Multidrive

Operating Instructions

Check out www.empresseffects.com for instructional videos!

To prevent fire or shock hazard, do not expose unit to rain, swimming pools, or any other moisture.

The unit requires a 9V-18V DC negative tip  power supply connected on the side of the unit. The supply must have a current rating of 120mA or greater. The Standard Boss PSA-120 is a popular choice and works well.

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Introduction

It was with great trepidation that we started developing the Multidrive. It's mind boggling how many choices are out there for messing up your signal. We felt a lot of pressure to do something original that sounded more like an amp than a pedal but was still…Empress.

We feel the Multidrive represents a sexy sonic Swiss Army knife in a sea of clones. There is so much music out there these days that you have to be different to stand out. Our goal with this pedal was to allow you enough control to create your unique sound from a blend of three original sounding circuits.

In the studio we've found that running multiple amps in parallel really allowed us to get creative and complex tones that weren't possible with one amp. The multidrive was created with this amp-stacking concept in mind. We think you'll find the blend is greater than the sum of the parts, in a way that would make Aristotle proud!

To help you get the most out of the multidrive, we've put some brief instructional videos on our website that cover most aspects of this pedal: www.empresseffects.com.

Thanks for purchasing the Empress Multidrive!

Enjoy,

Jason Fee
Lead Designer

Thank You

Ian Chesal for editing this manual and being beta tester alpha.

Jon Chandler, Terrance McAuley, Joe Brownrigg, Matt Colburn and Dan Hay for beta testing.

Special Thanks to Steve Foley at audiovalley.ca studios for the repeated use of his studio

The Basics of the Multidrive

The Empress Effects Multidrive gives you fuzz, overdrive and distortion circuits that can be run simultaneously, in parallel; their individual outputs get blended together to create the final output. You use the gain controls on each block to control how distorted the block sounds and the volume control on each block to control how much of each type of effect appears in the output. The **select** switch allows you select between two combinations of the blocks. For example: in the A state the distortion and fuzz could be engaged and in the B state the fuzz and distortion could be engaged. You can flip instantly between the two states by hitting the **select** stomp switch.

The Three Sections, Described

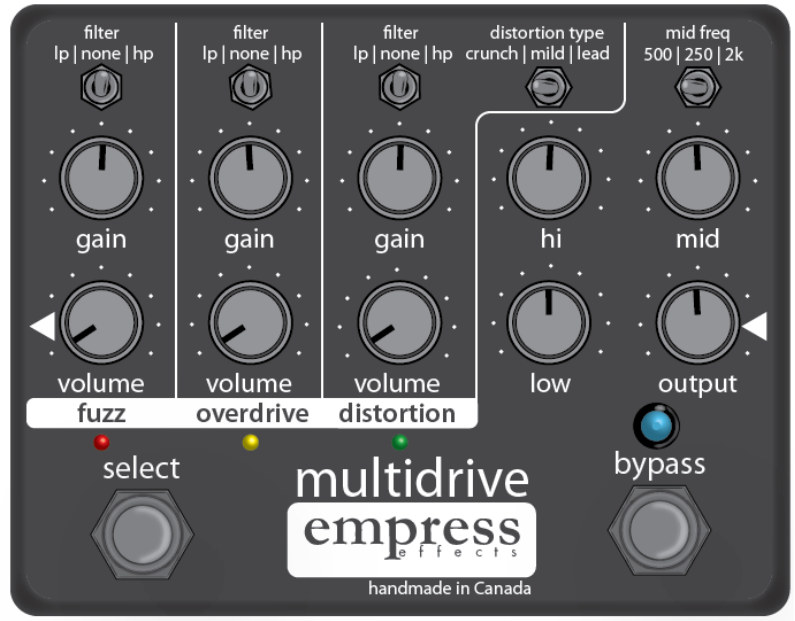
We recommend you disregard these descriptions entirely and form your own opinions by playing with the pedal…but if you insist on hearing us try to describe sonic nirvana here ya go…

fuzz: A classic sounding circuit with loads of gain and sustain. Blending this in will add great note definition to lead parts. On its own it will give you that classic, bursting at the seams kind of sound.

overdrive: A completely original circuit, this overdrive is designed to give you a warm and smooth break-up that cleans up well with changes in volume and attack. It too sounds much like a tube preamp being hit hard.

distortion: Another original circuit that uses a unique marriage of BJTs, FETs, LEDs, standard diodes, and opamps. It's a little bit of gain from a lot of different places. In the mild setting it's focused and is an excellent complement to the overdrive. In the crunch setting it gives you a thick, well-defined sound with a really tight low end. In the lead setting it compresses and gets over-the-top.

Quick Start



Set the knobs and switches to match the picture above. If the blue bypass LED is not already lit, press the **bypass** switch to engage the Multidrive. Now bring up the individual fuzz, overdrive and distortion values to taste. Rock out!

Controls

Fuzz, Overdrive and Distortion Controls

Each of the three sections contain the same set of controls that allow you to customize the sound of the section to meet your needs. The controls are very dynamic and offer a wide range of possibilities to tweak the sound for each section.

gain – controls the amount of break-up.

volume – controls the amount of signal from the section that gets added to the output.

filter – engages a high pass filter (HPF) or a low pass filter (LPF) for this section. This switch allows you to use only the high frequencies of one section with only the low frequencies from another section. For example: you could combine the tight lows of the distortion section with the classic, high frequency, sustain of the fuzz section. The cutoff frequency is 500 Hz for both the high-pass and low-pass filter settings.

Master Section Controls

The master controls apply to the combined signal and can be used to tailor the final sound that leaves the pedal and catapults your ears into another sonic dimension.

There is a slight notch at the 12 o'clock setting on the **hi**, **mid** and **low** knobs that allow you to find the point where the band of the output EQ is flat. Moving the knob counter-clockwise from this point cuts frequencies in the band and moving the knob clockwise from this point boosts frequencies in the band.

hi – controls the amount of high frequency content in the output signal. It is a gentle high shelf filter starting around 3 kHz. The 12 o'clock setting is 0 dB, no boost or cut, and the extreme boost and cut is about 10 dB.

low – controls the amount of low frequency content in the output signal. It is a low shelf filter starting around 150 Hz. The 12 o'clock setting is 0 dB, no boost or cut, and the extreme boost and cut is about 10 dB.

mid freq – this switch allows you to select the center frequency of the middle band of the master EQ.

mid – allows you to add or subtract the frequency selected with the **mid freq** switch. The 12 o'clock setting is 0 dB, no boost or cut, and the extreme boost and cut is about 10 dB.

output – controls the output gain. The point where unity gain is achieved varies and depends on the individual section output volumes.

bypass – puts the pedal in true bypass. The soft-touch switch triggers a mechanical, true-bypass system.

input – a high impedance (Hi-Z) instrument input jack. Input impedance is 1Meg ohm.

output – the output jack. Good stuff leaves from here.

power – the Empress Effects Multidrive requires a 9V DC, 2.1mm, negative tip power supply. Any 9V DC supply that has a current rating of 120 mA or greater will work. The Boss PSA-120 is a popular choice and works well.

Configuring the Select Switch

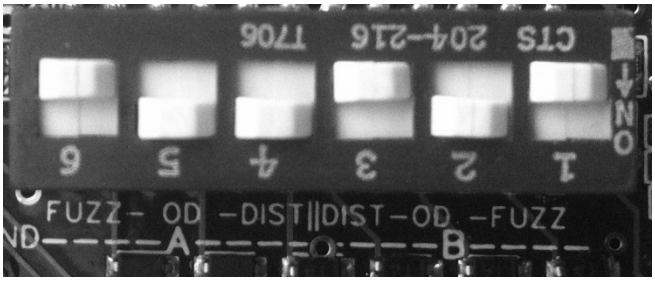
The Empress Effects Multidrive allows you to toggle between two unique pairings of the individual fuzz, overdrive and distortion sections using the **select** switch. In each mode you can combine one, two or all three sections together to create your unique drive sound.

If you remove the back cover of the pedal, inside you'll find a large DIP switch with 6 switches. On the left side are the switches to engage the individual sections for state A and on the right side are the switches to engage the individual sections for state B. When the **state** switch is pressed the Multidrive engages and disengages the sections according to how you set these switches.

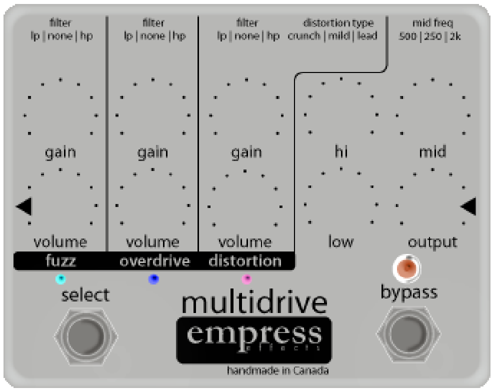
Switch	State	Section
1	B	**fuzz**
2	B	**overdrive**
3	B	**distortion**
4	A	**distortion**
5	A	**overdrive**
6	A	**fuzz**

Example:

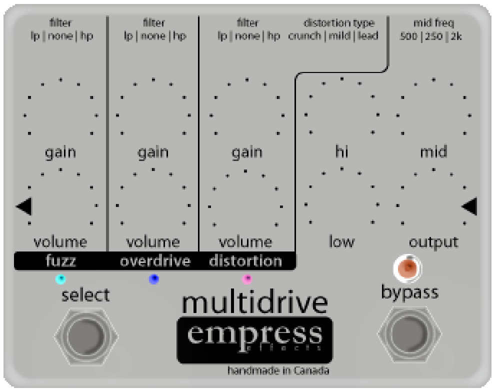
With the DIP switch set as shown in the picture below, the **overdrive** and **distortion** sections are on when the **select** switch is set to state A. In state B only the overdrive section is on.



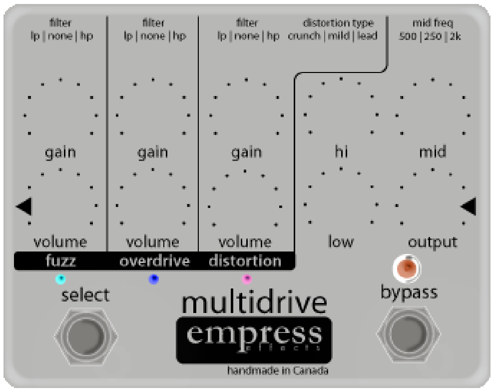
User Setting Templates



Dip Settings					
Fuzz A	OD A	Dist A	Fuzz B	OD B	Dist B



Dip Settings					
Fuzz A	OD A	Dist A	Fuzz B	OD B	Dist B



Dip Settings					
Fuzz A	OD A	Dist A	Fuzz B	OD B	Dist B

Specifications

Input Impedance	1 MOhms
Output Impedance	< 510 Ohms
Frequency Response (-3 dB)	35 Hz – 17 kHz*

** Noise and Distortion measurements are completely dependent on the settings. Suffice it to say, the pedal is very quiet for the amount of gain added.*

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