

**N. F. L. MODIFICATION KIT**

**NO. 1**

The purpose of this instruction sheet is to provide you with a simple, straight forward, step-

by-step modification procedure to follow when up-dating your game.

**GAME ACCESS**

1. Turn the power to the game OFF.
2. Position the game to provide easy access to it's rear door.
3. Unlock, remove, and set aside the game's rear door.
4. You now have access to the game's Printed Circuit Board Rack Assembly.

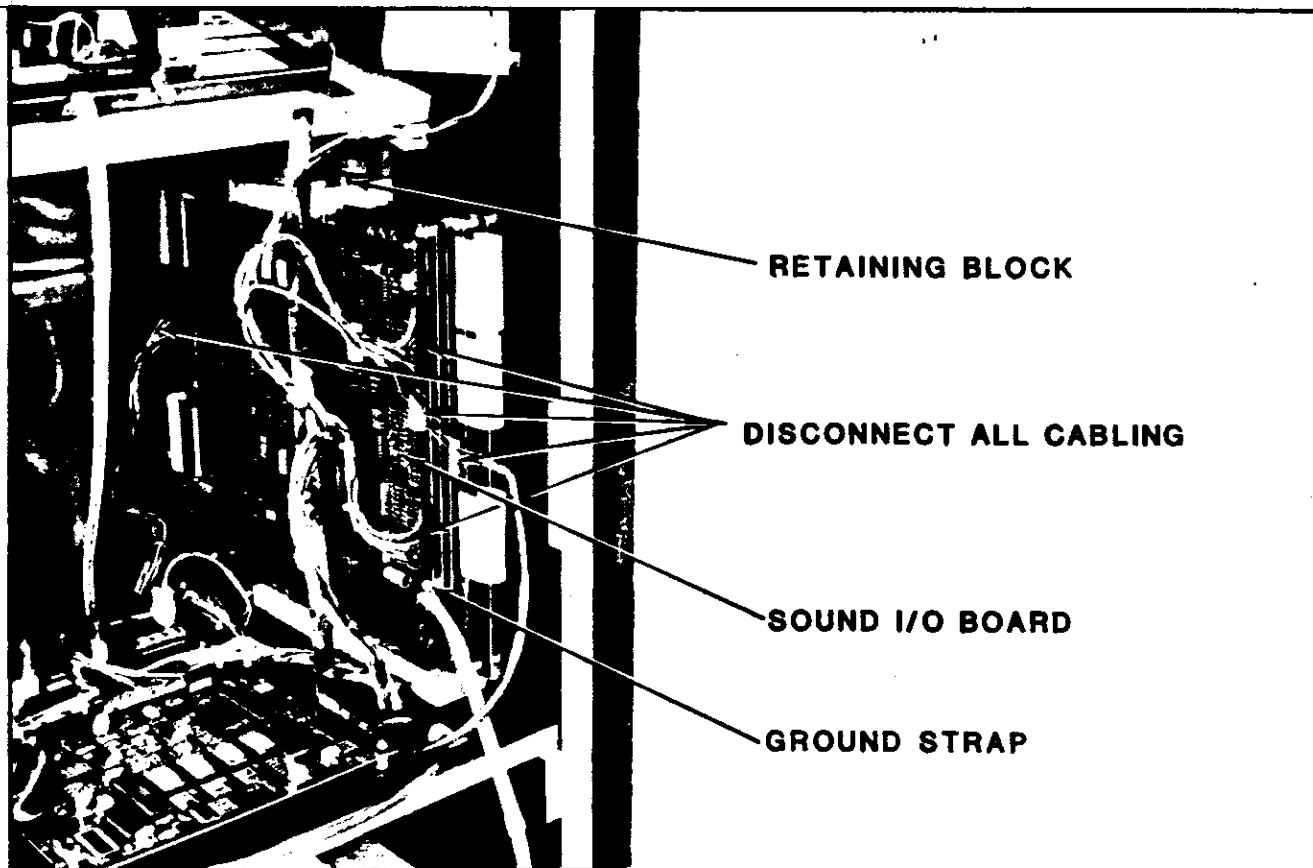
**PRINTED CIRCUIT BOARD**

**RACK ASSEMBLY REMOVAL**

1. **MAKE SURE** the power to the game is turned OFF.
2. Disconnect all cabling from the Printed Circuit Board Rack Assembly as indicated. There are cables at it's front and back sides.

If you are not sure if you will remember where all these plugs will go when you re-assemble your game, we'd like to suggest that you make a small drawing showing all the plugs and where they were removed from.

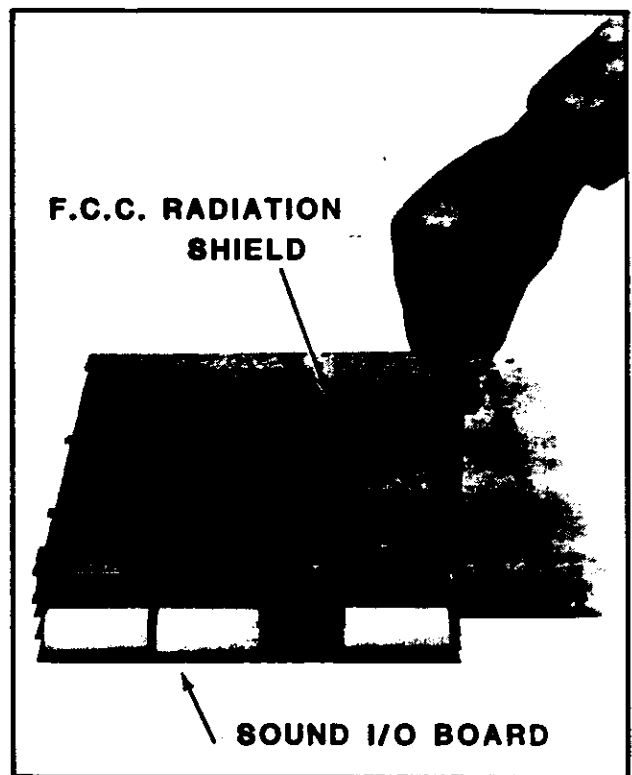
3. Do not forget to disconnect the Ground Strap from this Printed Circuit Board Rack Assembly.



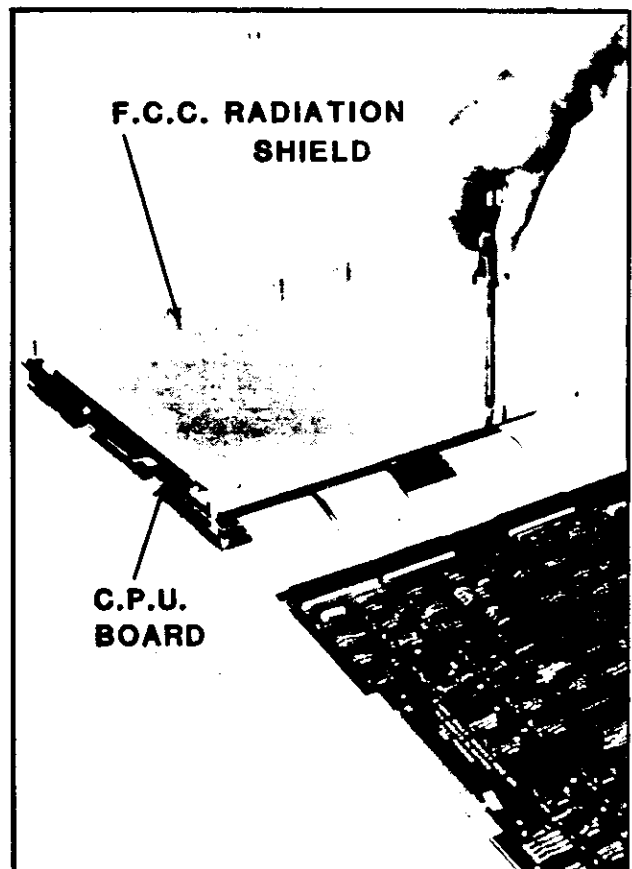
4. Remove the screws that hold the Printed Circuit Board Rack Assembly Retaining Block to the side of the game cabinet.

It is now free and can be lifted out the rear of the cabinet and set aside.

5. The Printed Circuit Board Rack Assembly is now also free and can be lifted out the rear of the cabinet.



3. Fold back the Video Generator Printed Circuit Board to expose the second F.C.C. Radiation Shield and it's 4 indicated mounting screws.



### REPLACING PROGRAM AND BACKGROUND ROMS

1. Place the Printed Circuit Board Rack Assembly you just removed from your game on a flat clean work surface as shown with the Sound I/O Board facing down.
2. Remove the 6 indicated mounting screws and lift off the first of 2 F.C.C. Radiation Shields.

- Remove the above indicated 4 mounting screws and lift off the second F.C.C. Radiation Shield to expose the C.P.U. Printed Circuit Board.

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 \* SPECIAL NOTE \*  
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THE NEXT STEPS OF THIS PROCEDURE MUST BE CONDUCTED WITH EXTREME CARE TO AVOID DAMAGING THE PROGRAM STORED IN THE ROMS YOU ARE ABOUT TO REPLACE. WE SUGGEST EVERY PRECAUTION LISTED - NO MATTER HOW SILLY IT MAY SEEM TO YOU.

PROGRAM AND BACKGROUND

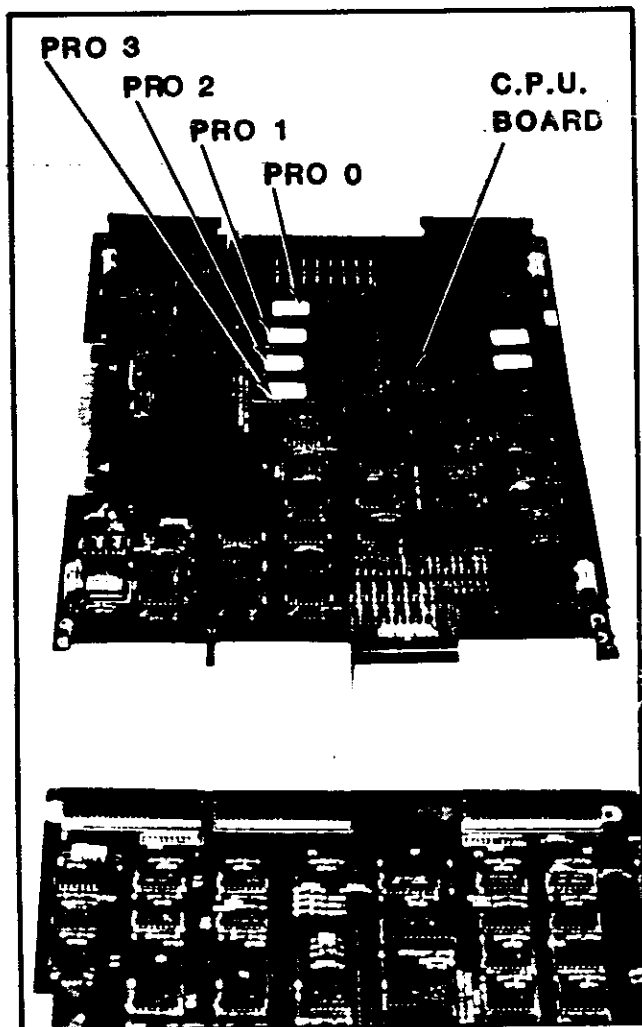
ROM REPLACEMENT

- Referring to the following illustration and your own C.P.U. Printed Circuit Board, locate the indicated 4 Program ROM's on YOUR C.P.U. Printed Circuit Board.

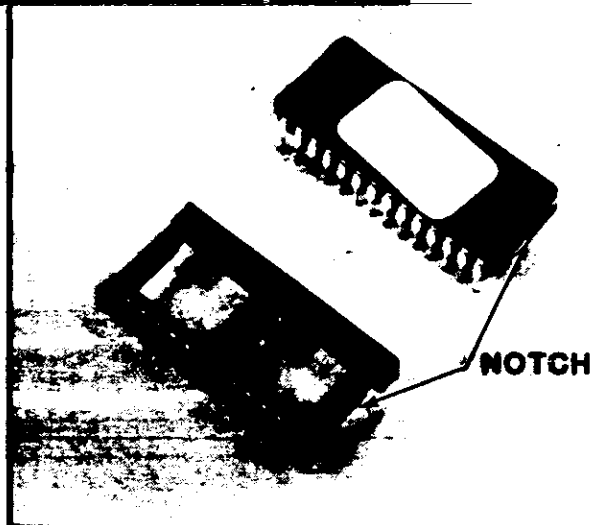
They are at Board Locations (coordinates) 1C, 2C, 3C, and 4C which are near it's center.

IF THEY ARE EXPOSED TO IT, THE SMALLEST AMOUNT OF STATIC ELECTRICITY (the kind that gives you a shock after you walk across a rug and reach for a grounded metal object) CAN PERMANENTLY DAMAGE THE PROGRAM STORED IN THE ROMS YOU ARE GOING TO REPLACE.

- Ground yourself BEFORE handling each ROM. This can be accomplished in many ways, for example: if you are working next to the game cabinet and if it is still plugged into the wall outlet - just touch the Ground Strap you removed from the Printed Circuit Board Rack Assembly, you could touch the metal center screw which holds the plug plate in place over your wall outlet, or you could touch the grounding strap of your work bench if that is where you will be conducting the modifications.

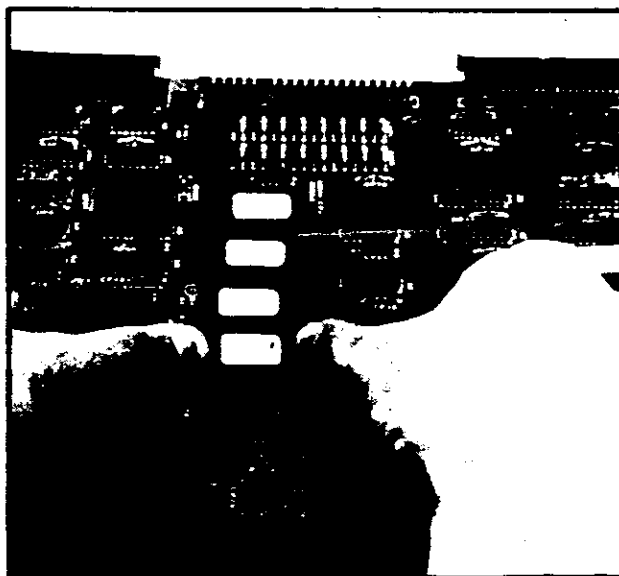


ROM you want to remove as shown. At the same time, grasp it with your other hand as shown and lift up gently. Guide it out of the socket in this manner to help avoid damaging the ROM's pins and the pins of it's socket.

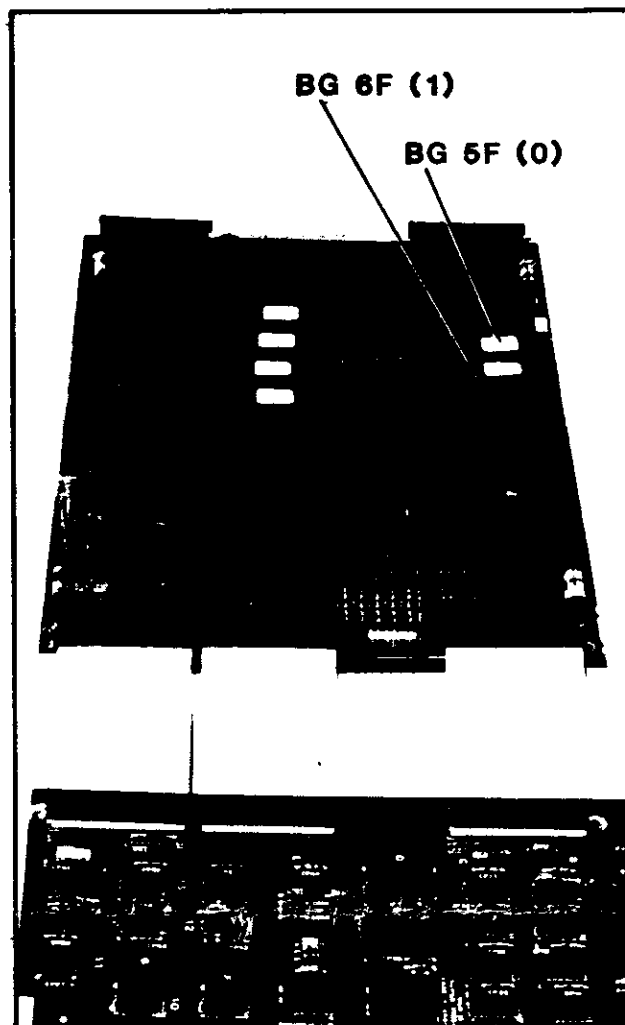


4. Set the removed ROM aside.
5. Ground yourself again.
6. Pick up the replacement ROM as shown and install it in the socket you just emptied in the manner indicated. **DO NOT TOUCH IT'S PINS!!**

**WARNING:** The notch at one end of the ROM **MUST** be matched to the end of its intended socket, which contains a similar notch. If you put the ROM in it's socket backward and turn on the power to the game, you will ruin it.



7. Ground yourself again BEFORE replacing the next ROM.
8. Repeat the above procedure for Program ROMS "0", "1", "2", and "3" found at locations 1C, 2C, 3C, and 4C respectively of the C.P.U. Printed Circuit Board.
9. Find the two Background ROMS designated "0" and "1" at locations 5F and 6F respectively of the C.P.U. Printed Circuit Board.
10. Ground yourself again and replace them following the same basic methods you used to replace the Program ROMS.
11. To reassemble your game, simply reverse the appropriate parts of this procedure.



### I M P O R T A N T

A MODIFICATION HAS BEEN MADE TO ENERGIZE THE COIN COUNTER WHEN A BILL IS ACCEPTED. IN ORDER TO MAINTAIN ACCURACY IN REGISTERING CREDITS, PLEASE READ THROUGH THE FOLLOWING INSTRUCTIONS CAREFULLY.

OPEN THE COIN DOOR TO EXPOSE THE BILL VALIDATOR. THE CONTROL UNIT FOR THE VALIDATOR IS LOCATED ON THE LEFT INSIDE WALL OF THE CABINET. LOCATED ON THE UNIT YOU WILL FIND A ROW OF SIX SWITCHES.

THESE SWITCHES MUST BE ADJUSTED AS FOLLOWS:

$\frac{1}{\text{ON}}$

$\frac{2}{\text{ON}}$

$\frac{3}{\text{OFF}}$

$\frac{4}{\text{ON}}$

$\frac{5}{\text{OFF}}$

$\frac{6}{\text{OFF}}$