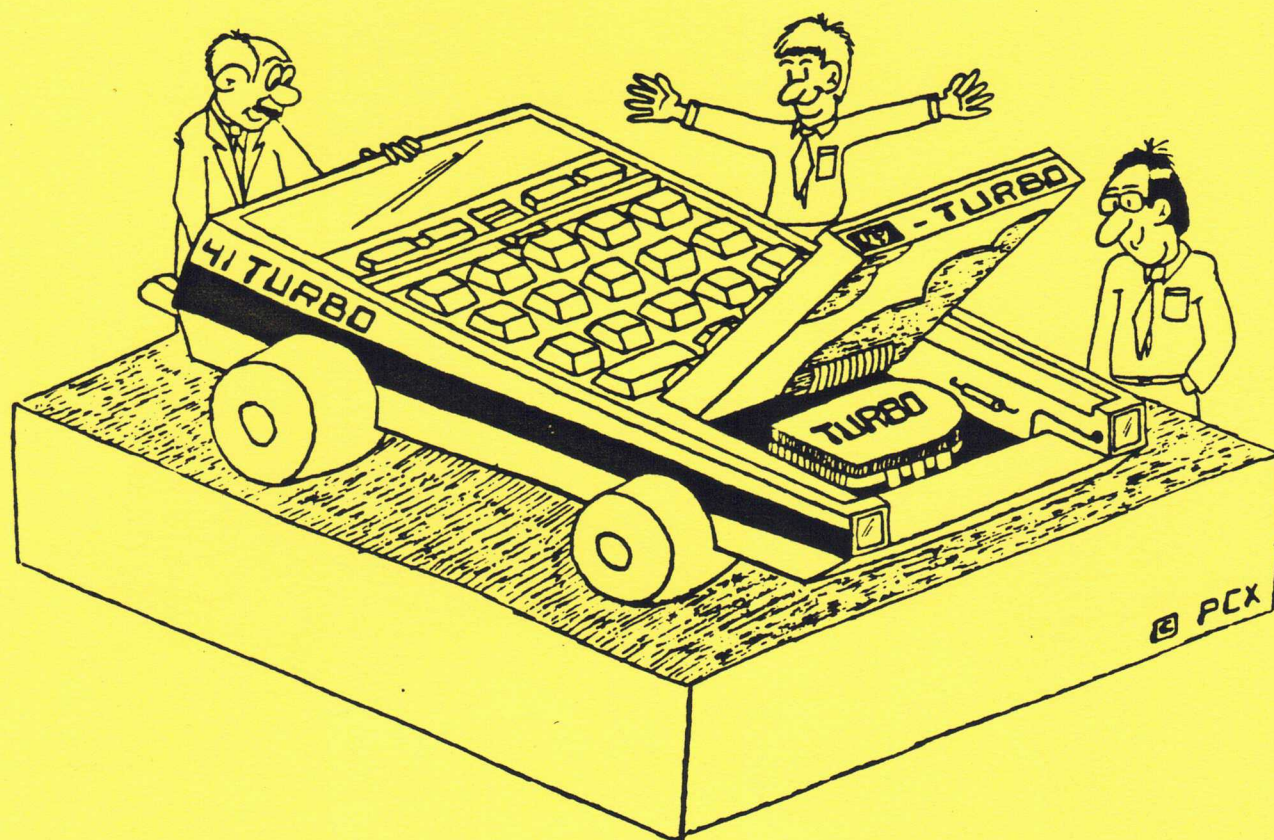


41 Turbo-2

A Real Turbo



PETSS

41 Turbo-2

***Keyboard
Controlled
Speed-Up***

***for the
HP-41C, V & X***

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41 Turbo-2

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41 Turbo-2 Keyboard Controlled Speed-Up

** The '41 Turbo-2' is a hardware modification for the HP-41 calculator. This modification makes it possible to change the execution speed of the calculator with simple keyboard commands. The '41 Turbo-2' itself is a small PC-Board with some SMD-Electronics on it.

** Specifications of the '41 Turbo-2' modification :

- NO mechanical (damage to the 41) modification needed.
- Always a power-up with the high speed selected. This is the most efficient way to use your HP-41.
- Switches to low-speed (this WAS the normal HP-41 speed) by pressing the '*' and '-' keys simultaneously.
- Switches back to high speed by pressing any key and the 'ON' key simultaneously.
- May be switched from high to low (or vice versa) while running a program, displaying a catalog or anything else without having a lockup of the HP-41.
- Can be easily removed if your HP-41 has to be shipped to Hewlett-Packard for repair or maintenance.
- The electronic part of the '41 Turbo-2' does not consume any power if the HP-41 is off (sleep mode).
- It needs a current of less than 1 μ A if the HP-41 is on or running a program. The current is 15 μ A while pressing an key, this can be ignored compared to the 7 à 9 mA running-current of HP-41 itself.

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41 Turbo-2

- You also get a new frontlabel for your HP-41.
- The board is delivered with a full explanation on how to install the '41 Turbo-2' in the 7 different HP-41. With drawings of the different HP-41 electronic boards including the Half-Nut version.

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41 Turbo-2 Installation Instructions

- Open Your HP-41. The screws are under the four rubber pads.
- Remove Condenser C4 between point 3 and 4. Look to the pictures (App 2 or 3) of the different boards to find the place of C4 on Your board.
- First solder 7 wires onto the proper places of the 41 Turbo-2 board, they are numbered from 1 to 7 (App 1).
- Solder the other side of the same wires, as indicated in App 2 or App 3, to the proper places in your HP-41.
- Find a good place for the 41 Turbo-2 circuit board. Normally just aside the battery compartment. If you place it there, do not forget to stick a piece of adhesive tape on the place indicated in App 4.
- Close the HP-41. Attention !!! DO NOT FORCE THE SCREWS. Unscrew and retry until they go in smoothly.
- Start the engine and execute a Beep to try your new 41 Turbo-2
- Owners of a HALF-NUT HP-41CX first have to remove the TIME print above the circuit before they can access the contacts to install the Turbo. It is enough to unsolder only the left side to lift it a little bit. Use solder wick if possible and perform this operation extremely careful.
- The speed increase will be around 2.0 times. If you like a higher or lower speed you have to replace C*,
This C is marked with an * above it (see appendix 1).
Here follows a list of the possible condensers :

C* = 22pF	High speed = 1.8 normal speed.
C* = 15pF	High speed = 2.0 normal speed.
C* = 10pF	High speed = 2.2 normal speed.
c* = 8.2pF	High speed = 2.4 normal speed.
now C*	High speed = 3.0 normal speed.
- Note : Not every HP-41 will run at speeds higher than 2 times the normal speed. Some old HP-41 will only run properly at speeds of 1.8 and lower.
- Also note that the normal speed (low speed) is also higher than the standard HP-41 speed. The speed is approximately 1.2 the standard speed.
- App 1 : 41 Turbo-2 Circuit Board App 3 : The Half-Nut Board
App 2 : HP-41 PC-Boards App 4 : Stick the tape !!
- PETSS is NOT RESPONSIBLE for any damage caused by installing an 41 Turbo-2 in your HP-41 or anything else. The Units are 100% tested and will normally work properly.

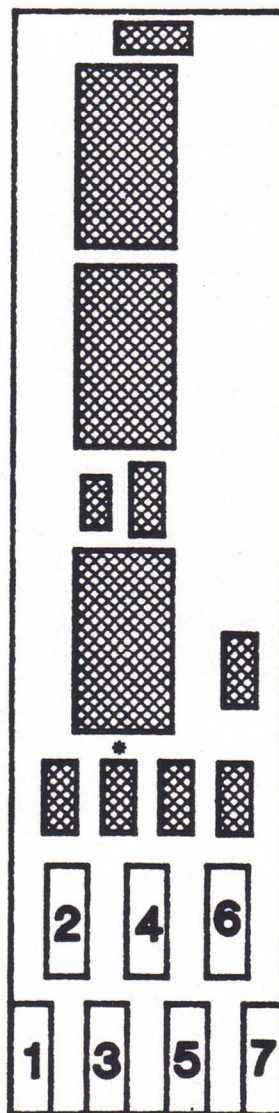
Good Luck,

Jo Vandale

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41 Turbo-2

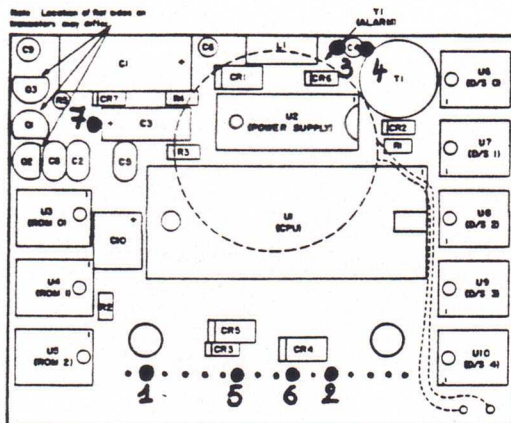
41 Turbo-2 Circuit Board



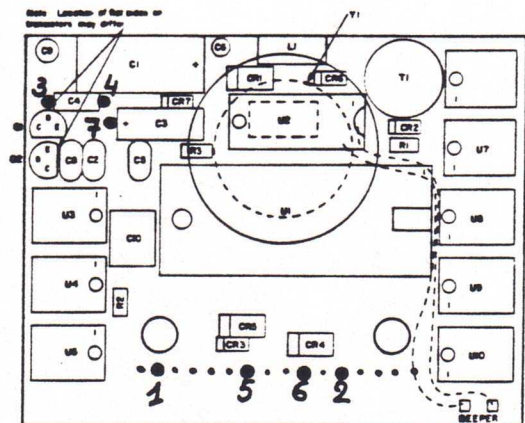
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41 Turbo-2

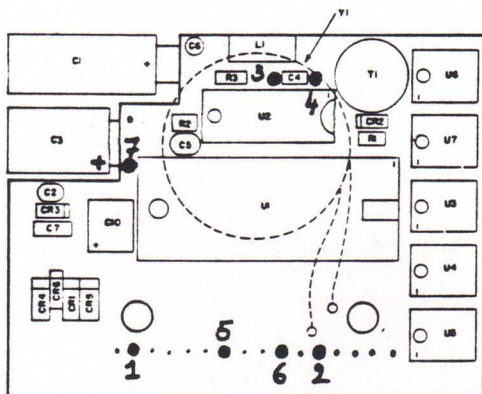
HP-41 PC-Boards



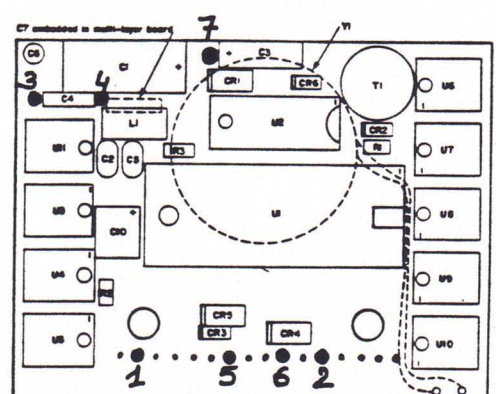
Initial HP-41C



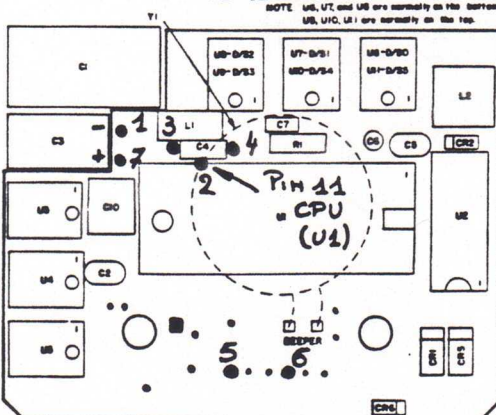
HP-41C Two Transistor



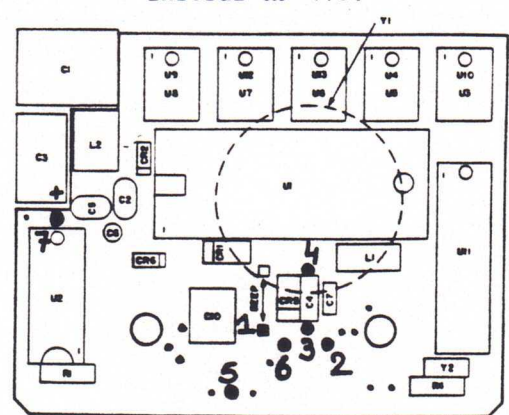
Final HP-41C



Initial HP-41CV



HP-41C/CV Common Board

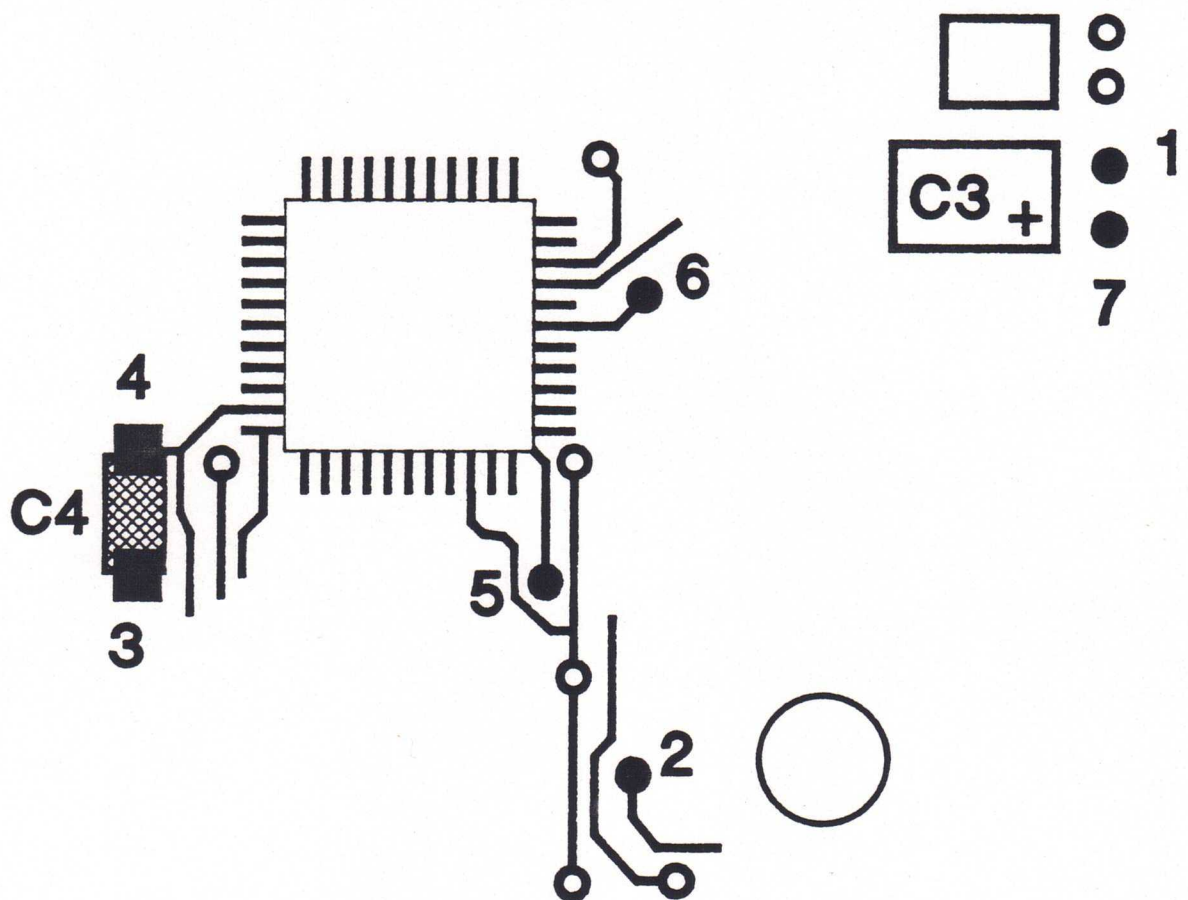


HP-41C/CV/CX Common Board

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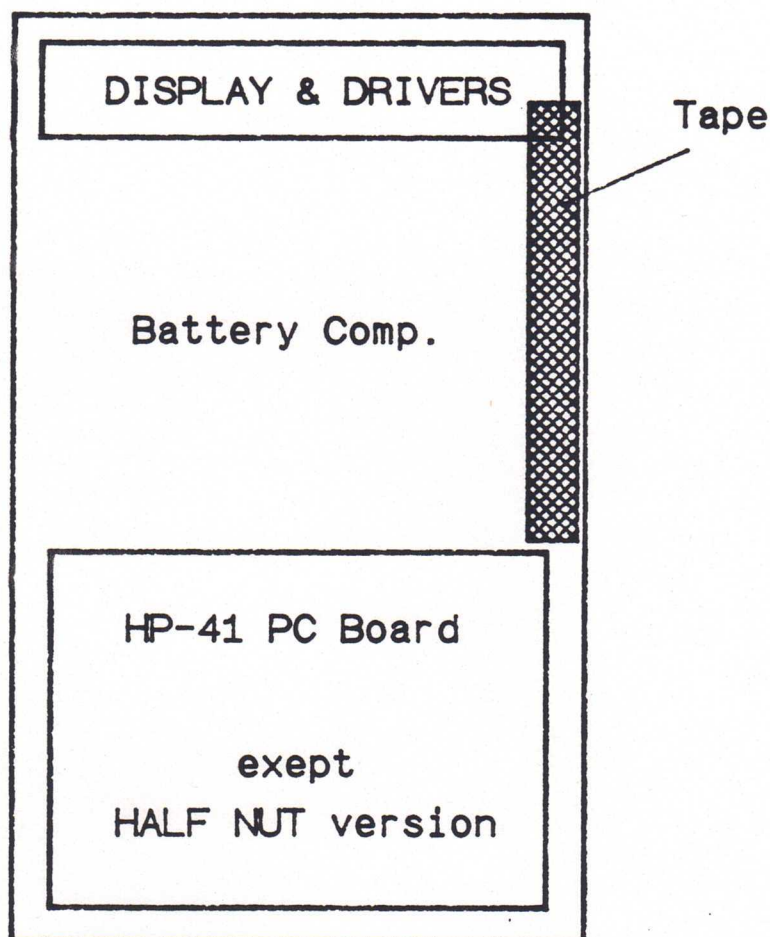
41 Turbo-2

The Half-Nut Board



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41 Turbo-2



Do not forget to stick a piece of adhesive tape on the keyboard print, see drawing above. Otherwise there is a possibility for an short circuit between the 41 Turbo-2 PC Board and the keyboard print itself !!!!!

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