



ASHDOWN ACOUSTIC 50R/100R

USER MANUAL



## THANK YOU

Thank you for purchasing your Ashdown Engineering Amplifier and welcome to the family! We really think you've made the right choice and know that this amplifier will give you years of great tone and service.

It is a machine though and needs to be looked after, please read through this user manual which will help you get the most out of your new Amp and keep it running as long as some of our happiest and very famous customers.

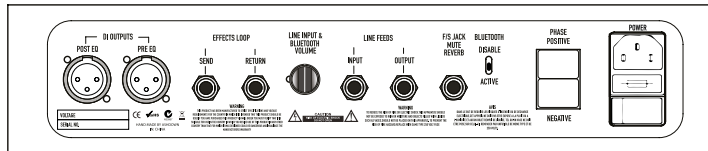
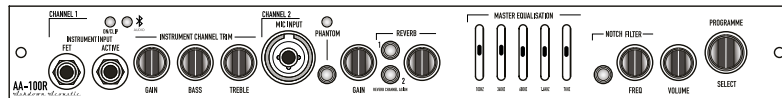
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Please register this product online so we can make sure we give you years of customer support through our friendly in-house service centre.

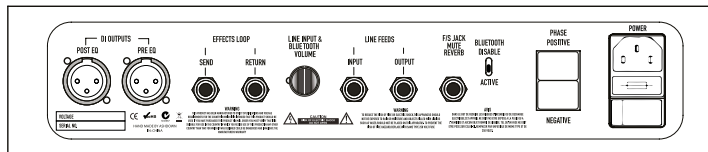
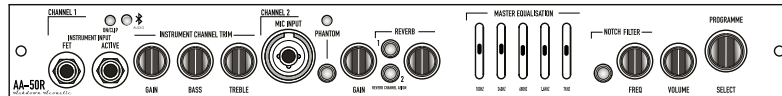
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### AA-100R - Front & Rear Panels



### AA-50R - Front & Rear Panels



## AA-50R & AA-100R

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#### General description

The Ashdown Acoustic 100 and 50 fulfil the requirements for a high quality Acoustic amplification system. This reissue of a timeless classic design features a two channel preamplifier with trim controls on the instrument channel, Genuine Accutronics digital reverb available on either or both channels, 5 band graphic equaliser, notch filter and aux inputs. The addition of a blue tooth system also enables connection to a variety of devices for music streaming for practice. A high quality Class A/B Bipolar amplifier then feeds either two or four Genuine Celestion speakers.

#### Channel 1

Channel 1 features two inputs: one is a high impedance input (approx 4 Meg ohms) this is suitable for most non active acoustic pickups such as Piezo etc whilst the second is a lower impedance (30K ohms) suitable for instruments that have electronics built into them i.e. "Active". An input level control allows the volume of this channel to be set, the signal is then sent to the Bass and Treble trim controls to enable you to tailor the response of channel 1 to suit the instrument and your personal taste. From here the signal is passed to the reverb circuit and then onto the mixer section which combines the channel with channel 2.

#### Channel 2

Channel 2 is accessed via the Balanced XLR @ 600 Ohms input on the front panel, this input also has the benefit of Phantom power available via the associated push switch located on the front panel. The XLR socket also has a TRS type jack socket built into it. Note a Stereo jack plug must be used with only the tip and ring connected if you wish to use a NON Balanced source.

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Phantom power if engaged will be available on the XLR and combined jack socket, Phantom power is typically used to power up Condenser type microphones, it is important to ascertain whether the source you have connected to channel 2 is designed for use with phantom power present BEFORE turning the Phantom power on, otherwise damage to the source may occur.

A Gain control is provided to set the appropriate level for that channel.

#### Mixer and distortion sensor

The mixer circuit combines channels 1 & 2 with a preset ratio therefore the Gain controls of these channels are used to affect the mix combination you require. In the mixer section there is a distortion sensor that has an indicator light labelled CLIP on the front panel. This indicator illuminates OLIVE green when the unit is switched ON and turns to BRIGHT Green when a signal is present from either input channel. The relative levels should be adjusted so that the Clip light just occasionally illuminates RED during periods of enthusiastic playing i.e. at the loudest parts of your performance. This will be the correct input levels to maximise signal to noise ratio. Note the distortion sensor does NOT indicate distortion in the power amplifier.

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#### REVERB

The Accutronics reverb unit has 16 selectable reverb effects accessed by the rotary switch at the far right of the front panel these are as follows: Hall 1 & 2 Bright hall reverb or warm hall Room 1 -3 hardwood studio, general ambience and warm room reverbs Plate 1-3 Classic, sizzling and short style plate reverbs Chorus, Flanger, Delay 1 and 2 125 mS and 190 mS delays Chorus + Room 1 and 2 Chorus+ Room reverb combined and Chorus + auto wah effect Chorus + delay Rotary speaker simulation. The reverb effects are available either or both channels accessed by the selector switches on the front panel.

From this point the signal is fed to the equaliser circuit and also to the PRE EQ DI output on the rear panel.

#### The Equaliser

The 5 band equaliser has frequencies centred at 100, 340, 680, 1.1k and 7khz respectively with an adjustment range of +/- 12 db. The equaliser affects both channels equally.

#### Notch filter

Next in the signal chain is the notch filter, This filter has a Q of 5 and the frequency is adjustable between 80 and 350 Hz. Use of the filter will enable you to remove most unwanted resonances and low frequency body feedback.

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#### Effects loop e.t.c

Next is the effects loop, this is a SERIES loop between the preamplifier and the Power amplifier, also at this point is the Aux Line in which can be used to input other signal sources, the level of which is controlled by the volume control on the rear panel.

Incorporated with the AUX line in is a bluetooth receiver so signals can be wirelessly connected to the amplifier. The Bluetooth Has a disable switch on the rear panel to minimise noise when not in use and a front panel light in blue shows when the unit is connected.

Last in the signal chain is the POST DI and LINE out, these outputs contain all of the sources / effects as heard from the speakers. An overall level control sets the playing volume.

#### The power amplifier

The Power amplifier is a pure analogue class A/B design that can provide a continuous power output of 50 or 100 watts minimum into the fitted Celestion speakers. A phase reversal switch is fitted on the rear panel to help minimise feed back effects.

**INSTRUMENT INPUTS**

Channel 1 is the HIGH Z or HIGH IMPEDANCE channel and will be the one most commonly used for plugging your instrument pick up or transducer into. Two inputs have been provided on this channel to cope with the wide variety of different types of acoustic instrument pick ups and the equally wide variation in signal level from different pick up and instrument combinations.

**PIEZO / LO-LEVEL**

The first of these is the PIEZO / LO-LEVEL input. This input is designed to suit any kind of pick up that does not have its own built in preamp. This includes piezo transducers and wound pick ups that are either built into the instrument or attached to it in some way.

The input has an extremely high input impedance that is essential for piezo pick ups to allow them to reproduce a rich and full sound, into a lower impedance they can sound thin and tinny. This very high impedance input also gives excellent results with wound or other types of passive transducer. This input is far more sensitive than the ACTIVE input and may also be used where you have an active instruments that has a low level output signal.

**ACTIVE / HI-LEVEL**

The second input is the ACTIVE / HI-LEVEL input. This input should be used with instruments that have inbuilt electronics with a large signal output as these could overload the input stage of the PIEZO / LO-LEVEL input.

**INPUT GAIN CONTROL - SIGNAL LEVEL INDICATION**

It is very important to set the INPUT GAIN control correctly in order to provide the amplifier with the optimum level of signal. This control is a volume control for the channel, it is to enable you to set the correct input level to the channel. If this control is set too low you may experience excessive background noise and inadequate effects level.

This control is set in conjunction with the SIGNAL LEVEL LED. To set this control correctly use the following procedure:-

1. Plug the instrument into the appropriate input depending on your type of instrument or pick up.
2. Set the graphic to flat ( all sliders in the center ), the LO-TRIM and HI-TRIM their center positions and the MASTER LEVEL to zero.
3. Play the instrument in the way you wish to use it ( i.e. strumming, finger picking etc).
4. Increase the INPUT GAIN control until the SIGNAL LEVEL LED lights up BRIGHT GREEN for most of the time while playing and changes to RED on peaks or heavy playing.
5. If the LED cannot be made to register RED while using the ACTIVE / HI-LEVEL input then transfer your input to the PIEZO / LO-LEVEL input and re-adjust the INPUT GAIN as from step 3.

**IMPORTANT!** When correctly set, the GREEN LED should light for most of the time while playing and change to RED only on peaks.

**LO-TRIM / HI-TRIM**

The HI and LO trim controls have been provided to 'Trim' the sound from the instrument / pick up combination to achieve a flat response prior to any tailoring of the sound with the graphic or pull shape facilities. These controls may also be used as EQ controls to adjust the top and bottom end of the instrument sound. Do not boost the LO-TRIM excessively as this will have the effect of increasing the chances of low frequency feedback.

**CHANNEL 2**

Channel 2, the LOW Z or LOW IMPEDANCE channel has two inputs, one being a jack and the other a female XLR socket. These are both low impedance, balanced inputs. A mono jack plug may be used in the jack input for an unbalanced signal connection if required.

These inputs are for use with pickups that offer a low impedance, balanced output. The jack input may also be used for a second ACTIVE instrument if required. The XLR input is suitable for use with a microphone for amplifying acoustic guitar, other acoustic instruments or vocals. Phantom powering ( 48V ) is available with the switch next to the XLR. The phantom power is ON when the switch is IN. Only use this if you have a capacitor microphone that requires external phantom powering.

**INPUT GAIN - SIGNAL LEVEL INDICATION**

Set the INPUT GAIN control of channel 2 in the same way as for CHANNEL 1.

**GRAPHIC EQUALISATION**

The five bands of graphic equalisation offered have their centre frequencies chosen specifically to suit acoustic instruments and may be used to adjust the overall sound of the amplifier. Avoid extreme settings on any slider as these are unlikely to give useful results. Also avoid boosting the 100Hz slider too much as this will tend to increase the chances of low frequency feedback.

**DIGITAL EFFECTS**

The 24 bit Digital effects board built into the Ashdown Acoustic amplifiers uses a 16 way rotary PROGRAM switch.

**NOTCH FILTER (ANTI FEEDBACK)**

All models in the Ashdown Acoustic series include a NOTCH FILTER that can be switched IN and OUT. This is included as an anti-feedback device to allow amplification of an acoustic instrument (particularly acoustic guitar) without trouble from feedback caused by the resonance of the body of the instrument.

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#### PHASE SWITCH

The AA100R has a speaker PHASE switch located on the rear panel. Switched to its IN PHASE position this facility has no effect on the sound of the amplifier. However, when switched to OUT of PHASE it causes phase cancellation to occur at various frequencies that give enhanced clarity and extra projection to the sound. Phase cancellation also tends to reduce further the chances of feedback occurring.

#### MASTER LEVEL

The MASTER LEVEL control sets the overall output level of the amplifier and, providing the INPUT GAIN controls have been correctly set this control should not have to be on a very high setting.

Having the MASTER LEVEL control on a high setting and the INPUT GAIN on a low setting will only result in unnecessary noise being added to the amplifier and will tend to degrade the signal purity. Please check that you have adjusted the INPUT GAIN control to its optimum setting.

#### BACK PANEL FACILITIES

The AA100R has a speaker PHASE switch located on the rear panel. Switched to its IN PHASE position this facility has no effect on the sound of the amplifier. However, when switched to OUT of PHASE it causes phase cancellation to occur at various frequencies that give enhanced clarity and extra projection to the sound. Phase cancellation also tends to reduce further the chances of feedback occurring.

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#### REVERB FOOT SWITCH & MUTE

The REVERB F/S jack socket allows an external footswitch (not supplied) to be plugged into the unit to turn the internal digital effects on and off. The internal effects will be muted when the switch is shorted.

#### EFFECTS SEND and RETURN

The preamp provided with a serial effects loop and the sockets for this are located on the rear panel. The EFFECTS SEND socket is for linking the preamp sound into your effects unit and the EFFECTS RETURN socket for returning the signal back to the preamp. As this is a SERIAL effects loop then you will need to adjust the balance of direct to effect sound within your external effects unit ( i.e. dry/wet mix ). The signal path through the preamp is only broken when a jack plug is inserted into the EFFECTS RETURN socket. The EFFECTS SEND signal may therefore be used as a pre master volume LINE OUT socket or connected to a tuner. This will allow silent tuning by turning the MASTER LEVEL CONTROL to zero, tuning up and returning the MASTER LEVEL control back to its original setting. The EFFECTS LOOP is located after the graphic and shape facilities and is in parallel with the internal effects.

The circuit configuration for this effects loop has been changed from the previous generation of amplifiers so that the overall gain of the amplifier is not affected by the impedance of the external effects unit.

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#### **BALANCED DI**

Two balanced DI outputs are provided on the preamp for direct connection to a balanced 'Mic' input on a mixing desk. These may be used for either Direct Injection of the instrument into a PA system or for recording purposes. The balanced DI's are provided on standard Male XLR sockets located on the back panel. The two balanced XLR DI sockets are marked PRE EQ and POST EQ. The PRE EQ socket takes its signal from before the graphic equaliser.

POST EQ takes its signal from after all equalisation, after the internal effects, and after the effects loop, but before the master level control. The level of the DI output is fixed at a suitable level to suit the low impedance 'Mic' input on a mixing desk. This level is dependent on the setting of the INPUT GAIN control and it is important to have this set correctly ( see INPUT GAIN section ). The circuit driving the DI sockets has been re-designed to produce a lower noise output than the previous generation of amplifiers.

#### **MAINS INLET SOCKET & WARNING**

For connection to your countries mains supply. Ensure that the amplifier has the correct voltage marked on the back panel for your country prior to connecting the mains power cable to the supply. For your own safety be sure that the power supply socket that you are plugging into is adequately earthed. The MAINS INLET also contains the fuse carrier beneath it that holds the 20mm supply fuse for the unit. In the event of failure of this fuse always replace it with the same rating and type as marked on the rear panel (see Safety Instructions section).

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#### **POWER SWITCH**

This is used for turning the power to the unit ON and OFF. The POWER LED on the front panel will light to indicate when the power to the unit is turned ON. Always make a habit of reducing the MASTER LEVEL control to zero before turning the unit on or off. This is just good sense really as any instrument connected to the input of the amplifier could cause hum pick up or start feeding back if left unattended when the unit is switched on.

#### **THE SPEAKERS**

These combos all use multiples of 5" speakers. The AA50R utilise two such units, the AA100R have four. 5" speakers were chosen for their ability to handle a wide frequency spectrum, especially the top end, as a clear and clean high frequency response is essential for accurate reproduction of acoustic instruments.



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### ASHDOWN ACOUSTIC SPECIFICATIONS

#### AA50R, AA100R

##### 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	+/- 12dB @ 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	50/100 Watts (Min continuous output power)



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