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## Getting ready for your trip through the forest

Before we get into this, let's put one big caveat on here. At the end of the day, none of the technical stuff really matters. The only thing you need to do is plug in and start fiddling! Switch away to your heart's content, explore the many options, and have fun. Feel free to glance over this manual, throw it back in the box, and start blasting. But if you're the type that likes details.... Then here ya' go. Some of these options may seem a bit redundant on paper, but as you'll see after you plug in, where these changes happen in the circuit will impact the tone in very different ways.

Also, we've provided a super pointy tip guitar pick in the box. This isn't just fun schwag, it's a perfect tool to use for ticking the tiny switches back and forth. If you are like most of us, that pick will most likely end up in that magical place where lost guitar picks go, but it's a good idea to hang onto it if you can. In a pinch, almost any guitar pick will do.

## The way a Muffer does its thing is by cascading 4 stages of gain into each other

The two stages in the middle have additional clipping diodes that increase the fuzziness of the tone even more than the gain stages pushing into each other. For an explanation of "clipping diodes", a quick Google search will give plenty of info (it could be said that the 3rd section is actually not a true "gain" section, but to keep it simple, we'll stick with gain stages. So for this manual, we'll call it stages 1-4. So, let's start at, well...The beginning.

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## DIP's

The DIP switches on your pedal affect your signal in the order they are laid out, but in reverse. Meaning, the end of the circuit is on the left, the beginning of the circuit is far right. This may seem a little odd, but it is done like this so you can visualize it the same way your instrument is hitting the circuit (input on the right, output on the left).

**INPUT GAIN:** This refers to the resistance going into the circuit (stage 1) that varies the amount of input signal fed to the circuit at the beginning. This switch can simulate the effect of rolling back the volume on the instrument.

**INPUT LOWS:** How much low-end is initially fed to the circuit. This will greatly affect the tightness of the sound and the sponginess of the feel.

**LOWS 2:** After hitting that first stage, the amount of lows fed to stage 2.

**GAIN SWEEP:** This switch decides if the first stage is clipped or not. When switched up (ON) things are set up in the traditional way. Stage 2 has a ceiling applied to it causing more distortion but less output. This can get you more of an overdrive-esque tone. In other words, your gain range will vary according to this switch setting.

**2ND STAGE DEPTH:** How much girth is fed to the 1st clip section (2nd stage, confused yet?). This affects the tightness in a different way than the lows switch.

**2ND STAGE INPUT:** Varies the amount of signal fed to the next clip section. Think of it like having two distortion pedals in a row. This lets you add more or less volume at the output of the first pedal thus hitting the second pedal harder or softer.

**CLIPPING RANGE:** How much low end is fed into the clipping section vs how much remains "unclipped". Within each gain stage there is a certain amount of your signal that gets put through the fuzz. The rest is allowed to get past the clipping section without being distorted. This switch gives you two options at that point. \*Note, when the GAIN SWEEP switch is open, this switch will have no effect on the sound.

**HEADROOM:** Not going to try to explain this one. You just gotta hear it.

**CLEAN GAIN:** Sets the bias of the 2nd stage transistor. This will be different depending on the transistor selection.

**3RD STAGE DEPTH:** Allows further tweaking to how the gain funnels into the tone stack.

**3RD STAGE INPUT:** Varies the amount of signal fed to the next clip section.

**ADD GERMANIUM:** This throws a germanium diode (not to be confused with a germanium transistor) into the 2nd gain section which causes the clipping to be asymmetrical and also adds a bit of softness to the fuzz.

**3RD STAGE DEPTH 2:** Allows further tweaking of the 3rd stage clipping section, mainly the lower frequencies being passed.

**HEADROOM 2:** Affects the overall output of the 3rd stage.

**CLEAN GAIN 2:** Sets the bias of the 3rd stage transistor. This will be different depending on the transistor selection.

**tone CONFIGURE:** The tone section of all muff-derived pedals uses a moving passive notch to affect the EQ of the pedal, most noticeably, the characteristic midrange scoop muffers are known for. All of these switches will affect the way the tone knob will react, and how the mid-notch will influence the tone. The mid-point will change, the sweep will change, and the overall lows and treble frequencies will be effected.

*\*Note: If the TONE BYPASS switch is in the up position, all of the tone configure switches will be disabled.*

#### One important thing to remember.

All of these settings are very interactive. There may be one setting that seems to have a very minimal effect on things, then upon changing another switch, that same switch will cause a big difference in the tone.

## Toggles

### Transistor Switching

With your Forest for the Trees, you have the option to switch between vintage style germanium transistors, or the standard muffler silicon transistors. This unique option allows you to get a hybrid silicon/germanium circuit. With this option you have the choice of replacing one or two of the core transistors in the circuit. Although germanium transistors are usually associated with vintage fuzz pedals, they can sound very sweet when used in a muff setting. They will add a warm, smooth tone, and impart a spongier feel to the response. Just to clarify though, vintage muffers never contained germanium transistors, all were the more "modern" type silicon.

At some settings, the change will be more noticeable, some very subtle. Another example of the interaction between settings. This is a very muff connoisseur

option, and some players will definitely notice more than others.

### tone BYPASS:

Just in case you were thinking, "Well, this pedal still doesn't have quite enough options." the Forest for the Trees lets you completely bypass the tone section altogether for a super robust boost in output that will completely bypass the tone section (and characteristic mid-scoop). This is also known as the Tone Wicker option available on other pedals. As mentioned previously, if the TONE BYPASS switch is in the up position, *all of the Tone Configure switches will be disabled because the entire section is being jumped.*

### UPON RECEIVING YOUR PEDAL:

You will notice that the switches are at a specific setting. This configuration is meant to resemble the standard muff pedal we all love. It is similar to the "Triangle Knob" pedals from the early 70's. The pedal that all other muffs were spawned from. It is a great baseline to begin experimenting with.

Included are several blank DIP switch templates and a handy little pencil. You may use these to mark your favorite settings. Think of it like a digital preset from 40 years ago (minus the digital part). \*Pro-tip, taking a picture of the pedal is another quick way to remember settings that you like.

## Specs:

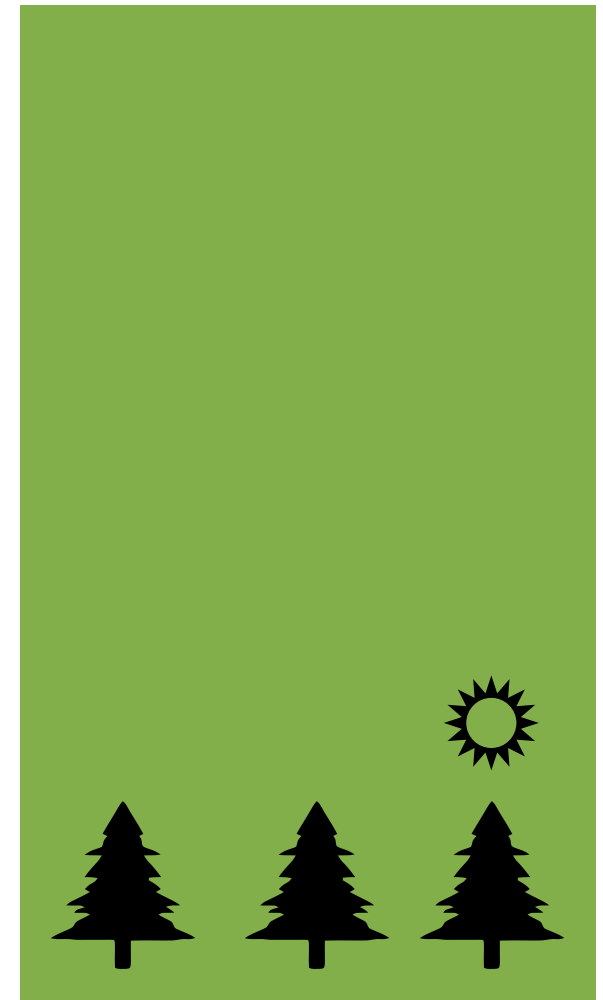
Requires a 9VDC regulated power supply designed for use with effects pedals with a typical 2.1mm neg-tip plug. *There is no option to use a 9V battery*

Current draw is approx 4.5mA

More info at: [wrenandcuff.com](http://wrenandcuff.com)

# Forest for the Trees

BM20-ULTRA



WREN and CUFF