

STOCK DISTORTION OVERVIEW

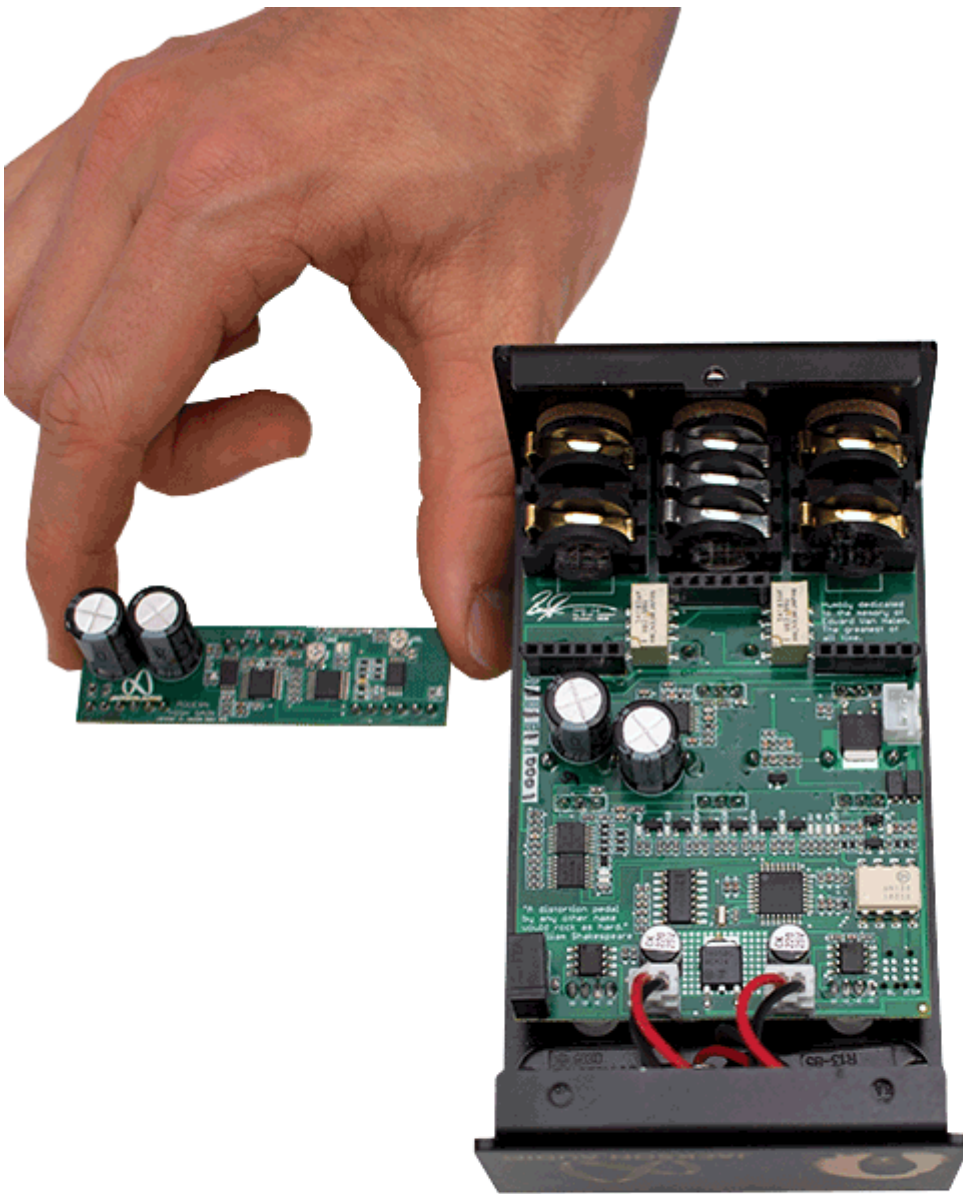
The stock distortion plug-in of the ASABI is called the MODERN HIGH GAIN and is a high-gain, hard-clipping circuit that is based on the Marshall JCM800. Because of this, the resulting tone is very open, crisp and addictingly fun to play! Everything from 80's hard rock to more modern high gain tones can easily be found in the ASABI!

TRUE ANALOG PLUG-INS

The most groundbreaking feature of the ASABI, is that we developed the technology to create true analog distortion plug-ins! These plug-ins allow you to completely change the distortion circuit in the ASABI without having to buy a completely new pedal! These are not software updates that load a different preset; they are completely analog circuit boards that contain all the opamps, transistors, diodes, resistors and capacitors that make up a distortion pedal!

The ASABI comes preloaded with the MODERN HIGH GAIN plug-in. This plug-in harnesses the power and gain of the legendary JCM800 amplifier and puts it into pedal form! Depending on where the GAIN knob is set, the MODERN HIGH GAIN plug-in will do everything from classic rock to the heaviest rock known to man!

Because we all like to try out new pedals, these affordable plug-ins allow you to buy the pedal once and update it with new modules all the time!



DISTORTION PRESETS

The ASABI allows for 4 different presets of clipping diodes which themselves drastically alter the tone and feel of the way the distortion clips.

To select a clipping preset, press and hold the DIST footswitch for more than 1 second and the clipping program mode will become active. When in this mode, the DIST led will flash to indicate that you are in programming mode. A quick tap

on the DIST footswitch will cycle the clipping presets and you'll be able to hear these presets change as you cycle through them, assuming that the drive circuit was active when the clipping program mode was entered. Once you arrive at a distortion preset that you want to use, press and hold the DIST footswitch for more than 1 second and clipping program mode will exit.

Preset 1 - AMBER: Guv'nor Style.

Two LED's are used to symmetrically clip the top and bottom portions of your guitars waveform evenly. The LED's allow MUCH higher headroom so your tone will stay more open and less compressed much like a vintage Marshall.

Preset 2 - GREEN: 808 Style. Two symmetrical silicon diodes give the classic drive and compression that the 808 is known for.

Preset 3 - BLUE: ASYMMETRIC HIGH GAIN. Three asymmetric diodes (two silicon and one LED) will clip the top and bottom portions of your guitars waveform differently resulting in a more complex and interesting tone. This sounds great when laying down aggressive rhythm parts!

Preset 4 - MAGENTA: SYMMETRICAL HIGH GAIN. Four symmetric silicon diodes will clip the top and bottom



portions of your guitars waveform evenly which gives a more focused and direct tone.

Changing clipping diodes are a great way to radically change how a distortion pedal sounds and feels but oftentimes the change that you perceive has more to do with a change in volume than an actual change in tone....until now!

When we were designing the ASABI we knew we wanted to give the distortion section a lot of tonal flexibility and most importantly make that flexibility useful on stage. So when changing clipping presets we included circuitry that level matches the output of the pedal as various clipping diodes are selected. So now you can select between all four clipping options, your volume level will remain constant. More importantly, the difference that you hear between the clipping presets will be because of the difference in how those clipping diodes sound and not because your volume is jumping all over the place as it does with other designs.

GAIN CYCLE

GAIN CYCLE takes the GAIN knob setting, which selects your maximum gain, and divides that level of gain into 4 equal parts. Say for instance you have your GAIN knob set at the maximum setting or in other words, 100% gain. Every time you *press both footswitches simultaneously*, the gain of the pedal will jump up 25% until you get to 100%. The following press after 100% will cause the gain cycle to start again at 25%.

TIP: Set the GAIN control to around 3:00+ to have 4 distinct distortion settings as you cycle through the gain!

My goal with the GAIN CYCLE feature is to allow guitarists to

easily ramp their gain up without having to bend down and change it or try to adjust it with the edge of their foot while playing live. Here's a perfect use case!

Let's assume the GAIN control is set to 100%

Verse 1 – Gain cycle set at 25% – Lightly distorted tone.

Press GAIN CYCLE

Chorus – Gain cycle set at 50% – Distinct distorted tone.

Press GAIN CYCLE

Bridge – Gain cycle set at 75% – Heavy distorted tone.

Press GAIN CYCLE

Solo – Gain cycle set at 100% – Heavily saturated distorted tone!

TIP: Add the DRIVE to push the overdrive even harder for endless sustain!

It's important to remember that GAIN CYCLE setting #4 (100%) will be as much gain as you have the



GAIN knob set for. Think of the GAIN knob on the ASABI as your *maximum* gain with each GAIN CYCLE setting being a percentage of that maximum value.

The brightness of the DIST led will change to let you know which percentage of gain you have selected. The higher the percentage, the brighter the DIST led. For instance:

GAIN CYCLE #1 – DIM LED – 25% of GAIN knob value.

GAIN CYCLE #2 – BRIGHTER LED – 50% of GAIN knob value.

GAIN CYCLE #3 – BRIGHT LED – 75% of GAIN knob value.

GAIN CYCLE #4 – VERY BRIGHT LED – 100% of GAIN knob value.

3-BAND ACTIVE EQ

To top it off, the distortion circuit of the ASABI has a 3 band active EQ. The EQ circuit features a studio grade EQ that gives tremendous tonal flexibility to the ASABI. Based on the legendary Baxandall EQ that is featured in countless studio EQ's, the ASABI EQ takes this circuit and tailors it for guitarists!

DRIVE OVERVIEW

To push the distortion even further into clipping, and to cut through the mix perfectly on its own, the overdrive side of the ASABI features an incredibly touch sensitive overdrive circuit. Designed for maximum transparency, the overdrive on the ASABI is completely flat in its frequency response with no mid hump or unnatural artifacts. The ASABI overdrive is your tone, perfectly pushed.

This circuit, which is in its own true bypass loop, can be used independently of the distortion circuit and is very useful for boosting the front end of the distortion circuit for even higher gain.

Just like the distortion side, the overdrive circuit in the ASABI features 4x clipping options to perfectly dial in your overdriven tones.

To select a clipping preset for the overdrive channel, press and hold the DRIVE footswitch for more than 1 second and the clipping program mode will become active. When in this mode, the DRIVE led will flash to indicate that you are in programming mode. A quick tap on the DRIVE footswitch will cycle the clipping presets and you'll be able to hear these presets change as you cycle through them, assuming that the drive circuit was active when the clipping program mode was entered. Once you arrive at a overdrive preset that you want to use, press and hold the DRIVE footswitch for more than 1 second and clipping program mode will exit.

Preset 1 - AMBER: Vintage Marshall.

Two RED LED's are used to symmetrically clip the top and bottom portions of your guitars waveform evenly. The LED's allow MUCH higher headroom so your tone will stay more open and less compressed much like a vintage Marshall.



Preset 2 - GREEN: Classic Screamer.

Two symmetrical silicon diodes give the classic drive and compression that the Tube Screamer is known for.

Preset 3 - BLUE: Asymmetric

Clipping. Three asymmetric diodes (two silicon and one red LED) will clip the top and bottom portions of

your guitars waveform differently resulting in a more complex and interesting tone. This sounds great when laying down aggressive rhythm parts!

Preset 4 - MAGENTA: Symmetrical Clipping. Four symmetric silicon diodes will clip the top and bottom portions of your guitars waveform evenly which gives a more focused and direct tone. Two notable pedals that uses this style of clipping are the Timmy and the King of Tone.

MIDI FEATURES

It's 2020 and it's time to expect more from an analog pedals! Since the BROKEN ARROW came out in 2019, our more advanced overdrive pedals have featured MIDI control over clipping presets, gain cycle options, drive eq options as well as ON/OFF of the overdrive and drive circuits and the ASABI is no exception.

We always want to make sure that our pedals are as easy to integrate into complex rigs as they are into simple rigs and MIDI makes that happen!

CABLE INFORMATION: In order to use MIDI on the ASABI, you will need a cable that converts a MIDI (DIN-5) connector to a TRS cable. This is the cable that we have used with great success and can't recommend it enough.

<https://www.disasterareadesigns.com/shop/p/mj-5p-midi-cable>

For those building their own cables, the ASABI receives MIDI information via the RING connection on a TRS (Tip, Ring, and Sleeve) connector.

Check out this link for more detailed wiring: <https://www.midi.org/articles-old/trs-specification-adopted-and-released>

MIDI CHANNEL

By default, the ASABI ships with MIDI Channel 1 being the selected channel. This can be changed by pressing and holding the DIST footswitch while applying power to the ASABI. Press the DRIVE footswitch to increment the MIDI channel number.

You'll notice that as you continue to hold the DIST footswitch, the DRIVE LED will flash to indicate which MIDI channel you have selected. IE - 7 flashes = MIDI Channel 7. After the LED flashes, we inserted a 2-second pause so you could tell when the LED was finished flashing. The LED will continue flashing as long as you are holding down the DIST footswitch. Once you have selected the MIDI channel you want and have verified it by counting the flashes, simply release the DIST footswitch and the pedal will save this MIDI Channel to the internal EEPROM on the microprocessor and reboot.

MIDI DETAILS

Accessing the MIDI features of the ASABI is done by Control Changes. Below is a list of the features of the ASABI that can be accessed via MIDI as well as how to access them.

CC #1 - DIST ON/OFF (value of 127 = ON value of 0 = OFF)

CC #2 - DRIVE ON/OFF (value of 127 = ON value of 0 = OFF)

CC #3 - DISTORTION CLIPPING PRESETS

(value of 1 = Guv'nor Style)

(value of 2 = 808 Style)

(value of 3 = Asymmetric High Gain)

(value of 4 = Symmetric High Gain)

CC #4 – GAIN CYCLE

(value of 1 = 25% GAIN)

(value of 2 = 50% GAIN)

(value of 3 = 75% GAIN)

(value of 4 = 100% GAIN)

CC #5 – OVERDRIVE CLIPPING PRESETS

(value of 1 = Vintage Marshall Style)

(value of 2 = Tube Screamer Style)

(value of 3 = Timmy Style)

(value of 4 = King of Tone Style)



VOLUME

Acts as a master volume for the distortion circuit.

PRES

Acts as an overall tone control for the distortion circuit. Can be used as a master tone to adjust the pedal to brighter or darker rooms. The higher this control is run, the higher the gain and brighter the overall tone.

GAIN

Sets the maximum gain for the distortion circuit.

BASS

The 12:00 position is totally flat with +/-20dB drive/cut on either side of center.

MIDDLE

The 12:00 position is totally flat with +/-20dB drive/cut on either side of center. The mid frequency is centered around 660hz.

TREBLE

The 12:00 position is totally flat with +/-20dB drive/cut on either side of center.

VOL

Acts as a master volume for the overdrive circuit.

STONE

Sets the tone of the overdrive circuit. Righter is brighter.

DRIVE

Sets the maximum gain for the overdrive circuit.

TECHNICAL SPECS

- True Bypass (relay) for each channel
- Input Impedance: 1M
- Output Impedance: 100k
- Power Supply: DC
- Voltage Input: 9V MAX
- Polarity: Center Negative
- Min Current Required: 120mA
- Dimensions: 2.7" x 4.875"