

Tube Zone Overdrive

Owner's Manual

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Introduction

Hi there! Congratulations on purchasing one of the sweetest overdrive pedals available today, the *Tube Zone Overdrive* by **MI Audio**. Each pedal is completely built by hand in Sydney, Australia by me, Michael Ibrahim.

The Tube Zone is the culmination of over a decade's worth of pedal design experience. The Tube Zone design itself was first conceived in 1995, and has been optimised and seriously road tested since then. Since the inception of the original Tube Zones, I've been working on and off building these pedals. Word of these little gems spread among the musician in Sydney, Australia, and by the beginning of 2002, the pedal had developed a bit of a cult following among Sydney's guitarists.

So taking the plunge in 2002, I formed **MI Audio**, in order to make my creations available to the public at large. The company is dedicated to the highest quality of design, construction and assembly,... the kind of quality you can only get from a hand-made manufacturer.

Please take the time to read this small manual, since the Tube Zone is a little bit more complex than a standard overdrive pedal. For best performance, you need to do a setup procedure, which involves setting up the **internal trim controls**, which can be found at the end of the manual.

Features

Drive Control

The **drive** stage of the Tube Zone is the real secret to its sound. In order to mimic the signal flow of a tube amp, the Tube Zone was designed with multiple gain stages. Each gain stage has its own unique frequency response designed to approximate the frequency responses of a preamp and power amp section of a tube amp. In total, the signal is clipped 4 times using a variety of different techniques. This is exactly what you get in a modern tube amp.

The drive control controls the amount of gain in all gain stages. The resulting tone is very touch sensitive. Attack is quite complex and focused, and sustained notes 'bloom'. All these features are very reminiscent of a good tube amp.

With the drive turned down low, you can get some beautiful warm blues tones, without the buzziness that a lot of pedals seem to suffer from. Turn the drive up a bit and this thing starts to seriously bite. With the drive turned up high, this pedal gets brutal! One of the most impressive aspects of this pedal is that it stays tight and focused like a good tube amp, although if you want to you can muddy things up a bit with the internal **character** control.

Back off the volume on your guitar, and the sound cleans up beautifully. But perhaps the most impressive feature is the pedal's tonal integrity. Each guitar, and each pickup on the guitar retains its own character, no matter how much gain you dial up.

Tone Control

Despite the straight forward useability of the single knob tone control, there's a lot more going on than meets the eye.

Unlike most overdrive and distortion pedals whose tone control is generally nothing more than a basic low pass filter, the Tube Zone utilises a complex circuit which controls both the high and low frequency content of the signal. With the tone control turned fully anti-clockwise, the lower frequencies are boosted, whilst the higher frequencies are attenuated. As the tone control is turned clockwise, the low frequency content begins to decrease, whilst the high frequency content begins to increase. With the tone control turned fully clockwise, the high frequency components dominate.

This design provides the effective flexibility of a multi-band EQ in a single control. It will by no means replace the EQ on your amp, but it will certainly help you get quite close to the tone you're after, which you can then tweak with your amp's tone control. The range of the tone control has been carefully tuned to be useable over the whole range of settings. This flexibility, coupled with the extra range of tones available from the tone mode switch gives the Tube Zone the ability to cover almost all styles of music.

One of the new features of the new Tube Zone is an increased tone control range. The tone control now has more bass and treble at either end of the control sweep, allowing for a wider sweep and more extreme range of tones.

Volume Control

The classic class A output stage of the Tube Zone is not only designed for low impedance output, but also for high output levels. In fact, when the volume is turned up full, the output signal can swing over a 15V range!!! That's a serious amount of boost! In fact, the output volume of the Tube Zone has slowly increased. The current Tube Zone is 6 times louder than the original Tube Zone. This makes the Tube Zone useable not only as an overdrive pedal in its own right, but can also be used as a booster pedal to overdrive the input stage of a guitar amplifier. To take full advantage of this increased output volume, you should power the Tube Zone with a higher DC voltage power supply. The Tube Zone can use up to 25V DC power supply. But don't worry, if you don't need all that output, running off 9V is just fine. The newly redesigned output section ensures that the sound of the pedal stays just as tight and focused (if not more than the old TZ), over all operating voltage ranges.

Internal Controls

One of the main differences between the new Tube Zone and the older models is the inclusion internal trimmer controls. These controls add even more flexibility to an already awesome package, but allowing you to tailor the sound of the pedal to your specific needs.

Brightness

The first of the internal trim pots is the **brightness** control. As the name implies this trim pot adjusts the brightness of the pedal. It is located near the end of the signal chain, and will not affect the character of the overdrive. I decided to add this control since guitar amps can vary greatly in terms of how bright they are. In the original Tube Zone, I tested the pedal with a whole bunch of amps, and set the pedal up so that the brightness was suitable with as many amps as possible. However, every now and then, an amp would come along that was just too bright or too dark, and the sound of the Tube Zone just wouldn't work. For example, I tried the Tube Zone through a friend's Carvin X100B (great amp,...), only to find that it sounded very shrill. I opened up the amp and checked out the clean channel circuit to find that the clean channel was designed with approximately 30db of high frequency boost!

So as a result, I decided to add the brightness control on the Tube Zone. This should be adjusted to suit your amp.

To set the brightness of the pedal, take off the back cover of the Tube Zone, and turn all the tone control to 12 o'clock. Set the drive to a typical setting, and the volume where you like. It is best to do this the amp set up the way you like it. The brightness control is the trim pot closest to the volume control. Adjust the brightness control while playing the guitar. Keep doing this until you find a setting that matches your setup and taste. Now, you have the brightness of the pedal just right, and you still have the tone control to play with.

Character

The second trim pot is something that I'm very excited about. It's something that I call a **character** control. To understand what this does, you'll have to bear with me while I explain the process of clipping.

Vintage guitar amps had a relatively flat frequency response. This is a large part of the 'warmth' of the vintage clean sound. As guitar players began to turn up their amps, and they started to distort, the amps would develop a bit of an edge, which sounded pretty cool. However, if you *really* push one of those old amps over the top (like with a 'flat' booster), they sound pretty muddy and unfocused. Not cool.

Enter the treble booster. By amplifying higher frequencies more than lower ones, treble boosters could overdrive tube amps to get a huge overdrive sound while retaining a large degree of character. This is because when low frequency signals distort too much, they actually sound quite muddy. So the basic principle for getting a good overdrive sound was to reduce the amount of low frequency signals being overdriven. This principle made its way into pedal design as well, and many of the great overdrive and distortion pedals do exactly that. They employ a low cut filter before the clipping stage to reduce the amplitude of low frequency signals. This is also what the old Tube Zones did.

Now for the new Tube Zone, I experimented with a new idea. We know that keeping the bass under control helps with clarity, but what if you want that big, fat, almost fuzzy sound of those old amps? Well, what you'd have to do is add more bass to the *pre-clipping* stage. This is precisely what the character control does.

Please don't think of this control as a bass control like you'd use on an EQ. This control is much more subtle than that. It really controls the character of the overdrive. At one end (fully anti-clockwise), you have focused, clear and 'clean' overdrive, which is the sound of the original Tube Zone. At the other end (fully clockwise), you have big, fat, and fuzzy overdrive. You will notice a slight increase in the low end of the signal as you turn this control up. You can compensate for this by turning up the tone control a bit to reduce the bass.

There are no instructions as such for setting up the character control. Do you like your tone tight, focused and modern? Then set the character control low (anti-clockwise). Do you like a bit fat vintage tone? Then set the character control high (clockwise). The character control can be found at the edge of the circuit board to the left of the heavy duty footswitch.

Note: It's a good idea to turn up the pre-overdrive bass (character control clockwise) if you're going to be using the pedal in conjunction with other overdrive pedals. With the character control turned up, it's a good idea to put the Tube Zone last in the chain of overdrive pedals.

Getting the 'Classic' Tube Zone sound.

Piece of cake! Turn the brightness control to 50% and the character control all the way down (fully anti-clockwise).

Tone Mode Switch

The tone mode switch, which is located on the audience side of the pedal, toggles between three modes. This creates extra versatility, allowing the Tube Zone to cover almost all styles of music.

Mode 1 (switch to the right) has a boosted midrange response for the classic overdrive sound.

Mode 2 (switch in the middle position) has a reduced midrange response for more of a 'scooped' modern sound.

Mode 3 (switch to the left) is a new feature, not found on the original Tube Zones, namely an in-between mode, which you can think of as a 'flat' mode.

Other Features

- High quality, heavy duty diecast metal casing.
- Heavy duty footswitch with true bypass.
- 9 volt battery operated.
- 9 volt DC port (which accepts a standard barrel jack with a *Negative centre pin.*) Note that the Tube Zone has been designed to run comfortably up to 25V.
- High intensity blue LED

Sample Settings?

Ahhh,... who reads them anyway?

To Change the Battery

To access the battery, unscrew the 4 rubber feet with your fingers or with a screwdriver and remove the bottom plate.

Registration

To register your pedal, you can email your name, contact details, purchase date, and retailer details along with the pedal serial number to:

registration@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.

Warranty

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.

Have Fun!

Once again, I hope you enjoy your new gadget. Please feel free to contact me with product feedback (excuse the pun), or for any general enquiries.



Michael Ibrahim