

## Helpful Hints

- No sound:**  
The MUTE function has been inadvertently engaged.  
Speakers have been improperly connected.  
Effect Loop has been improperly connected.
- No High Frequencies:** (BR510, BR515 and external cabinets)  
The HIGH FREQUENCY ATTENUATION control is set low or OFF.  
The HF driver may have been damaged from too much power or distortion.
- 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.
- DIR XLR hum:**  
Try switching the rear GND LIFT switch IN or OUT.  
Check for noise from external effects or bad cabling.
- POOR BASS FROM MULTIPLE ENCLOSURES:**  
Make sure the internal speaker wiring of each cabinet is correct for phase (+/-).
- 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 are using less than 4 ohms, be sure to set the 2 OHM SWITCH on the back of the BX500. 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 or set the 2 OHM SWITCH.  
SPEAKON® cables are recommended for your BX500 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.

The BX500 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.

## CARVIN ENGINEERING DATA

BX500 / BR510 / BR515 / BASS AMPLIFIERS OPERATING MANUAL



The **BX Series Bass Amplifier Heads** offer classic natural bass tone with unprecedented tonal control and extended headroom. The **BX500** delivers 300w at 8 ohms and 500w at 4ohms or 2ohms, yet weighs in at only 5 pounds.

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. The BX500 also features 12AX7 preamp tube (bypassable) to add further warmth to your sound. The CLASS-D output and lightweight switch-mode power supply use far less energy from the wall while producing less heat.

Light weight, solid design, bullet-proof construction and a list of indispensable features assure the BX500 will be the heart of your rig for years to come.

- Discrete CLASS A input stages
- Preamp DRIVE and MASTER volume controls
- 2 mid sweep semi-parametric EQ, BASS and TREBLE
- Switchable 9-band Graphic EQ with front panel switch or by the optional FS22 footswitch
- Single knob COMPRESSOR
- Effect Loop
- Warm 12AX7 preamp tube with bypass switch
- Switchable MUTE front panel switch or by the optional FS22 footswitch
- DIRECT OUT balanced XLR with front panel LEVEL control - works with MUTE switch
- Switchable Ground Lift for DC isolation
- TUNER output jack independent of MUTE switch
- High current SPEAKON® combo connectors also accept 1/4” jacks.
- CLASS-D amplifier runs cool while consuming less power
- Variable speed fan, silent running at low speed.
- Solid metal shaft controls with threaded metal bushings mounted to front panel
- Circuit boards are MIL SPEC, double sided, FR-4 glass epoxy
- Energy efficient worldwide power supply accepts 90-250VAC, 50-60Hz
- Compact and light weight under 6lbs.
- Designed and manufactured by Carvin in the USA

### GETTING STARTED

1. With POWER off, connect a speaker cabinet to one of the rear SPEAKER OUTPUTS.
2. Set the DRIVE and MASTER volume to “0” and set the ACTIVE INPUT switch for your type of bass.
3. Set the four 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 MASTER control to the desired level. If no sound is heard turn down the MASTER, check the MUTE switch, speaker connections, and PROTECT LED.
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 BX500. Take the time with your new amp to realize it’s full potential.

### RECEIVING INSPECTION—read before getting started

INSPECT YOUR UNIT FOR DAMAGE which may have occurred during shipping. If damage is found, please notify the shipping company and CARVIN immediately.

SAVE YOUR INVOICE. 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 any 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 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](http://www.carvin.com/registration)

All other countries register online at: [www.carvinworld.com/registration](http://www.carvinworld.com/registration)

### SPECIFICATIONS:

<b>Output Power</b>	300w
8ohms, THD <1.0%	500w
4ohms, THD <1.0%	500w (2 ohm switch engaged)
2ohms, THD <1.0%	
<b>BR510 &amp; BR515:</b>	Enclosure impedance 8 Ohms
<b>Input Impedance:</b>	>200K
<b>Tone Controls:</b>	TREBLE 10K, BASS 50Hz, 2 semi-parametric MIDS, CONTOUR, and 9-band Graphic EQ
<b>Drive Control:</b>	Varies input gain and harmonic content
<b>AC Requirements:</b>	90 to 250VAC 50/60 Hz
<b>Power Requirements:</b>	500VA
<b>Dimensions</b>	
<b>BX500:</b>	3.25”H (with feet) x14.0”Wx8.25”D
<b>BR510N &amp; BR515N:</b>	23.8”Hx20.7”Wx18.5”D
<b>Weight :</b>	<b>BX500:</b> under 6 lbs. net (2.72 kgs) <b>BR510:</b> 57.5 lbs. (26 kgs) <b>BR515:</b> 56 lbs net (25.4 kgs)
<b>Warranty:</b>	One year parts and labor
<b>Optional Accessories:</b>	<b>FS22</b> footswitch <b>BX500RP</b> rackmount faceplate kit w/handles <b>CV615</b> vinyl cover for BR510 or BR515



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 accesable.

**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](http://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.



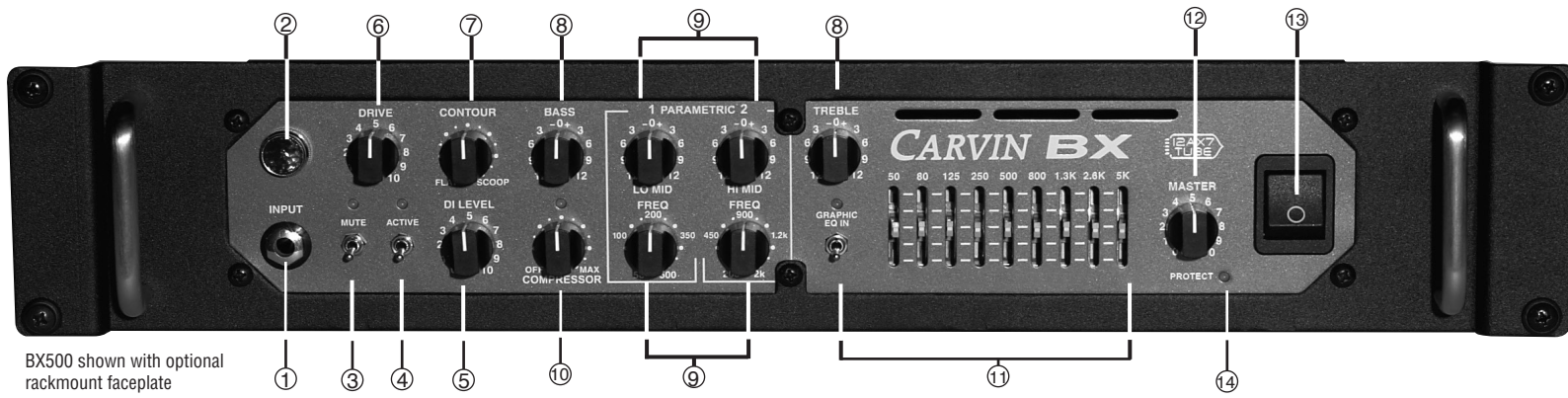
**CAUTION**

RISK OF ELECTRIC SHOCK

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



## FRONT PANEL CONTROLS



BX500 shown with optional rackmount faceplate

### 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 (POWER INDICATOR)

The POWER switch turns on the amplifier and is indicated by the large blue jewel light over the input jack. This light also indicates the condition of the power supply. If it the SPEAKER OUTPUT is shorted or if it is loaded below it's minimum rating, the power supply may shut off to protect the amp (see PROTECT LED).

If the power indicator goes out while playing, reset the amp by turning the POWER switch OFF for about 10 seconds. Check your speaker connections and the 2 OHM SWITCH setting (see 2 OHM SWITCH on rear panel). Turn the POWER switch back ON.

### 3. MUTE SWITCH (FOOTSWITCHABLE)

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. The rear tuner output is never muted. The mute feature can also be switched with the optional FS22 footswitch.

### 4. 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.

### 5. DI LEVEL (DIRECT OUT)

The DI LEVEL controls the output level of the XLR DIRECT OUTPUT jack. The DI level is not affected by the MASTER level, TONE controls, 9-band EQ or effects loop.

### 6. DRIVE CONTROL

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

### 7. 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 350Hz. When the CONTOUR control is set to maximum the mid-range is cut by -15dB at 500Hz.

### 8. 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 your speakers. The affected frequency for the TREBLE control begins at 5kHz.

### 9. SEMI-PARAMETRIC MID SWEEP TONE CONTRL (LO MID, HI MID & freq)

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 HI MID also. The mid sweep system controls can be very effective to fine tune your overall sound.

### 10. COMPRESSOR

The compressor reduces the volume of the incoming signal as it reaches a preset maximum level. As the COMP knob is turned up (clockwise), the compressor reduces a percentage of peak signa. 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 the 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 help prevent distortion when the peaks occur.

### 11. 9-BAND GRAPHIC EQUALIZER and EQ IN SWITCH (FOOTSWITCHABLE)

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.

### 12. MASTER VOLUME

Use the MASTER to control the overall volume of the amplifier. Reduce the MASTER if your sound becomes overly distorted. Using the COMPRESSOR will also help prevent distortion or overloading of your speakers.

### 13. POWER SWITCH

The POWER switch turns the amp ON or OFF. It is normal for the PROTECT LED to stay on for approximately 2-4 seconds after the the POWER switch is turned on.

### 14. PROTECT LED

The PROTECT LED indicates one of the protection circuits has activated and no sound will be heard from the amp. To reset the amp, turn the power off for about 10 seconds, then turn it back ON. If the PROTECT LED stays lit for more than 5 seconds check your SPEAKER OUTPUT connections, the 2 OHM switch, or a blocked fan intake.

### 15. TUBE BYPASS SWITCH

The BX500 features a 12AX7 preamp tube that can be bypassed for players who prefer a pure solid-state signal path. Press this switch IN to bypass the tube.

### 16. EFFECTS LOOP

The SEND jack is the output of the preamp and is designed to deliver the proper level for the input of an external effects processor. The SEND signal source is after the TONE CONTROLS and COMPRESSOR. 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.

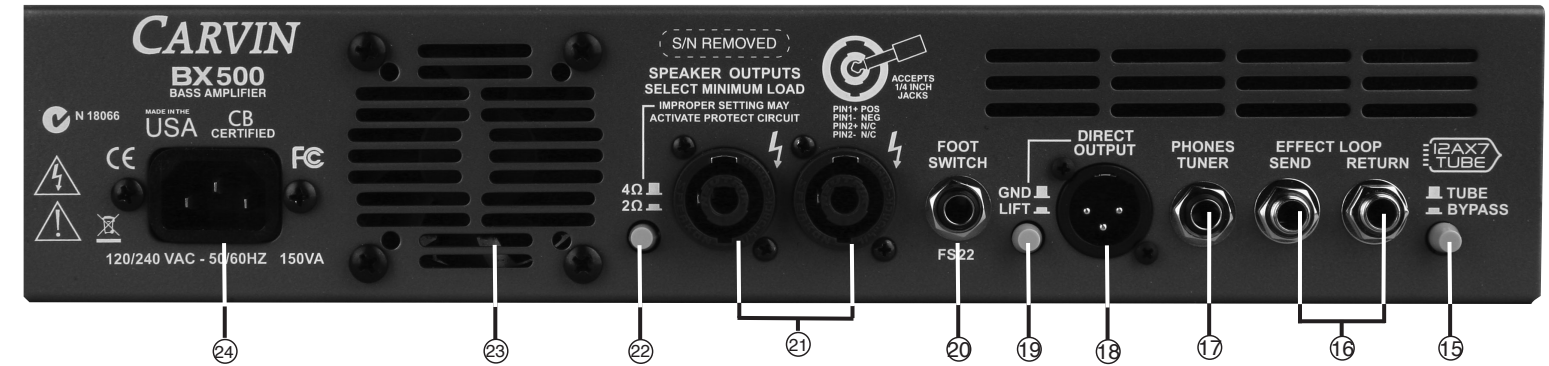
### 17. PHONES/TUNER JACK (UNMUTED)

The PHONES/TUNER jack is a stereo 1/4" jack, designed for connecting a tuner or headphones. This output is unaffected by the MUTE function so you may tune your bass quietly while using the MUTE. This jack will also send the mono signal to each side of your headphones. To listen to headphones without hearing other speakers, turn down the MASTER. The EFFECTS LOOP and GRAPHIC EQ will not be heard in the headphones. Volume is adjusted by the DRIVE control.

### 18. DIRECT OUTPUT XLR JACK (MUTED)

The DIRECT OUT XLR jack provides a balanced independent output straight from the input jack (PRE) for going direct to the main PA or recording input. The output level is adjusted from the front panel DI

## REAR PANEL CONTROLS



LEVEL control. This output is controlled by the MUTE function so you may tune your bass quietly while using the MUTE. The DIRECT OUT signal is not affected by the MASTER level, TONE controls, 9-band EQ or effects loop. The XLR is protected against Phantom power (DC voltage) on cables coming from phantom powered mixer inputs.

### 19. DIRECT OUTPUT GROUND LIFT SWITCH

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 the chassis ground.

### 20. FOOTSWITCH JACK

The optional FS22 footswitch can be used to remotely control the MUTE and graphic EQ features. The tip contact controls the MUTE and the ring contact controls the EQ. Any standard footswitch with a stereo (TRS) plug will work.

### 21. SPEAKER OUTPUTS (SEE IMPEDANCE CHART and 2 OHM SWITCH)

The BX500 uses two combination 1/4" and SPEAKON® speaker output connectors. Standard 1/4" speaker cables can be plugged directly into the center of the green SPEAKON® jacks. These jacks are connected in parallel. The SPEAKON® connection is recommended. Either or both jacks can be used so long as the total impedance does not go below 4 ohms, or below 2 ohms with the 2 OHM switch pressed "IN". If you go below the minimum speaker load, the amp may shut off or the PROTECT LED may light. To reset the amp, turn off the POWER switch and connect the recommended load or set the 2 OHM switch.

### 22. 2 OHM SWITCH (SEE IMPEDANCE CHART)

This switch allows the BX500 to operate with speaker loads down to 2 OHMS. Set this switch to the IN position if the total impedance of all speakers connected is less than 4 OHMS.

If you go below the minimum load, the power supply may shut off and the large blue jewel light may go out or the PROTECT LED may light. To reset the amp turn off the POWER switch for about 10 seconds, check speaker connections, and/or set the 2 OHM switch.

If you are connecting a speaker with an impedance of 4 ohms to the BR510 or BR515 combo, set the 2 OHM switch to the "IN" position.

### 23. FAN INTAKE VENTS

The BX500 features a variable speed fan, which runs silent at low speeds. Make sure the fan intake vents are free from blockage at all times.

### 24. AC POWER JACK & FUSE

The AC POWER JACK will accept 90VAC to 250VAC, 60Hz or 50Hz. A detachable power cord is supplied (for European 230V use a CEE-7 plug cord set). 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 near the AC input. To check or replace, first remove the power cord and then the enclosure lid. The fuse type is a 250V Slow Blow rated at 5A.

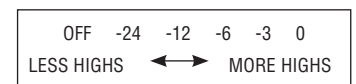
### HF DRIVER ATTENUATION CONTROL (BR510 & BR515)

On the back of the BR510 and BR515 speaker enclosures there is a jack plate with the HIGH FREQUENCY ATTENUATION control for the HF Driver. This control will only affect the volume of the HF Driver and does not affect the woofers.

The HIGH FREQUENCY ATTENUATION control is another way to increase or decrease the highs coming from your amp. There are six settings ranging from "0" (full on) to "OFF". If more highs are desired turn the HF ATTENUATION control UP towards "0" (clockwise), or turn it DOWN towards "OFF" (counter-clockwise) if a warmer sound is desired.

Note 1: One thing to consider with the HF Driver volume is which direction the cabinet is facing. Because the combo amplifier's HF Driver is less that two feet off the ground, the listeners seated in front of the amplifier may be getting more of the HF Driver volume than you (the player) standing in front of the amplifier. So be conscious of the volume and direction of the HF Driver when adjusting.

Note 2: If you occasionally clip the power amp, the HF driver may make the clipping distortion more noticeable. Turning the HF LEVEL down a few clicks or "OFF" will reduce the unpleasant sound and will further protect the HF driver from damage.



## IMPEDANCE CHART

### SPEAKER COMBINATIONS/OHMS:

Two 16 ohm speakers = 8 ohms	(OK)
Two 8 ohm speakers = 4 ohms	(OK)
Three 8 ohm speakers = 2.66 ohms	(OK) ( use 2 OHM setting )
Four 8 ohm speakers = 2 ohms	(OK) ( use 2 OHM setting )
Two 4 ohm speakers = 2 ohms	(OK) ( use 2 OHM setting )
One 4 & one 8 ohm speaker = 2.66 ohms	(OK) ( use 2 OHM setting )
One 5.33 & one 8 ohm speaker = 3.2 ohms	(OK) ( use 2 OHM setting )
One 2.66 & one 8 ohm speaker = 2 ohms	(OK) ( use 2 OHM setting )
Two 2 ohms speakers = 1 ohm	(no)
Three 4 ohms speakers = 1.33 ohms	(no)
Two 4 & one 8ohm speakers = 1.6 ohms	(no)