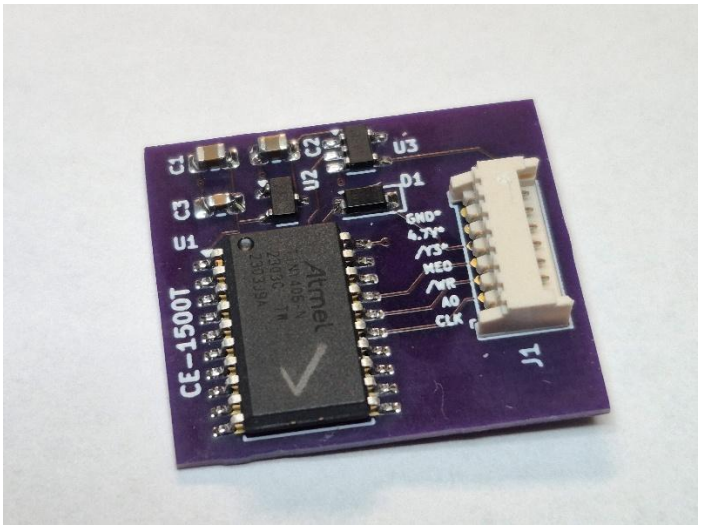
Sharp
CE-1500T



Turbo module for:
Sharp PC-1500/A
and
TRS-80 PC-2

User Manual

Version 1.0
29 March, 2026

Welcome to the Sharp CE-1500T, TRS-80 PC-2 Turbo Module User Manual

Introduction

The very popular Sharp PC-1500, also sold as TRS-80 PC-2 and later Sharp PC-1500A, were all equipped with a 2.66mHz ceramic oscillator which provided a 1.33mHz clock to the pocket computer. The CE-1500T is an add-in module that replaces the built in ceramic oscillator and provides a programmatically activated 'turbo' clock speed of 2.0mHz. With a simple POKE &FFFF,0 you can seamlessly increase the processor speed to run your program faster. Another POKE $FFFE,0 and you are back to the original clock rate.

The module installation is invasive but reversible. It should only be attempted by persons adept with a soldering iron and comfortable tinkering with miniature vintage electronics. We have made every effort to provide clear installation instructions but there is a high likelihood there are other variations to the PCB layout we have not documented. Installation is done at your own risk.

Hardware Installation

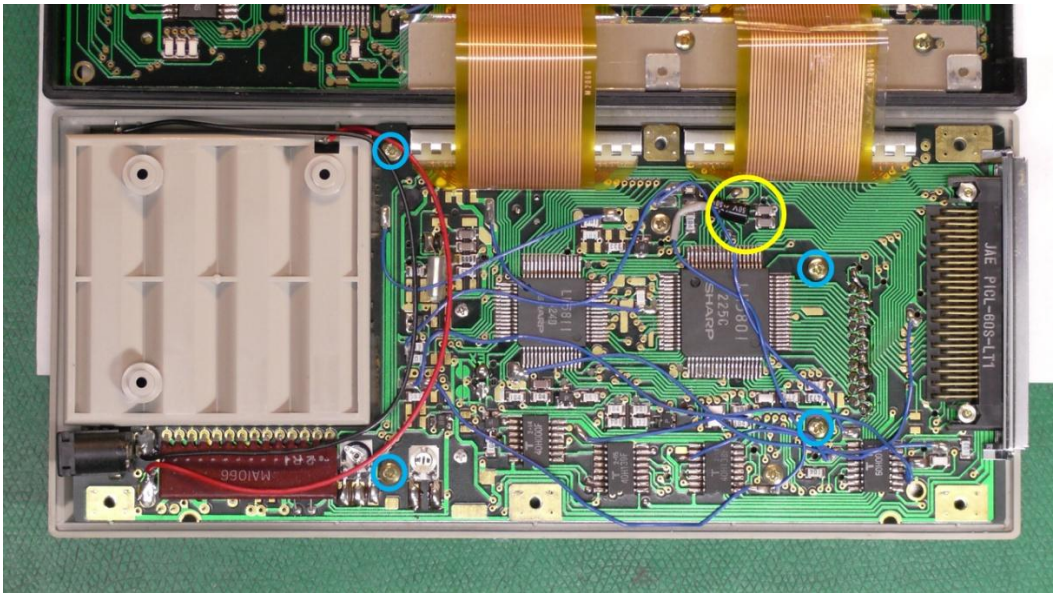
A video of the installation process is available, and it is highly recommended to view the video before attempting installation. The following guide is meant as an overview of the process and to allow images of any new PCB variations to be shared with connection points highlighted.

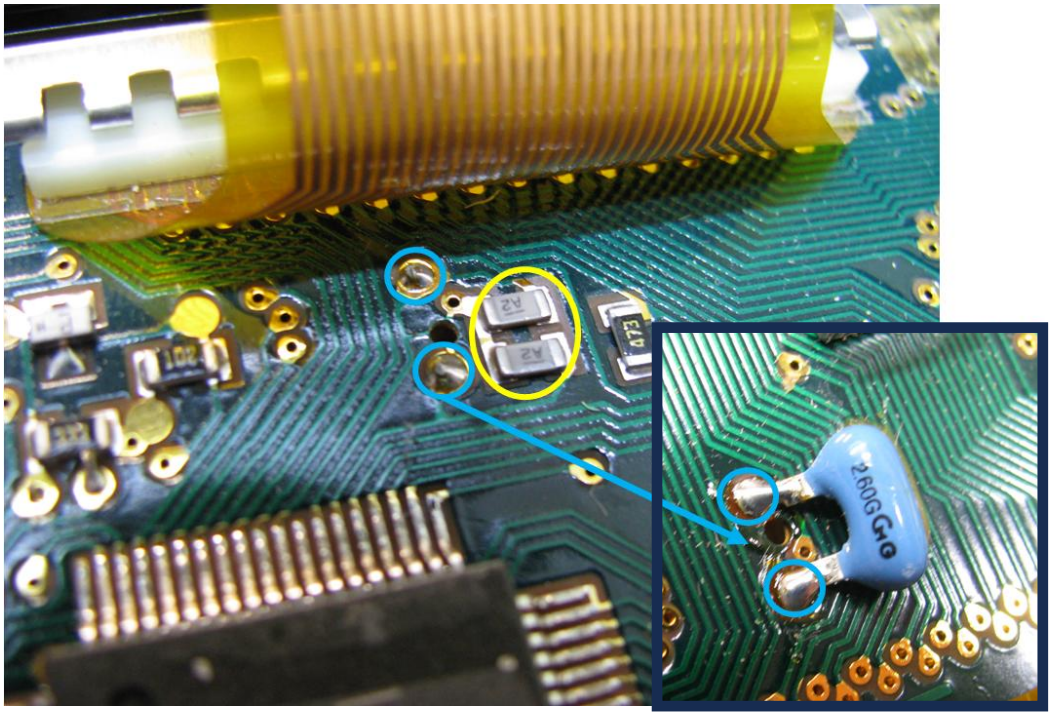
Installation video: https://youtu.be/kJZiELcBDrw
Product page: www.soigeneris.com/sharp-ce-1500t-turbocharge-your-pc-1500-pc-2

Installation in images:

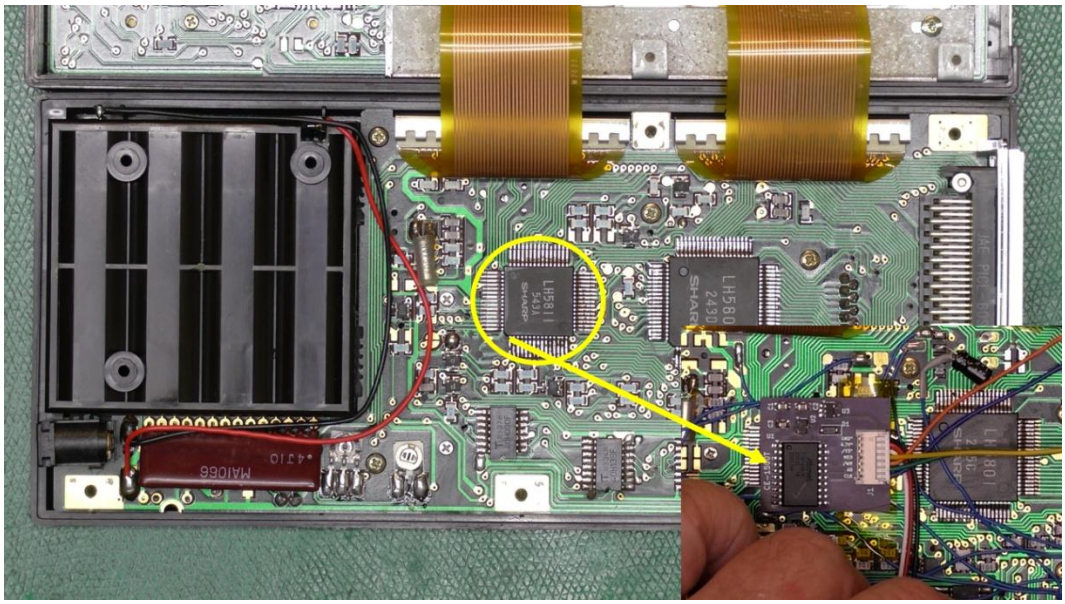
1) **Remove rear cover -** Remove the battery cover, and both expansion covers and any installed memory modules. Remove the 8 screws circled in blue. The three screws in the battery compartment are shorter.

2) **Remove the original ceramic oscillator and capacitors -** Remove the 4 screws circled in blue to take PCB loose. The yellow circle is the oscillator /cap location, with the oscillator being on back of PCB. The yellow circle shows the two capacitors that need to be removed. The blue circle shows the ceramic oscillator, on bottom of PCB, which needs to be removed.

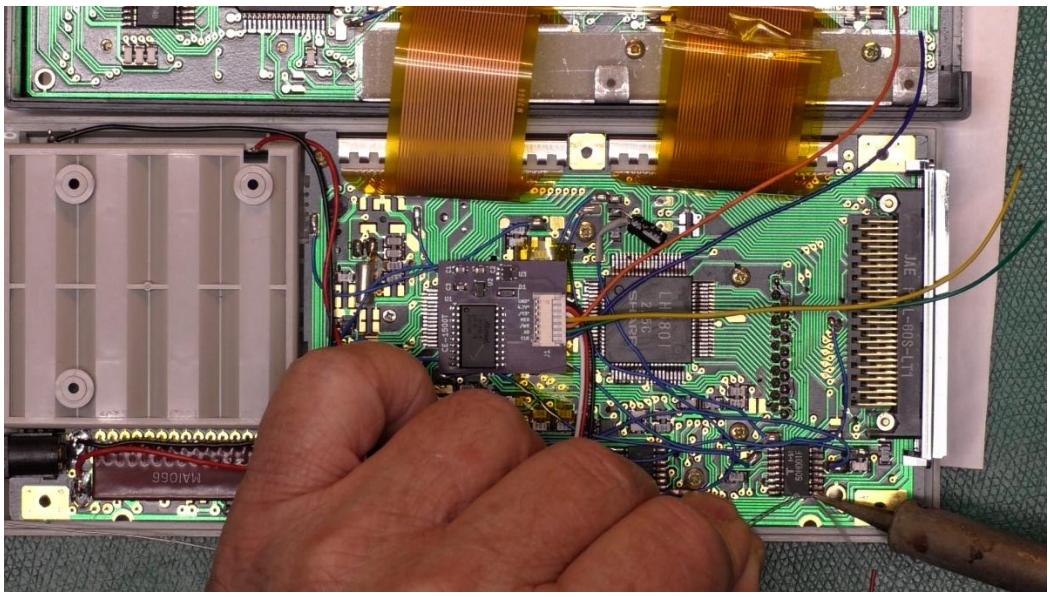




3) **Install CE-1500T PCB -** Use alcohol to clean the top of the LH5801/LH5811 chip, circled in yellow. Expose tape on back of CE-1500T, stick the CE-1500T board to top of LH5801/LH5811 chip. Carefully more any of the blue factory bodge wires out of the way. Center vertically and align to left edge of chip.



4) Plug in wire harness and solder each color to the location indicated by the images on the following page.



Wire Harness Color Codes:

Use the following color code chard along with the following PCB pictures to connect the matching wire color and location noted on PCB.

CE-1500T Wire Harness Color Code	
Wire Color	**Function**
BLK	GND *
RED	4.7V *
WHT	/Y3
YLW	DME0
ORG	/WR *
GRN	A0
BLU	CLK
* Pins used for programming	

Test Program:

Use the following test program to check the operation of the CE-1500T. RUN program, press enter at beep prompts. Times displayed should be like what is shown in image. Note that when batteries are first installed and PC_1500 turned on it may come up in 'Turbo' mode. Turn unit OFF and then back ON. Subsequently when unit is turned OFF and then back ON it will always come up normal, low speed, mode.

```
90 T=010100.0000
95 BEEP 1:PRINT"NORMAL MODE"
100 TIME=T:GOSUB 1000:TL=(TIME-T)*100
110 POKE &FFFF,0
115 BEEP 2:PRINT"TURBO MODE"
120 TIME=T:GOSUB 1000:TS=(TIME-T)*100
130 POKE &FFFE,0
140 PRINT "LOW: ";TL;" HIGH: ";TS
150 END
1000 FOR I=1 TO 10000:NEXT I:RETURN
```

⚡WARNING⚡

The PCBs used for the PC-1500/A and PC-2 are thin and 40+ years old. Use a temperature-controlled soldering iron and be gentle to avoid lifting pads or otherwise damaging the PCB.

PCB variant images:

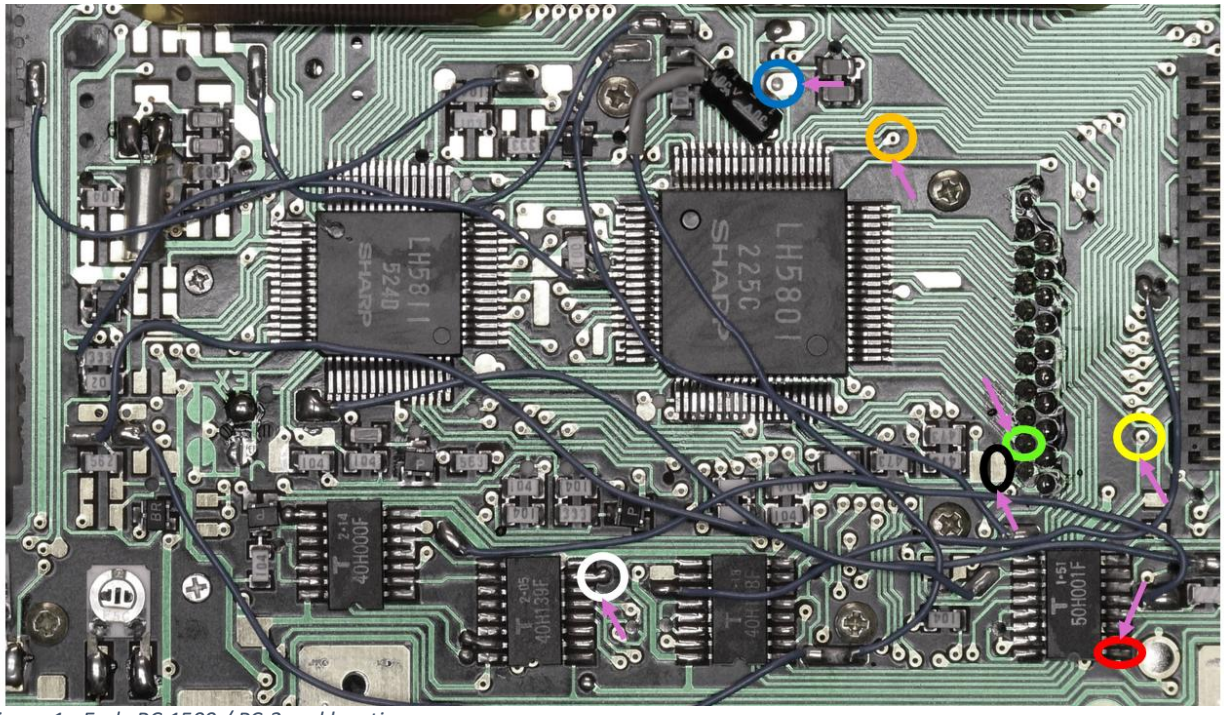


Figure 1 - Early PC-1500 / PC-2 pad locations

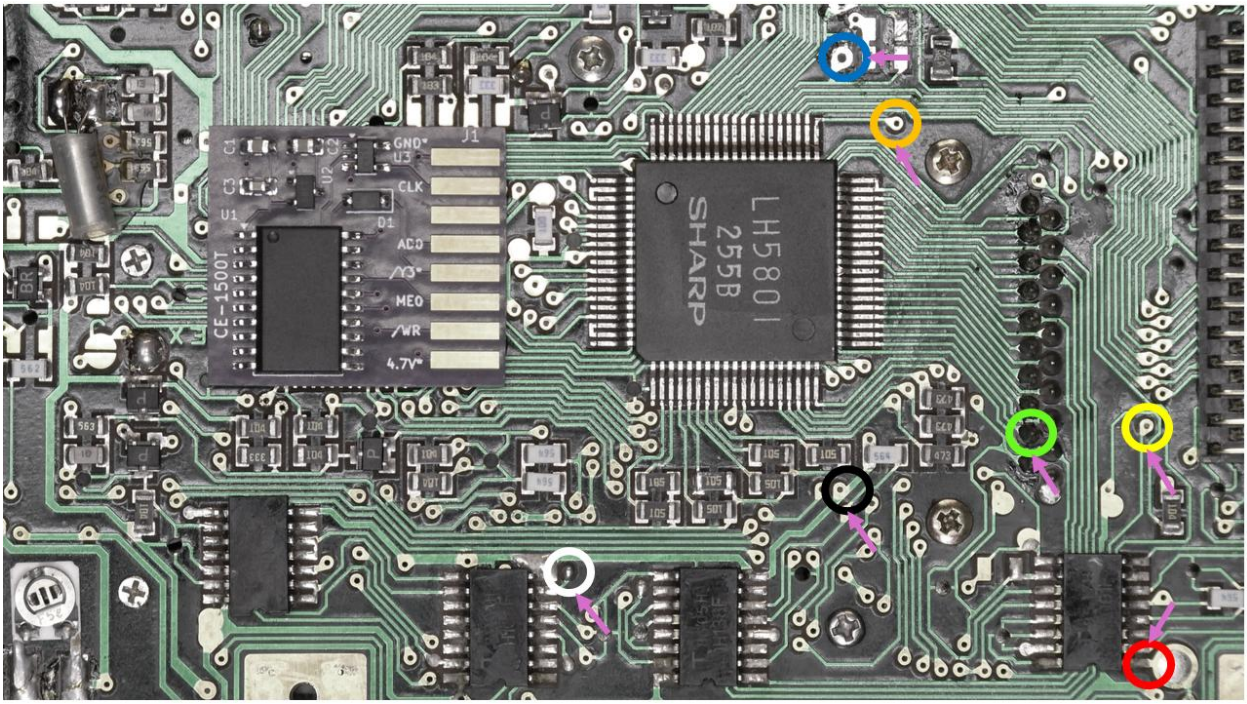


Figure 2 - PC-1500A pad locations

Troubleshooting the Module installations

This section provides some ideas on troubleshooting installation issues.

- Triple check all connections and inspect all soldering with magnification to avoid any shorts.
- Ohm out VCC to GND to verify there is not a short across the supply rails.
- On initial power up the computer may start up in 'Turbo' mode. This is due to how the computer cold boots and the timing w.r.t. the CE-1500T start up. Once power cycled once after this initial power up the CE-1500T will always start up in normal speed mode.