

# *D Gillespie Designs*

## **PC-10A Amplifier Board**



## **Installation Guide**

The PC-10A eyelet and mounting hole locations are consistent with the original Dynaco PC-10 circuit board. Installing the PC-10A is exactly the same as the original PC-10 with one minor exception, that being the replacement of a jumper wire on the bottom side of the board with a 10K resistor.

It is assumed that you will have a copy of the original Dynaco SCA-35 assembly manual to refer to when installing the PC-10A. If you require a manual, a free copy may be downloaded from: [www.tubes4hifi.com](http://www.tubes4hifi.com).

**VERY IMPORTANT**

It is very important to keep in mind that the PC-10A board is NOT compatible with the original 7199 tube. The pin connections are different. You must use either a 6GH8A or 6U8A.



**HIGH VOLTAGE WARNING**

Vacuum tube amplifiers contain lethal voltages. Make sure the power cord is disconnected before installing the PC-10A boards. Wait 30 minutes before removing the top and bottom cover to allow the voltage on the power supply capacitors to bleed off.

**Installation Notes:**

You will be referring to the original assembly manual for the installation of the PC-10A boards. The most difficult part of the process will be removing the existing PC-10 boards, especially unsoldering the wires from the original output tube sockets. In particular, care must be taken when unsoldering the wires going to the output transformers. Often the original builder will have left little or no extra length to allow you to just cut the wires off. To avoid unsightly and messy splicing these wires must be carefully unsoldered to preserve the length.

**Important:**

If your SCA-35 has been previously upgraded with the EFB capacitor board, refer to the notes and diagrams in the EFB installation manual for installation of the PC-10A boards.

**Useful Tools:**

Desolder wick/braid and a vacuum desoldering pump are indispensable items when attempting to remove solder from existing connections. They are inexpensive and available from suppliers such as DigiKey.



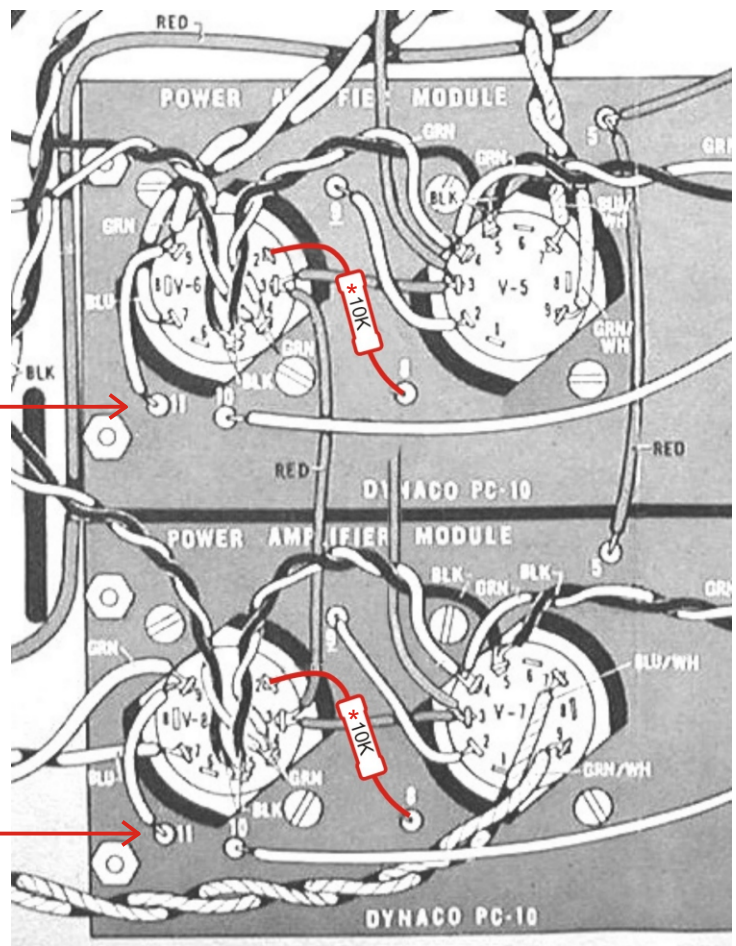
## Installing the PC-10A Boards:

### Note:

If your SCA-35 incorporates the EFB capacitor board you must also follow the PC-10A wiring notes in the EFB installation manual. There are differences in the wiring of the output tube sockets when EFB is employed. It is advisable to read through the EFB installation manual before wiring the PC-10A output tube sockets to prevent re-doing some of your work.

When installing the PC-10A boards, follow the steps in the original assembly manual (available at [www.tubes4hifi.com](http://www.tubes4hifi.com)) with the exception of steps 32 and 34. Instead substitute the following.

- 32( ) Connect one end of a \*10K 1/2W resistor to pin #2 of V-8 of the front PC-10A (S). Connect the other end to eyelet #8 (S).
- 34( ) Connect one end of a \*10K 1/2W resistor to pin #2 of V-8 of the rear PC-10A (S). Connect the other end to eyelet #8 (S).



### !Note:

When installing the PC-10A's make sure that none of the mounting screw hardware touches eyelet 11, on both top and bottom sides.

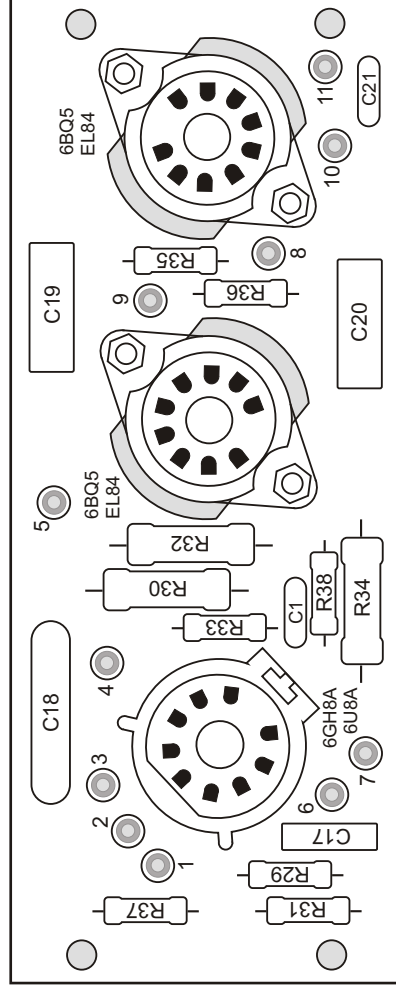
Pictorial for assembly steps 32 & 34

**\*10K resistors - why are these necessary?**

While, in many amplifiers, a 6GH8A or 6U8A will perform well as a replacement for the 7199, this is not always the case with the SCA-35. The bias and feedback circuit is somewhat unique, and specifically suited to "original" 7199 tubes. The 10K resistors are installed in place of jumper wires on the bottom side of the PC-10A. These are necessary because the 6GH8A or 6U8A are not exact replacements for the original 7199. The resistors will prevent instability issues which may occur as the amplifier is just driven into clipping. As well, additional phase shift components are included on the PC-10A to prevent spurious oscillations which may otherwise appear in some cases when using a 6GH8A or 6U8A.

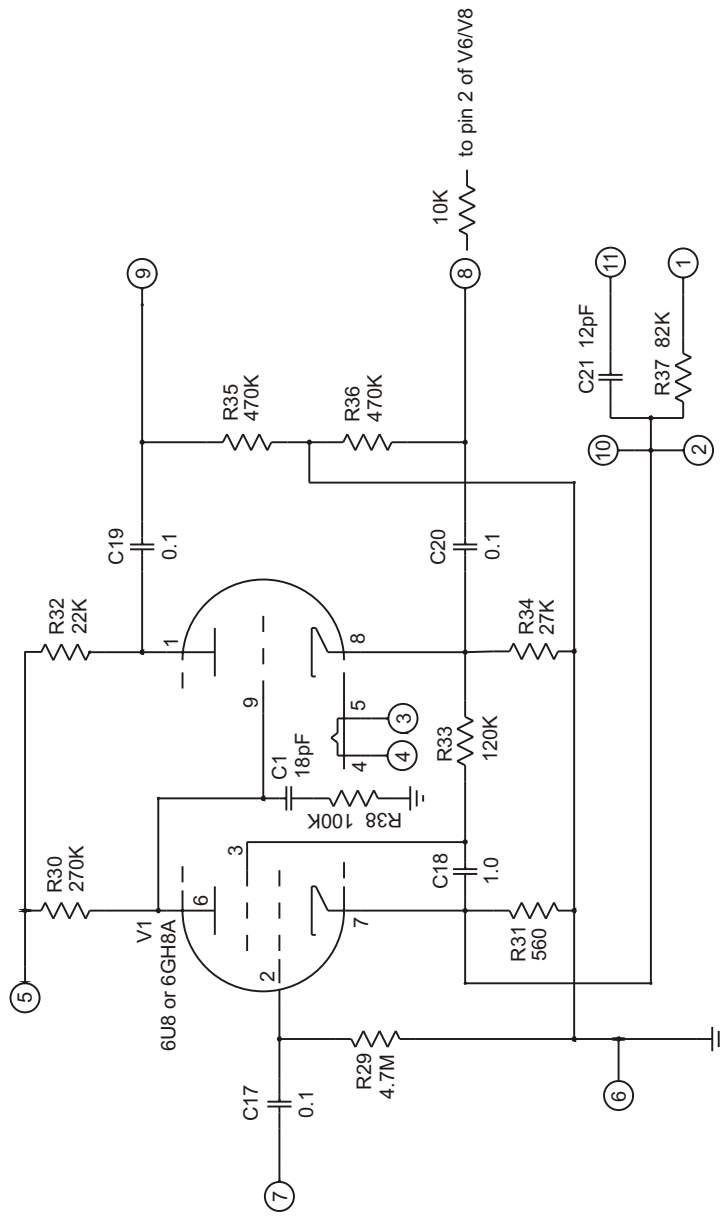
### PC-10A Components

C1	18pF	500V	1/2W
C17	0.1 uF	100V	1W
C18	1.0uF	250V	1/2W
C19	0.1uF	630V	1W
C20	0.1uF	630V	1W
C21	12 pF	500V	1/2W
R29	4.7 megohms		1/2W
R30	270,000 ohms		1W
R31	560 ohms		1/2W
R32	22,000 ohms		1W
R33	120,000 ohms		1/2W
R34	27,000 ohms		1W
R35	470,000 ohms		1/2W
R36	470,000 ohms		1/2W
R37	82,000 ohms		1/2W
R38	100,000 ohms		1/2W



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PC-10A Assembly



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PC-10A Schematic