

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.

1 - 2 Switch

This is a unique switch that allows you to change from a more vintage style bass response to a more modern style bass response by changing what value bass capacitor is in the circuit. Selecting the up or "1" position gives a bigger, warmer, more modern bass response. Selecting the down or "2" position gives a tighter, more classic bass to the amp's tone.

Lineout

This is a line-level output which can be used directly into a processor or effect unit, thereby making your amp the pre-amp or tone-shaper of a larger "rack" rig. This can also be used for direct recording, although typically clean sounds work best for this purpose as the distorted sounds tend to suffer from the lack of the positive coloration a speaker brings to a distorted guitar tone.

Speaker Jack

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

On a head, this jack is for connection to your speaker cabinet. Please be sure to select the proper ohms to match your cab.

Speaker Phase Switch

This switch changes the phase of your amp's speakers. When the amp is played by itself, either position will sound good, but slightly different. Here is another case where a little experimentation is worthwhile to find what is right for you. This switch becomes very important, though, when the amp is used in conjunction with another amp in a dual amp setup. If the speaker in the two amps are set "out of phase" with each other your tone could be weakened considerably. So when you're running the amp simultaneously with another amp, be sure to check this switch to see if one position or the other is giving you a better result.

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.

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 your 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 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.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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Operating Manual

PANTHER

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, 35 WATT, 6V6

The Panther is two channel, 35-watts with four 6V6 tubes running in Class A/B. Versatility is its calling card. Channel one is a 12AX7 based preamp with bass, mid, mid sweep and treble controls.

Our unique mid sweep allows you to choose the mid-range frequency via the switchable tone cap selector. The mid control pushes or scoops the frequency of choice. This is particularly useful when it comes to carving your space in the mix. Channel two is switchable between our standard 5-way tone selector, and bass and treble controls. Channel two is EF86 based and very aggressive, which can be pushed into thunderous overdrive.

Master volumes that can be switched out of the circuit are on each channel. A global cut control which adds a sweet chime. Whether your tone preference is British or American, the Panther can deliver.

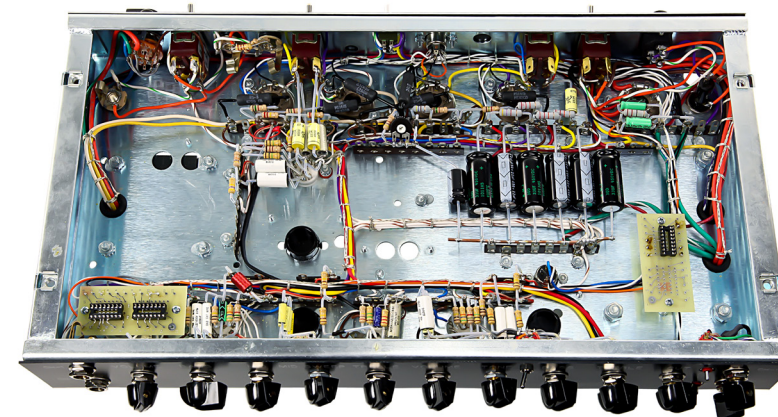
ELECTRONICS

Power: 35/20-Watt Class A/B
Channels: 2
Channel 1: Volume, Bass, Mid, Mid Sweep, Treble, Cut, Master
Channel 1-2: Volume, Tone, Bass, Treble, Cut, Master, Reverb (Optional)

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: 4 - 6V6's
Pre-Amp Tubes Channel 1: 2 - 12AX7's
Pre-Amp Tubes Channel 2: 1 - EF86, 1 - 12AX7
w/Reverb: 2 - 12AX7's
Rectifier Tube: 1 - GZ34

Shown as Large 1x12 Combo in Black Ostrich and Black Grill Cloth



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

SERIAL NO. _____ INVOICE DATE _____

Last updated: Feb. 12, 2013

Front & Rear Panel Controls

PANTHER

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.

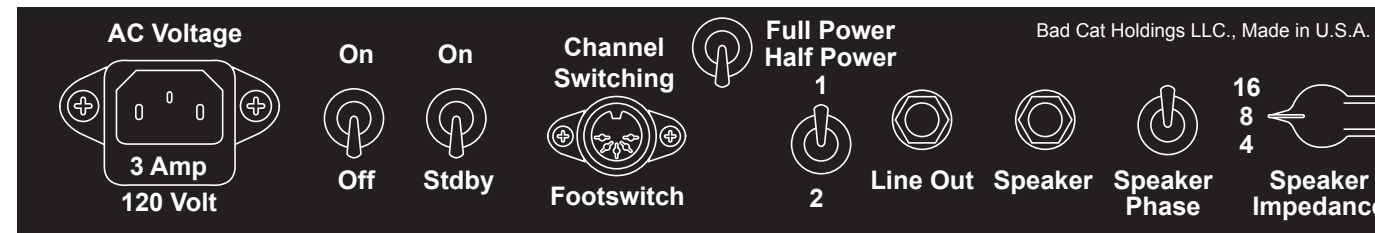
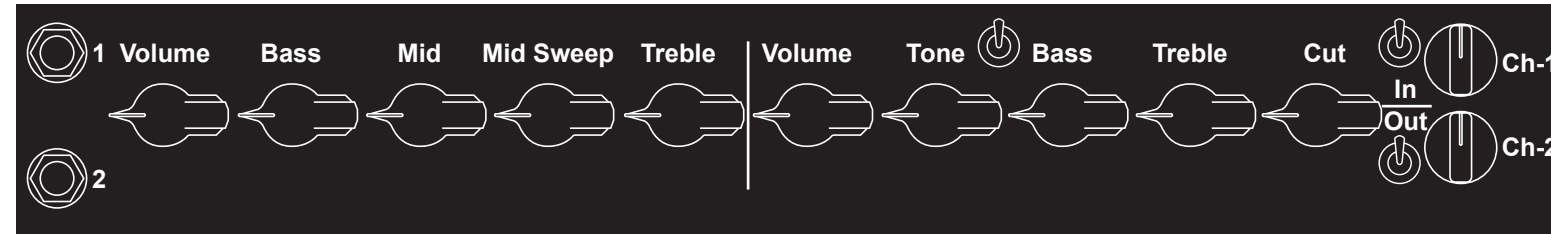
3. Avoid long idle periods with no input signal. The vacuum tubes prefer to see a signal present. When taking a break between practice sessions or in between sets of a performance, use the standby switch or turn off the amp.

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.

PANTHER FRONT PANEL



PANTHER REAR PANEL

Panther

The Panther is a 35 watt Class A/B amplifier. Class A/B amps are push-pull amps which essentially means, that the power tubes alternate turns handling current. Many classic Marshall and Fender amps are Class A/B, but being Class A/B makes the Panther unique among the Bad Cat line which is famously usually Class A in operation. Class A or Class A/B is neither better than the other but they do offer differences in tonal character.

Bad Cat's unique Channel Switching with Channel Blending

All Bad Cat amps that have Channel switching capability feature our unique Channel Blending feature. The two button footswitch allows for selection of Channel 1 or Channel 2; or additionally you can select both channels to get the channel blending tone in which both channels are on simultaneously. The LED to the left indicates Channel 1. The LED to the right indicates Channel 2. The LED in the middle indicates whether the blend mode is on or off. The left button of the footswitch switches from Channel 1 to Channel 2. The right button of the footswitch engages or disengages the Channel Blending feature. So if the LED on the left is lighted and the middle LED is off then the amp is on Channel 1. Likewise, if the LED on the right is lighted and the middle LED is off the amp is on Channel 2. If the LED in the middle is lighted then both channels are on in Channel Blending mode. By then stepping on the button to the right, Channel Blending mode is disengaged and you are returned to whichever channel is indicated by the LED.

FRONT PANEL

First Channel: Volume

This volume pot controls the output level specific to Channel 1. 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.

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.

Mid

This knob controls the frequencies in the guitar’s middle range. If a frequency is too bright to be bass and too deep to be treble, then it’s mid. Turning this up provides a thicker tone with more weight. Turning it down provides a more scooped tone with more air.

Mid Boost

This is a unique knob that changes both the location of the mid frequency and the amount of the frequency. The nature of this control is such that as you turn it up, you are also gaining some treble frequencies as well. Simply put, with the knob all the way down you are focused on low-mid frequencies as you turn the knob up you are gradually changing to a high-mid frequency and also getting more gain from that high-mid frequency. Turning the knob up has the effect of adding more definition to the tone and turning the knob down has the effect of a darker tone with more depth.

Treble

The Treble EQ knob allows you to control the amount of high-end frequencies that determine the cutting character of your sound. For more sparkle and high-end definition turn this knob past noon. For a warmer and rounder sound, turn this knob below noon in conjunction with turning up the Bass knob.

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. Channel 2 Master only works when Bass & Treble is selected.

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 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.

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.

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.

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 Treble EQ knob allows you to control the amount of high-end frequencies that determine the cutting character of your sound. For more sparkle and high-end definition turn this knob past noon. For a warmer and rounder sound, turn this knob below noon in conjunction with turning up the Bass knob.

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

In order for this switch to have an effect, the “Bass and Treble” side of the Tone Switch must be engaged. If you choose the 5-position knob for tone then the Master Volume will be disengaged no matter where the Master Switch is set. This switch activates and deactivates the master volume for Channel 1. 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.

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.).

Reverb Footswitch Jack

This is the footswitch jack to turn the reverb on or off. You can use any conventional shielded cable latching on/off footswitch with this jack.

Channel Switching Jack

Plug in your amps footswitch here to allow you to switch between channel 1 and 2 and also blend channels. The footswitch must be used to access the channel blend feature.