

Service Notes

Service should only be made by a qualified technician.

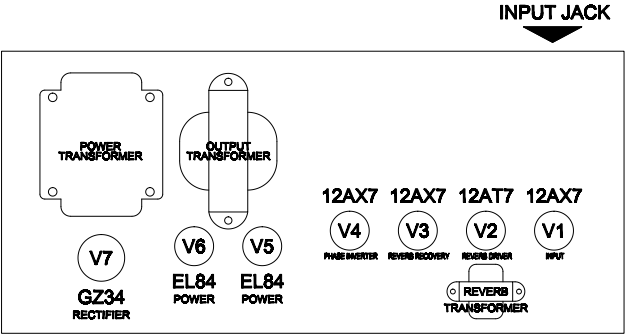
Tubes

Tubes are consumables, as they have a given usable lifespan. They are part of the heart of the tone, so keeping correctly operating tubes is essential. Tubes can fail catastrophically or gradually, and it’s good to know what to look for if they start to go bad. Periodically inspect them and look to see if anything inside the tube is glowing cherry red other than the normal orange glow of the filament. This would indicate a situation where the tube is conducting more current than it is capable of handling and most likely about to fail. Two other conditions to observe are: 1) filaments not glowing or 2) a miniature fireworks display inside the tube. Any of the above conditions indicate serious problems with the tube and should be taken care of immediately. Tubes quite often are the cause of spurious noise in the amp. Microphonic tubes will squeal or rattle with the vibrations induced by the speaker cabinet. If suspected, tap each tube lightly with a pencil with the amp powered up—the suspect tube will many times let you know. Note that there is a normal metallic clinking when doing this, but a microphonic tube will be obviously louder.

Replacing DGT 15 tubes will not require any adjustments as both preamp and power tubes are self-biasing. It is important to refer to the tube chart below and replace any tubes with the specified tube for that location. After any power tube replacement, initially inspect them to assure there are no “cherry red” components within the tube. Bias jacks are provided to help check that the power tubes are working properly. Set your meter to milliVolts to monitor the power tubes, with +/- 35 mV being the correct approximate value depending on your tube characteristics.

NOTE! Never power up the amplifier without power tubes installed, as voltages can rise to levels that may damage internal components.

NOTE! Capacitors may retain an electric charge and can be dangerous even when the unit is off, unplugged, and has not been played for an extended period of time. USE CAUTION!!!!



DGT 15 TUBE LAYOUT

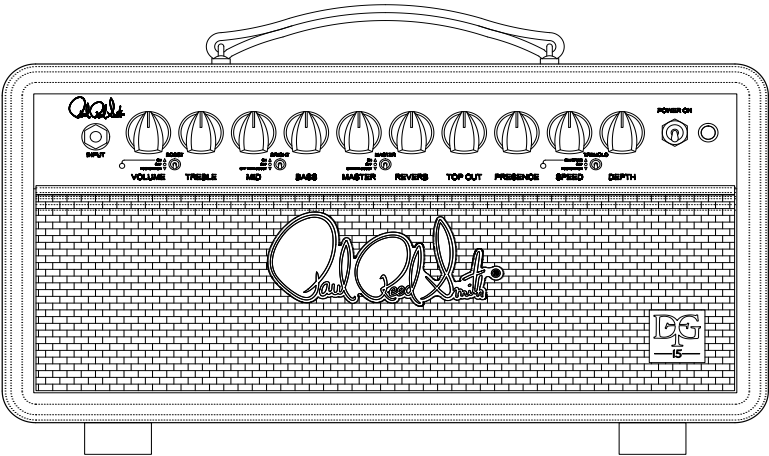
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Product Number: LIT-MAN-DGT I5 Rev. B



DGT 15
USER’S MANUAL



Using your PRS Amplifier

IMPORTANT: Before using your amplifier, refer to the IMPORTANT SAFETY INSTRUCTIONS insert supplied with the product.

Powering Up:

1. Make sure your speaker cabinet is connected to the correct amplifier's speaker output impedance jack with a high quality speaker cable. Do not use guitar cords.
2. Make sure the power cord is connected to the correct earthed (grounded) outlet.
3. Make sure there is at least 150mm (6 inches) of clearance around the amplifier to allow for proper cooling. Never place the amplifier directly against a wall or other equipment, and keep it clear of other heat sources, such as other amplifiers or stoves. Make sure there are no flammable items, such as curtains, behind the amp. Do not drape items over the amps that can prevent proper cooling. Do not set drinks or other liquids on top of the amp that can spill into the amp.
4. The amplifier is designed to be able to power up without the use of a Standby Switch. Just turn the Power Switch to the On position and let the amplifier naturally warm up. Pull the guitar cable out one click to mute the amplifier when necessary.
5. Until you become fully familiar with the amp, turn the volume and master controls down to mute the amp prior to plugging in the guitar cable or output of effects then bring the volumes up slowly to the desired loudness. This amplifier can produce loud volumes so take care with this procedure to avoid volume surprises.



This equipment is capable of very high sound volume levels. Prolonged exposure may cause hearing damage.

This equipment contains no user-serviceable parts. Refer all repairs to qualified service personnel.

Ensure that the mains plug (power cable plug) is easily accessible to allow the unit to be powered off by unplugging the power cable.

Only connect this unit to an earthed (grounded) supply socket/convenience outlet.

THIS UNIT IS CLASS 1 CONSTRUCTION AND MUST BE EARTHED (GROUNDED)!

DGT 15 Amplifier Front Panel Controls

Input: ¼" Standard Mono Guitar Cable.

Volume: Controls how much guitar signal feeds into the preamp. With the Master Volume not activated, this control simply increases the amplifier loudness going into eventual pre and power amp distortion. With the Master Volume activated, use the Volume control to generate preamp distortion at lower volume levels.

Boost: Panel switch selects On, Off, or Footswitch activated. LED indicates active status. Full-frequency preamp boost to help achieve that edge of breakup setting with increased drive and punch. Linked to the Bright and Master Volume activation switches.

Treble-Mid-Bass Controls: Classic passive tone stack circuit to control high, midrange, and low frequencies.

Bright: Panel switch selects On, Off, or Off with Boost (activated). This switch adds high end shimmer to the tones and can be set to only be on for the unboosted (cleaner) setting.

Master and Master (activation) switch: Controls the overall amplifier loudness when activated. Works with the Volume to control the amount of preamp distortion desired. The Master switch selects On, Off, or On with Boost, which allows you to switch the Master Volume in with the Boost to control gain levels between boosted and unboosted.

Reverb: Dial in the tube-driven spring reverb from subtle to surf.

Top Cut: Post-phase-inverter control to shape the high end frequencies through phase cancelling.

Presence: Manipulates power amp negative feedback to increase high frequency gain actively. Think of this as a high treble boost.

Tremolo: Power tube bias tremolo circuit.

- **Speed:** Controls the tremolo frequency, turn knob clockwise for faster effect.
- **Depth:** Controls the intensity of the tremolo effect. Take care with setting the depth control

too high when driving the power tubes into distortion as unpleasant tonal artifacts can occur.

- **Tremolo switch:** Panel switch selects On/Speed-Off or Footswitch activated. Associated front panel LED indicates tremolo on and pulses at the selected frequency.

Power On: Switch upward to power on the amplifier. The GZ34 rectifier tube will slowly warm up several seconds before providing working voltage to the audio tubes. Adjacent indicator light confirms voltage has been supplied to the amplifier circuitry.

Rear Panel Features

Power Inlet Socket: Always use the power cord specified for your country or region. Your sales outlet can provide a suitable power cord if necessary. Always disconnect the equipment from the mains/power outlet and ancillary units before moving.

Fuses: This amplifier is equipped with multiple accessible and inaccessible fuses. Replacement fuses must be of the same type and rating as indicated. Failure to comply may result in permanent damage to the product, and/or create a safety hazard. **Always disconnect the equipment from the mains supply/power outlet before replacing a fuse.**

- **Mains/Power Inlet Fuses:** These are located in a tray integral with the power input socket. There is one active and one spare in the socket tray. Fuse types and specifications required for your country/region are silkscreened and marked below the power inlet socket.
- **B+ Fuse:** The B+/H.T. fuse holder is accessible from the rear panel next to the power inlet socket. B+/H.T. fuses should only be evaluated and replaced by a qualified technician.
- **Filament Fuses:** These are located internally on the circuit board and should only be evaluated and replace by a qualified technician.

Speaker Jacks: These are the outputs/connections for your speaker cabinet(s). There are 3 total jacks to use and include two switchable 4 or 8 ohm jacks wired in parallel, and a single 16 ohm jack. Determine beforehand what your total speaker loading will be and use the appropriate jacks. For two 16 ohm cabinets in parallel (creating an 8 ohm load), plug each cabinet into one of the two parallel jacks with the ohms selector switch set to 8 ohms. For two 8 ohm cabinets (creating a 4 ohm load), do the same with the ohms selector switch set to 4 ohms. For one 4 ohm cabinet, connect to one of the parallel jacks with the selector switch set to 4 ohms. For one 8 ohm cabinet, do the same with the selector switch set to 8 ohms. For a 16 ohm cabinet, use the dedicated 16 ohm output jack. Failure to correctly match the speaker load to the appropriate output jacks can cause tube socket arcs, blown power tubes, or failure of the amp. Never "mix" impedance jacks such as using the 16 ohm jack with the 8 Ohm jack at the same time as these combine to create odd impedance values and performance.

Bias Jacks: These jacks are provided to conveniently monitor the functionality of the power tubes, which are self-biasing and cannot be adjusted. They measure the power tube current draw in **milliVolts**. Jacks identified as V5 and V6 are associated with that corresponding power tube. When metering, 1 measured mV = 1 mA of current flowing through the associated power tube. The center jack in the bias array is grounded, and receives the Common probe on your meter. Review the information on the back of this manual for guidance on replacing tubes. Tube replacement should be performed only by a qualified technician. The bias jacks can allow you to determine if either of the tubes are dead (zero bias), or if they have drifted up or down out of specification from the other tube. In these instances, an individual tube may be replaced with the same test rating numbers as the original tubes and conveniently verified using the bias jacks and a meter when installed. Ideally, it is suggested to replace both tubes with a matched set if one tube fails.

Footswitch Jack: 5-pin DIN female jack. Only use provided PRS FS3B5D-DGT 15 footswitch. Footswitch controls Boost, Reverb, and Tremolo.

Safety Symbols: The following symbols mean:



Warning: read instructions to understand possible hazard



Danger: electrical shock hazard



Warning: This equipment is capable of very high sound pressure levels. Prolonged exposure may cause hearing damage.