



Thank you for purchasing my Williams pinball EPROM adapter. This is intended to be a simple drop-in component for replacing the standard ROM set of your System 3-6 games using a single add-on board. This includes Firepower, which previously did not have any easy method for replacing the original ROM chips if necessary.

Before installation, please research and adhere to good procedures to avoid Electrostatic Discharge (ESD), as some components on your original CPU board are very sensitive to damage from ESD, particularly the 5101 RAM chip located at IC19 and the EPROM if included with this adapter.

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| <p>Figure 1.</p> | <p>This circuit board is intended for use in any Williams System 6 CPU board, regardless of the originally installed ROM set. No modifications or jumper changes will be required to your CPU board. This includes boards that have been previously modified to use the earlier 2732 "Combo" ROM set for Firepower. However, installation will require the socket for the processor chip at IC1 to be in good condition. (See figure 2.) Original Scanbe or RN brand sockets at IC1 will likely still need to be upgraded to more reliable components. It is recommended to use a quality double-wipe stamped socket, though machined pin style sockets are also acceptable.</p> |
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Installation is as follows.

Step 1:

Remove any EPROM / PROM chips located in sockets IC14, IC17, IC20, IC21, IC22 and IC26 on your CPU board. (See Figure 2). Be sure to remove these chips gently, using a thin flat tool to evenly pry them from the board from both sides, being cautious to pry up ONLY the actual chips and not their soldered-in mounting sockets. Take your time, be gentle, and do not force it. Unmodified Firepower board sets will have chips in all six sockets, all other System 6 games or previously modified Firepower boards using the 2732 style Combo ROM will only have 3 chips.

Do not simply pull with your fingers, as eventually you will pull one out unevenly and break off a couple of the chip legs in the process. Being lazy like this is the reason I designed this board, as I did just that kind of damage to the irreplaceable IC21 on my own machine by grabbing with my fingers and yanking.

Step 2:

Locate and remove the 6808 or 6802 processor chip located at IC1. Set it aside and be particularly cautious with this chip, as you will need it again shortly. (See Figure 2.)

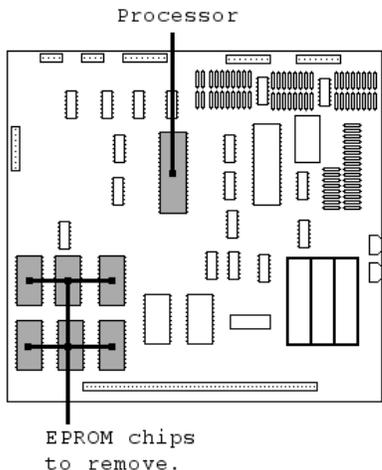
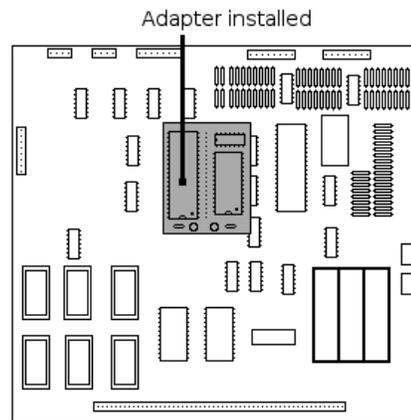


Figure 2  
CPU Board

Figure 3



Step 3:

Take the processor chip removed in Step 2, and install it into the 40-pin socket on the adapter board. There will be a small notch and/or embossed dot on one of the ends of the processor chip. Match this end of the chip with the notch in the socket. Before pressing into place, make sure all 40 pins are properly line up with the socket. The chip should install easily with firm but even pressure.

Step 4:

The adapter board is now ready to install into your CPU board. It will simply press into the socket, with the larger processor chip to the left side and LED's on the bottom. (See Figure 3.) Your installation is now complete, and ready to use.

Additional Notes:

There are also two diagnostic LED's on your adapter board. These indicate the status of the 5volt and Reset power lines on your CPU board. In normal operation, the 5volt LED should turn on instantly when the machine is powered up, and the Reset LED should also turn on approximately one second after the 5volt LED. They are simply an on/off indication of power at those lines, but are not accurate indications of actual voltage.

Legal Notices:

This adapter board is intended for use with pinball machines that are approximately thirty years old or more. Installation of this board does not imply that it will repair any faulty areas of your existing hardware, and any existing faults will need to be addressed prior to the adapter board functioning properly. It is up to the purchaser, installer, and/or user to properly maintain their pinball machine.

Any use outside of the above described instructions are not covered by any warranties either stated or implied. Any risk incurred by alternate uses of this board are assumed solely by the installer / user.

Game software, if provided, is done so with the permission of Planetary Pinball and is licensed accordingly.

Please check out the full lineup of products from Siegecraft Electronics on the internet at <http://www.siegecraft.us>

I currently offer a lineup of useful boards for performing diagnostic work on early Williams solid state machines, and will be working on a number of new products based on customer suggestions and feedback.

If you have any suggestions or questions, please contact me at [hans@siegecraft.us](mailto:hans@siegecraft.us)