OPERATING INSTRUCTIONS–IMPORTANT NOTICE

Please read carefully through all the following instructions, together with the appropriate sections in the attached brochure.

1. CONNECTING

Fit a suitable mains plug to the mains lead being careful to observe the correct colour coding:–

Green and Yellow = earth (ground), Brown = live, Blue = neutral

Plug in your equipment and connect speaker cabinets as appropriate.

Where separate speaker cabinets are used it is preferable to use XLR type, 3 pin connectors, since jack connectors can cause significant power losses. Speaker leads should be wired:–

Pin 1 negative, Pin 2 positive, Pin 3 not used.

It is important that the overall impedance of speakers should not fall below 4 ohms per power amp section. (i.e. one 4 ohm cab. or two 8 ohm cabs.). The AH 500 has twin power amp sections and each section can be treated separately as regards loudspeakers. For full details see section 6F).

2. SWITCHING ON

Before switching on the mains, turn the "level" control (green cap) to zero. Switch on the mains.

3. SETTING UP GAIN LEVELS

It is important to understand the correct use of the input gain control (red knob cap) and the stage output level control (green knob cap).

The optimum setting is achieved when the input gain control is as high as possible *without lighting the red LED,* and the stage output level control is as low as possible to achieve the required volume.

First turn the output level to zero, and set all faders to the central (0dB) position. Now turn all volume controls on your bass up to full. Gradually turn up the input gain control while playing the bass as hard as you are likely to during your performance.

When the red LED lights up, reduce the input gain by 1 click.

Now turn up the output level a few clicks and adjust the faders to give your desired sound (see 4. SETTING UP EQUALISATION). It may now be necessary to reset the input gain control particularly if you have applied large amounts of equalisation boost or cut. Once again play as hard as you are likely to during performance, with all controls on your bass full up. Advance the input gain control until the LED just lights up and then reduce it 1 click. During normal playing the yellow indicator should light up (O.K.).

Finally adjust the output level control to give the volume you require.

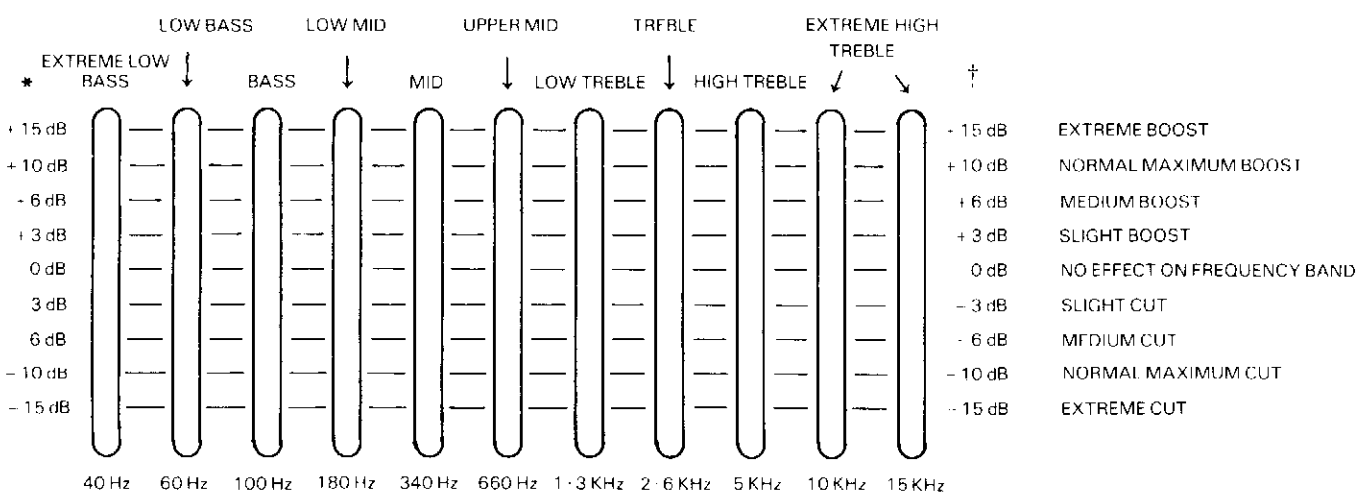
For gain levels on power amps (AH 500 and RA 500) see section 7).

4. SETTING UP THE EQUALISATION–(TONE CONTROLS)

Most musicians are familiar with the function of a graphic equaliser but for those who are not, the following may be useful:– All tone controls are used to cut or boost frequency ranges. A graphic equaliser allows you to boost or cut a number of frequency bands; the greater the number of bands (faders) the more control you have over the final sound.

The amount by which you can cut or boost the individual frequency band is usually measured in decibels (dB). The dB is a much misunderstood unit of measurement, but it is sufficient to say that the greater the range in dB (plus or minus), the great the audible tonal variety, (i.e. a graphic equaliser with a range of plus or minus 15dB will be much more effective than one with a range of plus or minus 12dB).

The GP11 equalisation section is shown below. The effects of the various sliders are listed, with specific reference to their effect on a bass guitar signal.



NOTES

The extremes of + or – 15dB are not normally recommended except for special effects or "freaky" sounds.

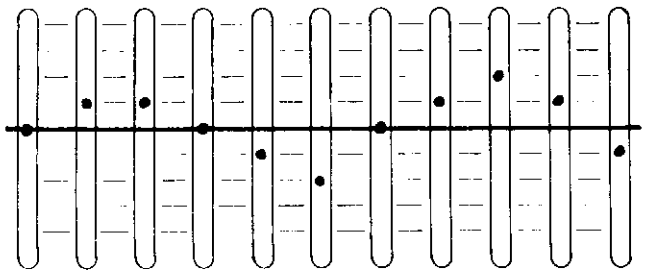
* 40HZ–EXTREME LOW BASS Approximately the fundamental note of the bottom E of a bass guitar. This control should be used very sparingly, since very few speaker systems are capable of handling frequencies as low as this with any degree of efficiency.

† 10KHZ AND 15kHZ–EXTREME HIGH FREQUENCY. The controls should only be use if you have bass and a speaker system capable of reproducing really high frequencies. In most other instances, the slider should be left at centre position (0dB). If they are pushed up, the result will be to increase the hiss of the system, without materially altering the tone of the instrument.

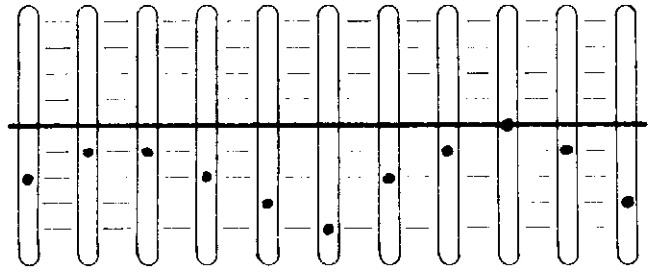
4. EQUALISATION—Continued

By all means experiment with fader settings to achieve the sound you want, but remember the following guidelines:—

A) The tonal setting should be balanced around the 0dB line.

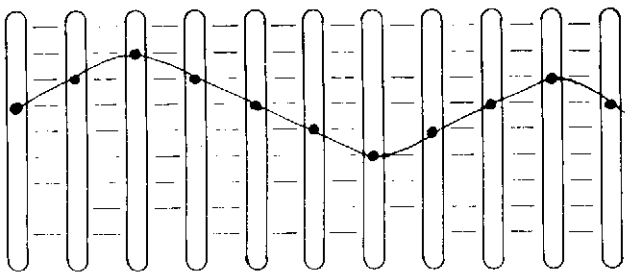


RIGHT



WRONG

B) Be careful with the extremes of high and low frequency.
C) Set the faders in a gentle curve. Adjacent faders set as opposite extremes will largely cancel each other out.



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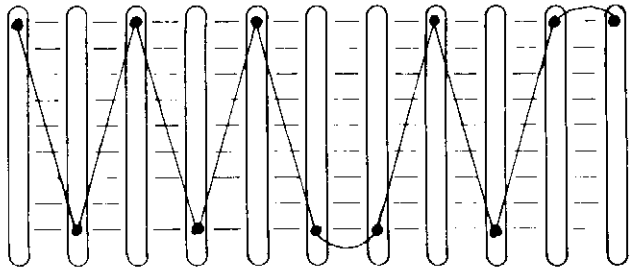
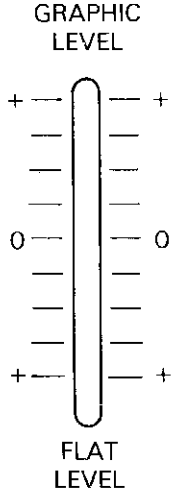


WRONG

D) Remember to reset the input gain control after changing your eq. setting.

5. SETTING UP THE BALANCE CONTROL



The balance control is used in conjuction with the graphic equalisation IN/OUT switch. Moving the fader upwards (towards GRAPHIC LEVEL +) will increase the sound level when the graphic is switched IN. Conversely, moving the fader downwards (towards FLAT LEVEL +) will increase the sound level when the grahic is switched OUT.

Thus you can either arrange for an even sound balance between EQ. IN and EQ. OUT or purposely boost one setting (e.g. for solos).

6. CONNECTING EXTERNAL EQUIPMENT

A) Connecting effects units.

Effects units (echo, phasing, A.D.T. etc) can be connected in the normal way, in between your bass and the input of your Trace Elliot. However the GP11 preamp has separate effects send and return sockets, which are positioned after the eq. section. It is better to connect effects units in this way, since the noise level of the effect unit will not be boosted by the eq. section.

B) Connecting to mixers (stage or studio).

The GP11 preamp has a transformer balanced low impedance Direct Inject Output, which is ideal to feed any P.A. or studio mixer. You do not need an external D.I. box, but simply take a feed direct to the mixer. Use an XLR 3 pin connector wired:—

Pin 1 = screen, Pin 2 = negative, Pin 3 = positive.

Do not connect the screen of the lead to the shell of the connector to avoid hum loops (earth loops).

The two position switch adjacent to the D.I. output socket offers two alternative outputs. PRE-EQ. takes the signal direct from the bass (after the FLAT/PRESHAPED switch). You can then adjust your eq. to your own taste on stage, without affecting the signal to the mixer. Any effects unit used in the effect loop will not be fed to the mixer. POST-EQ. takes the signal after the equalisation section and after the effects loop, so whatever sound you set up on stage and whatever effects you are using go to the mixer.

C) Connecting multiple preamps.

You can link up to six Trace Elliot GP11 together and route them either into a power amp or into an amp head or combo which has the GP11 as its first stage. Simply link the "LINE OUT" socket of preamp A to the "LINE IN" of preamp B and continue linking up in this way. The total outputs of all linked premaps will be fed to the last preamp (amp or combo) and the volume of each is independently adjustable.

D) Connecting to one or more RA 500 power amps.

The RA 500 is ideally matched to the GP11 preamp and can be used in multiples of up to ten to give a system of up to 5 Kilowatts. Since each channel of each amp has a separate level control and switchable electronic crossover, a wide range of applications is possible.

N.B. If multiples of preamps and power amps are used in one rack system, hum loops (earth loops) may occur unless the following procedure is followed:—

i) The chassis of all items should be electrically insulated from each other and from the metal frame of the rack.
ii) Only one item of equipment should be earthed. The earth path to the remaining equipment is made by the screen on the signal linking leads which should therefore be carefully checked.

Alternatively, isolating transformers are available, as optional extras, on the inputs of the power amplifiers.

E) Connecting to other slave amps.

The GP11 preamp has a slave output marked "LINE OUT", which can be used to feed another power amp. The AH 500 amp head has "LINE IN" and "LINE OUT" sockets for each power amp channel but the preamp is automatically disconnected when a jack plug is inserted in the "LINE IN" socket.

F) Connecting to speaker cabinets.

All Trace Elliot power amplifiers* are designed to give their maximum safe power output into 4 ohms. They will work perfectly well into an 8 ohm load, but will deliver less than their full output. In the case of twin output channel amplifiers, each channel is considered separately to calculate the correct impedance matching.

IMPORTANT NOTICE—It is dangerous to run an amplifier into an impedance lower than the designated minimum (i.e. less than 4 ohms).

This means in practice that you can connect to each output channel:—

Either i) one 8 ohm cabinet, in which case less power will be produced
or ii) two 8 ohm cabinets, in which case full power will be produced
or iii) one 4 ohm cabinet, in which case full power will be produced
DO NOT CONNECT TWO 4 OHM CABINETS TO ANY ONE OUTPUT CHANNEL

The impedance of the cabinet is marked on all Trace Elliot cabinets.

*CHANNEL A output on the AH 350X is for connection to a high pass (treble) speaker of 8 ohms impedance only.

7. SETTING UP TWIN CHANNEL POWER AMPS

AH 500 AMP HEAD–FULL RANGE–Position 1

If both output channels are to be used full range, the Mode Switch should be set on position 1. The level controls on channels A and B can be used separately to achieve the desired balance if unequal volumes are required. It is important that these level controls should be set at or near the full (No. 10) position. The overall volume of the system is then controlled by the output level control of the preamplifier.

AH 500 AMP HEAD–BIAMP–Position 2

If the internal electronic crossover is to be used (i.e. channel A for high frequencies only, channel B for low frequencies only), the Mode switch should be set on position 2.

IMPORTANT NOTICE It is essential that the correct channel is connected to the correct cabinet. If full range or low frequency signals are routed to a high-pass cabinet (e.g. the high pass section of the Trace Elliot 1818X Cabinet), the speakers will almost certainly be destroyed and the warranty will be invalidated.

REMEMBER–HIGH PASS–CHANNEL A–HIGH FREQUENCY CAB
LOW PASS–CHANNEL B–LOW FREQUENCY CAB

On this setting it is recommended that the low frequency Channel (B) is set on maximum level (No. 10), and the high frequency channel (A) adjusted to the required level (usually about No. 7). The overall volume of the system is then controlled by the output level control on the preamplifier.

AH 500 AMP HEAD–POWER AMP ONLY–Position 3

If the amp section of the AH 500 is required to be used as a conventional twin channel (stereo) power amp, the mode switch should be switched to position 3. The GP11 preamp will be automatically disconnected from the power amp, but it can still be used via the line output or D.I. output. The power amp section is then usable quite independently.

RA 500–TWIN CHANNEL POWER AMP

For linking up in multiples and with the GP11 preamp, see section 6D.

The amp can be used as a conventional full range twin channel power amp, in which case both electronic crossover switches should be switched to full range. If a bi-amp system is required, both channel switches should be switched, Channel A to high pass, Channel B to low pass. For this setting see notes under AH 500 (position 2) above.

8. SOME COMMENTS ON VOLUME (LOUDNESS)

The bass guitar is a hard signal to amplify. It is punishing on loudspeakers and demanding on the power amp. Trace Elliot use very heavy duty components throughout, which will withstand a lot of abuse. However, sustained overloading of loudspeakers will eventually result in their failure. If your volume of playing causes your speakers to distort regularly and continually, you should uprate your system.

9. REGULAR MAINTENANCE

A properly designed solid state amplifier does not deteriorate with age but a few points should be checked periodically.

A) Make sure all leads, particularly speaker leads and the mains lead are checked for good connections.

B) In the case of fan cooled power amps, it will be necessary to clean accumulated dust from the inside of the amp. This should be done by a qualified engineer. The frequency of this cleaning will depend on how often and how long the amp is used for but once a year should be enough.

C) Should faders or volume potentiometers become intermittent or scratchy, they can be cleaned with special solvent by a qualified engineer.

10. FAULT FINDING

Trace Elliot equipment is designed, built and tested with reliability in mind. The most common causes of trouble are defective leads and in the event of a fault condition, check these first. Next, check all fuses and, if blown, replace *with a fuse of the correct value as shown on the equipment.* If the fuse blows again, refer the equipment to a service engineer with a note of the fault.

If leads and fuses prove to be in order, but the fault is still there, the equipment should be referred to a qualified service engineer.

There are no user serviceable parts inside the equipment, and no attempt should be made by an unqualified person to dismantle it or remove any covers.

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