

Amplifiers

User's manual



Cambridge Audio[™]

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INTRODUCTION

Congratulations on purchasing this Cambridge Audio amplifier. It has been designed using the results from an extensive Research & Development program undertaken to identify the circuitry and components fundamental to our highly regarded and critically acclaimed products.

This knowledge has resulted in a reduced component count and shorter signal paths which provide further enhanced performance and improved reliability. The quality and value for money offered by Cambridge Audio products now surpasses even our high standards.

The performance of any amplifier is ultimately limited by the dynamic abilities of its power supply, and for this reason Cambridge amplifiers feature generously over specified power transformers, discrete diode rectification and selected high speed reservoir capacitors. Power regulation is also used wherever possible and our transformers are custom designed, low flux type, allowing for the instantaneous clean delivery of current whenever it is needed.

Particular attention has also been paid to the quality of the passive components where close tolerance metal film resistors and audio grade signal coupling capacitors are used throughout. Critical line level circuits are also protected from electrical noise by our custom designed gold plated shielding cans.

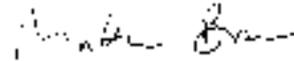
Some Cambridge Audio amplifiers also incorporate tone controls, which may be switched out of circuit in 'direct' mode for the shortest and therefore purest signal path. Other features include increased protection against accidental short circuits or sudden overload and dual sets of high current loudspeaker terminals for easy bi-wiring.

To get the absolute best from this equipment we would encourage you to use only high quality source components. Of course we particularly

recommend tuners and digital equipment from the Cambridge Audio range, all of which have been designed to the same exacting standards as our amplifiers. Many types of loudspeakers were used in the development of these amplifiers to ensure maximum compatibility with a wide variety of designs.

Interconnects and speaker cables are also something that shouldn't be overlooked. Please do not compromise your system's performance by using poor quality cables to connect source components to your amplifier or the amplifiers output to your loudspeakers. A system is only as good as its weakest link. For this reason we do not include cheap "freebie" cables with any of our products. Your dealer can supply good quality Cambridge Audio interconnects and Mordaunt-Short/Gale loudspeaker cables that will make a noticeable improvement to the sound quality of your system.

Now we invite you to sit back, relax and enjoy!



Matthew Bramble
Technical Director

SAFETY PRECAUTIONS

Checking the Power Supply Rating

For your own safety please read the following instructions carefully before attempting to connect this unit to the mains.

Check that the rear of your unit indicates the correct supply voltage. If your mains supply voltage is different, consult your dealer.

This unit is designed to operate only on the supply voltage and type that is indicated on the rear panel of the unit. Connecting to other power sources may damage the unit.

This equipment must be switched off when not in use and must not be used unless correctly earthed. To reduce the risk of electric shock, do not remove the unit's cover (or back). There are no user serviceable parts inside. Refer servicing to qualified service personnel. If the power cord is fitted with a moulded mains plug the unit must not be used if the plastic fuse carrier is not in place. Should you lose the fuse carrier the correct part must be reordered from your Cambridge Audio dealer.

The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated '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 to the presence of important operating and maintenance instructions in the service literature relevant to this appliance.

This product complies with European Low Voltage (73/23/EEC) and Electromagnetic Compatibility (89/336/EEC) Directives when used and installed according to this instruction manual. For continued compliance only Cambridge Audio accessories should be used with this product and servicing must be referred to qualified service personnel.



The crossed-out wheeled bin is the European Union symbol for indicating separate collection for electrical and electronic equipment. This product contains electrical and electronic equipment which should be reused, recycled or recovered and should not be disposed of with unsorted regular waste. Please return the unit or contact the authorised dealer from whom you purchased this product for more information.



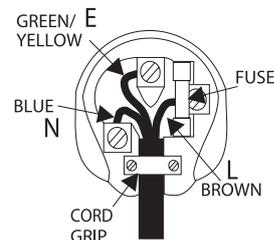
Plug Fitting Instructions (UK Only)

The cord supplied with this appliance is factory fitted with a 13 amp mains plug fitted with a 3 amp fuse inside. If it is necessary to change the fuse, it is important that a 3 amp one is used. If the plug needs to be changed because it is not suitable for your socket, or becomes damaged, it should be cut off and an appropriate plug fitted following the wiring instructions below. The plug must then be disposed of safely, as insertion into a 13 amp socket is likely to cause an electrical hazard. Should it be necessary to fit a 3-pin BS mains plug to the power cord the wires should be fitted as shown in this diagram. The colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug. Connect them as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter 'N' or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter 'L' or coloured RED.

The wire which is coloured GREEN/YELLOW must be connected to the terminal which is marked with the letter 'E' or coloured GREEN.



If your model does not have an earth wire, then disregard this instruction.

If a 13amp (BS 1363) plug is used, a 3amp fuse must be fitted, or if any other type of plug is used a 3amp or 5amp fuse must be fitted, either in the plug or adaptor, or on the distribution board.

INSTALLATION

Please take a moment to read these notes before installing your amplifier, they will enable you to get the best performance and prolong the life of the product.

This unit should be installed on a sturdy, level surface. Due to stray magnetic fields turntables should not be located nearby due to interference.

The unit requires ventilation above and below. Do not situate it on a rug or other soft surface and do not obstruct the air inlet and outlet grilles on the underside and top cover. Do not place in an enclosed area such as a bookcase or in a cabinet.

This unit must not be exposed to dripping or splashing water or other liquids. No objects filled with liquid, such as vases, shall be placed on the unit. In the event, switch off immediately, disconnect from the mains supply and contact your dealer for advice.

Do not route the power cable so that it can be walked upon or damaged by other items near it.

Electronic audio components have a running in period of around a week (if used several hours per day). This will allow the new components to settle down, the sonic properties will improve over this time.

Do not plug a source component directly into a **power** amplifier unless it has a variable output level.

Always turn a control amplifier on before a power amplifier.

Never turn on a power amplifier when no control amplifier is connected.

It is recommended that when bi-amping, the same type power amplifiers are used.

If you do not intend to use this unit for a long period of time, switch it off and unplug it from the mains socket.

To clean the unit, wipe it's case with a moist, lint-free cloth. Do not use any cleaning fluids containing alcohol, ammonia or abrasives. Do not spray an aerosol at or near the amplifier.

These units are not user serviceable, never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem. A serious electric shock could result if this precautionary measure is ignored. In the event of a problem or failure, please contact your dealer.

REAR PANEL CONNECTIONS

Note: Some features may not apply to all models. Refer to the diagram on your accompanying Owners' Certificate.

A & C SERIES (INTEGRATED & CONTROL AMPLIFIERS)

Ground connection

If you are connecting a turntable to your amplifier then its ground wire should be attached to this point.

Aux/Phono

Connect any 'line level' source equipment to these sockets i.e. CD player or DAB tuner. Alternatively a turntable can be connected, but first a phono stage must be installed. Please contact your Cambridge Audio dealer who can supply and install a phono stage to your amplifier. **These inputs are for analog audio signals only. They should not be connected to the digital output of a CD player or any other digital device.**

AV/DVD/MD/Tape 2

Connect a video derived audio signal to these sockets, such as the audio monitor / receiver or Television decoder. Alternatively, any line level audio signal may be connected here, including a second tape deck or MiniDisc player.

CD

Connect the audio signal from a Compact Disc player to these sockets. Alternatively, any line level audio signal may be connected here.

Tuner

Connect the audio signal cable from a radio tuner to this pair of sockets. **These inputs are for analog audio signals only. They should not be connected to the digital output of a CD player or any other digital device.**

Pre-outs

Connect these sockets to the inputs on your P Series Power Amplifier(s). Please refer to the Connecting Diagrams for details.

Loudspeaker connections

Connect the wires from your left channel loudspeaker to the LEFT + & - terminals, and likewise the wires from the right channel loudspeaker to the RIGHT + & - terminals. In each case the red terminal is the positive output, and the black terminal is the negative input. Care should be taken to ensure no stray strands of wire are shorting speaker outputs together. **Please ensure that the speaker terminals have been tightened adequately to provide a good electrical connection. It is possible for the sound quality to be affected if the screw terminals are loose.**

AC power socket

Once you have completed all connections to the amplifier, plug the AC Power Cable into an appropriate mains socket. The amplifier is now ready for use.

P SERIES (POWER AMPLIFIERS)

Input/Output

Connect either of these pairs of sockets to the PRE-OUT sockets on your A-Series (where featured) or C-Series amplifiers. The second set of sockets can be used to connect a further power amplifier. Please refer to the Connecting Diagrams for details. **These sockets are wired in parallel so either can be used for input or output.**

Loudspeaker connections

Connect the wires from your left channel loudspeaker to the LEFT + & - terminals, and likewise the wires from the right channel loudspeaker to the RIGHT + & - terminals. In each case the red terminal is the positive output, and the black terminal is the negative input. Care should be taken to ensure no stray strands of wire are shorting speaker outputs together. **Please ensure that the speaker terminals have been tightened adequately to provide a good electrical connection. It is possible for the sound quality to be affected if the screw terminals are loose.**

AC power socket

Once you have completed all connections to the amplifier, plug the AC Power Cable into an appropriate mains socket. The amplifier is now ready for use.

OPERATING INSTRUCTIONS

Note: Some features may not apply to all models. Refer to the diagram on your accompanying Owners' Certificate.

Power

This control switches the mains power to the amplifier ON and OFF.

Bass & Treble

These controls allow subtle adjustments to the tonal balance of the sound. In the central position these controls have no effect. These controls only modify the sound through your loudspeakers and the PRE-OUT sockets (where featured), they do not affect the signals sent through the TAPE OUT connections. With a well produced CD and a good system the tone controls are unnecessary and can be switched out. If the musical recording is of poor quality and/or the loudspeakers/surroundings are lacking it may be necessary to adjust the tone controls to compensate.

Direct

This control gives the audio signal a more direct path to the power amplifier stage of your amplifier, bypassing the tone control circuits for the purest possible sound quality.

Volume

This control adjusts the overall volume of the sound for both left and right loudspeakers and the PRE-OUT sockets (where featured). It has no effect on the level of the signals fed to the TAPE OUT connections to your tape/MD recorder. On some models the volume can also be controlled using the supplied, or optional, remote control unit. **It is advisable to turn the VOLUME control fully anti-clockwise before switching the amplifier on.**

Balance

This control allows you to adjust the relative output levels of the left and right channels. In the central position the output from each channel is equal. This control only modifies the sound through your loudspeakers and the PRE-OUT sockets (where featured), it does not affect the signals sent through the TAPE OUT connections to your tape/MD recorder.

Remote sensor

This sensor receives the infra-red signals from the remote control unit.

Input selector

Rotate the input selector switch to select the source component that you wish to listen to. The signal selected is also fed to the TAPE OUT sockets so that it may be recorded.

Tape/MD Monitor

This control lets you listen to the output signal from a tape recorder or signal processor connected to the amplifier's TAPE IN sockets. When TAPE/MD MONITOR is selected, the source component chosen by the INPUT SELECTOR continues to be routed to the TAPE OUT sockets for recording or processing.

CONNECTING

When designing our amplifiers we have tried to include features that allow you to connect your system in various ways. The inclusion of features such as PRE-OUT and bi-wire loudspeaker sockets mean that you can configure your system depending on your requirements. The diagrams over the next few pages are designed to make connection easy.

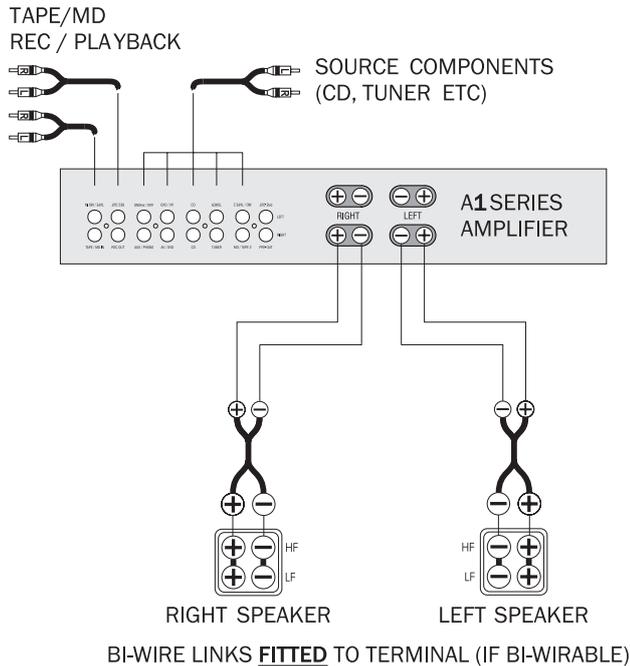
Bi-wiring

If your loudspeakers are equipped with two sets of terminals, then it is possible to connect them in the bi-wire configuration (see figures 3 & 5). Bi-wiring sends the bass and treble frequencies down separate speaker cables, resulting in a clearer, more focussed sound.

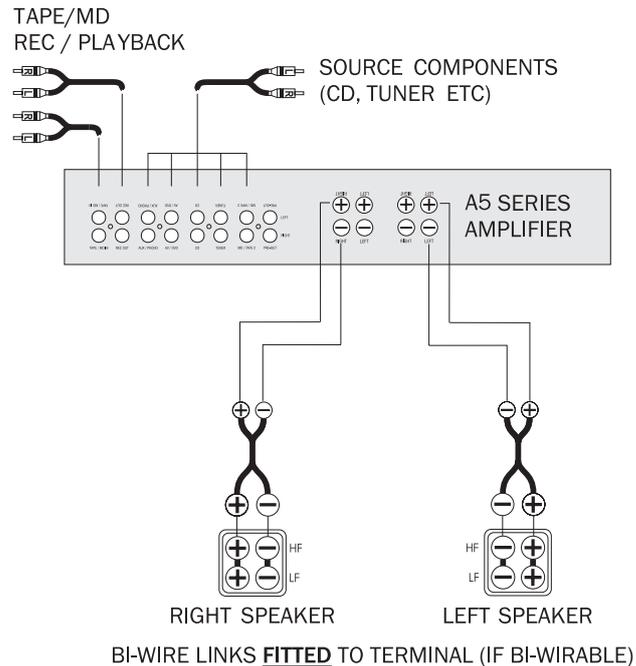
Bi-amping

If your amplifier is equipped with PRE-OUT sockets and your loudspeakers have two sets of terminals then it is possible to bi-amp your system using a further power amplifier (see figures 4, 6 & 7). Bi-amping uses two amplifiers to drive the bass and treble units in the loudspeakers independently, resulting in even greater clarity coupled with improved control and dynamics.

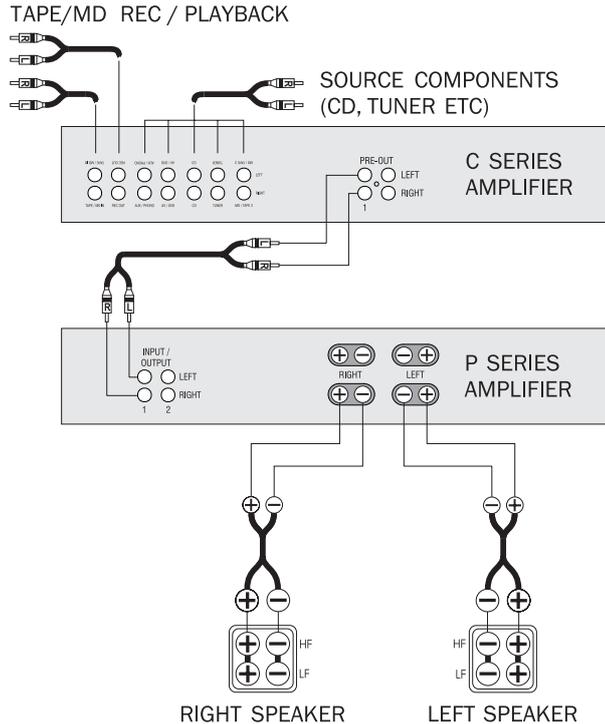
**FIGURE 1
INTEGRATED AMPLIFIER BASIC CONNECTIONS
(A1 SERIES)**



**FIGURE 2
INTEGRATED AMPLIFIER BASIC CONNECTIONS
(A5 SERIES)**



**FIGURE 3
CONTROL & POWER AMPLIFIER BASIC CONNECTIONS**



BI-WIRE LINKS **FITTED** TO TERMINALS (IF BI-WIRABLE)

**FIGURE 4
BI-WIRING WITH AN INTEGRATED AMPLIFIER AND BI-WIRABLE LOUDSPEAKERS (A1 SERIES)**

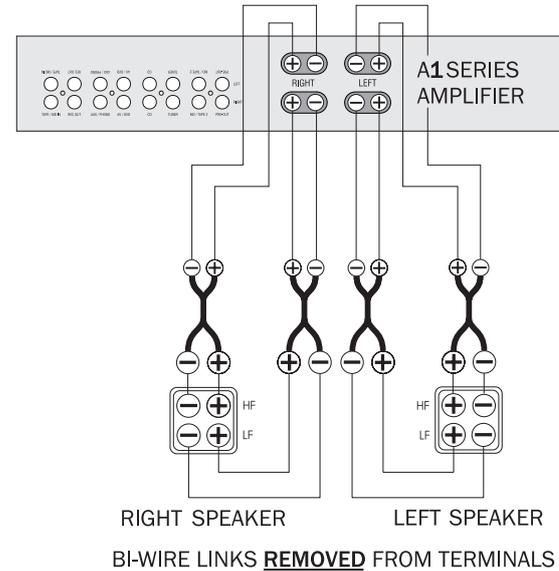


FIGURE 5
BI-WIRING WITH AN INTEGRATED AMPLIFIER AND
BI-WIRABLE LOUDSPEAKERS (A5 SERIES)

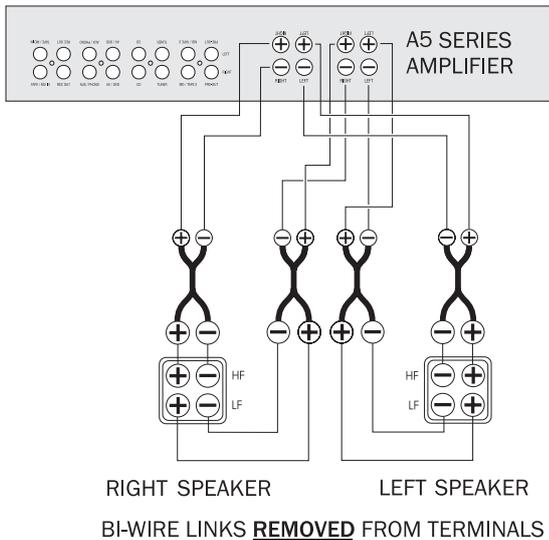


FIGURE 6
BI-AMPING WITH AN INTEGRATED AMPLIFIER AND
BI-WIRABLE LOUDSPEAKERS (A1 SERIES)

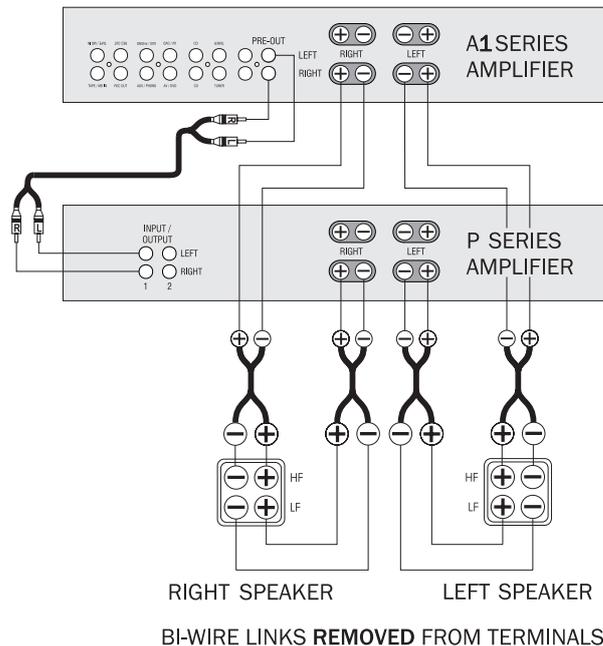


FIGURE 7
BI-AMPING WITH AN INTEGRATED AMPLIFIER AND
BI-WIRABLE LOUDSPEAKERS (A5 SERIES)

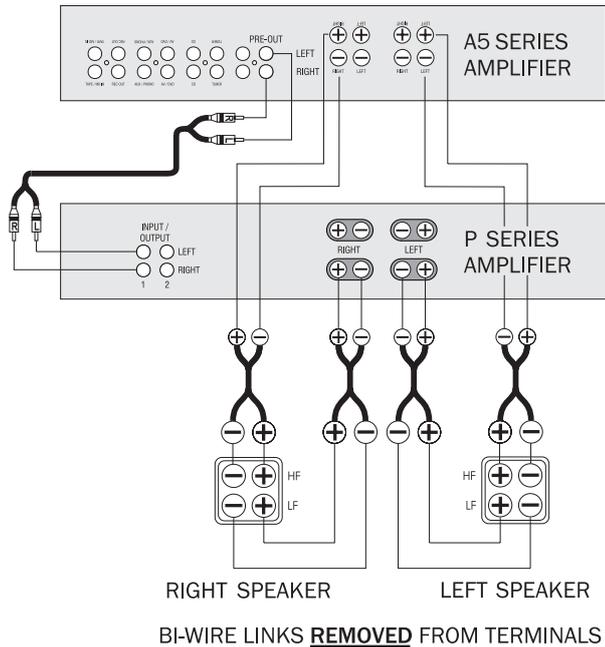


FIGURE 8
BI-WIRING WITH A CONTROL/POWER COMBINATION

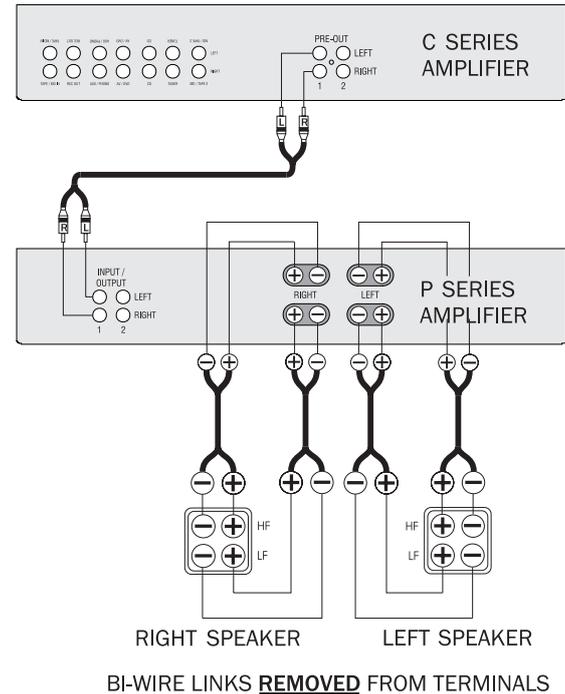
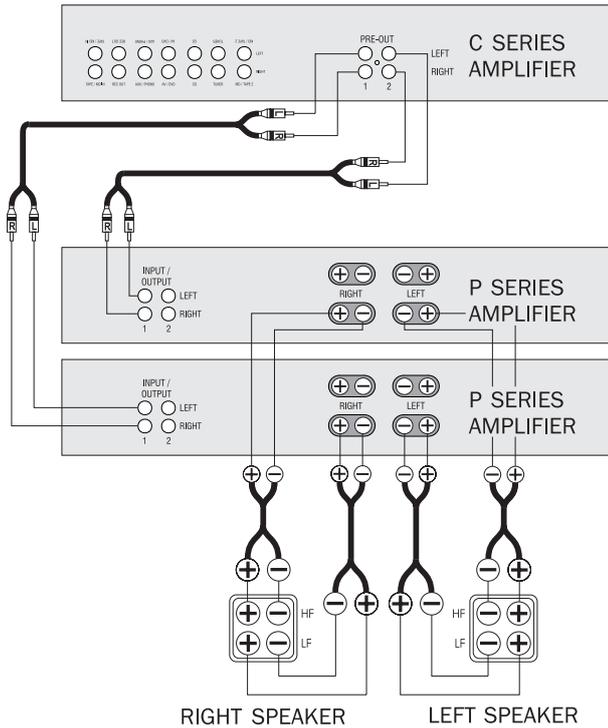
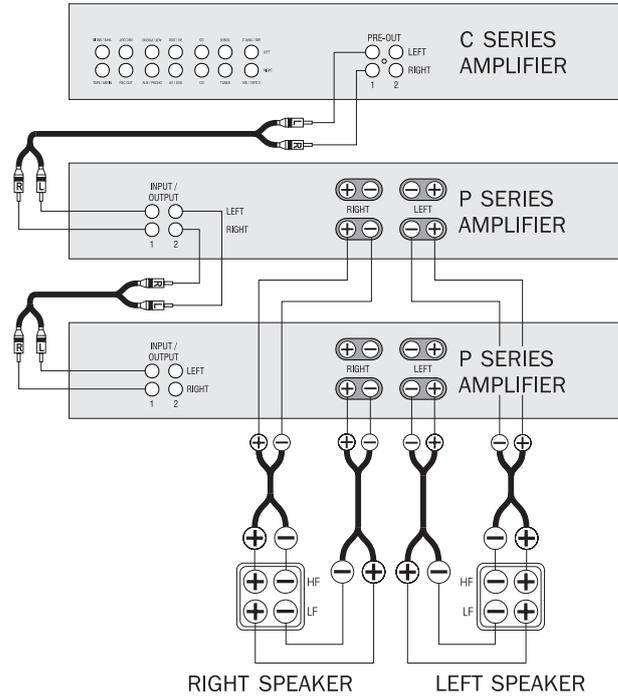


FIGURE 9
BI-AMPING WITH A CONTROL/POWER COMBINATION



BI-WIRE LINKS REMOVED FROM TERMINALS

FIGURE 7
BI-AMPING WITH A CONTROL/POWER COMBINATION
ALTERNATIVE CONNECTIONS



BI-WIRE LINKS REMOVED FROM TERMINALS

TROUBLESHOOTING

There is no power

Ensure the AC power cord is connected securely.
Ensure the plug is fully inserted into the wall socket and is switched on
Check fuse in the mains plug or adaptor

There is no sound

Check that source component is properly connected
Check that 'TAPE/MD MONITOR' is in the correct position
Check that your speakers are properly connected

There is no sound on one channel

Ensure that balance control is in the correct position
Check speaker connections
Check interconnects

There is a loud buzz or hum

Check turntable or tone arm for ground and connection lead fault
Ensure no interconnects are loose or defective
Ensure that your tape deck/turntable is not too close to the amplifier

Unable to make or play tape recordings

Check that TAPE/MD IN and REC OUT have been connected correctly

There is weak bass or diffused stereo imaging

Ensure that speakers are not wired out of phase

Sound is distorted

Ensure that your volume control is not set too high

LIMITED WARRANTY

Cambridge Audio warrants this product to be free from defects in materials and workmanship (subject to the terms set forth below). Cambridge Audio will repair or replace (at Cambridge Audio's option) this product or any defective parts in this product. Warranty periods may vary from country to country. If in doubt consult your dealer and ensure that you retain proof of purchase.

To obtain warranty service, please contact the Cambridge Audio authorised dealer from which you purchased this product. If your dealer is not equipped to perform the repair of your Cambridge Audio product, it can be returned by your dealer to Cambridge Audio or an authorised Cambridge Audio service agent. You will need to ship this product in either its original packaging or packaging affording an equal degree of protection.

Proof of purchase in the form of a bill of sale or receipted invoice, which is evidence that this product is within the warranty period, must be presented to obtain warranty service.

This Warranty is invalid if (a) the factory-applied serial number has been altered or removed from this product or (b) this product was not purchased from a Cambridge Audio authorised dealer. You may call Cambridge Audio or your local country Cambridge Audio distributor to confirm that you have an unaltered serial number and/or you purchased from a Cambridge Audio authorised dealer.

This Warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or modification of, or to any part of, the product. This Warranty does not cover damage due to improper operation, maintenance or installation, or attempted repair by anyone other than Cambridge Audio or a

Cambridge Audio dealer, or authorised service agent which is authorised to do Cambridge Audio warranty work. Any unauthorised repairs will void this Warranty. This Warranty does not cover products sold AS IS or WITH ALL FAULTS.

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Some countries and US states do not allow the exclusion or limitation of incidental or consequential damages or implied warranties so the above exclusions may not apply to you. This Warranty gives you specific legal rights, and you may have other statutory rights, which vary from state to state or country to country.

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