

** INSTALLATION MANUAL ** INSTALLATION MANUAL **

Quantum Micros



BITS + PCS

COMPUTER PRODUCTS LTD

The Leeds Computer Centre
60-62 The Balcony Merrion Centre Leeds LS2 8NG
Tel: (0532) 458877

MZ80K HI-RES GRAPHICS SYSTEM

COPYRIGHT (C) QUANTUM MICROS 1981

QUANTUM MZ80K HI-RES
 =====

Package Contents

- 1) 1 QUANTUM MICROS HI-RES PCB BSW QM181
- 2) 8 pieces colour coded stranded wire
- 3) 1 user manual
- 4) 1 Data cassette
- 5) 1 Installation Manual

WARNING

If after carefully reading these instructions you feel that fitting the QUANTUM MICROS HI-RES PCB to your MZ80K is beyond your capabilities DO NOT PROCEED. Instead arrange to get the machine to the place where the HI-RES was purchased, it will then be installed and tested FOR A SMALL CHARGE.

TOOLS REQUIRED

=====

- 1) MINIATURE SOLDERING IRON 15 WATT with 1mm bit
- 2) LONG NOSE MINIATURE PLIERS
- 3) CUTTERS
- 4) SOLDER
- 5) PHILIPS SCREW DRIVER
- 6) MODELLING KNIFE
- 7) SMALL SCREW DRIVER WITH FLAT BLADE OR AN I/C EXTRACTOR

HANDLING PRECAUTIONS

=====

Some of the Integrated circuits on both the SHARP MZ80K PCB and the QUANTUM HI-RES PCB can be damaged by static charges. When working on both devices please take care to handle the boards by their edges and avoid touching the components as much as possible. Do not wear nylon clothing and touch something which is earthed before commencing the modifications.

SOLDERING

It is necessary to make 18 soldered connections 9 to the MZ80K and 9 to the QUANTUM HI-RES PCB. These connections must be good. They must of the same quality as those in the computer if you have any doubts about this either practice on something which does not matter or refer to the opening paragraph.

INSTALLATION

=====

Read the following instructions in order and if you cannot understand any particular section please contact us and we will help you. DO NOT make any modifications until you have read all the following instructions and understood them.

REMOVAL OF THE MAIN CIRCUIT BOARD

=====

Disconnect the M280K from the mains and remove the mains lead from the machine by unplugging it from the socket at the rear.

Remove the two screws on the rear pannel which hold the protective cover for the expansion plug. Remove the cover and put it to one side for replacement later. It can be used to keep its retaining screws safe and the others which we are about to remove.

Remove the four screws from the underside of the lid. There are two at each side in the lid flange. This will allow you to open the lid.

With the lid now open and secured with the stay, which is on the left hand side, remove the following plugs from the main PCB refer to Fig 1 for their positions.

CN2 : CN3 : CN4 : CN5 : CN6

These are actually all the plugs going to the main board.

Remove the two screws holding the lid stay to the lid, this will allow the lid to be opened up much wider. Now either enlist some help or find something to prop the lid open.

Remove the 6 screws which are securing the main PCB to its support pillars. Now remove the main PCB from the body of the M280K by carefully unclipping it from the support pillars.

Close the M280K lid, this will eliminate the danger of it being knocked shut.

MODIFICATIONS

=====

Carefully remove the Microprocessor I/C 46 from the main PCB. This should be done with an extractor or by carefully easing it out with a small flat bladed screwdriver. Similarly remove CG-ROM from its socket on the PCB. For the locations of these two I/C's see Fig.1. Place the two I/C's safely to one side where they will not be touched. Preferably stand them on a piece of tin foil.

Now study Fig.2, Fig.3, Fig.4, and locate the places indicated on the underside of your SHARP M280K PCB. Fig.1 will help you find the area concerned remember Fig.1 shows the COMPONENT SIDE of the PCB. Turn the board over with its front edge towards you, and look on the SOLDER SIDE for the places to make the track cuts. Carefully cut the tracks shown. Ensure that the cuts are effective by removing a minute piece of track where indicated. Use the modelling knife for this job.

Now prepare one end on each of the pieces of coloured wire provided. Strip the insulation from one end for 3mm approx. Tin the stripped end with solder, this will make soldering to the I/C legs easier.

Working on the component side of the PCB solder the wires to the following I/C legs. Make sure that solder or wire strands do not bridge the gap between the I/C legs. Please ensure that you follow the colour code as below. See Fig.5 for method used to number I/C Legs.

SOLDER WIRES TO THE FOLLOWING I/C LEGS

I.C. No.	LEG No.	WIRE COLOUR
30	9	White ✓
30	7	Black ✓
30	6	Brown ✓
40	1	Yellow ✓
47	15	Orange ✓
30	12	Red ✓
47	16	Pink ✓
35	13	Purple ✓
RESET	(fig. 1)	GREEN

Now carefully plug the QUANTUM MICROS HI-RES system into the main PCB. Ensure that each of the protruding legs on its underside plug into the relevant holes on the previously emptied sockets on the main PCB. See Fig. 1

Now make the following connections to the HI-RES PCB using the other end of the previously connected wires. Before terminating these wires cut them to shorter lengths where possible and strip them as before.

SOLDER THE WIRES TO THE FOLLOWING HI-RES PCB PINS

PCB PIN	WIRE COLOUR
VR2	White ✓
VR4	Black ✓
VR3	Brown ✓
Reset	GREEN ✓
VRE	Yellow ✓
GED	Orange ✓
ICE	Red ✓
CEE	Pink ✓
GRD	Purple ✓

Before proceeding check your work. Ensure that the connections and track cuts have all been carried out correctly. Ensure that there are no solder splashes or wire strands which may cause trouble.

Now replace I.C.46 and the CG-ROM into the positions shown in Fig.6. Make sure that you do not bend any legs and that they are positioned the correct way round in their sockets.

Now replace the main PCB back into the M280K. The assembly procedure is a reversal of the disassembly section.

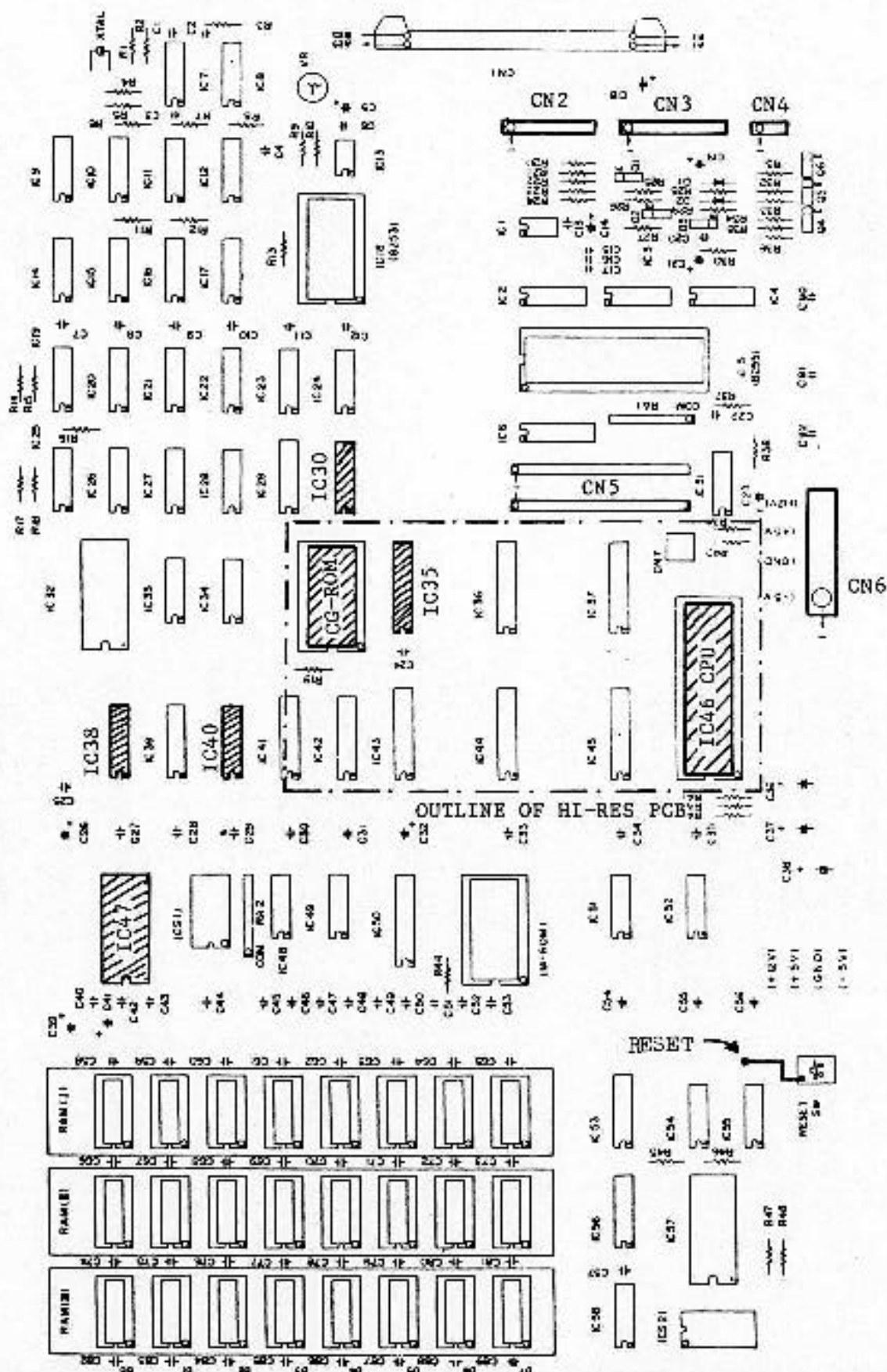
When assembly is complete switch on the M280K and wait for the normal warm up period .If all is well the screen will clear normally and the monitor prompt will appear with the flashing cursor at the top left of your screen.

If the M280K does not power up normally switch off immediately. Check all your work and connections thoroughly. If you cannot find anything wrong contact us with out delay.

Assuming all is well consult your QUANTUM HI-RES manual and test your system out with the editor or demo programmes.

***** GOOD LUCK AND HAVE FUN *****

Fig.1 MZ80K PCB OVERLAY



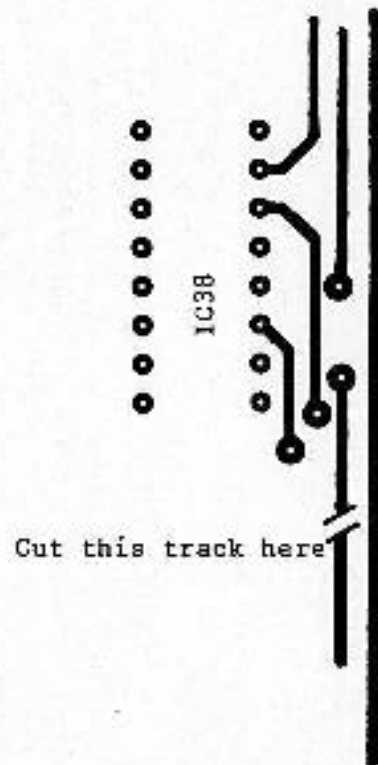


Fig.2

(Viewed with front edge forwards)

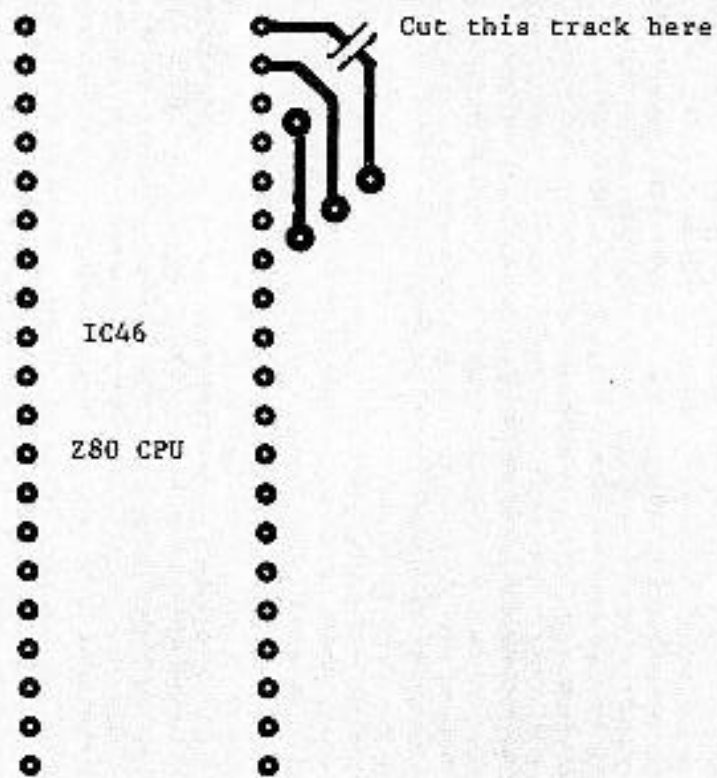


Fig.3

(Viewed with front edge forwards)

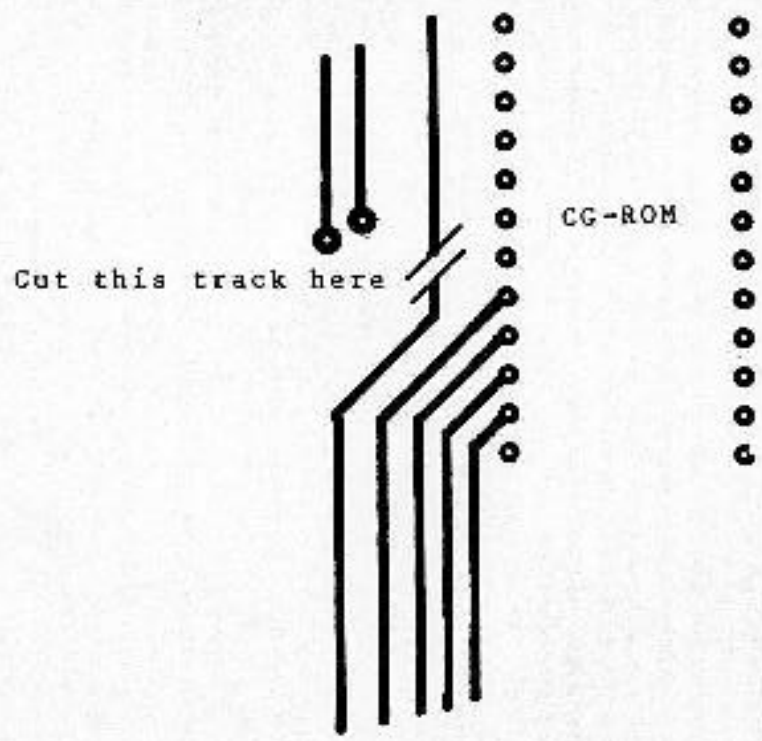


Fig.4
(Viewed with front edge forwards)

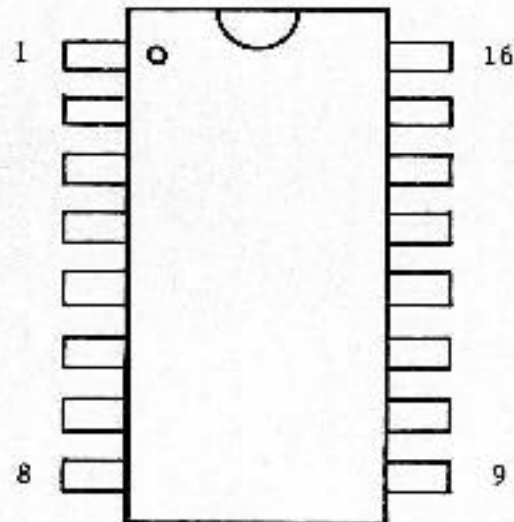


Fig.5

An Integrated circuit in a DIL package, as above, has either a small dot or a half moon shape at one end of the package. This identifies pin 1 on the package. The other pins then number from pin 1 in an anticlockwise direction when viewing the device from above.

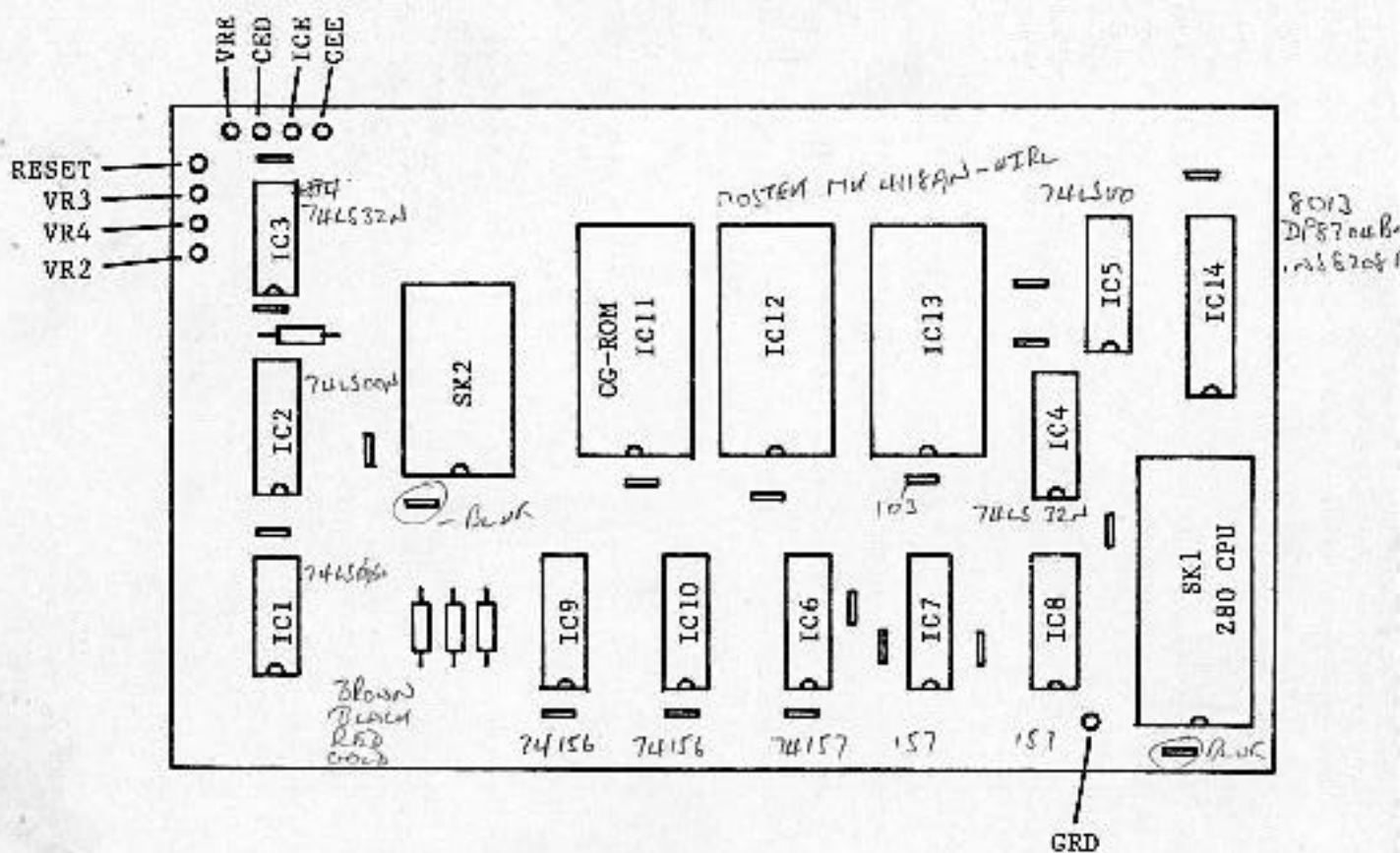


Fig.6 (OVERLAY)

DO NOT PLACE ANY I.C. IN SK2

PLACE the Z80 CPU (IC 46 removed from the main PCB) into SK1

PLACE the CG-ROM into IC11 (removed from main PCB)

Observe the correct orientation for both these items

