

## TROUBLESHOOTING

Your new Bad Cat amplifier is designed for many years of professional trouble free operation. Common sense will tell you that if you notice any severe abnormalities in operation like burning smell, smoke, etc.; you need to shut down the amp immediately. Always consult your Bad Cat dealer if you are unsure of the problems that you are dealing with; i.e., take your amp to where you purchased it.

### No Power

Check the power source from the wall first. Make sure the power cord is properly seated at both ends. If there is still no power, check the fuse and replace if necessary with the correct rating only.

### Weak Output Level

Verify the signal output from your instrument first. Check guitar's controls and that the cables are working properly. Also, check any effects pedals that may be connected in between the guitar and the amplifier.

### Adverse Sounds-Hum, Whistle, Loss of Dynamics, Feedback, Howling

Check loudspeaker cones, frayed guitar cables, controls on your instrument, the guitar's pickups and any other devices that may be connected to your amplifier such as effects pedals or rack processors. Some of these devices are "amplifiers" in their own right with gain and boosted volume levels and they may cause hissing and unwanted feedback if set too high in front of the amp. Shut down the amp and check the tubes. Wait for the amp to cool down. Remove the back panel of the amplifier. Avoid handling hot tubes as they can cause severe burns. Check the larger output power tubes first by carefully removing the tube shields or loosening the clamps, and then unseat the tubes from their sockets but note from which sockets you removed the tubes. Inspect the integrity of the filaments in the tubes. If one or more of these tubes are bad, you will need to replace the entire set of the power tubes. If all the tubes are OK, you can eliminate the adverse sounds by swapping the location of these tubes. If this fails to fix the problem, you may need to replace the entire set of power tubes with a new matched set. Use of inferior quality (unrated) tubes may cause damage to your amplifier. You should also check the preamp tubes, especially the first input stage tube (far right if you're looking at the amp from the back). Microphonics (feedback noise that cannot be controlled by turning down the volume pot on you guitar) indicates a bad preamp tube(s). You may want to swap the position of preamp tubes to see if this will fix the microphonics problem. Preamp tubes can go bad without warning but can also last many years without any problem whatsoever. As you can see when handling tubes, they are sensitive, fragile and somewhat prone to inconsistencies. Please handle your amp with care when transporting it. Although your Bad Cat amp is sturdily built and designed to take years of rugged use, the tubes are not. It's always a good idea to keep extra tubes (both preamp and output power tubes) handy, especially for performance situations. An overwhelming majority of minor problems on tube amps are tube-related and it's just a matter of swapping one or more out to have your amp performing like brand new again.



### IMPORTANT!

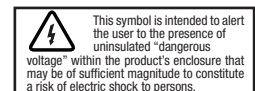
FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:  
**WATER AND MOISTURE:** Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**POWER SOURCES:** The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.  
**GROUNDING OR POLARIZATION:** Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

**POWER CORD PROTECTION:** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**SERVICING:** The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

**FUSING:** If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.



REFER SERVICING TO QUALIFIED SERVICE PERSONNEL!  
 THIS UNIT CONTAINS HIGH VOLTAGE INSIDE!

### LIMITED LIFETIME WARRANTY

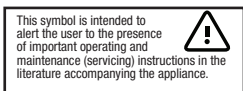
Bad Cat Amplifiers warrants our amps and cabs against workmanship or defect for life. The warranty does not cover tubes or cosmetic damage, or wear and tear or abuse. This warranty is transferable. Lifetime transferable warranty is only for North American sales. Please see your local dealer and distributor for warranty information. Modifying or altering the amp in any way voids the warranty. Shipping to and from the warranty repair center is the responsibility of the customer.

We have a new Lifetime Warranty on all new amps leaving the factory. We are extending the Lifetime Warranty to all of our pre acquisition amps for \$249. Simply send the unit back to us and we will have one of our technicians go through it from the ground up. And to top it all off, we will pay for the shipping back to you. For more information please contact us at sales@badcatamps.com or directly at 800-730-0966.

When RETURNING merchandise to the factory, you must call for a return authorization number.

### HELP SECTION

- 1) AMP WILL NOT TURN ON**  
 Check the power to the amp. Check for tripped circuit breakers, unplugged extension cords or power-strip switches that may be turned off. Check the fuse. If a dark brownish color or no wire can be seen within the glass tube, then replace. The amp may be perfectly fine but occasionally a fuse may blow because of high AC voltage surges. After the fuse has been replaced with the proper Slow Blow value and if the fuse fails again, the amp will require servicing.
- 2) NO OUTPUT with POWER light ON**  
 Tubes damaged in shipping will be the primary reason for your amp to not function properly. Please give us a call to help guide you through this simple repair.
- 3) KEEP YOUR AMP LOOKING NEW**  
 Use a damp cloth to wipe the controls on the front & rear chassis panels. Wipe the black vinyl covering with a damp cloth.



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**Bad Cat**  
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## Operating Manual

# FAT CAT 50

Congratulations and thank you for purchasing a professional tube amplifier from Bad Cat. As with all Bad Cat products, your amplifier is designed from the ground up to provide the very best tones possible in a rugged, reliable package. Each one of our pro quality models is constructed with Bad Cat's commitment to making the highest quality, hand-built, American-made amplifiers.

### CAUTION

With a little care and caution, your Bad Cat amplifier should provide you with years of trouble-free operation and enjoyment. Please avoid damp areas and moisture during operation of the amp and in storage. This includes placement of beverages near or on the amp that could spill into the amp's chassis. Liquids can easily damage tubes, switches and other parts. Immediately disconnect the amp from power source should a spill occur and dry the amp thoroughly prior to switching on the amp again. Drying may require the complete removal of the chassis from the cabinet and the removal of the tubes for cleaning. Avoid tipping the amp, using it in unbalanced positions, or lifting it unassisted to awkward heights. A little common sense will go a long way in making sure the amp does what it's supposed to do: provide you with dependable operation and great tone on a consistent basis.

### GROUNDING

Please check thoroughly that the ground tip on the power cord plug is connected to true ground prior to operation of your Bad Cat amp. Using unfamiliar junction boxes can cause potentially dangerous floating grounds. Please do not cut or defeat the ground tip.



DUAL CHANNEL, 50 WATT,  
 6L6 BASED AMP WITH 3 KNOB REVERB

Big, bold and punchy! This 50-watt amp has tight lows that hold together even when overdriven hard. It's unlike anything you have heard on a 6L6 amp. With highs that sparkle this amp boasts tons of clean headroom. The Fat Cat affords two distinct channels.

Channel one consists of a single volume control and the Bad Cat tone selector that many of you are familiar with in amps like the Hot Cat 30 and Black Cat. The magic of this arrangement is obvious from the first note played through it. Because the selector is a five-tone capacitor switch and not a potentiometer, your signal is running through one pot. Its as if you plugged straight into your output transformer. There is a purity and clarity of sound that is unmatched in any 6L6 amp. Full and warm with highs that spank. Engage the master and drive this amp into a sweet soft breakup or into 70's crunch.

Channel two has a more traditional bass and treble tone stack to give it a big scoop and spanking cleans. More reminiscent of the sound that came out of California in the 1960's. Only with a greater complexity and fullness. The highs are glassier – the lows hold together and punch through. Engage the channel two-master and go from pushed bluesy breakup to fusion and rock crunch.

We still haven't told you the best part. The Fat Cat has a 1960's style three-knob reverb section. This section is driven by its own single EL84 tube. Making this amp a true tube driven reverb tank. The flexibility of the reverb settings are amazing. Deep and lush, or subtle, up front or behind. It's all there to craft your own sound.

The first Bad Cat offering of a 6L6 based amplifier. Does anyone think we wouldn't make it the best?

### ELECTRONICS

Power: 50-Watt Class A/B  
 Channels: 2  
 Channel 1: Volume, Tone, Reverb, Cut, Master  
 Channel 2: Volume, Bass, Treble, Reverb, Cut, Master

### HARDWARE

Available Configuration: Head, 1x12 Combo or 2x12 Combo  
 Cabinet Material: Head - Italian Poplar, Combos - 13 Ply Baltic Birch  
 Speaker Description: 12" Proprietary Bad Cat Celestion Speaker  
 Impedance: Selectable 4, 8, 16 ohms  
 Power Tubes: 2 - 6L6's  
 Pre-Amp Tube Channel 1: 1 - 12AX7  
 Pre-Amp Tubes Channel 2: 2 - 12AX7's  
 Rectifier Tube: 1 - GZ34

FOR YOUR RECORDS, YOU MAY WISH TO RECORD THE FOLLOWING INFORMATION.

SERIAL NO. \_\_\_\_\_ INVOICE DATE \_\_\_\_\_

Last updated: July 30, 2013

## Front & Rear Panel Controls

### FAT CAT 50

#### OPERATION

If this is your first all-tube amplifier, please become familiar with a few issues that differentiate your amp from solid-state or hybrid amp products. Only a few precautions are required but they will insure that you will get the most of your new all-tube amplifier. Vacuum tubes are “old world” thermal devices that require more attention than transistors, but that’s the reason they sound so much sweeter and more musical than integrated circuits and other solid-state components. A little heads-up on the following points will ensure maximum performance from your Bad Cat amp.

1. Place the amp at least 6 inches away from any wall or obstacle to provide adequate ventilation around the amp. Good airflow around the amp will go a long way in preventing the amp from overheating, especially the tubes. Do not place covers, clothing, or any other materials on or in the amp that can obstruct the free venting of the chassis to the outside air. Trapped heat in the chassis may cause a condition known as thermal runaway. To put it simply, to warm or cook the tubes is good, to heat-cycle or fry the tubes is extremely dangerous and will also shorten the life of the tubes considerably.

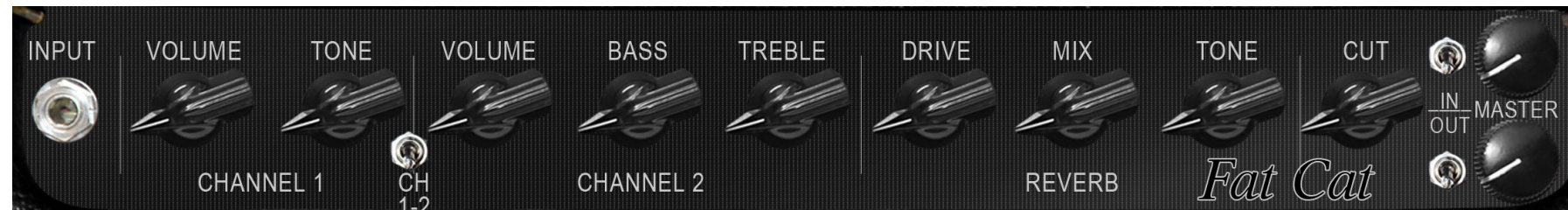
2. Vacuum tubes will last longer and sound more musical when they are allowed to warm up prior to introducing an input signal from your guitar. A full flow of electrons from the cathode can only be achieved when the tube is heated. This requires some time. Please allow at least one minute of warm-up time before playing through the amp.

3. Avoid long idle periods with no input signal. The vacuum tubes prefer to see a signal present. When taking a break between practice sessions or in between sets of a performance, use the standby switch or turn off the amp.

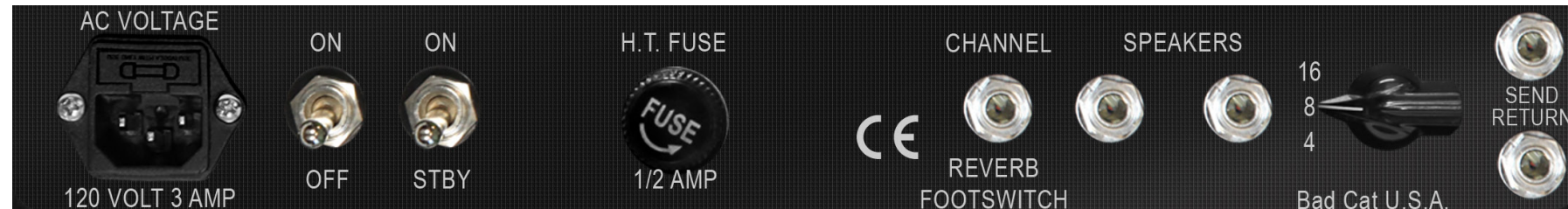
4. Avoid unverified impedance loads. In other words, do not clip on or otherwise attach additional speakers unless you know the system impedance. Tube amplifiers are very sensitive to speaker impedance matching. This is due to the relationship between the internal resistances of the output transformer, the output power tubes and the load that is required to drive them. Unbalanced loads can cause destructive arcing; the transformer and the tubes may actually burn themselves out. This is not covered by our warranty.

With proper impedance matching, multiple speaker configurations will work fine. If you are not familiar with “Ohm’s Law”, please consult with a dealer or a qualified amplifier technician. Do not attempt to operate the amp if you cannot verify system impedance after connecting the speakers. Never operate your Bad Cat amp at 2 ohms or less.

5. Avoid unapproved “Power Soak” devices or attenuators that are not recommended by Bad Cat as they can shorten the life of your power tubes considerably. Attenuators burn out tubes prematurely because they require the power tubes to overwork continuously. Also, please note that power tubes are best replaced as a matched full set whenever any of them fail.



#### Front Panel Controls



#### Rear Panel Controls

#### FRONT PANEL

##### Input

##### Volume

The first knob on the left when you face the amp’s front panel is the volume control for the clean channel. This is the input stage where the preamp tubes first “see” the guitar signal and goes through the first phase of amplification. Although designed as the clean channel, you can crank up the volume pot and your picking attack to get varying degrees of clean and overdrive sounds.

##### Tone (Channel 1)

The 5-way tone knob has been carefully tailored to cover the most critical frequencies in the electric guitar’s sonic range. Each setting of this rotary knob affects the most important midrange frequencies that provide body, warmth, bite and punch in your guitar tone. When the rotary knob is set at the most counter clockwise setting, the amp provides the most cut and brightness. As you turn the knob clockwise, the tone gets fatter with more low-midrange emphasis, adding body and warmth. Although the differences are subtle between the 5 different settings, you will find this knob most helpful in dialing in the right sound that will fit in with your band’s mix. Experiment to your heart’s delight and find the setting that works the best for you!

##### Channel 2:

##### Volume

This volume knob controls the output level specific to Channel 2. With the Master Volume switched “out” this is solely responsible for the loudness of this channel. With the Master Volume switched “in” this pot works tandem with the Master. In that case, the higher settings of this pot will give more gain and the Master will be used for overall volume.

##### Bass

The Bass EQ knob has been carefully tailored to cover the critical low-end frequencies in the electric guitar’s sonic range. Whether you need depth in your sound or low-end punch, this control will allow you to dial in just the right amount of bass frequencies.

##### Treble

The active Treble EQ circuit boosts or cuts carefully selected treble frequencies that are critical to a great guitar tone. You will notice some dramatic tonal shifts

by going from around noon on the knob setting to around 2-3 o’clock. Combine this with the active Bass circuit to dial in just the right amount of balance of firm clear lows and sweet yet cutting highs.

##### Drive

Drive controls the amount of signal flowing to the reverb tank. Higher settings will give you a deeper more “ splashy” sound. Lower settings will give a more subtle sound.

##### Mix

Drive controls the amount of signal flowing to the reverb tank. Higher settings will give you a deeper more “ splashy” sound. Lower settings will give a more subtle sound.

##### Tone

Full counter clockwise will darken the reverb tone and full clockwise will brighten the tone of the reverb. The direct guitar signal is not effected by the tone setting.

##### Cut

The Cut knob is universal to Channel 1 and Channel 2, meaning it is always in the circuit an always affecting the tone. The knob is appropriately named because turning it up gives your tone more cut; turning it down gives a darker, mellower tone. This is similar to a presence knob on some other amps.

##### Master “In” and “Out” Switch and Master Volume

This switch activates and deactivates the master volume for Channel 1 & 2. When the switch is “In” the Master knob now controls the overall output level of Channel 1. When the switch is “Out” the Master knob is now out of the circuit and does not affect the amp.

#### BACK PANEL

##### A/C Plug

Plug your amp’s power cord in here first, then to the wall.

##### On/Off Switch

This switch turns the amp on or off. Please make sure that the Standby Switch is in the Standby mode before turning that amp on and off. This will help increase the life of the power tubes.

##### Fuse Holder

This is the main fuse holder. Please only use the fuse as specified on the amp.

##### High Tension Fuse

High Tension is just another way of saying High Voltage. Voltages at this point can be anywhere from 350-500 volts depending on the model so it is always a good idea to make sure the amp is “off” when installing or removing the fuse. Do not stick anything inside the fuse holder other than a fuse. Do not attempt to defeat the fuse with a metallic gum wrapper or nail. This fuse is in series with the output transformer. Its function is to prevent collateral damage to the amplifier in the amplifier in the even of tube failure. If you replace the tubes and the fuse blows again, seek qualified technical help.

##### Footswitch and Jack

The sturdy footswitch included with the Fat Cat 50 amp plugs into a jack located on back panel of the chassis. Please assure that the footswitch jack is firmly connected to the amp’s jack before operation. When the footswitch is connected, the left button controls channel switching. The button on the right turns the reverb on or off.

##### Speaker Out

This jack is adding an extension speaker cabinet to be used with the internal speaker. The internal speaker runs at 8 ohms for a single 12 or 4 ohms for a 2x12 and is parallel with the extension speaker jack.

##### Speaker Impedance

On a combo this rotary selector knob comes set at 8 ohms for a single 12 or 4 ohms for a 2x12. The selector knob can select between 4, 8 and 16 ohms. Check Ohm’s Law if using an additional extension cabinet to select the right ohm setting. Example: 8 ohms + 8 ohms = 4 ohm setting. On a head, please be sure to select the proper ohms to match your cabinet.

##### Send and Return Jacks

Connect the output of the send jack to the input of your effects device. Connect the output of your effect and to the Return jack of the loop. The Send can also serve as a Line Out to drive external processors in a wet/dry/wet rig.

Bad Cat®