



THE PERCOLATOR 2 WATT TUBE AMPLIFIER – ELECTRONICS ONLY

Addendum to the Instruction Manual

This document is for those who purchased a Percolator 2W Tube Amp– Electronics Only, either ready-to-play or in kit form. It contains a revised Bill of Materials for the kit builders, and some notes on how to install the amp into your own cabinet, including a drilling template. Kit builders: For all other assembly instructions and safety warnings, be sure to download the [Percolator Assembly Instructions](#). If the hyperlink does not work for you:

- ◆ Go to www.zeppelindesignlabs.com;
- ◆ find the Percolator product page;
- ◆ click on the Documentation tab;
- ◆ and download the Percolator Assembly Instructions.

WHAT'S IN THE BOX

Table 1: Percolator Bill Of Materials (BOM) is a complete parts list of everything that should be present in your kit. Photos of each part appear in the main Instruction Manual. Print the BOM and carefully go through the kit, identifying every part. Note that some of

the components are difficult to tell apart. Compare them carefully with the photos. Besides verifying that nothing is missing, this will acquaint you with the parts and their names. If ANYTHING is missing, first double-check: we double-checked before sealing the box at our lab! If it's still missing, EMAIL US right away at support@zeppelindesignlabs.com. Include your serial number (given via a sticker on the chassis) in your email. If we are reasonably convinced that we goofed and shorted your kit, we will get replacement parts in the mail to you as soon as possible. If you lose or damage anything, we will be glad to sell you replacements if we are able. The unusual or custom components can be ordered directly from us (contact support@zeppelindesignlabs.com). For more common parts, like resistors, caps, or screws, you may just want to go to a local electronics or hardware store.

TIP: Empty the parts of the kit onto a cookie sheet or into a big fruit bowl, NOT onto the cluttered workbench, or onto the living room carpet! This will protect you from losing tiny parts.

Table 1: Percolator Bill Of Materials

Loose in the box:			
Part #	Description	Notes	Qty
CB-10-01	Power Cable	IEC	1
CH-10-22	Chassis Top w/Nut Inserts		1
CH-10-23	Chassis Base Plate w/Nut Inserts		1
PC-03-01	PCB	Printed Circuit Board	1
PL-10-03	Percolator Face Label		1
J3	Power Receptacle w/ Fuse		1
T1	Power Transformer	120V Primary	1
T2	Output Transformer	4W	1
V1	Vacuum Tube	NOS Compactron	1
In the Components bag:			
Part #	Description	Notes	Qty
CB-01-29	10" (25cm) (total length) Hookup Wire 20/1	One or more pieces	1
CB-01-28	10.5cm twisted pair Hookup Wire 20/1	Heater voltage	1
C9, C10, C11	Electrolytic Capacitor 100uF/250V		3
C2, C5, C8, C12	Electrolytic Capacitor 100uF/16V		4
C1, C3, C6	Film Capacitor 0.022uF/250V		3
C4, C7	Ceramic Disc Capacitor 470pF/50V		2
BR1, BR2	Bridge Rectifier 2A/1000V		2
F1	Fuse 1A 250V		1
J1	¼" Stereo Jack (w/ plastic nut)	Input (Plastic barrel)	1
J2	¼" Mono Jack (w/ metal nut and washer)	Output (Metal barrel)	1
HD-32-03	Knob		1
D1	Red LED 5mm		1
VR1	Potentiometer 100KA		1
R1, R6, R11	Resistor 22K	Red, Red, Orange, Gold	3
R5, R9, R10	Resistor 220K	Red, Red, Yellow, Gold	3
R3, R8	Resistor 47K	Yellow, Violet, Orange, Gold	2
R4	Resistor 820R	Gray, Red, Brown, Gold	1
R7, R14, R17	Resistor 1.5K (or 1K5)	Brown, Green, Red, Gold	3
R16	Resistor 4.7K (or 4K7)	Yellow, Violet, Red, Gold	1
R2	Resistor 1M	Brown, Black, Green, Gold	1
R15, R12	Metal Film Resistor 120R 1%	Brown, Red, Black, Black, Brown	2
R13	Metal Film Resistor 2.2K (or 2K2) 1%	Red, Red, Black, Brown, Brown	1
HD-70-35	Panel Mount LED Bezel		1
HD-70-42	12 Pin Tube Socket		1
S1	SPDT Toggle Switch	PCB Mount	1

In the Hardware bag:			
Part #	Description	Notes	Qty
HD-50-01	Solder Lug		1
CH-10-25	Isolation Fin		2
HD-20-02	Rubber Grommet		4
FA-22-21	Keys Lock Nut M3	Grounding Lug	1
FA-60-37	Philips Machine Screw – Pan head M3x6	PCB and Grounding Lug	13
FA-60-36	Philips Machine Screw - Pan head #6x1"	Mount to Cabinet	4
FA-60-32	Philips Machine Screw - Pan head #6x1/4"	Transformers, fins, chassis	12
ST-10-23	Nylon Hex Standoff M3x12		6



INSTALLING INTO YOUR OWN CABINET

You can easily install the Percolator into almost anything with the proper fastener. We have supplied the #6x1" machine screws for mounting the amp to a box made of $\frac{3}{4}$ " (19mm) thick wood, from outside the box. To mount to thinner materials (a cigar box, a metal box, an apple crate, an acrylic plate, etc), you'll have to obtain the appropriate screws yourself ([see the warning about screw length](#)). In some cases, you may consider mounting the Percolator to something from inside the amp. In which case you'll need to drill your own holes in the amp chassis base with appropriate spacing for your project. Do not attempt any installation without first removing power from the amp (unplug it from the wall) and reading all the documentation!

1. Install To a Wood Cabinet from Outside the Box

If you just want to set the amp inside a wood box and mount it from the outside, this is the same procedure we use for the Percolator's own stock cabinet. You can study the manual and assembly videos to see how this is done. Here is the basic procedure:

1. Use the provided template to lay out the mounting holes on the bottom of your cabinet. See "Assembling the Box" step 3, page 44 of the Percolator Instruction Manual. Position the template, drill 9/64" holes through your cabinet.
2. Place the completed kit, over the holes. Hold it firmly in place with one hand and run a pan head #6x1" machine metal screw (part # FA-60-36) through one of the holes and into the chassis bottom. Use a #2 Philips screwdriver, NOT a screw gun. See "Installing The Amp", page 67. Continue to the other three 1" screws. That's it!

WARNING: Using a screw that penetrates more than 1/4" (6 mm) into the interior of the amplifier could interfere with the components (particularly the big electrolytic capacitors), possibly damaging or destroying the amplifier and potentially exposing you and others to the risk of high voltage electric shock! **Do not use the 1" screws if your cabinet material is less than 11/16" (17 mm) thick! NEVER USE A SCREW THAT PENETRATES MORE THAN 1/4" (6 mm) INTO THE INTERIOR OF THE AMPLIFIER!** If you are in doubt of how much the screws are penetrating into the chassis, you can always remove the chassis base and only install it onto your cabinet allowing you to measure the screw depth; it needs to be less than 1/4". Remember to measure from the inside of the sheet metal, not from the top of the threaded insert surrounding the screw.

2. Install To A Wood Cabinet From Inside The Amp

If you want to hide the mounting screws, you may be able to install the amp from the inside. Typically this would require drilling your own mounting holes into the base of the chassis, and selecting the correct fastener for the job. Alternatively, you may be able to use the #6 machine screws by running them through the threaded inserts in the chassis base from the inside. You would need to use nuts and washers on the outside of the material to hold amp securely. Alternatively, you could use T-nuts on the outside of your cabinet to hold the machine screws.

Before you try this method please make sure there is enough space inside your cabinet for your tools, and enough vertical clearance to seat the amp down over the Chassis Base Plate. Try a dry run of the whole process before committing yourself.

DANGER: The amplifier contains capacitors which hold a charge of high-voltage electricity for a LONG TIME after the amp is unplugged. If you touch anything inside the amp, you could receive an electric shock! Wait several hours, or overnight, after turning off the amp before you open the chassis!

3. Mounting To Thinner Materials

As mentioned above, if you want to mount to something other than $\frac{3}{4}$ " wood, you will need to run to the hardware store and get different screws, or nuts and bolts.

Mounting From Below: The threaded inserts in the chassis bottom are sized to receive a #6-32 machine metal screw. Use the template to lay out and drill $\frac{9}{64}$ " pilot holes in the cabinet material. Choose a screw head type appropriate to the material. Thin or brittle materials, such as acrylic or a fruit crate, may need a pan-head screw with a flat washer or a fender washer to spread the stress over more surface area. Countersink or counterbore the pilot holes if appropriate. *Choose the length of the screw carefully!*

If you are in doubt of how much the screws are penetrating into the chassis, you can always remove the chassis base and only install it onto your cabinet allowing you to measure the screw depth; it needs to be less than $\frac{1}{4}$ ". Remember to measure from the inside of the sheet metal, not from the top of the threaded insert surrounding the screw.

WARNING: Using a screw that penetrates more than $\frac{1}{4}$ " into the interior of the amplifier could interfere with the components, possibly damaging or destroying the amplifier and potentially exposing you and others to the risk of electric shock! **Do not use the 1" screws if your cabinet material is less than $\frac{11}{16}$ " (17 mm) thick! NEVER USE A SCREW THAT PENETRATES MORE THAN $\frac{1}{4}$ " (6 mm) INTO THE INTERIOR OF THE AMPLIFIER!**