CRANBORNE AUDIO

Brick Lane 500 -
Modal PWM Compressor for 500 Series
User Guide

www.cranborne-audio.com

Welcome to Brick Lane 500

Congratulations on your purchase of the Brick Lane 500 and thank you for choosing Cranborne Audio to shape your sound. The Brick Lane 500 is a groundbreaking 500 Series compressor with deeply customisable tonal shaping via mode-dependent saturation, programmable sidechain filters, diode saturation, and our advanced Enigma parameters.

At its heart is a clean, punchy PWM compressor enhanced with a multiband saturation engine we call 'STRESS'. Together with advanced stereo linking via Optosync™ and control via onboard Enigma parameters, the Brick Lane 500 provides everything from gentle bus glue to aggressive character compression.

Contents

Overview of Features

Brick Lane 500 is a single-slot 500 Series PWM compressor featuring Cranborne Audio's unique multiband 'STRESS' saturation engine, stereo linking via Optosync™ and Enigma parameters for deep control over compression behavior, detectors, knee characteristics, diode response, and more.

With 6 unique compression modes (plus an additional Blue variant for Polish) Brick Lane 500 delivers a vast palette of sonic textures suited to tracking, mixing, and mastering alike.

Each mode features its own compression behavior, saturation character, and internal control topology, while features like Lookahead, Sidechain EQ, and diode shaping allow further enhancement and customisation.

Inserting the Brick Lane into a 500 series rack

Power down the rack before inserting the Brick Lane 500 module, hot plugging may damage the module. Before inserting the unit, read the dip switches section so you can make the appropriate settings for your needs. Ensure the front panel is correctly screwed into the rack, as the correct alignment is important for the Optosync™.

Front Panel Controls and Indicators

The Brick Lane 500 features intuitive control over compression and saturation. Each control is detented for precise recall, and LED meters provide clear feedback.
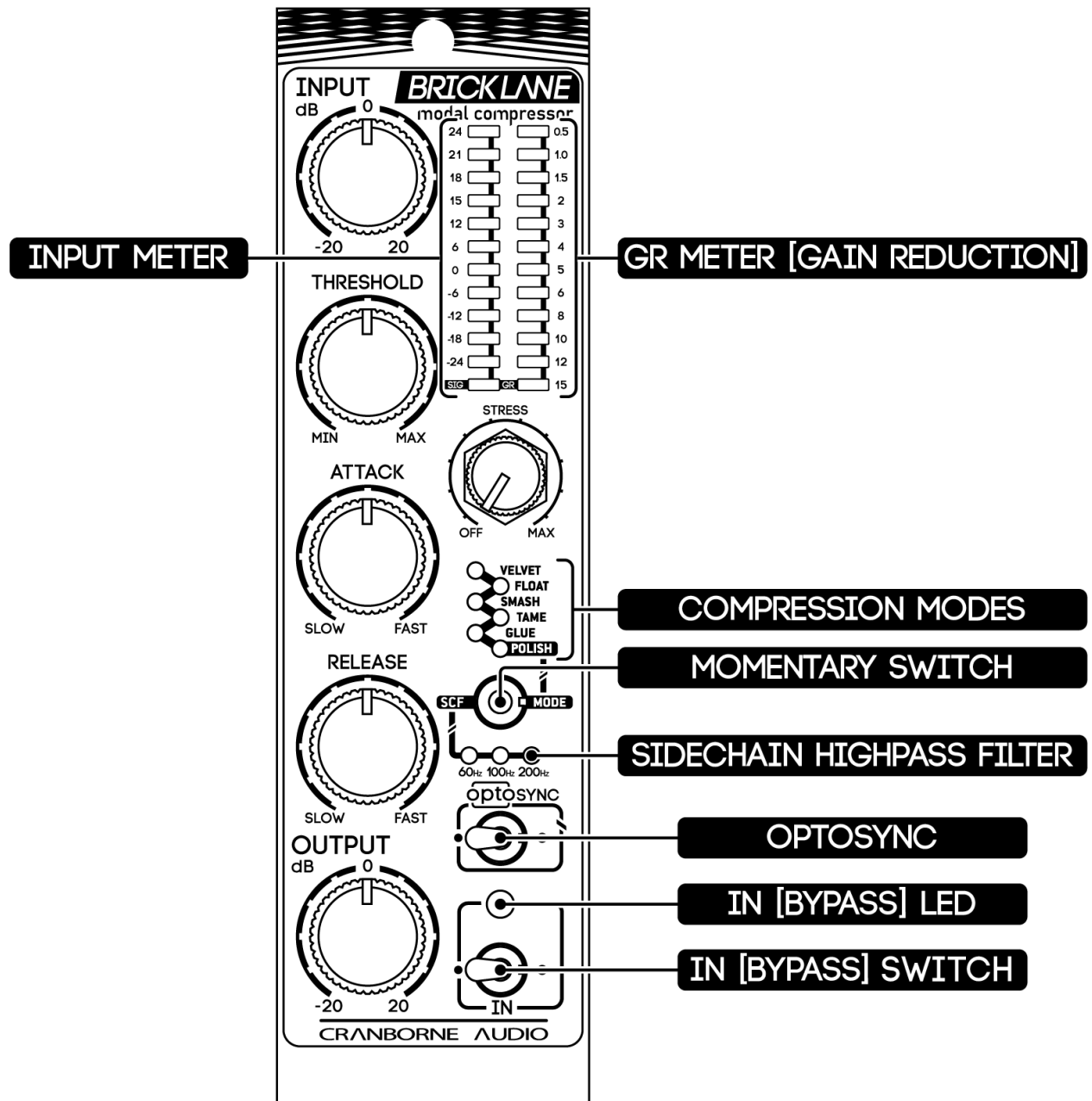
- Input Level: [1 dB steps] — Adjusts input gain before compression and STRESS circuits.

- Threshold: [1 dB steps] — Sets the signal level where compression begins.

- Attack: Mode-dependent — Controls how quickly compression is applied after threshold is exceeded.

- Release: Mode-dependent — Controls how quickly the compressor recovers after gain reduction.

- Output Level: [1 dB steps] — Adjusts final output gain after compression and STRESS.

- STRESS: [Off – Max] — Mix control for the multiband saturation engine.

- Momentary Switch: Left short press: Cycle SCF filters. Right short press: Cycle the compression modes.

- Mode Indicators: RGB LEDs identify active compression mode (Velvet, Float, Smash, Tame, Glue, Polish White, Polish Blue).

- Gain Reduction Meter: [0.5 – 15 dB] — Displays the amount of gain reduction.

- Input Meter: Green = signal present, Yellow = +18 dBu, Red = +24 dBu.

- Optosync™ Switch: Enables control sync with adjacent module for stereo linking (left is Parent, right in Child)

- In Switch: Toggles module in/out of circuit (left is Bypass, right is In)

    LED Blue = engaged,

    LED Off = bypass,

    LED White = Optosync™ child mode.

Ratio

To access the ratio parameter, use the momentary switch with a right long press (2 seconds). The current ratio will then be displayed with the blue LED approximately matching the screen printed number (repurposing the GR meter).
Example parameter values:

4:1	15:1	∞:1
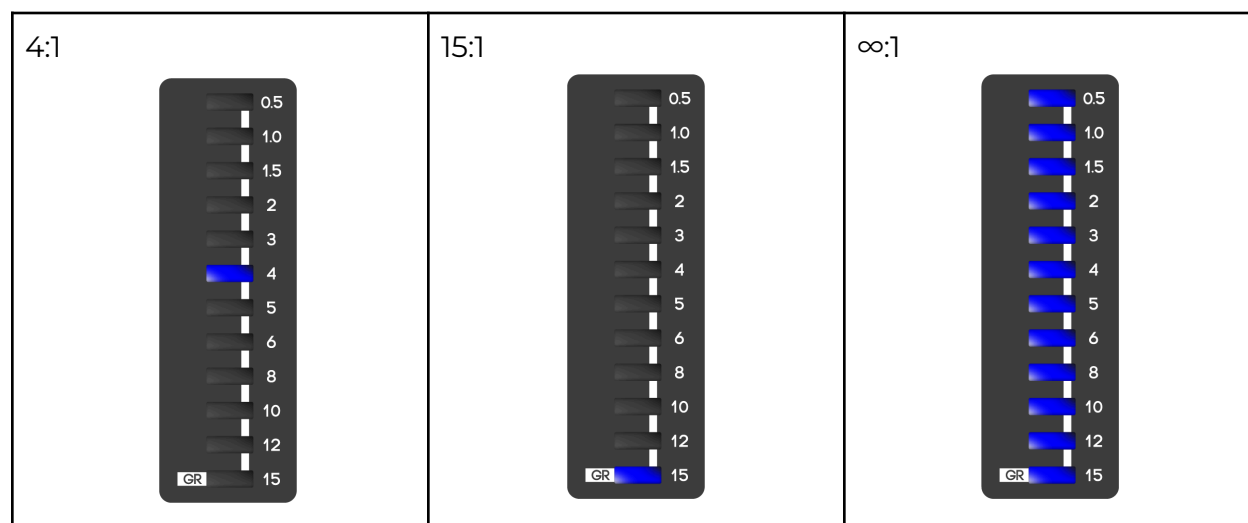
Stereo Operation and Optosync™

Brick Lane 500's Optosync™ allows two modules to work as a stereo pair. If the two Brick Lane modules are in adjacent slots in the rack the jack cable is not needed. If the two Brick Lane modules are in distant slots you can connect a 3.5mm TRS cable between the Optosync jacks on two modules; using the cable will sync the parameters but not stereo link the sidechain.
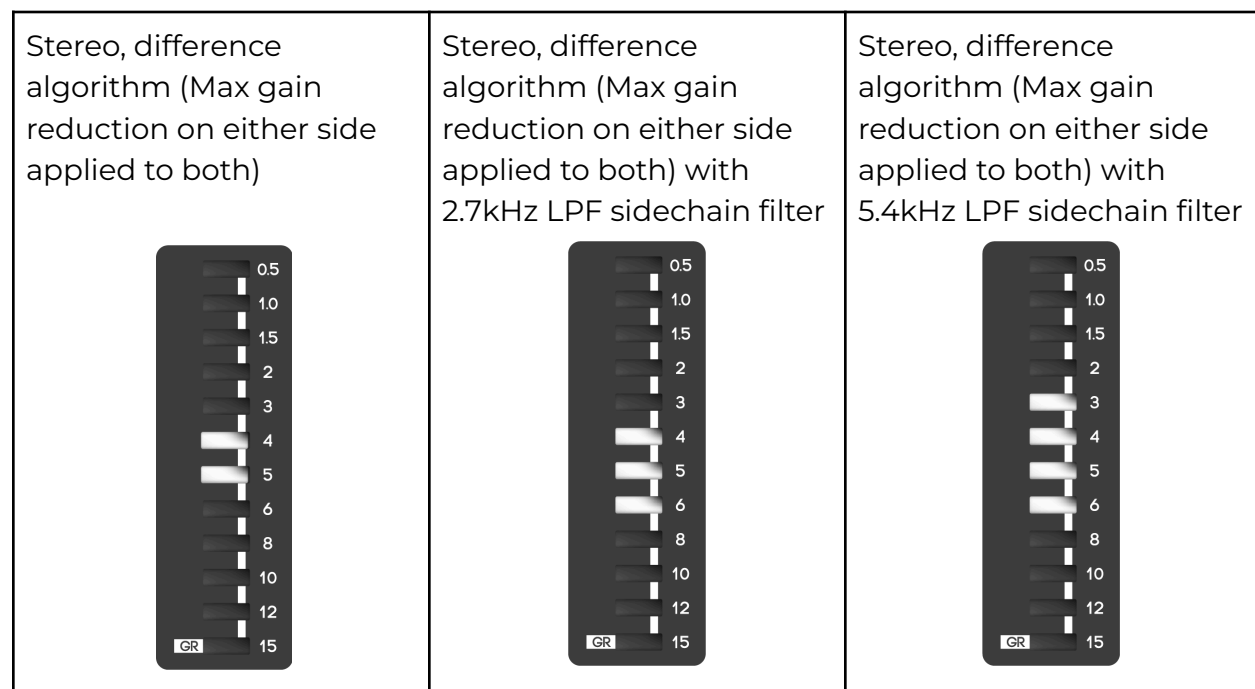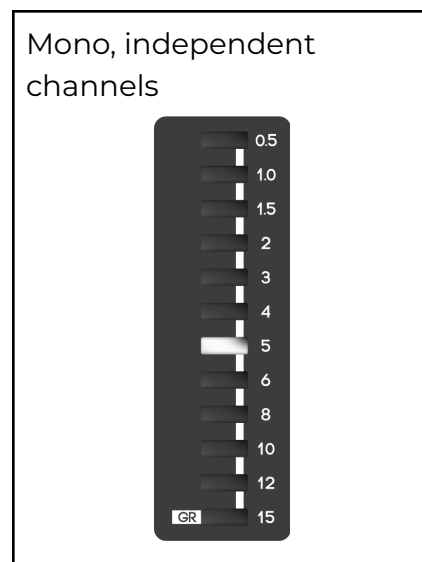
To set up Optosync™for a stereo pair, set the left module's Optosync™ switch to parent (switch left), and the right module to child (switch right). The child will now mirror all parameters from the parent. Its IN LED will glow white and pulse during adjustments. To avoid stereo image drift under compression, you need to select one of the stereo Sidechain Linking options, listed below, from the secondary function for the SCF switch (LONG PRESS left, GR meter will display white). If you are not sure which stereo mode to choose we suggest the last option: "Stereo, mono-sum, linked with 5.4kHz LPF sidechain filter" as it's the cleanest.

If you are using Carnborne Audio's R8 or 500ADAT racks please ensure you follow the instructions for the "Stereo Link Jumper".

Stereo/Mono Sidechain Linking

To access the Stereo/Mono Sidechain Linking parameter, use the momentary switch with a left long press (2 seconds).

Example parameter values:

Mono, independent channels

Stereo, difference algorithm (Max gain reduction on either side applied to both)	Stereo, difference algorithm (Max gain reduction on either side applied to both) with 2.7kHz LPF sidechain filter	Stereo, difference algorithm (Max gain reduction on either side applied to both) with 5.4kHz LPF sidechain filter

Stereo, mono-sum, linked	Stereo, mono-sum, linked with 2.7kHz LPF sidechain filter	Stereo, mono-sum, linked with 5.4kHz LPF sidechain filter, this is the cleanest option.
0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15

Stereo/Mono Sidechain is a global setting across the unit. If you are using a stereo pair the Stereo/Mono Sidechain only needs to be set on the parent.

Rear Panel Connections

- 500 Series Edge Connector: Provides power and I/O connections via standard 500 series rack. Power down the rack before inserting.

- Optosync TRS: 3.5mm TRS — (most people will not need this) Connect to another Brick Lane 500 to link the parameters. This is useful if you want to Optosync™ between non-adjacent slots, though the jack will not link the sidechains.

Compression Modes

Brick Lane 500 offers 6 main compression modes (plus an additional Blue variant for Polish) each with its own personality, topology, dynamic behavior and diode saturation characteristics. These are internally optimised for the intended sonic outcome.

Switch modes using the momentary switch with a short press to the right. It takes a moment for the mode to fully update, so please take this into account when auditioning between them.

- Velvet: Vari-mu style feedback RMS compression. Smooth, musical with vintage warmth. Great for vocals, acoustic instruments, and buses.

- Float: Opto-inspired RMS compression. Gentle leveling with a touch of presence. Ideal for vocals, bass, and tracking duties.

- Smash: Aggressive feed-forward peak detection. FET-style fast limiting, explosive character. Great for drums, parallel crushing, and guitars.

- Tame: Precision feed-forward control with wide-ranging parameters. Clean, tight compression with flexible behavior. Best for utility, voice, and taming transient-rich content.

- Glue: Bus-style RMS compression. Smooth and rounded with transformery warmth. Excellent for stereo bus and mastering glue.

- Polish: High-ratio peak limiting. White = fast, hard limiting. Blue = softer-knee, tape-like limiting with tone control. Perfect for masters and individual peaks.

The attack and release peak signal plots below use a sine tone that starts loud for a time then drops by 20 dB, with no ramping, this enables us to see clearly how the attack and release of the compression changes with each compression mode in three pot settings: "slow" (full left), "mid" (12 O'Clock) and "fast" (full right). Please note the changing x axis for time in ms.

Velvet

Attack and Release plots:
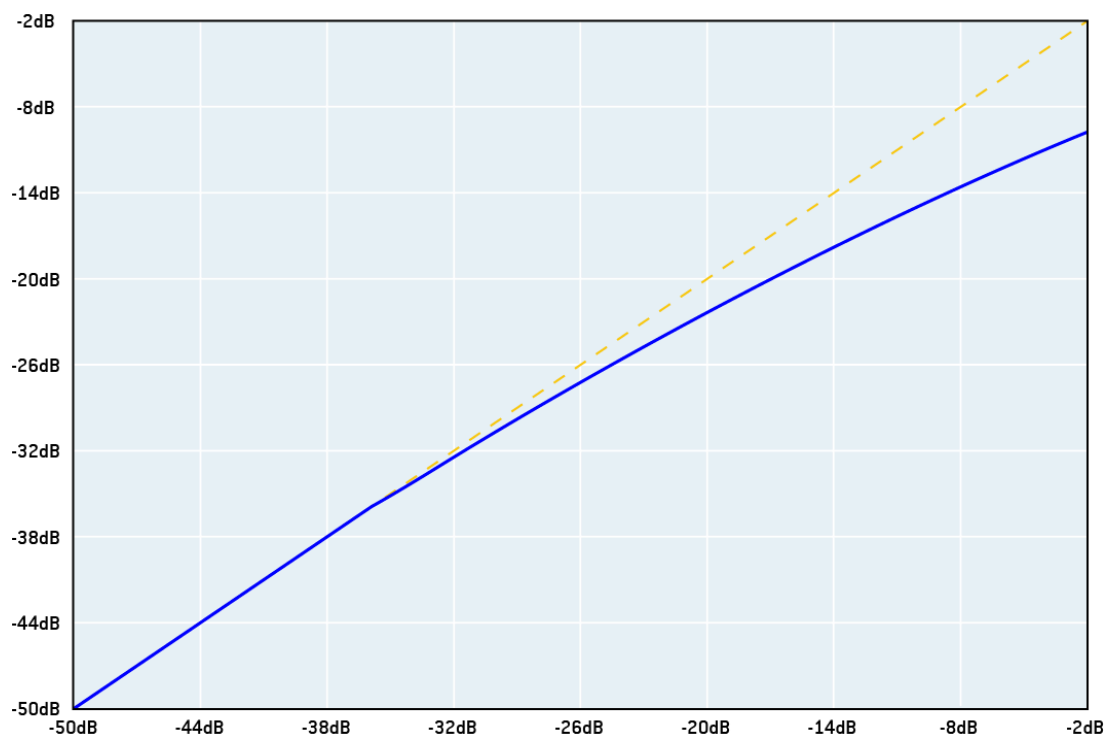

Velvet Slow

Velvet Mid

Velvet Fast
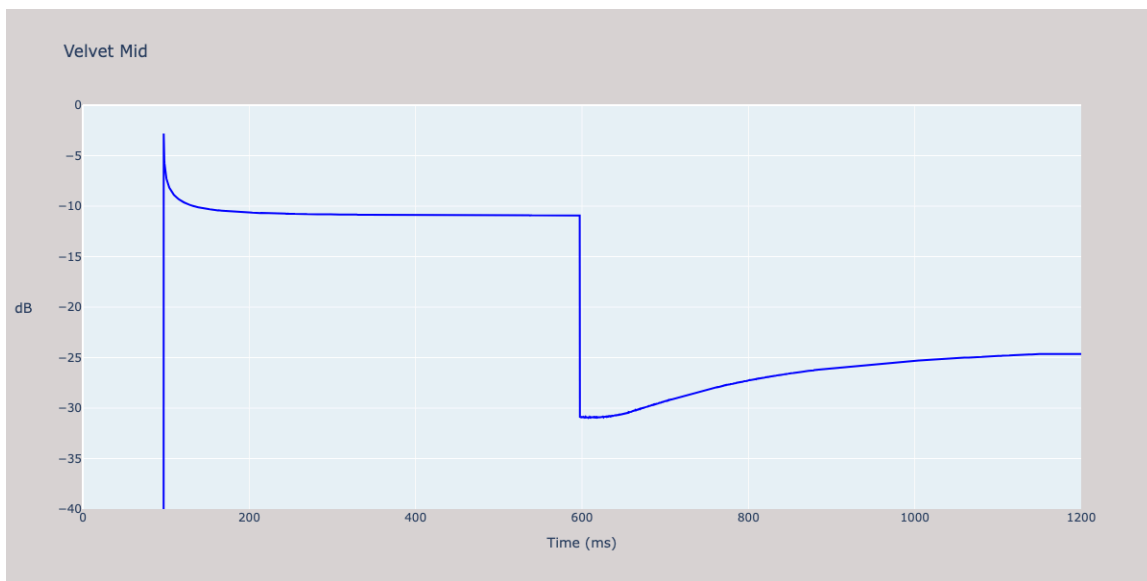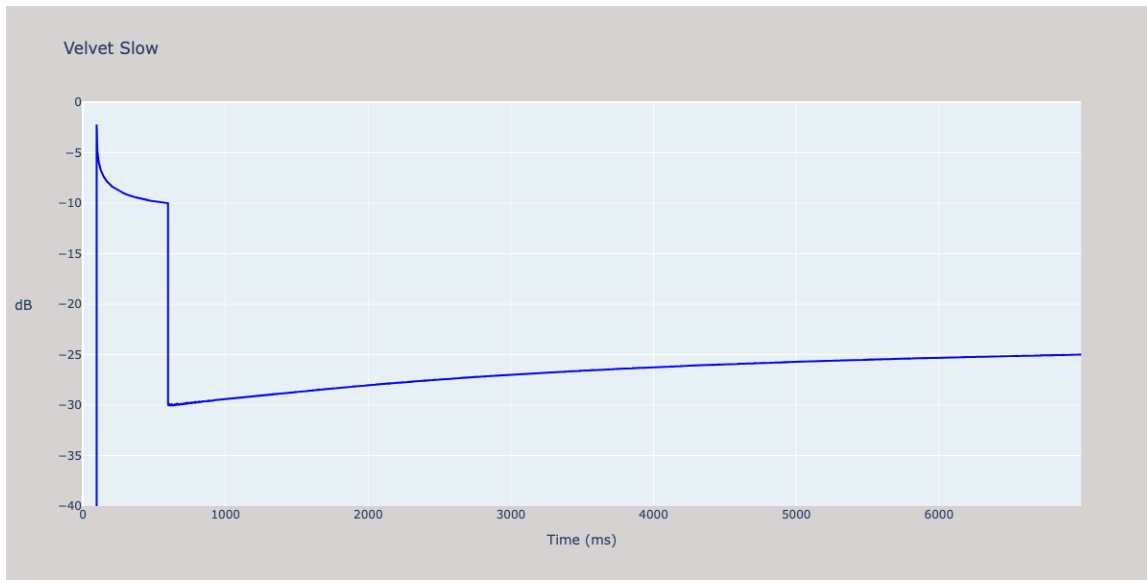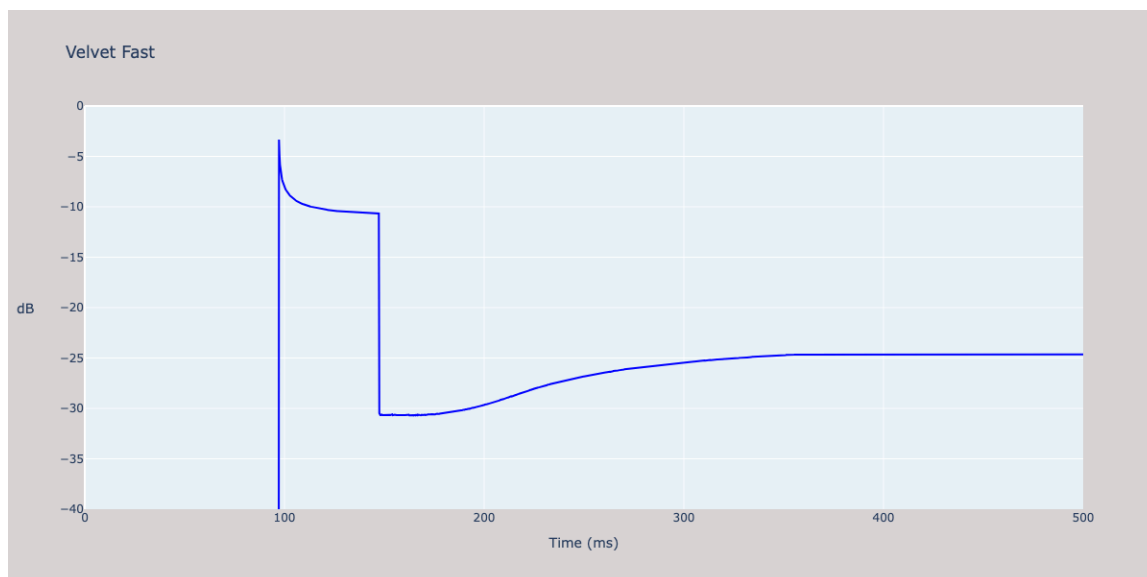
Topology: Feedback

Detector: RMS

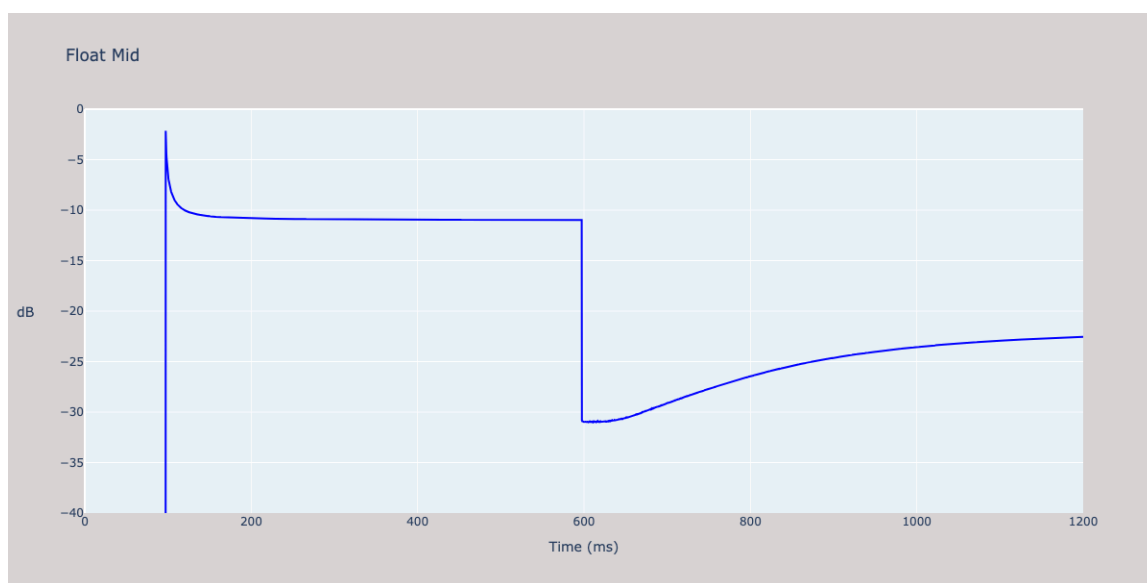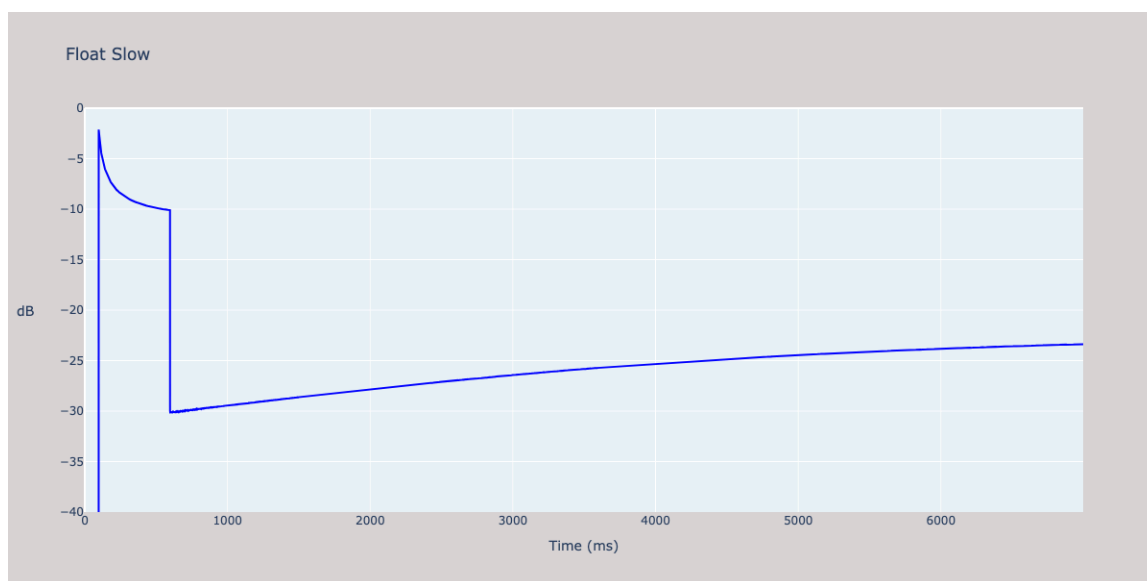Ratio: 2:1 Vari-mu fixed - starts as 2:1 then steepens, Knee: very soft
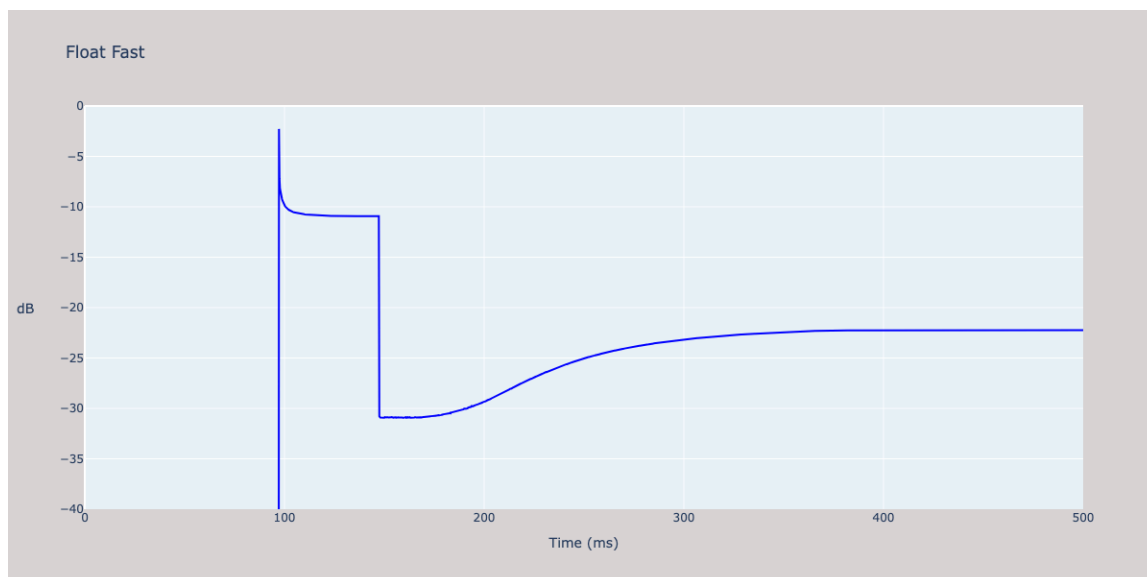

Sidechain Emphasis: flat

Analogue Lookahead: disabled

Stress: Mid-band tube-style saturation with soft low-end thickness and creaminess. Stress Crossover and Phase setting 3, Diode Hardness: 1.

Float

Attack and Release plots:
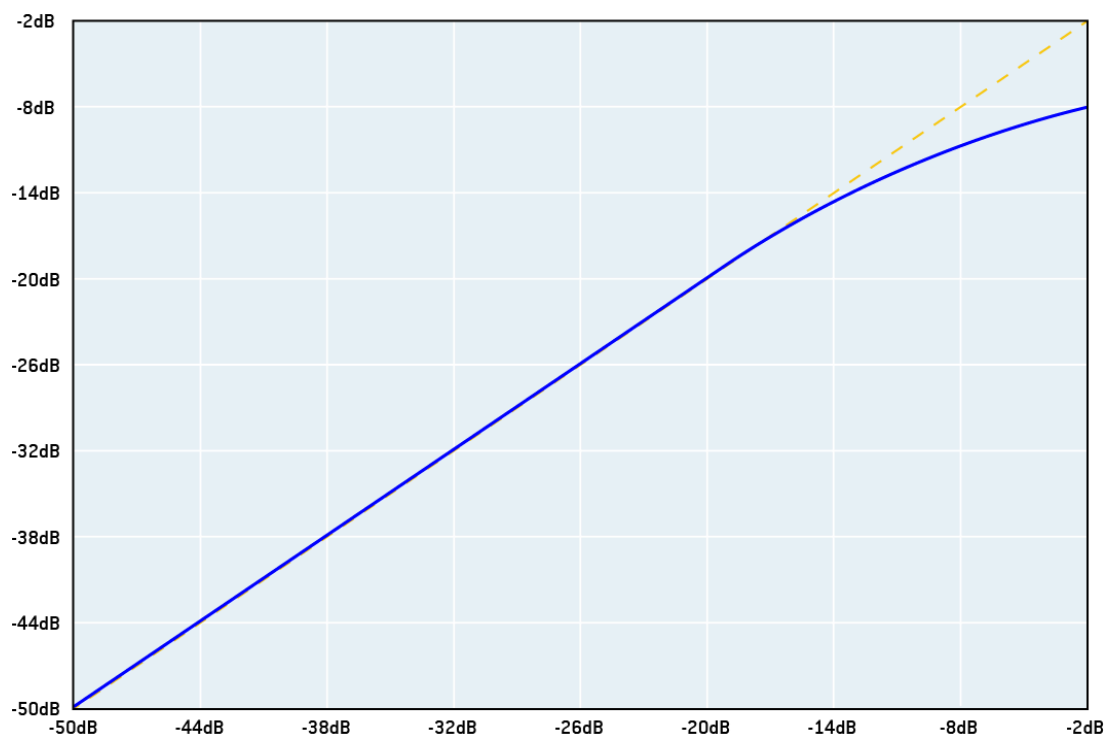
Float Fast

Topology: Feedback

Detector: RMS

Ratio: 3:1, Knee: medium soft

Sidechain Emphasis: High frequencies will be compressed less.

Analogue Lookahead: disabled

Stress: Opto-like harmonic rounding of transients with slight high-frequency smoothing. Stress Crossover and Phase setting: 3, Diode Hardness: 2

Smash

Attack and Release plots:

Smash Fast
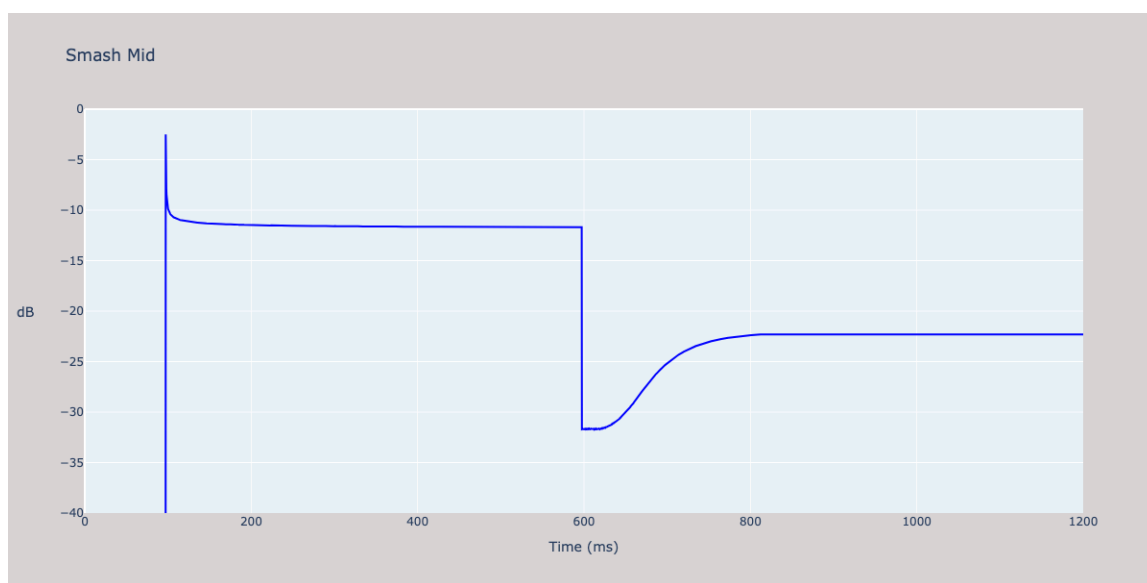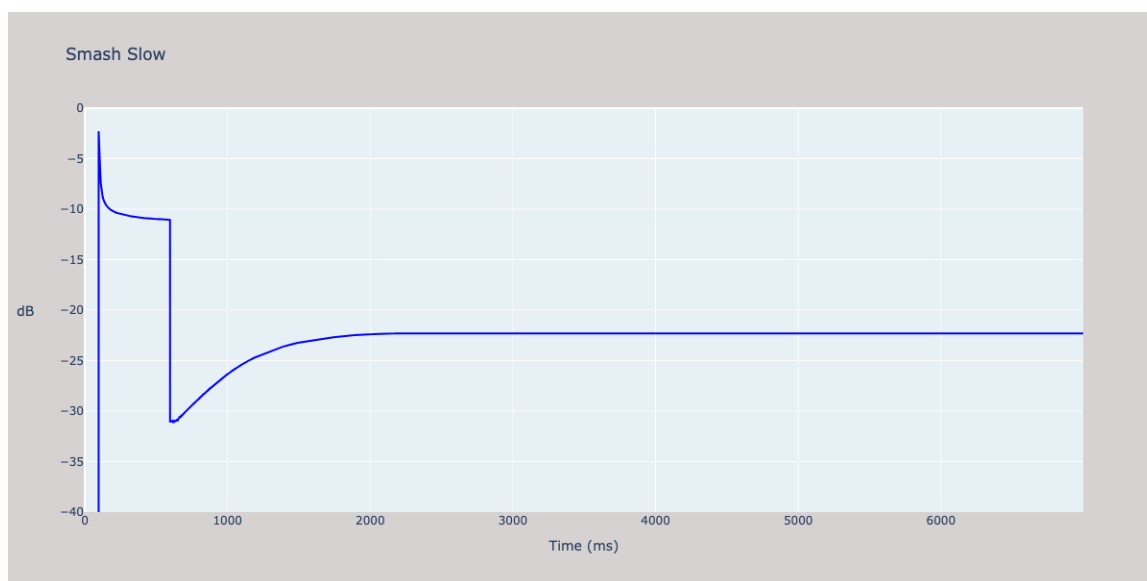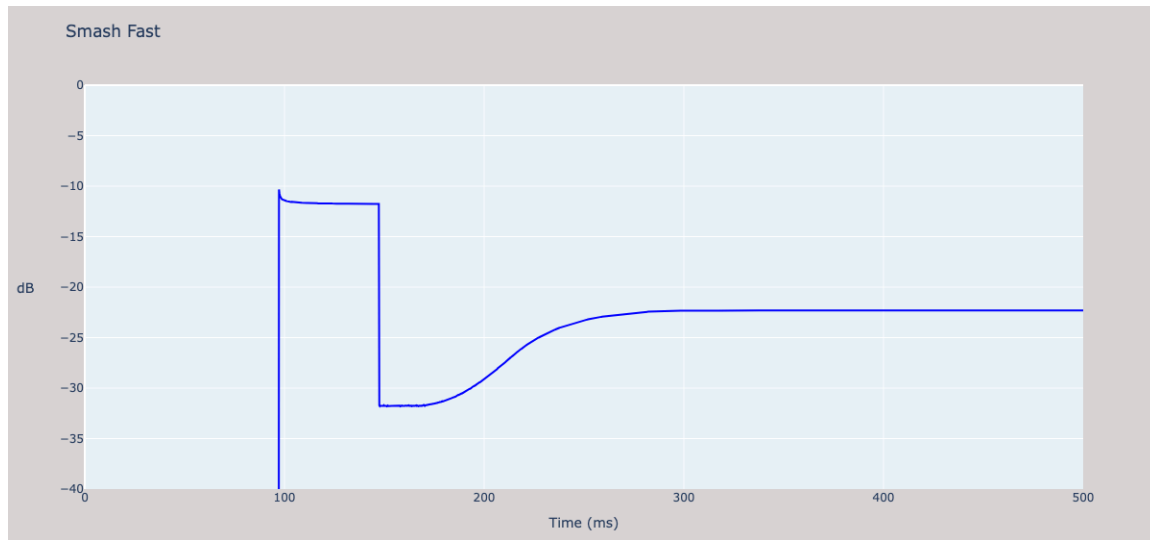
Topology: Feed-forward

Detector: Peak

Release range: Program dependent release - the longer heavy compression is applied the slower the release;

Ratio: 8:1, Knee: medium soft
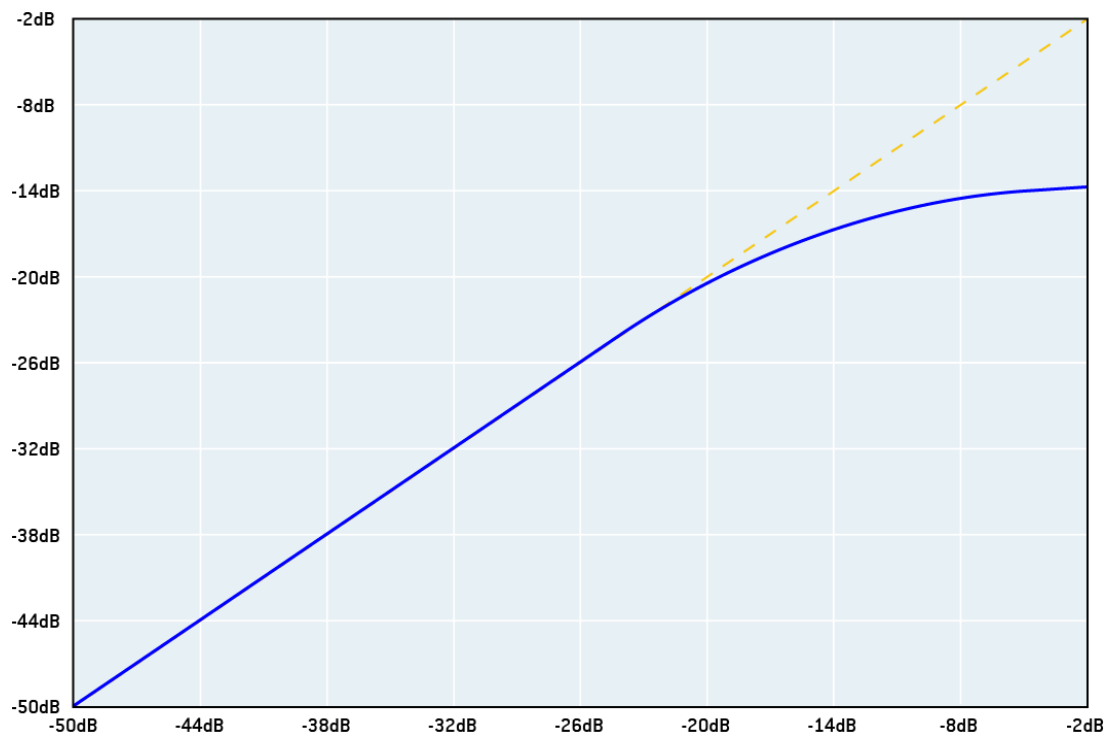
Sidechain Emphasis: flat

Analogue Lookahead: disabled

Stress: Hard, fast distortion. Bright and aggressive. Ideal for adding grit. Stress Crossover and Phase setting: 3, Diode Hardness: 1.

Tame

Attack and Release plots:

Tame Fast
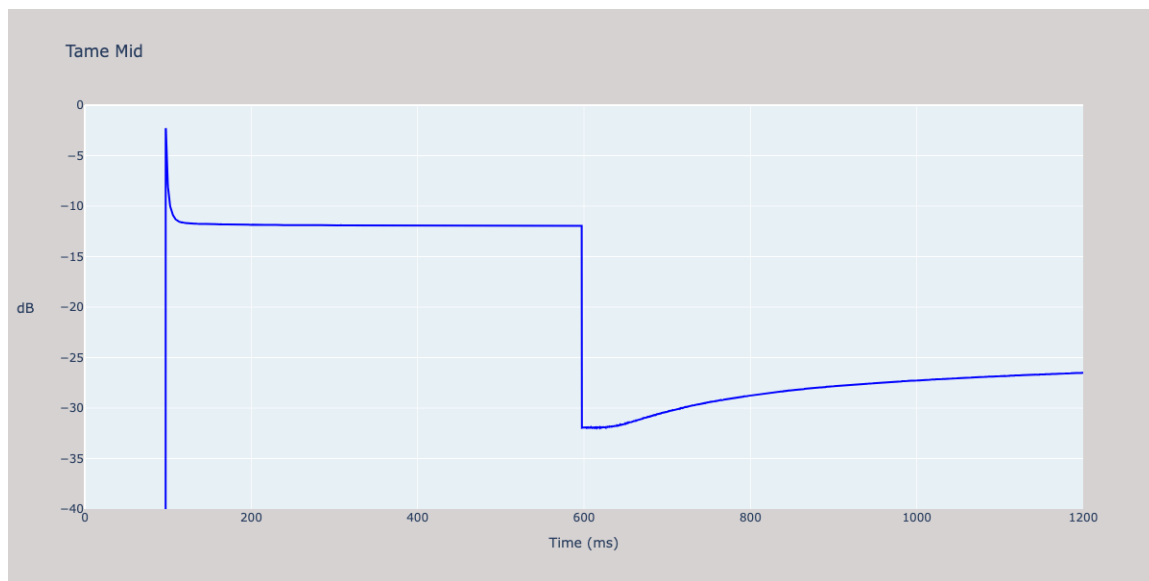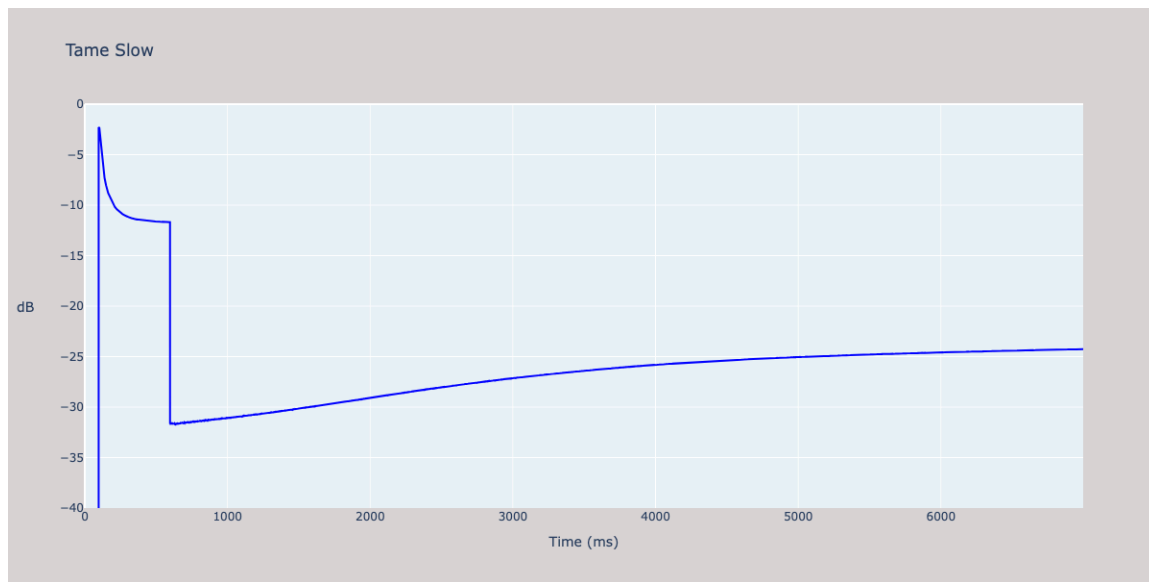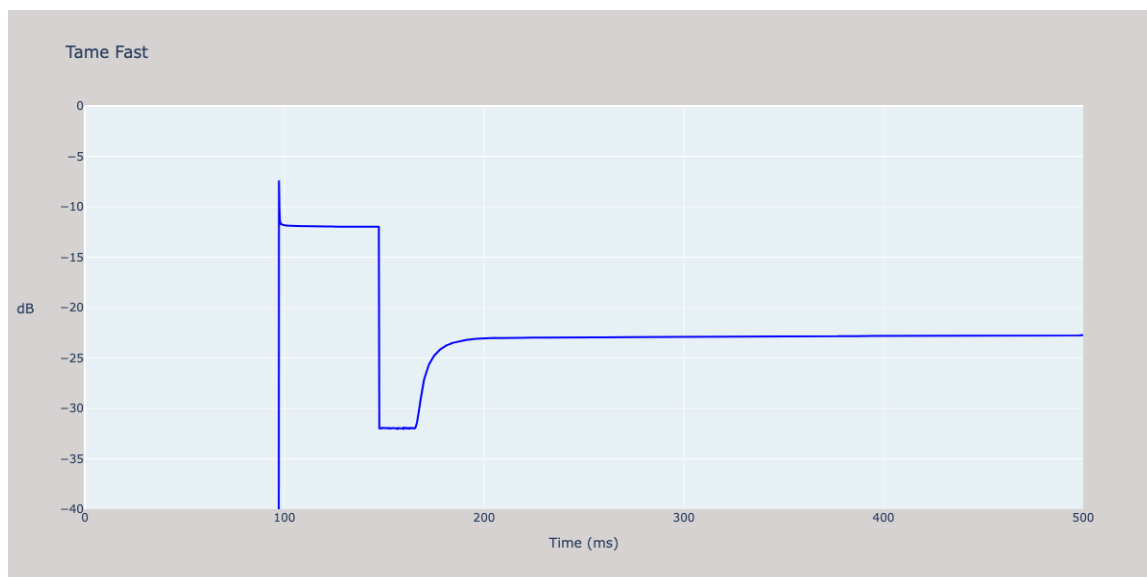
Topology: Feed-forward

Detector: Triple (Peak, RMS, Long RMS) with variable Peak and RMS

Ratio: 4:1, Knee: medium soft

Sidechain Emphasis: +1dB

Analogue Lookahead: enabled

Stress: Controlled harmonic behavior with subtle texture. Smooth and restrained. Stress Crossover and Phase setting: 3, Diode Hardness: 2.

Glue

Attack and Release plots:

Glue Slow

Glue Mid

Glue Fast
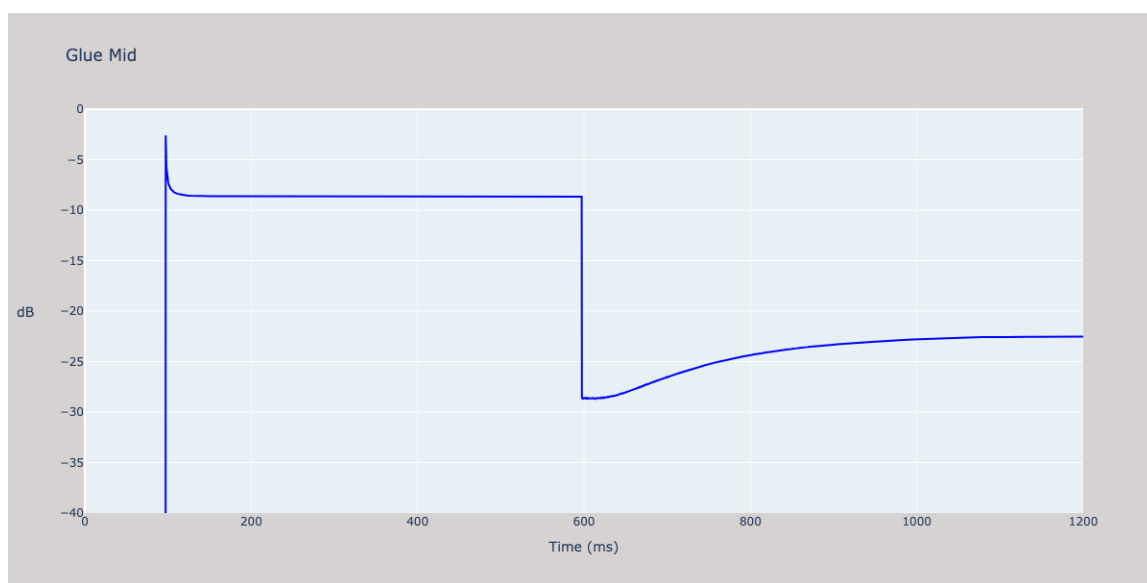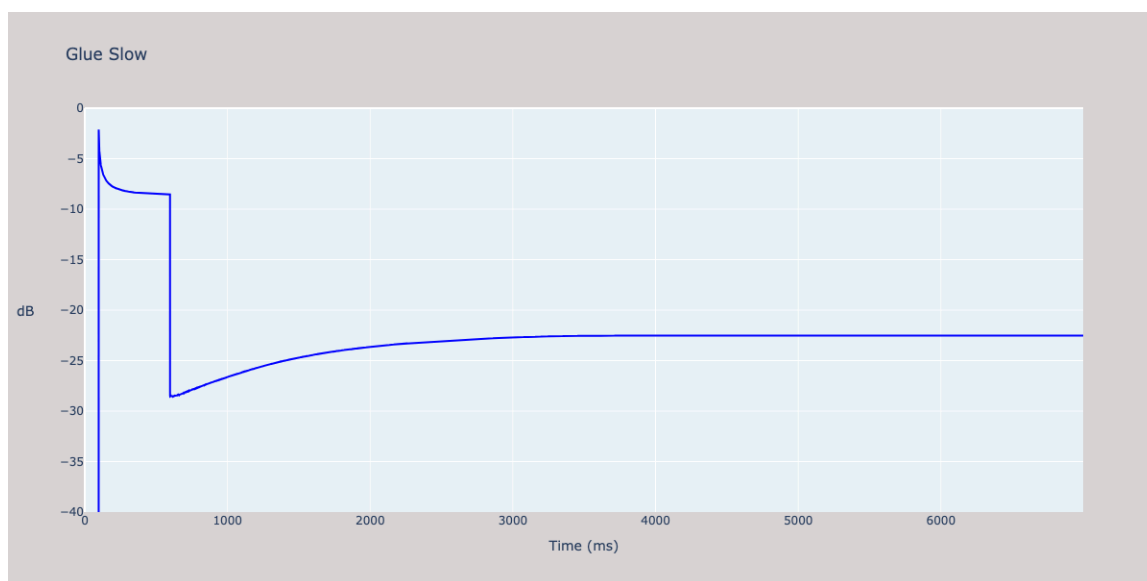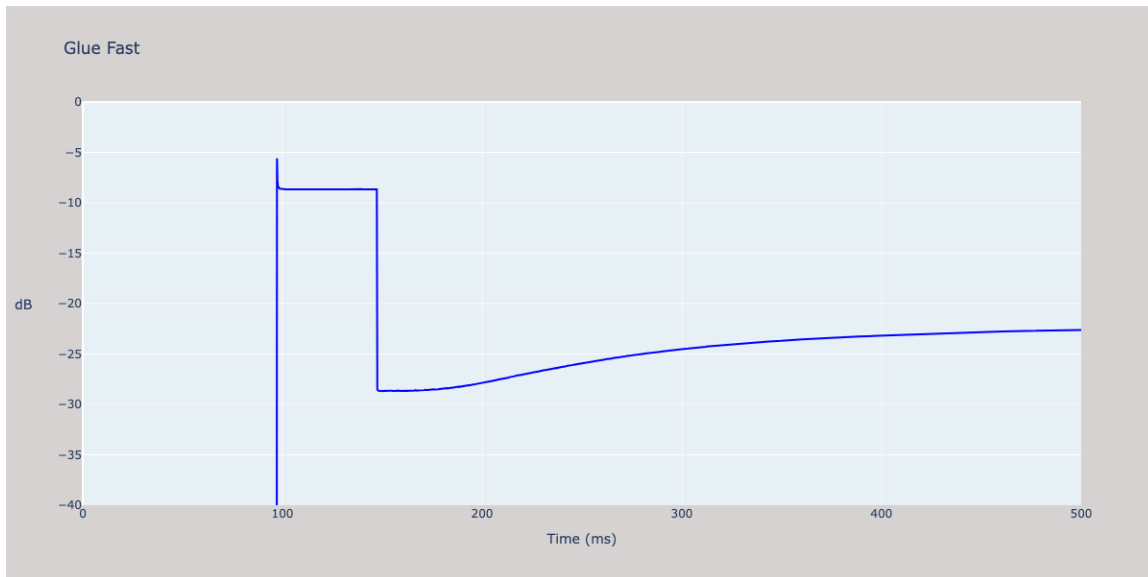
Topology: Feed-forward

Detector: RMS

Ratio: 2:1, Knee: medium soft
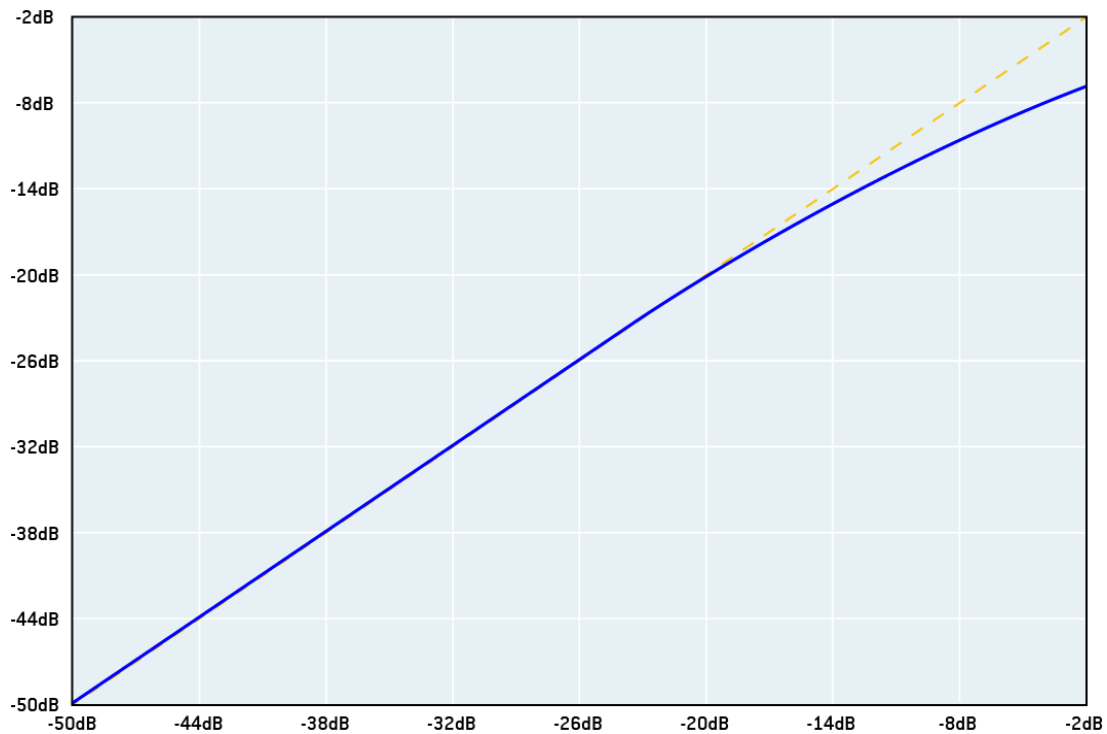
Sidechain Emphasis: High frequencies will be compressed a little less.

Analogue Lookahead: disabled

Stress: Transformer-style saturation for vintage glue. Thickens without harshness. Stress Crossover and Phase setting: 1. Stress Diode Hardness: 2.

Polish White

Attack and Release plots:

Polish White Fast
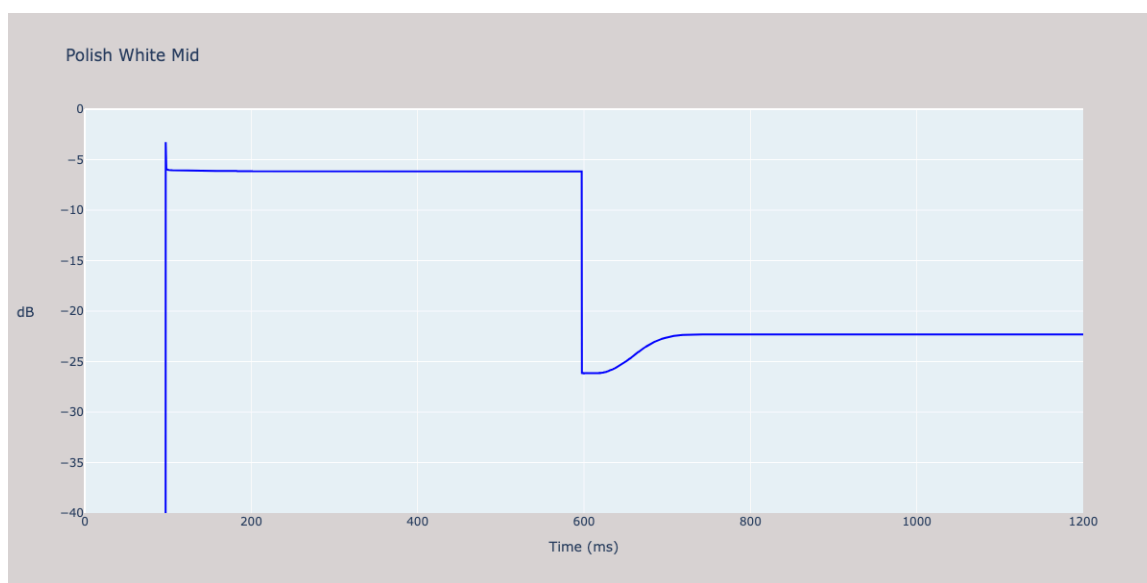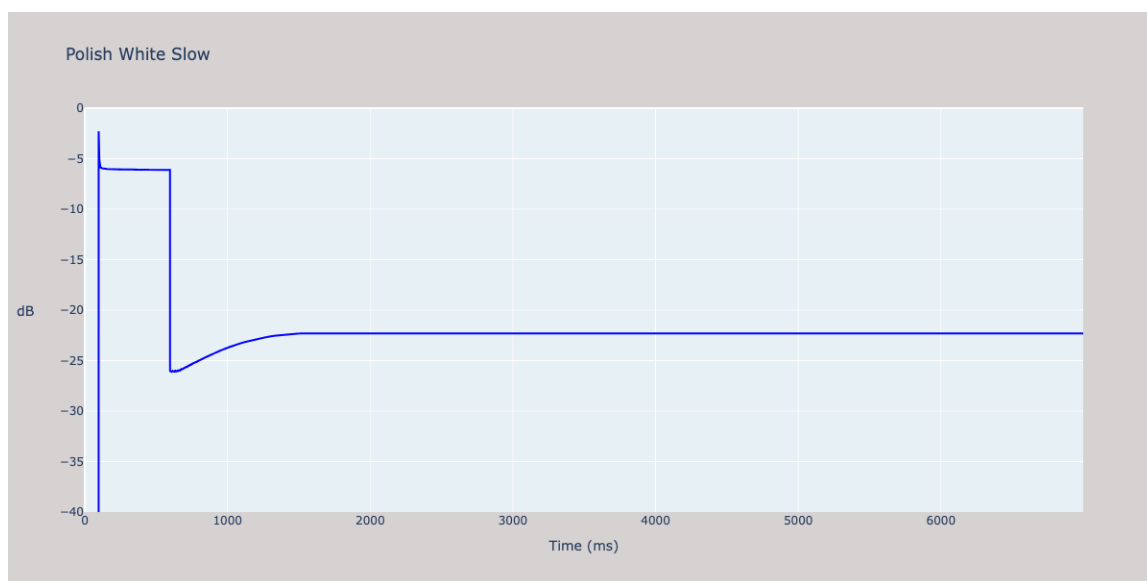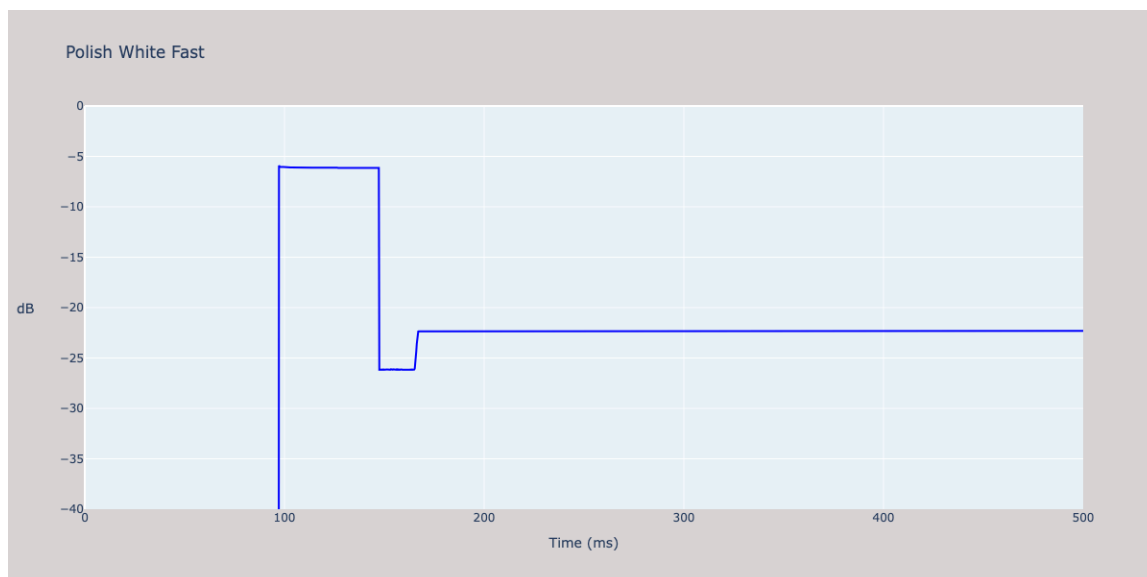
Topology: Feed-forward

Detector: Triple: Peak, RMS & Slow RMS

Ratio: ∞:1, Knee: hard
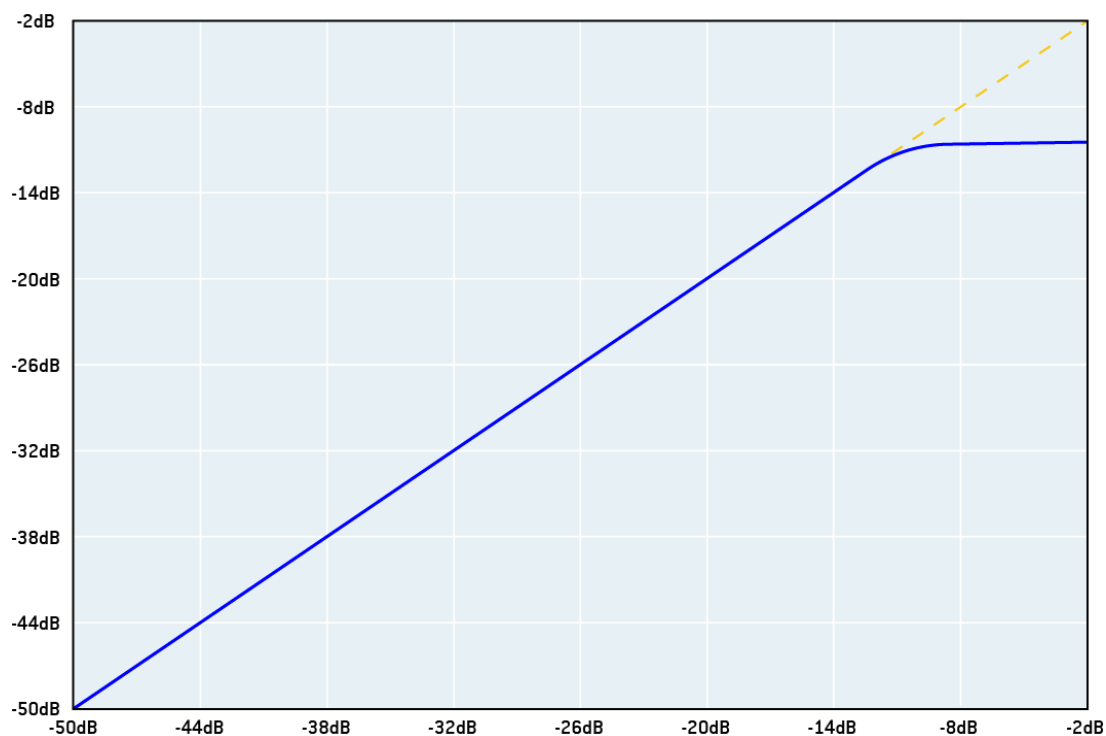
Crest Factor: 1st weight setting (LEDs 1 to 12)

Sidechain Emphasis: flat

Analogue Lookahead: enabled, setting 6

Stress: "Gold"-style clipping. Stress Crossover and Phase setting: 1, Diode Hardness: 6 (hardest).

Polish Blue

Attack and Release plots:

Polish Blue Fast
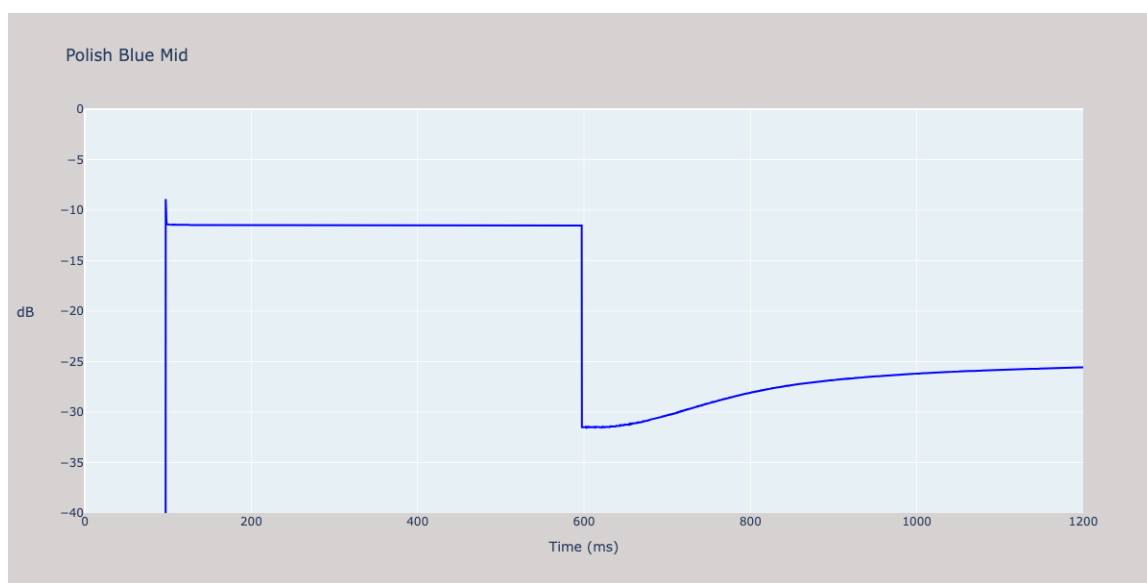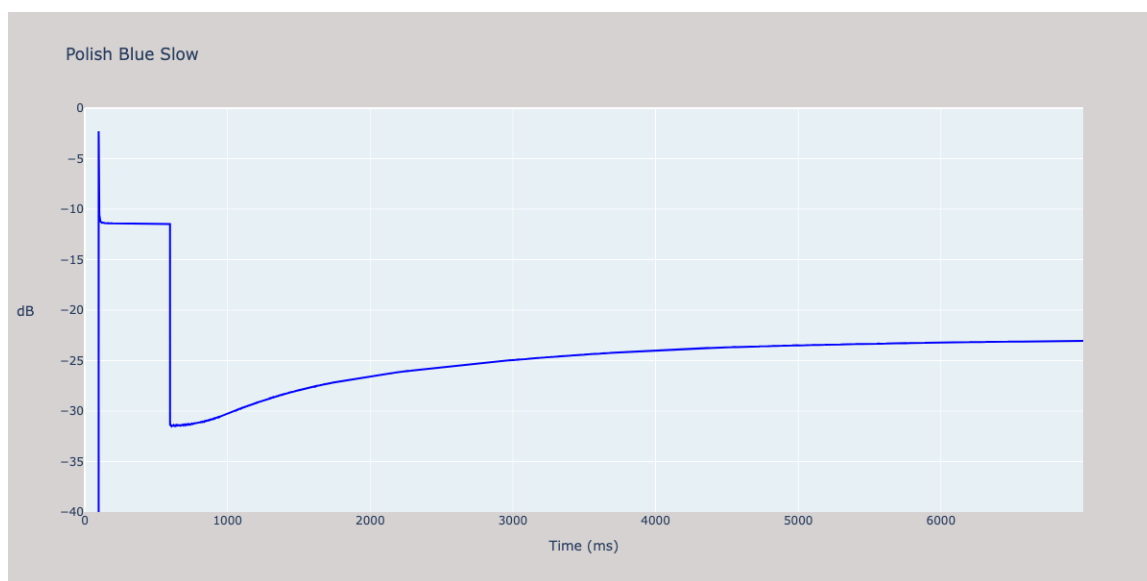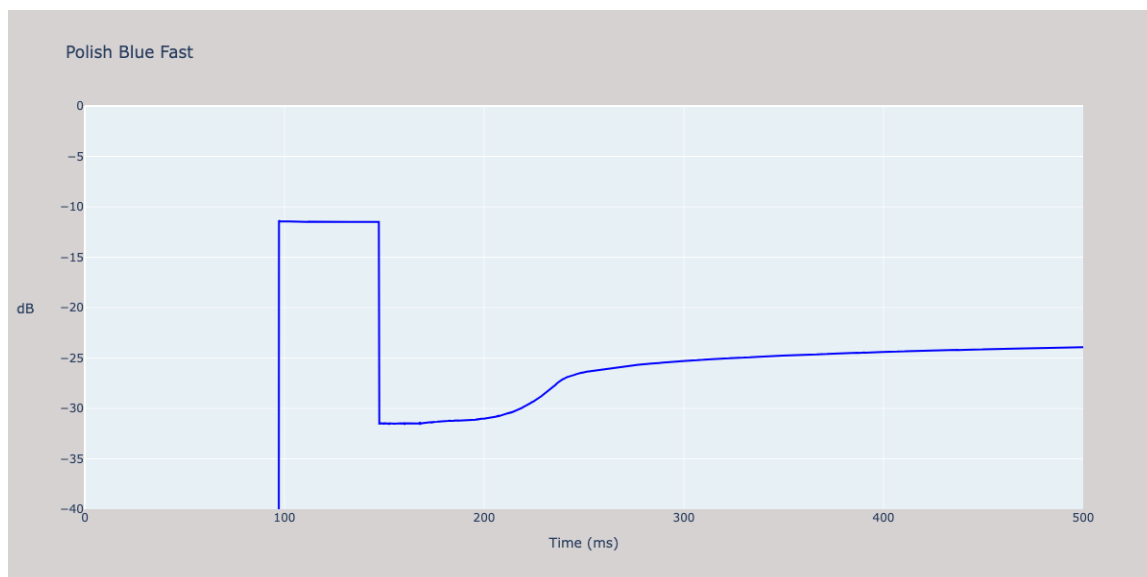
Topology: Feed-forward

Detector: Triple (Peak, RMS, Long RMS) with variable Peak and RMS

Ratio: ∞:1, Knee: soft
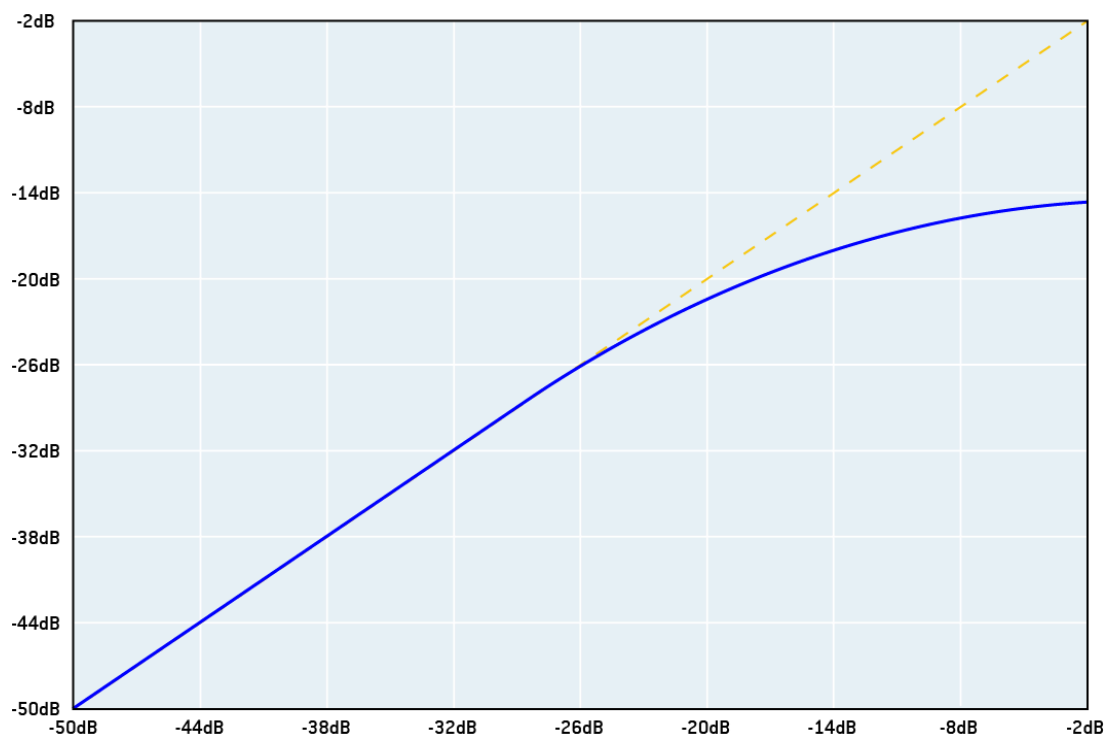
Crest Factor: Even weighting (All LEDs)

Sidechain Emphasis: flat
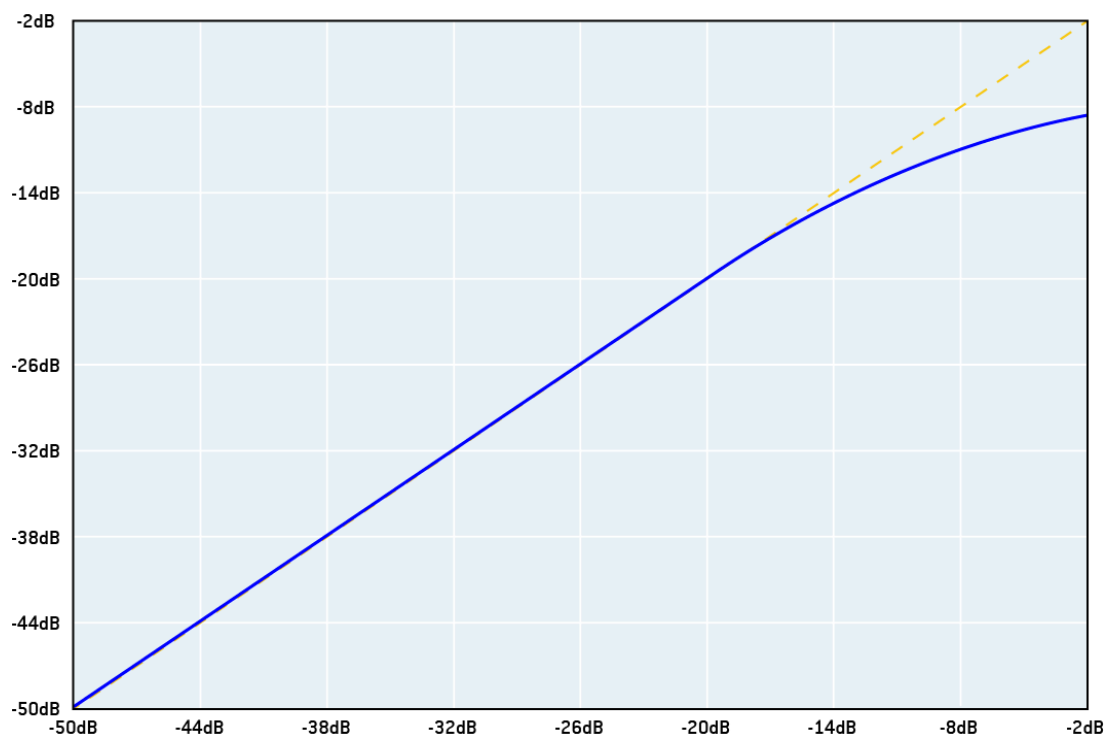
Analogue Lookahead: enabled, setting 6

Stress: Hard-knee clipper. Stress Crossover and Phase setting: 1, Diode Hardness: 6 (hardest).

STRESS Saturation Circuit

STRESS is a multiband saturation engine that operates post compression. It introduces harmonics based on gain reduction and compression mode.
The STRESS control sets the wet/dry mix between clean compression and saturated signal, except in POLISH mode (more below). Each compression mode affects the STRESS tone:

- Velvet: Mid-band tube-style saturation with soft low-end thickness and creaminess.
- Float: Opto-like harmonic rounding of transients with slight high-frequency smoothing.
- Smash: Hard, fast distortion. Bright and aggressive. Ideal for adding grit.
- Tame: Controlled harmonic behavior with subtle texture. Smooth and restrained.
- Glue: Transformer-style saturation for vintage glue. Thickens without harshness.
- Polish: "Gold"-style clipping. White = hard knee, Blue = soft compression knee, but hard-knee clipper

STRESS operates dynamically and reacts differently to each signal and gain stage. Experiment with Input and Threshold to shape saturation response.

In POLISH mode, the STRESS control sets the threshold of the clipper circuit. The Gain Reduction meter turns red when the clipping circuit is engaged. For best results, set the threshold along with an external meter of whatever the input device is after the Brick Lane 500 output (an audio interface, etc). Set together, a signal will never go over the set threshold and can be done with minimal unwanted clipping artefacts. If the clipping threshold is set too low (done by increasing the STRESS control), you will begin to get a low-pass filter effect.

SCF, Sidechain EQ and Filters

Brick Lane 500 features a 3-position high-pass sidechain filter (SCF) for tailoring compressor response to low-end content.

● Use the left Momentary Switch to cycle through: OFF, 60 Hz, 100 Hz, 200 Hz

The selected SCF is indicated by a corresponding RGB LED. SCF is global and applies across all modes. It allows more transparent compression on bass-heavy material by reducing low-frequency triggering. For example if the SCF is set to 200 Hz the lower frequencies trigger the compression less than the higher frequencies.

There are also some secondary functions for the SCF switch (LONG PRESS left and right) see below.

Enigma Parameters (Advanced)

Brick Lane 500 includes hidden Enigma menus for deep configuration. To enable access to these, set DIP switch 6 (Enigma Access) to ON, then do one of the following.

- Access Left Enigma Menu: Long press left Momentary Switch (2 sec)
- Access Right Enigma Menu: Long press right Momentary Switch (2 sec)

After you have entered one of the Enigma menus, you can then cycle through the various parameters with short presses to the left (Momentary Switch), each parameter has a different colour. To change the currently selected parameters value, use a short press to the right (Momentary Switch). To exit an Enigma menu, long press in either direction (Momentary Switch).

When using a stereo pair, Enigma parameters are only accessible from the parent; if you want to change the Enigma parameters of a child for its mono use, first turn Optosync™ off.

Enigma Left Parameters:

- Stress Type/Diode Clipping   Red
- Diode Hardness   Yellow
- Stress Crossover and Phase   Blue
- Sidechain HF Emphasis/De-emphasis Magenta
- Detector   Cyan
- Crest Factor Shaping   Green
- Stereo/Mono Sidechain Linking   White

Enigma Right Parameters:

- Ratio   Blue
- Knee   Cyan
- Attack Weighting   Red
- Release Weighting   White
- Hold   Green
- Lookahead   Yellow
- LED Brightness   Magenta

More information about each Enigma parameter can be found below.

Stress Type/Diode Clipping

Enigma left, red.

This will change the character of the stress distortion.

The first five correspond to the stress behaviours of the first five modes (1 LED = Velvet stress behaviour, 5 leds = Glue, 6 leds is the polish white clipper, 7 leds is the polish blue clipper, leds 8 and up are additional series clipper types with varying characteristics.

Diode Hardness

Enigma left, yellow.
Diode Hardness changes the hardness of the stress distortion.

Stress Crossover and Phase

Enigma left, blue.

When stress is engaged there can be frequency dependent changes to the phase. Experimenting with the "Stress Crossover and Phase" parameter is particularly important If you are using parallel compression.

Example parameter values:

Stress frequency response is more linear than the phase response.	Stress phase response is more linear than the frequency response. Best for parallel compression with stress on low frequencies.
Stress phase inverted of the above	Stress phase inverted of the above
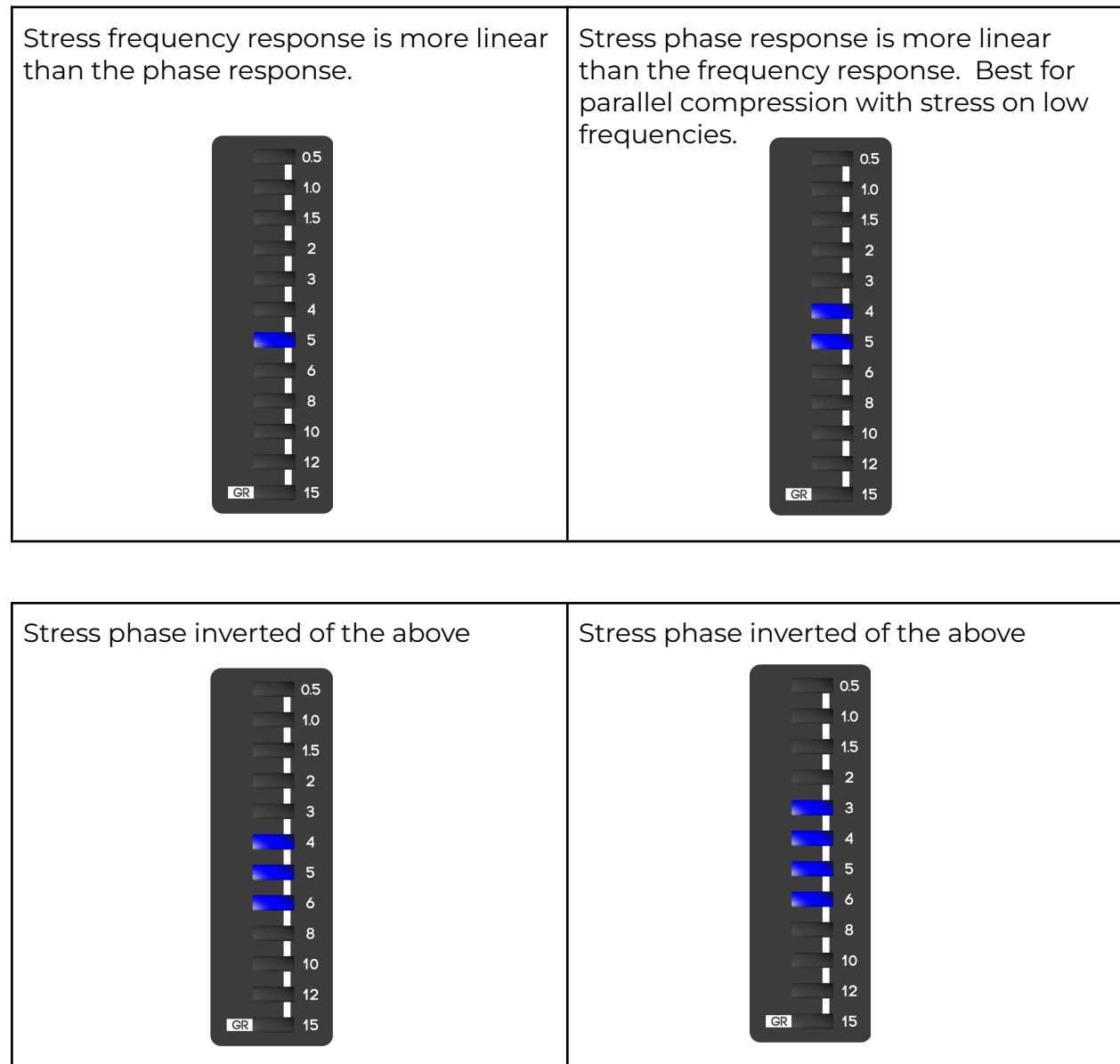
Sidechain High Frequency Emphasis/De-emphasis

Enigma left, magenta.

Example parameter values:

Flat, (no high frequency emphasis/de-emphasis)	High frequencies will be compressed less.	High frequencies will be compressed more.
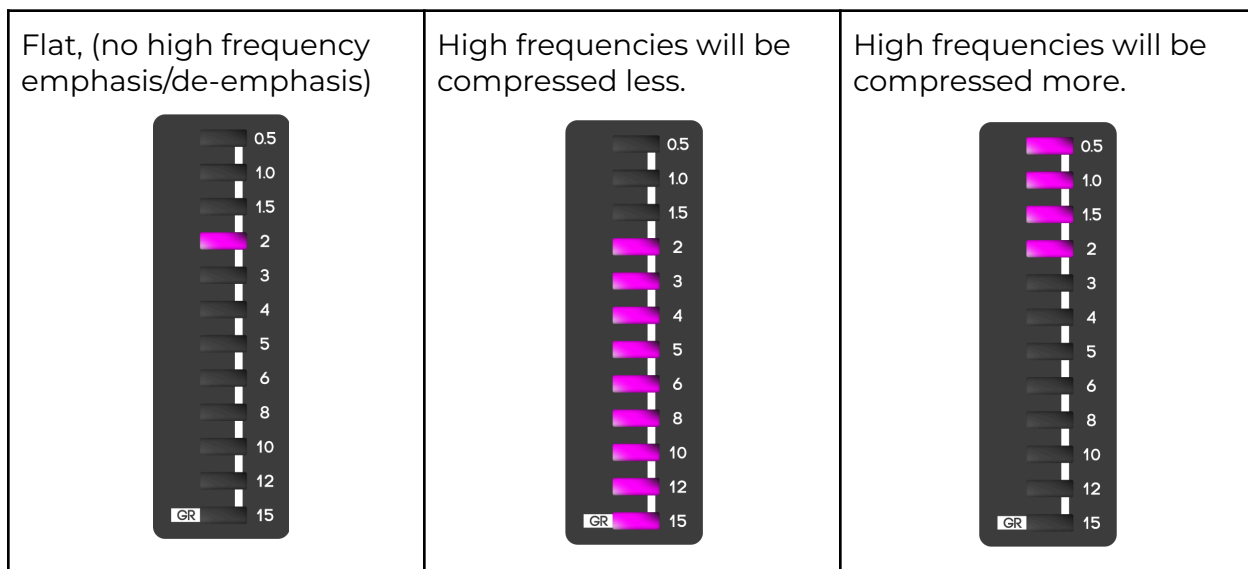
Detector

Enigma left, cyan.

Example parameter values:

Single: Peak	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15
Single: RMS	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15
Dual: Peak RMS	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15
Dual: Peak Slow RMS	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15
Dual: RMS Slow RMS	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15
Triple: Peak RMS Slow RMS	0.5 1.0 1.5 2 3 4 5 6 8 10 12 GR 15

Dual:	Peak		Triple:	Peak	
	RMS			RMS	
				Slow RMS	
RMS Pot Variable			RMS Pot Variable		
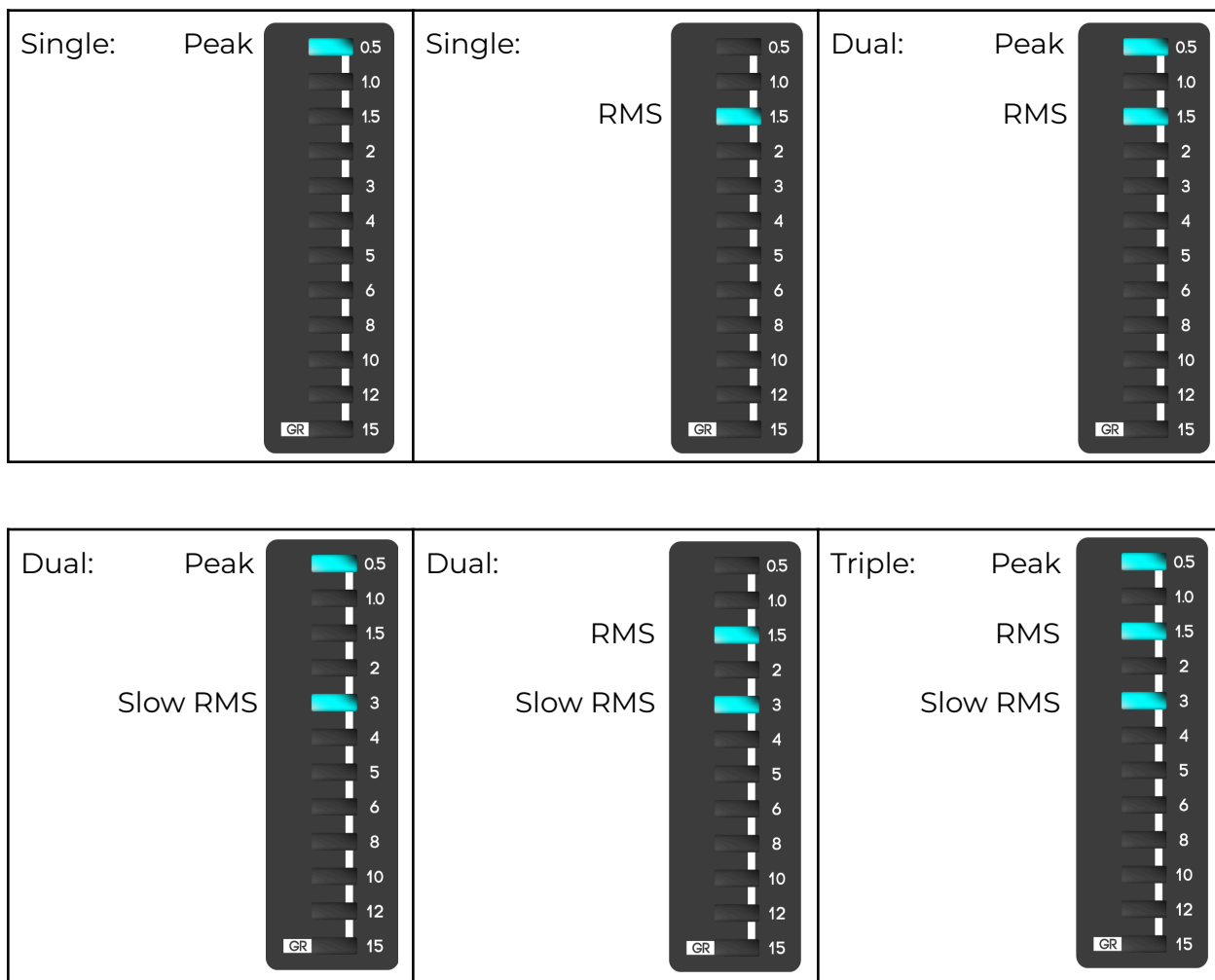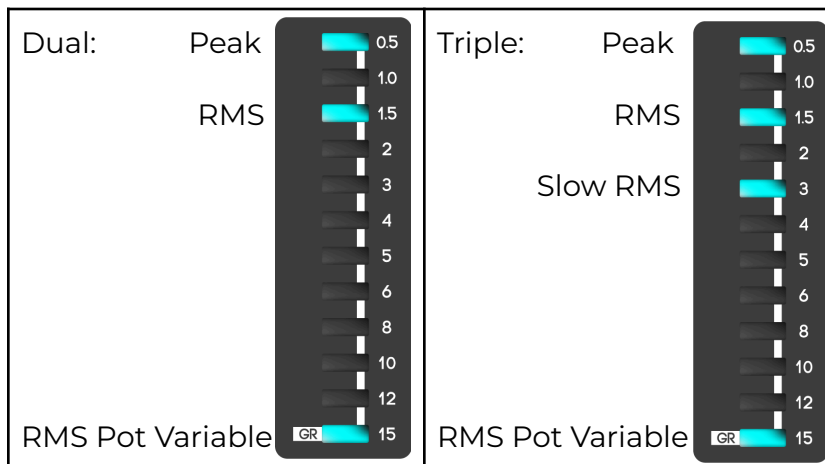
When the "RMS Pot Variable" is lit up, the attack and release of the RMS is a multiple of the peak detector attack/release; the multiple is set by the attack and release weightings. Otherwise the RMS detector has a fixed attack/release setting independent of the peak detector set by the attack/release weight controls.

Crest Factor Shaping

Enigma left, green.

This parameter is only useful for detector modes with more than one detector, it will increase the influence of the slower detectors as you increase the number of LEDs which will adjust the relative crest factor of the compressed audio.

Example parameter values:

Peak dominant	Equal balance between Peak and RMS.	Slow RMS and RMS are dominant
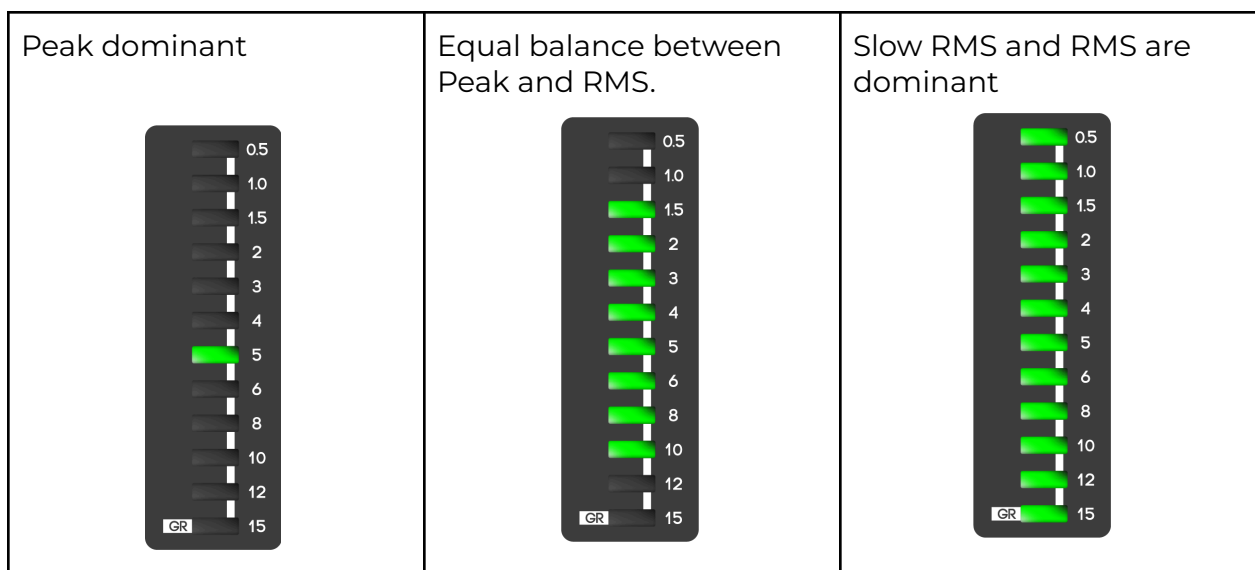
Stereo/Mono Sidechain Linking

Enigma left, white.

See "Stereo Operation and Optosync™" section of this user guide.

Ratio

Enigma right, blue.

See the "Ratio" section of this user guide.

Knee

Enigma right, cyan.

Example parameter values:

Hardest knee	Soft knee	Softest knee
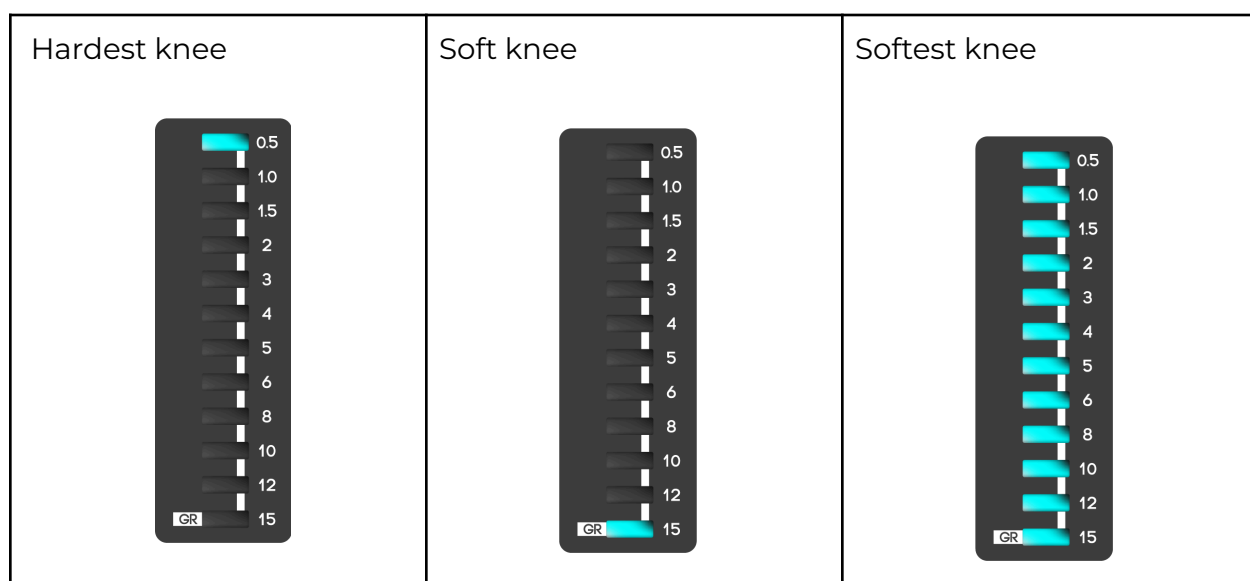
Attack Weighting

Enigma right, red.

Attack Weighting for Single Detector Modes

This changes the attack speed as the amount of overshoot past the threshold increases, top LED means the attack speed is slowing with more overshoot, bottom LED means the attack speed is increasing with more overshoot.

4.0x		0.5
2.0x		1.0
1.0x (Mid)		1.5
0.66x		2
0.56x		3
0.3136x		4
0.175x		5
0.0983x		6
0.055x		8
0.03x		10
0.017x		12
0.009x	GR	15
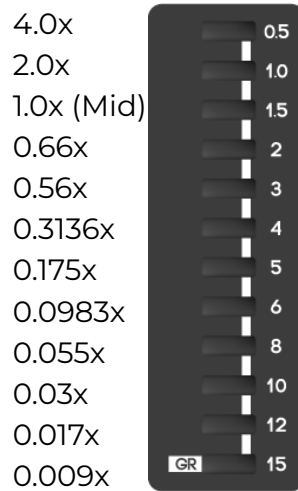
Attack Weighting Multi Detector Modes

This changes the behaviour of the second fastest detector, in the triple detector this would be the RMS detector.

If the detector type is variable with the attack pot this changes the multiple of the peak attack rate i.e. if peak attack set by attack pot is 10us, attack weight is set to a multiple of 100 then the RMS detector will have an attack of 100 x 10us = 1ms. These multiples map to the LEDs per this table: Top to bottom LEDs attack peak to rms attack ratio (top LED is slowest attack):

Multiple	LED
300x	0.5
200x	1.0
150x	1.5
120x	2
100x	3
75x	4
50x	5
40x	6
30x	8
25x	10
20x	12
15x	15 (GR)
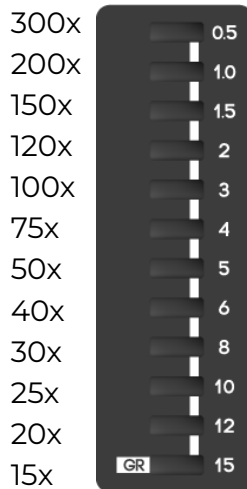
If the detector type is non variable then the second fastest detector rate will be set to a fixed rate by the attack weight control. If the second fastest detector is the slow RMS detector in one of the dual modes then it uses the following table:

Rate	LED
1200 ms	0.5
800 ms	1.0
600 ms	1.5
400 ms	2
320 ms	3
240 ms	4
200 ms	5
160 ms	6
120 ms	8
90 ms	10
60 ms	12
45 ms	15 (GR)

If the second fastest detector is the RMS detector then it uses the following:

35 ms	0.5
30 ms	1.0
25 ms	1.5
20 ms	2
15 ms	3
10 ms	4
5 ms	5
2.5 ms	6
2 ms	8
1.5 ms	10
1 ms	12
500 us	GR 15

Release Weighting

Enigma right, white.

Release Weighting for Single Detector Modes

This changes the release speed as the amount of gain reduction increases, top LED means the release speed is slowing with more gain reduction, bottom LED means the release speed is increasing with more gain reduction.

4.0x	0.5
2.0x	1.0
1.0x (Mid)	1.5
0.66x	2
0.56x	3
0.3136x	4
0.175x	5
0.0983x	6
0.055x	8
0.03x	10
0.017x	12
0.009x	GR 15

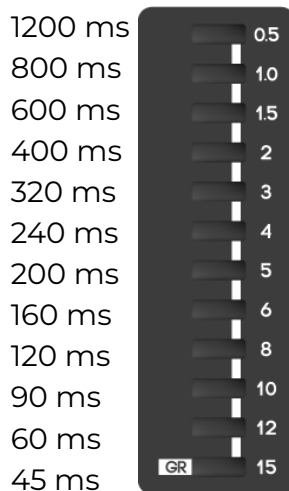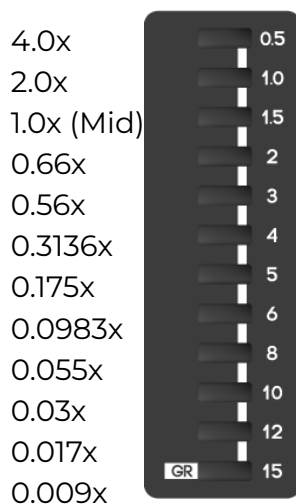### Release Weighting Multi Detector Modes

This changes the behaviour of the second fastest detector, in the triple detector this would be the RMS detector.

If the detector type is variable with the release pot this changes the multiple of the peak release rate i.e. if peak release set by release pot is 10us, release weight is set to a multiple of 100 then the RMS detector will have a release of 100 x 10us = 1ms. These multiples map to the LEDs per this table: Top to bottom LEDs attack peak to rms attack ratio (top LED is slowest attack):

5.0x	0.5
4.636x	1.0
4.272x	1.5
3.909x	2
3.545x	3
3.181x	4
2.818x	5
2.454x	6
2.090x	8
1.727x	10
1.363x	12
1.0x	GR 15
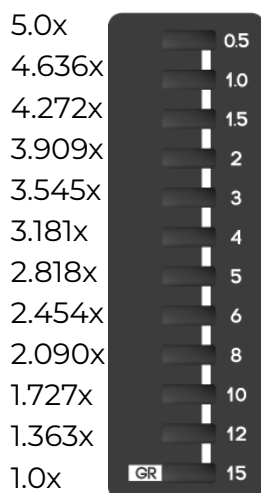
If the detector type is non variable then the second fastest detector rate will be set to a fixed rate by the release weight control. If the second fastest detector is the slow RMS detector in one of the dual modes then it uses the following table:

5000 ms	0.5
4000 ms	1.0
3000 ms	1.5
2000 ms	2
1000 ms	3
750 ms	4
500 ms	5
250 ms	6
150 ms	8
100 ms	10
75 ms	12
50 ms	GR 15

If the second fastest detector is the RMS detector then it uses the following:

1000 ms	0.5
850 ms	1.0
700 ms	1.5
600 ms	2
500 ms	3
350 ms	4
250 ms	5
200 ms	6
150 ms	8
100 ms	10
75 ms	12
50 ms	GR 15

Hold

Enigma right, green.

Hold is the period of time that the gain reduction is held for before the release starts. This is useful to avoid wave shaping distortion for low frequencies. The default value for all the compression modes is sufficient to avoid wave shaping distortion of the lowest bass lines and kick drums. If you use the SCF at 200 Hz then you could get away with shorter hold times, whilst still avoiding the bass frequency waveshaping.

Example parameter values:

Shortest hold time	Long hold time	Longest hold time
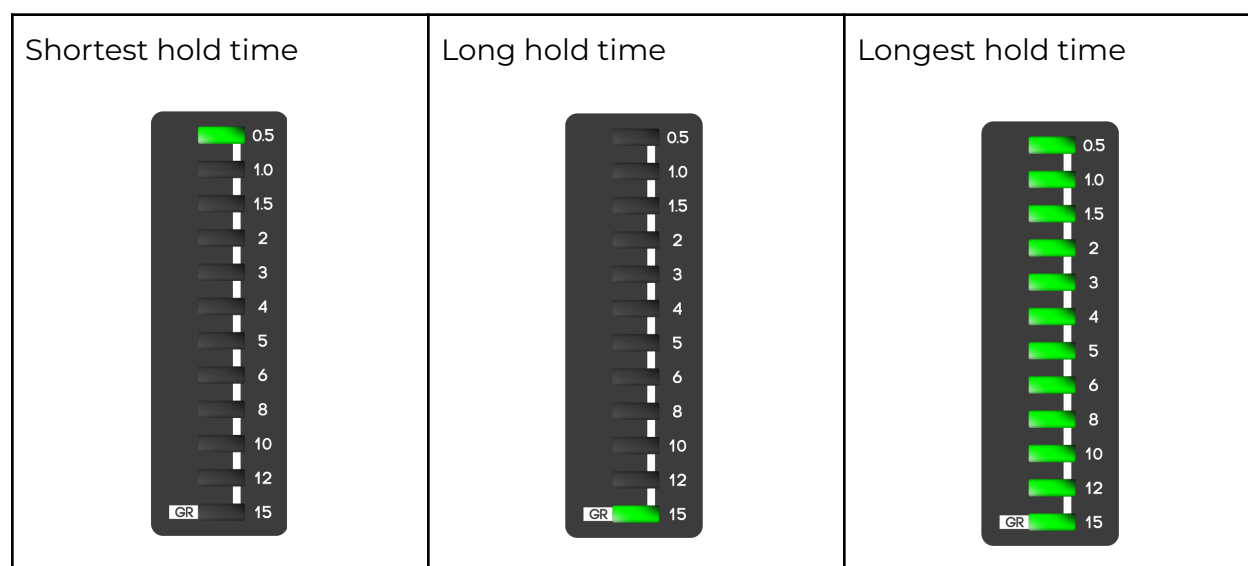
Lookahead

Enigma right, yellow.
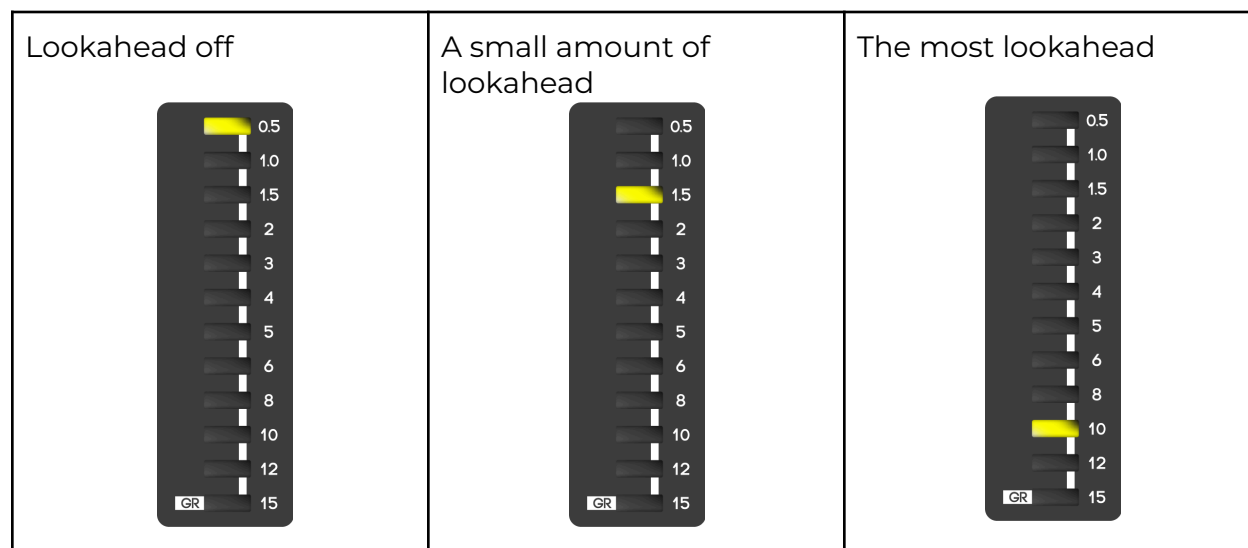
We know this sounds impossible! But believe us, this is an analogue lookahead that can give up to a quarter wavelength prediction, achieved using an array of special filters with a negative group delay for a narrow frequency band.

Example parameter values:

Lookahead off	A small amount of lookahead	The most lookahead

LED Brightness

Enigma right, magenta.
LED Brightness adjusts the LED brightness for all LEDs on the hardware.

Bypass and DIP Switch Settings

The IN button toggles the module in/out of circuit. When bypassed, LED is off. DIP switches on the side of the PCB allow further behavior control:

- SYNC MODE: UP = TRS, DOWN = Optosync
- SYNC TRIM CONTROLS: UP = Off, DOWN = On
- SYNC IN/OUT SWITCH: UP = Off, DOWN = On
- INPUT GAIN BYPASS: UP = Input gain active even when bypassed.
- OUTPUT GAIN BYPASS: UP = Output gain active even when bypassed.
- ENIGMA ACCESS: UP = Enigma accessible via long press. DOWN = disabled.

State Recall

Each compression mode will remember its last used state, even after a power cycle. Pot positions always dictate current parameter state.

Reset

Full reset — Momentary Switch left long press (15 seconds) resets the entire unit back to default settings (including changing mode to Glue and turning the SCF off). Pop positions will be picked up at their current state.

Mode reset — Momentary Switch right long press (7 seconds) resets the settings of the currently selected mode. Pop positions will be picked up at their current state.

Safety and Compliance Information

Please read all safety instructions before operating the Brick Lane 500. Do not operate near water or heat sources. Only use in a certified 500 Series rack. Disconnect during lightning storms or long periods of inactivity.

This unit is CE, FCC, and RoHS compliant. For WEEE disposal and compliance documents, visit www.cranborne-audio.com.

GENERAL SAFETY
- Read these instructions carefully
- Make sure to operate this device with the correct mains voltage
- Ensure this device is always connected to ground
- Do not expose this device to rain or moisture
- Do not use this device near water
- Ensure this device is at room temperature and free of condensation prior to operation
- Surfaces of this device may become hot during operation
- Ensure this device receives ample ventilation
- Do not apply excessive force when installing this device
- Ensure the power is disconnected before installing or removing this device
- Ensure all static electricity is discharged prior to installing this device

CERTIFICATION
This unit is CE and UKCA compliant.

ELECTROMAGNETIC COMPATIBILITY
EN61000-3-2:2014 class A, EN61000-3-3:2013, EN55032:2015, Class B, EN55016-2-1:2009 A1 2011, EN55016-2-3:2010 A1 2010, EN55035:2017, EN61000-4-2:2009, EN61000-4-3:2006 A1 2008 A22010, EN61000-4-4:2012, EN61000-4-5:2014*A1 2017*, EN 61000-4-6:2014, EN61000-4-11:2004 A1 2017, FCC Part 15B Class B, ANSIC 63.4:2014, ICES-003 Issue 7: Class B

Audio input and output ports are screened cable ports and any connections to them should be made using braid-screened cable and metal conductor shells in order to provide a low impedance connection between the cable screen and the equipment.

WARNING: OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL ENVIRONMENT COULD CAUSE RADIO INTERFERENCE.

INSTRUCTIONS FOR DISPOSAL OF WEEE BY END USERS IN THE EUROPEAN UNION
The symbol shown here, which is on the product or on its packaging indicates that this product must not be disposed of with other waste. It is the user's responsibility to dispose of their waste equipment by handing it over to a designated collection point for recycling waste electrical equipment and electronic equipment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or where you purchased the product.

RoHS NOTICE
Cranborne Audio complies with and this product conforms to European Union's directive 2011/165/EU on Restrictions of Hazardous Substances (RoHS)as well as the following sections of California law which refer to RoHS, namely sections 25214.10, 25214.10.2, and 58012, Health and Safety Code Section 42475.2, Public Resources Code.

FCC CERTIFICATION
Do not modify this unit! This product, when installed as indicated in the instructions contained in the installation manual, meets FCC requirements. Important: this product satisfies FCC regulations when high quality shielded cables are used to connect with other equipment. Failure to use high quality shielded cables or to follow the installation instructions may cause magnetic interference with appliances such as radios or televisions and will void your FCC authorisation to use this product in the USA.

WARNING: CANCER AND REPRODUCTIVE HARM.
WWW.P65WARNINGS.CA.GOV