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Operating Instructions

MK500 MARK KING SIGNATURE SERIES BASS AMPLIFIER

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 breakdown, 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 proper 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

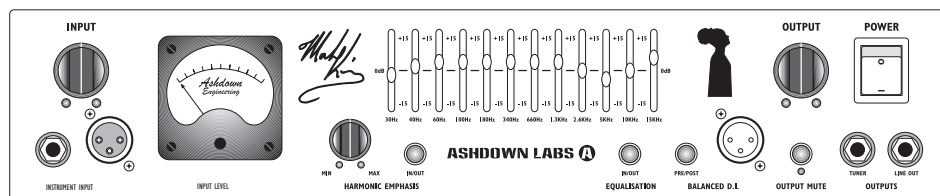
The CE mark which is attached to these products means it conforms to EMC Directive (89/69/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (72/23/EEC).

Operating Instructions

INTRODUCTION

The MK500 bass amplifier uses a brand new Ashdown pre-amp featuring a 12 band graphic equaliser for the most versatile tone shaping available and Harmonic Emphasis to provide the ultimate in HiFi for Bass. Coupled with balanced XLR instrument input and a simplistic design approach, the signal path is kept to an absolute minimum for maximum signal integrity and pure tone.

FRONT PANEL FACILITIES



INSTRUMENT INPUT

There are two Instrument Inputs. The first of these is a Jack socket suitable for all Passive or Active bass instruments with a conventional jack output. This will perfectly match the high impedance output from a passive bass but also has sufficient headroom to accept the lower impedance and higher signal level from active instruments. The second input is a balanced XLR input for the ultimate in low impedance interconnection between bass instrument and amplifier. This may be used with both balanced or unbalanced connections but is best used with a true balanced connection where it will give up to 100dB of common mode rejection, cancelling any noise picked up on the instrument connection cable.

INPUT CONTROL

The INPUT control sets the signal level through the preamp in conjunction with the INPUT LEVEL VU Meter. This is adjusted to give a reading of 0VU on the meter for average playing dynamics with occasional peaks into the red region. Please note that the setting of this may have to be re-adjusted after modification of the EQ controls. It is most important to set this control to the optimum (as described above) to get the best noise free performance.

HARMONIC EMPHASIS

HARMONIC EMPHASIS is a new addition within this amplifier and consists of a circuit that takes the bass signal and emphasises harmonics within it to produce a bright zingy top end. It is not an EQ circuit, it actually synthesises new harmonics, adding these to the original sound. The best way to describe this is that it is similar to the top end zing you get from a new set of strings.

This has a LEVEL control and can be switched in or out with the front panel switch.

Used in moderation, you will find it adds a lot of bright, high harmonics to the sound giving definition and clarity not achievable in any other way.

GRAPHIC EQUALISER

The GRAPHIC EQUALISER section operates by boosting or cutting the level of signal at various frequency points throughout the frequency range. With the sliders set on 0dB (in their centre 'click' position) no alteration is made to the signal. Moving any one of the sliders up will increase or 'boost' the signal at the frequency marked below the slider. Moving the slider down will decrease or 'cut' the signal at that frequency.

The GRAPHIC EQUALISATION can be switched in or out with the front panel switch.

A carefully designed GRAPHIC EQUALISER is a very flexible way of varying the sound of a bass guitar and if properly used will provide an extremely powerful method of tone shaping for your instrument.

Because of the flexibility and massive BOOST and CUT potential of this particular GRAPHIC it is important to know how to get the best from it.

Firstly a few things not to do and the reasons why:

1. Do not boost or cut all frequency bands as this will have the same effect as increasing or decreasing the overall volume level without affecting the tonal characteristic of the sound.
2. Do not use excessive bottom (30 to 40Hz) boost on the graphic unless your speakers can handle it. Very few speaker systems are capable of handling frequencies as low as 30 and 40Hz with any degree of efficiency. N.B. Boosting at 30Hz for instance will not add to the perceived amount of bottom end in the sound, it will only make your speakers flap to no useful effect. In fact boosting at 100Hz or 180Hz will have the apparent effect of adding far more bottom end than boosting at 30, 40 or even 60Hz.
3. Do not use excessive top (10 to 15kHz) boost, this will add mostly hiss to the sound as there is very little signal output at this frequency from a bass.

The 30Hz slider has been provided to allow precise tailoring at very low frequencies. This slider should be used to CUT (not Boost) the 30Hz to a level that allows the speaker system to work at its maximum efficiency.

USEFUL OBSERVATIONS

The fundamental frequency range of a regular, four string bass guitar is from 41.2Hz (bottom E string) to around 392Hz (two octaves up on the G string) – not a very wide range. Obviously a lot of harmonics are produced when playing and these can extend up to 5kHz and more.

The attack portion of the note also produces other high frequencies when the string is first struck. This attack can be emphasised by boosting the top end. However because of the fairly small range of frequencies from a bass, by top end we mean between 2.6kHz and 5kHz. You will find that by boosting at 5kHz the attack will be emphasised whereas by boosting at 1.3 and 2.6kHz you will bring out the harmonics in the note.

Above this frequency range you will find it is better not to boost the signal as this will mainly emphasise any hiss present. This hiss will not be masked by the bass signal when playing due to the very small amount of bass guitar frequency content at 10 to 15kHz.

Use the 30Hz and 40Hz sliders sparingly unless you have a massive stack of speakers available, and the power amplifiers to drive them. You will find that rolling off the bottom end by using these two sliders will allow you to play at a far greater volume level without the speakers complaining.

Try to keep the graphic sliders balanced around 0dB and in a smooth flowing curve from one slider to the next, and remember that after adjusting the graphic you may need to re-set the INPUT GAIN.

DI

The DI or DIRECT INJECT socket is a balanced, low impedance XLR output intended for connection into the Microphone Input on one channel of a mixing desk.

Continued over

This is to carry the signal to the P.A. system for larger gigs. It is balanced and low impedance to ensure that no noise is added to the signal on the way to the mixer. The level of this signal has been set to be similar to that from a microphone so that it will work without overloading the input on a desk that has no input Pad switch.

The signal connections are as follows: Pin 1 = Ground, Pin 2 = Signal +, Pin 3 = Signal -.

The DI signal can be switched to be PRE or POST EQ. PRE EQ is before any of the amplifier's facilities or EQ but after the INPUT GAIN control. POST EQ is after all internal facilities and includes the external effects loop.

MUTE/TUNE

The front panel MUTE switch provides a mute facility that can be used to silence all outputs from the amplifier except that from the TUNER output socket. This enables silent tuning to be carried out whilst the amplifier speaker outputs, the DI the Effects Send and the Line Output are all muted. Once in tune the amplifier can be un-muted and playing resumed. This switch can also be used as a STANDBY switch for silencing the amplifier during pauses in its use. A blue LED below this switch will illuminate to indicate when the amplifier is Muted.

To make use of the Tuning facility plug the output from the TUNER socket into the INSTRUMENT input on your tuner.

OUTPUT LEVEL

The OUTPUT LEVEL control is used to set the stage volume of the amplifier. Use this control to adjust for increases or decreases in your playing volume and not the INPUT GAIN control, this should always be left set to the optimum for your instrument.

LINE OUTPUT

The LINE output is for connection to external power amplifiers and speakers to allow you to build a larger more powerful system. This output is situated after the OUTPUT LEVEL control to allow the entire connected system to be turned up and down with a single control. If you require a line output that is not affected by the OUTPUT LEVEL control you may use the EFFECTS SEND jack socket, this will obviously not include any effects loop signal.

INPUTS

Jack Input	Impedance - 3.9M Ohms	Input Range 150mV to 20V p - p
XLR Input	Balanced - 600 Ohms	Input Range 100mV to 10V p - p
Effects Return	Impedance - 10K Ohms	Input Level 0dBu Nominal

OUTPUTS

Tuner Output	Impedance - 22K Ohms	Level 0dBu Nominal
Line Output	Impedance - 1K Ohms	Level 0dBu Nominal
Effects Send	Impedance - 22K Ohms	Level 0dBu Nominal
D.I. Output	Impedance - 600 Ohms Balanced	Level -20dBu Nominal

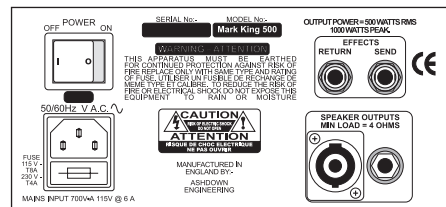
EQUALISATION

Graphic Equalisation	+/- 15dB @ 12 centre Frequencies	
Speaker Outputs	Min Impedance - 4 Ohms	500 Watts RMS 1000 Watts Peak
Frequency response	-3dB at 17Hz and 30kHz	

REAR PANEL FACILITIES

EFFECTS SEND/RETURN

A serial effects loop is provided at a level of 0dB. The EFFECTS SEND socket can also be used as a Line Out socket if required as the signal path through the preamp is only broken when a jack plug is inserted into the EFFECTS RETURN socket. The EFFECTS SEND is situated after the EQ.



SPEAKER OUTPUT

The Speaker Output sockets are also situated on the rear panel of the unit and are provided on both Jack & Speakon connectors.