Appendix H
Early Kaypro 10, Field Upgrade 81-303

This appendix describes a modification to enable the use of the
TurboROM with Kaypro 10s that use the 81-188 monitor EPROM. This
modification requires circuitry changes that will make the 81-188
EPROM unuseable and is therefore not easily reversible. After
these modifications have been made, the Kaypro 10 will have been
upgraded to work with the TurboROM or the Kaypro 81-302 ROM.

Kaypro 10 computers have a small circuit board that is used as an
adapter between the main Kaypro circuit board and the hard disk
controller board. Kaypro has shipped at least two different
versions of this small circuit board; the TurboROM is not
compatible with the early version.

Kaypro issued Field Upgrade 81-303 to retro-fit the early Kaypro
10s with the latest version of the small circuit board and to
update the monitor EPROM to the 81-302 version. The upgrade was
performed by Kaypro dealers at no charge.

H.1. Identifying an Early Kaypro 10

For the purpose of this appendix, early Kaypro 10 main boards can
be identified by the label on the EPROM at IC position U42. If
the label specifies an 81-302 EPROM, you should not make, nor do
you require the changes identified in this appendix., If the
EPROM label specifies 81-188, this appendix identifies a way to
make your computer compatible with the TurboROM. The alternative
is to have your Kaypro dealer perform the upgrade identified in
Kaypro literature as Field Upgrade 81-303.

Kaypro's Field Upgrade 81-303 requires the following steps:

     1. Replace the early version of the small circuit board
with a later model.

     2. Replace the 81-188 monitor EPROM with the 81-302 monitor
EPROM.

The remainder of this appendix describes how to modify the early version of the small circuit board to be functionally equivalent to the later version. The computer will then be compatible with and ready for installation of the TurboROM. (Or the Kaypro 81-302 EPROM)

H.2. Making the Upgrade for the TurboROM

1. Make the TurboROM Boot Disk

    You must have a bootable floppy disk prepared for the TurboROM. Follow the instructions in Chapter 3 of this
    manual on making a bootable TurboROM Diskette.

2. Remove the Kaypro Cover

    Turn the Kaypro OFF.

    Unplug the Kaypro from the power source.

    Using a medium sized Phillips screwdriver, remove the four screws on each side and the two screws on the top of the cover. Remove the cover and set it aside.

3. Remove the Main Board

    Carefully disconnect the five cables connected to the Kaypro main board.

    Remove the screws that secure the back edge of the main circuit board to the Kaypro case.

    Remove the two screws that secure the front edge of the main circuit board to the two plastic standoffs.

    Remove the main circuit board and set it aside.

4. Remove the Small Circuit Board

    Locate the small circuit board mounted on the CRT side of the sheet metal bracket that encloses the hard disk drive.

Disconnect the two ribbon cables that are attached to the small circuit board.

Remove the four screws that secure the small circuit board to the sheet metal.

5.   Modify the Small Circuit Board

Make the following changes to the small circuit board. Keep the wiring short and as neat as possible. The set of 50 pins will be referred to as J1; the set of 40 pins will be referred to as J2. On the solder side of the circuit board, a square solder pad identifies pin 1 of each set of pins. All pins in the row with pin 1 are the odd numbered pins, all pins in the other row are even numbered pins. Refer to Appendix E for basic information concerning the pin numbering of IC's. Wires should be installed on the solder side of the circuit board.

1.   Cut the trace that runs from J1 pin 45 to J2 pin 39.
2.   Cut the trace that runs from U1 pin 7 to U1 pin 2.
3.   Add a wire from U1 pin 1 to J1 pin 45.
4.   Add a wire from U1 pin 3 to J2 pin 39.
5.   Add a wire from U1 pin 2 to U1 pin 14.

6.   Re-install the Small Circuit Board

Re-connect the two ribbon cables to the smalkl circuit board.

Install the four screws that secure the small circuit board to the sheet metal.

7.   Re-install the Main Circuit Board

Set the main circuit board in place.

Re-install the screws that secure the back edge of the main circuit board to the Kaypro case.

Re-install the two screws that secure the front edge of the main circuit board to the two plastic standoffs.