



User Guide

WELCOME!

Welcome to the Catalinbread Formula 5F6!

Welcome to touch-sensitive, low-gain goodness!

Welcome to the foundation of your pedalboard, the pedal that ties it all together!

Welcome to authentic tweed Bassman tone and response!

Welcome to a three-knob tone control complement that reproduces exactly the famous tweed Bassman tone stack, tuned to sound great at any setting!

Welcome to crystal clean tones all the way to tweed breakup response, just by varying your picking attack and/or using your guitar's volume knob!

Welcome to ultimate pedal stacking flexibility. Stack your favorite fuzz, booster, or overdrive into the Formula 5F6 to enhance and control them!

catalinbread
MECHANISMS OF MUSIC



INTRODUCTION

The Formula 5F6 adds vintage tweed Bassman response to our range of Foundation Overdrives, giving you the awesome characteristics of this classic amp into any clean amp.

Do you play a high-powered clean amp such as a Twin and can't get a good cranked response at the real world gig volumes you have to play at? Do you play a smaller amp at home but it's still too loud to give you a great amp response? Do you have a two-channel amp but hate the dirty channel? Or maybe you can play as loud as you want but you crave more touch-sensitivity in your rig. Or maybe you're having trouble integrating fuzzes into your rig; maybe they get too loud or they just don't sound right because your amp tone is too clean and the dirty channel of your amp makes the fuzz sound thin, farty, and pinched-off. Adding the Formula 5F6 to your rig will solve all these problems and will become the foundation of your pedalboard, the pedal that will enhance the response of all your other pedals.

The Formula 5F6 lends itself to almost any musical style, from the classic Strat - Bassman blues tones of Buddy Guy and Otis Rush to artists like Jimmie and Stevie Ray Vaughn, Robbie Robertson, Robben Ford, all the way to heavier styles by stacking boost, overdrive, or fuzz pedals into it. Don't worry, the Formula 5F6 won't just make you play old music! It will take you where your imagination takes you!

The tweed Bassman may be the most influential *guitar* amp of all time. Although it was marketed as a bass amp, its treble, middle, bass and presence controls and 4 x 10 configuration were perfect for guitar, as guitarists soon figured out. How influential was the Bassman? Look up the schematic and compare its preamp to that of a Marshall or Vox and you'll see!

What we did with the Formula 5F6 was reproduce the key circuit elements of the Bassman "5F6" preamp circuit's bright channel using JFETs instead of tubes and then fine-tuned and refined it for ultimate low to medium gain response in front of any good amp set clean. You get the same preamp structure (gain stage -> volume control -> gain stage -> tone stack) as the Bassman, key to getting not just the tone, but the feel and response right.

When a tweed Bassman is set at low to medium volumes, you get a sparkling, harmonically rich tone. Turned up a bit more and it delivers that famous on-edge-of-breakup character that is responsive to your picking attack, a sound so craved by guitarists. Play a ringing open chord and you'll be rewarded with lush harmonic swirl. And then crank the volume up to 12 and you'll get a thick, creamy, meaty crunch - the original genesis for all heavy guitar sounds to come. And if you hit it really hard, you're rewarded with a slight compression, a slight sag in the response, that feels so good to play. The tweed Bassman is so touch-sensitive and responds beautifully across the frequency spectrum. If you play a Strat, this is a match made in heaven. The tweed Bassman might just be the perfect amplifier for the Fender guitar. Thus why it can cover any style. The dynamic feel, the perfect amount of breakup, how it lends itself so well to pedals. The tone complements and enhances the Fender guitar rather than fighting it. Gibson style guitars sound great too and will overdrive the preamp sooner and you'll start to recognize those tones you heard on famous records.

And with the Formula 5F6 you'll get that entire range of response! It does that quick compression on the initial attack that 'exhales' quickly into a wide clean with lots of glassy chime on top and a tight full low end. The more dynamic your style, the more you'll love the Formula 5F6!

But wait, there's more! After we got the Formula 5F6 circuit dialed in to reproduce the beautiful vintage tweed Bassman response, we asked: "Hey what if we supercharged and gained this thing up but pretended we had never heard of a Marshall?" Some tweaking to the gain structure and tone circuit and boom! we got a great new voicing - much higher gain, a bright attack, and as full as you want it. It was so cool we decided to build it into the pedal, accessible through an internal switch. More on this later!

QUICK START

When trying out a new pedal, we always recommend that before you put it on your pedalboard to play it by itself first - just guitar, F5F6, and amp. Once you get a feel for what it does on its own, you can incorporate it into your signal chain. We'll cover signal chain placement fully later in this user guide!

So, let's plug in and check it out.

The Gain control is designed to be fully useful throughout its rotation and it reproduces the tweed Bassman's Bright Volume control exactly. So play and turn through the gain range. You should hear nice sparkling clean tones when turned down low. Around halfway up you'll hear a lush harmonically rich sound with a Fender guitar and a mild crunch sound with a Gibson style guitar. And then with the Gain control fully cranked, you'll be rewarded with that great overdrive sound. Sweep around and find the sweet spot, where you can go from clean to breakup just by varying your pick attack. Also, mess around with your guitar's volume control to hear how responsive the F5F6 is.

Play with the tone controls. Don't be afraid to do things like full Treble and minimum Mid and Bass, for example. There are all kinds of tones to be had so don't succumb to "noon-itis", that compulsion to put all the knobs at noon. OK, once you've had a chance to play through the Formula 5F6 for a while, come back and read the rest of this guide to gain more insight on how to use it and incorporate it with the rest of your pedals.

CONTROLS

GAIN

The Gain knob controls the gain, obviously, but circuit-wise it is identical to the "Bright Volume" control on the tweed Bassman. So, turned down low, you'll get those great sparkly cleans, turned up midway or so and you'll get that elusive touch-sensitive response where you can play clean or dirty just by varying your picking attack. And cranked all the way up you'll get the gain structure of a Bassman on 12, thick and overdriven, but still sounding very California.

Like the Bright Vol channel on a Bassman, this control gives a brighter tone when the Gain is turned down due to its brightness circuit ("bright cap"). As you turn the Gain up, the brightness circuit has less and less effect. This works great to give you nice clean tones with a beautiful sparkle, but awesome warmth when the gain is turned up.

The Formula 5F6 was tuned to give useful and compelling tones all the way throughout the sweep of this control! Spend time finding the sweet spot for your guitar!
(Unlike the amp though, turning the Gain all the way down does not turn off the sound.)



VOLUME

This is the master volume that controls the output of the pedal. The lower you set the Gain knob the higher you'll want to run the Volume. For the best clean and on edge-of-breakup response, turn the Volume all the way up and start with the Gain control at minimum and then slowly bring up the Gain control to the desired response. This will give you the most authentic Bassman experience!

In general, for best results the pedal should be set to be *slightly* louder when on compared to bypassed.

TREBLE, MIDDLE, and BASS tone controls

These controls reproduce exactly, part-for-part, the tone circuit ("tone stack") of the tweed Bassman. If you're familiar with the tone controls on that amp, you'll already know how these work! The circuit was carefully tuned around this tone stack to give great tones, no matter how the tone knobs are set. Don't be afraid to try things like full Mid and no Treble or Bass, or even full Treble with no Mid or Bass. You'll find a huge universe of useful tones to make your part stand out in the mix.

In general, the higher you set the Gain knob, the less Bass you'll need. And, the lower you set the Gain knob, the less Treble you'll need. So, the optimum setting of the tone controls will be determined by where you're running the Gain knob. This is true for the real amp as well!

The Middle knob can be thought of as a sort of other "gain" knob. The higher the mids are set, the more dense and focused the tone will be. So if you're going for the maximum cranked sound, try cranking the Middle control as well as the Gain. Conversely, if you're going for the cleanest sound, try reducing the Middle but boosting the Treble and perhaps even the Bass control.

You could just set all the tone knobs at noon and go from there but also try this: start with all the tone knobs at minimum. You'll hear that the pedal is producing the full tone but it is not getting out. This is because the tone stack is later in the preamp, after the two gain stages, as opposed to later black- and silver-face designs which put the tone controls way up front in the preamp. Anyway, so with the tone knobs at minimum, play and begin increasing the Treble control until it feels about right. Turn the pedal off and on so you know the difference between the bypassed sound and what the pedal is doing. Then slowly bring up the Middle until the sound fills out enough. Finally, you may decide you don't need any Bass boosting at all. An exercise you can try to get a better feel for the tone controls is turn the pedal on and off and try to set the tone controls so it sounds the same on as it does off. You won't get the exact same tone but you'll learn a lot by trying this exercise and find that the tone knobs can often be set much lower than you would initially think.

YOUR GUITAR'S VOLUME KNOB

Your guitar's volume knob can be thought of as part of the Formula 5F6's controls. It was designed that way! Even with the Gain on the pedal cranked, you can get great clean sounds by turning your guitar down and the F5F6 will respond beautifully, just like the amp it was modeled after. And this is why we call this a Foundation Overdrive - you can leave it on all night and vary between clean and crunch from your guitar's volume knob. For more, add fuzz, boost, or dirt in front of the F5F6 to get a huge sound with complete dynamic control!



INTERNAL CONTROLS

Presence trimpot

There is a trimpot (accessible by removing the bottom plate) that allows you to fine-tune the amount of presence or high treble frequencies that the pedal produces. It is factory set to provide the best tone in most circumstances. However, everyone has different guitars, amps, and tastes so we've given you control over the final brightness of the pedal. We recommend that you don't adjust the presence trimpot until you've spent a good amount of time with the Formula 5F6 in your rig. After playing it at home, at rehearsal, and at the gig, you'll know better if you need to adjust it or not. You may find after a while that the pedal is a bit too bright with your rig or for your tastes. If that's the case, you can adjust the trimpot to reduce the brightness a bit. This is different than adjusting the Treble knob. The Treble knob is in the tone stack section of the circuit and it actually adjusts upper midrange frequencies. The presence trimpot is a final brightness control and adjusts around the 3khz range. Or if you find that you need a bit more brightness to cut through your band and the drummer's cymbals, go ahead and adjust the presence trimpot to be a bit brighter. The factory setting is exactly halfway on the trimpot.

Mode Switch

Ahh! It's time to talk about the Secret Lead mode! There's a switch inside that switches between Stock Bassman (S. Bass) and Secret Lead (S. Lead) mode! We mentioned this in the intro and here it is. It will transform the Formula 5F6 from vintage low-gain goodness into a fire-breathing monster from California! The gain gets pushed way up and the tone stack is reconfigured to a new voice that has a bright edge with plenty of fullness. Now, the astute among you will say, "So it turns it into a Marshall?" Good thinking, but that's not what we did here. The goal was to supercharge it while still making it sound "American". It's a new unique voicing and a hell of a good time! Warning: It might get loud ;-)

The mode switch can be accessed by removing the four screws of the bottom plate. It is located up at the top corner of the pedal. It's a tight fit to get fingers in there so a small flat blade screwdriver can be used to access the switch.

GUITARS

Like the actual amp, the Formula 5F6 is responsive to the type of guitar you're playing into it. If you're playing vintage style Fender guitars, you'll get the classic Fender into Fender tone and the tone will stay cleaner longer as you turn up the Gain knob. If you're playing a humbucker or other higher-output style of pickup, the F5F6 will break up sooner on the Gain knob. But you'll always be able to get cleans by turning your guitar's volume down!

AMPLIFIERS

Generally speaking, the Formula 5F6 works best into a tube guitar amp set relatively clean and neutral. However, it can work great to further overdrive an amp that is already overdriven as well, although this was not its design intention. If you are running a Fender style amp, try setting the tone controls as follows Treble 6, Middle (if your amp has it) 6, Bass 3, and Volume between 2-4. This is generally the best response from a Fender amp and in fact are the basic settings used in the development lab when voicing our pedals.

A note about tubes in your amp. For the best tone and response from your F5F6 (and your whole pedal chain, really) make sure you have good sounding tubes in your amp. In particular, the first tube in the pre-amp stage of your amp is critically important as your F5F6 will be driving this tube. A cheap or faulty tube can make your F5F6 sound weak, too gritty, farty, or just plain uninspiring. Do some research on tubes for your amp and experiment with different first stage preamp tubes in conjunction with the F5F6 to really fine-tune your tone.

INCORPORATING THE FORMULA 5F6 INTO YOUR PEDALBOARD

The Formula 5F6, like other the other pedals in our Foundation Overdrive Series, was designed to be the foundation of your pedalboard and the Formula 5F6, in particular, does this job incredibly due to it's relatively "flat" response; it doesn't have any extreme dips or bumps in the frequency response.

Here's the role of the foundation pedal:

- * Can get clean to crunch from your guitar's volume knob so you can leave it on all night and use it as your base tone.
- * Can be stacked with other overdrive, boost, and fuzz pedals in front of it to enhance those, just like a real cranked up amp would.
- * Can give you control over your stage volume without compromising your dynamics or touch-sensitivity.
- * Can give you a much better base crunch tone than most overdrive channels on amps.

So, as far as where to place the Formula 5F6 in your signal chain, treat it as if it were an actual amp and you'll have the right approach. A cranked tube amp loves to be pummeled with fuzzes, boosts, and overdrives, so place these types of pedals before the Formula 5F6 (between your guitar and it). Reverb pedals tend to work best after it. Delay and modulation pedals can go either way. You should try both ways to see what works better for you. But in general, placing the delay or modulation pedal in front of the F5F6 will compress and saturate them slightly. Placing them afterwards is much like running them in an effects loop of an amp - you aren't adding more distortion to them.

The Formula 5F6 LOVES being hit by fuzzes and boosts! Just like the amp that inspired it! With some good fuzzes and boosts, you'll be able to take the 5F6 from vintage roots sounds all the way to metal - at any volume!

POWER SUPPLY

You can power your Formula 5F6 with any quality power supply designed for use with effects pedals. The output should be a negative tip DC from 9 to 18 volts. If you want more volume, headroom, and percussive attack, try running an 18 volt power supply. A 9 volt power supply will have a slightly softer sound that saturates more easily - it's sort of like the difference between a 50 watt and 100 watt amp! Definitely try it on 18 volts though - there's quite a difference! 18 volts is great for playing with the band. You'll get great attack and clarity with power to cut through the mix. You can also try a battery that is drained down to as little as 3-4 volts to get an even softer sound that is great for late night jam sessions when you don't want to wake anyone up! Or use a power supply that is capable of providing "starved" voltage. It's sort of like running a Variac and you get the same benefits - a "browner" sound and less volume! We encourage to to try these different powering options to see what you like the best!

NOTE FROM THE DESIGNER

Hey everyone, it's Howard Gee, and thanks for reading this user guide. I hope you got some insight into this pedal by reading it!

I've designed a few pedals by now. And you know what? I couldn't have done the Formula 5F6 any earlier. Getting that breathing, edge-of-breakup response takes a level of refinement that only comes from experience. It's relatively easy to make lots of crazy gain but getting that not-clean yet not-dirty sound is not easy. So the time was finally right to take on this project. I'm really happy with the result (well, it wouldn't have been released until I was happy with the result lol) and as a Strat kinda guy, this is the perfect foundation pedal for me. And hopefully you too!

Oh, and I know some of you will ask so let's take care of it now. How is this pedal different from the Dirty Little Secret, which is based on a Marshall which is based on a Bassman...? Well, it sounds less British! ;-). More specifics, you say? Ok well, the Formula 5F6 is lower gain, and more open sounding with a nice bright sparkle as compared to the DLS on SB mode which is thicker, darker, more saturated... like I said, it sounds less British! But they do share the same tone stack configuration. The rest of the circuit is tuned to get them to behave like the amps they are emulating. It's all about gain-staging, frequency-staging, and impedance-staging. Ok, I've said enough! ;-)

Remember, it's all about touch-sensitivity and dynamics. That's my mantra!

Hey, drop me a message at kittycaster@catalinbread.com and tell me what you think of the Formula 5F6! Would love to hear from you!

Peace, love, and awesome guitar sounds,

Howard

