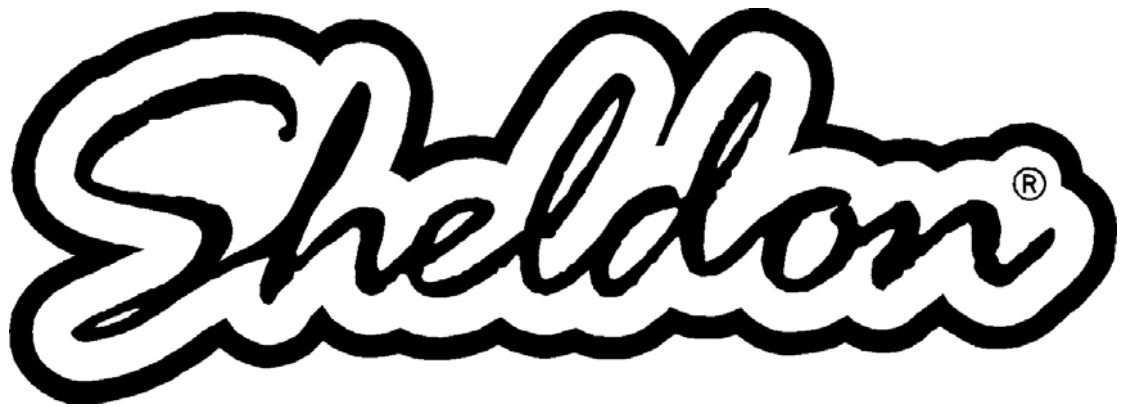




True Tone

HANDBOOK

About your *TrueTone* Amplifier

The *TrueTone* range is a hand built, high quality range of all valve amplifiers originally designed for the discriminating Blues/Rock guitarist. They are however extremely versatile and can fulfil a range of roles from country clean to rock via jazz, blues and all points in between.

All amps in the range benefit from an unprecedented Unlimited Lifetime Warranty.

The *TrueTone* I

The **TT1** range are 35-50W class AB amplifiers that give the player an unprecedented ability to tailor their own sound by selecting the type of output valve used in the amplifier, and a choice of two pre selected factory set pre-amp configurations one HOT one COOL! We deliberately chose this path to get the best tone, performance, and long maintenance from the amp.

The output section can be selected by the player to suit his own style. This can be done by either the factory, dealer or even easily by the player themselves simply by following the simple procedures set out in this handbook, giving a freedom of choice rarely encountered in other amplifiers.

Front panel controls:

- *Input*: standard input using a single jack socket.
- *Volume*: controls the input gain level set low for a clean sound and higher for more overdrive.
- *Compass*: this is a variable tone rotary, set at North it will not overly emphasise any particular frequency. Heading SW will bring in a little sparkle, heading SE will bring in sparkle and grind, with an emphasis on the upper mid range, and it will also boost gain slightly.
- *High*: Controls the high frequency content, as in a normal treble control but with a much wider response.
- *Middle*: Controls the middle frequency content. With the middle control set low or off the tone controls are voiced to be able to give a similar response to the fabled clean tone of a blackface Fender, with more Mids introduced as the control is increased. With the middle control set high the response is more 'Marshall' like.
- *Low*: This controls the low frequency content, again with a much wider response than conventional guitar amp tone controls.
- *Special Sauce*: With the accompanying footswitch or the panel mounted switch, (which both select this feature), this control gives a boost by lifting the tone stack from ground via a potentiometer, this allows a pre-set level boost that can be used for soloing. A LED beneath the control and on the footswitch, indicate when this control is active. (Plugging in the footswitch bypasses the panel-mounted switch). With the control set fully clockwise the tone controls are effectively bypassed and the natural tone of the amplifier is dominant. This can be fine tuned using the compass and freeze controls, which remain in circuit.

- *Freeze*: Essentially a hi-cut control which is located within the power amp section and can be used to tailor the overall high frequency response of the amp from icy sharp to smooth and mellow.
- *Master*: The master volume is a subtle but effective variation on the standard type used in most guitar amps and uses a technique called 'Boot strapping' to increase the apparent impedance of the control pot used. This has the benefit of reducing the tonal change often associated with Master volume controls on low settings. Although part of the power amp, for maximum effectiveness the master is not included in the feedback loop as in some designs.
- *Ready....*: This is the power switch and turns on the amplifier
- *Go!*: This is the amplifier stand-by switch and can be set to off when the amplifier is on but not in use for longer periods. This can lead to longer power valve life.

Rear panel controls:

- Mains inlet: A standard IEC connector allows connection to the mains supply.
- Voltage selector: Allows a choice of mains input voltages either 230v or 115v. *NOTE: for UK use this must be set to 230v.*
- Mains fuse: This is a 2A slo-blo 20mm fuse(UK only).
- HT fuse: This is a 500mA slo-blo 20mm fuse(UK only).
- *Triode / Pentode*: This switch configures the output valves to either full power (pentode) mode or half-power (triode) mode. In triode mode even harmonics are emphasised and will give a sweeter and rounder overall tone.
- Impedance selector: Allows matching to the correct impedance of the cabinet to be used.
- Speaker outlets: Two parallel wired jack sockets are provided to allow more than one cabinet to be used.
- Bias controls: Two test points allow monitoring of the bias levels of both sides of the push-pull output circuit using a simple voltmeter. The centre ground connection allows a meter to be connected between the cathodes of each side of the push -pull output section power valves, (*TP1 & TP2*), and ground across a 1 ohm resistor. This will indicate in millivolts on a test meter what the bias current flowing through each side is. This can then be adjusted by using the *Range* and *Balance* pots located beneath the test points. A more detailed procedure is set out later in this user manual.
- Footswitch: The supplied footswitch is connected here and selects the *Special Sauce* feature. Any two-connector cable such as speaker cable can be used here, as no audio signal is present.
- Optional Effects send and return and Reverb controls are located on the rear panel.

Table 1

The following table shows the available options for the **TT1**'s output section.

Output valve configuration	Output power & Voltage Settings	Characteristics
4 x Sheldon -6V6	30-35w 40 -42 mV	Sweet clean tones, which move easily into a super creamy overdrive. So nice it's what the amps come with as standard!
2 x Sheldon -EL34	40-45W 30 – 35 mV	Characteristic British rock/blues tones with crisp highs and plenty of midrange grit and grind.
2x Sheldon - 6L6/5881	40-45W 35 – 45 mV	Sweet chiming clean tones with solid bass and top end. More detail in the tone and a smooth overdrive tone.
4 x Sheldon -EL34	45-50W 70 – 80 mV	Even more of that Classic Brit rock tone! But with more headroom. Like a 100W plexi but at 50w volumes!
4 x Sheldon -6L6/5881	45-50W 70 – 90 mV	More of that great 6L6 tone! Better headroom, very suited to the clean blues player but will break up very nicely when pushed moving into a smooth driven tone!
2x Sheldon -6L6 2x Sheldon 6V6	35-40W 45 – 55 mV	A best of both worlds combination! The clear top and bottom of the 6L6's complementing the smooth creamy break-up of the 6V6's gives probably the best blues tone you will hear!
2x Sheldon - KT88/6550	45-50W 55 – 60 mV	The ultimate in solid bass and crystal clear highs, late break up but boy when it does!! For the cleaner style of playing this is probably one of the best set ups.

Choosing your output configuration has never been easier or more versatile! The **TT1** gives the player a wider choice than previously available in all but a very few amplifiers and puts the power of choice in the hands of the player or tech.

Biasing your **TT1** amplifier.

To get the best performance from any amplifier it must have its output section correctly 'biased'. Our amps use fixed bias to put the player and technician in control of the valve. The bias of the output valves is vital in deciding not only the operating class of the amplifier but also in maximizing performance, tone and valve life. Ours is by far the better option between cathode and fixed bias.....**Without question!!!!**

The **TT1** is a class AB amplifier and can be biased over a range of settings depending upon the type of output valves selected and the tone desired.

All **TrueTone** amplifiers are fitted exclusively with **Sheldon** valves, which in themselves can be selected for the type of tone required.

To bias your **TT1** you will need:

- A digital multimeter set to mV.
- A trim tool or small flat bladed screwdriver (we can supply the correct tool).
- **And.....**
- Your brain in gear or the number of your local tech.
- Us on the other end of the phone!

CAUTION VALVE AMPLIFIERS CONTAIN HIGH VOLTAGES WHICH CAN BE FATAL! WHILST BIASING YOUR TT1 IS NOT IN ITSELF DANGEROUS. ALL INSTRUCTIONS MUST BE FOLLOWED CORRECTLY AND CAREFULLY!

The first step in biasing your **TT1** for best operation is to select the desired valve type (6V6, 6L6, EL34 etc). Then chose the grade of **Sheldon** valve. These range from 1 to 10 with 10 being hot and giving early distortion, and 1 being cooler and moving into power amp distortion much later.

Now follow these steps exactly:

- **ENSURE YOUR TT1 AMPLIFIER IS SWITCHED FULLY OFF AND DISCONNECTED FROM THE MAINS SUPPLY.**
- From the table chose your desired output section configuration (2x 6L6, 4 x 6V6, etc.) then look up on the table the correct bias setting.
- Allow your amplifier to cool right down if it has been in previous use. **VALVES GET VERY HOT IN USE AND CAN BURN YOUR FINGERS IF TOUCHED.** However, you can use a tube glove or other blunt instrument if time is an issue!
- With the rear panel removed, carefully take out the output valves fitted. Do not use a twisting motion as this will damage them!
- **DO NOT REMOVE THE AMPLIFIER FROM THE CHASSIS FOR ANY REASON. APART FROM EVERYTHING YOU MIGHT DO IN THERE, YOU MAY INVALIDATE YOUR WARRANTY!!!!**
- Carefully fit your new selected set of **Sheldon** valves being careful to note that the locating pip on the valve base is aligned with the slot in the centre hole of the valve base. Push the valves firmly and fully home. Excessive force should not be required nor applied. If it is, then something is wrong and the alignment may be incorrect.

- On the rear of the amplifier there are two red test point sockets marked *TP1* and *TP2*, and one black socket which is connected to ground. You will be measuring a voltage between each of the red test points and the black ground socket.
- Put the BLACK or COMMON probe of your multimeter into the BLACK socket on the rear of the amplifier. Then put the RED test probe into the RED test point marked *TP1*. This will indicate the bias setting of the left hand pair of valves as viewed from the rear. Repeat this process for the right hand pair and off you go! ***Both values should be identical.***
- To do this first use the *Range* to get to the figure & the *Balance* pot to get the values equal. **REMEMBER** do not exceed the top value in the range. It may sound hotter, but it also has higher voltage.
- Use the *Range* pot also to determine how cold you wish to run the amp. For example at the bottom of the table value or below is where your amp will run coldest. If you prefer this, then you can do no real harm. ***Let your ears decide!!***
- Reconnect your *TT1* to the mains. **AT NO POINT SHOULD YOU NOW TOUCH THE OUTPUT VALVES OR ATTEMPT TO TOUCH ANYTHING *INSIDE* THE AMPLIFIER ITSELF.**
- Switch on the *Ready...* switch located on the front panel. You will see the heater filaments inside the valves begin to glow. Ensure that they are all on. And allow them to warm up for a few minutes.
- Now switch on the *Go...* switch located on the front panel. You will notice that you now will get a reading on your multimeter. Allow a few seconds for this to stabilise. **IF AT ANY POINT AFTER SWITCHING ON THE *Go...* YOU SEE ANY GLOW ON THE MAIN PLATE STRUCTURE WITHIN THE VALVE OTHER THAN THE HEATER FILAMENT, DOWN BIAS TO RUN THE VALE SET COOLER OR SWITCH OFF THE *Go...* AND TALK TO US OR YOUR LOCAL TECHNICIAN.....IMMEDIATELY!!!**

The *TrueTone 2* *TTSpecial II2* *TTSpecial Plus II2*

The **TT2** and the **Special and Special Plus** are 18/35w class AB blues monsters! Designed for use in smaller venues and studios they are a big amp in a compact package! The difference is that the TT2 is only available in the larger volume cab sizes whilst the **Special and Special Plus** are in the **TT3** size box and are plus Reverb.

Whilst most available amps in this class claim to be class A, in reality most are simply hot cathode biased class AB amps.

We decided to set the record straight and tell things the way they really are! Let your ears be the judge, don't let 'class' prejudice get in the way of good honest tone!

The **TT2** uses a combination of fixed bias and cathode bias. Unlike most other amps which go for cathode bias when using these types of output valves. So why be different?

Well, whilst cathode biased amps can sound very sweet, in some cases particularly with EL84's they can get a bit muddy sounding when driven to their limits. Fixed bias lets us get the most out of them, squeezing every last bit of tone out and making the most effective use of the available power.

The **TT2** can be fitted with a range of **Sheldon** – 6V6's or 6L6's depending upon which style you prefer. Simply chose the grade of **Sheldon** - valves which suit your playing style and your dealer or the factory will adjust the bias to get optimum performance from the chosen set. Then when you wish to replace them simply use the same grade of valve and no further adjustments will be necessary. Should you wish to change the grade of valve used then ask your dealer or the factory to make the very simple adjustment.

Front panel controls:

- **Input:** standard input using a single jack socket.
- **Volume:** controls the input gain level, set low for a clean sound and higher for more overdrive.
- **Compass:** This will take you around the tonal spectrum from resonant deep lows towards the West and beyond to singing highs towards the East. This is easily the most effective tone control available today. In a live situation this amp will get you there quicker!
- **Freeze** : This allows you to dial in up to 35Watts by using one or two pairs of output valves.
- **Master:** Takes the output of the amp and changes nothing throughout the volume range leaving your tone intact!!

Rear panel controls:

- All valves, fuses and mains inlet are easily accessed at the rear of the unit via the rear panel for fast and trouble free maintenance.
- Optional Effects send and return and Reverb controls.

The *TrueTone 3* *TrueTone 3R*

If there ever was an amp that you couldn't quit playing then this is it!

Don't be fooled by the simple control layout there's an amazing range of sounds in there just waiting to get out! Every turn of each control can yield a new sound and setting the controls anywhere will give a useable tone-full sound.

The **TT3** is virtually unique in using pre-amp valves throughout its construction. The output section uses three cathode biased **Sheldon** 12AU7 valves with option of fitting 12AT7's or 12BH7's for a different tone and output volume.

A pair of **Sheldon** 12AX7's fulfils pre-amp duties.

Using the 'Freeze' control you can go from 1W in single ended mode to just over 3W in Push-Pull mode and all points in between using the rotary control.

Perfect for those late night bedroom moments of inspiration to being able to get a full throated sound in the studio or practice room with out losing any of that precious tone.

The 'Compass' control is a unique and amazingly wide ranging tone control that can take you from deep resonant lows to needle sharp highs with the turn of a single control. We are confident that it is the widest ranging single tone control you have ever heard.

'Gain' and 'Master' control let you tailor the **TT3's** tone from clean to mean and beyond.

A further feature of these amps is that when used in conjunction with our forthcoming adaptor module the amp can be turned into a super pre-amp/chain for use with larger amps.

Optional reverb controls are accessed from the rear panel to the left hand side.

The **TT3** has the following standard features:

- 12AU7 output section for cranked power amp overdrive at 1 - 3 watts.
- Cathode bias allowing the option of fitting a range of different output valves (12AT7 -12BH7 etc)
- 2x Sheldon 12AX7 preamp. Similar to the **TT1** and **TT2** but maximized for a little more drive tone.
- Unique '*Compass*' control for maximum tone choice.
- '*Freeze*' control enables a choice of output power, tone and style. From 1W in SE mode to over 3W in PP mode.
- Master and Gain controls allowing quiet cranked amp tone at all volume levels.
- Ultra fast rectifier diodes with special noise reduction circuit to ensure maximum response and quiet operation.
- Eyelet board construction, with thick Glass epoxy circuit board for a super tough construction.
- Custom wound transformer.
- Specially selected **Sheldon** valves.
- Celestion Vintage 30 or Greenback speaker.
- Reverb on **TT3R**.

The *TTJunior*

Don't be fooled by the simple control layout there's an amazing range of sounds in there just waiting to get out! Every turn of each control can yield a new sound by setting the controls anywhere.

It may be the baby of the range but it's an amazingly versatile and tone-full tool!

The *TTJunior* is unique in using pre-amp valves throughout its construction. The output section uses one cathode biased **Sheldon** 12BH7 valve. One **Sheldon** 12AX7 fulfils pre-amp duties. Perfect for those late night bedroom moments of inspiration to being able to get a full throated sound in the studio or practice room with out losing any of that precious tone.

The 'Compass' control is a unique and amazingly wide ranging tone control that can take you from deep resonant lows to needle sharp highs with the turn of a single control. We are confident that it is the widest ranging single tone control you have ever heard. We have introduced some extra grind from NE to SE for that Rock moment!

Separate Line out and volume control let you use it in the front end of another amp or for direct into a DI box/Mixer for live and recording without a safety net!

A further feature of these amps is that when used in conjunction with our forthcoming adaptor module or powered cabinets the amp can be turned into a super pre-amp/chain for use with larger amps.

Optional reverb controls are accessed from the rear panel.

The *TTJunior* has the following standard features:

- 12BH7 output section for cranked power amp overdrive at 1 watt.
- Cathode bias.
- 1x Sheldon 12AX7 preamp. Similar to the *TT2* and *TT3* but maximized for a little more drive tone.
- Unique *Compass* control for maximum tone choice.
- *Master* control allowing quiet cranked amp tone at all volume levels.
- Ultra fast rectifier diodes with special noise reduction circuit to ensure maximum response and quiet operation.
- Eyelet board construction, with thick Glass epoxy circuit board for a super tough construction.
- Custom hand wound transformers.
- Specially selected **Sheldon** valves.
- Celestion Vintage 10 speaker.
- Attenuated line out located on the rear panel.

The *TrueTone 4*

The **TT4** is an 18W Class A blues monster!

Designed for use in smaller venues and studios for Harp/Pedal Steel/Acoustic Guitar, the **TT4** is a big amp in a compact package!

Whilst most available amps in this class claim to be class A, in reality most are simply hot cathode biased class AB amps (for a more detailed explanation see our web site at www.sheldonamps.com)

The **TT4** uses a cathode bias design to optimise the characteristic tone that is required for a dedicated amp of this type.

You will be surprised just how loud and proud 18W can be! The **TT4** can be an **educational experience!**

The **TT4** can be fitted with a range of **Sheldon** – 6V6's/6L6's or EL 84's depending upon which style you prefer. Simply choose the grade of **Sheldon** - valves which suit your playing style and your dealer or the factory will get optimum performance from the chosen set. Then when you wish to replace them simply use the same grade of valve and no further adjustments will be necessary. Should you wish to change the grade of valve used then ask your dealer or the factory to make the very simple adjustment.

Front panel controls:

- *Input*: standard input using a single jack socket.
- *Volume*: controls the input gain level, set low for a clean sound and higher for more overdrive.
- *Compass*: This will take you around the tonal spectrum from resonant deep lows towards the West and beyond to singing highs towards the East. This is easily the most effective tone control available today. In a live situation this amp will get you there quicker!
- *Freeze*: This allows you to dial in 9-18 Watts by using one or both output valves.
- *Master*: Takes the output of the amp and changes nothing throughout the volume range leaving your tone intact!!
- Celestion – Fane or other OEM Driver as required.

Rear panel controls:

- All valves, fuses, mains inlet and operational switches are easily accessed and labelled at the rear of the unit via the rear panel for fast and trouble free maintenance.
- Optional Effects send and return and Reverb controls.

Product Warranty User Agreement

Subject to the Obligations and Exclusions listed below, **Sheldon** warrants this product against manufacturing defects in material and workmanship, to the original owner and all subsequent owners.

Obligations

1. This warranty will be honoured only on the presentation of a copy of the invoice or bill of sale as proof of purchase.
2. Transportation of the product to an authorized service facility or **Sheldon** is the responsibility of the user. **Sheldon** shall supply all parts / labour to affect warranted work at no charge and payment for return carriage will be the responsibility of the owner in all cases and without exception.

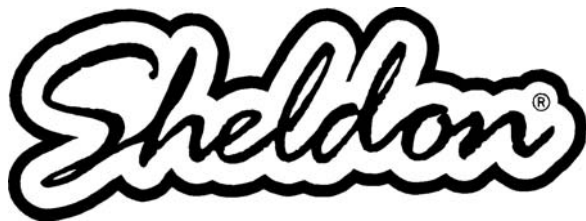
Limitations of Implied Warranty

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY FOR A PARTICULAR PURPOSE SHALL BE NEITHER EXPRESSED OR IMPLIED.

Exclusions

1. This warranty shall not cover adjustment of customer operated controls, or products that have been altered, replaced, or have missing or defaced serial numbers, the appearance of accessory items including, but not limited to, cabinets, cabinet parts, covers, footswitches, or knobs.
2. This warranty shall not apply to unpacking, setup, installation, or removal and reinstallation of products for repair by authorized service personnel.
3. This warranty shall not apply to repairs or replacements necessitated by any cause beyond the control of **Sheldon** including, but not limited to, any malfunction, defects, or failures caused by or resulting from the unauthorized service, accidents, abuse, neglect, loss of parts, lack of reasonable care, incorrect use or failure to follow instructions, incorrect line voltage, damages resulting from improper packaging, improper maintenance, modification or repair by the user, fire, flood, or other Acts of God.
4. This warranty shall not apply to vacuum tubes, fuses or any loudspeakers or horn drivers that have been damaged due to thermal destruction or physical destruction by this unit.

The foregoing is in lieu of all other expressed or implied warranties, and **Sheldon** does not authorize any party to assume for it any other obligation or liability. In no event shall **Sheldon** be liable for special or consequential damages arising from the use of this product, or for any delay in the performance of this warranty due to causes beyond our control. Some states / territories do now allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of consequential damages, so the above limitations on implied warranty and consequential damages may not apply to you. This warranty gives you specific legal rights. You may have other rights that vary from state to state / territory.



Certificate of Ownership

*You are now the proud owner of a Sheldon Amplifier.
We all wish you well with your product, and extend this
open invitation to contact us direct if you have any questions
or issues which you feel we could help you with.
It is only with the continued support of you, our customer,
that we continue to grow and develop and we thank you for
that opportunity.....*

From us all

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First User

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Model

.....

Serial Number

Sheldon Amplification © 2007 Please note that any specification may change at the discretion of the company without prior notice. Unlimited Lifetime Warranty is subject to activity undertaken within the manufacturing process and within the current specification. Any use found that is not as intended, any third party intervention with parts or process outside specification will cause the warranty to be invalid without further reference to the company.