



## MEGALITH DELTA HIGH GAIN DISTORTION

### INTRODUCTION

G'Day! Congratulations on purchasing version one of the new MI Effects Megalith Delta High Gain Distortion pedal. As you may know, the Megalith Delta is part of the high gain MI Audio voyage that all began with the MI Amplification Megalith Beta 180W monster. It took some time for me to really understand the variables behind great high gain tones, but by designing the Megalith Beta from the ground up, I was able to really grasp how to make a complex, sophisticated high gain sound that kept all the nuances, huge bottom end and the clarity and character of the top end. All of these tricks and secrets have now passed onto pedal form, the Megalith Delta.

The Megalith Delta pedal is a solid state 'model' of the Beta preamp, using JFETs to simulate the gain stages of the preamp valves. The transfer characteristics of FETs are very tube-like, so it seemed that this was a great place to start. However, making a FET stage behave like a *particular* tube stage is a very complex affair. Often, it's just the exact same circuit as the 'simulated' amp, but with FETs instead of tubes, adjusted source or drain resistances, and 9V operation. Little or no thought is often given to the operating points, dynamic range, scaling of clipping thresholds, output impedances, and intrinsic capacitances due to things like the miller effect etc.

In a nutshell, I was able to feed all these parameters into the Megalith Delta design, and come up with something which is as close as humanly possible to the original. Because of this attention to detail, I really feel the Delta will deliver all of the brutal, articulate and sophisticated tones the Megalith name has become synonymous with.

### FEATURES

#### GAIN CONTROL

The Megalith Delta starts in mid-gain territory. **THIS IS A HIGH GAIN PEDAL! BACK AWAY NOW IF YOU ARE SEARCHING FOR THE VINTAGE BLUES TONES!** The GAIN control offers a wide sweep in gain, from solid rock tones, to serious crunch, to every dark shade of brutal imaginable.

The stock, un-boosted tone is very fat in the low mids and is the Megalith's thickest tone. This is a great mode for getting the punchiest rhythm sounds.

The GAIN control has a responsive interaction with each of the three EQ options (EQ SWITCH, CONTOUR, and THREE BAND EQ), allowing you to dial in, for example a slightly woolly tone at minimum gain, and with flat-out brutality at maximum.

#### GAIN BOOST

The second footswitch of the pedal, BOOST, takes the pedal from a mid-gain base to its highest gain. This footswitch is equivalent to flicking over to the HIGH GAIN setting on the Megalith Beta amplifier. This BOOST mode not only adds more gain, but also tightens the response up considerably, with more of an upper mid emphasis.

I thought by adding this gain boost as a foot switch, it gives you the option to really step up the crazy. I also figured that mid to high switching was a lot more useful than low to high, as there are already plenty of great options out there for the lower gain sounds. Let's face it, someone interested in the Megalith Delta isn't going to be too stressed about missing the low gain mode!

*TIP: I recommend dialling in a mid-gain tone with gain between 11 and 3 o'clock to get the most out of the BOOST mode. This allows you to set up a rhythm/lead sound with the added upper mids and tightness giving you extra harmonics and saturation.*

#### CONTOUR

The contour control is another unique feature of the Megalith design. In the Megalith Beta amplifier; it affects the frequency response of the phase inverter in the power amp. I went to a lot of effort to recreate the CONTOUR control in the Megalith Delta pedal to mimic this response by designing a phase-inverter like stage, and integrating the CONTOUR control into it.

Fully clock-wise, it's fat and midrangy, with a slightly rolled off top end. As the CONTOUR control is turned down, the mids start to scoop out, and the sub-bass frequencies tighten up. This is a great control for further refinement of the overall high gain tone. You can also think of this as an alternate midrange control. Try running the MID EQ control high and the CONTOUR low (also adjusting the EQ shift), and visa versa for a huge range of tones.

#### BASS, MIDDLE, TREBLE AND EQ SHIFT SWITCH

The combinations of the EQ section will give an impressive number of high gain sounds, just like the Megalith Beta amplifier.

The first thing to note about the three-band EQ on the Megalith Delta is that each control has a wider sweep than your typical tone stack. Small changes to these controls can have a large impact on the tone. They are also highly interactive. That is why I recommend using this feature to fine-tune your overall sound. Refer to "How To Dial In Your Sound" later in this manual.

The three position EQ SHIFT SWITCH is a unique feature of the Megalith's tone controls. This switch shifts the EQ's bands, allowing you to control different frequencies. Each position has a particular signature tone, and is useful for different things. The middle position "0" shifts the midrange up, and adds quite a bit of low-mids to the sound. This is great for really fattening up the tone, and works particularly well with boost pedals. Position "1" voices the tone stack closer to a traditional British voicing. There's still a good amount of midrange in the tone, but the tone is more balanced. Position "2" is more of a traditional American voicing, with a more scooped and shifted midrange.

*A tip for live playing is to use only as much bass as you need. Going easy on the bass will help keep your tone tight, and by keeping a healthy amount of mids and treble, you will sit better in the mix.*

## OUTPUT SECTION

A big part of the Megalith Beta amplifier's huge gain sound is the 160 Watts of headroom! Of course, this would always be the limitation in trying to emulate a high gain amplifier to stomp box form. But by adding voltage doubling circuitry in the Megalith Delta pedal, it allows the 9V supplied by battery, or DC adaptor, to be increased to 18V within the pedal's circuitry. This has the advantage of producing the crushing low end without mush, much like the 160W output of the Megalith Beta does at the amp level.

Finally, I designed an output section which is designed to 'compensate' for the standard guitar amp's clean channel response, so that when you plug the Megalith pedal into a 'reference' clean amp, you get something close to the feel of the Megalith Beta. Having said that, one of the main aspects of the Megalith Beta's 'presence' is the sheer headroom and output power it has. So no, you probably won't unleash carnage and devastation plugging a Megalith Delta into a 5W lunch-box amp. That's just the physics of it,... a reality more inviolable than the existence of fragile harmonics in a crystal lattice.

## NEW FEATURES in V2

### GAIN TRIM

One of the interesting things with the Megalith Delta v.1 is that it has so much gain, that one of the only complaints we received was that guitarists wished there was a way to tone down the gain! So With this new revision, I have added an internal gain trim to tone down the gain of the pedal. For reference, the original Megalith had the gain trim set to 'more'.

### SPEAKER SIMULATED OUTPUT

The new Megalith features a stereo output jack. The tip carried the regular pedal signal, while the ring carries a speaker simulated output. The response of this speaker simulation is modelled on our own quad box loaded with customised Eminence Wizard speakers. By utilising a stereo Y-splitter cable, you can access one or both of these signals. So you could use the ring signal on its own for direct recording, the tip on its own for plugging in straight to the amp, or both for simultaneous applications (e.g live when you don't want to mic the amp up).

If you just want to use the pedal like usual, a regular guitar cable will do (there's no need for a stereo cable). But if you want to use the speaker simulator, you'll need a stereo cable. If you want to use the speaker simulator on its own, just make sure that you don't ground the tip of the cable, otherwise you'll mute the pedal completely.

*Using the speaker simulator: You may need to play around with the pedal settings when using the speaker simulator due to the natural EQ of the speaker simulator. Thankfully, there's enough scope in the Megalith's controls to allow that. But if you're running both dry as well as speaker simulator signals at the same time, you may need to make EQ adjustments to your amp or mixing desk to get the right balance of tone for the two signals.*

## HOW TO DIAL IN YOUR SOUND

This section aims to guide you through dialling in a full metal sound straight away after pulling the Megalith Delta out of the box. If you are a true brutal, death-metal, dragon-slaying guitar god, you would have thrown out the manual by now, but for those still reading follow these few steps. It's a good idea to start with everything at 12 O'clock, with the EQ Shift set to "1". From there, follow this sequence:

☠ If you require more low mids, set the EQ shift to "0". If you need less, set it to "2".

☠ Adjust the CONTOUR control to adjust the body of the tone; clockwise brings in more mids and gives a fat, vintage tone, anti-clockwise scoops the mids for a modern, tight chug. As you pull the CONTOUR back and the mids decrease, compensate by increasing the VOLUME control.

☠ Set the GAIN between 11 and 3 with BOOST off. This will give you the most out of the BOOST mode.

☠ Finally, use the three band EQ to fine tune the tone.



## POWERING THE PEDAL PLEASE READ CAREFULLY!!!

### THE MEGALITH DELTA PEDAL RUNS OFF 9V ONLY. REPEAT. ONLY USE A 9V BATTERY OR 9V DC POWER ADAPTOR.

The Megalith Delta is designed for 9v, and will not run better at higher voltages (for technical reasons). In fact you can cause damage to the circuit if a higher voltage is applied.

The 9 volt DC port (which accepts a standard barrel jack with a Negative centre pin.) or 9V battery may be used. If using battery to power the Megalith Delta, and the pedal begins to sound different, please monitor the voltage of the battery with a multimeter and/or replace the battery with a new one.

If using a battery, the pedal is powered when a plug is inserted into the input jack. So when not in use, disconnect the input plug to maximise battery life.

To access the battery, unscrew the 4 screws at the bottom of the pedal and remove the bottom plate.

## REGISTRATION & WARRANTY

To register your pedal, you can email your name, contact details, purchase date, and retailer details along with the pedal serial number to: [register@miaudio.com](mailto:register@miaudio.com)

Alternatively, you can send the above information to the postal address on the front of this manual. **PLEASE REGISTER YOUR PEDAL.** In the long run, it will be difficult to have your pedal serviced if you need to if the pedal is not registered.

This pedal carries a 5 year warranty that covers all repairs due to manufacturer error. It does not cover any damage due to user mishandling, shipping, acts of God, and abuse. The owner should contact MI Audio directly for all repairs, and any work done by anyone other than MI Audio voids the warranty. All shipping costs are the responsibility of the owner, and are to be paid in advance of any work performed on the pedal. The owner may be asked to provide a copy of the sales receipt for verification.

### DISCLAIMER

The owner or user assumes responsibility for death, injury and/or damages relating to the operation of this device. MI audio assumes no responsibility for death, injury or damages relating from the operation of this device. I am always thinking of ways to improve things, so all specifications are subject to change without notice.

### STAY BRUTAL \m/

Once again, I hope you enjoy the Megalith Delta high gain distortion. Please feel free to contact me with product feedback (excuse the pun), or for any general enquiries.