

Phantom installation manual

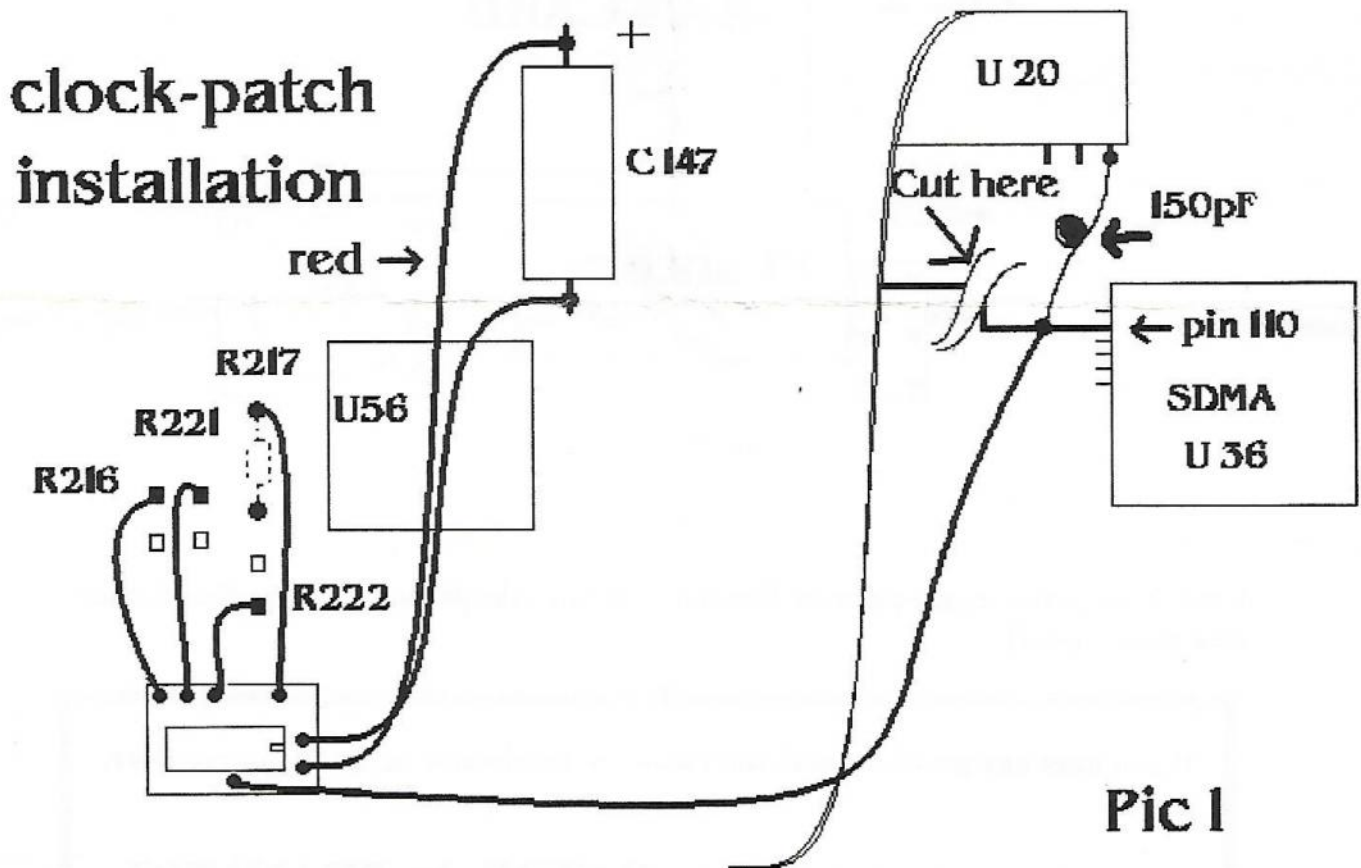
I'm not responsible for any damages or injuries caused by this hardware or wrong installation procedure.

I. Preparation

Disconnect all external peripherals and power cable. Unscrew all screws on bottom side of the computer and remove top plastic cover. Inside Falcon remove keyboard, unscrew and remove upper part of top metal shielding. Then unscrew and remove power supply, floppy drive and internal harddisk (if present). Now unscrew and remove second part of top metal shielding. It is not necessary to install back the shielding after Phantom installation.

Note: Do not touch the components on the power supply (even if computer is off) !

II. Clock-patch installation (picture 1)



Note: If there is an old clock-patch device already installed in your computer (usually placed on the U63 unit), then remove it.

- locate and carefully unsolder three SMD resistors R216, R221, R222
- you may remove R217, but it's not necessary
- solder wires to pads of these resistors (see pic 1)
- solder wires to C147

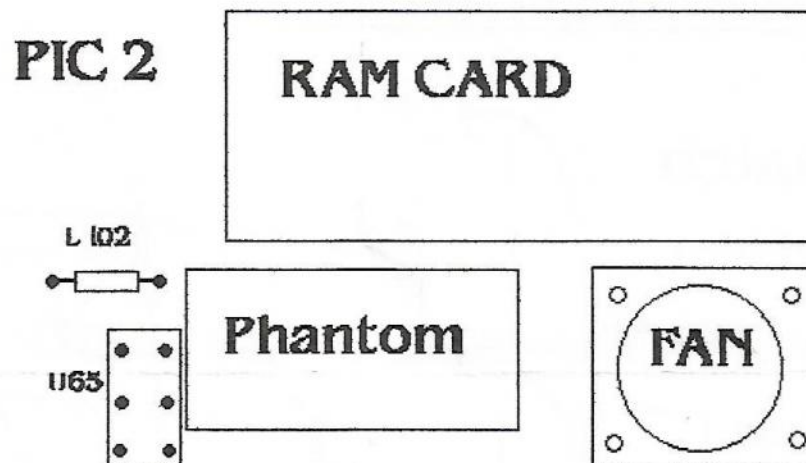
Now, make sure that the end of the remaining (long) wire is insulated from the Falcon and turn ON your computer.

If everything works OK, continue with installation. If it doesn't, check all wires and soldering points and make sure your installation is correct.

- find device U36 (under floppy drive) and locate pin 110 (second from top on the left)
- there are track leaving pin 110 (pic 1). Cut it with sharp knife.
- solder remaining wire to this track
- solder 150pF capacitor between pin 14 of U20 and track from pin 110 (pic 1)

Turn on your computer and test it.

III. Main unit installation (picture 2 and 3)



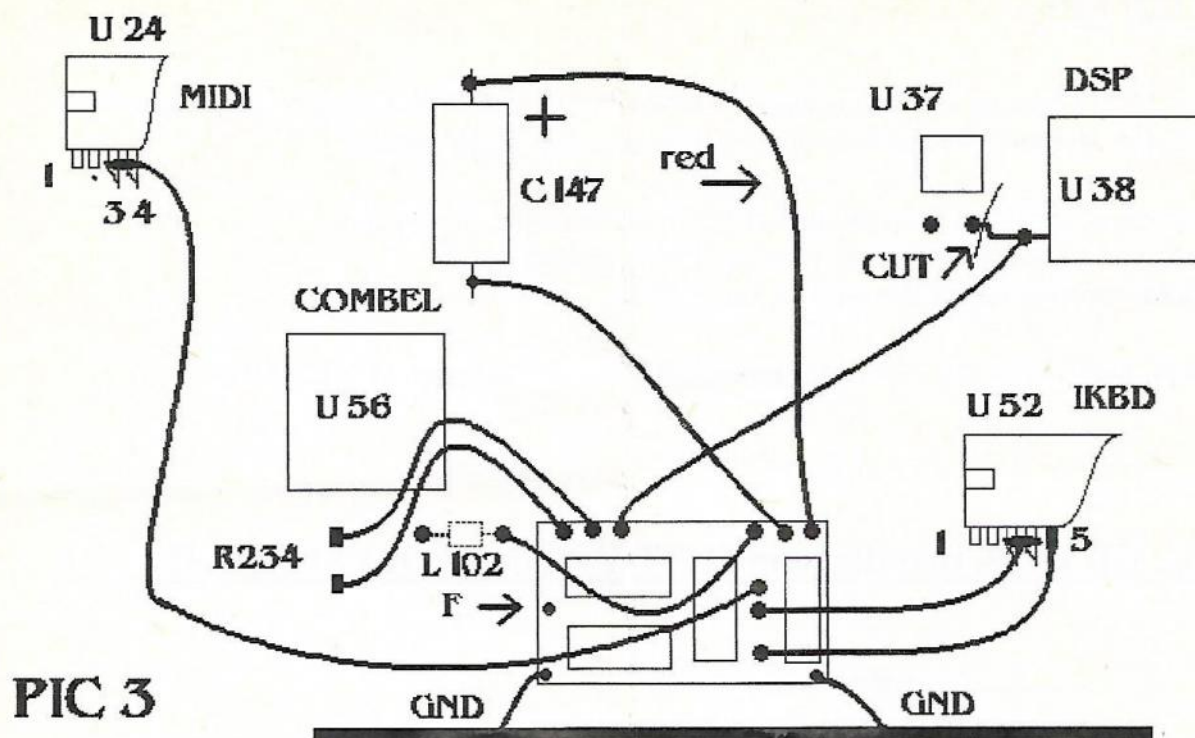
Look at the picture 2, and place the Phantom card as on the picture. All wires should reach their places (pic 3)

**If you have any problems with the Phantom Accelerator installation procedure,
contact me**

PHANTOM ACCELERATOR by PHANATIC

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- find the L102 device and remove it completely (unsolder or cut both legs).
- solder the wire to the right pad of L102
- remove SMD resistor R234 and solder wires from Phantom card (see pic 3) to pads of R234.
- solder the two GND wires to the ground rail
- solder the wire to the pin 5 of U52.
- solder both wires to the C147

Insulate remaining wires and switch ON computer.

If computer boots normally, continue with installation. If it doesn't, check the installation again.

- find chip U24 (MIDI)
- the pins 3 and 4 must be insulated from Falcon MB. The best way to make this without cutting is to lift carefully its pins with hot tip of solder iron. During this operation the lifted pin must be hot enough to unsolder itself from Falcon motherboard.
- solder wire (pic 3) to both lifted pins 3 and 4 (connect both pins together)
- find chip U52 (IKBD) and make the same operation as before with pins 3 and 4.

Now you may test your computer.

- find the DSP (U38, under floppy drive) and cut the track connecting pin 74 of DSP with the solder pad of U37 (pic 3).
- solder the last wire here.

Now turn on the computer and all should work OK.

If everything works OK, run the P_TURBO.PRG from included disk.

The computer now runs in TURBO mode. Congratulations, you have finished the installation.

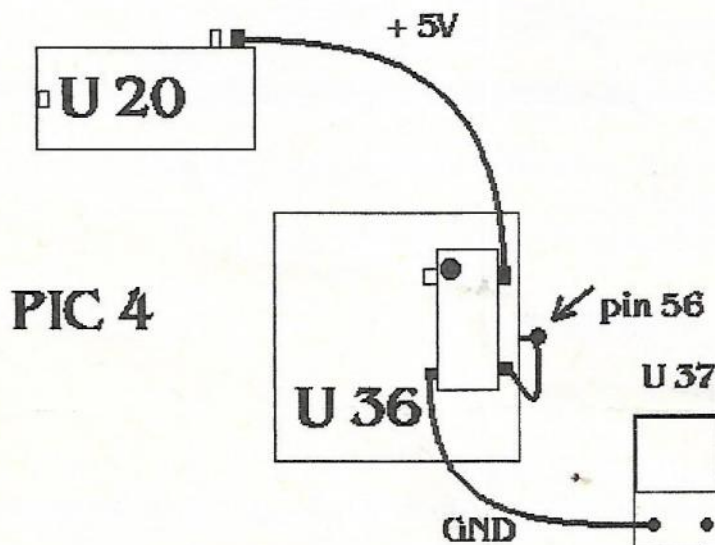
THE FPU

The FPU works on 25 Mhz in TURBO mode, but if your FPU is capable to run on 50Mhz (25Mhz or more indicated on device), then you may doubleclock it:

- unsolder wire both from top pad of R221 and from the clock-patch
- solder additional wire to „F“ point of Phantom card (pic 3)
- solder second end of this wire to top of R221

Now, the FPU runs at 32/50Mhz (NORMAL/TURBO) instead of 16/25 MHz.

IV. CD clock installation. (ONLY PHANTOM SE, pic 4)



- take the oscillator device and fix it on the U36 chip with sticky tape
- solder +5V and GND wires (see pic 4) to U20 and U37
- find pin 56 of U 36 (little circular pad here)
- solder third wire to this pad

Note: This device is 100% compatible with external DSP clock devices like CAC and others.

Important: If you would like to connect any hardware like S\PDIF or FDI (or other hardware with 44.1 or 48kHz clock generator) to the DSP port, you must remove the wire from pin 56 of SDMA !