# Texas Tone 1540 Owner's Manual

## Congratulations!

You are now the proud owner of the Texas Tone® 1540 tube guitar amplifier – a high-performance 40-Watt amplifier based on a single-channel version of early 1960s Fender® amplifiers, with a few Texas Tone modifications. At mid volume levels it's the perfect clean stage amp, cranked up it will deliver a combination of tone and dynamics that will rival any classic amps. The result is a dynamic vintage tube sound– giving you an amp that's easy to operate and produces those sweet tube amp sounds that we all crave!

Like all Texas Tone Amp products, your Texas Tone 1540 Amp is designed by musicians and built using the finest components available. Extensive testing confirms that this amplifier is the absolute best it can be. In order to get the most out of your new amplifier, we strongly urge you to read the information contained in this manual before you begin playing.

Thank you for choosing Texas Tone®!



# READ, FOLLOW, HEED, AND KEEP ALL INSTRUCTIONS AND WARNINGS.

**CAUTION: RISK OF ELECTRIC SHOCK, DO NOT OPEN OR REMOVE CHASSIS!**

WARNING: NO USER-SERVICEABLE PARTS INSIDE.

- **WARNING**: THIS UNIT REQUIRES A SAFETY GROUNDED 120VAC 60Hz OUTLET WIRED TO CURRENT ELECTRIC CODES. ONLY CONNECT POWER CORD TO A POLARIZED, SAFETY GROUNDED OUTLET WIRED TO CURRENT ELECTRICAL CODES AND COMPATIBLE WITH 120 VOLT 60Hz POWER.
- **WARNING**: THIS AMPLIFIER PRODUCES HIGH DC VOLTAGE (450+ VDC). DO NOT REMOVE THE REAR PANEL OR OPERATE WITH THE REAR PANEL REMOVED.
- SERVICE TO BE PERFORMED BY QUALIFED PERSONNEL ONLY.
- DO NOT OPERATE NEAR ANY HEAT SOURCE AND DO NOT BLOCK ANY VENTILATION OPENINGS ON THIS AMPLIFIER. FOR PROPER OPERATION, THIS UNIT REQUIRES 3” (75mm) OF WELL-VENTILATED SPACE AROUND HEATSINKS AND OTHER AIR FLOW PROVISIONS IN THE CABINET.
- **WARNING**: TO REDUCE THE RISK OF ELECTRIC SHOCK OR FIRE, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. DO NOT USE THIS AMPLIFIER NEAR SPLASHING, FALLING, SPRAYING, OR STANDING LIQUIDS.
- CLEAN ONLY WITH LINT-FREE DAMP CLOTH AND DO NOT USE CLEANING AGENTS.
- PROTECT THE POWER CORD FROM DAMAGE DUE TO BEING WALKED ON, PINCHED, OR STRAINED.
- UNPLUG THE AMPLIFIER DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.
- ONLY USE ATTACHMENTS, ACCESSORIES, STANDS, OR BRACKETS SPECIFIED BY THE MANUFACTURER FOR SAFE OPERATION AND TO AVOID INJURY.
- OUR AMPLIFIERS ARE CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS. CONTINUED EXPOSURE TO HIGH SOUND PRESSURE LEVELS CAN CAUSE PERMANENT HEARING IMPAIRMENT OR LOSS. USER CAUTION IS ADVISED AND EAR PROTECTION IS RECOMMENDED IF UNIT IS OPERATED AT HIGH VOLUME.

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## The Texas Tone 1540 Amp

The Texas Tone 1540 is inspired by the dynamic performance of early 1960 Fender® amplifiers, while adding some unique touches and modern safety and construction methods.

Vintage tube guitar amplifiers suffer from outdated electrical grounding methods. Texas Tone® guitar amplifiers feature modern grounding techniques and three-prong electrical plugs for safe, low-noise operation. Shielded internal cables also help to reduce spurious noise. Special features allow the Texas Tone 1540 a clean Fender voice with a slight breakup on tap, or a tighter Marshall-style voice that just loves pedals. This allows the guitarist to get sweet clean tones, creamy tube crunch, or to tame those vintage sounds, depending upon the control panel settings.

This re-voicing also makes the Texas Tone 1540 very pedal friendly. Prepare to be blown away, especially when using a boost pedal, such as the Tube Screamer as used by Stevie Ray Vaughan, to increase the gain and distortion! This amp allows you to remain in control of your sound; you'll be surprised at the variety of tones you can achieve with this amp.



## Specific Features of the Texas Tone 1540:

- 18 Gauge Cold-Rolled Steel - 0.048” thick.
- Stainless steel fasteners
- JJ Electronic tubes, tested and graded by Eurotubes.
- Shock-mounted preamp tube socket
- Isolated Standby switch
- MIL-Spec wire
- Low-noise resistors
- Shielded input signal cables
- High quality JJ, Sprague, Vishay, CDE, SoZo, and Mallory Capacitors
- Hand-wired turret board
- A “Magic Midrange” control to take you from scooped mids to raw mid overdrive.
- Adjustable fixed bias
- 40 Watts clean power
- 15” Celestion Fullback 8Ω 100W speaker.  Clean sounds are warm and expressive revealing and enhancing the qualities of your amp and guitar without unnecessary coloration. Overdrive sounds are complex and musical; push harder for a weighty contralto growl with a softer warmer mid-range.

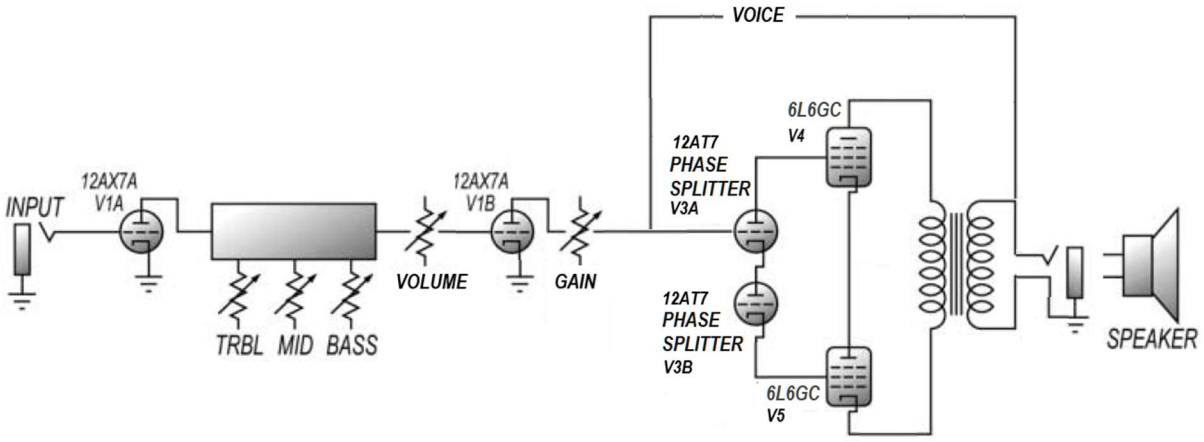
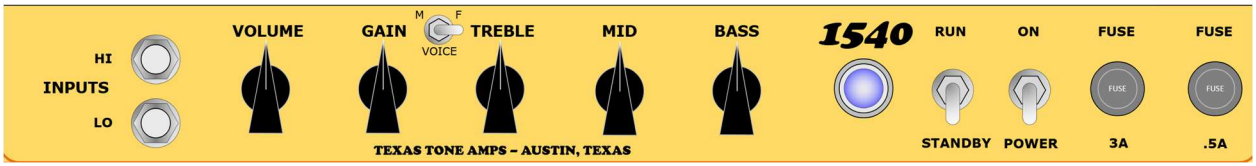



*Figure 1: Block Diagram*

## The Front Panel:




1. **INPUTS**: Texas Tone 1540 has two guitar inputs, "HI" and "LO."
    a. **HI Input**: This is the normal, high gain, high impedance (1MegΩ) input. Connect your guitar here by means of a shielded signal cable.
    b. **LO Input**: The "Lo" input features a -6dB attenuation compared to the "Hi" Input. Use the LO input for lower gain and quieter performance, or when using very high-gain pickups to gain more headroom before the onset of distortion. When both inputs are used at the same time, they offer the same gain characteristics.
2. **VOLUME:** The volume knob controls the response of the preamp section and output from the tone stack.
   **NOTE**: Use the volume control in conjunction with the Gain control for a good balance. For good volume and drive, we find that both controls at about the 3 O'clock position works quite well in a stage setting. *Work with the controls and with your pedals to find the optimal balance. The Volume, Gain, and Mid controls work together to give you control over the contour of your sound. More Gain + more Mids = thicker, dirtier, louder sound.*
3. **GAIN:** The Gain knob controls the amount of drive to the power section. In this way, you may think of it as similar to Master Volume control, although technically it is not.
4. **VOICE**: The Voice switch on the Texas Tone 1540 changes the response and distortion characteristics of the amplifier, based on global negative feedback (NFB). *We recommend placing the amplifier in Standby mode while switching*.
    a. "**F**" –Light feedback. Less NFB than a blackfaced Fender, and with less noise. Lowering the NFB thickens the clean tone and slows the transition from clean to dirty tone.
    b. "**M**" – Heavy feedback. The extra feedback makes the cleans "cleaner" and tightens up the boundary between clean and overdrive. It also makes the amp's overdrive tone cleaner, tighter and more Marshall-like.
5. **TREBLE**: Turning the Treble control clockwise produces a brighter tone. Counter-clockwise reduces the high frequency response. Frequencies from 1kHz and above ±17dB.
6. **MID**: Mid control affects frequencies from 200Hz to 1.2kHz (±18dB) and also functions as a signal boost. Setting the MID from "0" to "4" allows a Fender-style scooped mid tone, especially with the Treble and Bass turned up. *Cranking up the MID control provides 6 dB of boost for a significantly thicker and louder tone*.
7. **BASS**: The Bass knob controls the response of the lower frequencies, allowing ±10dB range with the MID at "4". Clockwise for more bass, counterclockwise for less.

8. **Indicator lamp**: The lamp will illuminate whenever the amplifier is plugged in to a 120V 60 Hz power source and the Power switch is turned on.
9. **Standy/Run**: The isolated Standby switch controls the high voltage to the tubes of the Texas Tone 1540. The Standby switch may also be used to quiet the amplifier for short periods. The Standy switch is used at power-on, allowing the tubes to warm up – about 15 seconds - before switching from Standy to Run.
10. **Power/On switch**: To turn on the amplifier, make sure that the Standby switch is in the "STANDBY" position, and then turn on the power switch. After sufficient time for the tubes to warm up, about 15 seconds, turn on the Standby switch. To turn off the amplifier, place the Standby switch back to the STANDBY position, and switch off the Power switch.
11. **120 VAC Fuse Holder**: Use only a **3AG Slow Blow 3 Amp** rated fuse. In the event that the fuse blows, or the amplifier will not power on, consult a qualified tube amp technician.
12. **High Voltage Fuse Holder:** Use only a **3AG Slow Blow 250mA** rated fuse for the high voltage. If the fuse blows, or the amplifier will not power on, consult a qualified tube amp technician.

## The Rear Panel (not shown):

1. **Line Cord**: The grounded power cord should only be plugged into a 120 Volts AC, 60 Hz grounded power outlet that meets all applicable electrical codes. Do not defeat the safety ground connection.
2. **Multi-section capacitor**: Single 40µF and three 20µF electrolytic power supply filter capacitors.
3. **Power tube sockets** (from left to right ):
    a. **6L6GC Double Mica Power Tube**: V5 -JJ Electronic 6L6GC.
    b. **6L6GC Double Mica Power Tube**: V4 -JJ Electronic 6L6GC.
4. **Speaker connector**: The Texas Tone 1540 provides two 1/4" speaker output jacks.
    a. 8Ω Primary connection used by the internal Celestion Fullback 15" speaker.
    b. 8Ω auxiliary speaker connection for an external speaker.
    NOTE: Using both connections results in a 4Ω load.
    **NOTE: Do not power on or operate the amplifier without a speaker plugged in! Damage will result and void the warranty.**
5. **Preamp tube sockets** (from left to right ):
    a. **ECC81 Gold Pin JJ Electronic (12AT7) phase splitter tube**: The Gold Pin JJ ECC81 is based on the same construction as the original JJ ECC81. The internal components go through additional selection and processing during assembly. Use only a high-quality 12AT7/ECC81 type tube. A 12AX7 may be substituted, which may provide a bit more gain.
    b. **E83CC JJ Electronic (12AX7) preamp tube**: This is a Frame Grid style High quality, low noise replacement for any 12AX7 type tube. Use only a high-quality, low noise 12AX7/ECC83 type tube.

# Important Information about Guitar Amp Vacuum Tubes:

The sound produced by a tube-powered amplifier is significantly different from that produced by a solid-state amplifier with similar design specifications. When pushed past their limits, solid-state devices tend to go immediately into distortion.

Tubes, on the other hand, are non-linear devices that transition more smoothly into distortion, and produce a more musical set of harmonics, the intensity of which can be controlled by the player. This characteristic adds warmth and definition to the sound, which has become the hallmark of tube amplifiers. When tubes are driven into clipping, the harmonic overtones can be both sweet and pleasing, or intense and penetrating, depending on the musician's musical taste and playing technique.

Modern application engineers have designed a number of outstanding solid-state amplifiers that sound quite good. Some use modeling circuitry that enables them to simulate the distortion characteristics of a tube amplifier. Since the response of tubes is both dynamic and non-linear, the true range of characteristics of tube amplifiers can only be approximated. Modern tube amplifiers such as Texas Tone® amps, offer that classic, dynamic vintage sound in today's contemporary market.

## Tube Types and Usage:

Preamp tube circuits amplify the signal from your instrument and shape the sound, and they can sometimes become microphonic (mechanically pick up and transmit external noises). Since these tubes are used in the critical first stages of a tube amplifier's circuitry, it is very important to use high quality, low noise/low microphonic tubes for this application. Although tubes of this quality may typically cost more than standard tubes, the improvement in performance is worth the investment, and in some cases, critical. Texas Tone Amplifiers performs extensive testing and works with tube suppliers to determine the best tube for each position in the amplifier. All tubes in the 1540 are JJ Electronic, tested and graded by Eurotubes.

Preamplifier tubes are also used to drive the power tubes. The power tubes convert the low-level, conditioned signal from the preamplifier into a level that is sufficient to drive the speakers. There are several types of power tubes available, each of which offers a different performance/sound characteristic. The JJ Electronic 6L6GC tubes used in the Texas Tone 1540 are reinforced with Double Mica spacers in the top of the tube to reduce rattle in combo amps. Additionally, we use high temperature silicone rings for the same purpose. These tubes produce a full range, rich and creamy sound with nice distortion. Some tubes are available in matched sets. These tubes are extensively tested for optimum performance and longevity. Matched sets of power tubes are highly recommended. A Premium Matched pair of Double Mica 6L6GC tubes by Eurotubes is standard on the Texas Tone 1540.

## Tubes: Why (And When) To Replace Them:

Tubes are made of a number of fragile mechanical components that are vacuum sealed in a glass envelope. The longevity of a tube depends upon a number of factors, including how hard and often the amplifier is played, vibration from the speakers, road travel, repeated set up and tear down, etc. Any time you notice a change in your amplifier's performance, check the tubes first.

If it has been a while since the tubes were replaced and the sound from your amplifier lacks punch, fades in and out, loses highs or lows or produces unusual sounds, the power tubes may need replacing. If your amplifier squeals, makes noise, loses gain, starts to hum, lacks dynamic sensitivity, or feels as if it is working against you, the preamplifier tubes may need replacing.

The power tubes are subjected to considerably more stress than the preamplifier tubes. Consequently, they usually fail/degrade first. If deteriorating power tubes are not replaced, they will ultimately fail. Depending on the failure mode, they may even cause severe damage to the audio output transformer and/or other components in the amplifier. Replacing the tubes before they fail completely has the potential to save you time, money, and unwanted trouble. Since power tubes work together in an amplifier, it is crucial that they are replaced by a matched set. If you are on the road a lot, we recommend that you carry a spare matched set of replacement power tubes and their associated driver tubes.

After turning off the power and disconnecting the amplifier from the power source, carefully check the tubes (in bright light) for cracks or white spots inside the glass or any other apparent damage. Then, with the power on, view the tubes in a dark room. Look for preamplifier tubes that do not glow at all or power tubes that glow excessively red.

### Whenever you replace the power tubes:

The output tubes of the Texas Tone 1540 are biased with an adjustable fixed bias. When changing the output tubes, it is important to validate and possibly adjust the negative bias voltage. The output section of the Texas Tone 1540 is designed for long tube life. When the output tubes are replaced, we recommend that you replace the phase inverter tube as well. The phase inverter tube determines the shape and amplitude of the signal applied to the power tubes and has to work almost as hard as the power tubes. The phase inverter on the Texas Tone 1540 uses a JJ Electronic gold pin ECC81 / 12AT7 tube. A 12AX7 may be used, and may provide a bit more gain if needed.

The Texas Tone 1540 Amp uses high temperature MIL-Spec grommets to shock mount the first preamp tube; the one most sensitive to microphonics. You can check your preamplifier tubes for microphonics by turning the amplifier on, turning up the gain and tapping *lightly* on each tube with a chopstick or other light wooden dowel. You will be able to hear the tapping through your speakers, which is normal. It is not normal for a tube to ring like a bell after it is tapped. If it does ring, then it is microphonic and should be replaced. Remember to use only high quality, low microphonic tubes in the preamplifier section. Even though power tubes are rarely microphonic, you should check them anyway. The power tubes can be checked for microphonics just like pre-amp tubes.

## Survival Tips for Tube Amplifiers:

To prolong tube life, observe these tips and recommendations:

- Make sure the speaker(s) are properly connected prior to turning on the amplifier. **DO NOT OPERATE THE AMPLIFIER WITHOUT A SPEAKER OR PROPER DUMMY LOAD ATTACHED. TO DO SO WILL DAMAGE THE AMPLIFIER.**
- Allow the amplifier to warm up to room temperature before turning it on. The heat generated by the tube elements can crack the cold glass housing.
- After playing the amplifier, allow sufficient time for it to properly cool down prior to moving it. A properly cooled amplifier prolongs tube life due to the internal components being less susceptible to the damage caused by vibration.
- Match the impedance of your speaker cabinet(s) to your amplifier. Improper impedance matching will contribute to early tube degradation and may cause premature tube failure.
- Replace the output tube(s) before the performance degrades or the tubes fail completely. Check the tube(s) when you notice degraded performance.
- If the locating notch on the base of a power tube breaks off, replace the tube. This significantly reduces the risk of damaging your amplifier by incorrectly inserting the tube.
- Protect the amplifier from dust and moisture. If liquid gets into the amplifier, or if the amplifier is dropped or otherwise mechanically abused, have it checked out at an authorized service technician before using it.
- Proper maintenance and cleaning in combination with routine checkups by an authorized technician will ensure the best performance and longest life from your amplifier.

**CAUTION**: Tube replacement should be performed only by qualified service personnel who are familiar with the dangers of hazardous voltages that are typically present in tube circuitry.

# Texas Tone 1540 TECHNICAL SPECIFICATIONS:

| | |
|---|---|
| Output Power Rating | 40W RMS (Push-Pull Class AB) into an 8Ω load |
| Gain: | 60Db Typical |
| Tone Controls | Treble +/- 17 dB @ 10k Hz<br>Middle +/- 18 dB @ 500 Hz<br>Bass +/- 10 dB @ 100 Hz; +6 dB Boost |
| Speaker Outputs | 1 x ¼" phone jack, 8Ω<br>1 x ¼" phone jack, 8Ω extension speaker |
| Speakers | 1 x Celestion Fullback 15" Ceramic 100W rating, 8Ω, 99 dB sensitivity, 85 Hz resonant frequency |
| Preamp Tubes | 1 x E83CC JJ Electronic by Eurotubes<br>1 x ECC81 Gold Pin JJ Electronic by Eurotubes |
| Power Tubes | 6L6GC Matched Pair Double Mica JJ Electronic by Eurotubes |
| Rectifier | 4 x 1N5408 solid state diodes. |
| Power Requirements | 120VAC, 60Hz |
| Size and Weight (Head) | (H) 21" x (W) 22-1/2" x (D) 10-3/8" 43 lbs. |

**The Texas Tone 1540 is covered with a durable Tolex material: wipe it clean with a lint-free cloth. Never spray cleaning agents onto the cabinet. Avoid abrasive cleansers, which would damage the finish.**

*Specifications and information in this manual are subject to change without notice.*