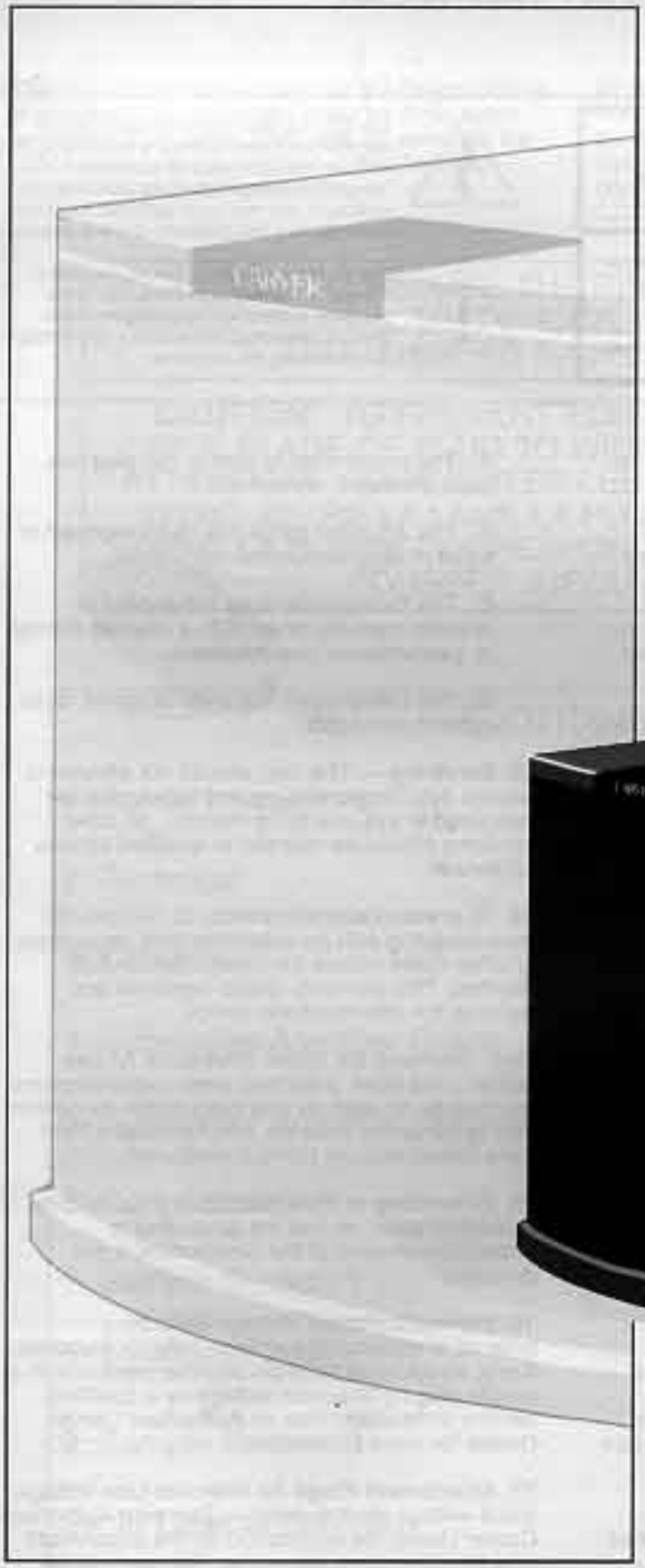
CARVER

Cinema 5.1 Powered Subwoofer



Owner's Manual

1. Safety

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.

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

1. Read Instructions — All the safety and operation instructions should be read before the Carver Component is operated.

2. Retain Instructions — The safety and operating instructions should be kept for future reference.

3. Heed Warnings — All warnings on the Component and in these operating instructions should be followed.

4. Follow Instructions — All operating and other instructions should be followed.

5. Water and Moisture — The Component should not be used near water. (bathtub, washbowl, kitchen sink, laundry tub, basement, potted plants, near a swimming pool, etc.)

6. Ventilation — The Component should be situated so that its location or position does not interfere with proper ventilation.

7. Heat — The Component should be situated away from heat sources such as radiators, or other devices which produce heat.

8. Power Sources — The Component should be connected to a power supply only of the type described in these operation instructions or as marked on the Component.

9. Power Cord Protection — Power-supply cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them.

10. Cleaning — The Component should be cleaned only as recommended in this manual.

11. Non-use Periods—The power cord of the Component should be unplugged from the outlet when unused for a long period of time.

12. Damage Requiring Service — The Component should be serviced only by qualified service personnel when one of the following instances has occurred :

A. The power-supply cord or the plug has been damaged or pinched.

B. The Amplifier panel has been exposed to liquid or long-term moisture.

C. The Component does not appear to operate normally or exhibits a marked change in performance characteristics.

E. The Component has been dropped, or its cabinet damaged.

13. Servicing — The user should not attempt to service the Component beyond those means described in this operating manual. All other servicing should be referred to qualified service personnel.

14. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted. This prevents blade exposure and reduces the risk of electric shock.

Pour préevenir les chocs électriques ne pas utiliser cette fiche polariseé 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 parile à découvert.

15. Grounding or Polarization — Precautions should be taken so that the grounding or polarization means of the Component is not defeated.

16. Internal/External Voltage Selectors — Internal or external line voltage selector switches, if any, should only be reset and reequipped with a proper plug for alternate voltage by a qualified service technician. See an Authorized Carver Dealer for more information.

17. Attachment Plugs for Alternate Line Voltage (Dual voltage models only) — See your Authorized Carver Dealer for information on the attachment plug for alternate voltage use. This pertains to dual-voltage units only.

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 the radio interference regulations of the Canadian Department of Communications.

ATTENTION — Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant las limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage

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

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRO- DUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Contents

2. Technical

Prelude

Thank you for choosing Carver Cinema Loudspeakers and welcome to the exciting world of home theater. As you are about to find out, Carver took a unique approach in the design of these components, creating a line of home theater loudspeakers that combine the accuracy and imaging of high-end audiophile music speakers with the clarity and dynamics associated with the best home theater speakers.

Carver was able to draw from almost 20 years as an audio innovator to incorporate technology from our extensive research in the world of amplifier design. The powered subwoofer has the rare ability to provide maximum output with minimal distortion at the critical low frequencies. As a result, it delivers exceptionally linear bass.

With a world-class amplifier, and a list of audiophile-grade components, Carver has set a new standard for Cinema Loudspeakers

Unpacking

Carefully unpack your speaker and keep the original carton and packing materials for future moving, shipping, or long-term storage. It is also important to save your sales receipt and keep it in a safe place. Write down the serial number in the space provided below.

The speaker should reach you in perfect condition. If you notice any shipping damage, please contact your Carver dealer immediately.

Please take a moment to fill out the enclosed customer response card and return it to Carver. This provides us with important information from our valued customers.

Model:

Serial Number: _____

Purchased at: _____

Date: _____

Care

Wipe off the speakers occasionally with a soft, dry cloth. Furniture polishes and waxes are not recommended because they can damage the cloth speaker covering. It is also important not to get any liquids near the amplifier panel as this can cause damage or electrocution.

If there is something stubborn to remove, apply a small amount of furniture polish to a soft cloth and wipe the speaker surface. Never use polish on the speaker fabric.

Features

- 10" long throw woofer with a high BL motor structure, rubber surround and a high density cellulose cone, coated with a ceramic-like stiffening compound
- 150 Watt Carver mono-block power amplifier with an exclusive BASS TILT control
- High stiffness multi-fiber cabinet for reducing unwanted acoustical vibrations
- Line level inputs and line level high-pass outputs
- Speaker level inputs and speaker level high pass outputs
- Variable crossover point
- Crossover slope is 12 dB/Octave @ 80 Hz
- Variable volume level control
- Attractive black cabinet wrapped in durable woven speaker cloth.

Specifications

Frequency Response	28-150Hz
Amplifier Power	150 Watts
Crossover Low Pass	40-150 Hz
Crossover slope	12 dB/octave @ 80 Hz
Driver Dimensions	10 inches
Dimensions WxDxH	16x18x18 inches
	295x457x457 mm
Weight	49 lbs, 22.2 kg

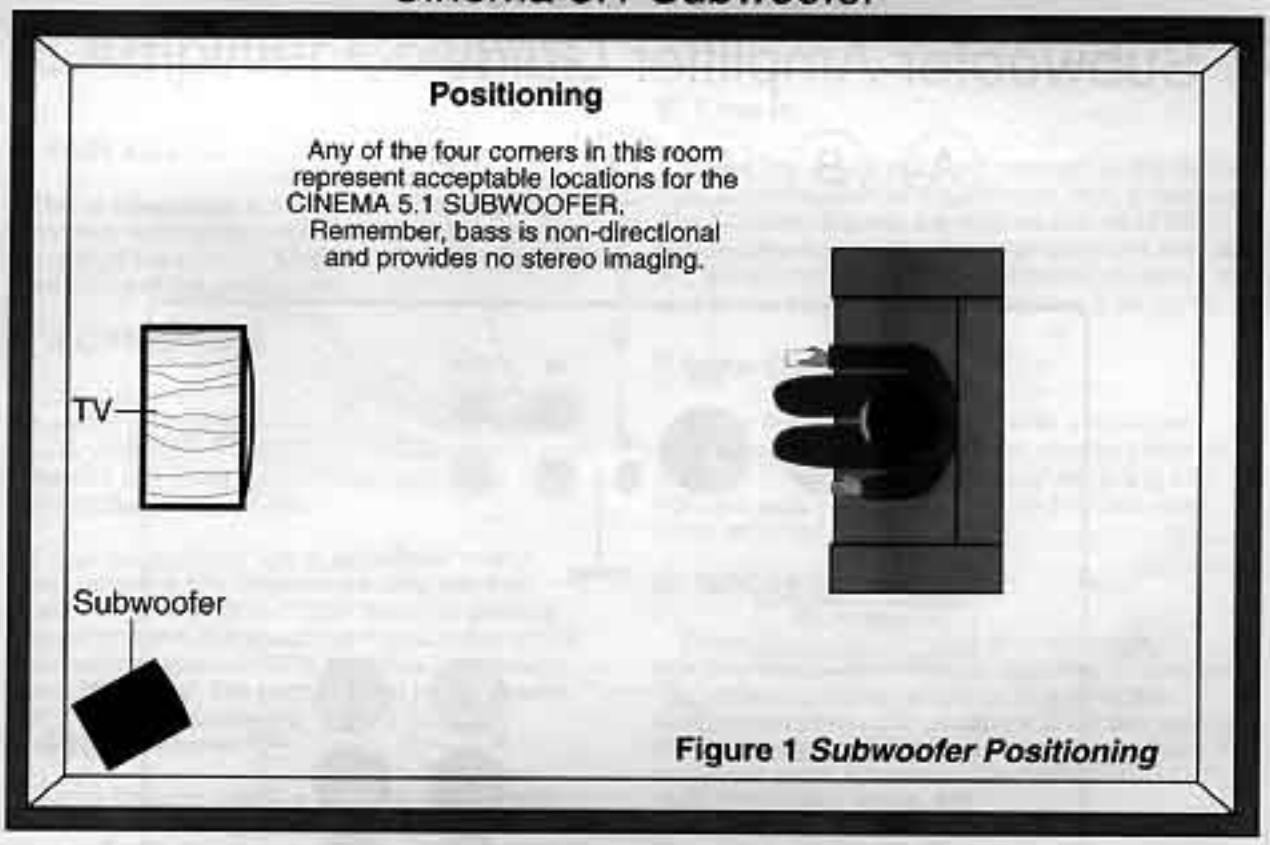


Figure 1 ***Subwoofer Positioning***

3. Location

Most modern movie soundtracks contain a significant amount of low-end bass. These low frequencies help to add realism to the experience by providing a measure of depth and dimension that is not often heard in most standard musical recordings.

In order for these ultra-low frequencies to be reproduced accurately and cleanly, a speaker with a great deal of surface area and a powerful motor structure must be employed to move large volumes of air. For this reason most standard stereo loudspeakers are incapable of accurately reproducing the amounts of bass that is required for home theater listening. As bass provides virtually no stereo imaging, only one powerful subwoofer is typically needed.

To this end, Carver Corporation created the subwoofer to accompany its CINEMA 5.1 speaker system. This fully powered unit can be placed almost anywhere in a room to provide clean and accurate bass for your home theater system.

The best location for the subwoofer can be found by playing the system with some heavy bass and proceeding as follows.

1. Place the subwoofer at your normal listening position and play your music. It should temporarily take up the place of your usual couch.

2. Leaving the subwoofer in this position, walk to a few likely locations in the room where the subwoofer might fit and find a point where the deep bass sounds the best. A corner near the front speakers is usually the most effective.

3. When you have found a good practical location where the bass sounds the best, move the subwoofer to this point. Put the couch back.

4. The bass will now sound good when you are listening from your couch.

You can experiment with different locations in the room. Over time, you might find that a different corner or position is more effective.

4. Subwoofer Amplifier Guide

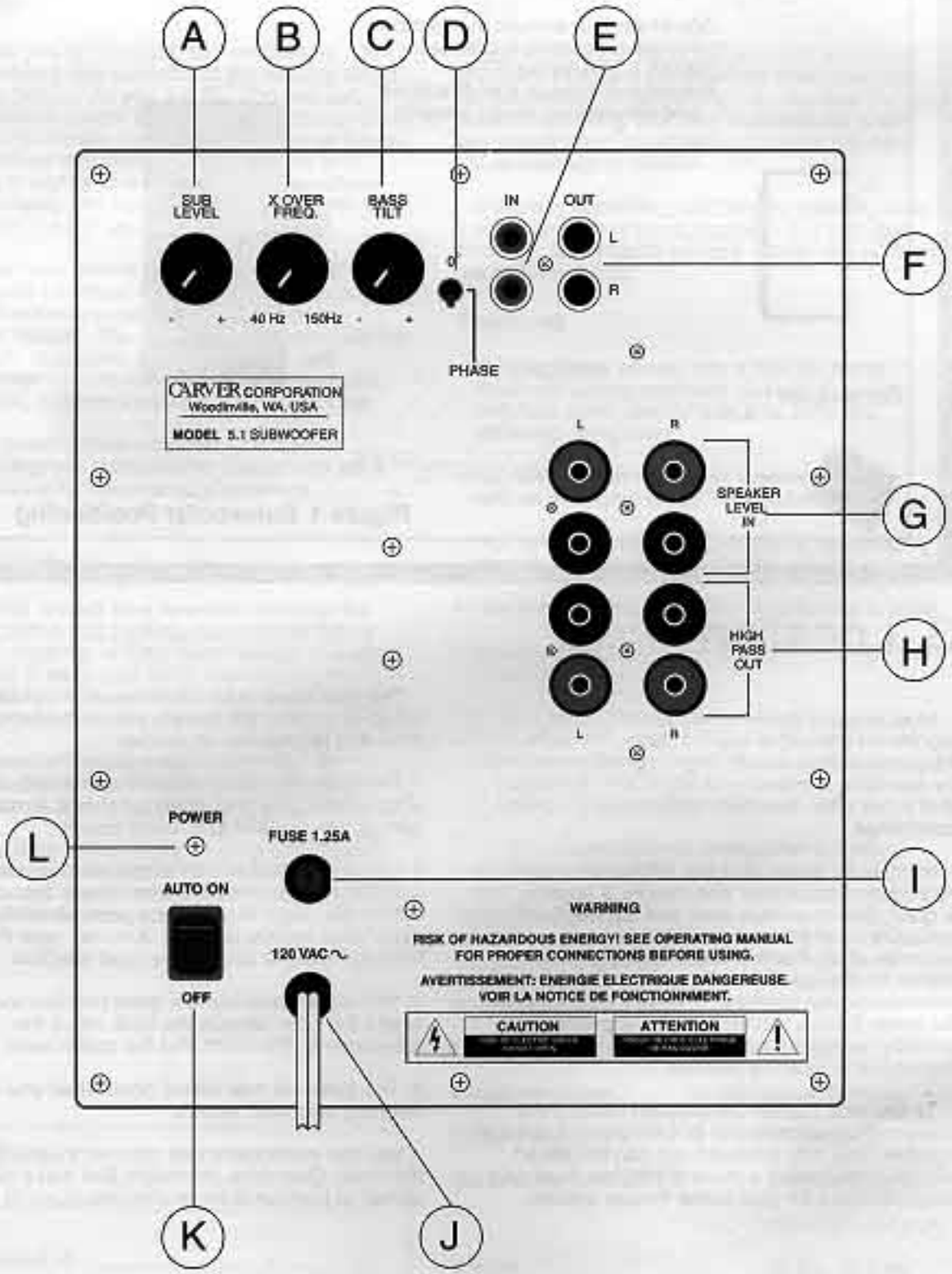


Figure 2 ***Subwoofer Amplifier***

5. Amplifier Controls

A. SUB LEVEL

This is essentially a volume control. Use it to blend the subwoofer output with the speakers in the rest of the system. Only do this after proper positioning of the subwoofer.

B. X OVER FREQ.

This control allows you to set the point at which the subwoofer splits the frequency band. The frequencies above this point are sent to your front speakers and those frequencies below are handled by the subwoofer.

If your preamplifier has a subwoofer output which contains low frequencies only, set this crossover control to be higher than the preamp crossover point. For example, if your preamplifier subwoofer output contains the bass information below 80 Hz, set this control to 80 Hz or greater. If you had set it below 80 Hz, you would be missing some bass.

If your preamp sends a full frequency output, then you can choose a crossover point which will work well with the front speakers. For example, if your front speakers have good performance from 80 Hz upwards, set the crossover at this point. If your front speakers can deliver good bass down to 50 Hz, then set the crossover at 50 Hz.

C. BASS TILT

When this is in the fully counter clockwise position, the output power is flat across the bass range. For example the power output at 40 Hz is the same as at 70 Hz. As you rotate the control clockwise (+), the output at 40 Hz becomes greater than at 70 Hz.

In home theater use, low frequencies provide a great deal of depth and realism to the listening environment. BASS TILT will allow you to adjust the ultra-low frequencies and tailor your system appropriately. It can be used with the crossover control to correctly blend the subwoofer with your left and right speakers

D. PHASE

This alters the phase of the subwoofer with respect to the other speakers in your system. Once your system is set up, try this in both positions until your home theater is producing the most dynamic and full bass.

E. Line In

These line level inputs can connect to the output from a preamplifier or the pre-outs from a receiver. The incoming signals are split so that all of the frequencies below the crossover point are sent to the subwoofer and all of the frequencies above are sent to the Line Out (F). See system 3 on pg 11.

F. Line Out

These line level outputs provide a high-pass output that can be fed back into your amplifier or receiver. This is a copy of the signals going into the Line In (E) except the low frequencies have been removed.

G. SPEAKER LEVEL IN

These inputs can connect to a full range, speaker-level output from an amplifier or receiver. The incoming signal is split so that all of the frequencies below the crossover point are sent to the subwoofer and all of the frequencies above the crossover point are sent to the HIGH PASS OUT (see SYSTEM 2 on pg. 10)

H. HIGH PASS OUT

Connect these terminals directly to your front speakers. The low frequencies are removed from the signals going into the speaker-level inputs (G) and sent to the internal powered subwoofer. Your front speakers will be receiving the power from your amplifier or receiver. The subwoofer will power the low frequencies with its own amplifier.

I. FUSE

This should only be replaced with a fuse of the same value shown on the rear panel of your subwoofer. *Always* unplug the power cord first.

J. Power Cord

Connect to a properly configured outlet providing the correct line voltage specified for your model

K. Power Switch

When the CINEMA 5.1 SUBWOOFER is turned on and it is receiving signals, the internal amplifier will power up. If the signal is shut off, the amplifier will turn off into the Standby mode.

L. Power Light

The power light will show Green when the power switch is turned on. It will turn Red when the subwoofer has automatically switched to Standby mode (when it is not receiving a signal).

6. Connections

Binding Posts

The binding posts are designed to accept bare speaker wires or standard banana plugs. If you want to connect your subwoofer using speaker level connections, follow these instructions, making sure that all of your equipment is turned off first.

Bare wire connections :

1) Strip 1/2" of insulation off each wire and make sure to carefully twist all the fine strands together. If even one strand is loose and touches the opposite terminal, a short circuit will result.

2) Unscrew the terminals and insert the wire. Tighten the connection down onto the wire (finger tight only, DO NOT use a wrench).

Figure 3

Banana plug connections:

The binding posts will also accept banana plugs for ease of connecting and disconnecting.

Make sure that the outer terminal is completely screwed down before plugging in the banana plugs, this ensures good electrical contact.

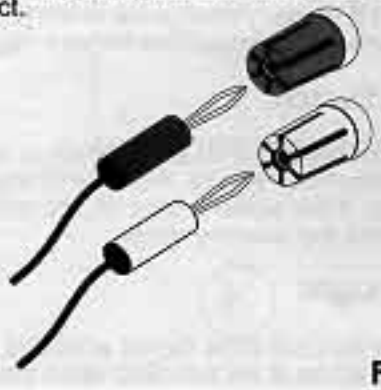


Figure 4

Speaker Wires

Use high quality wire for speaker connections. For longer runs, use heaver gauge wire. The following chart will be helpful in determining which gauge wire should be selected.

Wire Length	Wire Gauge
Up to 25 ft	16 gauge
25 to 40 ft.	14 gauge
40 to 60 ft.	12 gauge
60 to 100 ft	10 gauge

To prevent any electrical interference, try not to run speaker wires close to AC lines or sockets.

Connection Cords

If you want to connect your subwoofer using the line level connections, consider the following points:

- Take care to choose reliable hookup cables (also known as patch cords or RCA cables). There are many different grades and brands available so it is recommended that you consult your Carver dealer for advice.

- These cables should be fully shielded and as short as possible for the job.

- Most patch cables have a preferred method for removal and installation. Please consult the instructions provided with these before proceeding. If cables are installed or removed incorrectly, they can cause damage to the amplifier panel on the back of the subwoofer.

- Typically right patch cord plugs are red while the left is white, grey or black.

About Bass Management.

If your home theater has an option where low frequencies are deleted from the output provided to the front speakers, this is known as a bass management system. In home theater use, bass management is preferred because it prevents the left and right front speakers from distorting from the low bass frequencies that are found on many movie soundtracks. Instead, these frequencies are diverted to an independent subwoofer that is designed to handle them without distorting. The result is a much cleaner and more realistic listening environment. The following three pages illustrate some of the most common wiring configurations, illustrating the Cinema 5.1 Subwoofer's flexibility in systems with and without bass management capabilities.

7. Sample System 1

Connecting to a Surround receiver with a subwoofer output

This is the simplest and most basic configuration. The power for the front, center and surround speakers is provided by the internal amplifier of the receiver. The Cinema 5.1 Subwoofer provides its own amplification for the low frequencies.

Some receivers have a subwoofer output which is full range and some just supply the lower frequencies. It does not matter which type you have because the subwoofer has its own active crossover. Just make sure that you set the crossover point of the subwoofer *above* that of the receiver.

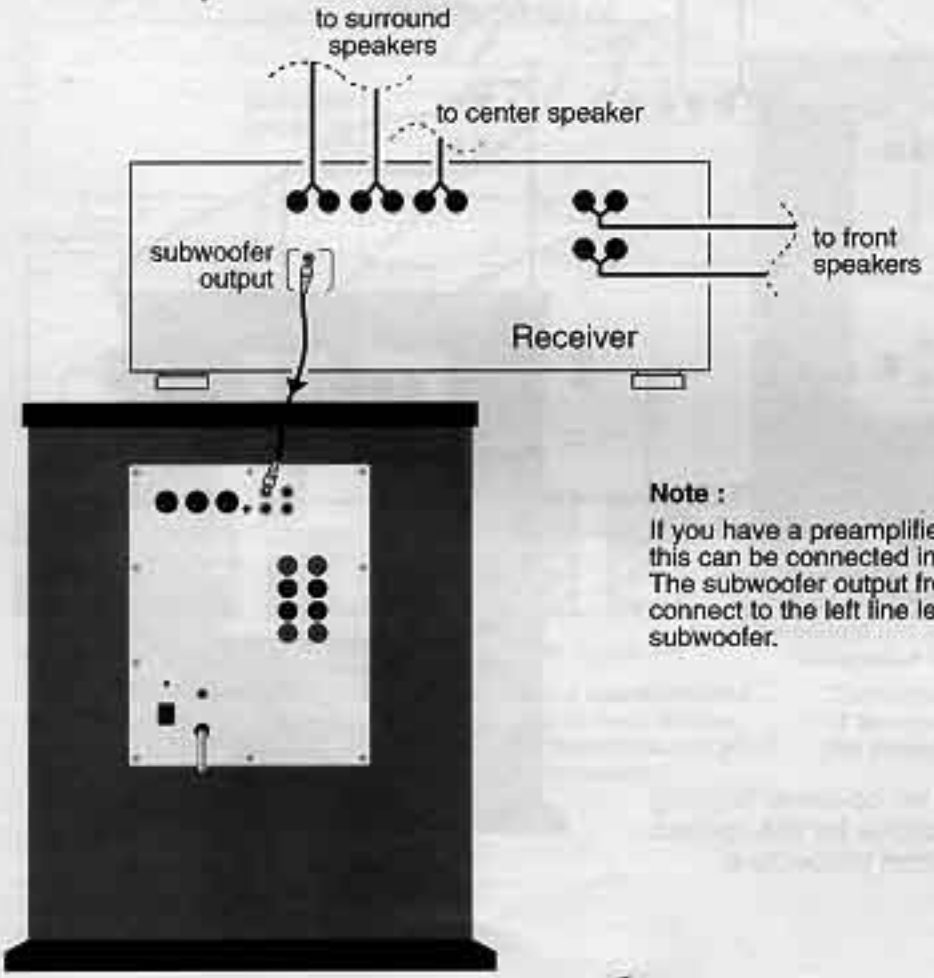
Most receivers will still let the front speakers play full range. If your receiver has a bass management system, it will have its own crossover to send the low frequencies to the subwoofer output and the higher frequencies to the front speakers. This will take some of the load off of your front speakers, also allowing you to choose smaller speakers.

Wiring Instructions

NOTE: If you have not already read the section about hook-up wires and patch cables on the previous page, we recommend that you do so before proceeding with any wiring or installation. *Your system must be turned off before making any connections.*

1. Connect the SUBWOOFER OUT on the back of the Receiver to the Left IN on the Cinema 5.1 Subwoofer.

2. The front, center and surround speakers are left connected to your receiver in the usual way. Make sure that the red receiver terminals connect to the red speaker terminals and black connects to black this will keep all the speakers in-phase with the subwoofer.



Note :

If you have a preamplifier with a subwoofer output, this can be connected in exactly the same way. The subwoofer output from the preamp will connect to the left line level input of the powered subwoofer.

8. Sample System 2

Connecting to a Surround receiver which has no line level "pre-outs"

Many receivers only have speaker-level outputs and so we have equipped the Cinema 5.1 subwoofer with an internal passive speaker-level crossover network.

In the following system, The Carver subwoofer is using this feature to remove the low frequencies from the FRONT speaker outputs of the Receiver. The subwoofer handles the low frequencies while passing the higher frequencies on to the Left and Right front speakers.

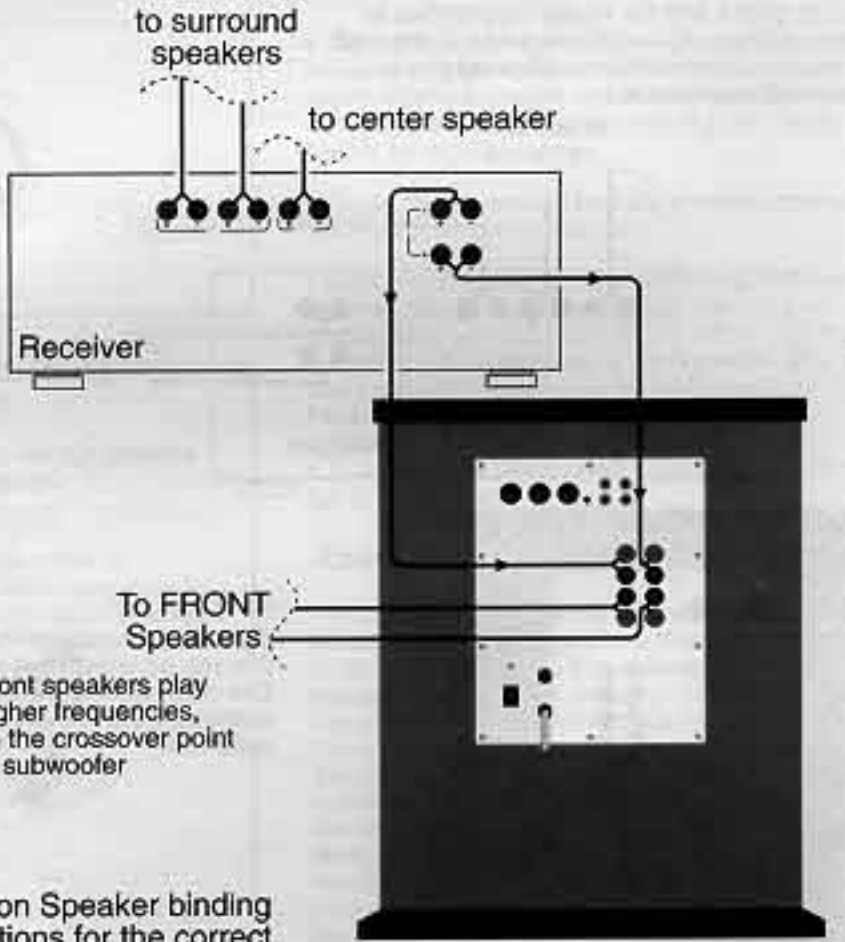
The front speakers are still powered by the receiver's internal amplifiers, even though they are physically connected to the subwoofer. The subwoofer's internal amplifier plays the bass.

Wiring Instructions

1. Connect the + and - FRONT speaker binding posts on the back of the receiver to the + and - SPEAKER LEVEL IN binding posts on the subwoofer. Make sure that the Left binding posts on the back of the receiver go to the Left binding posts on the subwoofer and the Right binding posts on the receiver go to the Right binding posts on the subwoofer.

2. Connect the + and - HIGH PASS OUT binding posts on the back of the subwoofer to the + and - binding posts of the FRONT speakers. Make sure that the Left binding posts on the back of the subwoofer go to the Left speaker and the Right binding posts go to the Right speaker.

3. Connect the surround and center speakers to the receiver in the usual way.



Note: See section on Speaker binding post connections for the correct wire installation procedure.

9. Sample System 3

Connecting to a Surround preamplifier which has no subwoofer output

The following system uses a separate preamplifier with a five channel amplifier. In this case, the system uses the line-level inputs and outputs of the Cinema 5.1 subwoofer. The preamplifier sends a full range signal into the line-level inputs on the back of the subwoofer. The subwoofer's internal crossover then removes the bass and provides a set of high-pass outputs. These outputs then send their signal to the inputs of the amplifier channels running the Left and Right FRONT speakers. The subwoofer supplies its own power, amplifying those low frequencies that have been removed from the Left and Right FRONT speakers.

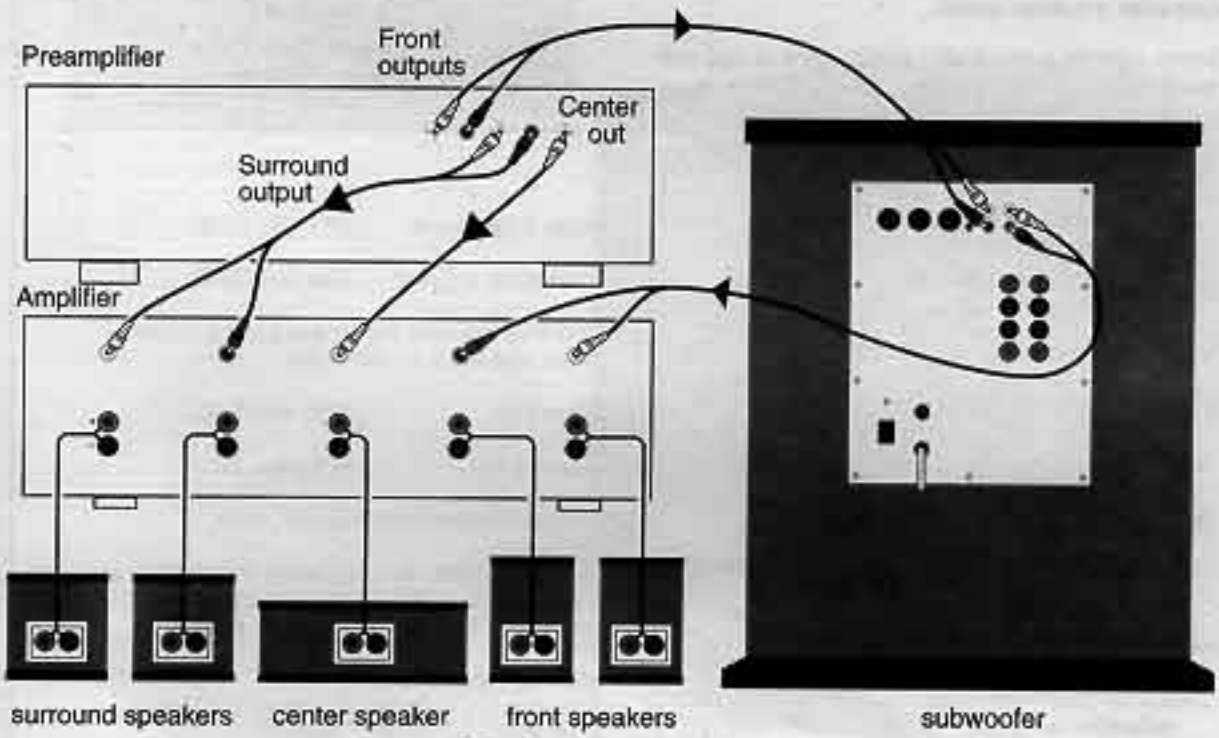
Wiring Instructions

1. Using high grade RCA cables, connect the FRONT PRE-OUTS on the back of the preamplifier to the LINE-IN on the back of the subwoofer.

2. Connect LINE-OUT on the back of the subwoofer to the inputs of the amplifier channels that are driving the FRONT speakers.

3. Connect the Surround PRE-OUTS on the preamplifier to the inputs of the amplifier channels that are driving the Surround speakers.

4. Connect the Center PRE-OUT on the preamplifier to the input of the amplifier channel driving the Center speaker.



The front speakers play the higher frequencies, above the crossover point of the subwoofer

The subwoofer plays the bass of the front channels, below the crossover point

CARVER

10. In Case of Difficulty

Troubleshooting

If you are having trouble with your speaker system, try some of the following troubleshooting tips before contacting your dealer or Carver technical support.

No sound, No power, No lights.

Check to see that the subwoofer is turned on.

Check to see that the AC cord is properly plugged in.

Make sure that the wall socket is active. If it is connected to a switch, make sure the switch is turned on.

Unplug the power cord and check that the subwoofer fuse is still good.

Subwoofer sounds quiet.

Make sure that the SUB LEVEL control has not been turned down and that the subwoofer is receiving a signal.

Try changing the PHASE switch to the opposite position.

Place the subwoofer in a different part of the room. Positioning and room acoustics can make all the difference in output.

Move the crossover frequency up.

Subwoofer sounds "boomy".

Set the crossover level to a lower frequency.

Adjust the Bass Tilt control.

Move the subwoofer to a different location in the room.

Playback is mixed with hum.

Check all patch cables to make sure none are defective or loose.
Make sure that the signal cables have not been routed close to any AC lines, power transformers, dimmer switches, or Halogen lamps
If you have cable TV or draw your FM signal from cable, disconnect the RF cable from your system. If the hum goes away, you may have a "ground loop" in your system. Contact your dealer or Carver technical support for assistance.

Service

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

If your speakers should require service, we suggest you contact the dealer from whom you purchased your unit, or contact us at the factory.

Have the model number and serial number ready and we will then give you detailed instructions on how to obtain prompt repair service.

Factory Address
Carver Corporation
P.O. Box 137
Woodinville, WA
98072-0137

Main Telephone (425) 482 3400

Technical support 1 800 521 4333

(toll-free number if you are calling from within the USA or Canada)

Main Fax (425) 482 3401

Service fax (425) 482 3442

E-mail Custservice@carver.com

Cinema 5.1 subwoofer Owner's manual
Part #990-10102-00 Rev. B

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