

INFORMATION DISPLAY DIVISION

4051 SERVICE MAINTENANCE INFORMATION

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4051

INTENT: Provide supplementary or additional maintenance information not available in the Service Implementation Plan or Service Manual. Reference should be made to the published Service Implementation Plan, dated August 21, 1981.

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The 4051 CPU board (670-4008-06), 4051 standard backpack (670-4325-01), and 4051 communications backpack (670-7069-00) have all undergone changes. These changes do not affect the speed at which the 4051 does any of its operation.

The changes to the CPU board is in the densities of the RAM and ROM. Instead of having 16 masked ROMs there will be only four. The existing tests in the System Test Fixture (067-0746-00) are compatible with the new CPU board. The Version 6 firmware on the new CPU board (670-7086-00) will have the same checksums as the Version 5 firmware on the old CPU board (670-4008-06). Table 1 shows the breakdown of each checksum as it pertains to each of the 4 ROMs.

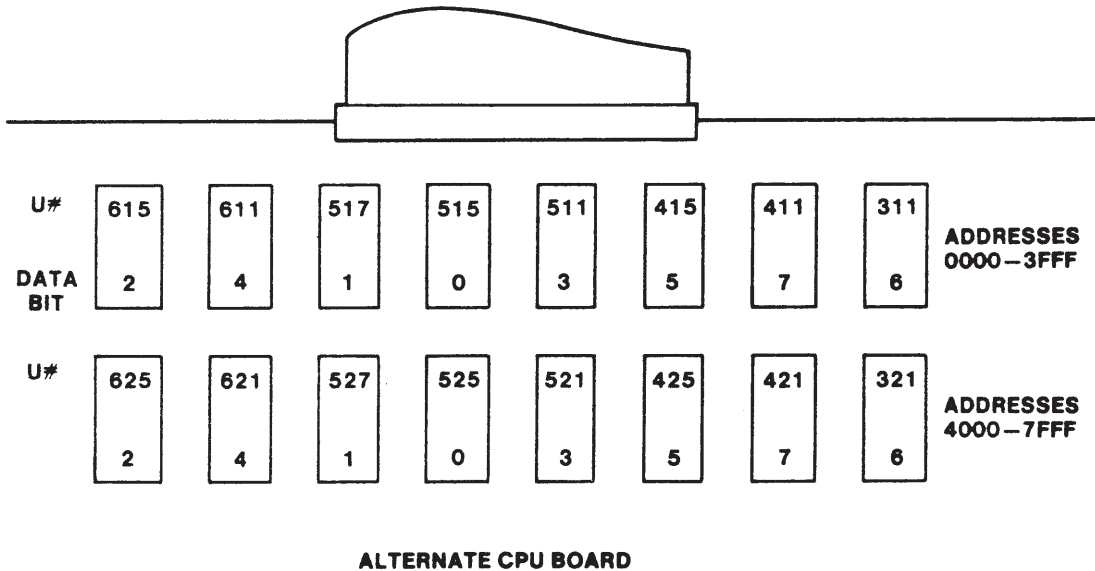
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TABLE 1

<u>Part Number</u>	<u>Circuit Number</u>	<u>Starting Address</u>	<u>Version 6 Checksums</u>
160-0909-00	U581	8000	7D
160-0908-00	U481	8800	E0
160-0908-00	U481		5B
160-0908-00	U481		IC
160-0908-00	U481		8A
160-0909-00	U581		53
160-0909-00	U581		B2
160-0909-00	U581		4D
160-0907-00	U385	C000	BE
160-0907-00	U385		42
160-0907-00	U385		E2
160-0907-00	U385		F4
160-0906-00	U381	E000	E2
160-0906-00	U381		AD
160-0906-00	U381		CE
160-0906-00	U381		F4

The RAMs that are being used will be 156-0968-02, which are 16Kx1 bit RAMs instead of the 156-0635-00 4Kx1 bit RAM. There will be only two RAM memory configurations for the new CPU boards. The two versions are the standard version which will be 16K bytes and the second will be the 32K bytes (Option 22). For use of the System Test Fixture the address breaks are in Figure 1.

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Figure 1.

There have been some enhancements incorporated into the standard and Option 1 backpack, along with a Relayout. The enhancements are the Binary Loader and Matrix ROMpack. They both are built into the backpacks and are standard with each of the backpacks.

The old standard and Option 1 backpacks are compatible with the new CPU board. But the new standard (670-7091-00) and Option 1 (670-7069-00) backpacks are not compatible with the old CPU board, unless the following modification is implemented to the 670-4008-06.

Modification #M43759 as follows:

Materials needed - three 156-0852-02 IC components (74LS367)

1. Remove U231, U251, and U261. The Tektronix part number for each of these three components are 156-0535-02 IC.
2. Replace U231, U251, and U261 each with a 156-0852-02 IC.
3. Roll 670-4008-06 board to a 670-4008-09 level board.

The new 070-2065-01 4051 Graphics System Service Manual, Volume I and the 070-2286-02 4051 Graphics System Service Manual, Volume 2 have the schematics and replaceable parts lists and are available. They also contain the proper information for use of the System Test Fixture with the new CPU board (670-7086-00).

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