

# TUBE WORKS

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## ProValve 100

50+50 Watt Stereo Tube Power Amp

## OWNER'S MANUAL

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Congratulations for purchasing the most innovative guitar and musical instrument tube power amplifier on the market. Not just a copy of the old 1950's technology, this amplifier employs B.K. Butler's innovative approaches to traditional tube tonality. Offering a fundamental improvement in reliability as well as dual power attenuators, this amplifier is not just another entry into the tube amp product category.

You get all this along with our unique balance transformer-driven twin 6L6 tube power amplifier section for unparalleled tonality in a medium-priced rig. Rated at a full 60 Watts, this new amp will deliver plenty of fat sustain and volume. With the convenient Impedance Selector switch, you will not find many tube amps that can compete with this amp no matter how high the price!

## BACKGROUND & DESIGN VIEWS

Commentary by B.K. Butler

I wanted to make an improvement over what the market has come to accept as the standard “Fender-type” power amp design for my new Tube Works model 4250 Tube Power amp. This old “Fender” design has been around for a long time, and though not bad, I felt there was significant room for improvement.

My first improvement was the elimination of the troublesome tube phase splitter (or inverter) which consists of a good number of parts and one (typically) 12AT7 tube per channel. In addition to this is required an additional preamp tube (usually a 12AX7) and associated additional high-voltage capacitors and resistors.

As most musicians know, a lot of tube power amp saturation and tonality comes from the characteristics inherent in the output transformer. However, high power tube amps suffer from the problem of the fact that they are simply too loud to practically utilize output transformer saturation characteristics in all but large performance venues. The only solution (up to now) has been that either the designer provides a low power switch (one setting which really is not the same as output saturation tonality), or the performer must use a potentially amp-frying “power attenuator”.

In order to hit several birds with one stone as it were, I mulled over the various design concepts I could make. I could imagine several designs would solve the typical problems of over-complexity of the old designs. But my approach also had to fulfill the need musicians have for variable power output and transfer saturation capability.

My solution is as follows: I employed a proprietary, original design idea in this amplifier. Each channel has an intermediate high-quality driver transformer which functions as an amplifier, phase splitter, plus a safe and variable saturation source. The use of this new design results in the elimination of the three preamp tubes (and their related problems with microphonics, matching, aging, noise, loose sockets, etc.), as well as a number of problem, noise-prone high-voltage coupling capacitors and resistors. This was not a cost cutting measure. The custom designed and manufactured driver transformers are anything but cheap! It is however the best overall solution to what I felt were the overwhelming shortcomings of most of the tube power amps available from other sources.

I'm confident that your ears will hear the superior performance mine do from this amplifier. I can assure you personally that I have put all of my experience and tenacity into this new design.

## PROVAVLE 100 OPERATION NOTES

1. Never, never operate this or any other tube amplifier without a speaker connected to it! An open or “no load” condition on output transformers can lead to internal damage.
2. Never use shielded speaker cables. Use only non-shielded, 18 gauge or larger speaker cables.
3. Use speakers capable of at least 80 watts RMS (although this amp is rated at 50 watts per channel, typical overdrive conditions require higher wattage speakers). **MANUFACTURER IS NOT RESPONSIBLE FOR ANY SPEAKER FAILURE WHILE USING THIS EQUIPMENT.**
4. For maximum output volume, use proper impedance. A single 8 ohm speaker or cabinet should be plugged into the 8 ohm jack. If you use two 8 ohm cabinets on a channel, plug each of them into a 4 ohm jack (two 8 ohm speakers paralleled equal 4 ohms). Of course, a single 4 ohm load should be plugged into one of the 4 ohm jacks. A 16 ohm speaker should be plugged into the 8 ohm jack. Mismatched speaker loads will generally not damage either the amp or your speakers, but will affect maximum output power and acoustic volume.
5. It is not possible to power bridge this amplifier. Neither is an input bridging switch provided. This was done to ensure that the potential of one channel being operated without a speaker load would be eliminated. For mono (200 watts with two speaker cabinets) it is necessary to purchase a “Y” input converter cord. Be sure to have a speaker plugged into each channel.
6. Provide adequate ventilation. Although a cooling fan for the power tubes is provided, take care to allow as much air flow as possible.

## PROVALVE 100 SPECS

Output Power	50 watts RMS per channel, 8 or 4 ohms
S/N Ratio	Better than 85 dB at 4 ohms
Hum & Noise	-60 dB at 4 ohms, nominal
Sensitivity	(For rated output): 850 MV
Input Impedance	50 K ohms
Presence Control	+/- 6 dB at 10 KHZ
Tube Complement	6L6GC (x 4)
Tube Cooling	Constant-turbulence fan
Power Attenuation	Continuously variable from 10:1
Size	3 1/2"H x 19"W x 11 1/2"D (D = Behind front panel) (Standard 2-space rackmount format)
Weight	25 lbs.

## WARRANTY

Your TUBE WORKS product is warranted for a period of one year against defects to the original, registered owner provided he/she has returned a completely filled-out warranty registration card.

This warranty covers parts and labor only; shipping charges remain the sole responsibility of the owner.

Damage due to modification or abuse is excluded from this warranty.

If service is required, you must contact Genz Benz Enclosures/Tube Works for a **RETURN MERCHANDISE AUTHORIZATION NUMBER (RMA)** by calling 480-941-0705. Whenever possible please use original packaging material for all returns, this will insure that the units are not further damaged in transit.