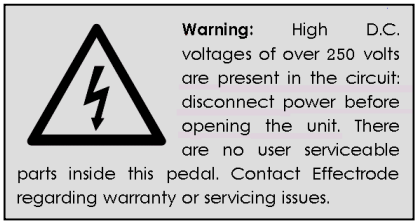
## Specifications

- Input impedance: greater than 1MOhm
- Output impedance: 40KOhm
- Controls: drive, tone and volume
- Features: Bax-Stack active tube tone boost circuitry (zero insertion loss!)
- Wide gain range: overdrive, distortion to fuzz
- True bypass: silent foot-switching circuitry means no ‘pop’ or ‘thump’
- Power requirements: 12VDC @ 1.2A — centre positive 2.1mm barrel connector
- Dimensions: width 6.8" depth 4.8" height 1.3"
- Weight: 2lb (on Earth); 0lb (free-fall)
- Construction: solid die-cast aluminum box
- Finish: tough olive green powder coat



**Warning:** High D.C. voltages of over 250 volts are present in the circuit: disconnect power before opening the unit. There are no user serviceable parts inside this pedal. Contact Effectrode regarding warranty or servicing issues.

Serial # **TD–2A**



# Tube Drive

Owner’s Manual

effectrode audiophile pedals

12 Broughton Crescent, Barlaston,
Staffs, UK. ST12 9DB
www.effectrode.com

# Introduction

The ***TUBE DRIVE*** is designed for flexibility, ease of use and outstanding guitar tone. Three vacuum tubes make up a cascaded symmetrical clipping circuit and active 'Baxandall' tonestack. The clipping stages operate in single-ended class A at real amp plate voltages to deliver exceptionally natural and smooth overdrive — there are no solid-state devices (op amps, transistors or diodes) in the signal path. This hot-rodded gain architecture with active tonestack is unique to the ***TUBE DRIVE*** — it is the only pedal (or amp) that can introduce cut and real tube boost to those critical frequencies essential for sculpting larger-than-life guitar tones. Additionally, the gain architecture of the ***TUBE DRIVE*** is specially designed to allow different types of tubes to be inserted to totally change the character of the pedal. This allows access to a wide palette of authentic tube amp sounds from warm, touch sensitive blues break-up, to crunch through to creamy, super-saturated lead sounds and rich fuzz, laden with even harmonic overtones.

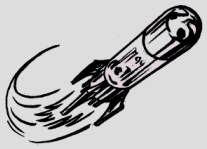
Thank you for trusting *Effectrode* to be your effects company. We wish you many years of musical enjoyment from this very special, hand-crafted, all-tube pedal.

TRIODE CLASS-A

*Phil Taylor — Designer*

# Tubes

The top 12AX7 tube in the ***TUBE DRIVE*** can be swapped with other miniature 9-pin double triode tubes, including 12AV7, 12AY7, 12AU7, etc. These substitutions yield lower gain and wider sweet-spot for mild drive and bluesy tones as well as tonal differences caused by variation in the inter-electrode capacitance of different the tube types. NOS Mil-Spec are recommended, if they can be obtained.



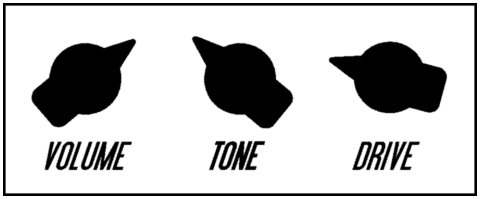
To extend tube life, it is recommended that the unit be allowed to warm-up for at least one minute after being switched on. This is to allow the heater filament in the tube to heat the cathode, which is coated with a layer of barium and strontium oxide. This oxide layer gets torn off the cathode, a process known as cathode stripping, if the cathode has not reached its correct operating temperature. If operated well within their ratings, good quality signal tubes can last 100,000 hours or more: that's well over 11 years of continuous use. If you use your pedal for only 4 hours a day, they should last over 25 years. (We can't warranty tubes for this period, however experience shows that such lifetimes are probable).

# Pots

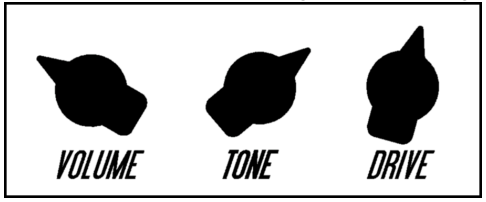
This pedal is fitted with custom manufactured *Omeg* sealed for life potentiometers. These are sealed units so dust cannot enter them and will not dry out so do not require periodic cleaning or lubricating. Also, our unique pot bushing system protects the pot from mechanical damage (i.e. being stepped on!)

## Sample Settings

**1. Blues Solo** Neck Humbucker

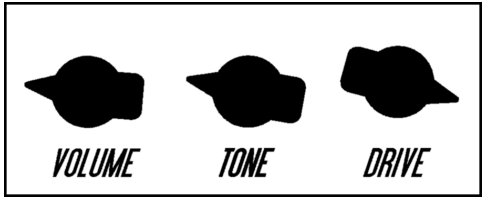



**2. Crunch Rhythm** Bridge/Middle Single Coil




**3. 70s Rock** Bridge Humbucker


**4. Saturated Lead** Bridge Humbucker




## Controls

**Drive** knob adjusts the signal level and therefore the amount of clipping across the four tube stages. It's tapered logarithmic sweep allows fine control at lower gain settings. This wide sweep enables the ***TUBE DRIVE*** to work as a blues drive pedal, adding authentic tube warmth, sustain and drive to guitar, but also gives it ample raw power to climb the gain curve to create classic overdrive, creamy modern saturated distortion and even fuzz sounds.

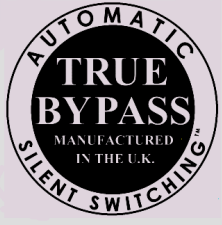
With the **Drive** knob set at between 8 and 9 o'clock the ***TUBE DRIVE*** excels at producing mellow, bluesy tones. The pedal is always musical and responsive to pick dynamics. Turning the knob clockwise causes clipping in more stages so that the overdrive increases until at around 12 o'clock the pedal is producing a balanced and robust distortion. As the **Drive** is further wound-up the pedal will begin to generate progressively more saturated singing lead tones and effortless pinch harmonics. The response remains focused and tight for excellent string-to-string definition and ensures each pickup retains its own character, no matter how much gain you decide to pile on. The ***TUBE DRIVE*** is very easy to work with on stage and in the studio. It produces incredible tone when partnered with a vintage or boutique amps and exceptional results when recording direct, even without speaker emulation. It sounds balanced and musical and you'll find your guitar parts always sit beautifully in your mixes.

**Tone** knob controls an advanced all-tube active 'Baxandall' stack circuit. This unique single knob control gives more punch and control over mids than the traditional tube amp Bass-Middle-Treble passive tonestack developed by Leo Fender. It is optimised to boost/cut the critical mid and high frequencies, centered around the 1 to 2KHz region, essential for sculpting focused, powerful lead guitar tones. Being an active tone control means it can actually introduce high frequency components to add extra crunch and presence. With this knob centered at the 12 o'clock position the response is flat (equivalent to maxing out a passive tone control), so backing this off to around 9 o'clock is a good starting point for many classic overdrive sounds. Rotating to around 2 to 3 o'clock introduces extra sparkle and definition to distortion settings for stunning crunch tones. This is an easy to use, yet flexible tone contouring control with zero insertion loss (no loading on the signal).

**Volume** knob sets the overall output level. This is used to set the relative levels of bypassed and effected signal. It compensates for any changes in level when adjusting the gain knob and when swapping the stock 12AX7 tube for lower gain types such as the 12AY7 or 12AU7.

**Mellow/Bright** switch adds treble emphasis to the signal before the tube clipping circuitry. This enhances the clarity and 'bite' of the ***TUBE DRIVE*** without introducing harshness or brittleness to the tone.

**Active Bass Boost** toggle switch increases the bottom-end frequency component for a heavier, thicker sound and adds some serious muscle to your tone. It has the effect of making an open back amp sound more like a closed back speaker cabinet and at higher gain settings can be used to create massive grunge tones. When used in conjunction with the tone knob fully clockwise, a mid-scoop response is obtained; with the tone fully anti-clockwise and low boost switched out a mid-hump is introduced into the frequency response.




All *Effectrode* pedals feature our innovative **Silent-Switching™** true bypass system, where an active audio circuit minimises the 'pop' or 'thump' when the effect is engaged. Additionally, as a failsafe, the circuitry will always default to bypass if power is Interrupted to the pedal ensuring that you can continue to perform. Signals are switched using a precision audio relay with gold-plated contacts for superior tone and performance over multi-pole footswitches, which were not originally designed for constant use or audio signals. The relay also shortens the signal path so that signal is not routed through any internal wiring thus preventing noise contamination.

**Footswitch** allows selection between effectified (engaged) and non-effectified (bypassed) signal. Silent true bypass switching ensures there are no 'pops' or thump when engaging the effect and that there is absolutely no loss of tone from your guitar to your amp when the effect is disengaged.