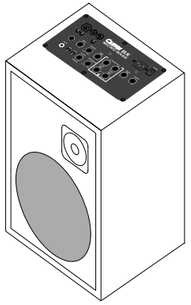
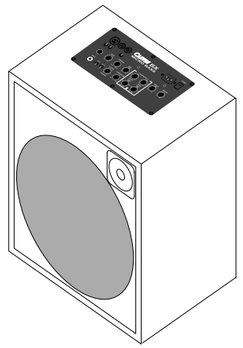
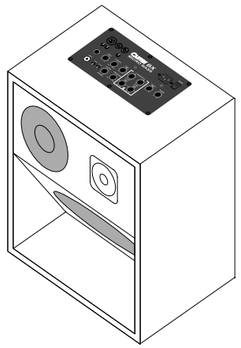
BX MICROBASS COMBO SPEAKER CONFIGUATIONS:



MB10: 2-WAY ENCLOSURE
10" WOOFER
1" NEO TITANIUM TWEETER
12.75"W x 11.5"D x 18.5"H
(470mm x 324mm x 280mm)



MB15: 2-WAY ENCLOSURE
15" WOOFER
1" NEO TITANIUM TWEETER
17"W x 12"D x 18.5"H
(470mm x 432mm x 305mm)



MB12: 3-WAY ENCLOSURE
12" NEO HORN LOADED WOOFER
6.5" NEO MID DRIVER
1" NEO TITANIUM TWEETER
17"W x 12"D x 18.5"H
(470mm x 432mm x 305mm)

Helpful Hints

1) **NO SOUND**:
The MUTE function has been inadvertently engaged.
Speakers have been improperly connected.

2) **NO HIGH FREQUENCIES**: (MB10, MB12, MB15 and external cabinets)
The TWEETER DIM switch or HIGH FREQUENCY ATTENUATION control is set low or OFF.
The HF driver may have been damaged from too much power or distortion.

3) **AMP SEEMS VERY SENSITIVE TO 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.
Check for noise from external effects or bad cabling.

5) **POOR BASS FROM MULTIPLE ENCLOSURES**:
Make sure the internal speaker wiring of each cabinet is correct for phase (+/-).

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.

The **BX Microbass** is a small, yet 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.

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.

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

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!

CARVIN ENGINEERING DATA BX250, MB10, MB12, MB15 - BX MICRO BASS AMPLIFIERS OPERATING MANUAL

BX250 HEAD

MB10

MB15

MB12 in optional color

The **BX Series Bass Amplifiers** offer classic natural bass tone with unprecedented tonal control and extended headroom. The **BX250 Microbass** amps deliver 200w at 8 ohms and 250w at 4ohms, yet fit in to a very small space.
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 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 make sure the **BX Microbass** will be your choice for years to come.

- Discrete CLASS A input stages
- Preamp DRIVE and MASTER volume controls
- 2 mid sweep semi-parametric EQ, BASS and TREBLE
- CONTOUR pre-shape control
- Single knob COMPRESSOR
- DIRECT OUT balanced XLR with LEVEL, PRE/POST and GROUND/LIFT
- MUTE switch allows silent tuning or headphone practice
- TUNER/PHONES output jack independent of MUTE switch
- TWEETER DIM switch allows control of speaker brightness (combo)
- CLASS-D amplifier runs cool while consuming less power
- Solid metal shaft controls with panel mounted threaded metal bushings
- 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.
- Designed and manufactured by Carvin in the USA

GETTING STARTED

1. With POWER off, connect an instrument to the INPUT jack. If you have the BX250 head, also connect a speaker to a speaker out jack. (4 ohms or higher)
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.
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 the POWER(blue)/PROTECT(red) 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 another speaker is the only way for substantially more output. Doubling your speakers increases your acoustic output by a factor of four.

Have fun exploring the features and sounds of the **BX Microbass**. 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 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 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**
All other countries register online at: **www.carvinworld.com/registration**

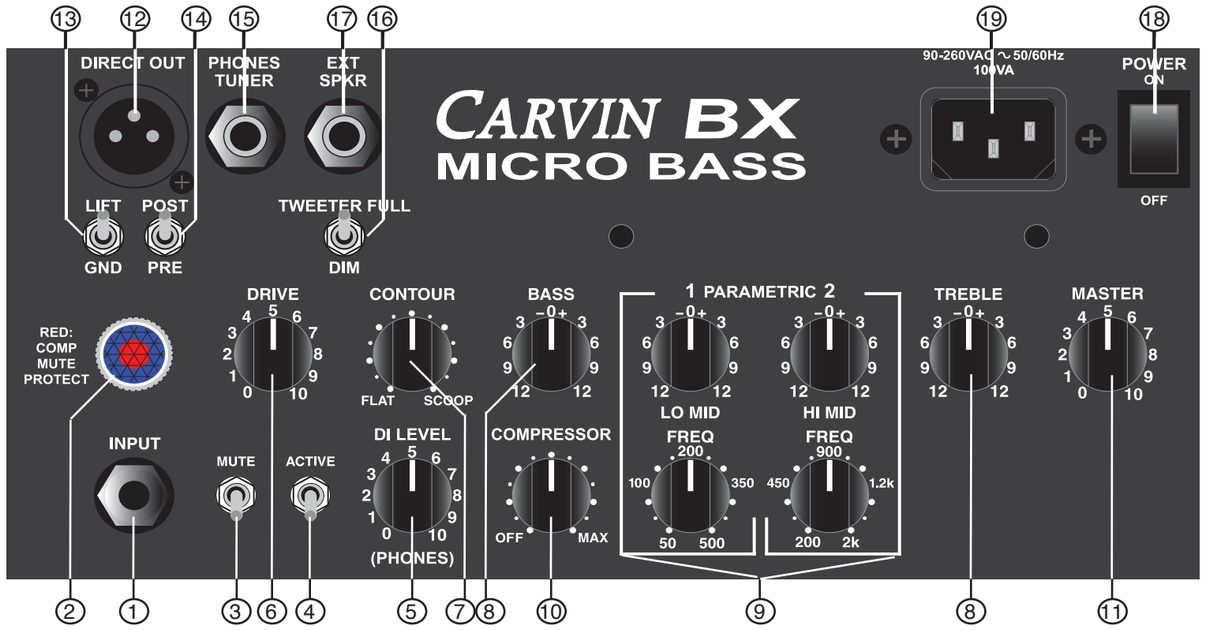
SPECIFICATIONS:

OUTPUT POWER (all models)	
8ohms, THD <1.0%	200w
4ohms, THD <1.0%	250w
Combo Speaker Configuration: (all models 8 ohms)	**MB10:** 2-way; 10" LF / 1" NEO HF **MB15:** 2-way; 15" LF / 1" NEO HF **MB12**: 3-way; 12" NEO LF / 6.5" NEO MID / 1" NEO HF
Input Impedance:	>200K
Drive Control:	Varies input gain and harmonic content
Tone Controls:	CONTOUR pre-shape BASS 50Hz 2 semi-parametric MIDs: 50Hz-500Hz / 200Hz-2kHz TREBLE 10kHz
AC Requirements:	90 to 250VAC 50/60 Hz
Power Requirements:	200VA
Dimensions	**BX250 (HEAD)**: 3.7"H x 10"W x 7.25"D (93 x 254 x184mm) **MB10**: 18.5"H x 12.75"W x 11.5"D (470 x 324 x 280mm) **MB12**: 18.5"H x 17"W x 12"D (470 x 432 x 305mm) **MB15**: 18.5"H x 17"W x 12"D (470 x 432 x 305mm)
Weight :	**BX250 (HEAD)**: 3.2 lbs. (1.5 kgs) **MB10**: 26.1 lbs. (11.85 kgs) **MB12**: 30.5 lbs. (13.85 kgs) **MB15**: 32.6 lbs. (14.8 kgs)
Warranty:	One year parts and labor
Optional Accessories:	vinyl covers **CVxx(MB10)**, **CVxx(MB12 or MB15)**

CARVIN
carvin.com 800-854-2235

76-45301B 0111

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. JEWEL LIGHT

BLUE = POWER ON/SYSTEM NORMAL

RED = STARTUP/MUTE/COMP/PROTECT

The POWER switch turns on the amplifier, and when the jewel light turns BLUE the amp is ready for use.

The jewel light turns RED under different conditions. RED first appears at POWER ON for a few seconds while the amp starts up and is checked by protection circuits. A solid RED will indicate the MUTE switch is engaged. RED will FLASH as the COMPRESSOR is working. A solid RED (not MUTE switched) can also indicate a PROTECT mode, most likely if the SPEAKER OUTPUT is shorted or if it is loaded below it's minimum rating.

If the power indicator turns OFF, or solid RED (not muted) while playing, reset the amp by turning the POWER switch OFF for about 10 seconds. Check any external speaker connections. Turn the POWER switch back ON.

3. MUTE SWITCH

The MUTE switch turns off the signal to the amplifier and the DIRECT OUT. The JEWEL LIGHT changes to RED to indicate the MUTE switch is on. The MUTE switch is ideal for changing basses, silent tuning on-stage, or headphone-only practice. The TUNER/PHONES output is never muted.

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.

5. DI LEVEL (DIRECT OUT, PHONES)

The DI LEVEL controls the output level of the XLR DIRECT OUT and the 1/4" PHONES/TUNER jack. The DI level is not affected by the MASTER level. Use PRE/POST switch to select if the DRIVE, COMPRESSOR and TONE controls affect this signal.

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 MIS SWEEP TONE CONTROLS (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 COMPRESSOR knob is turned up (clockwise), the compressor reduces a percentage of peak signal. 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 JEWEL LIGHT flashes RED 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. 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.

12. 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 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. The DRIVE, TONE and COMPRESSOR controls do not affect the DIRECT OUT with the switch in PRE. The XLR is protected against Phantom power (DC voltage) on cables coming from phantom powered mixer inputs.

13. 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.

14. PRE/POST SWITCH

The PRE/POST switch affects the DIRECT OUT and PHONES/TUNER signal. When set to "POST", the DIRECT OUT and PHONES/TUNER signals are affected by the DRIVE, COMPRESSOR, and TONE controls.

When the switch is set to "PRE", these controls are bypassed. The DI LEVEL adjusts the level in both positions.

15. PHONES/TUNER JACK (UNMUTED)

The **PHONES/TUNER** jack is a stereo 1/4" jack, designed for connecting a tuner or headphones. Volume is adjusted by the DI LEVEL control. This output is unaffected by the MUTE function so you may tune or play your bass quietly while using the MUTE.

To listen to headphones without hearing the other speakers, turn down the MASTER or turn on the MUTE switch and adjust the headphone volume with the DI LEVEL control. The PRE/POST switch affects this output.

16. TWEETER DIM SWITCH (MB COMBOS)

The **TWEETER DIM** switch allows the internal tweeter to be attenuated, allowing control of the brightness of the built-in speaker. This will not affect any speakers plugged into the EXT SPEAKER jack.

17. SPEAKER OUTPUTS

The MB10, MB12 and MB15 have one 1/4" extension speaker output connector which is connected in parallel with the internal 8 ohm speakers. You may connect another speaker with an impedance more than 8 ohms. The BX250 head has two speaker 1/4" speaker outputs. The total impedance must not go below 4 ohms. If you go below the minimum speaker load, the amp may shut off or the JEWEL LIGHT may turn RED. To reset the amp, turn off the POWER switch and connect the recommended load.

SPEAKER COMBINATIONS/OHMS:

One **16** ohm speaker + one **8** ohm (MB spkr.) = 5.33 ohms (OK)
One **8** ohm speaker + one **8** ohm (MB spkr.) = 4 ohms (OK)
One **4** ohm speaker + one **8** ohm (MB spkr.) = 2.66 ohms (**NO**)
Two **8** ohm speakers = 4 ohms (OK for **BX250 head**)

18. POWER SWITCH

The POWER switch turns the amp ON or OFF. The JEWEL LIGHT will light RED for approximately 2-4 seconds after the the POWER switch is turned on, then change to BLUE. If it stays RED, check the amp.

19. 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.