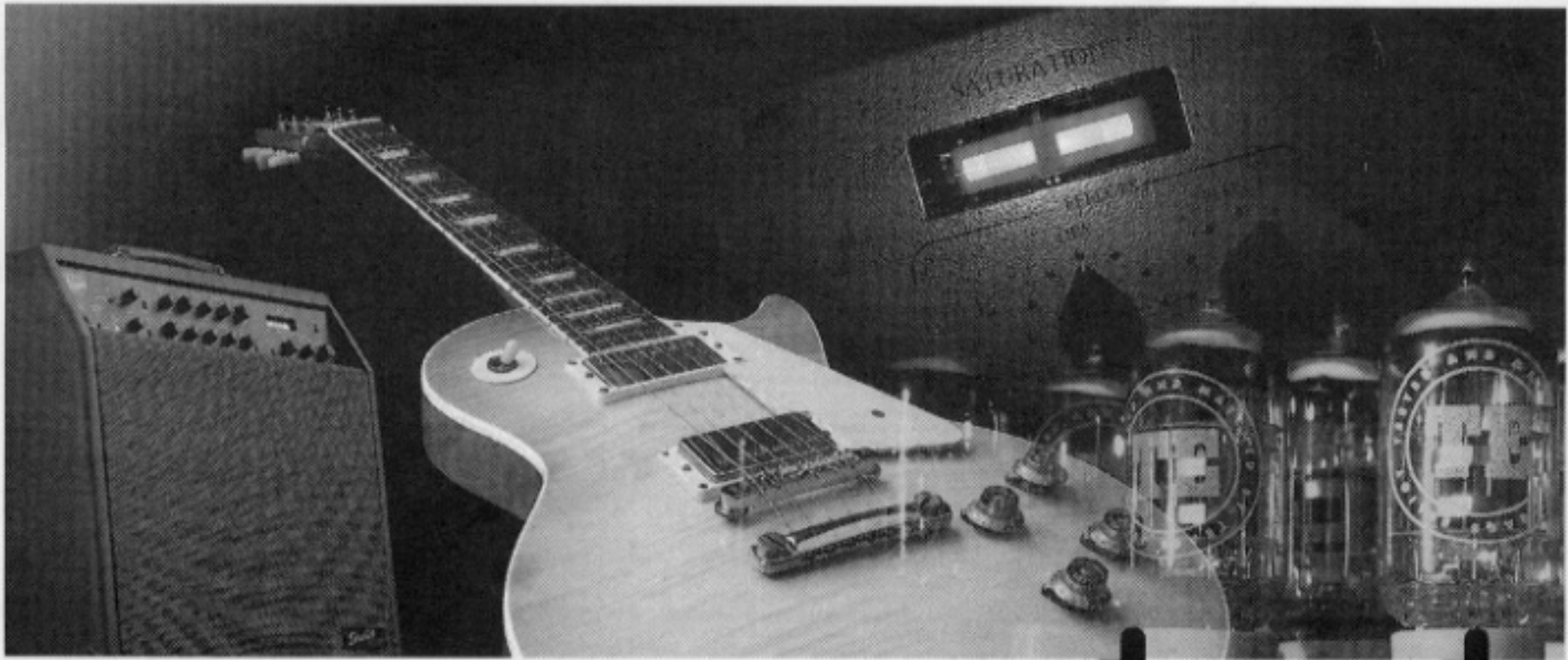


TRACE  
ELLIOT

**TRACE  
ELLIOT**

ROAD AND STUDIO SERIES  
GUITAR AMPLIFICATION



**tvt**

ROAD & STUDIO SERIES  
GUITAR AMPLIFICATION

Vibrato Switch  
Level Control

Effects Section

Saturation Display

Output Level

Standby Switch

REAR PANEL FACILITIES

Voltage Selector

Power Switch

Main Fuse

Earth Lift Switch

Fuse Switch Sockets

Speaker Emulation Recording Output

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# ROAD AND STUDIO SERIES GUITAR AMPLIFICATION

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# TRACE ELLIOT TVT9 OPERATING INSTRUCTIONS

As well as being available on its own in rack mount format, the TVT9 pre-amp also provides the front end of the Studio 80/30, Studio II 80/30, Road H-80, Road H-160, Road C-80 and Road C-160 range of combos and amp heads.

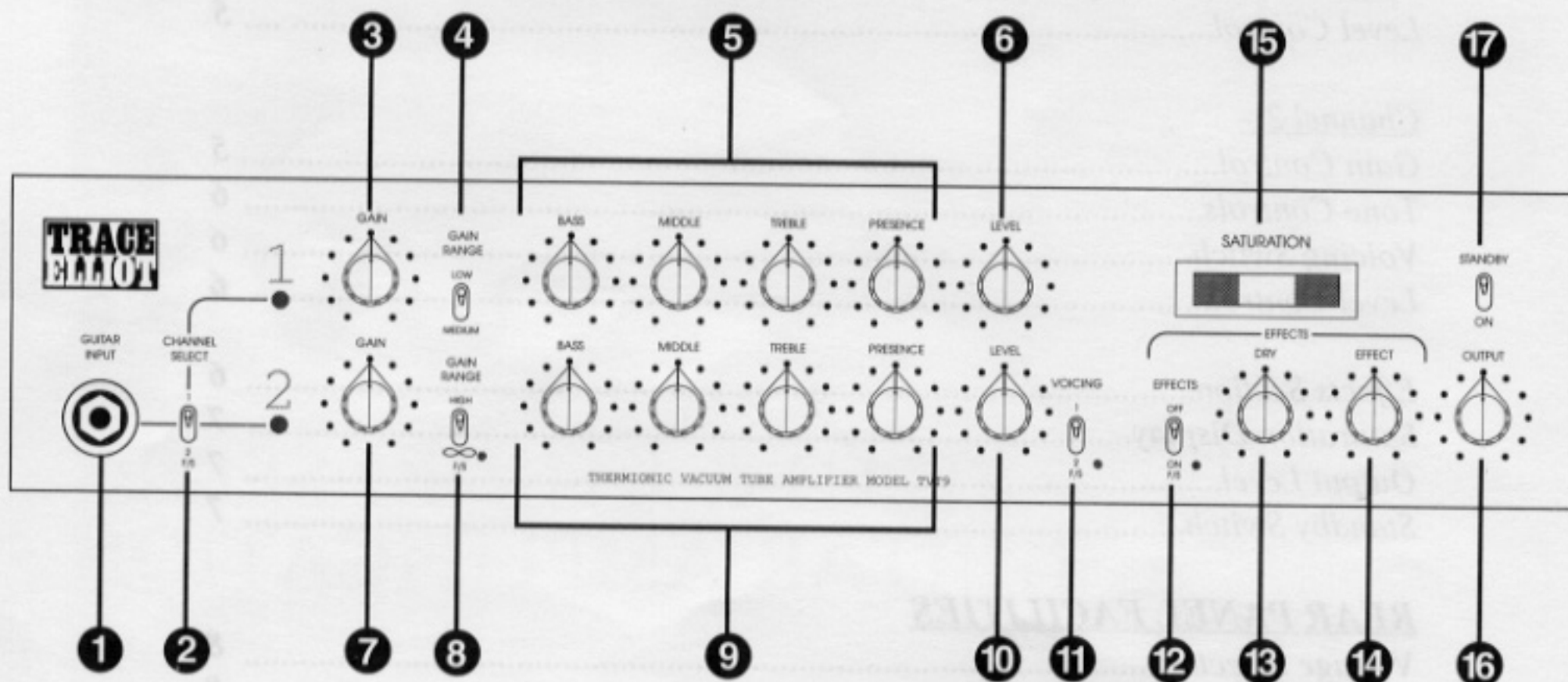
## TVT9 PREAMP GENERAL INFORMATION

The TVT9 guitar preamplifier is a two channel all valve unit using a total of 9 valves, these being 8 ECC83's for the signal circuitry and 1 EM84 for the SATURATION display. Foot switching is carried out using relays to provide the best and shortest possible signal path. This preserves the integrity of the signal as any kind of electronic switching is bound to add noise and signal degradation.

The activity of the four foot switchable functions is indicated with LED's both on the front panel and on the foot switches for ease of use without confusion.

The appearance and design of the TVT9 has been kept traditional in most respects but with consideration to the needs and requirements of the modern guitarist.

The model number TVT9 comes directly from the technical description of a valve or tube i.e. THERMIONIC VACUUM TUBE, with the number of valves or tubes being 9 in total.



## INPUT (1)

A single input jack socket is provided that drives both channels of the TVT9. This is a high impedance input to match the pick ups of passive guitars perfectly. As it is a vital connection between you and your instrument it is of course GOLD PLATED to ensure trouble free operation.

## CHANNELS

Each channel has a GAIN control and toggle switch selection of GAIN RANGE plus BASS, MIDDLE, TREBLE, PRESENCE and VOLUME LEVEL controls. Channel 2 has the addition of a VOICING switch.

Channel 1 or 2 may be selected from either the front panel toggle switch (2) adjacent to the input jack socket, or alternatively, if this switch is in its down (channel 2) position from the foot switch via the FOOTSWITCH 1 socket.

Indication of the active channel is given by the LED's next to the GAIN control for each channel.

## **CHANNEL 1**

### **GAIN CONTROL (3)**

The amount of pre-amp GAIN or DRIVE is adjusted by a single control used in conjunction with the GAIN RANGE toggle switch (4). For CHANNEL 1 the two gain ranges are LOW and MEDIUM.

LOW is intended for use as a CLEAN guitar sound, the position of the GAIN control for this will be dependent upon the output level of the guitar being used. The SATURATION display tube (15) can be used to set up a clean sound if required, for as long as the display does not move then the guitar signal is completely CLEAN (for notes on the Saturation Display see page 7).

MEDIUM is for use as a CRUNCH or BLUES sound and has a range that can be adjusted from just an edge to the sound through to fat crunch chords.

### **TONE CONTROLS (5)**

Four tone controls are provided these being BASS, MIDDLE, TREBLE and PRESENCE. All are entirely passive and have been tailored to suit the range of uses that this channel can be put to.

*The tone control range has been designed so that a '12 o'clock' setting on all controls gives a basic good sound from which to start.*

Being PASSIVE controls means that they are interactive, with the TREBLE control having a strong effect on the both the MIDDLE and PRESENCE controls.

### **CHANNEL LEVEL CONTROL (6)**

The LEVEL control is used to balance the level difference when switching between channels 1 and 2. As a general rule it is best to set this as high as possible and then use the master OUTPUT control to set the overall amplifier volume, in this way you will keep the amplifier noise to a minimum.

This control will also have an effect on the level of signal sent to the EFFECTS LOOP, however as this is separately adjustable on the back panel it should not affect the matching of signal levels to effects units. It is nevertheless useful to know that if you reduce the individual channel level that you are also reducing the level of signal to the effects unit.

You may well find that if channel 1 is adjusted for a pure clean sound, it is necessary to have this level control set at maximum. This is because a clean sound needs a far greater dynamic range and consequently a much higher volume setting to achieve the same average level of volume.

## **CHANNEL 2**

### **GAIN CONTROL (7)**

The amount of pre-amp GAIN or DRIVE is adjusted by a single control used in conjunction with the GAIN RANGE toggle switch (8). For CHANNEL 2 the two gain ranges are HIGH and INFINITY.

Both HIGH or INFINITY may be used on this channel for either power chords or for soloing. The decision as to which setting to use will depend on the output signal from your guitar and of course the style and type of music you play.

In some instances it may be useful to use both gain range settings i.e. adjusting the gain control so that HIGH is suitable for chords and INFINITY is suitable for solo playing. To make this easier to do the GAIN RANGE has been made foot switchable, this can be achieved by setting the toggle switch to INFINITY and plugging your foot switch into the FOOTSWITCH 2 socket on the back of the pre-amp.



## TONE CONTROLS (9)

Four tone controls and a voicing switch are provided these being BASS, MIDDLE, TREBLE and PRESENCE with the voicing switch modifying the overall tone of the channel. All tone controls are entirely passive.

*The tone control range has been designed so that a '12 o'clock' setting on all controls gives a basic good sound from which to start.*

Being PASSIVE controls means that they are interactive, with the TREBLE control having a strong effect on the both the MIDDLE and PRESENCE controls.

## VOICING SWITCH (11)

The VOICING switch in position 1 gives a full fat guitar sound with plenty of top end as typified by the AMERICAN breed of amplifiers, whereas VOICING 2 provides a thinner more middley tone with plenty of bite as found on traditional BRITISH amplifiers.

As well as being able to provide both BRITISH and AMERICAN familiar guitar sounds the TVT9 also has its own character that comes through as being a well rounded and full guitar tone with the availability of masses of saturation and sustain.

VOICING is also foot switchable by setting the toggle switch to VOICING 2 and using the foot switch in the FOOTSWITCH 2 jack socket.

## CHANNEL LEVEL CONTROL (10)

The LEVEL control is used to balance the level difference when switching between channels 1 and 2. As a general rule it is best to set this as high as possible and then use the master OUTPUT control to set the overall amplifier volume, in this way you will keep the amplifier noise to a minimum.

You will find that with CHANNEL 2 this level control rarely needs to be set beyond halfway to maintain a balance with CHANNEL 1.

This control will also have an effect on the level of signal sent to the EFFECTS LOOP, however as this is separately adjustable on the back panel it should not affect the matching of signal levels to effects units. It is never the less useful to know that if you reduce the individual channel level that you are also reducing the level of signal to the effects unit.

## EFFECTS SECTION

The EFFECTS section contains two controls and an ON/OFF toggle switch (12). This provides a very flexible system for effects, allowing them to be used either in SERIES or in PARALLEL with the TVT9.

SERIES is like a normal effects loop where the effect is connected in series with the pre-amp. To use the loop in series turn the DRY control (13) down to minimum, connect the rear panel EFFECTS SEND to the input of the effects unit, adjust the level to the effects unit with the rear panel SEND LEVEL control. The output from the effects unit is returned to the EFFECTS RETURN socket and the overall level when the effect is ON is adjusted with the EFFECT control on the front panel (14).

PARALLEL operation is a much better way to use effects as the direct or DRY guitar signal never leaves the pre-amp, and therefore can not become degraded by passing through the effects unit itself. To use a parallel effects loop the SEND and RETURN are connected in the same way as above but now you must adjust your effects unit to return only the effected signal i.e. the direct signal through the effects unit has to be turned off. Once this is done then the two front panel controls can be used to adjust the effects balance. Use the DRY control to adjust the direct or DRY guitar signal through the preamp and use the EFFECT control to adjust the amount of effect added to this.

**N.B. If the effects loop is turned on with no effect connected, and the DRY control is set to minimum then you will get no sound through the pre-amp.**

With no effects connected the EFFECTS LOOP can be used as a switchable level booster by adjusting the DRY control to give a level change when the loop is switched ON.

The EFFECTS LOOP is also foot switchable from the FOOTSWITCH 1 socket, for the footswitch to operate the front panel toggle switch must be in its down or ON position.

### **SATURATION DISPLAY(15)**

The SATURATION display can be useful for either setting up a CLEAN sound ( for if the display moves the sound is not clean) or for monitoring the degree of saturation applied to either channel when playing. For instance, on CHANNEL 2 with the gain control well advanced you will be able to see that the peak amount of saturation is roughly the same for either setting of the GAIN RANGE switch, but when set on INFINITY the sustain will be much longer.

A higher reading on this display will be achieved from active guitars that have the facility to provide gain prior to the input stage of the pre-amp.

### **OUTPUT LEVEL (16)**

The OUTPUT LEVEL control is used to adjust the overall stage volume of the amplifier. It is always best to keep the individual channel level controls set as high as possible and this control set as low as possible to achieve the level of volume required, this keeps amplifier noise to a minimum.

With the way this pre-amp is designed there is no point in using this as a MASTER control to provide further gain or drive as this is all adjusted with the individual channel GAIN and GAIN RANGE controls. This control merely sets the overall output level.

This amplifier has been designed to operate with the minimum of background noise compared to the massive amounts of sustain that are available and by following the above advice this can be minimised even further.

The OUTPUT LEVEL control has a pull switch function to turn on the SPEAKER EMULATION RECORDING OUTPUT. This is shortened to "PULL D.I." on the front panel markings.

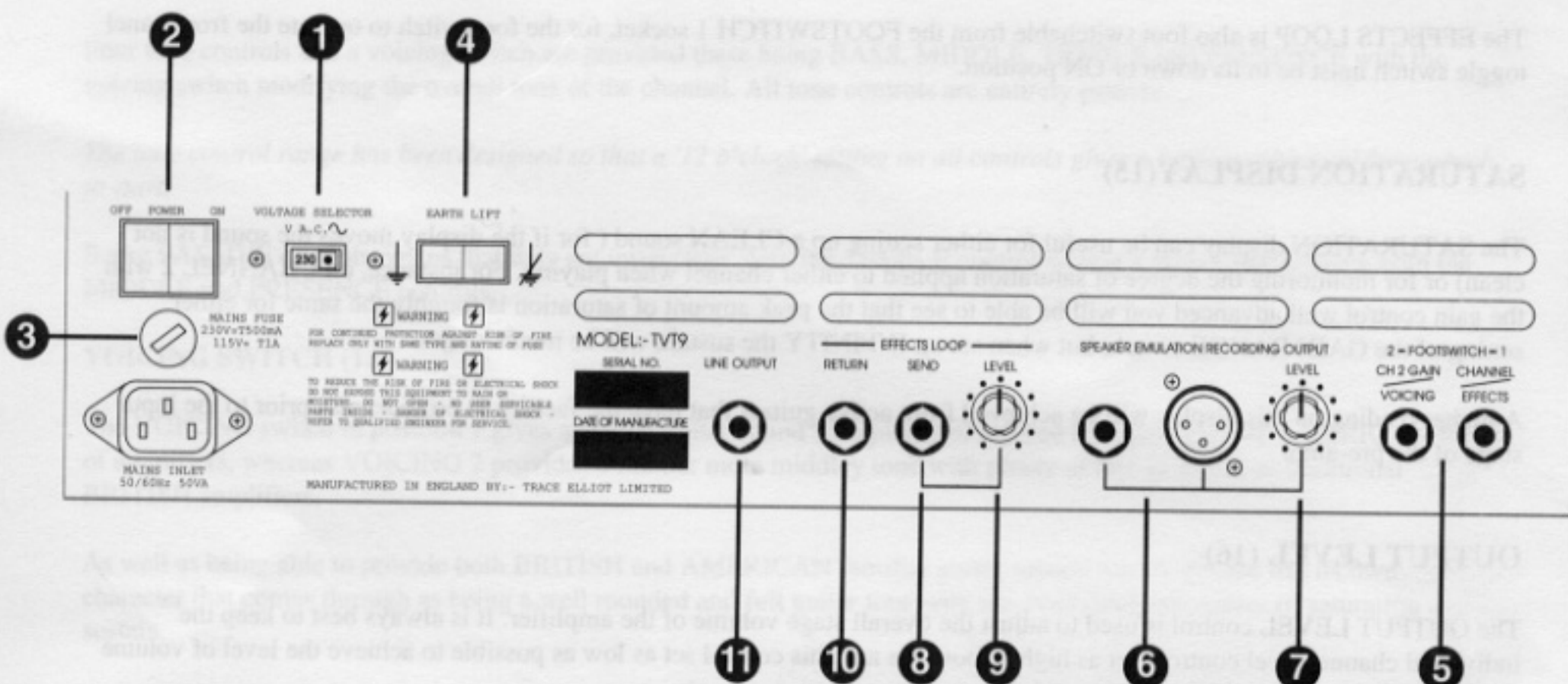
### **STANDBY SWITCH (17)**

It is always best to have the STANDBY SWITCH set to STANDBY prior to applying power to the unit. Once the mains to the unit is switched on please allow a 30 second warm up period before switching from STANDBY to ON, this will prolong valve life.

The STANDBY switch can also be used to silence the amplifier when not in use and leave it ready for immediate re-use without the need for the warm up period.



# BACK PANEL FACILITIES



## VOLTAGE SELECTOR (1)

The **VOLTAGE SELECTOR** should be set to the appropriate voltage for your country prior to connection to the mains supply.

When transferring from one country to another that uses a different voltage system you should also take note of the different **MAINS FUSES** required for that country. This is printed on the rear of the unit adjacent to the fuse holder.

## POWER SWITCH (2)

Once the correct supply voltage has been set the TVT9 can be turned on with the **POWER** switch on the rear of the unit. Always make sure the front panel **STANDBY** switch is in the **STANDBY** position prior to switching **ON** or **OFF**.

## MAINS FUSE (3)

In the event of having to replace the **MAINS FUSE** always use the same rating and type as marked on the unit's back panel. Using one of a higher rating will invalidate the guarantee.

If after replacement the mains fuse should blow a second time, immediately refer the unit to a **TRACE ELLIOT** approved service engineer for checking.

## EARTH LIFT SWITCH (4)

This is used to eliminate any earth loop problems between equipment. These could occur between pre-amp and power amp or between pre-amp and external mains powered effects units. The **EARTH LIFT** switch overcomes these problems by lifting the earth connection from the signal circuits of the unit.

The TVT9 as with all **TRACE ELLIOT** equipment still maintains an earth connection to the chassis and all metal parts of the unit for safety even when the **EARTH LIFT** switch is used.

In the case of combos and amp heads two **EARTH LIFT** switches are provided, one for pre-amp and one for power amp. This gives maximum flexibility as both pre-amp and power amps in these units are in fact separate units fitted in the same wooden box.

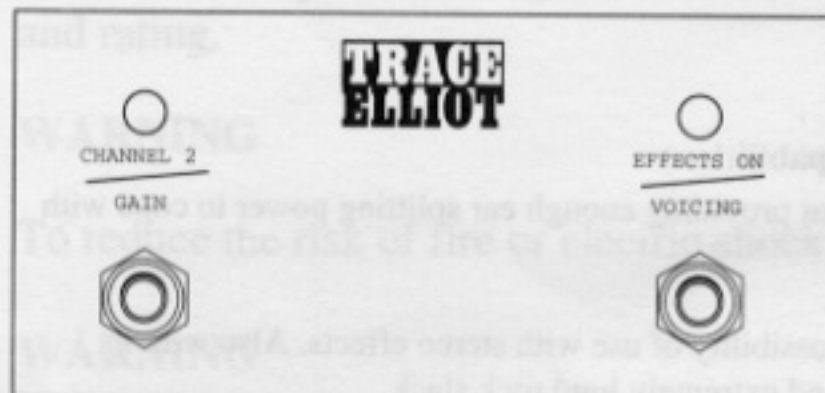
*NEVER lift the earth or ground to any equipment by removing the earth connection in the mains plug, this can be a potentially dangerous practice and in some instances prove lethal to both the equipment and the user.*

## SAFETY INSTRUCTIONS

### FOOT SWITCH SOCKETS (5)

One foot switch is supplied with each unit. This will operate in either foot switch socket.

In the FOOTSWITCH 1 socket CHANNEL SELECTION and EFFECTS LOOP ON/OFF functions are switchable, with the LED's on the foot switch indicating CHANNEL 2 and EFFECTS ON respectively.



In the FOOTSWITCH 2 socket channel 2 GAIN and VOICING are switchable with the LED's on the foot switch indicating INFINITY GAIN and VOICING 2 respectively.

All foot switches are marked for the two alternative switchable groups of functions allowing them to be used in either socket, and making it possible for you to purchase a second foot switch to allow switching of all four facilities if required.

### SPEAKER EMULATION RECORDING OUTPUT (6)

These outputs can either be used for direct recording of the guitar or for D.I. in a live situation. To facilitate both these functions the output is provided on XLR and jack sockets.

A level control (7) is provided to allow adjustment of the signal from these sockets. The level of signal has been kept low to match both the -10dBv input level of home recording units and the level of mic inputs on mixing desks.

These outputs are activated with a pull switch on the front panel OUTPUT LEVEL control: Pull for ON.

### EFFECTS LOOP

The EFFECTS SEND socket (8) has a level control (9) to allow for easier matching of signals to effects units. EFFECTS SEND is connected to the effects unit input.

The output from the effects unit is brought back into the pre-amp via the EFFECTS RETURN socket (10).

The use of the EFFECTS LOOP is covered in the earlier description of the front panel controls.

### LINE OUTPUT (11)

The LINE OUTPUT is the signal output from the pre-amp to the power amplifier.

If a two channel power amplifier is being used as in the case of the Studio II 80/30, the Road H-160 or the Road C-160 then stereo effects units may be used between this output and the input to the power amplifiers.

## OUTPUT STAGES

### STUDIO 80/30

30 watts of clean power and the equivalent of 80 watts of overdriven power this provides plenty of power for the average sized gig i.e. the local pub/club with its full output power delivered into its own 16 ohm internal 12" speaker.

This is an output stage designed to be overdriven to get the best from it and will clearly demonstrate that 30 watts can be very loud.

### STUDIO II 80/30 (Dual mono with stereo capabilities )

Two of the above output stage, each delivering their full output power into the two internal 16 ohm 12" speakers. A dual mono amplifier delivering plenty of clean sound and stacks of overdriven power and thus able to cope with most gigs.



With two of the 80/30 output stages you have twice the power capacity of the Studio 80/30 single 12" unit.

## ROAD H-80 AMP HEAD

This uses the TRACE ELLIOT patented 'REACTOR' output stage and provides plenty of power to drive one or two of the 3 by 12 cabs for a huge 80 watts of guitar power. Suitable for any gig.

## ROAD H-160 AMP HEAD ( Dual mono with stereo capabilities )

Two of the above REACTOR output stages in a dual mono arrangement providing enough ear splitting power to cope with any situation.

The TVT9 output being split to drive the two output stages gives the possibility of use with stereo effects. Also with its ability to drive 4 of the 3 by 12 cabs it can provide a very impressive and extremely loud rock stack.

## ROAD C-80

The full power of the REACTOR output stage is developed into this combo's own internal 16 ohm 12" speaker. A very versatile and transportable combo with the power to cope in any situation- clean or seriously overdriven.

## ROAD C-160 ( Dual mono with stereo capabilities )

Two of the above REACTOR power stages driving into two 12" speakers in the same compact cabinet gives a massive wall of sound from a medium sized combo.

Again, with the possibility of stereo operation by connecting effects units in line with the output of the TVT9 preamp and the inputs of the two on board power amplifiers.

This one is for serious stereo power freaks or as a dual mono unit for the person that needs to be very very loud.

## TVT9 PREAMP SPECIFICATIONS

INPUTS	GUITAR INPUT	IMPEDANCE - 1 Meg Ohm
	EFFECTS RETURN	IMPEDANCE - 250K Ohms NOMINAL SIGNAL LEVEL 0dBv
OUTPUTS	EFFECTS SEND	IMPEDANCE - 50K Ohms NOMINAL SIGNAL LEVEL 0dBv
RECORDING OUT		IMPEDANCE - 50K Ohms NOMINAL SIGNAL LEVEL -10dBv
LINE OUTPUT		IMPEDANCE 50K Ohms MAX SIGNAL LEVEL +8dBv
POWER REQUIREMENTS		230/115v 50/60Hz AT 30 VA

## **SAFETY INSTRUCTIONS**

### **WARNING**

For continued protection against the risk of fire, replace fuses only with fuses of the same type and rating.

### **WARNING**

To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.

### **WARNING**

Always ensure that the equipment is suitably earthed.

### **WARNING**

In the event of a suspected malfunction, always refer this equipment to a qualified service engineer.

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