

## Fender twin reverb tube chart

The Twin Reverb is considered the king of Fender blackface amps due to its exceptional clean headroom and volume, making it ideal for unmiked gigs and big stages. The amp features a two-channel AB763 circuit design, diode rectifier, and large transformers, allowing it to maintain clarity even with heavy drummers and bass players. However, the Twin's weight and volume limitations can be drawbacks. The vintage amp's speaker condition varies greatly, and we've even encountered poor Jensens. For players who are also collectors, reconing the speakers can make a significant difference in tone if you're not satisfied with it. You might be surprised by how much better your vintage speakers sound after recone. When choosing speakers, consider your needs for volume. If you plan to play at moderate volumes without extreme loudness, avoid powerful speakers like EVM12L or Jensen C12N/K. Instead, opt for less efficient, "vintage" type speakers with a dark frequency response, which can smooth out tube distortion. For clean tone, seek neutral and transparent speakers. A clever trick is to pair vintage and more powerful speakers together. We sometimes get excited and use big speakers like EVM12L or Eminence Swamp Thang on our Twin and Pro Reverb. However, be aware of the weight - a Twin Reverb with heavy speakers can weigh around 40kgs. When choosing between high and low efficient speakers, remember that the TR can produce loud volumes and interfere with bass guitar tones. To reduce volume and earlier breakup, try disabling one speaker. This will also push your tubes harder since they see an 8 ohm load instead of 4 ohm through the output transformer. Check this video to hear a 1969 AB763 Twin Reverb loaded with 2×12" WGS G12c (video on Youtube). For general speaker recommendations, see page How to select speakers. Half power mod - Remove two 6L6 and disconnect one speaker. You can also disable the second speaker for an impedance mismatch. The Twin reverb's output transformer is designed for the following impedances/loads: 4 x 6L6 -> 4 ohm speaker load, or 2 x 6L6 -> 8 ohm speaker load. When using two tubes less, rebias your amp to avoid overloading the remaining tubes. The power calculation remains the same with four or two 6L6 tubes: Power (Watts) = Current (Amperes) x Voltage (Volts). This mod is essential knowledge for all Twin owners. Using 12AY7 or 12AT7 preamp tubes can reduce preamp gain and provide a cleaner, spankier distortion characteristic. When this mod is done, people describe the tubes as having less harsh and buzzy distortion. It doesn't significantly alter the tone when played clean or only distortion characteristic. similar volume as before. This is because the 12AX7 tube has a voltage gain factor of 100, while the 12AY7 is 45. Pulling out the V1 normal channel preamp gain in the vibrato channel, as it's easier to pull out the V1 tube instead of the V2 one. All AB763-similar circuits share a cathode cap and resistor, so pulling one tube will change the effective value for the other channel, making its tube hotter biased and offering more gain. The amp will play louder with the same volume knob setting, and the stronger signal will push the second gain stage harder, giving increased sustain, compression, and harmonics. This mod doesn't change the clean headroom but increases preamp gain and distortion. The vibrato channel's reverb control can be made easier to handle with a simple mod. This trick is useful for those who want more flexibility in their reverb settings. To implement it, plug your guitar into the vibrato channel and then unplug the reverb return cable from the back of the amp and connect it to the normal channel input. You'll need an adapter to go from phono/RCA jack to 1/4" male jack. After that, you can use the normal channel as a reverb control where you can adjust depth and tone using volume, bright switch, treble, and bass knobs. The reverb knob on the vibrato channel will no longer have any effect. Another mod is the Tremolo Disconnect mod, which increases preamp gain in the vibrato channel. It's also popular among users of AB763-similar circuits, such as Super, Twin, Vibroverb, Pro Reverb, Deluxe, and Vibrolux amps. To disconnect the tremolo circuit from the signal path, you need to replace the tremolo circuit when it's turned off. However, keep in mind that this mod has some side effects: there may be a noticeable click and volume difference between tremolo on and off. A new SPST pot set at intensity=0 can help to raise the amp's clean headroom but will make the tone richer, fuller, and more powerful with stronger mids that push the power amp section harder. The chassis requires a new pot to be installed, which will replace the previous black plastic wheel. This new 50k SPST pot offers both switchable and variable resistance between 0-50 KOhm. At level 0, it completely disconnects the tremolo circuit. Please refer to the wiring diagram below for further details. For permanent disconnection of the tremolo circuit, simply clip off the brown and yellow wires and insulate their ends with tape. The blackfacing process involves using either the spst switch/pot or the tremolo. However, this may result in a significant click sound and volume increase. As an alternative, you can replace the intensity pot with an SPST, allowing for both options without any drawbacks. For AC568 vs AB763, the key differences lie in the changes marked with red circles in the diagram below. These modifications include changes to the bias electrolytic cap, voltage divider resistors, and cathode caps on 6L6 tubes, which aim to eliminate distortion and improve tone. Additionally, phase inverter plate resistors were changed from 82K/100K to 47K/47K, and the 470 Kohm resistor was replaced with 220 K. The negative feedback loop (NFB) is to clean up tone and cancel out mid/higher frequencies and upper harmonics at the entry point of the phase inverter. Disconnecting the NFB loop results in increased volume, a more aggressive tone, and white noise. However, this also reduces the amp's clean headroom slightly, making it essential to find the sweet spot at a lower volume knob setting without NFB. For those seeking a tone with more bite that cuts through the mix, this mod is ideal. It allows for various implementation methods, including using the ground switch or a foot pedal, which functions like a boost/FAT pedal. By disconnecting the feedback loop, you can achieve a wilder and more pronounced Fender tone without negative feedback. To do this, simply insulate the wire and disconnect it. However, you may experience harsh tones depending on your guitar, speakers, and EQ settings. To mitigate this, you can keep the feedback loop and install a 0.01 µF cap in series with the NBF resistor, which prevents lower and mid frequencies from passing through the loop. Experimenting with different cap values is recommended, starting with 0.01µF. Another option is to increase the feedback loop resistance value, with a good starting point being twice the original resistor value. This reduces the effect of the feedback loop, making the amp break up more when the NFB is engaged. You can also make the NBF switchable using the ground switch or foot pedal, and minimize volume differences by using a high resistor value and a 0.01 µF cap. Additionally, you can install a multiple and flexible speaker output impedances mod, which requires replacing the transformer in your amp and provides desirable flexibility when combining built-in speakers with an extension cabinet. This mod allows for optimal conditions in terms of clean headroom potential and frequency response. To achieve the amp's optimal tone at lower volumes, an OT (output transformer) attenuator can be installed. This modification reduces both headroom and clean volume but maintains a similar tone, with some potential loss of clarity. The recommended output impedance configurations vary depending on the speaker configuration: 4 ohm + 2 ohm for 2×12" @ 8 ohm and 8 ohm + 4 ohm for 1×12" @ 8 ohm. The Twin Reverb multi-tap OT can be ordered from Mercury Magnetics, allowing for adjustable output impedances between 2, 4, and 8 ohms.

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