

Installing your MCR Switcher Adapter  
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## **Notice Regarding this Upgrade**

### **Warning!**

Although this upgrade has been tested and the techniques used will not directly cause harm to your

Game. If you do something wrong, you can very seriously damage the electronics!

So, Read the instructions



### **To perform this upgrade you should:**

- Have a working understanding of electronics.
- Be familiar with safe handling procedures for electronic components.
- Have basic soldering and electronic assembly skills.
- Be able to follow directions.

Anytime you start messing around with something (particularly something electronic) you accept a certain amount of risk that you may break something. This kit carries with it no guaranty of compatibility to your. If you carefully follow these instructions, you'll do fine and everything will work. If this looks like it's above your confidence level please recruit someone locally to install the kit for you!

Please read these instructions completely through before starting.

### **Introduction**

Before you begin to install the adapter, you **MUST** have a switching supply capable of supplying +5vdc, +12vdc, and -5vdc. You must also choose a mounting place for the switcher and the adapter that reaches your game harness.

Finally before we get started, grab your favorite beverage, maybe something to snack on, and find a quiet place to read this manual so you fully understand what to do before you start tinkering around with your precious Labor of Love!

### **Inventory**

You should have the following in your kit:

- MCR Switcher Adapter board
- 4 #3 screws
- Instructions

If any of these items are missing, please email me ASAP so we can get you up and going.

### **Necessary Parts and Tools**

You will need the following parts for this modification:

- Electric Tape.
- Switcher power supply
- Hookup wire for switcher to AC Mains

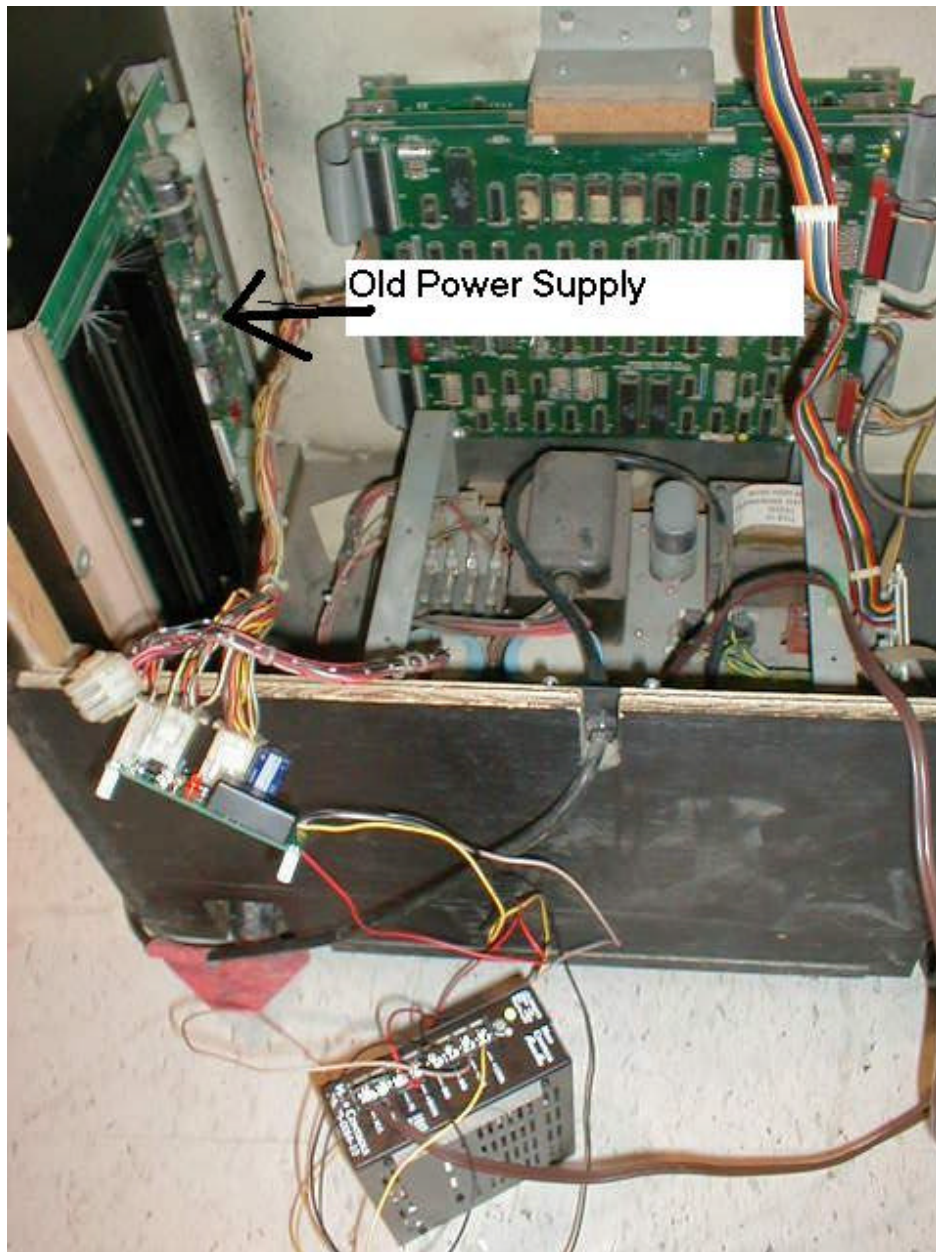
Tools you will need for this modification:

- Soldering iron and solder.
- Philips screw driver.
- Wire stripers.

## Remove the Current analog power supply board

### Step One: Remove the current MCR supply board.

This is an easy one; the Power supply board is usually on the left side of the game looking at it from the back. There are 4 plugs on the board. Simply unplug the connectors, unscrew the top plastic retainer and slide the board out.



## **Step Two: Wiring the MCR Adapter.**

Next connect the ends of the wires from the controller to the correct switcher supply connections.

Connect the TWO Red/White wires to +5 VDC on your switcher

Connect the Yellow/Green wire to the +12 VDC on your switcher

Connect the TWO Black/Red wires to GND on your switcher

Connect the Orange/White wire to the -5VDC on your switcher

## **Step Three: Mount to Cabinet.**

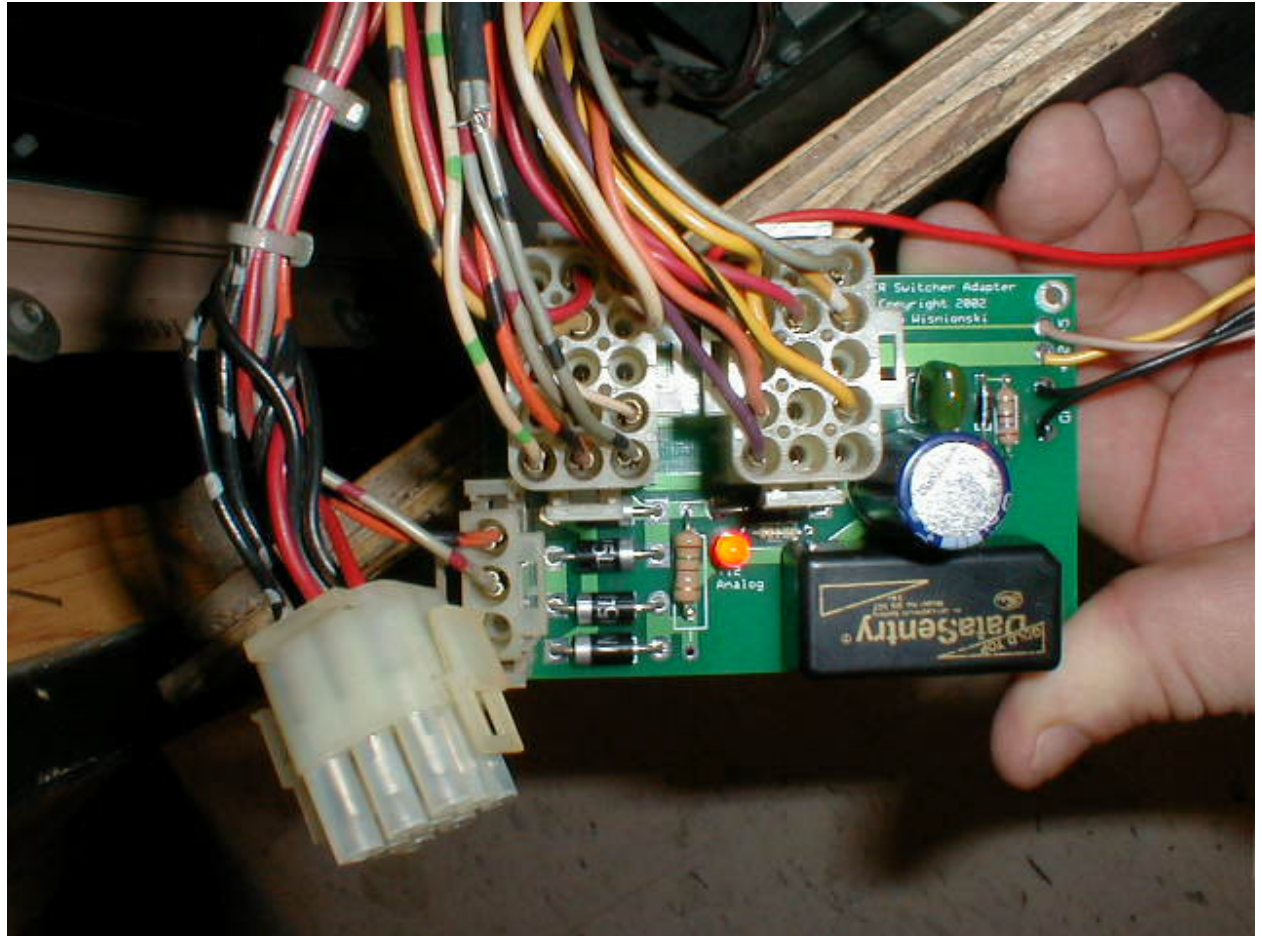
Using the screws that came with the MCR adapter, mount the PCB so that the wires from the old power supply board reach the adapter and where you can see the LED that is on the adapter. Also, mount your switcher in a convenient place. The games that I have worked on I simply mounted it in place of the old power supply, but if you many want to mount it elsewhere. The bottom of the cabinet is a good place.

## **Step Four: Connect AC power to switcher**

Using some lamp wire, connect the AC from the switcher to an AC source in the game. **WARNING.. DO NOT USE THE OUTLET** in the bottom of the game. I've seen many people do that, and frankly its wrong. That outlet is NOT switched on all games, that means even if you turn the power off from the games normal power switch, the game will still be running. Only the monitor would go off. The only way to turn off the game if you use the service outlet would be to pull the wall plug. Probably the best choice is to locate the wires going to the marquee lamp assy and tap into those. I'll leave the connection point up to you, as there are many different possible connection points that would work. But, please be careful, you are working with 120VAC.

### Step Seven: You're in the home stretch now. Connecting the Power.

This is a simple one; connect the mating connectors from the old power supply hookup to the adapter. The adapter uses 3 of the 4 connections. The fourth will just be left hanging.



### Step Eight: Check your work.

Now it may make perfect sense, but at this point you've done a lot of bending over into your game to do this wiring, and you're probably pretty anxious to see what the heck this board does in person. But, from years of experience, CHECK YOUR WORK!

### Step Nine: All systems go?

The power supply must be adjusted properly for your game to come up. Using a meter with the game board and adapter connected, power it all up and check the +5 voltage, I would recommend setting it for between 5.10 and 5.20 VDC. Any higher risks damage to your game board.

That's it, time to play...

## Troubleshooting.

Here are some helpful tips.

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- There is a +12 Analog LED on board, if that light is out, you will probably not have any sound. Check the 3-prong connector and make sure it's in correctly. Using your meter, check to see if you have AC voltage between the Center and two outer pins. If you do not, there is a problem with the harness, connector or your transformer assy in the bottom of the game.
- If your game resets, does not come up, seems 'flaky' you could have a bad board set or the connectors that you are plugging into the MCR adapter are bad. If your old power supply battery had leaked, you may have acid damage to the internal metal connectors of the plugs. Inspect the connectors and if you see any 'green' your connectors are bad. You can try cleaning them with contact cleaner, but in the end you may have to replace some/all of the pins in the connector.

## Final Notes:

This kit carries with it no guaranty of compatibility to your particular game. Although this kit has been tested with numerous MCR games and CPU boards, there's a possibility that some of them are different. This kit carries no liability protection for you game PCB, while there is no reason this kit should cause damage to your game, it is possible that incorrect or poor wiring can damage your game board set. Liability is limited to repair/replacement of the adapter only.