

V-TYPE V8

O P E R A T I N G
I N S T R U C T I O N S



INTRODUCTION

Congratulations on your purchase of a TRACE ELLIOT V-TYPE V8 valve bass amplifier.

Please take a few minutes to read this owners manual so you may fully understand the capabilities of this unit. With a little care your new amplifier should provide you with years of satisfactory service.

The circuit topology of the V8 has been based on traditional valve amplifier designs, with new ideas incorporated where beneficial for either sound quality or production efficiency.

The main signal path through the preamp and power stage sections is 100% valve, relays have been used for all the switching functions, and integrated circuits have been used in the DI circuit for quiet operation and impedance matching for 600 ohm mixer inputs. The chassis is made from gloss black, stove-epoxy coated, 16 gauge zintec. Cabinet is made from 3/4" plywood.

Highest quality porcelain valve sockets have been used throughout for the KT88's, ECC83's and EM84.

The power and output transformers have been custom made for maximum performance using high grade laminations. Windings are resin soaked and manufactured to pass international approvals.

A highly regulated DC supply is used for heater filaments in all preamp valves for minimal hum levels.

An external biasing facility is featured - this enables techs to check/reset output bias at any time without removing the chassis.

Internal wiring and glass epoxy circuit board layouts use multiple return star earthing for low noise and hum. All audio sections have been laid out for sonic performance using 'point to point' wiring principles.

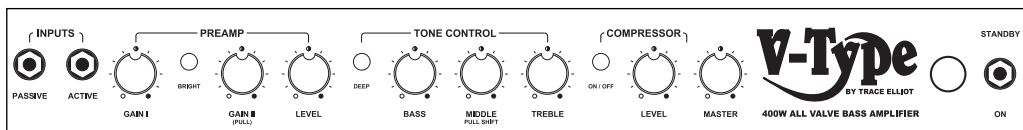
Gold plated jack sockets are used exclusively throughout.

Two quiet chassis mounted fans keep the power output valves at safe operating temperatures even when playing at high volumes.

FAST TRACK GUIDE AND SWITCH ON SEQUENCE

- 1) Check that the POWER switch on the rear panel is set to OFF, the front panel switch is set to STANDBY and that the unit has the correct speaker load connected.
- 2) Connect the unit to an appropriate mains power point with the mains lead provided. We also recommend that the MASTER volume is turned down to zero before switch on or switch off purely to prevent any unwanted noises from being amplified loudly. Switch POWER switch to the ON position.
- 3) While the unit is warming up (allow at least one minute), connect your instrument to an appropriate INPUT socket on the front panel.
- 4) Switch STANDBY switch on front panel to ON.
- 5) Set all front panel controls to 12 o'clock as a starting point and then adjust to taste.
- 6) After use switch to STANDBY and then OFF.

FULL OPERATING INSTRUCTIONS



FRONT PANEL (from left to right)

PREAMP FEATURES AND CONTROLS

Inputs - Passive, Active

Two jack sockets are provided for inputs to the preamp. These are referred to as PASSIVE and ACTIVE. The PASSIVE is a high impedance input with minimal attenuation, generally suited to lower output, passive basses. The ACTIVE input is a lower impedance, attenuated input that will allow the preamp to accept larger signals before the preamp is overdriven.

Despite the inputs being labelled PASSIVE and ACTIVE it is perfectly OK to insert an active instrument into the PASSIVE socket if you wish drive either the preamp or the compressor harder. Some active basses with not particularly high outputs may actually require this to get the best out of the preamp or compressor.

Preamp Gain I, Bright, Gain II, Level

The preamp on the V8 has two modes, I (normal) and II (overdrive).

In the normal mode GAIN I sets the level of the preamp and also has an effect on the tone. From low to medium settings the sound will remain very clean but with nice valve 'warmth' and 'roundness'. As it is increased the preamp will be pushed gradually towards a slightly overdriven tone which responds well to the player's dynamics.

The BRIGHT push switch operates in the traditional way, increasing high frequencies as the GAIN I control is decreased.

Pulling out the GAIN II control will activate the overdrive mode. This adds two more valve preamp stages to the signal path which allows even more valve overdrive to be dialled in. When selected the red LED will be lit.

The GAIN II control is now active and allows the user to adjust the degree of drive desired. It starts from where the normal mode left off and gets more extreme the higher it is set. Although a lot of overdrive is available it is still very responsive to the players dynamics and use of the volume on the instrument.

The LEVEL control is used to balance the overall volume levels of the two preamp modes. Usually this would be set so that the user can switch from a clean sound to an overdriven sound with the same actual volume, but it can also be used to intentionally set a volume boost or cut when switching modes.

It is also possible to switch to GAIN II using the supplied 2 way footswitch.

Tone Controls - Deep, Bass, Middle & Treble

The TONE CONTROLS are passive and interactive.

The BASS, MIDDLE and TREBLE controls adjust the response of their respective frequency band as expected and are tailored to suit the frequencies developed by the bass guitar.

A '12 o'clock' setting on all controls gives a good basic sound from which to start. This gives a slight mid cut at about 1KHz and a slight high and low boost.

The DEEP push switch, located next to the BASS control, configures the tone control circuit to produce a 'deeper' tone with an extended bass emphasis.

The MIDDLE control incorporates a PULL SHIFT function which shifts the centre frequency at which it works upwards to around 2KHz. This helps to give the instrument more presence to cut through the mix of a band.

Compressor - On/Off, Level

The COMPRESSOR circuit within the V8 is based on simple, vintage, studio valve compressors. It's valve gain stage is controlled by a silicon diode side chain that has been designed to respond like a vacuum double-diode.

It has pre-set slow attack and release times (best for bass frequencies) and is intended to be used to smooth out and fatten up the sound of a bass guitar (rather than as an extreme limiter effect).

Pushing the ON/OFF push switch in switches the compressor into the signal path (after the preamp and tone controls), however the corresponding blue LED will not be lit unless gain reduction (compression) actually occurs, this gives the user a visual indication of what the compressor circuit is doing to the sound. The brighter the LED is lit the more compression is occurring.

The LEVEL control effectively sets the 'threshold' level, above which gain reduction will take place. Turning up the control reduces the threshold level, thereby increasing the likelihood of compression occurring.

Where this will need to be set will depend on several things; the signal level of the instrument, how hard the bass player is playing, and the particular preamp settings.

Basically the softer the instrument is played and the lower the preamp settings are, the higher the LEVEL control will need to be to get the compression circuit working. Therefore it is recommended that the user experiment with all controls to experience the way in which they interact with different signal levels.

Master & Power Indication Valve

The MASTER control sets the overall signal level sent to the power amplifier stage and, depending on the setting of the FULL/HALF POWER switch on the rear panel, the stage volume. This is visually shown by the EM84 Power Indication Valve (valve furthest right). As the MASTER control is increased and/or the instrument is played harder, the top and bottom bands on the indication valve will increase in size, pulsing as each note is played. The level at which the two bands touch is when the power stage has reached its maximum rated clean output power. Beyond this the valve power stage itself will start to saturate adding its own warmth and tone to the overall sound.

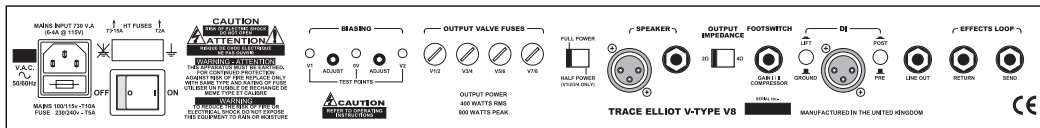
N.B. The Power Indication Valve circuitry has been calibrated so that in the FULL POWER setting the two bands will touch when the amplifier produces approximately 400 watts RMS with the rated nominal mains voltage applied.

Standby/On toggle switch & front panel lamp

As the name implies, this switches the amplifier from STANDBY mode, where only the valve heaters and low voltage DC circuits are on, to ON for actual use. This should be used correctly every time the unit is used to prevent problems with valves and increase their life.

The large green lamp on the front panel is independent of the STANDBY switch and should be lit when the green ON/OFF switch on the rear is set to ON.

Before the green power switch is switched to ON (rear panel), make sure the front panel toggle switch is in the STANDBY position. After switching the power on, wait at least one minute before switching from STANDBY to ON. This will ensure that the valves have time to warm up before large voltages are applied to them. During short breaks the amplifier can be switched to standby and will therefore be ready to play when next needed.



REAR PANEL (from right to left)

Effects Loop - Send, Return

The EFFECTS LOOP is a simple, unity gain, series loop.

The SEND socket is for connection to the input of effects units. On the V8 it is a buffered, lower impedance version of the signal that appears at the INPUT. This can also be used on its own to send a signal to a tuner or another amplifier.

The RETURN socket is for connection to the output of effects units. When not used it is internally connected to the SEND, therefore the EFFECTS LOOP can be ignored if not in use.

Line Out

This provides a line level output of the signal post preamp, eq and compressor. Its level is independent of the MASTER volume. This can be used to send a signal to an external power amplifier if more volume is required.

DI section

A balanced, male XLR, D(irect) I(nject) output is provided to send signals to stage boxes/mixing desks for live performance or recording purposes.

The PRE/POST push switch provided allows the user to select between PRE, where the signal is taken after the effects loop but before the rest of the preamp, and POST where the signal is taken immediately before the MASTER control, therefore after the preamp, eq and compressor. As with the LINE OUT its level is independent of the MASTER volume.

To the left of the socket an 'earth-lift' switch is also provided. When pushed in this will isolate the DI earth, pin 1 on the XLR, from the amplifier ground. This is used to prevent earth (hum) loops when connecting to external equipment. Merely set it to the position that produces the least hum.

Footswitch - Gain I/II, Compressor

This is a stereo 1/4" jack socket for connection to the supplied two way latching footswitch, that enables the user to remotely switch between GAIN I and GAIN II and to switch the COMPRESSOR on or off.

N.B. If either GAIN II or COMPRESSOR are already selected by the switches on the front panel, this will over ride any footswitch settings, therefore, for the footswitch to work properly, make sure these are turned off on the front panel.

Power Amp

The V-Type V8 is powered by eight KT88's. These are configured for GRID BIASED CLASS A/B. This is the traditional arrangement for a high powered amplifier of this type, to efficiently produce at least 400 watts with the valves supplied (at the rated nominal mains input voltage).

Output Impedance Switch and Speaker Outputs

The OUTPUT IMPEDANCE switch allows the power stage to be set to drive either 2 or 4Ω loads as indicated.

These ratings are the preferred nominal impedance speaker loads that should be connected. However, it is OK to drive *slightly* higher value loads, i.e. driving an 8Ω cabinet with the 4Ω setting, without too much perceived difference in power transfer.

The two sockets, one 1/4" jack and one female XLR, are for connection to speaker cabinets. These are internally wired in parallel, either or both may be used. However, due to the higher current rating of the XLR socket we recommend this is used whenever possible.

N.B. When using more than one speaker socket or cabinet the overall effective impedance should be correctly worked out and the appropriate OUTPUT IMPEDANCE setting used.

IMPEDANCE FORMULA

For two cabinets in parallel this can be calculated as follows:-

$$Z_T (\text{total impedance}) = \frac{Z_1 \times Z_2}{Z_1 + Z_2}$$

Therefore, as an example, if two 8Ω cabinets are used,

$$\frac{8 \times 8}{8 + 8} = \frac{64}{16} = 4 \text{ therefore the } 4\Omega \text{ socket should be used.}$$

Alternatively, if one cabinet is 8Ω and the other is 4Ω,

$$\frac{8 \times 4}{8 + 4} = \frac{32}{12} = 2.667 \text{ therefore the } 2\Omega \text{ socket should be used.}$$

For more advice on this please contact the TRACE ELLIOT UK Service Dept. or distributor in your territory.

Full Power/Half Power Switch

This allows the power stage on the V8 to be set to either FULL or HALF power.

With the switch in the FULL power setting all eight power output valves are in operation, this will produce approximately 400 watts RMS.

When switched to the HALF power setting four of the output valves are effectively turned off obviously leaving just four in operation resulting in a reduction in available output power to about 200 watts RMS.

Output Valve Fuses and LED's

The four panel mounted fuse holders protect each pair of output valves as labelled. If an output valve starts to draw too much current, indicating it could be about to self destruct, the corresponding fuse will sense this and blow, turning off both valves in the pair and lighting the LED underneath.

This will result in a reduction of output power but will mean the amplifier continues to function during a performance despite a possible valve failure. In many cases on most amplifiers a valve failure would result in the valve drawing so much current that the mains fuse blows, effectively ending a performance.

On the V8 however, due to the discrete way in which an output valve fuse would blow, it may go completely unnoticed to the performer, until the LED on the rear panel is noticed as being on.

What to do if an LED is discovered as being lit:-

When convenient turn off the unit.

We then recommend replacing the relevant fuse (T250mA) and then trying the amplifier as it is.

Occasionally a particularly hard transient note may cause a valve to draw a lot of current and blow the fuse without it actually having a terminal problem, so it would continue to be OK once the fuse has been replaced.

However, if the fuse continues to blow, then the pair of valves will also need to be replaced. (see below)

In extremely unlikely circumstances, if some of the other pairs of valves also blew their fuse, the amplifier would continue working right down to the last pair. Thus continuing to provide amplification albeit at reduced power. *(Similar to a jumbo jet being able to continue to fly, even if up to three of its four engines cut out!)*

Biasing

Do not even attempt to make any adjustments to this before reading and understanding this section thoroughly. As with any power amplifier, incorrect biasing can result in the complete electronic destruction of the output devices, in this case expensive valves. As stated on the WARRANTY FORM, valves are not covered by the standard two year warranty except under certain conditions at the discretion of TRACE ELLIOT.

If you are in any doubt as to what you are doing, refer the unit to TRACE ELLIOT or other approved electronics service centre.

The holes in the chassis in the BIASING section allow the biasing of the output valves to be checked or reset easily and safely.

On a new unit the biasing will be factory set for the particular set of KT88's supplied with the amplifier. Although this should not need to be adjusted unless a new set of output valves is fitted, on all amplifiers as valves age their bias requirements may change.

There are several methods that are used to bias valve amplifiers, the following is one of the easiest, safest, and ensures that the output valves do not draw too much current which can result in thermal run away and eventual destruction.

To check or reset bias:-

- 1) Ensure unit is correctly loaded (speaker is connected). Connect to mains, switch on (STANDBY) and allow to warm up for at least one minute.
- 2) Ensure that MASTER control is turned to zero and switch from STANDBY to ON.
- 3) Set volt meter to 200mV range. Insert black probe (-) into 0V hole, red (+) into V1.
- 4) The reading on the volt meter should be $\approx 30\text{mV}$ (+/-3)
- 5) If necessary, using a trimmer tool or small flat bladed screwdriver carefully rotate the left hand ADJUST control to give the correct reading as above.
- 6) Now insert red probe into V2 and, if necessary, carefully rotate the right hand ADJUST control to give a reading of as close to 0mV (+/-1) as possible.
- 7) Repeat points 3 to 6 as appropriate. Amplifier is now biased correctly.

The above suggested value for bias should be OK for most brands of valves, although the bias point for any amplifier is somewhat subjective. Increasing the values shown may improve the tone but will make the valves run hotter, whereas lower values will increase valve life and reliability at the expense of sound quality.

For more advice on this please contact the TRACE ELLIOT UK Service Dept. or distributor in your territory.

Power Switch - Off/On

This switches the amplifier from OFF to either STANDBY or ON depending on the setting of the front panel STANDBY switch. This should be used correctly every time the unit is used to prevent problems with valves and to increase their life. Please refer to SWITCH ON SEQUENCE earlier in manual.

After switching off it is recommended, as with all valve amplifiers, that it does not receive any sudden physical shocks while the valves are still hot, i.e. through moving the unit. If possible try to give the amplifier a few minutes to cool down before transporting it.

Earth Lift Switch (above Power Switch)

The EARTH LIFT SWITCH is provided to allow removal of the mains earth connection from the signal circuits to eliminate ground loops (hum) between connected equipment. Merely set this to the position that produces less hum from the speaker, if unsure leave it in the 'earthed' position (this is the position that has the 'earth' symbol without an X through it)

This is completely safe to use as the unit still maintains an earth connection to the chassis.

Never disconnect the earth or ground by removing the earth connection in the mains plug. This can be a potentially dangerous practice and in some instances can prove lethal to the equipment and/or the user.

HT Fuses

Two more fuses are provided to protect the valves and mains transformer in the event of any problems associated with the high DC voltages supplies within the amplifier.

These are located on the top of the chassis adjacent to the relevant printing on the rear panel. To access these requires the removal of the rear grill. N.B. Be extremely careful when doing this as the valves remain VERY hot even several minutes after of use.

If these fuses should blow, always replace with the same type and rating as marked on the rear panel.

N.B. Sometimes valves, especially when new, suffer from what is known as 'flash over' which can cause the HT fuses and or mains fuse to blow.

This is caused by the burning off of gases left in the glass vacuum of the valve after construction. These valves have small discs inside filled with magnesium oxide which will combust if there is any oxygen to allow this, causing 'flash over' and excessive current draw. When this happens it is unlikely that any damage has occurred to the valves, therefore merely replacing the relevant fuses should be OK. Again, with new valves this can occur more than once, if it persists please refer the unit to an approved TRACE ELLIOT service engineer.

This should not be a problem when the amplifier itself is new, as the tests we perform in production at TRACE ELLIOT should have already 'burned the valves in'.

IEC Socket/Mains Fuse

This is for connection to universally used IEC mains leads to connect to appropriate domestic mains supply.

In the event of having to replace the mains fuse always use the same rating and type as marked on the unit's rear panel. Using one of a higher rating will invalidate the warranty.

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

Information on Valves

The power output valves (all KT88 Beam Power Tetrode's) can be accessed from the rear by removing the rear grill. *N.B. Be extremely careful when doing this as these remain VERY hot even after several minutes of use. Some technicians use gardening gloves or similar when removing these to prevent burns!!*

When replacing these we recommend that a good quality matched 'octet' of KT88's is used to ensure correct biasing throughout. Be careful to insert them correctly, observing correct location of the polarising pin.

The 'preamp' valves can be accessed from the front by removing the front grill. From left to right, the first seven are all ECC83/12AX7's, the Indicator Valve at the far right is an EM84.

Do not insert these into incorrect positions, they are NOT interchangeable!

If you require any further information we can be contacted in the following ways:-

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Tel: +44 (0) 1621 851851 (General enquires)
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rd@trace-elliott.com (Research & Development)

TECHNICAL SPECIFICATIONS

PASSIVE INPUT	Impedance	1M Ω
ACTIVE INPUT	Impedance	100K Ω
SEND	Impedance	100K Ω
RETURN	Impedance	1M Ω
LINE OUT	Impedance	47K Ω
DI OUTPUT	Impedance	600 Ω balanced
	Nominal level	0dBu (pins 2 & 3 male XLR)
FOOTSWITCH	1/4" Jack socket for dual latching footswitch (Switches between GAIN I & GAIN II and COMPRESSOR ON & OFF)	
SPEAKER OUTPUTS	1 x 1/4" jack & 1 female XLR sockets with impedance switch for 2 or 4 Ω loads	
POWER OUTPUT	$\geq$ 400 watts RMS - FULL POWER setting $\approx$ 200 watts RMS - HALF POWER setting	
FACTORY FITTED VALVE COMPLIMENT		
	7 x ECC83/12AX7	(Double Triode)
	1 x EM84	(Voltage Indicator)
	8 x KT88	(Beam Power Tetrode)
DIMENSIONS	W615mm / H237mm / D377mm (add 50mm to height to include handle and feet)	
WEIGHT	$\approx$ 30Kg (66lbs)	

SAFETY INSTRUCTIONS



Warning

For continued protection against the risk of fire, replace fuses only with fuses of the same type and rating.
To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture. In the event of a suspected malfunction, always refer this equipment to a qualified service engineer.
This apparatus must be earthed. The wires in this mains are coloured in accordance with the following code:-

Green & Yellow - Earth	Blue - Neutral	Brown - Live
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As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:-
The wire which is coloured Green & Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol or coloured green or Green and Yellow.
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Red.
If a 13 amp (BS1363) plug is used a 13 amp fuse must be fitted, or if any other type of plug is used a 15 amp fuse must be fitted either in the plug or adaptor or at the distribution board.

EMC Warning

It is inherent in the design of a loudspeaker and in the design of guitar pickups that they should emit or be affected by electro magnetic fields. Trace Elliot loudspeaker enclosures should not be used less than 2 metres away from equipment which is likely to be affected by electro magnetic interference.
Likewise, guitars fitted with electro magnetic pickups should not be used less than 2 metres away from any source of electro magnetic emissions such as loudspeakers.
Emissions from loudspeakers are dependent on the frequency characteristic of the drive unit. Levels were measured direct from the drivers of 30 dBuV.
These levels are reduced to a safe level at a distance of 1.27 metres from the drivers.

SICHERHEITS-ANWEISUNGEN



Warning

Zum fortduarenden Schutz gegen Feuerrisiken die Sicherungen nur durch Sicherungen desselben Typs und derselben Nennleistung austauschen.
Um das Risiko von Feuer oder Elektroschock zu reduzieren, dieses Gerät keinem Regen und keiner Feuchtigkeit aussetzen.
Im Fall eines vermuteten Defekts muß dieses Gerät einem qualifizierten Service-Techniker übergeben werden.
Dieses Gerät muß geerdet werden. Die Drähte im Stromkabel wurden dem folgende Code nach koloriert:

Grün & Gelb - Erde	Blau - Neutral	Braun - Stromführend
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Da die Farben der Drähte dieses Geräts nicht notwendigerweise den Farbmarkierungen der Pole in Ihrem Stecker entsprechen, sollten Sie wie folgt vorgehen:
Der grün/gelbe Draht muß an den Pol im Stecker angeschlossen werden, der mit dem Buchstaben E oder dem Erde-Symbol oder der Farbe Grün oder Grün/Gelb markiert ist.
Der blaue Draht muß an den Pol angeschlossen werden, der mit dem Buchstaben N oder schwarz markiert ist.
Der braune Draht muß an den Pol angeschlossen werden, der mit dem Buchstaben L oder rot markiert ist.
Falls ein 13 amp (BS1363) Stecker benutzt wird, muß eine 13 amp Sicherung eingesetzt werden; und falls ein Stecker anderer Art benutzt wird, muß eine 15 amp Sicherung entweder im Stecker selbst oder an der Verteilertafel eingesetzt werden.

EMC Warning

Es liegt im Design eines Lautsprechers und im Design von Gitarrenaufnehmern, daß sie elektromagnetische Felder abgeben oder von solchen beeinflusst werden. Trace Elliot Lautsprechergehäuse sollten daher nicht in unter 2 Metern Entfernung von Geräten benutzt werden, die durch elektromagnetische Störungen beeinflusst werden könnten.
Auch sollten Gitarren, die mit elektromagnetischen Aufnehmern ausgestattet sind, nicht in unter 2 Metern Entfernung von Quellen elektromagnetischer Emissionen, wie z.B. Lautsprechern, benutzt werden.
Die Lautsprecheremissionen sind von der Frequenzcharakteristik der Treiber-Einheit abhängig. Die Werte wurden direkt von den Treibern von 30 dBuV gemessen.
Diese Werte reduzieren sich in einer Entfernung von 1,27 Metern von den Treibern auf ein sicheres Maß.

CONSIGNES DE SECURITE



Attention

Pour une protection continue contre les incendies, ne remplacez les fusibles que par des fusibles du même type et du même courant nominal.
Pour réduire le risque d'incendie ou de décharge électrique, n'exposez jamais cet équipement à la pluie ou à l'humidité.
Si vous soupçonnez une défaillance, faites toujours appel à un ingénieur qualifié.
Cet appareil doit être mis à la masse. Les fils de cette conduite d'alimentation de secteur sont colorés selon le code suivant:

Vert & Jaune - Masse	Bleu - Neutre	Marron - Tension
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Etant donné que les couleurs des fils de la conduite d'alimentation de secteur de cet appareil risquent parfois de ne pas correspondre aux couleurs identifiant les bornes de votre fiche, procédez comme suit:
Le fil Vert & Jaune doit être relié à la borne de la fiche marquée de la lettre E, du symbole de terre ou colorée en Vert et Jaune.
Le fil Bleu doit être relié à la borne marquée de la lettre N ou colorée en Noir.
Le fil Marron doit être relié à la borne marquée de la lettre L ou colorée en Rouge.
Si vous utilisez une fiche 13 amp (BS1363) vous devez utiliser un fusible 13 amp. Si vous utilisez un autre type de prise, installez un fusible 15 amp dans la prise, dans l'adaptateur ou dans le tableau de distribution.

Compatibilité électromagnétique - avertissement

La conception d'un haut-parleur et des pickups de guitare est telle qu'ils sont affectés par des champs électromagnétiques ou en émettent les enceintes de haut-parleur Trace Elliot ne devraient pas être utilisées à moins de 2 mètres de l'équipement susceptible d'être affecté par les parasites électromagnétiques.
Les émissions en provenance de haut-parleurs dépendent de la caractéristique fréquentielle de l'émetteur piloté.
De même, les guitares équipées de pickups électromagnétiques ne devraient pas être utilisées à moins de 2 mètres de toute source d'émissions électromagnétiques telles que des haut-parleurs. Les niveaux ont été mesurés directement à partir des drivers de 30 dBuV.
Ces niveaux sont réduites à un niveau sûr à une distance de 1,27 mètre des drivers.

INSTRUCCIONES DE SEGURIDAD



Advertencia

Para una protección continua contra el riesgo de incendio, reemplace siempre los fusibles con otros del mismo tipo y valor.
Para reducir el riesgo de incendio o descarga eléctrica, no exponga este equipo a la lluvia o a la humedad.
En caso de que sospeche que exista un desperfecto, refiera siempre este equipo a un ingeniero de servicio calificado.
Este aparato debe tener conexión a tierra. Los cables de esta toma se colorean según el código siguiente:-

Verde & Amarillo - Tierra	Azul - Neutro	Marrón - Vivo
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Como los colores de los cables de la toma principal de este aparato pueden no corresponder con los colores marcados que identifican los terminales en su enchufe, proceda como se indica a continuación:-
El cable verde y amarillo debe conectarse al terminal del enchufe marcado con la letra E, por el símbolo de tierra, o pintado de verde o verde y amarillo.
El cable azul debe conectarse al terminal marcado con la letra N o pintado de negro.
El cable pintado de marrón debe conectarse al terminal marcado con la letra L o pintado de Rojo. Si se usa un enchufe de 13 amperios (BS 1363), se deberá poner un fusible de 13 amperios, o un fusible de 15 amperios si se usa cualquier otro tipo de enchufe, ya sea en el enchufe, en el adaptador o en la placa de distribución.

Advertencia EMC (de compatibilidad electromagnética)

Es inherente en el diseño de un altavoz y en el de las pastillas de guitarra que emitan o se vean afectados por campos electro magnéticos. Los recintos de los altavoces Trace Elliot no deberán usarse a menos de 2 metros de distancia de cualquier equipo que pueda ser afectado por interferencias electromagnéticas.
Asimismo, las guitarras que tienen pastillas electromagnéticas no deberán usarse a menos de 2 metros de distancia de ninguna fuente de emisiones electromagnéticas tales como los altavoces. Las emisiones de los altavoces dependen de la característica de frecuencia del equipo de accionamiento.
Los niveles se midieron directamente desde unidades de accionamiento de 30 dBuV.
Estos niveles se reducen a un nivel seguro a una distancia de 1,27 metros desde las unidades de accionamiento.



Advarsel!

For å hindre fare for brann må du alltid skifte en røket sikring ut med en av samme type og størrelse.
For å redusere faren for brann eller støt må høyttaleren ikke settes for regn eller fuktighet.
Hvis du har den minste mistanke om feil må høyttaleren repareres av en kvalifisert tekniker.
Høyttaleren må jordes. Ledningene har følgende fargekoder:

Grønn og gul - jord Blå - nøytral Brun - strømførende.

Hvis fargekoden ikke stemmer overens med støpselets fargekoder, går du frem slik:
Den grønne og gule ledningen må kobles til støpselets terminal merket E eller med jord-symbol, eller fargen grønn og gul. Den blå ledningen må kobles til terminalen merket N eller fargen sort. Den brune ledningen må kobles til terminalen merket L eller fargen rød. Høyttaleren må kobles til en 16 ampere krets.

Advarsel – elektromagnetisk forenlighet

Alle høyttalere og pick-up'er til gitarer gir nødvendigvis fra seg eller påvirkes av elektromagnetiske felter. Trace Elliot-høyttalerkabinetter må ikke brukes mindre enn 2 m fra utstyr som trolig kan påvirkes av elektromagnetisk støy.
Gitarer med elektromagnetisk pick-up må likeledes ikke brukes mindre enn 2 m fra en elektromagnetisk kilde, som f.eks. høyttalere. Utstrålingen fra en høyttaler avhenger av frekvenskarakteristikken til driver-enheten. Nivåene ble målt direkte fra utganger på 30 dBuV. Disse nivåene faller til et trygt nivå i en avstand av 1,27 m fra utgangene.

VEILIGHEIDSVOORSCHRIFTEN



Waarschuwing

Voor bestendige bescherming tegen het gevaar van brand dienen zekeringen alleen vervangen te worden met zekeringen van hetzelfde type en van dezelfde waarde.
Om het risico van brand of elektrische schok te verminderen, wordt aanbevolen dat de uitrusting niet wordt blootgesteld aan regen of vocht.
In het geval van een verdacht defect dient altijd de hulp ingeroepen te worden van een bevoegde onderhoudsmonteur.
Deze apparatuur moet geaard worden. De draden in deze netspanning zijn gekleurd in overeenstemming met de volgende code:

Groen & Geel - Aardverbinding Blauw - Neutraal Brown - Stroomvoerder

Daar de kleuren van de draden in de netspanning niet overeenkomen met de gekleurde markeringen van de klemmen in uw stekker, dient u als volgt te werk te gaan:
De Groen & Geel gekleurde draad dient verbonden te worden met de klem in de stekker die gemarkeerd is met de letter E of met het aardesymbool of groen of Groen en Geel gekleurd is.
De Blauwe draad dient verbonden te worden met de klem die gemarkeerd is met de letter N of zwart gekleurd is.
De Bruine Draad dient verbonden te worden met de klem die met de letter L gemarkeerd of Rood gekleurd is.
Wanneer 13 amp. (BS1363) stekker gebruikt wordt dient een 13 amp. zekering aangebracht te worden, wanneer een ander type stekker wordt gebruikt dient een 15 amp. zekering aangebracht te worden in de stekker of adapter of in de verdeelkast.

EMC (Electromagnetic compatibility) [bestendigheid tegen elektromagnetische storingen] Waarschuwing

Het is inherent in het ontwerp van een luidspreker en in het ontwerp van gitaar tastelementen dat zij elektromagnetische velden emitteren of er door beïnvloed worden. Trace Elliot luidspreker omkastingen dienen niet gebruikt te worden op een afstand van minder dan 2 meter van de uitrusting, daar deze beïnvloed zouden kunnen worden door elektromagnetische storing.
Evenzo dienen gitaren uitgerust met elektromagnetische tastelementen niet gebruikt te worden op een afstand van minder dan 2 meter van een bron van elektromagnetische emissies, zoals luidsprekers.
Emissies van luidsprekers zijn afhankelijk van de frequentie die kenmerkend is voor de aandrijfrichting.
Niveaus van 30 dBuV werden rechtstreeks van de aandrijvers gemeten. Deze niveaus zijn verminderd tot een veilig niveau op een afstand van 1.27m van de aandrijvers.



Varning

För avbrutet skydd mot brandrisk, byta ut säkringar endast med samma typ av säkring och styrka.
För att minska risken för brand eller elektriska stötar, utsätt inte utrustningen för regn eller fukt.
I händelse av en oförutsedd felaktig funktion så vänd er alltid en behörig serviceingenjör.
Denna apparat måste vara jordad. Ledningarna i stickproppen har färger enligt följande kod:

Grön og gul - Jordning Blå - Neutral Brun - Spänningsförande

Eftersom färgerna i apparatens sladd kanske inte överensstämmer med färgmarkeringarna som identifierar terminalerna i stickproppen, gör enligt följande:
Den ledning som är grön og gul måste anslutas till den terminal i stickproppen som markeras med bokstaven E eller genom jordsymbolen eller grön og gul färg.
Den ledning som är blå måste anslutas till den terminal som är markerad med bokstaven N eller svart färg.
Den ledning som är brun måste anslutas till den terminal som är markerad med bokstaven L eller röd färg.
Om en A 13 amp (BS1363) stickpropp används måste en 13 amp säkring användas eller om någon annan sorts stickpropp används måste en 15 amp säkring användas i stickproppen eller i en förgreningsspropp eller i fördelningstavla.

Emissionsströmsvarning

Det är ingår i konstruktionen på högtalare og gitarers pick-uper att de skall påverkas av elektromagnetiska fält. Trace Elliots högtalardröar skall inte användas närmare än 2 meter från utrustning som kan påverkas av elektromagnetiska störningar.
Gitarer som har elektromagnetiska pick-uper monterade skall heller inte användas mindre än två meter bort från någon källa med elektromagnetisk emission, som t ex högtalare.
Emissionen från högtalare beror på drivenhetens frekvensfunktion.
Nivåer uppmätta direkt från drivenheten var på 30 dBuV.
Dessa nivåer reduceras till en säker nivå på ett avstånd av 1,27 meter från drivenheterna.

TURVAOHJEET



Varoitus

Palovaaran välttämiseksi käytä aina samantyyppisiä ja -tehoisia sulakkeita.
Vähentääksesi tulipalo- ja sähköiskuvaaraa pidä tämä laite poissa sateesta äläkä altista sitä kosteudelle.
Jos epäilet laitteen toimivan virheellisesti, ota aina yhteys ammattilaittoiseen huoltohenkilöön.
Tämä laite täytyy maataa. Tämän laitteen johdot on koodattu seuraavasti:

Vihreä & keltainen - maa Sininen - neutraali Ruskea - jännitteinen

Koska tämän laitteen verkkojohdon värit saattavat erota liittimen värimerkinnöistä, toimi seuraavasti:
Vihreä & keltainen johto täytyy yhdistää pistokkeen liittimeen, joka on merkattu E:llä tai maattosymbolilla tai joka on väritään vihreä tai vihreä ja keltainen.
Sininen johto täytyy yhdistää liittimeen, joka on merkattu N-kirjaimella tai joka on väritään musta.
Ruskea johto täytyy yhdistää liittimeen, joka on merkattu L-kirjaimella tai joka on punainen.
Käytettäessä 13 ampeerin (BS1363) pistoketta täytyy siihen laittaa 13 ampeerin sulake. Jonkin muun tyyppistä pistoketta käytettäessä täytyy 15 ampeerin sulake laittaa joka pistokkeeseen, adapteriin tai jakelutaluluun.

Sähkömagneettista virtaa koskeva varoitus

Kaiuttimien ja kitaran mikrofonin suunnitteluun kuuluu lunnasta se, että niiden tulee säteillä sähkömagneettista kenttää tai tämän tulee vaikuttaa niihin. Trace Elliot -kaiuttimia ei saisi käyttää 2 metriä lähempänä sellaisia laitteita joihin sähkömagneettinen kenttä vaikuttaa häiritsevästi.
Myöskään kitaroita, joissa on sähkömagneettiset mikrofonit ei saisi käyttää 2 metriä lähempänä mitään sähkömagneettista lähdetä, kuten kaiutinta.
Kaiuttimien päästöjen voimakkuudet ovat riippuvaisia teholahteen taajuudesta.
Voimakkuusastot mitattiin suoraan 30 dBuV:n lähteestä.
Nämä tasot laskevat turvalliselle tasolle oltaessa 1, 27 metriin etäisyydellä teholahteesta.

INSTRUÇÕES DE SEGURANÇA



Aviso

Para protecção contínua contra o risco de fogo, substitua os fusíveis só com fusíveis do mesmo tipo e taxação.
Para reduzir o risco de fogo ou de choque eléctrico, não exponha este equipamento a chuva ou humidade.
No caso de suspeita de mau funcionamento, consulte sempre um mecânico de serviço devidamente qualificado.
Este aparelho deve ser ligado à terra. Os fios neste sector são coloridos em conformidade com o seguinte código:-

Verde e Amarelo - Terra Azul - Neutro Castanho - Vivo

No caso das cores dos fios no cabo deste aparelho não corresponderem com as marcações em cor que identificam os terminais na ficha proceda como se segue:-
O fio Verde e Amarelo deve ser ligado ao terminal na ficha marcado com a letra E ou pelo símbolo à terra ou com a cor verde ou Verde e Amarela.
O fio Azul deve ser ligado ao terminal marcado com a letra N ou com a cor Preta.
O fio castanho deve ser ligado ao terminal marcado com a letra L ou com a cor Vermelha.
Se for usada uma ficha de 13 amp (BS1363) deve ser montado um fusível de 13 amp, se for usada qualquer outro tipo de ficha tem de ser montado um fusível de 15 amp ou na ficha, ou no adaptador ou no quadro de distribuição.

Aviso CEM

É inerente ao design de alto-falantes e ao design de reprodutores de guitarras que devem emitir ou ser afectados por campos electromagnéticos. As coberturas dos alto-falantes Trace Elliot não devem ser usadas a menos de 2 metros do equipamento que pode ser afectado pela interferência electromagnética.
Igualmente, as guitarras equipadas com reprodutores electromagnéticos não devem ser usadas a menos de 2 metros da fonte de emissões electromagnéticas tais como alto-falantes.
As emissões dos alto-falantes dependem da característica de frequência da unidade accionadora. Os níveis foram medidos directamente de accionadores de 30 dBuV.
Estes níveis são reduzidos para um nível seguro a uma distância de 1,27m dos accionadores.

SIKKERHEDSINSTRUKTIONER



Advarsel

For vedvarende beskyttelse imod risikoen for brand, må sikringerne kun udskiftes med sikringer af samme type og størrelse.
For at reducere risikoen for brand og elektrisk chok må dette udstyr ikke udsættes for regn eller fugt.
Hvis man har mistanke om, at der er en fejl i udstyret, skal man altid henvende sig til en faguddannet servicetekniker.
Dette apparat skal have jordforbindelse. Lederne i el-ledningen er farvet efter følgende kode:

Grøn og gul - Jord Blå - Nulleder Brun - Spændingsførende

Fordi ledernes farver i dette apparats el-ledning evt. ikke svarer til de farvede afmærkninger, der identificerer klemmerne i stikket, skal man gå frem på følgende måde:
Den leder, som er farvet grøn/gul, skal forbindes med klemmen i stikket, der er afmærket med bogstavet E eller med jordsymbolet eller som er grøn eller grøn/gul.
Den blå ledning skal forbindes med den klemme, der er afmærket med bogstavet N eller som er sort.
Den brune ledning skal forbindes med den klemme, der er afmærket med bogstavet L eller som er rød.
Hvis der anvendes et 13A (BS1363) stik, skal der monteres en 13A sikring. Hvis der anvendes en anden type stik, skal der sættes en 15A sikring i stikket eller snydeproppen eller på strømfordelingstavlen.

EMC advarsel

Højttalere og guitar-pickups er konstrueret således, at de udsender eller påvirkes af elektromagnetiske felter. Trace Elliot højttalerkabinetter må ikke placeres mindre end 2 meter fra udstyr, der sandsynligvis vil blive påvirket af elektromagnetiske forstyrrelser.
Ligeledes bør guitare, som er udstyret med elektromagnetiske pickups, ikke anvendes mindre end 2 meter væk fra en kilde til elektromagnetiske emissioner som f.eks. højttalere.
Emissioner fra højttalere afhænger af drivaggregatets frekvens. Niveauer måles direkte fra drivaggregatet på 30 dBuV.
Disse niveauer reduceres til et sikkert niveau i en afstand af 1,27 m fra drivaggregaterne.

ISTRUZIONI PER LA SICUREZZA



Avvertenza

Per assicurarsi di essere sempre protetti contro il rischio di incendi, sostituire i fusibili soltanto con altri dello stesso tipo e potenza.
Non esporre l'attrezzatura alla pioggia o umidità per ridurre il rischio di incendi o shock elettrici.
Se si sospetta una malfunzione, consultare sempre un tecnico esperto in questo settore.
L'attrezzatura deve essere messa a terra. I fili sono stati colorati secondo il codice seguente:

Giallo e verde - Terra Blu - Neutro Marrone - Sotto tensione

Dato che i colori dei fili nel cavo elettrico del prodotto possono non corrispondere ai segni colorati che identificano i terminali della spina, procedere come segue:-
Il filo di color giallo e verde deve essere collegato al terminale nella spina marcata con la lettera E o con il simbolo terra, oppure di colore verde o verde e giallo.
Il filo di color blu deve essere collegato al terminale che mostra la lettera N oppure di color nero.
Il filo di color marrone deve essere collegato al terminale che mostra la lettera L oppure di color rosso.
Con una spina di 13 amp (BS1363), si deve usare un fusibile di 13 amp. Con qualsiasi altro tipo di spina inserire un fusibile di 15 amp nella spina, nell'adattatore o nel quadro di distribuzione.

Avvertenza EMC (per la compatibilità elettromagnetica)

Nel design di altoparlanti o di fonorivelatori di una chitarra, è inerente il fatto che raccoglieranno o saranno influenzati da campi elettromagnetici. Le custodie per altoparlanti Trace Elliott non dovrebbero essere poste lontano meno di 2 metri dall'attrezzatura che potrebbe risentire dell'interferenza elettromagnetica.
Allo stesso modo, non usare le chitarre con fonorivelatori elettromagnetici ad una lontananza inferiore a 2 metri da qualsiasi sorgente di emissioni elettromagnetiche come altoparlanti.
Le emissioni da altoparlanti dipendono dalla caratteristica di frequenza dell'unità di comando. I livelli sono stati misurati direttamente da unità di comando di 30 dBuV; il livello sicuro è ad una distanza di 1,27 metri dalle unità.

ÖRYGGISRÁÐSTAFANIR.



Aðvörun.

Viðvarandi vernd gegn eldhættu gerir nauðsynlegt að endurnýja öryggi einvörðungu með nákvæmlega samsonar öryggjum.
Til að draga úr eldhættu eða því að fá rafstraum ber að gæta þess að rigning eða komist ekki að tækinu.
Ef grunur leikur á bilun ber jafnan að leita til löggilts viðgerðarmanns.
Tækið verður að vera jörfðtengt. Leiðslurnar í rafmagnni eru lítaðar samkvæmt eftirfarandi kerfi:

Grænar og gular - jörð Bláar - núll Brúnar - straumur

Með því litirnir á leiðslum tækisins kunna að vera í ósamræmi við litamerkingar á innstungu yðar ber að fara þannig að:
Leiðsluna, sem er græn og gul, ber að tengja í innstungu þar sem merkt er E eða jörð eða er græn og gul að lit.
Leiðsluna, sem er blá, ber að tengja í klemmuna þar sem merkt er N eða sem er svört.
Leiðsluna, sem er brún, ber að tengja í klemmuna þar sem merkt er L eða sem er rauð.
Ef Á 13 amp. (BS1363) innstunga er notuð ber að hafa 13 amp. öryggi eða ef önnur innstungugerð er notuð ber að hafa 15 amp. öryggi annað hvort á innstungunni eða millistykkinu í töflunni.

EMC aðvörun.

Það er fóst regla við hönnun hátalara og gítargripa að þeir gefi frá sér eða verði fyrir áhrifum af rafsegulsviðm. Trace Elliot hátalarakerfi ætti ekki að nota í innan við 2 metra fjarlægð frá tækjum, sem kynnja að verða fyrir áhrifum rafsegultrufana.
Ekki ætti heldur að nota gítara með rafsegulgripa í innan við 2 metra fjarlægð frá hverskyns rafsegulútsendingum eins og hátölurum.
Útsendingar frá hátölurum fara eftir tónið kennnum drifttæksins.
Hávaðamörkin voru mæld beinlínis frá drifum 30 BuV.
Hægt er að lækka þau að örugnum mörkum í 1,27 metra fjarlægð frá drifunum.

**Προειδοποίηση**

Για συνεχή προστασία από τον κίνδυνο φωτιάς, αβιτικαταστήστε τις ασφάλειες μόνο με ασφάλειες του ίδιου τύπου και της ίδιας αναλογίας.

Για να μειώσετε τον κίνδυνο της φωτιάς ή την ηλεκτροπληξία, μην εκτίθετε τον εξοπλισμό στη βροχή ή στην υγρασία.

Σε περίπτωση που υπονιάζετε κάποια δυσλειτουργία, πάντοτε να παραπέμπετε αυτή τη συσκευή σε καταρτισμένο μηχανικό σέρβις.

Η συσκευή αυτή πρέπει να διαθέτει γείωση. Τα σύρματα στην κεντρική παροχή ρεύματος είναι έγχρωμα σύμφωνα με τον ακόλουθο κωδικό:

Πράσινο & Κίτρινο – Γείωση**Μπλέ – Ουδέτερο****Καφέ – Ηλεκτροφόρο**

Μια και τα χρώματα στο σύρμα της κεντρικής παροχής αυτής της συσκευής μπορεί να μην αντιστοιχούν με τα έγχρωμα σημάδια που ταυτίζουν τους ακροδέκτες στην πρίζα σας, προχωρήστε ως εξής:-

Το σύρμα που έχει χρώμα Πράσινο & Κίτρινο πρέπει να συνδέεται με τον ακροδέκτη στην πρίζα που είναι σημειωμένος με το γράμμα E ή με το σύμβολο γείωσης ή με το πράσινο χρώμα ή με το Πράσινο & Κίτρινο.

Το σύρμα που έχει χρώμα Μπλε πρέπει να συνδέεται στον ακροδέκτη που είναι σημειωμένος με το γράμμα N ή το Μαύρο χρώμα.

Το σύρμα που έχει χρώμα Καφέ πρέπει να συνδέεται με τον ακροδέκτη που είναι σημειωμένος με το γράμμα L ή το Κόκκινο χρώμα.

Εάν χρησιμοποιείται πρίζα A 13 αμπερ (BS1363) θα πρέπει να εφαρμόζεται ασφάλεια των 13 αμπερ, ή εάν χρησιμοποιείται οποιοδήποτε άλλο είδος πρίζας θα πρέπει να εφαρμόζεται ασφάλεια των 15 αμπερ είτε στην πρίζα ή στο μετασχηματιστή ή στον πίνακα διανομής.

Προειδοποίηση της EMC

Εί'ναι αναγκαίο όπως στο σχέδιο του μεγαφώνου και στο σχέδιο πικάπ κιθάρας πρέπει να εκθέμουν ή να επηρεάζονται από τα ηλεκτρομαγνητικά πεδία. Τα εσώκλειστα μελαφώνου της TRACE ELLIOT να μην χρησιμοποιούνται λιγότερο από 2 μέτρα μακριά από τη συσκευή που πιθανόν να επηρεάζονται από ηλεκτρομαγνητική παρέμβαση.

Επίσης, οι κιθάρες που εφαρμόζονται με ηλεκτρομαγνητικά πικάπς δεσφ πρέπει να χρησιμοποιούνται λιγότερο από 2 μέτρα απόσταση από πηγή ηλεκτρομαγνητικής εκπομπής, όπως τα μεγάφωνα.

Εκπομπές από μεγάφωνα εξαρτώνται από το χαρακτηριστικό της συχνότητας της συσκευής μετάδοσης κίνησης.

Οι βαθμοί καταμετρήθηκαν απευθείας από το επίπεδο οδηγού των 30 dBuV.

Αυτα τα επίπεδα μειώνονται για ασφαλή επίπεδο σε ασφαλή βαθμό απόστασης 1,27 μέτρα από τους οδηγούς.