



Operating Instructions



Park Farm • Inworth • Colchester • Essex • CO5 9SH
<http://www.ashdownmusic.com>

Acoustic Radiator 1 & 2



Thank you for purchasing your Ashdown Engineering Amplifier. If you live in the UK, please register your purchase by completing this form and return it to the following address:

Ashdown Engineering Ltd., Park Farm, Inworth, Colchester, Essex CO5 9SH
(Alternatively you can register online at <http://www.ashdownmusic.com>)

If you live outside the UK, the local Ashdown distributor may have included a specific registration form for your country.

Your Ashdown Engineering product details:

Model Colour
Voltage Tested by
Serial number Date

5 Year Limited Lifetime Warranty

Your Ashdown Engineering amplifier has been manufactured to the highest standards, using the best-selected materials.

This product carries a LIMITED LIFETIME WARRANTY, against defects in materials and workmanship, for the original purchaser. Ashdown Engineering will, at their discretion, replace or repair any product or part thereof, which is found by Ashdown Engineering to be defective. This warranty shall not apply to the damage of covering, fittings or finishes when affected by carelessness, accident or extreme climate changes. Nor does it apply to normal wear and tear of parts such as valves, fuses, light bulbs, speakers, controls etc.

Please complete the lower section of this warranty and return it within 10 days of purchase to Ashdown Engineering Ltd. at the above address. In the unlikely event of any defect, please contact an authorised Ashdown Engineering dealer. All transport charges are to be pre-paid by the Owner. Unless the registration card is returned normal country warranty laws apply.

Important - Registration Card

Please complete and return this warranty within 10 days of purchase. Include any comments if possible.

Name Purchased from
Address Date
..... Model
..... Serial Number
.....
Age

Comments
.....
.....
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Important Safety Instructions

BASIC PRECAUTIONS

WARNING - When using electrical products, basic precautions should be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water – for example, near a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool.
3. This product may cause permanent hearing loss. Do not operate for long periods of time at a high volume level or at any level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
4. Make sure nothing interferes with the ventilation of the product when in use.
5. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
6. The product should be connected to a power supply of the type described in the operating instructions or as marked on the product.
7. The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
8. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
9. The product should be serviced by qualified personnel when:
 - a. The power supply cord or the plug has been damaged; or
 - b. Objects have fallen, or liquid has been spilled into the product; or
 - c. The product has been exposed to rain or moisture; or
 - d. The product does not appear to operate normally or exhibits a marked change in performance; or
 - e. The product has been dropped, or the enclosure damaged.
10. Do not attempt to service the product. All servicing should be referred to qualified service personnel.
11. For continued protection against the risk of fire, replace fuses only with those of the same type and rating as indicated on the back of the product.

WARNINGS USED ON THE EQUIPMENT

WARNING TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

WARNING - ATTENTION
THIS APPARATUS MUST BE EARTHED FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE. UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE ET CALIBRE.





The lightning flash with the arrow head symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within this product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



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 this product.

GROUNDING INSTRUCTIONS

This product must be grounded (earthed). If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a supply cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with the local codes and ordinances.

DANGER - Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product – if it will not fit the outlet, have a suitable outlet fitted.

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

Green & Yellow - Earth

Blue - Neutral

Brown - Live

CE MARK FOR EUROPEAN HARMONISED STANDARDS

The CE mark which is attached to these products means it conforms to EMC Directive (89/69/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (72/23/EEC).

The Ashdown Acoustic Radiator amplifiers have been designed with three key factors in mind: quality of sound, portability and style.

Premium quality PA speakers have been used, which feature 150W power handling and dual concentric tweeters for optimum treble dispersion. One of these speakers is featured in the Acoustic Radiator 1 driven by a 100 Watt RMS amplifier. The Acoustic Radiator 2 incorporates two of these speakers for a huge, crystal clear sound driven by a 150 Watt RMS amplifier.

The exact sound and style of your Acoustic Radiator can be tailored to your personal choice through the provision of Real Wood or Plywood cabinets in a selection of finishes - choose between a cherry finish or a vinyl covering in black or book-bound leather style. These cabinets are constructed in an easy to carry design with a hand-stitched removable leather handle. The amplifiers are also available in metal Resonator cabinets.

The absence of any cooling fans enables the unit to run as silently as possible.

Everything possible has been done to make the Acoustic Radiators reliable, top of the range, minimum service, high quality, long lasting, powerful amplifiers.

We know you will appreciate the effort that has been put into the design and manufacture of these units and you will be rewarded in your choice of bass amplifier by long life and reliability.

Front Panel Facilities

ACOUSTIC RADIATOR 1 & 2

ACOUSTIC RADIATOR (RESO) 1

INPUT

The Acoustic Radiator 1 is a twin channel unit. Channel 1 is for Active or Piezo inputs, while Channel 2 works for Low Z or Microphone inputs on either jack or XLR. The two channels allow both mic and pick-up inputs to be mixed together to give the best possible sound for the acoustic guitar. Alternatively one channel can be used for the guitar and the other for a vocal mic to form a mini PA system.

ACTIVE / PIEZO SWITCH

The Active / Piezo switch allows channel 1 input to be set for active guitars (those with a built-in preamp) or passive / piezo instruments where a higher input level and impedance would be required.

PHANTOM POWER SWITCH

This can be switched in to apply a Phantom Power voltage to channel 2 inputs. This is only for use with suitable capacitor microphones. Do not switch this in for any other type of input to channel 2.

INPUT LEVEL CONTROL / LED LEVEL INDICATOR

Once you have set your instrument to the required Eq settings on both the amplifier and the instrument you should then set the INPUT LEVEL to the most efficient level to optimise signal to noise ratio. The optimum level is when the input level LED is indicating GREEN most of the time for normal playing, with occasional peaks flashing RED. The LED indicates the level for both channel 1 and channel 2.

PHASE SWITCH IN / OUT

This switch reverses the Phase of the signal through the amplifier and is used to help eliminate standing wave feedback. As such it is very dependent upon the position of the player relative to the amplifier. If feedback is occurring try altering the setting of this switch to cancel out the standing wave between you and the amplifier.

SHAPE IN / OUT

This switch introduces a natural pre-shape to the sound of channel 1 adding a bass boost, a mid cut and a treble boost that suits both strumming and finger picking styles of playing.

Eq - TREBLE & BASS

These controls can boost or cut the amount of Treble and Bass of the unit. In their centre position (12 o'clock) they have no effect i.e. the Eq is flat.

NOTCH FREQUENCY

The Acoustic Radiator 1 has a single Notch filter applied to channel 1. This can be switched in and adjusted to eliminate 'body resonance' feedback of the instrument at higher playing levels. Adjust the Notch Frequency until the body resonance reduces - this will be the optimum position for the instrument. This Notch has a fixed 'Q' that has been optimised for acoustic guitar.

REVERB

Reverb can be added to the sound of the acoustic instrument to make it sound more vibrant and alive. It simulates the sound of the instrument being played in various acoustic environments. The level of reverb to direct sound can be adjusted using the Level control. Switches have been provided to select between Long and Short decay characteristics of both Hall and Plate reverbs. The reverb is situated after the Effects Return and as such can be added to other effects connected via these sockets. When switched in, reverb is added to both channel 1 and 2.

OUTPUT

This sets the desired playing level/volume of the amplifier.

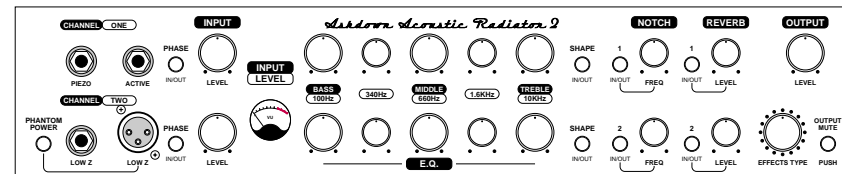
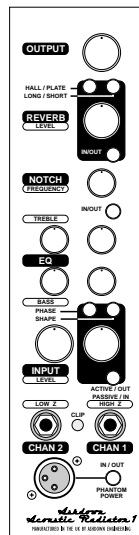
ACOUSTIC RADIATOR (RESO) 2

INPUTS

The Acoustic Radiator 2 is a twin channel unit. Channel 1 is for Active or Piezo inputs, while Channel 2 works for Low Z or Microphone inputs on either jack or XLR. The two channels allow both mic and pick-up inputs to be mixed together to give the best possible sound for the acoustic guitar. Alternatively one channel can be used for the guitar and the other for a vocal mic to form a mini PA system.

ACTIVE / PIEZO INPUTS (CHANNEL 1)

Channel 1 has two input jack sockets, one for active guitars (those with a built-in preamp) and the other for passive / piezo instruments where a higher input level and impedance is required.



PHANTOM POWER SWITCH (CHANNEL 2)

This can be switched in to apply a Phantom Power voltage to channel 2 inputs. This is only for use with suitable capacitor microphones. Do not switch this in for any other type of input to channel 2.

PHASE SWITCH

This switch reverses the Phase of the signal through the amplifier and is used to help eliminate standing wave feedback, as such it is very dependant upon the position of the player relative to the amplifier. If feedback is occurring try altering the setting of this switch to cancel out the standing wave between you and the amplifier.

INPUT LEVEL CONTROL / VU METER LEVEL INDICATION

Once you have set your instrument to the required Eq settings on both the amplifier and the instrument you should then set the INPUT LEVEL to the most efficient level to optimise signal to noise ratio. The optimum level is when the input level VU Meter is indicating between minimum and 0dB most of the time for normal playing, with occasional peaks into the Red section of the meter. The VU meter indicates the level for both channel 1 and channel 2.

Eq

The Acoustic Radiator 2 features identical 5 band Eq for both channels, the large rotary controls for Bass, Middle and Treble allow you to set with ease the sound you require. Use the smaller controls between these to fine tune your mid frequencies. All controls in this section can either boost or cut the signal at their centre frequencies. In their centre position (12 o'clock) they have no effect i.e. the Eq is flat.

SHAPE SWITCH

This switch introduces a natural pre-shape to the sound of either channel 1 or channel 2, adding a bass boost, a mid cut and a treble boost that suits both strumming and finger picking styles of playing.

NOTCH FREQUENCY

The Acoustic Radiator 2 has two separate Notch filters, one on each channel. These can be switched in and adjusted to eliminate 'body resonance' feedback of the instrument at higher playing levels. Adjust the Notch Frequency until the body resonance reduces, this will be the optimum position for the instrument. This Notch has a fixed 'Q' that has been optimised for acoustic guitar.

REVERB

To make the sound more vibrant and alive Reverb can be added to either channel. This simulates the sound of the instrument being played in various acoustic environments. The level of reverb to direct sound can be adjusted using the Level control. Switches have been provided to select the reverb for channel 1, channel 2 or both. This feature is also foot switchable using any latching foot switch plugged into the Reverb Mute rear panel jack socket.

EFFECTS TYPE

This allows you to select one of 16 digital effects to be added to channel 1 or channel 2. Available types are: Hall 1, Hall 2, Room 1, Room 2, Room 3, Plate 1, Plate 2, Spring, Delay Short 1, Delay Short 2, Delay Short 3, Delay Short 4, Delay Long 1, Delay Long 2, Delay Long 3, Delay Long 4.

OUTPUT

This sets the desired playing level / volume of the amplifier.

OUTPUT MUTE

This facility is also foot switchable. It will mute the output to the internal speakers as well as the D.I. output. This will allow you to tune your instrument whilst the amplification is muted with a tuner plugged into the Line Out socket, which is not muted during this operation.

ACOUSTIC RADIATOR 1 & 2

ACOUSTIC RADIATOR (RESO) 1

POST EQ D.I.

A Post-Eq balanced XLR D.I. output is provided for connection to the microphone input of a mixing desk for either Direct Injection into the PA system or for recording.

EFFECTS SEND / RETURN

A serial loop is provided at a level of 0dB for connection to external effects units. The effects send can also be used as a line out socket if required.

LINK / LINE OUT

This output can be used for connection to a Tuner as its output remains active when the amplifier is Muted. This can also be used to 'Link' together 2 x Ashdown Acoustic Radiators with a single jack to jack cable in a connection where both preamps drive both output stages.

ACOUSTIC RADIATOR (RESO) 2

MUTE FOOTSWITCH SOCKETS

A standard latching foot switch can be used plugged into these sockets to mute the Reverb or the Output.

LINE INPUT

This socket allows you to connect a line input from other units such as drum machines, cassettes, CD, Minidisc etc. for amplification through the Acoustic Radiator. This has its own level control to balance the external signal with your own playing level.

EFFECTS SEND / RETURN

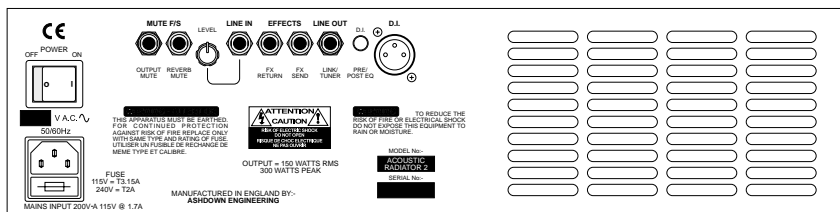
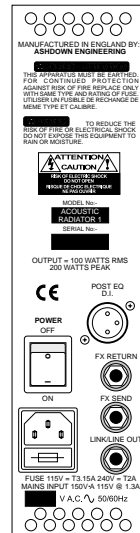
A serial loop is provided at a level of 0dB for connection to external effects units. The effects send can also be used as a line out socket if required.

PRE / POST EQ D.I.

A balanced XLR D.I. output is provided for connection to the microphone input of a mixing desk for either Direct Injection into the PA system or for recording. The switch next to this selects either a Pre-Eq or Post-Eq & Post-Effects signal to be sent to this socket.

LINK / LINE OUT

This output can be used for connection to a Tuner as its output remains active when the amplifier is Muted. This can also be used to 'Link' together 2 x Ashdown Acoustic Radiators with a single jack to jack cable in a connection where both preamps drive both output stages.



ACOUSTIC RADIATOR 1 & 2

ACOUSTIC RADIATOR 1

INPUTS

Chan 1 Passive	Impedance 3.9M Ohms	Input range 150mV to 10V p-p
Chan 1 Active	Impedance 10k Ohms	Input Range 300mV to 20V p-p
Chan 2 XLR & Jack	Impedance 600 Ohms balanced	Level -20dB to 0dBu
Effects Return	Impedance 47k Ohms	Level 0dBu

OUTPUTS

Line Out	Impedance 4.7k Ohms	Level 0dBu
Effects Send	Impedance 10k Ohms	Level 0dBu
D.I.	Impedance 600 Ohms	Level -20dBu

GENERAL SPECIFICATION

Bass & Treble	+/- 15dB @ 100Hz & 10kHz
Frequency Response	-3dB @ 28Hz & 28kHz
Signal to noise ratio	<80dB (Eq flat)
Distortion	>0.8% THD
Notch	Frequency 70 to 350Hz 'Q' = 5
Output Power	100 Watts RMS

ACOUSTIC RADIATOR 2

INPUTS

Chan 1 Piezo	Impedance 3.9M Ohms	Input range 100mV to 15V p-p
Chan 1 Active	Impedance 10k Ohms	Input Range 200mV to 30V p-p
Chan 2 XLR & Jack	Impedance 600 Ohms balanced	Level -20dB to 0dBu
Effects Return	Impedance 22k Ohms	Level 0dBu
Line In	Impedance 10k Ohms	Level 0dBu

OUTPUTS

Line Out	Impedance 4.7k Ohms	Level 0dBu
Effects Send	Impedance 22k Ohms	Level 0dBu
D.I.	Impedance 600 Ohms	Level -20dBu

GENERAL SPECIFICATION

Eq	+/- 15dB @ 100Hz, 340Hz, 660Hz, 1.6 kHz & 10kHz
Frequency Response	-3dB @ 28Hz & 28kHz
Signal to noise ratio	<80dB (Eq flat)
Distortion	>0.8% THD
Notch	Frequency 70 to 350Hz 'Q' = 5
Output Power	150 Watts RMS