

MSX-2+ for the Philips NMS 8250/55

Original by: Bas Kornalijnslijper

Translated by: Bart Hamer



Warning:

The most important part in the computer is the printed circuit board (PCB). Parts can be replaced, but not the PCB. Do not try to unsolder the parts, but cut them loose and then remove the solder pins. The use of IC sockets is recommended.

Requisites:

- V9958
- 74LS02
- 74LS173
- 27C256 (replacement for IC117), EPROM C
- 27C512 (replacement for IC118), EPROM B
- 27C256 (replacement for IC119), EPROM A
- Diode 1N41481
- 100 nF condensator (2 pieces)
- Heatsink or piece of aluminum profile
- Cooling paste
- Glue
- Thin wire

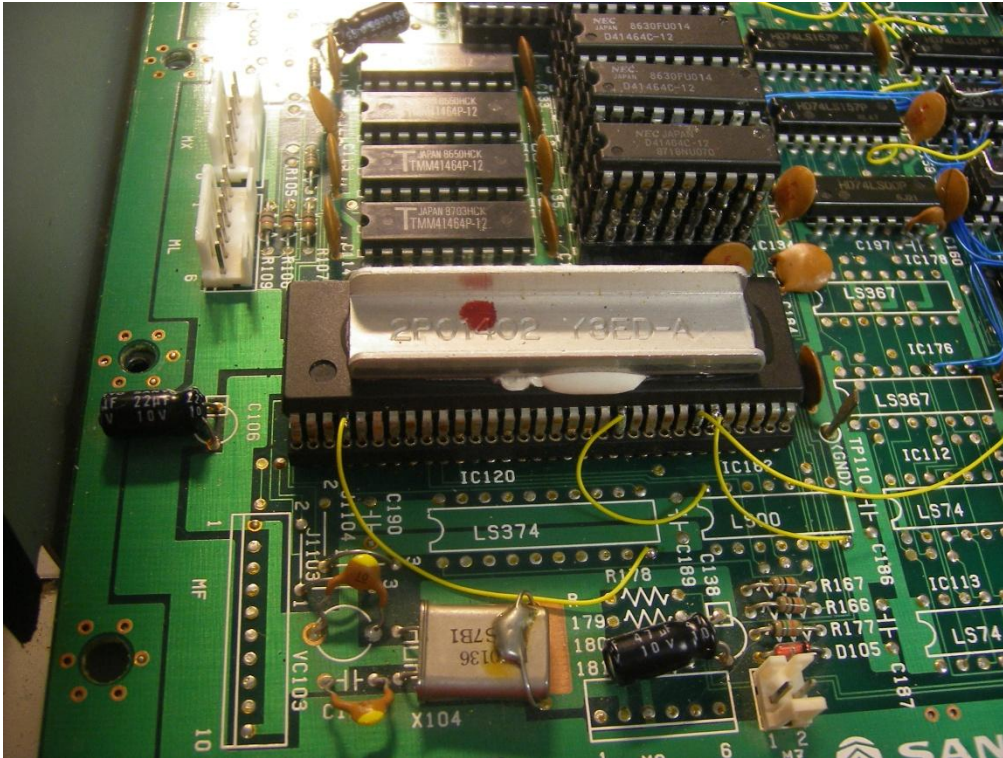
Preparation:

- 74LS02, shorten pins 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12 and 13.
- 74LS02, connect pins 7 and 14 using a 100 nF condensator.
- 74LS02, connect pins 2, 3 and 10.
- 74LS02, connect pins 4, 8 and 9.
- 74LS173, shorten pins 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14 and 15.
- 74LS173, connect pins 8 and 16 using a 100 nF condensator.
- EPROM B, shorten pins 1 and 27.
- EPROM C, shorten pins 20 and 27.
- Remove IC106 (V9938) from the PCB.
- Remove IC117 (27C128) from the PCB.
- Remove IC118 (27C256) from the PCB.
- Remove IC119 (27C128) from the PCB.

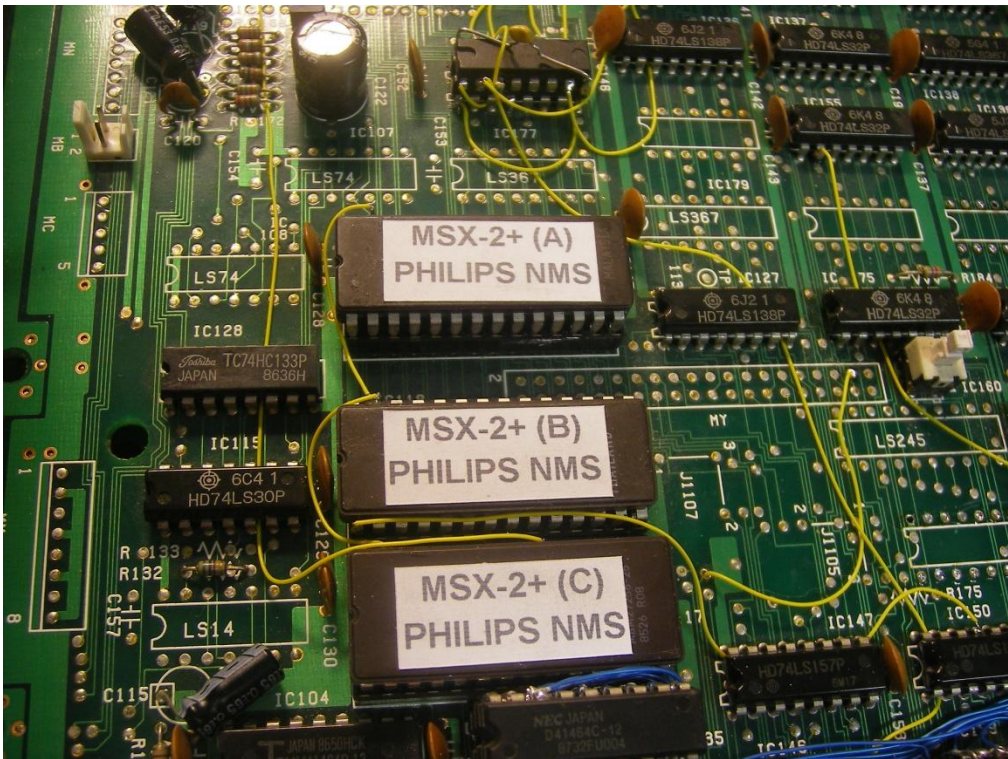
Mounting:

- Place the V9958 in the empty place of IC106.
- Place EPROM A in the empty socket of IC119.
- Place the remaining pins of EPROM B in the empty socket of IC118.
- Place the remaining pins of EPROM C in the empty socket of IC117.
- Solder the remaining pins of 74LS02 to the same pins of IC125 (74LS02).
- Solder the remaining pins of 74LS173 to the same pins of IC171 (74LS175).
- Connect pin 4 of IC106 (V9958) to pin 10 of IC120 (74LS374).
- Connect pin 21 of IC106 (V9958) to pin 14 of IC182 (74LS00).
- Connect pin 26 of IC106 (V9958) to pin 24 of IC145 (Z80) using the diode.
- Connect pin 27 of IC106 (V9958) to pin 7 of IC182 (74LS00).
- Connect pin 27 of IC117 (EPROM C) to pin 27 of IC118 (EPROM B) and pin 27 of IC119 (EPROM A).

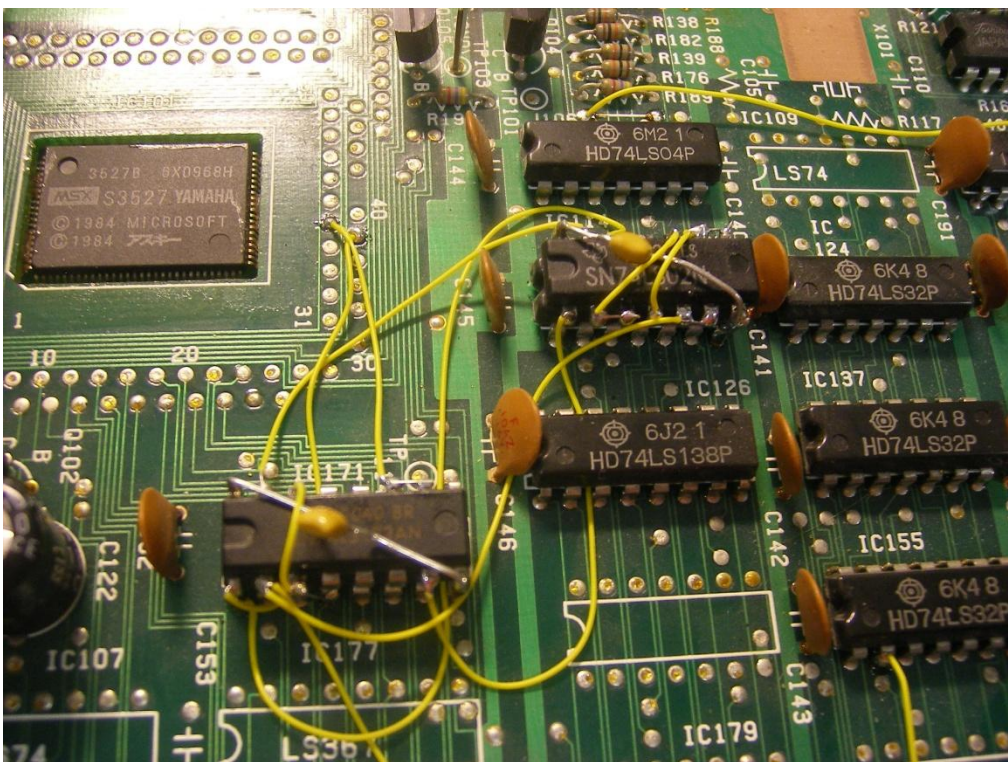
- Connect pin IC117 (EPROM C) pin 20 en IC101 (S3527) pin 86 (print spot).
- Connect pin 20 of IC117 (IC socket) to pin 38 of connector MY.
- Connect pin 1 of IC118 (EPROM B) to pin 13 of IC150 (74LS157).
- Connect pin 1 of the 74LS02 to pin 7 of the 74LS173.
- Connect pins 5 and 6 of the 74LS02 to pin 2 of the 74LS173 and pin 4 of the IC159 (74LS139).
- Connect pins 11 and 12 of the 74LS02 to pin 1 of IC171 (74LS175).
- Connect pin 13 of the 74LS02 to pin 15 of the 74LS173.
- Connect pin 1 of the 74LS173 to pin 38 of IC101 (S3527) (print spot).
- Connect pins 3 and 14 of the 74LS173 to pin 4 of IC171 (74LS175).
- Connect pins 9 and 10 of the 74LS173 to pin 39 of IC101 (S3527) (print spot).
- Stick a heatsink or piece of aluminum profile onto IC106 (V9958). Use glue on the exterior sides and cooling paste in the inside.



The new connections for the V9958 MSX-2+ Video Chip.



The new connections for the MSX-2+ ROMs.



The new connections for the 74LS02 and 74LS173.