

## 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.

### HELP SECTION

#### 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.

#### Weak or No 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.

#### 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.

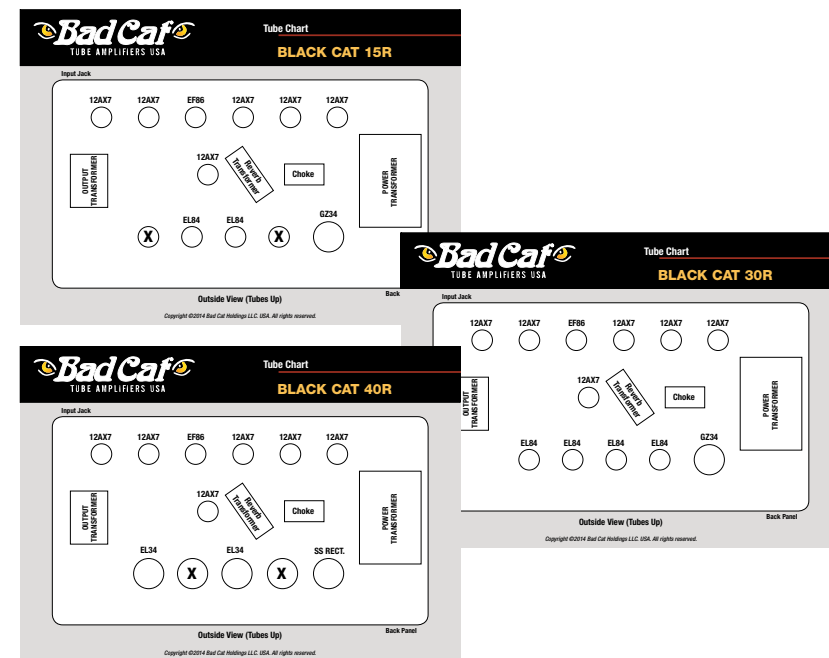
#### Keep Your Amp Looking New

Use a damp cloth to wipe the controls on the front & rear chassis panels. Wipe the black vinyl covering with a damp cloth.

#### 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 many 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.



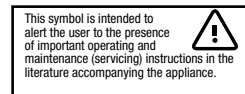
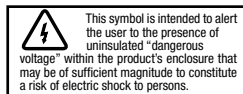
**IMPORTANT!**  
FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:  
**WATER AND MOISTURE:** Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.). Care should be taken so that objects do not fall and liquids are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

#### LIMITED LIFETIME WARRANTY

Bad Cat Amplifiers has a limited lifetime warranty on select amps and cabs against workmanship or defect. The warranty excludes pedals, the Unleash and accessories. The warranty does not cover tubes, speakers or cosmetic damage, wear and tear, or abuse. This warranty is transferable. 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 Limited Lifetime Warranty to all of our pre-acquisition amps for \$349. Simply send the unit back to us with an approved RMA number, and we will have one of our technicians go through it from the ground up. Shipping to and from the warranty repair center is the responsibility of the customer. For more information please contact us at sales@badcatamps.com or directly at 1-800-730-0966.

When returning merchandise to the factory, you must call for a return authorization number (RMA). Any items arriving without a proper RMA number will be rejected at customer's expense. Bad Cat Amps may update its warranty from time to time. When we change the warranty in a material way a notice will be posted on our website along with the updated warranty.



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN

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

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**Bad Cat**  
TUBE AMPLIFIERS USA

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## Operating Manual

### BLACK CAT SERIES

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.

Last updated: March 12, 2014 - Rev. 08



RECONFIGURED TO HAVE A MORE ERGONOMIC LAYOUT  
IMPROVED MASTER VOLUME CIRCUIT TO BE MORE RESPONSIVE  
IMPROVED REVERB CIRCUIT FOR SMOOTHER AND DEEPER TONES  
IMPROVED HALF POWER CONFIGURATION

**15-WATT**  
2-EL84  
CATHODE BIASED  
2-CHANNEL EF86 & 12AX7  
HALF POWER SWITCH  
FOOT SWITCHABLE CHANNEL  
EFFECTS LOOP

**30-WATT**  
4-EL84  
CATHODE BIASED  
2-CHANNEL EF86 & 12AX7  
HALF POWER SWITCH  
FOOT SWITCHABLE CHANNEL  
EFFECTS LOOP

**40-WATT**  
2-EL34  
CATHODE BIASED  
2-CHANNEL EF86 & 12AX7  
HALF POWER SWITCH  
FOOT SWITCHABLE CHANNEL  
EFFECTS LOOP  
MODELED & IMPROVED FROM  
THE WILD CAT 40

The two channel beast that started it all. One of the original boutique amps, with versatility as it's stock and trade. Two distinct channels with it lineage running all the way across the pond. British in flavor, american in construction.

This is a no corners cut or apologies necessary tone machine. Built to be enjoyed for decades and passed down.

Channel one is built on a 12AX7 treble, bass and Presence tone stack providing the warm and sweet tone with just the right amount of mid push to cut through the mix. Switch over to channel two and experience the more aggressive, hi-fi sounding EF86 preamp. More chime, more grunt. The EF86 can be switched between the five-way tone selector or the bass and treble tone stack. The tone selector offers a selection of five-tone caps and enables you to adjust the amount of low end content to fit the guitar or situation. Global Presence and separate master volumes for each channel can be switched in or out. **Available with or without reverb.**

#### ELECTRONICS

Power: 15 Watt Class A, 30 Watt Class A, 40 Watt Class A

Channels: Two

Controls: CH. 1 - Volume, Bass, Treble, In/Out, Master, Reverb, Presence

CH. 2 - Volume, Tone, Bass Treble, In/Out, Master, Reverb, Presence

#### HARDWARE

Available Configuration: Head Shell, 1x12 Combo

Cabinet Material: Head - Italian Poplar, Combos - 13 Ply Baltic Birch

Speaker Description: Head Shell: N/A Combo: 12" Bad Cat Proprietary Celestion Speaker

Impedance: Selectable 4, 8, 16 ohms

Power Tubes: 15 Watt - 2 EL84, 30 Watt - 4 EL84, 40 Watt - 2 EL34

Pre-Amp Channel 1: 12AX7

Pre-Amp Channel 2: EF86

Rectifier Tube: 15 Watt - GZ34, 30 Watt - GZ34, 40 Watt - Solid State

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

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



## Front & Rear Panel Controls

# BLACK CAT SERIES

### 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

#### 1. Input Jacks

Plug instrument here.

#### 2. Volume

The first knob on the left when you face the amp’s front panel is the Ch. 1 volume control when in the non Master-Volume mode. In the Master-Volume mode with the Master toggle “In”, the Volume acts as a gain knob for overdrive and distortion sounds.

#### 3. Bass

This active EQ circuit boosts or cuts the bass frequencies. You will notice that this control has a much wider range of control compared to bass controls on most other guitar amplifiers. It should also be noted that it interacts with the Treble control to truly provide a wide range of tones.

#### 4. Treble

This 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.

#### 5. Master “In” and “Out” Switch and Master Volume - Ch. 1

This switch activates and deactivates the master volume. When the switch is “On” the Master knob now controls the overall output level of the amp. When the switch is “Off” the Master knob is now out of the circuit and does not affect the amp.

#### 6. Reverb (optional)

The reverb circuit is a completely new Bad Cat design that adds spatial dimension to the tone produced by the amp. Incorporating the very best 3-spring reverb tank with a newly designed reverb tone circuit, the reverb can go from subtle classic spring reverb effects to lush surf reverb to cavernous hall-like setting with a simple twist of this knob. This reverb circuit was carefully designed to be useful across the entire sweep of the reverb range. It adds a wide range of spatial effects that you just can’t duplicate with pedals and digital effects processors.

#### 7. Volume

This volume pot 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 in 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.

#### 8. Tone

This is a 5-position knob used for instant access to your favorite sounds. Turn it clockwise for increasingly darker, thicker tones. Turning the knob counterclockwise gives you more treble and bite. The 5-position switch gives you a distinct advantage in being able to recreate the tone you want time after time.

#### 8. Tone Switch

This switch gives you the option of using the 5-position tone knob above or using the bass and treble knobs that follow. Switch in the left position gives you the 5-position knob. Switch in the right position gives you the bass and treble knob. The amp uses either the 5-position or the bass and treble knobs for tone; they are not used in conjunction with one another.

#### 9. 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.

#### 10. 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.

#### 11. Presence (this is operational with both channels)

Turning the knob counterclockwise will cut the highs, darkening the overall sound. Turning the knob clockwise will add more highs and high-mids, significantly brightening the overall sound. This knob is found on many tube ampli-

fiers. Turning the knob clockwise will allow more high harmonics, significantly brightening the overall sound.

### BACK PANEL

#### 12. A/C Plug

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

#### 13. 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 on or off. This will help increase the life to the power tubes.

#### 14. Standby Switch

Leave this switch off when turning on the amp and let the amp warm up for a full minute before turning this switch on. It’s best to let tubes warm up before playing. Also, turn the Standby switch to Standby when you will not be playing for a while (for example, breaks in between sets of your performances, etc.).

#### 15. High Tension Fuse

(15 W & 30 W 1/2 Amp Slow, 40 W 750mA slow)

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. This fuse is in series with the power transformer. Its function is to prevent collateral damage to the amplifier in the event of tube failure. If you replace the tubes and the fuse blows again, seek qualified technical help.

#### 16. Full/Half Power Switch

In the up position this switch allows the use of full power of your amp. For more headroom, full power mode is a must. Full power mode also provides a bigger, bolder tone. The down position of this switch is Half power mode. Half power is very useful for getting the amp to break into desirable distortion at lower volumes for home use or use in smaller rooms. The tone character is slightly different between the modes and a little experimentation is worthwhile.

#### 17. Footswitch Jack

(Single button F/S Included)

Switch between Channel 1 & Channel 2.

#### 18. Main Speaker/Extension Speaker Jack\*

This jack is connected to the speaker in the combo. Do not unplug when operating the amp.

#### 19. Impedance Selector Switch

This switch is to select the impedance load of the output. It comes from the factory set at 8 ohm since the internal speaker is 8 ohm. If you add an extension cabinet that is 8 ohm, the switch needs to be set at 4 ohm.

#### 20. Send and Return Jacks

Connect the send jack to the input of your effects device. Connect the output of your effect 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.

\* This jack can be used to add an external speaker cabinet along with the internal cabinet. Since the internal speaker is 8-ohm, you should use another 8-ohm cabinet to run the impedance load at 4-ohms. If you only want to use an external cabinet, the speaker cab impedance should match with the impedance switch selection.