



THE PERCOLATOR

Owner's Manual

2 WATT TUBE AMPLIFIER



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INTRODUCTION	3
SOME HISTORY	3
TAKING CARE OF YOUR AMP	4
A BIT ABOUT TUBES	4
SYSTEM BLOCK DIAGRAM.....	5
TECHNICAL SPECIFICATIONS.....	5

INTRODUCTION

Congratulations! You are now the proud owner of The Percolator amplifier from Zeppelin Design Labs. The Percolator has been designed for electric guitar, cigar box guitar and harmonica. Intended to be used in a variety of situations from a bedroom practice amp, to a small stage gigging amp, to a small studio amplifier, the Percolator should give you a lifetime of great tone. With only 2 watts at full volume, the Percolator offers some serious cranked up tone at bedroom levels. Unlike any other production guitar amp, it has an all-tube signal path and uses only one (NOS) Compactron tube. The single volume knob allows for warm, rich, clear tones at lower levels and aggressive, overdriven tones at higher levels — all at a moderate volume.

Like all ZDL products, the Percolator was designed by musicians and audio enthusiasts, using only the best components. Each amplifier is hand-built right here in our lab by the owners of the company, giving each one it's unique character. All of our products are thoroughly tested and inspected to make sure they meet our requirements before they are sent out to the customer. We make sure that each amplifier is the best it can be before you play it! We'd love to hear your feedback about any of our products. Send an email, or post on the ZDL forum.

In order to get the most out of your Percolator, please read this manual before you begin rocking out.

SOME HISTORY...

The Percolator was designed around a single tube developed by GE in the early 1960's under the brand name "Compactron." Compactron tubes have multiple amplifier sections in one bottle. The tube in the Percolator has two triodes and one sharp cut-off pentode. That's the same topology as the Fender Champ, but in one bottle! This tube was never intended to be used in an audio circuit (it was originally designed for use in various parts of a TV circuit), but it works and sounds great in a guitar amplifier. Since this tube is rarely, if ever, seen in guitar amps, it offers a rather unique tone.

Compactrons were developed in a time of fast technological growth. In the early 1960's transistors were becoming more stable and practical for use in more demanding circuits. They also were much smaller and didn't require as much power (via heating filaments). The tube market was being challenged and threatened by this new solid state competitor. The GE corporation (which was one of, if not the most prolific tube developers in the world at the time) was well invested in their miniature tube line and wasn't too interested in making the transition to transistor development. So to compete with transistors and give tubes a few more years in the market, the engineers at GE developed the Compactron that could take the place of several tubes with just one bottle. It was the tube equivalent to the integrated circuit. They were mostly designed for use in the color TV market, but some of them did find their way into radios and hifi amps. Ampeg even used a Compactron in some of their preamp circuits. GE made a big push to promote and use these tubes in their products, but eventually transistors did win the technology battle and tubes were altogether replaced in televisions, leaving large stockpiles of unused Compactrons in warehouses. The last Compactrons were made in the early 1990's and are still readily available today as "new old stock" (NOS) items. The Percolator, with its single Compactron tube, gives us a chance to re-purpose a piece of tube history, while offering unique tonality in this modern market.

TAKING CARE OF YOUR AMP

To get the most out of your amp and decades of great tone there are several things to keep in mind when using it. Most importantly, never turn it on with out an **8 ohm** speaker load plugged into the output jack! The Percolator was designed specifically to be used with the Zeppelin Design Labs 1x8 speaker cabinet (also available in kit form), but you can use any speaker cabinet or combination of speakers you'd like, as long as the sum of the output impedance is 8 ohms. You also need to make sure that you are using a good quality, 1/4" speaker cable – not instrument cable! If you don't know the difference, go talk to the guy at your local pro sound or guitar shop. If you buy a Zeppelin Design Labs 1x8 Speaker Cabinet kit, you will learn how to MAKE a quality speaker cable!

It is also important to be mindful of the line voltage (from the wall outlet) that you are subjecting your amp to. The Percolator was designed to use 118VAC (230VAC for the international version) from the wall outlet. If your outlet has less voltage than that across its terminals, then the amp will not be as loud as it should be. On the other hand, electronics in general, and tube amplifiers specifically hate voltage surges. It is true that tube amps are fairly robust electrically, but they also have a step-up transformer that multiplies the voltage from the wall to something much higher, and voltage spikes are multiplied by that ratio too. During these voltage spike situations, it is common for tube amplifiers to experience arcing in the secondary of the power transformer and also in the tubes. The fuse will protect your amp most of the time, but sometimes the transients are much quicker than the reaction time of the fuse. Therefore, it's a good idea to use some sort of surge protector to protect your amp from these transients.

If your amp has been sitting in a cold environment for a while, then let it warm up to room temperature before turning it on. The heat generated by the filaments inside the tube is enough to crack a cold glass enclosure.

Use common sense with your Percolator. Never touch the tube when it's on (it gets quite hot). Never get the amp wet. Never use with an ungrounded IEC cable. Do not use with the wrong value of fuse. Heed all warnings. Follow all instructions. Rock out. Have fun.

Note there is a serial number sticker on the chassis. Reference this serial number when and if you ever need to contact us for assistance.

A BIT ABOUT TUBES

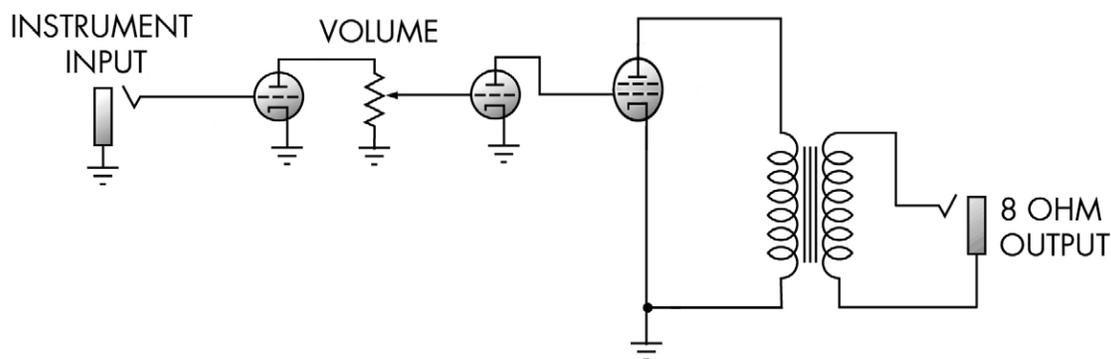
Tubes are made of several fragile mechanical components closely spaced in a vacuum sealed glass enclosure. There are several factors affecting the tube's longevity, which include how hard the tube is pushed and how often the tube is used. In the case of a tube guitar amplifier, vibration from the speakers, traveling on the road, and setup and tear down all have a negative effect on the longevity of the tube. Any time you hear a change in the amp's performance the tube should be the first thing you check. If your amplifier loses power, fades in and out, loses dynamic or tonal range, or makes unusual sounds or excess noise, you should look into replacing the tube.

To remove the tube, gently rock the tube back and forth while slightly lifting. Put a tube into the socket in just the opposite way. In working with new tubes, first check to make sure all the pins on the tube

are straight (sometimes they come from the factory with slightly bent pins). If any pins are bent very gently straighten them with some needle nose pliers until the tube fits into the socket. Be patient and take your time in doing this; you can easily break the glass enclosure if you are not careful!

The tube used in the Perculator is what is known as a “new old stock” item, meaning that they are still available new, but are no longer being made. This particular tube was last made in the early 1990’s and is still quite easy to find, mostly because there is very little demand for this model of tube. The tube was originally used in tube televisions but there are very few of those still around! This was one of the main reasons we decided to design the Perculator around this tube: they are easy to find, but unusual in instrument amplifiers, creating a unique tone. When the time comes to replace the tube in your amp, it should not be hard to find a supplier. We here at Zeppelin Design Labs would be happy to sell you a replacement, but you can also check the standard NOS tube dealers around the web, and even places like Ebay. While you are at it, you might want to pick up a backup tube for the future.

SYSTEM BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

Output Power	2Wrms into an 8ohm load
Input Impedance	~1M ohm
Gain	~32dB
Tube	6AF11
Power Requirements	120VAC/60Hz or 230VAC/50Hz, 12W
Size (HxWxD)	8-3/16" x 9-1/8" x 4-9/16"
Weight	5.6 lbs
Wood	Solid Poplar
Finish	Dark walnut stain, with satin polyurethane top coat
Edge Detail	3/16" radius roundover
Grill Cloth	Black/Silver/Beige

