

Audiophile products
from A&R Cambridge

ARCAM



Alpha 2 handbook

Guarantee for UK sales

This equipment has been fully tested and a full record of these tests made before despatch from the factory. Both the workmanship and the performance of this equipment are (except as set out below) guaranteed against defects for a period of two years from the date of purchase provided that it was originally purchased from an authorised UK dealer under a consumer sale agreement. (The words 'consumer sale' shall be construed in accordance with Section 15 of the Supply of Goods (Implied Terms) Act 1973.)

The manufacturers can accept no responsibility for defects arising from accident, misuse, wear and tear, neglect or through unauthorised adjustment and or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under this guarantee.

This guarantee covers both labour and parts and is transferable to subsequent purchasers but the liability of the manufacturers 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 under this guarantee

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased or, failing this, any other authorised Arcam dealer. If it is not possible to return the equipment by hand, then it should be sent carriage prepaid by a reputable carrier.

Should the original packing not be available, replacement packing can be purchased from the manufacturers. The equipment should not be sent by post.

DO NOT CONSIGN THE EQUIPMENT TO A&R CAMBRIDGE UNLESS YOU HAVE FIRST BEEN SPECIFICALLY REQUESTED TO DO SO BY THE MANUFACTURER'S TECHNICAL SERVICE DEPARTMENT. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO DISASSEMBLE THE EQUIPMENT BEFORE DESPATCH.

If you have any difficulty complying with these requirements please contact the manufacturers at the following address.

A&R Cambridge Limited,

Pembroke Avenue,
Denny Industrial Centre,
Waterbeach,
Cambridge CB5 9PB.

Telephone: (0223) 440964/861550

Fax (0223) 863384

In either case you should state clearly your name and address, the date and place of purchase together with a brief description of the fault experienced.

In the event of equipment being returned which on test is found to comply with the published specification the manufacturers reserve the right to charge a reasonable fee for testing the equipment and for return carriage.

Enquiries

The manufacturers are happy to answer any queries you may have regarding the use of this equipment on the condition that this enquiry is by letter and a stamped addressed envelope is provided. You should state clearly the serial number of the unit, the dealer from whom it was purchased and the date of purchase.

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

Introduction

The Arcam Alpha integrated stereo amplifier and stereo tuner have been designed to prove a combination of high quality sound reproduction and sophisticated styling.

The Alpha amplifier has five inputs for turntable, compact disc player, tuner, video sound output and tape recorder.

It provides outputs for both loudspeakers and headphones, and produces low level signals suitable for recording on to tape. Although designed for simplicity of operation the Alpha has comprehensive tone control facilities which enable good results to be obtained with a wide variety of programme material.

The Arcam Alpha tuner receives both FM and AM transmissions. AM reception is possible on two wavebands, Medium Wave and Long Wave.

The output of the Arcam Alpha tuner is suitable for all stereo amplifiers – particularly the Arcam Alpha.

Installing and using your Alpha equipment

Mains connection

Check that the voltage setting of the amplifier or tuner, as indicated on the back panel, is the same as the local mains supply.

The wires in the mains lead are coloured in accordance with the following code:

Green and yellow – Earth
Blue – Neutral
Brown – Live

As the colours of the wires 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 by 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

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

If the mains plug is fused fit a 5A fuse for the Alpha amplifier and a 3A fuse for the Alpha tuner.

The AC supply inlet to the Alpha amplifier and tuner uses a standard IEC chassis mounting plug.

The IEC line socket on your mains lead and the IEC plug on the Alpha units are a tight fit; before first using an Alpha amplifier or tuner it is therefore important to ensure that the socket is pushed firmly home into the chassis plug.

Under no circumstances should an Alpha unit cover be removed unless the supply is disconnected at the wall socket.

Alpha 2 Amplifier

Rear panel connections

Connect the system together as shown in the diagram on page 5. All inputs and tape outputs are via RCA phono connectors.

Disc input

This input is suitable for both moving magnet and moving coil cartridges. For use with low output moving coil cartridges, an Arcam MCA plug-in moving coil input module must be fitted internally in the position shown in the diagram on page 7.

To fit an MCA input module, remove the white blanking plug (keeping it in a safe place), and fit the input module on to the pins. It is essential that the amplifier is switched off whilst removing or fitting the MCA input module.

CD Input

To match the output from CD players, the CD input has a lower sensitivity than the other line inputs.

The CD and video inputs may be used as general purpose inputs for sources with a line level output, e.g. a second tape recorder.

Loudspeaker outputs

The loudspeaker outputs are suitable for driving loudspeakers in the range 4–16 ohms impedance. The loudspeaker output sockets will accept 4mm (banana) plugs. A set of suitable plugs is supplied as standard with the Arcam Alpha amplifier.

The upper three loudspeaker sockets are for the left hand speaker and the lower three for the right hand speaker. One side of the loudspeaker lead (normally the negative side) should be connected to the centre (black) terminal; the other (the positive side), may be connected to either the 'direct' or the 'switched' terminals (both red). When the 'direct' outputs are used loudspeakers and headphones may be used together. When the 'switched' outputs are used, the insertion of headphones will automatically switch off the loudspeakers.

Operating two pairs of loudspeakers

If desired, it is possible to operate two sets of 8 ohm impedance (or higher) loudspeakers with the Alpha amplifier. To do this the speakers should be wired in accordance with the diagram opposite. It will be seen that it is necessary to attach two sets of cable to the 4mm plugs which connect to the common (black) speaker terminals.

When the Alpha amplifier is wired for use with two sets of speakers, the set wired via the 'direct' terminals will work all the time. The set wired through the 'switched' terminals can be muted by the insertion of a 1/4" (6.35mm) jack plug into the headphones socket on the front panel of the amplifier. This jack plug can be stereo or mono and need not be connected to anything to operate the loudspeaker mute switch.

Loudspeaker fuses

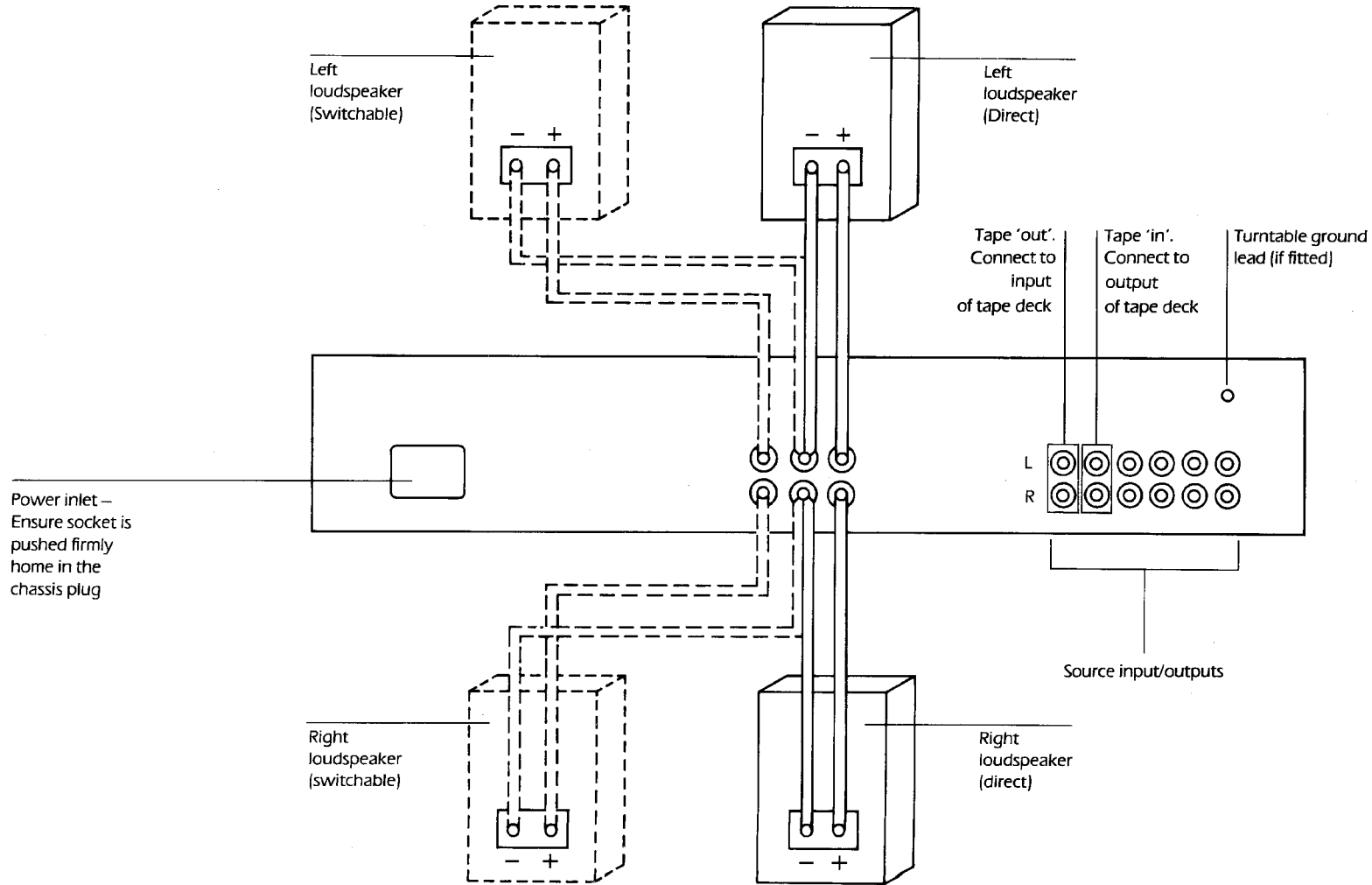
These are 2.0 amp fast blow 20mm×5mm diameter fuses. They may blow if the amplifier is:

- run continuously at very high level into the correct loudspeaker load
- run at high level into a loudspeaker of too low an impedance (less than 4 ohms)
- used to drive two sets of low impedance loudspeakers
- run into a short circuit

They are user-replaceable and two spares are provided. However, if they blow consistently in the absence of any of the above conditions please consult your dealer.

The loudspeaker fuses are located inside the amplifier in the position shown in Fig 3. If a speaker fuse needs to be replaced, switch off the amplifier and unplug it, remove the cover (see instructions on page 7) and take out the damaged fuse. Replacement of a new fuse is simply the reversal of this procedure. Do not replace with a fuse of greater value than 2.0 amps (or with a 'slow blow' or 'anti-surge' fuse) since this will endanger the amplifier and your loudspeakers and invalidate your guarantee.

Figure 1



Front panel controls

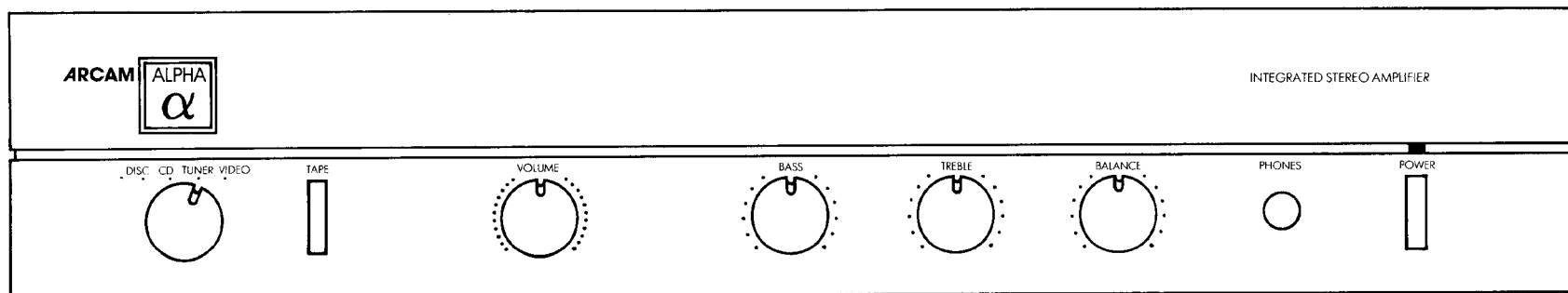


Figure 2

From left to right the controls are:

Input

The input selector switch selects which input signal is fed to the loudspeakers and headphones. The selected signal is also fed to the tape 'out' sockets.

Tape monitor switch

The tape monitor switch is generally left in the 'off' position (switch out), so that the programme selected by the input switch is routed to the loudspeakers. When the tape monitor switch is depressed, the signal from the tape recorder is routed to the loudspeakers.

The tape monitor switch also allows off tape monitoring if a three head tape machine is being used. By depressing the switch the signal recorded onto tape can be routed to the loudspeakers, allowing direct A/B comparisons as the recording is made.

With the tape monitor switch depressed the off-tape signal is the only signal available to the loudspeakers.

Volume

The volume control adjusts the sound level for both the loudspeakers and headphones.

Bass

The bass control cuts low frequencies when turned anti-clockwise and boosts them when turned clockwise. The flattest response is obtained when the control is in the centre 'click' position.

Treble

The treble control cuts high frequencies when turned anti-clockwise and boosts them when turned clockwise. The flattest response is obtained when the control is in the centre 'click' position.

Balance

The balance control is used to move the stereo sound image to the left or right. It can be used to compensate for imbalance in room acoustics or input signals.

Phones

The headphone socket accepts any dynamic headphones fitted with a standard ¼ inch (6.35mm) stereo jack plug. The headphones may mute the loudspeakers, or not, as required (see loudspeaker outputs, page 4). The output is not suitable for driving most electrostatic headphones.

Power

The amplifier is turned on by pressing the mains power switch. The green light indicates that the power supply in the amplifier is operating – it will continue to glow for a short time after the amplifier has been switched off.

Tape recording and replay

The tape input/output is designed to suit most reel-to-reel and cassette tape recorders.

Recording

Select the signal source to be recorded using the selector switch (disc, tuner, CD or video). Then set the correct recording levels on your tape recorder and switch it into 'RECORD' mode.

During recording the volume and tone controls have no effect on the signal being sent to the tape 'out' sockets.

Replay

Depress the tape monitor switch and then switch your tape recorder into 'PLAY' mode.

Removal of cover

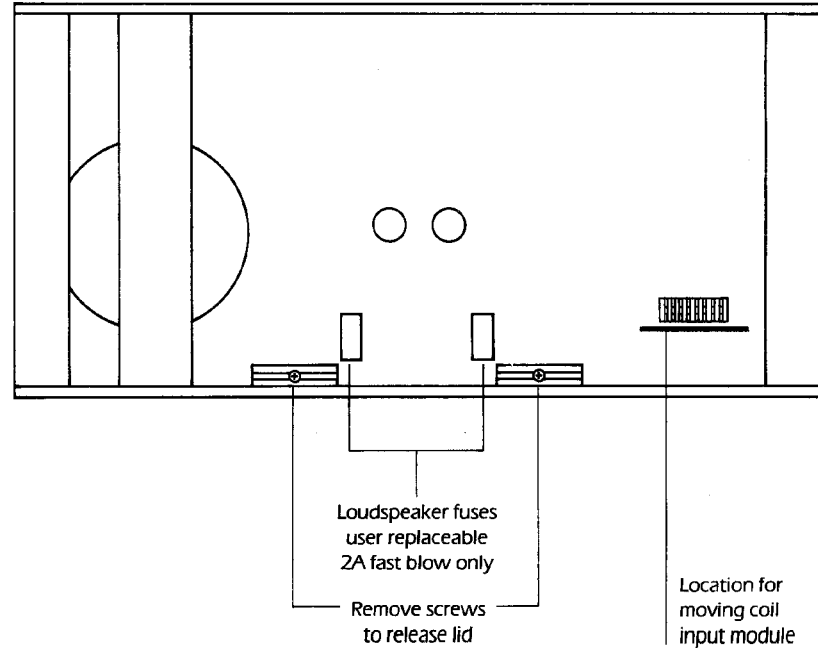
BEFORE REMOVING THE COVER, ALWAYS SWITCH OFF THE AMPLIFIER AND UNPLUG FROM THE WALL SOCKET.

The cover may be removed by unscrewing the two screws indicated in the diagram and lifting the lid out.

Connecting cables

We strongly recommend the use of quality loudspeaker and interconnect cables with your hi-fi system. The better the components used in your system, the more important it becomes to match them with good cable. We have found inter-connect and loudspeaker cable from the 'Audio Quest' range to be particularly suitable. Detailed information on the 'Audio Quest' range of cables may be obtained from your dealer or the factory.

Figure 3



Hints And Tips

For best results place the speakers away from the wall, not in a corner, and off the floor. Speaker stands are ideal.

Always ensure that the loudspeaker cable is joined properly (i.e. tightly) to the 4mm plugs, and that the mains connections are tight and fully home in their sockets.

Keep the turntable away from the speakers to avoid acoustic pickup by the turntable from the speakers – they should not be placed on the same piece of furniture.

The amplifier will get quite warm when being used at high levels. This is perfectly normal! However, if it becomes too hot to touch, switch off the amplifier at once and consult your dealer.

If there is a lot of hum with the disc input selected check that the earthing lead from the turntable is connected to the ground terminal just above the disc input sockets and that the amplifier is correctly earthed via the mains lead.

Ensure that the amplifier is not directly underneath the turntable, or next to any unit containing a large mains transformer! (Check by moving the unit and assessing whether the hum level changes).

If your system does not work check that:

- 1 the amplifier is switched on and the red light is on
- 2 the source is plugged into the correct input sockets
- 3 the selector switch is switched to the correct source
- 4 the speakers are plugged into the amplifier correctly
- 5 the tape monitor switch is not 'in' when trying to use

another input

- 6 the volume control is not set to minimum
- 7 the speaker fuses have not blown
- 8 the fuse in the mains plug has not blown

If sound comes out of one speaker only.

Check that:

- 1 both speakers are plugged into the amplifier correctly
- 2 the speaker fuse has not blown
- 3 the balance control is not set fully clockwise or anticlockwise
- 4 both left and right channels of the source are connected to

the inputs correctly and the input wiring is not faulty (check by swapping left and right input connectors).

Alpha 2 tuner

Rear panel connections

Connect the system together as shown in the diagram. The FM aerial socket can be used with the ribbon aerial provided, though better reception will be obtained with an external FM aerial. When using the ribbon aerial, mount the aerial as high up as possible on the wall facing the direction of best reception. Use tacks or tape to hold the aerial in a T shape – the tacks should not contact the internal aerial wire.

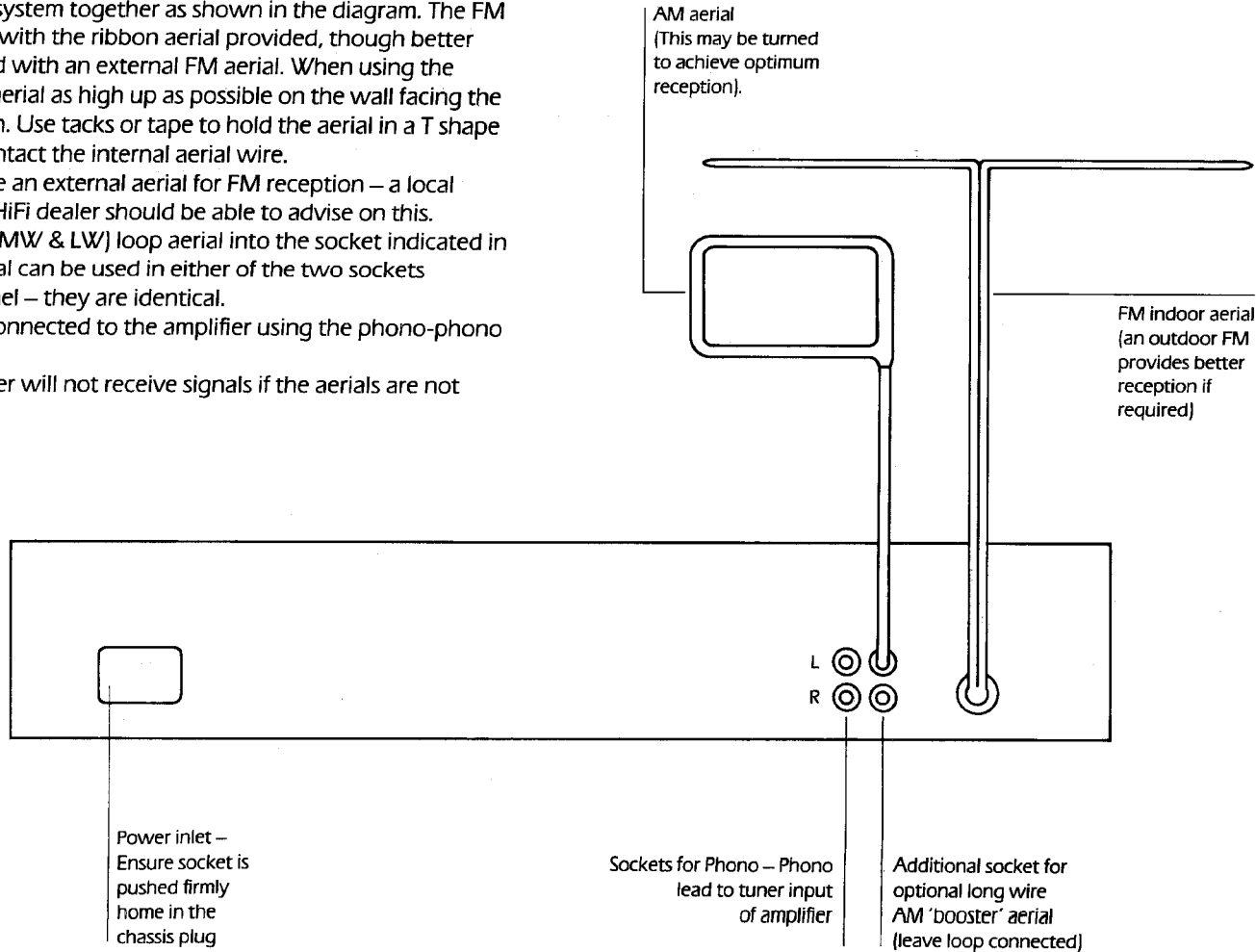
If possible, use an external aerial for FM reception – a local aerial contractor or your HiFi dealer should be able to advise on this.

Plug the AM (MW & LW) loop aerial into the socket indicated in the diagram. The AM aerial can be used in either of the two sockets indicated on the back panel – they are identical.

The tuner is connected to the amplifier using the phono-phono lead provided.

Note: the tuner will not receive signals if the aerials are not plugged in!

Figure 4



Front panel controls

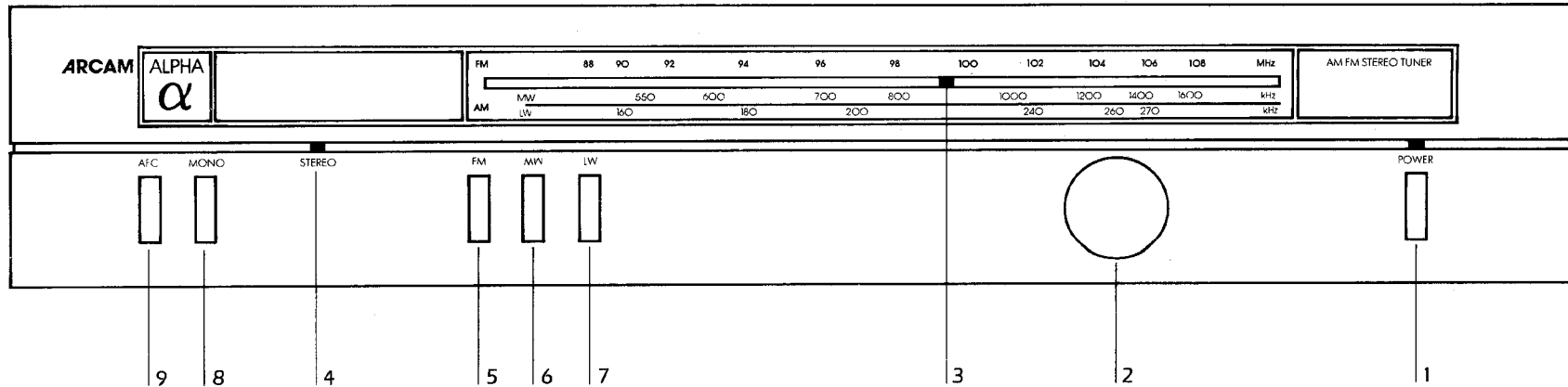


Figure 5

The controls are:

1 Power

The tuner is turned on by pressing the power switch. The frequency pointer will glow when the unit is operating.

2 Tuning knob

This is used to tune to the desired station. The frequency is indicated on the scale.

3 Frequency pointer

This moves along the scale to indicate the tuned frequency. In addition it acts as an 'on tune' indicator for FM stations – when off tune it glows red, when nearly on tune it glows orange and when precisely on tune it glows green. For MW and LW it always glows green.

4 Stereo indicator

When a stereo broadcast is being received the stereo indicator glows red (except when the mono switch is pressed in!)

5, 6, 7 Waveband switches

Press the appropriate switch to select between FM, MW or LW. Note that the LW (long wave) part of the AM band only carries broadcasts in certain European countries. In North America and other parts of the world it is generally not possible to receive signals on LW. Your tuner is however 'Euro ready'!

8 Mono

This is used for FM stations in conditions of poor reception.

When the tuner is operated in mono mode, hisses and crackles on weak stations are much reduced.

If you use the tuning knob with the mono button pressed in you will notice that the interstation noise is no longer muted. This is perfectly normal, the system being designed to allow reception of very weak signals when the tuner is in mono mode.

The mono button is inoperative on the MW and LW bands.

9 AFC (automatic frequency control)

This is used to 'lock' an FM station. Tune in the station with the button out – ensure that the frequency indicator is green. Press in the AFC button and the tuner will automatically compensate for small frequency drifts and ensure that the station is precisely on tune. (Always do the initial tuning with this button out.)

AFC is inoperative on the MW and LW bands.

Station markers

The tuner is supplied with self adhesive station markers. These can be attached to the tuning scale to mark the position of your favourite radio stations.

The markers are removable, should it be necessary to re-position them.

Hints and tips

Pay careful attention to the aerial setup:

FM indoor ribbon aerial – keep this as high up as possible, fully spread out and orientate in the direction of best reception.

FM outdoor aerial – multi element aerials are very directional and need to be 'beamed' carefully towards the transmitter. If good reception from different directions is required, then an aerial rotator may be necessary.

Always use an outdoor multi-element aerial in preference to an indoor ribbon aerial because it provides more signal and has greater directivity, so is able to discriminate against sources of interference better. A tuner is only as good as the aerial signal provided for it.

MW/LW aerial – orientate in the direction of best reception. To further improve reception, an optional long wire AM 'booster' aerial can be connected as shown on page 9.

In the UK, for further information the BBC publish a booklet called 'How to get the best out of BBC stereo radio'. This may be obtained on request by sending a large SAE to

BBC
Engineering Information Department
Broadcasting House
LONDON W1A 1AA

The IBA also publish a similar booklet which may be obtained from

IBA
70 Brompton Road
LONDON SW3 1EY

Technical specification

Alpha 2 amplifier

[Noise and sensitivities ref. 30W into 8 ohms at 1kHz.]

OUTPUT POWER (typical)

Both channels

8 ohms 30W (20Hz–20kHz at 0.5% THD)

Single channel at 1kHz

Into 8 ohm 40W typ. Into 4 ohm 60W typ.

Harmonic distortion

at 25W, 8 ohm at 1kHz 0.02% typ.

FREQUENCY RESPONSE

Disc input

typ ± 0.5 dB 60Hz–20kHz, -3 dB at 20Hz

Other inputs

typ ± 0.5 dB 30Hz–20kHz, -1 dB at 20Hz

Tone Controls

± 8 dB at 50Hz and 15kHz

INPUTS

Disc

(suitable for MM and 'high-output' MC cartridges)
Sensitivity 2.5mV, impedance 47k ohm/100pF

With MCA Module fitted

Sensitivity 120 μ V, impedance 330 ohms

Tuner, tape and video

Sensitivity 200mV

Noise < -90 dB

Input impedance 25k ohm

CD

Sensitivity 450mV, impedance 10k ohm

OUTPUTS

Tape output

Nominal output level 200mV, impedance 2k ohm

Headphones

Maximum output level into 600 ohms 10V rms. Output impedance 330 ohm. Suitable for headphones of 8 ohm to 2k ohm impedance.

Loudspeakers

Nominal output level 30W per channel. Suitable for speakers of 4 ohm or higher nominal impedance.

GENERAL

Power supply

240V nominal 120VA, may be dealer adjusted to 120V nominal. (220/110V and 100V models to special order)

Internal mains fuse

800mA T (slow blow) for 240V or 220V operation.
1.6 AT (slow blow) for 120V, 110V or 100V operation.
The internal mains fuse is not user replaceable.

Alpha 2 Tuner

FM TUNER SECTION

Tuning range

87.5 to 108 MHz.

Sensitivity

(I.H.F.) typically 1.4 μ V 75 ohm input

Ultimate signal/noise ratio (CCIR/ARM)

Mono better than 70dB. Stereo better than 68dB

Frequency response

20Hz–12kHz ± 0.5 dB, typically -2 dB at 15kHz

Capture ratio

Typically 1.5dB

Alternate channel selectivity

Better than 60dB

AM suppression

Better than 50dB

AM TUNER SECTION

Frequency range

MW 530–1600 kHz. LW 160–270 kHz

Ultimate signal/noise ratio

Typ. 50dB CCIR weighted, ref 30% modulation.

GENERAL

Output impedance

1.8K ohms

Recommended load

20 k Ω or greater

Output level

800mV at 75kHz deviation.

Power requirements

200–250 volts AC only, 6VA (100–120 volt AC conversion possible).

Dimensions (both models)

430mm W x 230mm D x 84mm H

Weight

Alpha 2 amplifier: 4.0kg (8.8lb) net
4.6kg (10.1lb) packed

Alpha 2 tuner: 2.6kg (5.7lb) net
3.3kg (7.0lb) packed

Part No: SH018A Feb. 1990

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