

cambridge audio

C70
CONTROL
AMPLIFIER
OWNERS MANUAL

Introduction

The Cambridge Audio C70 is a high performance pre-amplifier control unit designed for use with quality power amplifiers.

Solidly built and utilising high grade "audiophile" components throughout, the C70 incorporates a selection of impressive technical features. These include multiple discrete power supplies, remote switching (for reduced crosstalk and a more direct signal path) and a high capacity toroidal transformer.

The C70's comprehensive range of facilities includes twin audio outputs (Active and Passive), full tape monitoring capabilities, and a "Direct" switch, allowing the tone control circuitry to be by-passed for improved sound quality.

For optimum results we recommend that the C70 be used with a matching Cambridge power amplifier, either the A70 (its ideal partner) or the A100.

To get the best from your C70 control unit please study this manual carefully. Should you experience any problems, please discuss them with your dealer who has a full knowledge of Cambridge Audio products and their use in a variety of systems.

Installation

Your Cambridge amplifier is supplied set to work on your local mains supply voltage. Check that your local mains supply voltage agrees with the voltage setting indicated on the back panel of the amplifier. If not, please contact your dealer or national distributor for details of how to proceed further.

A detachable mains lead fitted with an IEC line socket is supplied with your amplifier. The cores of this lead are coloured in accordance with the following code:-

Green and Yellow	— EARTH
Blue	NEUTRAL
Brown	LIVE

Note Export units for certain markets have moulded mains plugs fitted as standard.

As the colours in the mains lead may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:-

The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked by the letter E or the safety earth symbol or coloured green or green and yellow. The wire which is coloured blue must be connected to the terminal which is marked by the letter N or coloured black or blue. The wire which is coloured brown must be connected to the terminal which is marked by the letter L or coloured red or brown.

Fuses

If the mains plug is fused fit a 3 amp fuse.

Your Cambridge amplifier contains fuses which are designed to protect the amplifier and prevent the occurrence of a dangerous fault condition. These should only be inspected and replaced by a competent engineer using the correct replacement types.

UNDER NO CIRCUMSTANCES SHOULD THE CASE OF THE AMPLIFIER BE OPENED BY ANYONE OTHER THAN A QUALIFIED ENGINEER AS DANGEROUS VOLTAGES ARE PRESENT INSIDE. ANY UNAUTHORISED REPAIR MAY INVALIDATE YOUR WARRANTY.

Notice

Please retain the carton and all packaging materials provided with this equipment so that it may be re-packed correctly if it ever becomes necessary to transport the unit or to return it for service.

If servicing is required then the equipment should be properly packed and returned to the dealer from whom it was purchased. It is essential to provide a covering letter giving your name and address and a brief but thorough description of the fault. Always include your purchase receipt, or a copy of it, when returning goods for warranty servicing. (Please see back cover for UK warranty servicing details).

Rear Panel Connections

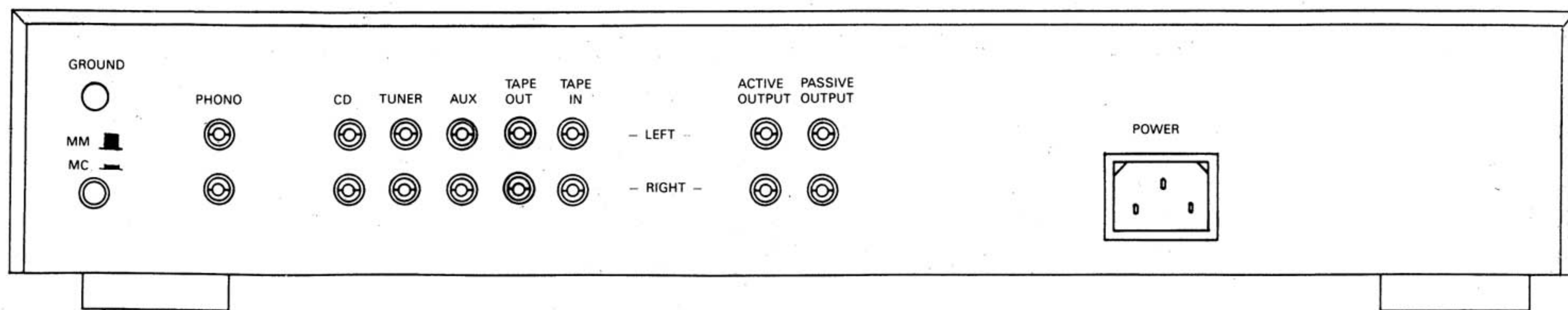


Fig 1.

All audio inputs and tape outputs are via gold plated RCA type phono connectors. All the phono sockets on your Cambridge amplifier are marked "L" for left and "R" for right channels, with the left channels nearer the top of the cabinet. Your connection leads will have a white or black plug for left and a red plug for right.

Disc Input

This input is suitable for both moving magnet and moving coil cartridges. For either type of cartridge the plugs on your turntable lead should be connected to the disc input sockets on the rear panel of your amplifier.

To minimise hum the turntable lead should be kept away from the mains wiring, and any separate turntable lead should be attached firmly to the earth terminal on the rear of the amplifier.

A switch adjacent to the disc input sockets allows the selection of either MM or MC input. The switch should be left out for use with MM or high output MC cartridges and depressed for use with normal (low output) MC cartridges.

Note Never operate the MM/MC selector switch with the volume control turned up as the resultant electrical surge may damage your loudspeakers.

Tuner Input

The tuner input is suitable for use with most AM/FM tuners. Connect your tuner to the amplifier using the phono sockets marked "Tuner".

CD Input

The CD input is suitable for use with any CD player. Connect your CD player to the phono sockets marked "CD".

Auxiliary Input

The auxiliary input is suitable for use with any extra source possessing a line level output, perhaps a second tuner or CD player, or an additional tape or video recorder wired for replay only.

Tape Input

This input is suitable for use with most cassette, reel to reel or video recorders.

Connect the "record" leads of your tape recorder to the phono sockets marked "Tape out" on the rear of your amplifier using phono/phono leads.

Connect the "playback" leads of your tape recorder to the phono sockets marked "Tape in" on the rear of your amplifier using phono/phono leads.

If your tape machine possesses DIN outputs, then DIN/phono leads, or a DIN/phono adaptor, can be used. If you experience level matching problems when using DIN connectors, please consult your tape machine manufacturers.

Pre-amplifier Line Outputs

Your Cambridge C70 pre-amplifier is equipped with two pairs of line outputs for connection to a power amplifier.

For the very best sound quality the Passive output sockets should be used. These outputs offer the selected source the most direct signal path and, in effect, allow the C70 to act as a line level passive pre-amplifier. The Passive outputs are especially suited for use with a CD source. When using the Passive outputs it is essential to use only short runs of quality interconnect cable.

The Active outputs are driven by a line amplifier which is capable of producing a high voltage output into lower impedances. This output will provide a correct voltage match with most power amplifiers when using analogue sources, and is essential to drive the longer runs of interconnect cable found in installations where the power amplifiers are located some distance from the power amplifier, perhaps adjacent to the loudspeakers.

Front Panel Controls

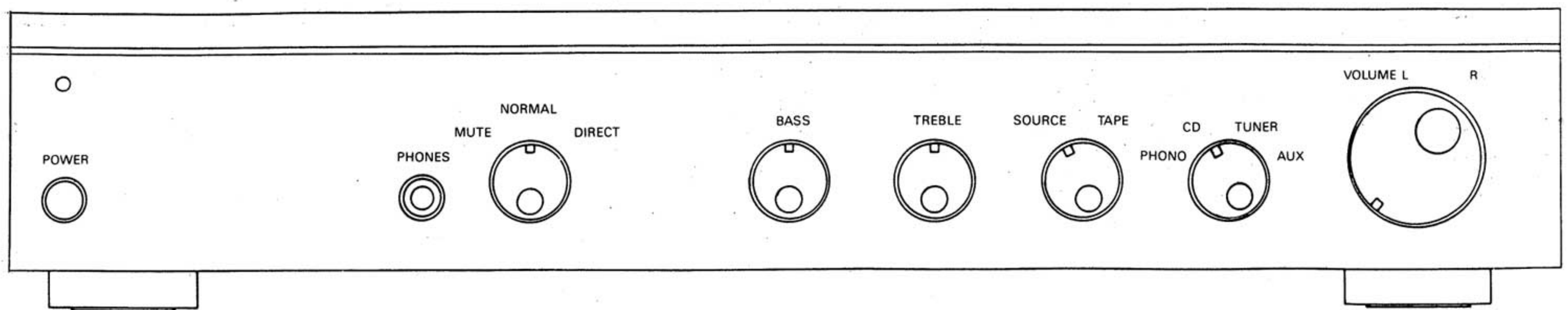


Fig 2.

Power Switch

The amplifier is turned on by depressing the power switch. The small indicator above the switch will glow green. Before switch on, always set the volume control to minimum to avoid damage to your loudspeakers.

The Cambridge C70 is equipped with muting circuitry on the Active line outputs. This mutes the Active outputs for approximately four seconds after switch on, thus eliminating any "Switch on thump" which may be generated by the Active output line amplifier.

To turn the amplifier off, depress the power switch again.

Note Your Cambridge amplifier will play music almost immediately after being switched on. However, in common with other audiophile products, the internal circuits take some time to stabilise fully and the best possible sound quality may not be obtained until the amplifier has had some time (possibly an hour or two) to warm up.

Input Selection

The rotary input selector switch selects which input signal (Phono, CD, Tuner or Aux) is fed to the power amplifier. The selected signal is also fed to the "Tape out" sockets for recording.

Tape Monitor Switch

The Tape Monitor switch is generally left in the "Source" position, so that the programme selected by the input switch is routed to the loudspeakers/headphones.

If the Tape Monitor switch is turned to the "Tape" position the signal from the tape recorder is routed to the loudspeakers/headphones.

If your tape machine is a three head type suitable for A/B monitoring, then turning the Tape Monitor switch to the "Tape" position will allow full off-tape monitoring of the recorded signal to be carried out via the loudspeakers/headphones

Volume Control

The volume control is of a split type and allows you to adjust the levels of the left and right channels for both loudspeakers independently. Normally, the two halves of the control knob rotate together as they are locked together by a friction clutch inside the volume control itself. However, by holding the rear part of the control firmly with the first finger and thumb of one hand, it is possible to alter the relative position of the two parts of the knob and thus compensate for level differences caused by the nature of the input signal or due to room acoustics.

Tone Controls

The tone controls on your Cambridge amplifier use low colouration passive circuitry to ensure the minimum degradation of the music signal. They are designed to gradually modify the tonal emphasis of the music and to compensate for such problems as difficult room acoustics.

If required, the tone controls can be completely by-passed with a resultant increase in sound quality. To do this simply turn the Direct/Mute switch to the "Direct" position.

With the Direct/Mute switch in the "Normal" position, the tone controls will cut their respective frequencies when turned anti-clockwise and boost them when turned clockwise. The flattest response is found when the controls are in the "12 o'clock" position.

Phones

The headphone socket will accept any headphones fitted with a standard ¼" (6.35mm) stereo jack plug.

The tone control circuitry is always active when listening via headphones. For private listening via headphones the Direct/Mute switch should be set to "Mute", thus cutting the output to your loudspeakers. This feature is also useful for situations where the output from your loudspeakers needs to be cut momentarily (e.g. for a phone call etc).

Tape Recording

All sources, Disc, CD, Tuner and Aux can be recorded via the tape connections. To record an input, select the required source and set your recorder into the record mode.

To record from one tape recorder to another, the playback recorder should be plugged into the Aux socket, and the recording machine into the Tape socket. The input selector switch should be set to "Aux". A recording can now be made in the normal way.

Playback

Set the Tape Monitor switch to the "Tape" position and set your recorder into the playback mode.

Check List

Should you have any difficulty in operating your amplifier, switch off and check the following before suspecting that a fault has developed.

No power and LED not illuminated

1. Check that all mains supplies, connections and fuses are good and that the mains is switched on.

Power on and LED illuminated but no output

1. Check that the amplifier is connected to the desired input and that the correct input on the amplifier is selected.
2. Check that the loudspeakers are connected correctly to the power amplifier.
3. Check that if disc is selected the cartridge selector switch is set to the correct type of cartridge.
N.B. Do not operate this switch with the volume turned up.
4. Check that the Direct/Mute switch is not set to "Mute".
5. Check that the Tape Monitor switch is not set to "Tape".
6. Check that the leads between the pre-amplifier and the power amplifier are not faulty and that they are connected correctly.

Power on and LED illuminated but output from one loudspeaker only

1. Check that the left and right channels of the selected source are connected correctly and that the input wiring is not faulty. If in doubt contact your dealer.
2. Check that one section of the volume control is not set to minimum.

Loud hum heard through loudspeakers when disc is selected

1. Check that the ground lead from the turntable (if fitted) is connected firmly to the ground terminal on the rear of the amplifier.
2. Check that the amplifier is correctly earthed via the mains lead.
3. Check that other transformers in the vicinity are not radiating into your amplifier.

Guarantee for UK Sales

This equipment was fully tested and adjusted before despatch from the factory. Providing the unit was originally purchased from an authorised UK dealer then both its workmanship and performance are (except as set out below) guaranteed against defects for a period of two years from the date of purchase.

The manufacturers can accept no responsibility for damage or loss occurring during transit to or from the person claiming under this guarantee. No responsibility can be accepted for any defects arising from accident, misuse, wear and tear, neglect or through unauthorised adjustment and or repair.

This guarantee covers both labour and parts but is limited to the cost of repair or replacement (at the discretion of the manufacturers) of the defective parts and under no circumstances extends to consequential loss or damage.

Claims

If it should become necessary to make a claim under this guarantee, then your equipment should be repacked in its original packing and returned to the dealer from whom it was purchased. Ensure that your original receipt, or a copy of it, is enclosed.

If it is not possible to return the equipment by hand, then it should be sent carriage pre-paid by a reputable carrier.

Replacement packing can be purchased from the manufacturers if the original packing is not available. You should not send any equipment by post.

PLEASE DO NOT RETURN ANY EQUIPMENT TO CAMBRIDGE AUDIO UNLESS YOU HAVE BEEN REQUESTED TO DO SO BY OUR SERVICE DEPARTMENT.

DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO DISSASSEMBLE THE EQUIPMENT BEFORE DESPATCH.

If it is not possible to return the equipment by hand, then it should be sent carriage pre-paid by a reputable carrier.

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Please state your name and address, the date and place of purchase and give brief details of the fault.

The manufacturers reserve the right to charge a reasonable fee for the return carriage and testing of any equipment which is found to comply with the corresponding published specification.

THIS GUARANTEE IN NO WAY VARIES OR REMOVES A PURCHASER'S STATUTORY RIGHTS.

Our policy is one of continuous improvement and we therefore reserve the right to alter the specifications without prior notice.