

X-OVER (bi-amping) and BRIDGE modes on the BX1500:

The **BX1500** is capable of three different power amp modes, each with different advantages:

1. DUAL MONO mode (standard)

Both the X-OVER and AMP BRIDGE switches are set to “off”. Each power amp receives the same mono signal (unless effects are used in the AMP INSERTS). Speakers can be connected to a single or both SPK1 and SPK2 output jacks. The balance of volume between the two speaker outputs can be set by the “1 LO” and “2 HI” POWER AMP controls. This mode can be useful when using two different speaker cabinets (such as a 4x10” and 2x10”) that have unequal output levels or when using cabinets with low wattage ratings.

2. X-OVER mode (bi-amping)

The X-OVER switch is “ON” and AMP BRIDGE switch is “off”. Power amp 1 (LO freq) handles frequencies below the CROSSOVER FREQ setting. Power amp 2 (HI freq) handles frequencies above the CROSSOVER FREQ setting. Subwoofers such as 15” or 18” speakers should be plugged into the “SPK 1” jack. Full range (or high frequency) enclosures should be plugged into the “SPK 2” jack. The balance of volume between the two speakers is set by the “1 LO” and “2 HI” POWER AMP controls. The X-OVER mode takes full advantage of the frequency response of these two different types of speakers.

3. BRIDGE mode (mono, full power into one speaker load)

The AMP BRIDGE switch is “ON” (X-OVER settings are disabled). Plug speakers into the BRIDGE ONLY jack. DO NOT use SPK 1 or SPK 2 jacks in the BRIDGE mode. This mode is used to get the most power into one speaker enclosure, or several identical enclosures. Be sure your speaker(s) can handle 1500watts for 4ohm or 900watts for 8ohm enclosures. If two identical speaker enclosures are used each one will receive 1/2 the wattage. When using speakers of unequal impedance make sure they can handle the full wattage.

HELPFUL HINTS

- 1) **NO SOUND:**
The MUTE function has been inadvertently engaged.
Speakers have been improperly connected.
Effect Loop has been improperly connected.
- 2) **NO HIGH FREQUENCIES:**
The BX1500 speaker connections are incorrect when in the X-OVER mode.
Tweeters or midrange drivers have been damaged from too much power.
- 3) **AMP SEEMS VERY SENSITIVE ON INPUT SIGNALS:**
The drive control is turned all the way up.
The active switch may need to be turned on.
- 4) **DIR XLR HUM:**
Try switching the rear GND LIFT switch IN or OUT.
Try switching to pre DI.
Check for noise from external effects or bad cabling.
- 5) **POOR BASS FROM MULTIPLE ENCLOSURES:**
Make sure the AMP BRIDGE switch is “OFF” when using SPK1 and SPK2 jacks.
The speaker connections are incorrect when in the X-OVER mode.
- 6) **FOR MAXIMUM OUTPUT:**
To get more output, use multiple speakers or enclosures. Every time you double your speakers, your acoustic output goes up by a factor of four. Load the amplifier down to its lowest minimum impedance for maximum RMS power.
If you go below the minimum load, your amp will shut off and go into the “protect” mode. To reset, turn your amp off and connect the recommended load.
SPEAKON® cables are recommended for your **BX1500** because of their high current capacity. While standard 1/4” speaker cables will work, 12 GA SPEAKON® cables will allow higher currents to pass through the cable to extract every watt from your amp.

SPEAKER COMBINATIONS

Two 8 ohm speakers	= 4 ohms	(OK)	(OK for BRIDGE)
Four 8 ohm cabinets	= 2 ohms	(OK)	(not for BRIDGE)
Three 8 ohm speakers	= 2.66 ohms	(OK)	(not for BRIDGE)
Two 4 ohm speakers	= 2 ohms	(OK)	(not for BRIDGE)
One 8 & one 4 ohm cabinet	= 2.66 ohms	(OK)	(not for BRIDGE)
Two 8 & one 4 ohm speakers	= 2 ohms	(OK)	(not for BRIDGE)
One 2.66 & one 8 ohm speakers	= 2 ohms	(OK)	(not for BRIDGE)
Two 2 ohm speakers	= 1 ohm	(no)	
Three 4 ohm speakers	= 1.33 ohms	(no)	
Two 4 & one 8ohm speakers	= 1.6 ohms	(no)	

The **BX1500** is a powerful amplifier. As with any amplifier, make sure your speakers are suitable for the available wattage. Driving speakers with too much wattage will cause them to distort and eventually fail. If distorted sound is coming from the speakers, reduce the volume until the distortion stops.



The **BX Series Bass Amplifier Heads** offer classic natural bass tone with unprecedented tonal control and extended headroom. The **BX1500 “dual” mono block** amplifier delivers 2x300w at 8ohms, 2x450w at 4ohms, and 2x750w at 2ohms. Bridge mode allows both amps to drive one output for 900w at 8 ohms and 1500w at 4 ohms.

Four discrete Class A input stages produce the harmonic basis for the preamp right from the input jack. It begins with a boutique flat response, then we add extensive tone control allowing you to carve out your signature sound. Harmonic content increases as you turn up the DRIVE control producing rich harmonics at maximum settings. Solid design, bullet-proof construction and a list of indispensable features assure the **BX1500** will be the heart of your rig for years to come.

- Discrete Class A input stages
- Bypassable 12AX7 preamp tube
- Preamp DRIVE and master VOLUME controls
- 3 mid sweep semi-parametric EQ, BASS, and TREBLE
- 9-band Graphic EQ with front panel switch (also by optional FS22 footswitch)
- Signal MUTE front panel switch (also by optional FS22 footswitch)
- EFFECT LOOP front panel bypass switch (also by optional FS22 footswitch)
- DIRECT OUT balanced XLR with independent LEVEL control, switchable “Pre-Post” and “Ground Lift”, DC isolated
- TUNER output jack independent of MUTE switch
- Single knob optical COMPRESSOR
- High current SPEAKON® combo connectors
- Metal shaft controls with threaded metal bushings mounted directly to front panel
- Circuit boards are MIL SPEC, double sided, FR-4 glass epoxy
- Lightweight design
- BX1500 -19” 2U aluminum chassis

GETTING STARTED QUICKLY

- If you are like most players, you probably want to plug in your new amp and get started playing right away. Before you start, be sure your amp is plugged into the correct AC voltage.
1. With POWER off, connect a speaker cabinet to one of the rear SPEAKER OUTPUTS.
 2. Set the DRIVE, MASTER volume, and the two amp volumes to “0” and set the ACTIVE INPUT switch for your type of bass.
 3. Set all tone controls to their center “0” position and the CONTOUR to FLAT. This is the “FLAT” setting for the amp. For now, turn off the graphic EQ.
 4. Now, turn the amp ON. Turn up the volume on your bass guitar. Gradually increase the amp VOLUME control to the desired level. If no sound is heard, turn down the VOLUME control and check the MUTE switch.
 5. Increasing the DRIVE control will add harmonic richness to your sound. Turning up the DRIVE also increases volume. Re-adjust the MASTER volume after adjusting the DRIVE.
 6. Adjust the tone controls to your liking. Keep in mind that turning up a tone control isn’t always the answer. Sometimes turning down one of the MID controls will get you the sound you want.
 7. Need more volume? There is a limit to the amount of volume a speaker can produce and driving a speaker beyond it’s limit can damage it. Even though these are powerful amplifiers, adding more speakers is the only way for substantially more output. Every time you double your speakers, you increase your acoustic output by a factor of four.
- Hopefully, this will help you get started. Have fun exploring the features and sounds of the **BX1500**. Take the time with your new amp to realize it’s full potential.

RECEIVING INSPECTION—read before getting started

INSPECT YOUR MIXER FOR DAMAGE which may have occurred during shipping. If damage is found, please notify the shipping company and CARVIN immediately.
SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for damage caused by improper packing.
SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.
SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.
RECORD THE SERIAL NUMBER on the enclosed warranty card or below on this manual for your records. Keep your portion of the card and return the portion with your name and comments to us.

USA customers register online at: www.carvin.com/registration

All other countries register online at: www.carvinworld.com/registration

For your records, you may wish to record the following:

Serial No. _____ InvoiceDate _____

BX1500 SPECIFICATIONS:

Output Power		
8ohms, THD <1.0%		2x 300w
4ohms, THD <1.0%		2x 450w
2ohms, THD <1.0%		2x 750w
8ohms bridge		900W
4ohms bridge		1500W
Input Impedance:		>200K
Tone Controls:		CONTOUR
		TREBLE 10K
		BASS 50Hz
		3 semi-parametric MIDs
		9-band Graphic EQ
Drive Control:		Varies input gain and harmonic content
AC Requirements:		Auto switching 120VAC or 240VAC, 50-60 Hz
Power Requirements:		800VA
Dimensions (no cabinet):		(2U) 3.5”H x 19” W x 10.5”D
Weight :		10 lbs.
Warranty:		One year parts and labor



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.

CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN





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

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 product should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization 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, The appliance inlet is the disconnect device. Keep it readily accessible.

SERVICING: The user should not attempt to service the appliance 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.

SAFETY INSTRUCTIONS (EUROPEAN)

The conductors in the AC power cord are colored in accordance with the following code.
GREEN & YELLOW—Earth BLUE—Neutral BROWN—Live

U.K. MAIN PLUG WARNING: A molded main plug that has been cut off from the cord is unsafe. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAIN PLUG INTO A POWER SOCKET.

LIMITED WARRANTY

Your Carvin product is guaranteed against failure for 1 YEAR unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. Carvin assumes no responsibility for horn drivers or speakers damaged by this unit. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

MAINTAINING YOUR EQUIPMENT

Avoid spilling liquids or allowing any other foreign matter inside the unit. The panel of your unit can be wiped with a dry or slightly damp cloth in order to remove dust and bring back the new look. As with all pro gear, avoid prolonged use in caustic environments (salt air). When used in such an environment, be sure the amplifier is adequately protected.

SERVICE:

In the USA go to www.carvinservice.com
Outside the USA, contact your dealer or go to <http://www.carvinworld.com> for your nearest service center. Include a written description of the problem with serial number and date of purchase.



CAUTION

RISK OF ELECTRIC SHOCK

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



FRONT PANEL CONTROLS



1. INPUT JACK

The 1/4" phone jack is a high impedance instrument input designed to handle both active and passive basses in connection with the ACTIVE switch.

2. BLUE JEWEL LIGHT AND POWER SWITCH

The power switch turns on the amplifier and is indicated by the large blue jewel light over the input jack.

3. DRIVE CONTROL

The DRIVE control adjusts the input level to the class A preamps. The DRIVE control serves two purposes. DRIVE can be used to adjust the input sensitivity for the differences in bass pickups. DRIVE will also change the harmonic content of your sound. Turning the knob closer to 10 will create a more over-driven tone. The DRIVE will also change the volume of the amplifier, so use it in combination with the MASTER control to achieve the desired volume.

4. MUTE SWITCH

The MUTE switch turns off the output of the amplifier. A blue LED indicates the MUTE switch is on. The MUTE switch is ideal for changing basses and silent tuning on stage, since the rear tuner output is never muted. The mute feature can also be switched with an FS22 footswitch.

5. ACTIVE SWITCH

Flip the ACTIVE switch to the DOWN position for standard bass pickups. If your bass uses a battery with an onboard active preamp, put the switch in the UP position. A blue LED indicates the ACTIVE switch is on.

6. CONTOUR CONTROL

The CONTOUR control provides a variable mid range scoop. When this control is set to "FLAT" there is no change to the mid range frequencies. As you turn the contour control clockwise, the mid range is scooped at the center frequency at 250Hz. When the CONTOUR control is set to maximum the mid-range is cut by -9dB at 300Hz.

7. BASS AND TREBLE TONE CONTROLS

The BASS and TREBLE controls are custom shaped tone controls designed to deliver punchy lows and crisp highs for a variety of bass sounds. When a control is turned to the right it boosts the signal and when turned to the left cuts the signal.

The affected frequencies for the BASS start at 80Hz and can deliver a great deal of volume. Be careful not to distort the output or overpower the low end of your speakers.

The affected frequency for the TREBLE control begins at 5kHz.

8. SEMI-PARAMETRIC MID SWEEP TONE CONTROLS (LEVEL & FREQ)

These three EQ's can take some time to learn how to use. Start with the LO MID sweep. The FREQ control does not function if the GAIN control is set in the center "0" position. To demonstrate, turn the GAIN to the right for full boost. Now play your bass and turn the FREQ control from left to right and notice the how the added mids change frequency. Now turn the GAIN to the full left and turn the FREQ control again and notice the mids disappear at different frequencies. Try this with the MID and HI MID also. As you can hear, there are many variables, so write down some of the settings for future reference. The mid sweep system controls can be very effective to fine tune your overall sound.

9. COMPRESSOR (COMP)

For some people, a compressor is a new feature. What it basically does is reduce the volume of the incoming signal as it reaches a preset maximum level. As the COMP knob is turned up (clockwise), the compressor lets a lower percentage of peak signals to pass through. This percentage is called the "compression ratio". When the knob is at the off position (full counter-clockwise) the ratio is 1:1, where all of the input signal passes through the compressor without being affected. At the MAX setting, the compression ratio is 3:1.

The advantage of a compressor is to reduce peaks and other sudden loud parts (transients) of your playing so you can increase your overall volume. For example, in slap bass playing, the plucked notes can put out peaks that would distort the amplifier at normal playing volumes. If the amp's volume was adjusted for these peaks, the rest of the notes would be too quiet to hear with the band. When the compressor is adjusted to where the LED comes on for loud peaks, the amplifier can be played louder without distortion. It's like having someone re-adjusting the volume of the amplifier to prevent distortion when the peaks occur.

The compressor circuit in the BX series is also internally connected to the power amplifier. When the amplifier reaches peak clipping levels it activates the compressor and reduces the output signal. This helps prevent the amplifier from clipping and protects the speakers.

10. 9 BAND GRAPHIC EQUALIZER

The 9 band graphic EQ has been designed with center frequencies most requested by professional bass players. This EQ can be used to fine tune the tonal content of the amps output. Since the graphic EQ is switchable with either the optional FS22 footswitch or the EQ switch on the front panel, it can be used during passages of a song when the bass needs to punch through the mix. Musicians that play more than one bass on stage will also find this useful to get the sounds they desire out of each instrument. The BLUE LED located above the GRAPHIC EQ IN switch signifies when the graphic EQ is working. **NOTE:** When the front panel GRAPHIC EQ switch is off, it cannot be turned on with the footswitch.

11. EFFECTS LOOP SWITCH

The green LED above the front panel EFFECTS switch indicates when the EFFECTS LOOP is active. When the EFFECTS switch is off the EFFECTS LOOP is bypassed. The signal is still present at the SEND jack, but the RETURN is not active. The EFFECTS LOOP can also be switched using the optional FS22 footswitch. **NOTE:** When the EFFECTS switch is off, the loop cannot be turned on with the footswitch.

12. ELECTRONIC CROSSOVER

The electronic X-OVER is used for a bi-amped speaker configuration. When the X-OVER switch is ON, the BX1500 is in bi-amp mode and the BLUE LED above it will be lit. To select the crossover frequency, rotate the FREQ control knob until the desired frequency is obtained. Low frequencies go to AMP1, and high frequencies go to AMP2. This allows speakers designed for specific frequencies to be utilized to their fullest potential, and allows the user even greater control over the tone of their rig. To start, try setting the FREQ at 300Hz. **NOTE:** Bi-AMPING does not necessarily deliver the most volume from your system.

13. MASTER VOLUME

Use the MASTER to control the overall volume of the amplifier. Reduce the MASTER level if clipping occurs as indicated by the PEAK LEDs (see #15). Using the COMPRESSOR will also help prevent clipping. The MASTER control also affects the HEADPHONE output.

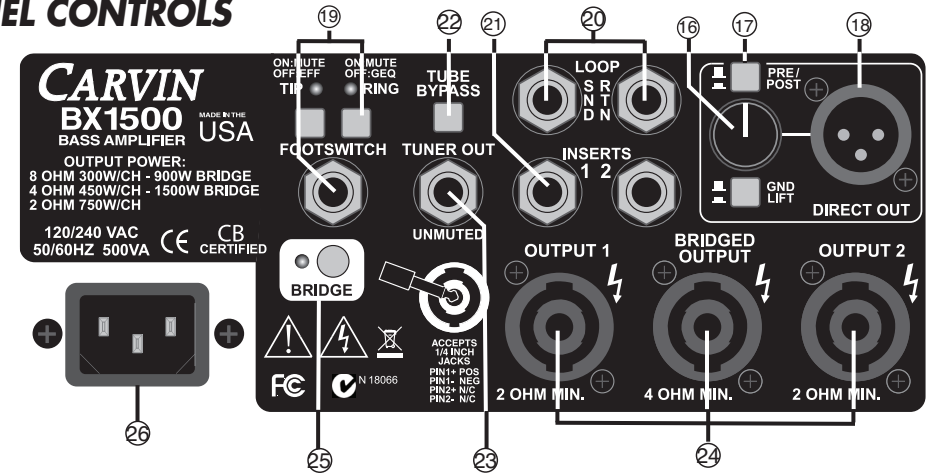
14. POWER AMP CONTROL

The 1 LO and 2 HI levels control the volume to the individual amps. These are used to balance the low and high frequency speaker cabinets when in X-OVER bi-amping mode. To set the balance, bring up the 1 LO knob until the desired volume level is reached. Now bring up the 2 HI knob until the desired balance has been achieved. Use the MASTER volume control to set the overall volume.

15. PEAK LEDS

The red PEAK LEDs are clipping indicators for the amplifier(s). If the amps are clipping use the MASTER to reduce the level. The COMPRESSOR may also serve to help prevent clipping. Be sure not to run the amps with heavy continuous clipping (PEAK LEDs ON) or your speakers could be damaged.

REAR PANEL CONTROLS



16. DI LEVEL (DIRECT OUT)

The DI LEVEL controls the output level of the XLR DIRECT OUTPUT. The DI level is not affected by the MASTER level.

17. DIRECT OUT PRE/POST SWITCH AND GROUND LIFT SWITCH

The direct out PRE/POST switch allows the choice of either a simple buffered signal straight from the input jack (PRE mode) or a processed signal including the Drive, Compressor, Tone, Graphic EQ, and Effect Loop processing (POST mode).

If a hum occurs when connecting the XLR to a mixer, try using the GND LIFT switch. The GND LIFT switch lifts the ground pin 1 of the XLR to 100 ohms above chassis ground.

18. DIRECT OUT XLR JACK

The DIRECT OUT XLR jack provides a balanced independent output for going direct to the main PA or recording input. The front MASTER control does not affect the output level. The XLR is protected against Phantom power (DC voltage) on cables coming from mixer inputs.

19. FOOTSWITCH AND CONFIGURATION SWITCHES

The optional FS22 footswitch can be used to remotely control 2 of these 3 features: MUTE, graphic EQ, or EFFECTS LOOP bypass.

The two configuration switches set the functions of the FS22 footswitch. The left switch controls the footswitch connected to tip of the 1/4" plug and the right switch controls the footswitch connected to the ring of the plug. There are four configurations:

The rear LEDs near each switch work with the front LED of the Effects loop and Graphic EQ. These LEDs will only light when the feature is turned ON by the footswitch. Use them to verify the configuration switches are in the desired positions.

Any standard footswitch with a stereo (TRS) plug will work.

20. EFFECTS LOOP (SWITCHABLE)

The SEND jack is the output of the preamp and is designed to deliver the proper level for the input

TIP switch setting	RING switch setting	footswitch 1 function	footswitch 2 function	TIP LED 1 (must be on)	RING LED 2 (must be on)
IN	IN	Effect Loop	Graphic EQ	GREEN	BLUE
OUT	IN	MUTE	Graphic EQ	off	BLUE
IN	OUT	Effect Loop	MUTE	GREEN	off
OUT	OUT	MUTE	not used	off	off

of an external effects processor. The SEND signal source is after the TONE CONTROLS and COMPRESSOR (#7, #8, & #9).

The RETURN jack is designed to receive signals from the output of an external effects processor. When a signal is plugged into the RETURN, it breaks the connection between the preamp and the internal power amp. The RETURN signal goes through the GRAPHIC EQ (if active) and MASTER controls to the power amp(s).

The EFFECT LOOP can be bypassed with the front panel switch (see #11) or optional FS22 footswitch (see #19).

21. AMP INSERT JACKS

The AMP INSERT jacks are TRS (Tip-Ring-Sleeve). The "TIP" is the SEND and the "RING" is the RETURN. Using a TRS (Tip-Ring-Sleeve) insert cable, the preamp signal can be sent out via the TIP to an external processor and then returned to the internal power amp via the RING. If a standard (Tip-Sleeve) instrument cable is used, the signal can be routed from the preamp to an external power amp. These insert jacks break the signal to the internal power amplifier.

Use the MASTER (or AMP 1 & 2) controls on the front panel for SEND level adjustments.

When the X-OVER is OFF, both outputs receive the same full range signal. When the X-OVER is ON, AMP 1 receives the low frequency signals and AMP2 receives the high frequency signals.

22. TUBE BYPASS

The TUBE BYPASS SWITCH removes the 12AX7 preamp tube from the signal path.

23. TUNER LINE OUT JACK (UNMUTED)

The TUNER LINE OUT jack is provided as a place to connect a tuner. This output is unaffected by the MUTE function so you may tune your bass quietly while using the MUTE.

24. SPEAKER OUTPUTS (SEE IMPEDANCE CHART ON BACK PAGE)

The BX1500 uses three combination 1/4" and SPEAKON® speaker output connectors. Multiple speakers can be attached by chaining cabinets together, so long as the total impedance is not below 2 ohms for each SPK 1 or SPK 2 jack and 4 ohms for the BRIDGE ONLY jack. 1/4" speaker cables can be plugged into the center of the green SPEAKON® jacks. The SPEAKON® connector is highly recommended for BRIDGE mode (see #25).

25. AMP BRIDGE SWITCH AND LED

The AMP BRIDGE switch enables the full power of both amps in the BX1500 to be sent to the single BRIDGE ONLY jack. The LED will illuminate to indicate BRIDGE mode.

Total minimum impedance is 4 ohms. DO NOT connect speakers to the SPK 1 or SPK 2 when in AMP BRIDGE mode. **NOTE:** In the AMP BRIDGE mode, the MASTER and POWER AMP1 controls adjust the output volume.

26. AC POWER & FUSE

Insert the power cord into this jack and push until fully inserted. Plug the cord into a grounded 3 prong power source. No attempt should ever be made to use the amp without the ground connected.

The FUSE is located internally on the circuit board. To check or replace the fuse, remove the power cord and the enclosure lid. If the fuse is blown repeatedly, it is likely the amp will require service.