

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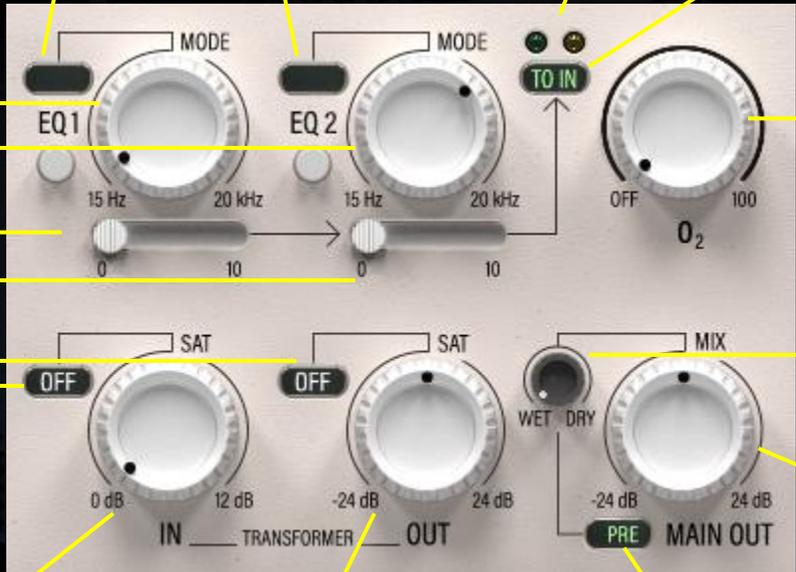
Two multi-functional EQ bands can be used to simultaneously alter the signal sent to the detector circuit (TO SC) and to alter the signal sent through the processing chain prior to dynamics adjustment (TO IN).

The MODE Selector can be used to set the current filter to shelf or bell. Each EQ can be enabled or disabled by clicking the button below the EQ label. The button is illuminated when the EQ is engaged.

The shelf and bell filters feature a broad, fixed Q. Each motorized EQ operates on a wide, smooth band of frequencies to maintain musicality as a shaping tool while pushing into the sidechain or the processing chain.

The EQ Target Switch can be used to select either TO SC to show the EQ pair that is routed to the detector circuit, or TO IN to show the EQ pair that is routed through the processing chain. Each pair remains active when not visible.

The lights above the switch indicate which EQ Target is active. The green light on the left indicates the TO IN target is enabled. The yellow light on the right indicates the TO SC target is enabled.

Each EQ features an adjustable frequency range from 15 Hz to 20 kHz and a motorized gain adjustment slider that ranges in intensity from 0 to 10.

Note: Please have a read over the Tips, Tricks and Techniques section of this user guide for ways to use these sidechain and input EQ features.

O_2 (dioxygen) is a signature Pulsar Modular circuit algorithm that works to subtly and beautifully enhance any audio signal that passes through it.

Born from trial and experimentation, it defies traditional description as it is not akin to any other hardware circuit or software algorithm that existed prior to the advent of Abyss.

As O_2 is increased, the signal opens and breathes in a way that is reminiscent of introducing a long, deep, airy breath into the audio, expanding it beyond the confines of your speakers.

It ranges in intensity from OFF to 100.

The IN and OUT gain knobs provide either pristine digitally clean or mojo infused transformer coupled amplifiers for adjusting gain pre and post dynamic processing.

The IN gain knob features 0 dB to 12 dB of gain adjustment. The OUT gain knob features -24 dB to 24 dB of gain adjustment.

The Amplifier Type Selector features the following options:

- OFF: The gain is clean and will rival any high-end hardware mastering compressor.
- Class A: A transformer coupled class A amplifier featuring a clean and accurate reproduction of an analog signal.
- Class A/B: A transformer coupled class A/B amplifier featuring varying degrees of adaptive analog distortion.

Tip: Choose OFF for the most pristine gain adjustments, Class A for sharper transients and Class A/B for additional color and thickness.

Note: The IN TRANSFORMER does not push additional level into the compressor. Please have a read over the Tips, Tricks and Techniques section of this user guide for details and ways to use the IN and OUT gain.

The MAIN OUT knob features -24 dB to 24 dB of clean gain.

The WET DRY knob allows for blending a desired amount of dry signal in with the processed wet signal.

The WET DRY position is configurable using the PRE/POST switch found to the left of the MAIN OUT label. When set to PRE, WET DRY output feeds into the MAIN OUT knob, allowing for final volume adjustment of the overall processed signal. When set to POST, MAIN OUT feeds into the WET DRY knob allowing for MIX adjustment after the final level of the processed signal has been set. Either is useful for level matching against the bypassed signal. Choose the configuration that works best for you.

Note: An additional option is available for having both a PRE and POST positioned gain control. Abyss features a MAIN OUT gain adjustment knob as well as a transformer coupled OUT gain knob. The transformer coupled knob affects the processed signal only and is positioned before the WET DRY knob in the internal signal chain, whereas MAIN OUT is positioned after the WET DRY knob when set to PRE and will affect the fully combined signal.

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Tips, Tricks and Techniques

.: When to use AUTO ATTACK and RELEASE? It depends on your audio… :.

Pun intended. Using AUTO ATTACK or AUTO RELEASE enables program dependent behavior in Abyss and this can be useful in several ways.

Think of AUTO ATTACK and AUTO RELEASE as virtual planesmen. They continuously adjust the planes and rudder automatically to keep the ship as one with the surrounding depths, reacting to every current, every pulse, every tide in a sophisticated and coordinated unity with the depths.

If AUTO ATTACK is engaged and AUTO RELEASE is disengaged, Abyss digs deeply into to the transient decay to create separation between the attack and sustain portion of the signal resulting in increased definition.

If both AUTO ATTACK and AUTO RELEASE are engaged, Abyss moves and breathes very naturally along with the source while simultaneously being able to keep a signal very stable and locked in place relative to other elements (depending on ratio and threshold settings). Try it with MOD engaged for very deep, clean, natural control. [KE]

.: How to reach deep into an uneven signal using the internal sidechain EQ :.

When you want to compress a track that contains multiple instruments that are at uneven levels, the sidechain EQs (TO SC) can play a crucial role.

For example, on a full drum track you may want to compress a kick more than a snare, but your snare may be louder, so lowering the threshold to reach the kick as you desire might overly affect the snare. Use a sidechain EQ to push the level of the kick up in the internal sidechain so the threshold is hit more evenly or even with more emphasis on the kick than on the snare. This way, your compressor will now act on your kick and compress it as if it were deep inside the mix without being compromised due to the level of the snare.

For even more control over the compression action of an uneven signal, position the clipper before the internal sidechain (CLP ▶ S/C) and knock down peaks before they hit the compression routine. [ZS]

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.: Instantly recall the purpose of your compressors :.

The Light / Dark Mode and the background of the VU meter can be customized per instance and even saved as part of a preset. This becomes especially helpful when ALL your compressor instances are Abyss! Big blue GUI with a yellow meter for the master keeps it readable at a glance, smaller blue GUI with black VU for the drums, blue VU for the bass, white skin and blue VU for the vocals etc. [LA]

.: The ins and outs of IN and OUT (transformers, that is) :.

If you want your signal to have more presence, push the IN TRANSFORMER. Although it is tempting to think so, this does not 'push' into the compressor, rather it increases the breadth of harmonic content in the signal that the compressor works on. If you are looking for the sensation that additional signal is being pushed into the compressor circuit, simply lower the threshold to get the same effect.

If you are looking for that 'larger than life' sensation that a pushed transformer brings, push the OUT TRANSFORMER. This brings up the volume and harmonic content, working directly on the post compressed signal.

Use the TRANSFORMER Amplifier Type Selector for different colors. Think of OFF as clean, Type A as more transient and Type A/B as richer.

Experiment to find a balance between the TRANSFORMER IN and TRANSFORMER OUT along with MAIN OUT to find the sound you are looking for within the RMS you are targeting. Take for example, a scenario where you are compressing aggressively to around 10 dB of GR. If you want to hear more of the 'larger than life' sound, increase TRANSFORMER OUT and decrease TRANSFORMER IN. If you want to hear more snappiness in the transients, raise TRANSFORMER IN and lower TRANSFORMER OUT or use CLP▶OUT. If you want both snappiness and 'larger than life', increase both TRANSFORMER IN and TRANSFORMER OUT while lowering MAIN OUT or use CLP▶OUT.

For bonus points (aka more RMS level), set the clipper to be positioned before MAIN OUT (CLP▶OUT) and clip the signal and/or push the whole thing into the brick-wall limiter. [ZS]

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.: Keep it clean folks, this is a family show :.

Abyss is full of long, hairy, silky mojo but it can also get pretty close to clean and pristine without ever venturing into the realm of stogy digital sterility. Try this on for size…

Engage the MOD circuity to lower the noise floor but introduce additional harmonics (flip back and forth later to see what you like most). Adjust PSI to be somewhere between 0 to 2 (ish). Pay a lot of attention to what PSI is doing because it very literally changes attack and release character with every single tick.

Reduce the SOUL slider to peel back layers of emulated hardware circuit complexity.

Adjust your makeup gain using MAIN OUT for clean gain.

After getting the threshold and PSI to where you roughly want them, consider using the EQ Target Switch set to TO IN to slightly push areas where you want a little more density or if you want to fine tune the way the compressor is being triggered, switch the target to TO SC and push the frequencies that will balance out the detector the way you want it to react.

All the above operations used like this work to minimize or avoid imparting additional Abyss mojo (but this does not mean lack of character - character is still there in spades).

Experiment with dioxygen as well because while this is not clean per se, it enhances things in such a way that it imparts openness so it works really nicely when wanting to enhance but maintain a pristine signal. [KE]

.: Motion in the ocean and propensity for density :.

Dial in generous amount of gain reduction with super-fast attack (like, 3ms tops), auto release and low ratios (1.5:1 max), and this will work on practically anything as a marvelous densifier AND movement enhancer. This works equally well when both mixing and mastering.

Once you've dialed something groovy, please experiment with lowering the PSI drastically while simultaneously softening the knee and bringing in some O2: enjoy the magic, but don't stop there! Unlink channels, use some 1pole HPF SC, set the SOUL and clipper to taste… and let it bloom.

You're welcome ;) [NH]

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Managing Presets

Basics

If the option to install presets is selected during installation, updates will overwrite the original presets but custom named presets will remain untouched. Be sure to save your own presets with different names using the save as option (to the right of the preset browser), or alternatively, ensure the preset installation option is not selected when updating the software.

Backing Up Presets

Presets can be backed up and restored using your operating system file manager. Simply perform a copy/paste of either individual preset files or the full presets folder to a backup location of your choosing. The presets folder can be found in the following locations:

FOR WINDOWS

‘C:\Users\Public\Documents\Pulsar Modular\P11 Abyss\Presets’

FOR MAC OS X

‘/Users/Shared/Pulsar Modular/P11 Abyss/Presets’

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General

Fine Tuning Mode

Press and hold the modifier key (in macOS: "control, option or command", in Windows: CTRL) while left clicking to adjust the knobs or sliders. Alternatively, right click when adjusting knobs or sliders without the need for a modifier key.

Uninstalling P11 Abyss

FOR WINDOWS

- In 'C:\Program Files\Common Files\VST3', locate the 'P11 Abyss.vst3' file and delete it.
- In 'C:\Users\Public\Documents\Pulsar Modular', locate the 'P11 Abyss' folder and delete it. This folder contains the user guide and presets. If no other folders exist under 'Pulsar Modular', this can be deleted as well.

FOR MAC OS X

- In '/Library/Audio/Plug-Ins/Components', locate the 'P11 Abyss.component' file and delete it.
- In '/Library/Audio/Plug-Ins/VST3', locate the 'P11 Abyss.vst3' file and delete it.
- In '/Users/Shared/Pulsar Modular', locate the 'P11 Abyss' folder and delete it. This folder contains the user guide and presets. If no other folders exist under 'Pulsar Modular', this can be deleted as well.

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Please kindly report any errors or omissions in this user guide to psupport@pulsarmodular.com.