HP 9915
Option ROM and PROM Board Installation

Up to four HP-85 Option ROMs can be installed internally in the HP 9915 Modular Computer to provide additional language capabilities. An accessory PROM board can also be installed in the 9915 on an internal edge connector to provide additional program storage. This note describes the installation procedures for these two accessories and describes the electrical characteristics required by the PROM devices.

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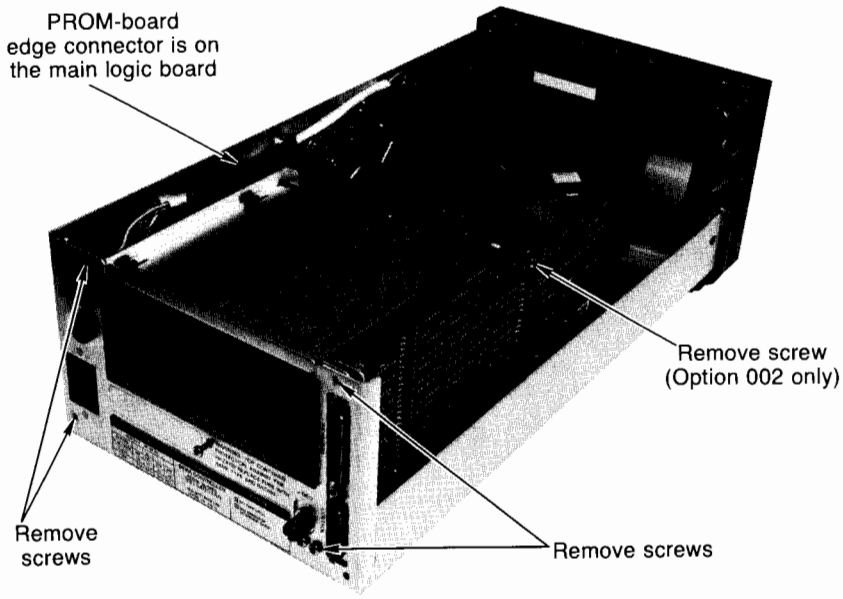
Installation Procedure

The option ROM "sockets" and PROM board connector are on the main logic board of the 9915. The cover must be removed to access these components. Strict adherence to these procedures is necessary for your safety and that of your equipment.

Removing the Cover

The first step in removing the computer cover is to **disconnect the power cord. Unless you do this, you create a potential shock hazard for yourself.**

Remove the four screws which secure the cover to the computer's frame with a Pozidriv screwdriver. Slide the cover straight toward the rear of the computer. The PROM-board edge connector is visible just to the rear of the fan.



PROM Board Edge Connector Location

WARNING

Disconnect the power cord before removing the computer cover. Failure to do so creates a shock hazard and could result in bodily injury.

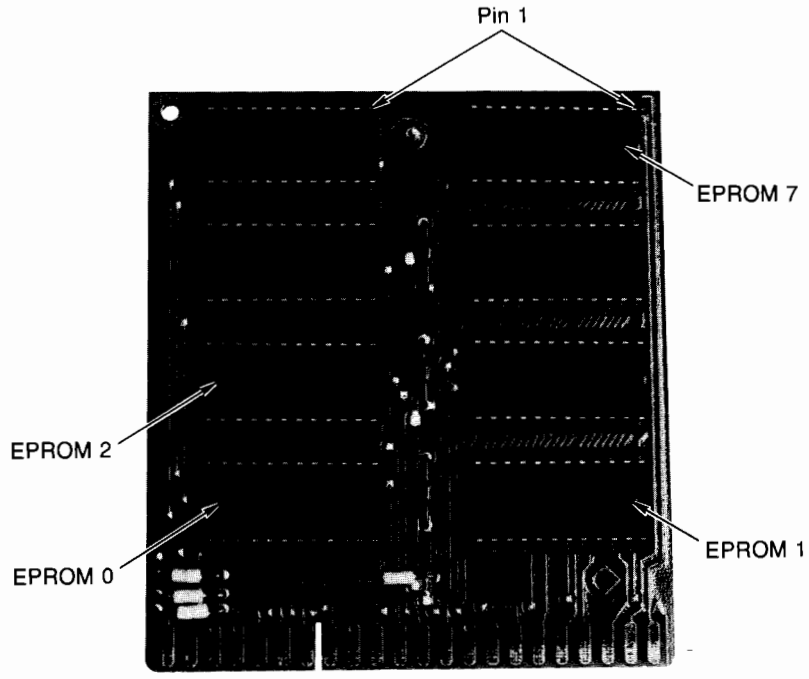
If you are installing only the PROM board, this is all the disassembly needed. The remainder of this section describes PROM board installation and the electrical characteristics required of PROM devices. The section called "Option ROM Installation" describes the further disassembly required for installing HP-85 Option ROMs.

Compatible PROM Devices

EPROM, PROM, and ROM devices compatible with the 9915 include all devices that are electrically pin-compatible with 2716 and 2732 EPROMs with access times less than or equal to 450 nanoseconds. The process of programming PROMs (or EPROMs) is discussed in Chapter 4 of the System Development Manual and in the EPROM Programming and Tape Duplication Software Pack Manual.

Loading the PROM Board

The placement order of PROM devices on the board is critical to the correct access of the programs stored in PROM. The location numbers are labeled on the back side of the board. If only one PROM is to be loaded on the board, it must occupy the "EPROM 0" location. Additional PROMs must be loaded in order 1 through 7, and no location may be skipped.



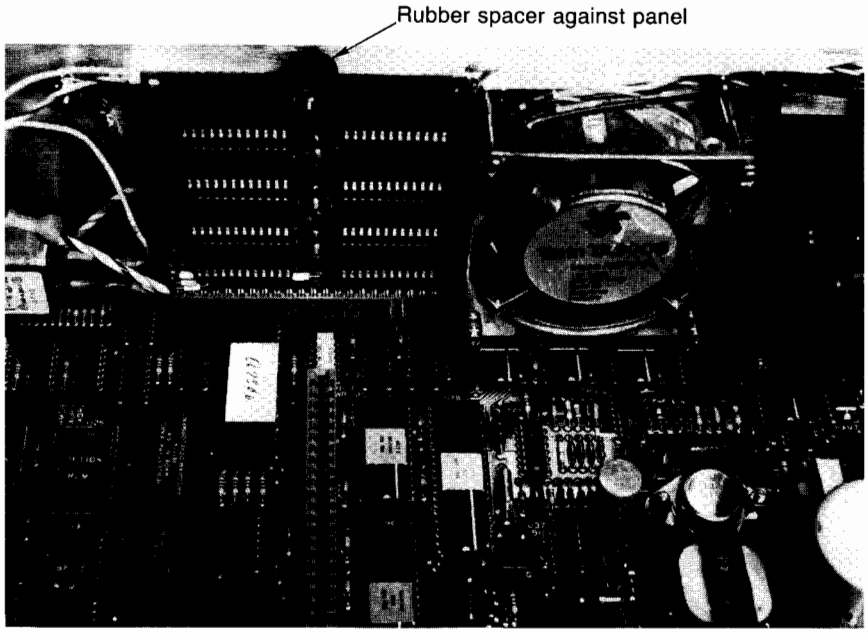
Load PROMs in the Proper Order

CAUTION

The PROMs have a polarity that must be matched with that of the PROM board. Make sure that the "pin 1" markings of the PROM devices match those of the PROM sockets. Failure to match polarity will result in damage to the PROM and possibly the 9915.

PROM Board Installation

The PROM boards are keyed so that they cannot be inserted backwards into the edge connector on the main circuit board. The board can only be inserted with the rubber spacer against the right side panel.



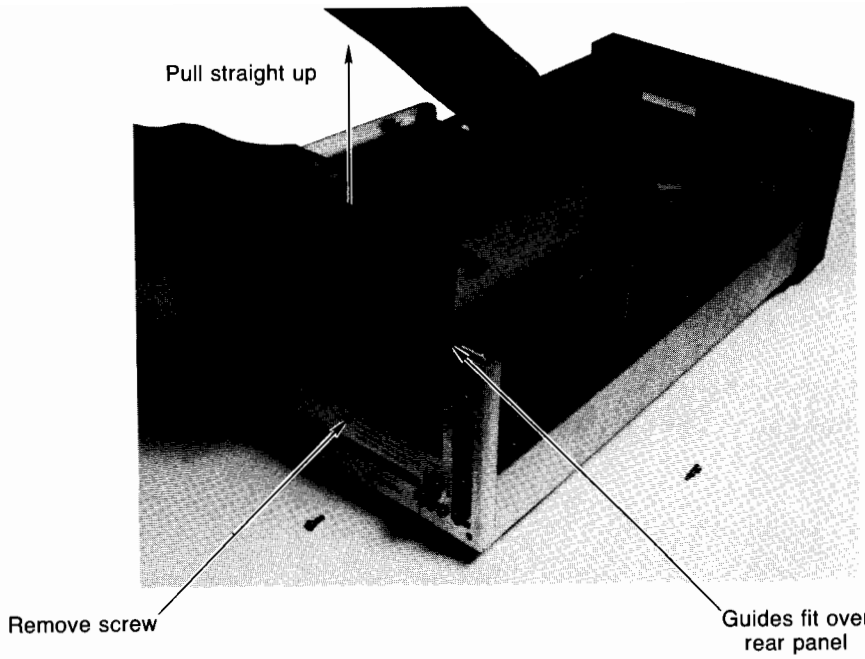
PROM Board Properly Inserted in Computer[1]

Option ROM Installation

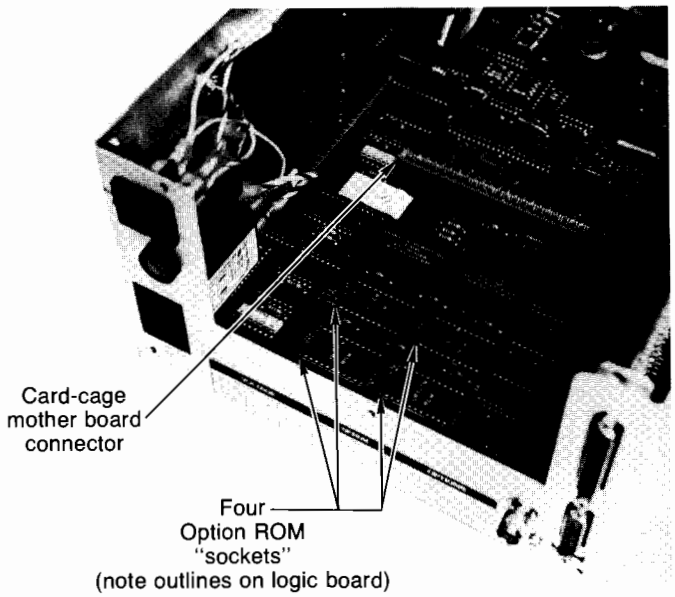
To install additional option ROMs in the 9915, you must first remove the interface card cage, located at the rear of the computer. Remove the rear-panel screw just below the card-cage opening on the rear panel. If your computer is equipped with Option 002, you must also remove the second screw shown in the photograph.

The cage assembly can now be removed by **gently** lifting it **straight up** (rocking if necessary) and out of its edge connector with one hand while pushing against the main logic board with the other hand. The I/O and PD ROMs are visible at the rear of the logic board.

[1] This photo shows the computer with the interface card cage removed. This is not necessary for installing the PROM board, but allows you to see the board in its connector.



The additional Option ROMs fit directly onto the pins on the main logic board. Take care when placing these ROMs on the pins, as **the pins are easily bent.** It is also important that the ROM-package outline match the outline on the main board. **Do not place the ROMs onto the pins backwards.**



Option ROM Installation

CAUTION

Since it is possible to install Option ROMs backwards, be sure that the ROM-package outline matches the outline on the main board. Failure to do so will damage the ROMs.

Replacing the Cover

After verifying that the ROMs and PROM board are installed correctly, replace the card cage and cover in the reverse order of their removal. Be sure that the rear panel fits into the plastic guides on card cage assembly as you slide the cage assembly into the computer. **Carefully** locate the card-cage PC board in its connector and **gently** push it into place. Replace the screw securing the cage to the rear panel (and to the Option 002 board, if installed).

Replace the cover, making sure that it fits correctly into the **slots at the rear of the front panel.** Replace the four screws that secure it to the rear panel. Replace the power cord.

You may want to verify the installation of ROM and PROM devices by using a few of the ROM statements and PROM programs.

c/o STEPHEN CLARK
DEVELOPMENT ENGINEERING

Supplement
to the 98154-90000

PHILIPS TMC
CLARINDA ROAD, CLAYTON

PROM Board Jumper Configuration

The 98154 PROM Board is shipped from the factory configured for 2716 (EPROM) and 2516 (PROM) devices. The jumpers on the board (in resistor packages) are connected as follows.

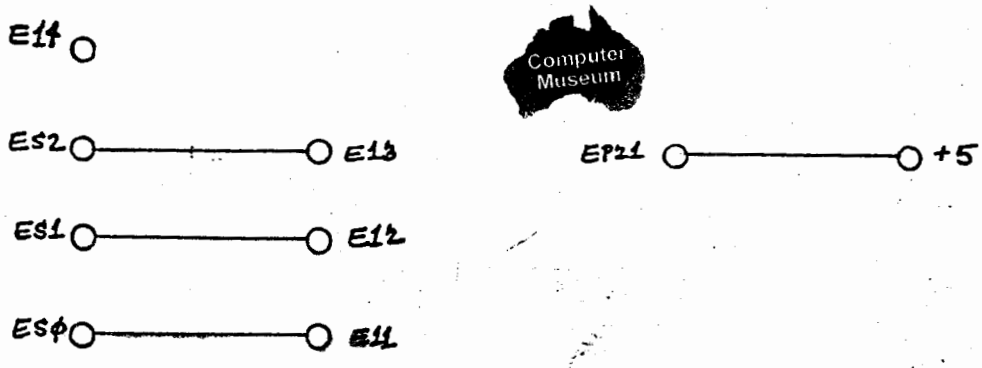


Figure 1. 2716/2516 Jumper Configuration

The board can be configured for 2732 EPROM devices by making the following circuit-board connections (2532 PROM devices cannot be used with this configuration).

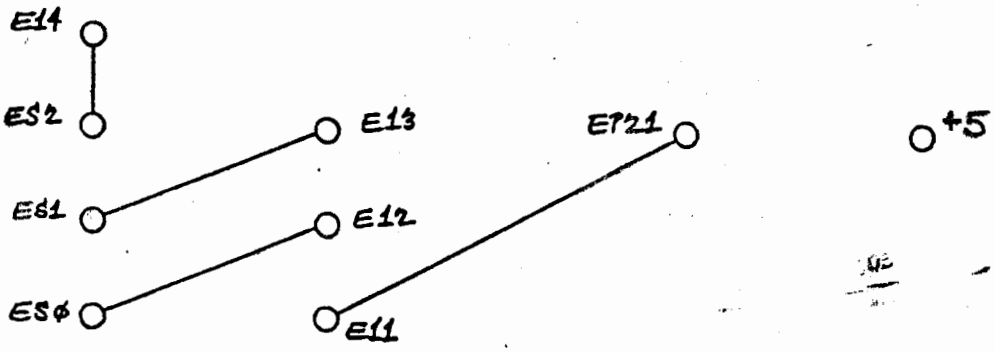


Figure 2. 2732 Jumper Configuration