

4052F39 and 4054F39 FIELD UPGRADE KIT INSTALLATION

INTRODUCTION

The 4052F39 and 4054F39 are field upgrade kits which upgrade either a 4052 or a 4054 to the functional equivalent of a 4052A or 4054A. See the 4052A/4054A BASIC and GPIB Enhancements Programmer's Reference Manual for details as to the operation of the 4052A and 4054A. This manual contains the installation instructions for both the 4052F39 and the 4054F39.

Whenever a particular circuit board is specified in these procedures, the words "or greater" refer to suffixes greater than "-00" at the end of the 9-digit part number. I.E. 670-5627-00,-01,-02...-nn.

WARNING

The following instructions are for use by qualified service personnel only. To avoid personal injury do not perform any servicing other than that specified in the operating instructions unless you are qualified to do so.

4052F39 FIELD UPGRADE INSTALLATION PROCEDURE

1. Remove the cover from the 4052 following the instructions in the service manual.
2. Remove the CPU board sandwich following the instructions in the service manual.

3. Remove the 16 countersunk screws holding the rails to the CPU Board sandwich.
4. Disconnect the 2 flat ribbon cables between the Memory Command Processor (MCP) Board and the Memory Access Sequencer (MAS) Board.
5. Remove the 12 screws holding the CPU board sandwich together and disassemble the CPU board sandwich.

6. Make the following changes to the ALU board (670-5627-00 or greater) :

REMOVE	ADD
160-0324-00 (U210)	160-0324-01
160-0332-00 (U300)	160-1693-00
160-0333-00 (U305)	160-1694-00
160-0334-00 (U315)	160-1695-00
160-0335-00 (U320)	160-1686-00
160-0336-00 (U330)	160-1687-00
160-0337-00 (U335)	160-1688-00
160-0338-00 (U340)	160-1689-00
200-2486-00 (black bumper	-----

7. Replace the label in the upper left corner of the ALU Board, marked 670-5627-00 or greater, with a label marked 670-7705-00 or greater.
8. Replace the MAS Board (670-6030-00 or greater contains standard memory, and 672-0799-00 or greater contains full memory) with the new MAS board 670-7624-00 or greater.
9. Replace the Input/Output Board, 670-5632-00 or greater, with the new I/O board, 670-7629-00 or greater.

10. If the 4052 has Option 24 (full memory), carefully remove the 18 socketed RAMs (U610 to U695) from the old MAS.

CAUTION

Memory ICs (RAMs) may be damaged or destroyed by static discharges. IC removal and replacement should be done in a static-free workstation using approved static prevention measures.

- a. Carefully insert these 18 RAM ICs into the empty sockets on the new MAS. Be sure that the ICs are oriented properly and that no pins have been bent under.
 - b. Install the new label marked 672-1128-00 or greater onto the new MAS Board.
11. Replace the I/O Board, 670-5632-00 or greater, with the new I/O board, 670-7629-00 or greater. Reassemble the board sandwich and reconnect the two flat ribbon cables between the M.A.S. and the I/O boards.

NOTE

An additional screw (211-0514-00, 6-32 x.750) is included in the board sandwich assembly. While holding the upper and lower layers of the board sandwich together, thread the screw into the hole in the ALU board between U35 and U50.

12. Verify that jumpers are installed on the following square pin pairs;
:MAS board (670-7624-00 or greater)

- J220
- J249
- J295

:ALU board (670-7705-00 or greater)

- J200.

13. If necessary, re-adjust the 3.7ms vector timing, the Write Through Intensity, and the Character Intensity on the I/O board.
14. Re-install the new CPU board sandwich sandwich following the instructions in the Service Manual.
15. Replace the cover of the 4052 following the instructions in the service manual. The 4052F39 installation is complete.

WARNING

The following instructions are for use by qualified service personnel only. To avoid personal injury do not do any servicing other than that specified in the operating instructions unless you are qualified to do so.

4054F39 FIELD UPGRADE INSTALLATION INSTRUCTIONS

1. Remove the cover of the 4054 following the instructions in the service manual.
2. Remove the CPU Board sandwich following the instructions in the Service Manual.

NOTE

If Option 30 (Dynamic Graphics Board) is installed, you should remove it prior to disassembling the CPU Board sandwich.

3. Disconnect the two flat ribbon cables between the MCP Board and the MAS Board. Disconnect the cables at J117 and J118 from the I/O Board.
4. Remove the screws holding the CPU Board sandwich together and disassemble the CPU Board sandwich.

NOTE

The screws used are of various lengths. You should observe the locations and be sure to replace each screw in its respective hole during reassembly.

5. Make the following changes to the ALU board (670-5627-00 or greater) :

REMOVE	ADD
160-0324-00 (U210)	160-0324-01
160-0332-00 (U300)	160-1693-00
160-0333-00 (U305)	160-1694-00
160-0334-00 (U315)	160-1695-00
160-0335-00 (U320)	160-1686-00
160-0336-00 (U330)	160-1687-00
160-0337-00 (U335)	160-1688-00
160-0338-00 (U340)	160-1689-00
200-2486-00 (black bumper)	-----

6. Replace the label in the upper left corner of the ALU Board (marked 670-5627-00 or greater) with the new label marked 670-7705-00 or greater.
7. Replace the MAS Board (670-6030-00 or greater contains standard memory, and 672-0799-00 or greater contains full memory) with the new MAS board 670-7624-00 or greater.
8. Replace the Input/Output board (670-5666-00 or greater) with new I/O board (670-7630-00 or greater).

9. If the 4054 has Option 24 (full memory), carefully remove the 18 socketed RAMs (U610 to U695) from the old MAS Board.

CAUTION

Memory ICs (RAMs) may be damaged or destroyed by static discharges. IC removal and replacement should be done in a static-free workstation using approved static prevention measures.

- a. Carefully insert these 18 RAM ICs into the empty sockets on the new MAS Board. Be sure that the ICs are oriented properly and that no pins have been bent under.
- b. Install the new label, marked 672-1128-00 or greater, onto the new MAS Board.

NOTE

If an Option 30, Dynamics Graphics board was installed, remove the three nylon screws (211-0558-00) from the new M.A.S. and I/O boards.

NOTE

A replacement screw (211-0530-00, 6-32 X 1.75") is included with the new CPU Board sandwich. While holding the ALU and I/O Boards together, install this screw through the post on the ALU Board between U35 and U50. The screw fastens into the threaded post on the new I/O Board.

10. Reassemble the CPU Board sandwich and reconnect the two flat ribbon cables between the M.A.S. and I/O Boards. Connect J117 and J118 to the I/O Board. Verify that the following jumpers are in place:

:MAS board (670-7624-00 or greater)

- J220
- J249
- J295

:I/O board (670-7630-00 or greater)

- J110

:ALU board (670-7705-00 or greater)

- J200

11. Re-install the CPU Board sandwich following the instructions in the Service Manual.
12. Replace the cover of the 4054 following the instructions in the service manual and the installation is complete.