STEREO DISC PREAMPLIFIER
INSTRUCTIONS FOR USE

CAUTION: THIS EQUIPMENT MUST BE EARTHED. UNDER NO CIRCUMSTANCES REMOVE THE LID OF THE UNIT WITHOUT FIRST REMOVING THE POWER LEAD. DO NOT OPERATE THE UNIT WITH THE LID REMOVED. ALWAYS REPLACE THE FUSE WITH THE CORRECT SIZE AND RATING.

These instructions apply to UK versions only.

Models

- E225 STEREO DISC PRE-AMPLIFIER : Unbalanced (20-225)
- E235 STEREO DISC PRE-AMPLIFIER : Balanced (20-235)

Contents

1 Introduction

1.1 Description

This product is a preamplifier for use with moving magnet cartridges. It will produce “line” level signals from the low level cartridge output with the correct equalisation (RIAA). It is designed for use in professional applications where low noise, line drive capability and long term reliability are important.

1.2 Safety

During servicing, when changing one of the internal options, altering the supply voltage or changing the fuse, please disconnect the unit from the power source by removing the IEC supply cable. Do not, under any circumstances connect the unit to the power source with the lid removed.

This unit must be earthed. Do not remove the mains supply earth under any circumstances. The internal 0Volts line can be disconnected from supply earth by removing the barrier strip link on the rear of the unit.

The unit is fitted with a 500mA slow blow HRC 5 x 20mm fuse (500mAT). Under NO circumstances should any other type or value of fuse be fitted.

2 Operation

2.1 Options

At manufacture the internal options are set as follows :-

Mains voltage:	240V
Hi-pass filter:	Out
Input capacitance	50pF

If you want to alter any of these options refer to Section 3.

2.2 Input
Input connections to the unit are via gold plated phono (RCA) sockets. Connection from the pick-up cartridge should be made via low capacitance cable terminated in good quality phono plugs. If contact corrosion is likely to be a problem (e.g. damp atmosphere) then the connecting phono plugs should be gold plated. The connecting cable length should be as short as is practical. When setting the input capacitance remember to take into account the capacitance of the connecting cable.

2.3 Installation
The unit may be left free-standing or fixed in place via the four holes in the side flanges. To prevent possible hum pick-up the unit should not be mounted too close to large transformers, turntable motors etc.

2.4 Output
Output from the unit is via male XLR type connectors. Pin connections are as follows :-

	Pin 1	**Pin 2**	**Pin 3**
E225 (unbalanced)	gnd	hot (+)	gnd
E235 (balanced)	gnd	hot (+)	cold (-)

The output will drive loads down to 600R at levels of up to +20dBm (Balanced output +18dBm due to low frequency response of output transformer).

If the unit you have has unbalanced outputs, it may be fitted with transformers (see Section 5).

2.5 Earthing
Under no circumstances should the mains supply earth be disconnected. If it is necessary to separate signal and mains earth then this may be done by disconnecting the link on the small red barrier strip on the rear of the unit.

3 Options

Three options are available to the user but they require access to the printed circuit board inside the unit. To gain access firstly remove the power (mains) supply then remove the four screws holding the lid of the unit and lift off.

3.1 Pickup load capacitance
Some pickup cartridges require different load capacitances to ensure accurate high frequency response. It is possible to have the following load capacitances by altering the position of the shorting plug on the header marked H1 (refer to Figure 1).

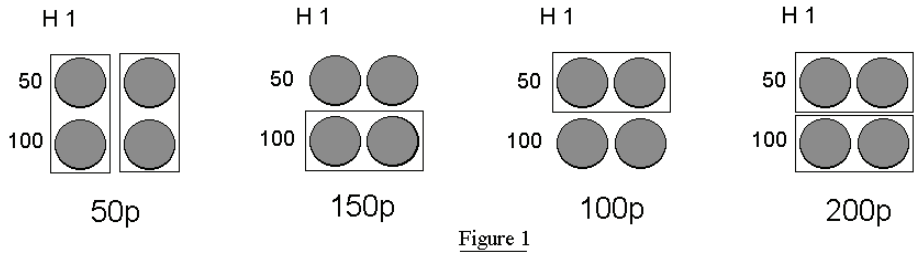

Figure 1

At manufacture the load capacitance is set to 50pF.

3.2 Hi-pass filter
As set at manufacture the equalisation follows the IEC amendment to the RIAA disc reproduction curve at low frequencies (<40Hz) by adding a 60dB/octave roll-off. Under some circumstances it can be useful to increase the rate of low frequency roll-off (e.g. to reduce rumble). Built into the p.c.b. is a 12dB/octave hi-pass filter with a –3dB point at 20Hz. It can be switched in by altering the position of the shorting link on header H2.

At manufacture this option is set to “filter out”.

3.3 Power (mains) supply voltage
At manufacture the mains supply voltage is set for nominally 240V AC. The unit is designed to cope with considerable variations in the mains supply, viz –25% +8% (this is equivalent to 180V to 254V on the 240V setting and 90V to 130V on the 120V setting).

The supply can be altered from 240V to 120V by moving the Red and Yellow transformer leads in the terminal block adjacent to the IEC inlet plug.

Always ensure that the supply is disconnected before attempting this.

4. Troubleshooting

This product has been manufactured using quality components to ensure long reliable operation. However, in the event of the item appearing faulty, refer to the following :-

Symptom	Possible Cause	Solution
Fuse blows continually	Wrong supply voltage	Change supply option see 3.3
LED not illuminated	Lack of supply Blown fuse	Check Supply Check and replace
One channel inoperative	Input/Ouput leads faulty Shorting link missing on Hi-pass filter option	Trace fault by swapping leads Refer to Section 3.2
Both channels operative	Lack of source signal Defective/incorrectly wired leads	Check source Check leads

If none of the above information solves your problem, refer to your local supplier for assistance.

5. Balancing

A unit with unbalanced outputs (E225) may be converted to balanced outputs (E235). Do not attempt this yourself unless you have the correct tools and adequate soldering skills.

5.1 Tools
You will require :-

- 1 pt & 2 pt pozidrive screwdrivers
- M3 ring spanner
- Small slotted driver (to fit Neutrik latches)
- Wire cutters
- Soldering iron

5.2 Parts

- 2 off LL5402 transformers
- 2 off 330R ¼ watt resistors
- 2 off 0.33F Polyester capacitors (Siemens)

5.3 Procedure

1. Remove all external connections and remove the lid.
2. Delatch Neutrik output XLR's (1/4 turn). Remove metal shell fixing screws and withdraw shells.
3. Remove wires to Gnd lift block from p.c.b. terminal block.
4. Remove nuts and bolts holding IEC inlet to case.
5. Turn unit over and remove four screws from base.
6. Remove p.c.b. assembly from case by moving it back and then sliding it sideways from the case.
7. With wire cutters, cut four links marked LK1 to LK4. Using tinned copper wire insert and solder links LK5 and LK6.
8. Fit R24 (330R), C23 (0.33 F) and transformers and solder into place.
9. Reassemble unit following the instructions above in reverse order. Take care to ensure that the fuse holder is correctly located in chassis hole before replacing p.c.b. fixing screws.
10. Test unit for correct operation.

For further information or servicing please contact your local E.M.O. Dealer.