



a **B•I•C** America™ Company

OWNER'S MANUAL

Model F-12

12" Powered Subwoofer

SPECIFICATIONS

Woofer Size

12" Injection-Molded Long Throw Woofer

Power

475 Watts Dynamic Peak Output
(150 Watts RMS Continuous)

MAX Acoustic Output

115 dB SPL

Frequency Response

25Hz - 200Hz (+/- 3dB)

Crossover Frequency Range

40Hz - 180Hz

Enclosure Type

Vented

Dimensions

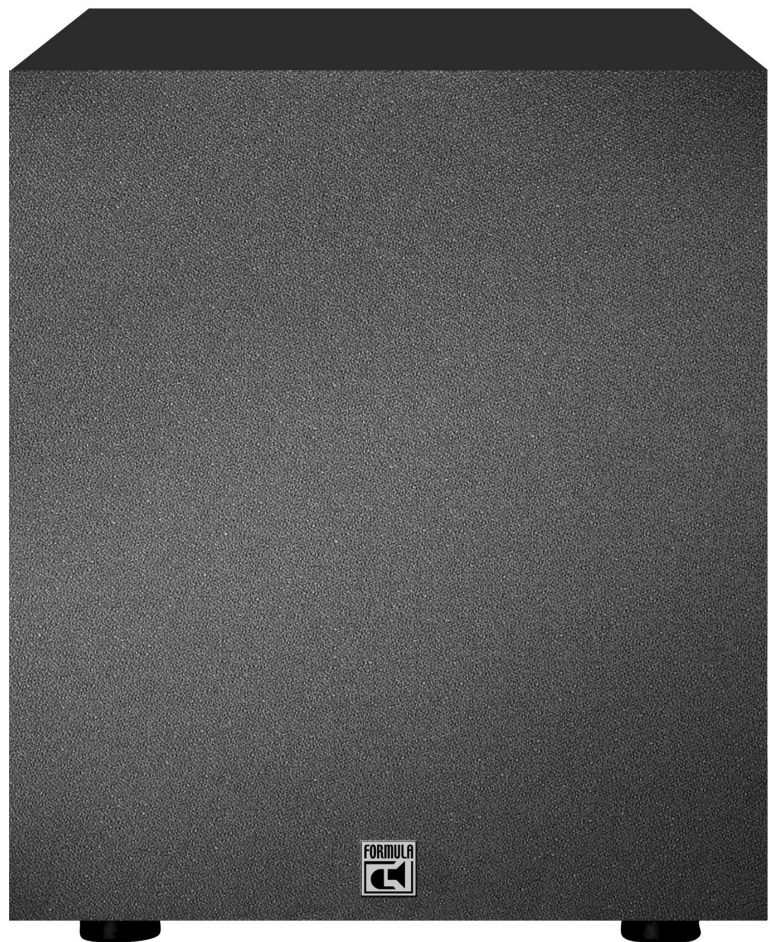
17" H x 15" W x 17½" D

Shipping Weight

42 lbs. (19 kg.)

Limited Warranty

5 years parts and labor
(excludes sustained cosmetic damages)



NO USER SERVICEABLE PARTS ARE INSIDE.



WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE



The lightning flash with arrowhead symbol within an equilateral triangle 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.

Le symbole éclair avec point de flèche à l’intérieur d’un triangle équilatéral est utilisé pour alerter l’utilisateur de la présence à l’intérieur du coffret de “voltage dangereux” non isolé d’ampleur suffisante pour constituer un risque d’électrocution.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

Le point d’exclamation à l’intérieur d’un triangle équilatéral est employé pour alerter les utilisateurs de la présence d’instructions importantes pour le fonctionnement et l’entretien (service) dans le livret d’instruction accompagnant l’appareil.

F-12 SAFETY INSTRUCTIONS

1. Read Instructions — Read all the safety and operation instructions before operating the F-12.

2. Retain Instructions — Keep the safety and operating instructions for future reference.

3. Heed Warnings — Follow all warnings on the subwoofer and in these operating instructions.

4. Follow Instructions — Follow all operating and other instructions.

5. Water and Moisture — Do not use the subwoofer near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool.

6. Heat — Locate the subwoofer away from heat sources such as radiators, or other devices that produce heat.

7. Power Sources — Connect the unit only to a power supply of the type described in these operation instructions or as marked on the subwoofer and amp.

8. Power Cord Protection — Route power supply cords so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit the subwoofer.

9. Object and Liquid Entry — Do not drop objects or spill liquids into the inside of the subwoofer.

10. Damage Requiring Service — Subwoofer should be serviced only by qualified service personnel when:

- A. Sub’s amp power-supply cord or the plug has been damaged; or
- B. Objects have fallen, or liquid has spilled into the subwoofer; or
- C. Subwoofer has been exposed to rain; or
- D. Subwoofer does not appear to operate or exhibits a marked change in performance; or
- E. The subwoofer has been dropped, or its chassis damaged.

11. Servicing — Do not attempt to service the subwoofer beyond those means described in this operating manual. All other servicing should be referred to the qualified service personnel.

12. To prevent electric shock, do not use the subwoofer’s polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, un prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans laisser aucune partie à découvert.

13. Grounding or Polarization — Do not defeat the grounding or polarization of the subwoofer.

14. Internal/External Voltage Selectors — Internal or external line voltage selector switches, if any, should only be reset and re-equipped with a proper plug for alternate voltage by a qualified service technician.

This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in radio interference regulations of the Canadian Department of Communications.

ATTENTION — *Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.*

WARNING — **To reduce the risk of fire or electric shock, do not expose this component to rain or moisture.**

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Congratulations on your purchase of a Formula F-12 powered subwoofer. It will give your stereo system unparalleled low frequency output.

Bass frequencies are critical to realistic sound reproduction. After you've hooked up your subwoofer, you'll discover just how much "punch" and depth you've been missing. No matter what kind of music or videos you listen to...whether you listen to it loud or soft, you'll experience sound that's richer and fuller. Bass guitar and string bass will have more impact. You'll be able to FEEL as well as hear percussion – just the way you would at a live performance. If you have an audio/video system, movies will come alive with thunderous sound effects that were never possible without the F-12.

The F-12 is a self-powered subwoofer that frees your receiver or power amplifier from the power demands of reproducing very low frequencies. To do this, the F-12 incorporates its own built-in crossover system that automatically "assigns" higher frequencies to your main speakers and lower frequencies to its own power amplifier, contained within the subwoofer enclosure.

The F-12 has been meticulously designed and tested to insure high performance, durability and longevity.

This manual is designed to take you step-by-step through the setup and operating process. This procedure is not difficult, but it *IS* slightly different than setting up a line level component such as a cassette deck or CD player. Reading this manual carefully will insure that you get maximum performance from your subwoofer.

UNPACKING

Remove the subwoofer from its packing carefully and inspect it for any shipping damage. If you discover damage, contact your dealer immediately.

If possible, save the carton and internal packing. It's the best possible protection for your subwoofer if you need to move it or return it for service.

Keep your sales receipt in a secure place. It will establish the duration of your warranty. It is also good for insurance purposes in case anything happens to your stereo system.

F-12 AMPLIFIER PANEL TOUR

Before actual setup, you should familiarize yourself with the connections on the back of the F-12, as shown in Drawing 1.

1. **POWER INDICATOR.** When the amplifier is ON, this indicator will be green. When the amplifier is in the STANDBY mode, as mentioned in item 2, this indicator will be red.

2. **POWER/AUTO ON SWITCH.** This toggle switch turns the subwoofer on and off. When the switch is in the ON position, the amplifier will stay on as long as the switch remains in that position. When this switch is in the AUTO position, the amplifier will stay turned on as long as a signal is being fed to the subwoofer amplifier. 15 to 20 minutes after you stop playing music or a video, the amplifier goes into STANDBY mode – see (1). When you again begin to play music or a video, the amplifier will automatically turn on.

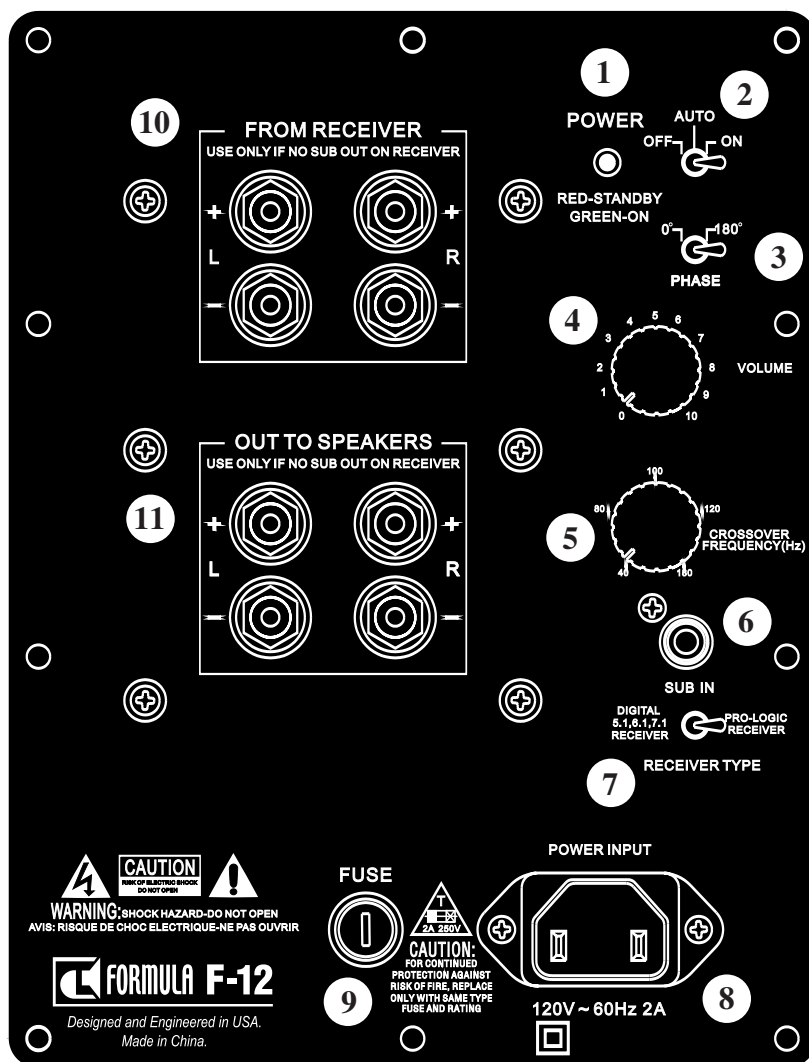
3. **PHASE SWITCH.** This switch is used to set the subwoofer's phase to either normal "0°" or reverse "180°" (out of) phase. Once you determine the placement of the subwoofer you will need to try both positions of this switch for the best bass output for your listening position. The physical location of your subwoofer and main speakers determines the phase setting that will sound best at your main listening position. If this requires using the "180°" mode, don't worry, there is nothing "abnormal" about it.

4. **VOLUME CONTROL.** Rotating this knob clockwise increases the output level of the subwoofer. To start out, make sure that the VOLUME is turned all the way down (fully counterclockwise). Later, after some initial listening tests, you can adjust the volume to your own tastes. However, care should be taken not to overdrive the subwoofer to the point of audible distortion.

5. **CROSSOVER FREQUENCY CONTROL** This control determines what lower part of the frequency spectrum will be reproduced by the subwoofer and what higher parts will be handled by your main speaker. It is a "crossover" control. Rotating the knob sets the point where all lower frequencies will be handled by the subwoofer and all higher frequencies will be routed to your main stereo speakers.

As a starting point, set the control around 80 Hz. if you are using left and right tower speakers, 100 Hz. with bookshelf speakers, and 120 Hz. with small mini-speakers.

Note: If you are using a Dolby Digital type receiver, the subwoofer crossover control does not work. You must set the crossover frequency in your



DRAWING 1 - Amp rear panel

receiver (check your receiver's owner's manual).

6. SUB IN. This connection is used to connect the subwoofer to the receiver. **Note: If you use the SUB IN connector, the RECEIVER TYPE toggle switch must be in the Pro Logic mode for the crossover frequency control to operate.**

7. RECEIVER TYPE TOGGLE SWITCH. You must set this switch to the type of receiver mode you are using. **Note:** When this switch is set to DIGITAL RECEIVER 5.1, 6.1, 7.1, the CROSSOVER FREQUENCY control (9) does not affect the signal.

8. POWER INPUT. This connector is the AC power in. Your subwoofer is supplied with a removable power cord that mates to this plug.

9. REMOVABLE FUSE HOLDER. By pushing in and turning counter-clockwise, you can remove and replace the fuse. Check the rating on the fuse for proper size of your unit.

10. FROM RECEIVER. Connects to a receiver's speaker terminals. These binding post, color-coded connectors are used to hook the subwoofer to another receiver that may not have subwoofer out or LFE (Low Frequency Effects) output connections.

11. OUT TO SPEAKERS. If you are using the F-12 from receiver inputs, you will hook your main speakers to these binding post, color-coded connections. They are NOT used if you are using the LFE (SUB) IN line level connection.

PLACEMENT

Positioning Your F-12

The subwoofer operates at low bass frequencies which are essentially omnidirectional. That means you can place the subwoofer almost anywhere in a room without compromising the effectiveness of your main stereo speakers.

Four factors need to be considered:

- 1) distance from your main speakers;
- 2) distance from a wall outlet;
- 3) distance from your receiver; and
- 4) proximity to walls and corners.

1. Distance from your main speakers. The best placement for your subwoofer is on the same wall as the main speakers, especially if you are matching up with small bookshelf speakers. With tower speakers, side wall or rear placement is also acceptable.

2. Wall outlet. Since the subwoofer requires AC power, it must be placed within 10 feet of a wall outlet. We don't recommend extending that range with an extension cord.

3. Connections to your receiver, integrated amplifier or preamplifier. If your receiver or integrated amplifier does not have a subwoofer output or LFE output (see next page), setup between the receiver and subwoofer will be made with speaker wire. You can basically place the subwoofer anywhere in a normal-sized room.

4. Proximity to walls and corners. Physical placement of the subwoofer will have a definite impact on the frequency

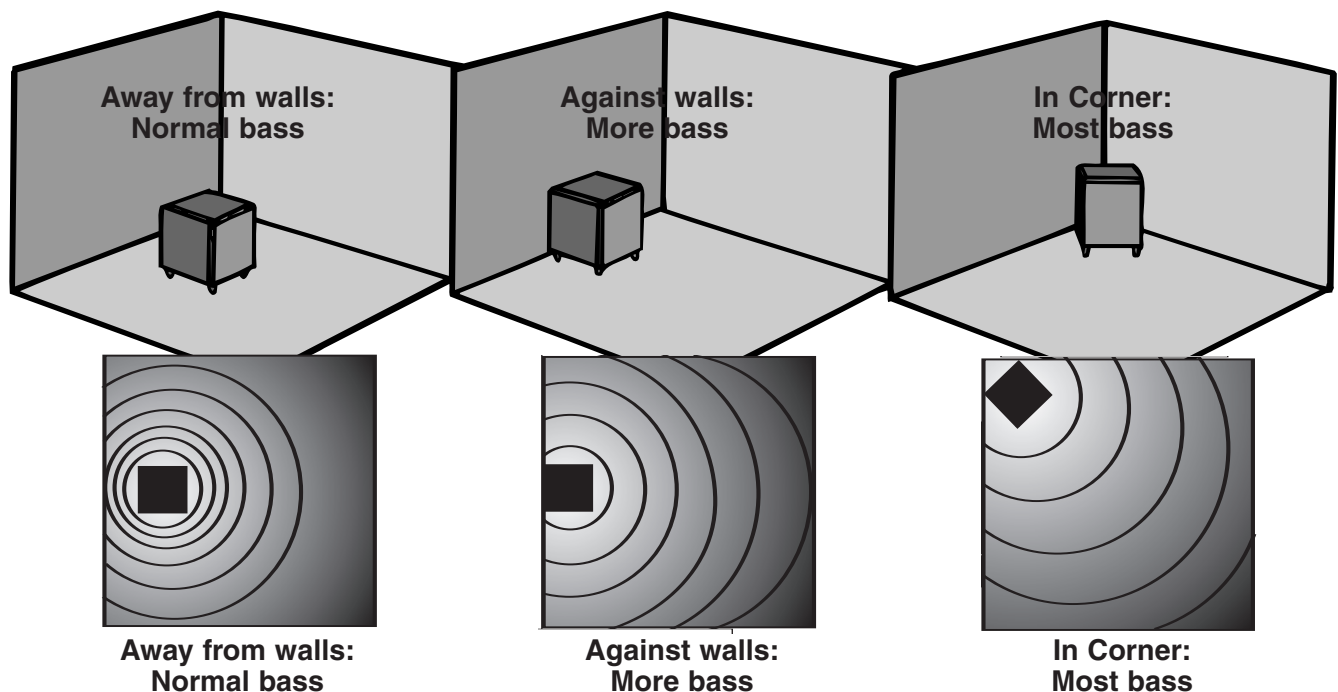
response and the perceived amount of subwoofer bass output. Because low frequencies have long wavelengths, they are influenced by proximity to a boundary such as a wall or floor.

See Drawing 2 below. When you place the subwoofer well away from a wall, it will produce bass at a certain level. Move the subwoofer close to the wall, it will produce more output (about 3dB more). Putting the subwoofer in a corner will increase output another 3dB (6dB more than when placed away from walls and corners).

All this technical jargon may sound confusing, but it basically means that you have a number of options, each of which produces a different amount of bass. For example, if you like a lot of heavy bass, consider putting the subwoofer into a corner. If you like smoother, less obvious bass, move the subwoofer out into the room. The main thing to remember is that there is no "right" or "wrong" place to put the subwoofer (assuming it's less than 10 feet from a wall receptacle). It all depends on how much bass you want.

Another reason to experiment – because low bass waves are very large (up to forty feet or more across!), they tend to cancel and reinforce each other, causing places in the room where there is lots of bass and others where there isn't very much at all. If you walk around your listening room while playing music, you'll probably discover these sorts of areas where bass is either exaggerated or reduced.

Incidentally, moving the subwoofer around won't affect the stereo imaging of your main stereo system, so feel free to try various subwoofer positions.



DRAWING 2 - Subwoofer placement

Connecting the F-12 to a wall plug

The subwoofer draws a moderately high amount of current. We do not recommend plugging it into a "convenience" outlet (switched or unswitched) that is often found on the back of receivers and other stereo components.

Instead, connect the F-12 to its own AC outlet ONLY. See items 8 and 9 in the Safety Instructions.

SUBWOOFER CONNECTION

Method A: Line level hookup steps for receivers with subwoofer connections

See Drawing 3 below

Note: This connection method is only for receivers that have a subwoofer or LFE output. If your receiver does not have a subwoofer or LFE connection as shown in Drawing 3, use *Method B: Amplifier wiring hookup steps for receivers or surround sound receivers with NO sub output jack*. You will need one line level RCA to RCA connector cable long enough to reach from your receiver to your subwoofer location. This should be available from your B-I-C/Formula dealer or from radio supply stores.

- ❑ 1. **IMPORTANT: Make sure that ALL stereo system components including the subwoofer are turned OFF before proceeding.**
- ❑ 2. Locate the subwoofer or LFE output connector on the rear of your receiver and connect one end of the RCA line level cord to it.
- ❑ 3. Route the line cord to the subwoofer location (trying to minimize areas where it may be stepped on) and connect the other end directly to the SUB IN.
- ❑ 4. Connect your main (and surround speakers if applicable) to the receiver according to the receiver's owner's manual.
- ❑ 5. Set the RECEIVER TYPE toggle switch to the type of receiver you have. **Note: If you are using a Dolby Digital type receiver, the subwoofer crossover control does not work. You must set the crossover frequency in your receiver (check your receiver's owner's manual).**
- ❑ 6. You are now ready to put your subwoofer into use.

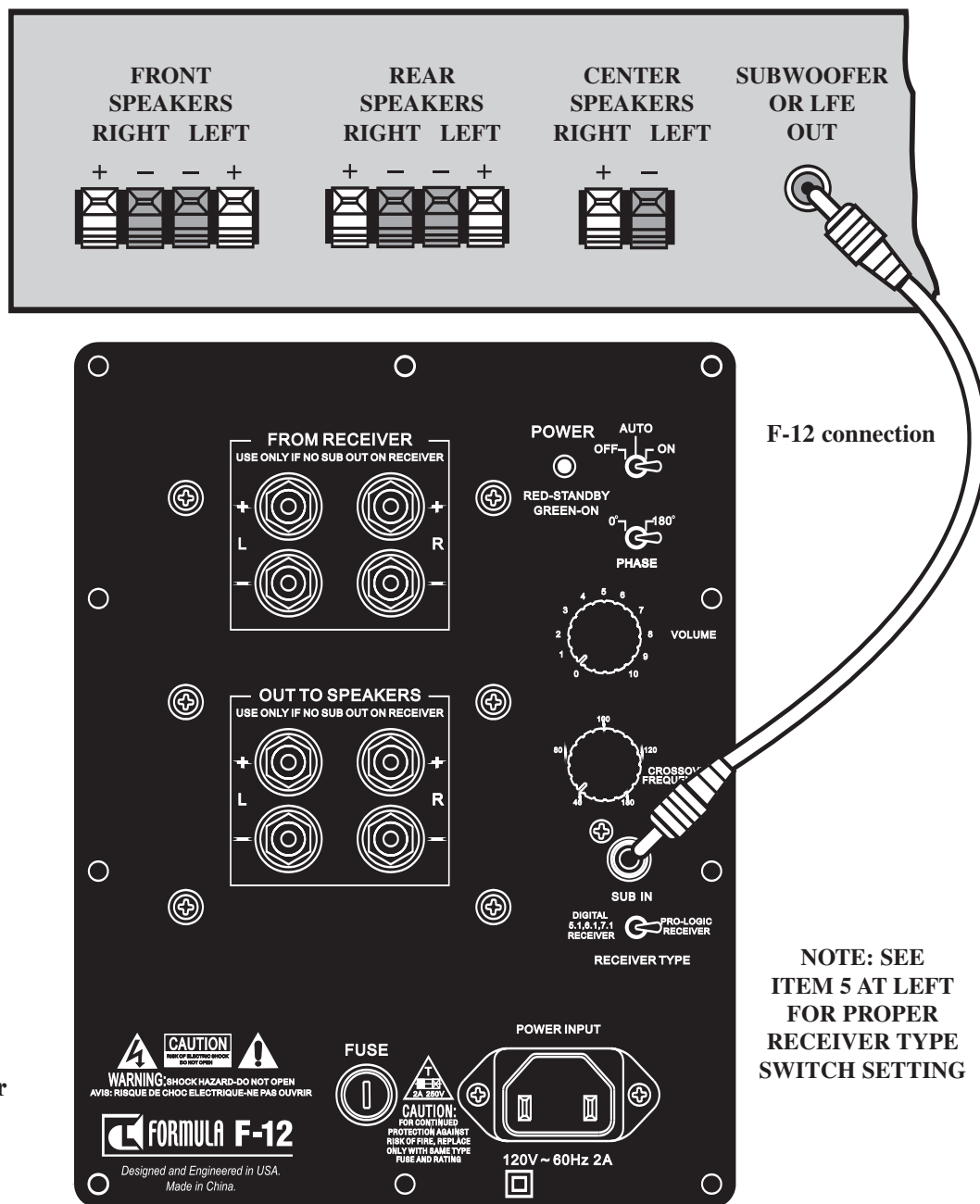
Converting Subwoofer to 220-240 Volt Operation

Remove amplifier from subwoofer cabinet. Take out all the screws around the perimeter of the control plate. Lift out the amplifier, reaching into the cabinet to remove the wire clip leads from the woofer input terminals.

Locate the power supply voltage-setting connectors. They're on the PC board that's attached between the aluminum heat sinks. At one end of the board the red and black AC power lines are attached. On that end, on the lower right-hand corner, you'll see two small jumper connectors.

Move the connectors. There are four pairs of pins onto which the jumpers can be placed. For 120-volt operation the jumpers are placed on the two outer pairs of pins. To set up the amplifier for 220-240 volt input, pull the jumpers straight up off the outer pin pairs and place them on the inner pairs of pins. (Sometimes the jumpers are held in place with hard yellow gunk. If they are, carefully cut through the gunk with an X-ACTO knife to free the jumpers.)

Replace the amplifier into cabinet. Reattach the wires to the woofer input terminals. Orient the amplifier control plate as it was originally, drop it in position, and replace the screws around the perimeter.



DRAWING 3 - Hookup for Surround Sound Receiver with Subwoofer Output

Method B: Amplifier wiring hookup steps for receivers or surround sound receivers with NO sub output jack

See Drawing 4

□ 1. **IMPORTANT:** Make sure that **ALL** stereo system components including the subwoofer are turned **OFF** before proceeding.

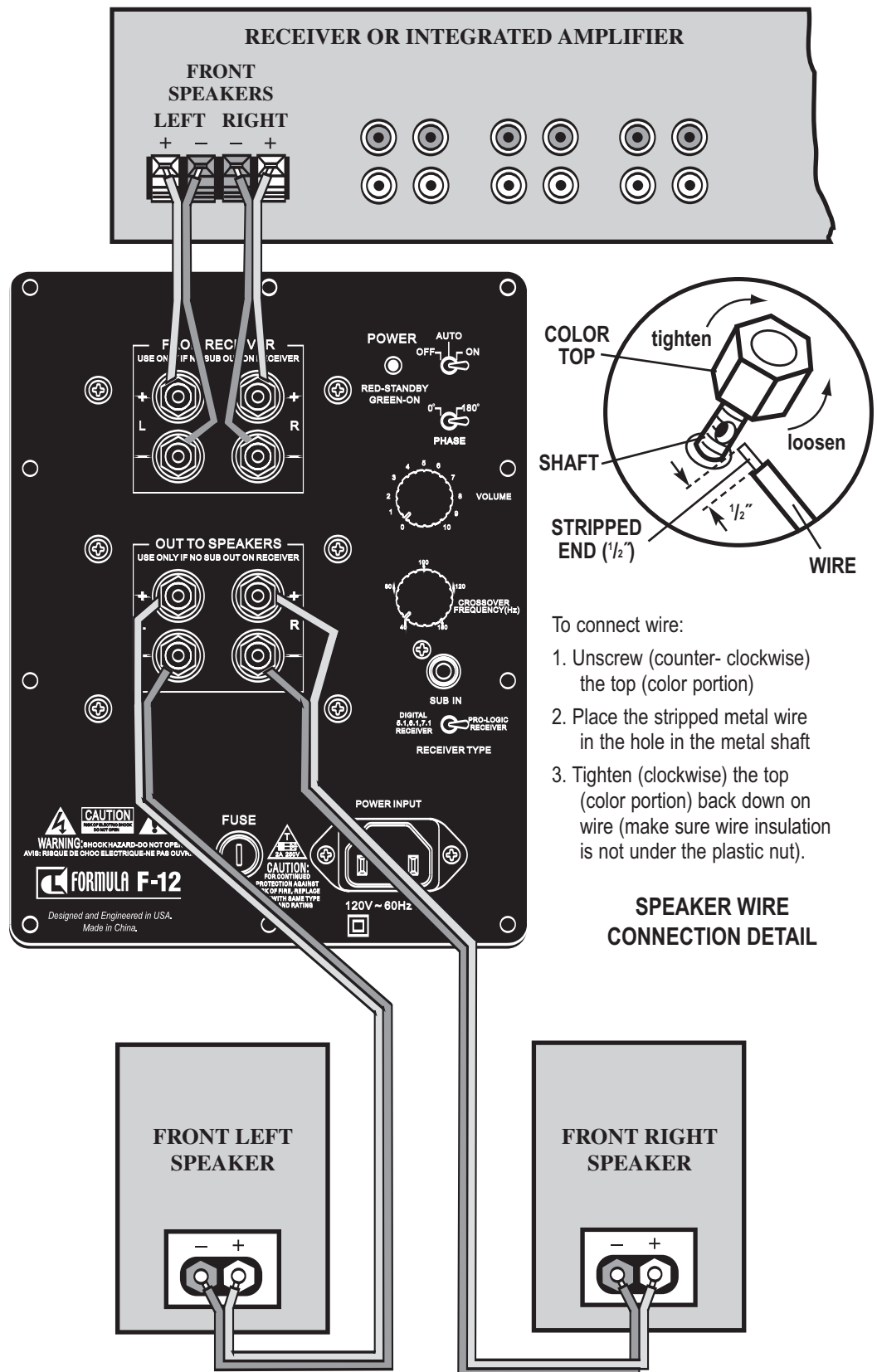
□ 2. Following the instructions on this page, strip and twist **TWO** lengths of speaker wire that will reach between your receiver's left and right speaker terminals and the subwoofer amp terminals. Make these two lengths of wire only as long as is necessary to run between the two components.

□ 3. Connect one speaker wire to the **RIGHT** "+" and "-" speaker terminals of your receiver or integrated amplifier. Then connect the other end of this speaker wire to the **RIGHT** "+" and "-" **FROM RECEIVER** terminals on the back of the amp. Use the tips on determining speaker wire polarity to make sure that "+" is connected to "+" and "-" is connected to "-".

□ 4. Connect the other speaker wire to the **LEFT** "+" and "-" speaker terminals of your receiver or integrated amplifier. Then connect the other end of this speaker wire to the **LEFT** "+" and "-" **FROM RECEIVER** terminals on the back of the amp. As in step 3, double check "+" and "-" polarity.

□ 5. Connect your main/satellite speakers to the amplifier **OUT TO SPEAKERS** terminals.

□ 6. You are now ready to put your subwoofer into use.



DRAWING 4 - Hookup for Receivers and Integrated Amplifiers without a Subwoofer Output

INITIAL LISTENING TEST

It's now time to test the F-12 subwoofer in your listening environment.

- 1. Double-check all connections.
- 2. Make sure that the volume controls on both the subwoofer and your receiver/integrated amp/preamp are turned all the way down (fully counterclockwise). Set the PHASE switch to normal. Set the CROSSOVER FREQUENCY knob to 80 Hz. Set the SUB IN switch to the type of receiver mode you will be using.
- 3. Turn on your stereo system. THEN turn on the subwoofer. Confirm that the subwoofer's green POWER indicator is glowing. If it isn't, check the power connections between the subwoofer and the wall socket.
- 4. Play a musical selection that you are familiar with. Pick a song that has regular low bass beats. Advance the receiver/integrated amp/preamp's volume control up to a normal listening level. If you don't hear sound through your main speakers, turn off the system and check connections. Also consult the troubleshooting tips.
- 5. If sound is coming out of your main speakers, turn the sub amp's VOLUME control clockwise until you hear noticeable additional bass. If you don't hear bass by the time you have advanced the subwoofer's VOLUME control halfway, turn off the system and check connections. Also consult the troubleshooting tips.
- 6. Adjust the sub amp's VOLUME control until you are satisfied with the amount of bass. You may want to try several different movies, tapes, compact discs or DVDs while determining how high to adjust the VOLUME. The amount of bass varies from disc to disc and between different types of music.
- 7. While playing music, move the subwoofer around, in and out of corners, closer and farther from the wall, etc. as much as the power cord and other connections will allow.
- 8. Now that you have adjusted the *quantity* of bass via the volume, it's time to work on the *quality* of the bass with the CROSSOVER FREQUENCY control, PHASE switch – and experimentation with the subwoofer room position.
- 8a. Have someone change the PHASE switch back and forth from 0° to 180° while you sit in the main listening position. Leave the switch in the position where you like the bass most.

□ 8b. Change the CROSSOVER FREQUENCY control (for Dolby Pro-Logic receivers) to higher and lower settings. If the CROSSOVER FREQUENCY control is set too high, you'll start to hear low midrange (voices and instruments) through it. This will negatively affect the stereo imaging of your main speakers. Back the CROSSOVER FREQUENCY setting off until you hear only bass from the subwoofer. If the CROSSOVER FREQUENCY control is set too low, you simply won't get much output from the subwoofer. Move it back closer to 80Hz.

□ 9. After you are satisfied with the output of your subwoofer, you can make all your volume settings through your receiver's volume control. The only time you might want to re-adjust the sub amp's VOLUME is when you encounter a musical selection that has abnormally low – or high – bass.

You can leave the subwoofer turned on and in AUTO mode when not in use. It does not draw much power in this state and will be ready to add low bass the moment you begin to play music. The subwoofer will automatically go into STANDBY mode after 10 to 20 minutes, when no music is playing.

If you're not using your stereo system for a long period of time (such as when you're on vacation), unplug it from the AC wall outlet.

Caring for Your F-12

The F-12 enclosure is finished in a very high quality polymer laminate covering that is both attractive and excellent protection for the wood cabinet. To remove fingerprints, splatters of diet soda, peanut butter or other real-world substances that mysteriously seem to appear on stereo components, use a damp, soft cloth on the laminate. You may also use a high-quality furniture polish to maintain the original luster.

TROUBLESHOOTING AND SERVICE

Before returning your subwoofer for service, you can save time by checking for a few problems that are most often encountered.

Power light is not lit. No sound.

1. Is your subwoofer plugged in to a live AC wall socket?
2. Is the power cord firmly plugged into the subwoofer amp power input connector? (See Power Input, Drawing 1, #8)
3. Is the power switch on?
4. Has the subwoofer overheated and shut off temporarily?
5. Is the fuse OK?

No sound from either set of speakers.

1. Are your other components turned on?
2. Is the receiver or preamp set to the appropriate input and is that sound source playing?
3. Do you have an unconnected tape monitor selected?
4. Is the subwoofer correctly connected to your receiver, preamplifier or integrated amplifier and turned on?

Sound comes from main speakers but not subwoofer

1. Is the subwoofer turned on (power light in the green mode) and VOLUME control turned up?
2. Check the speaker connections for small strands of wire touching both terminals.
3. Some digital receivers only send a subwoofer out signal when in the movie or digital mode. In the 2 channel (stereo music) mode, no subwoofer out signal is sent to the subwoofer. You may need to set your main speakers to "small" mode in your receiver setup to get the receiver's subwoofer output to turn on. Check your receiver's owner's manual for subwoofer operation.
4. For digital receivers – make sure the subwoofer is "ON" and the subwoofer level is set to "0 dB" or greater.

Sound comes from the subwoofer but not your main speakers

- confirm that the power amplifier is turned on.
- check the RCA patch cord
- check the speaker wire connections between the power amplifier and main or satellite speakers.

Bass is muffled or weak

1. Check speaker wire polarity of all connections.
2. Reposition your subwoofer. At some points in the room, its output may be cancelled by the geometry of the room. Moving the subwoofer can eliminate this problem.

Please refer to Page 2, #10 in the Safety Instructions for conditions that ALWAYS require service by qualified personnel.

If you have tried all the above and still cannot get the subwoofer to operate properly, consult Tech Support at 1-877-558-4242 (Ext. #2).



B·I·C America
925 N. Shepard Street
Anaheim, CA 92806
www.bicamerica.com

WARRANTY INFORMATION

We suggest that you read the LIMITED WARRANTY completely to fully understand your warranty/service coverage. ***Be sure to save the sales receipt in a safe place. It will be necessary for warranty service.***

If your subwoofer should require service, we suggest that you contact the dealer from whom you purchased it.

If the dealer is unable to take care of your needs, you may contact us at the phone number shown at the bottom of this page. We will then direct you to the nearest in our national network of Authorized Warranty Service Centers, or give you detailed instructions on how to pack and return the product to us for prompt action.

F-12 Powered Subwoofer Limited Warranty

If the B-I-C Speaker system proves to be defective in materials or workmanship within five years from the date of the original customer's purchase, we will, at our option, repair or replace the defective product.

*DISCLAIMER

THE WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE AND ALL OTHER LIABILITIES AND OBLIGATIONS OF B-I-C AMERICA, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. B-I-C AMERICA HAS NOT MADE AND DOES NOT HEREBY MAKE ANY OTHER REPRESENTATION, WARRANTY OR COVENANT WITH RESPECT TO THE CONDITION, QUALITY, DURABILITY, DESIGN, OPERATION, CAPACITY, FITNESS FOR USE OR SUITABILITY OF THE B-I-C/FORMULA ELECTRONIC PRODUCT.

Exclusion of Certain Damages

B-I-C America's liability for any defective product is limited to repair or replacement of the product at our option. B-I-C America shall not be liable for incidental or consequential damages of any kind or character because of product defects. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply.

This Warranty Does Not Cover:

Damage caused by abuse, accident, misuse, negligence, or improper operation.

Products that have been altered or modified.

Any product whose serial number has been altered, defaced, or removed.

Normal wear and maintenance.

Damages caused by shipping. (All claims for shipping damage must be made with the carrier.)

Warranty Service

Warranty service must be performed by an authorized service center, usually a B-I-C America dealer or its authorized agent. You may obtain a list of authorized service centers by calling the number below.

All warranty repairs must be accompanied by the original bill of sale. No other document is acceptable or is required.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Due to our continual efforts to improve product quality as new technology and techniques become available, B-I-C America reserves the right to revise its Speaker Systems specifications without notice.



Certified BEST VALUE Performance

B-I-C America
925 N. Shepard Street
Anaheim, CA 92806

www.bicamerica.com

Contact your dealer for warranty repair or technical help, or call

1-877-558-4242 (Ext. #2) for Tech Support.