

## Gottlieb/Mylstar Switching Power Supply Conversion Kit

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**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...



...Please 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 particular game. 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!

### **Introduction**

Before you begin to install the adapter, the switching power supply **must** capable of supplying +5v, +12v, and -5v and terminal order must be in the correct order. 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!

### **Necessary Parts and Tools:**

You will need the following parts/tools for this upgrade...

- Switching power supply
- Phillips screwdriver
- Pliers

### **Step One: Unplug the game from its power source!**



While installing this kit, electric shock is possible if power is present!

## Step Two: Remove the original power supply board...

This is an easy one; the Power supply board is on the upper right side of the back door. There are 4 plugs on the board. Simply unplug the connectors, unscrew the top plastic retainer and slide the board out.



## Step Three: Connecting the Adapter to the Switching Power Supply...

### Connecting the adapter and wiring:

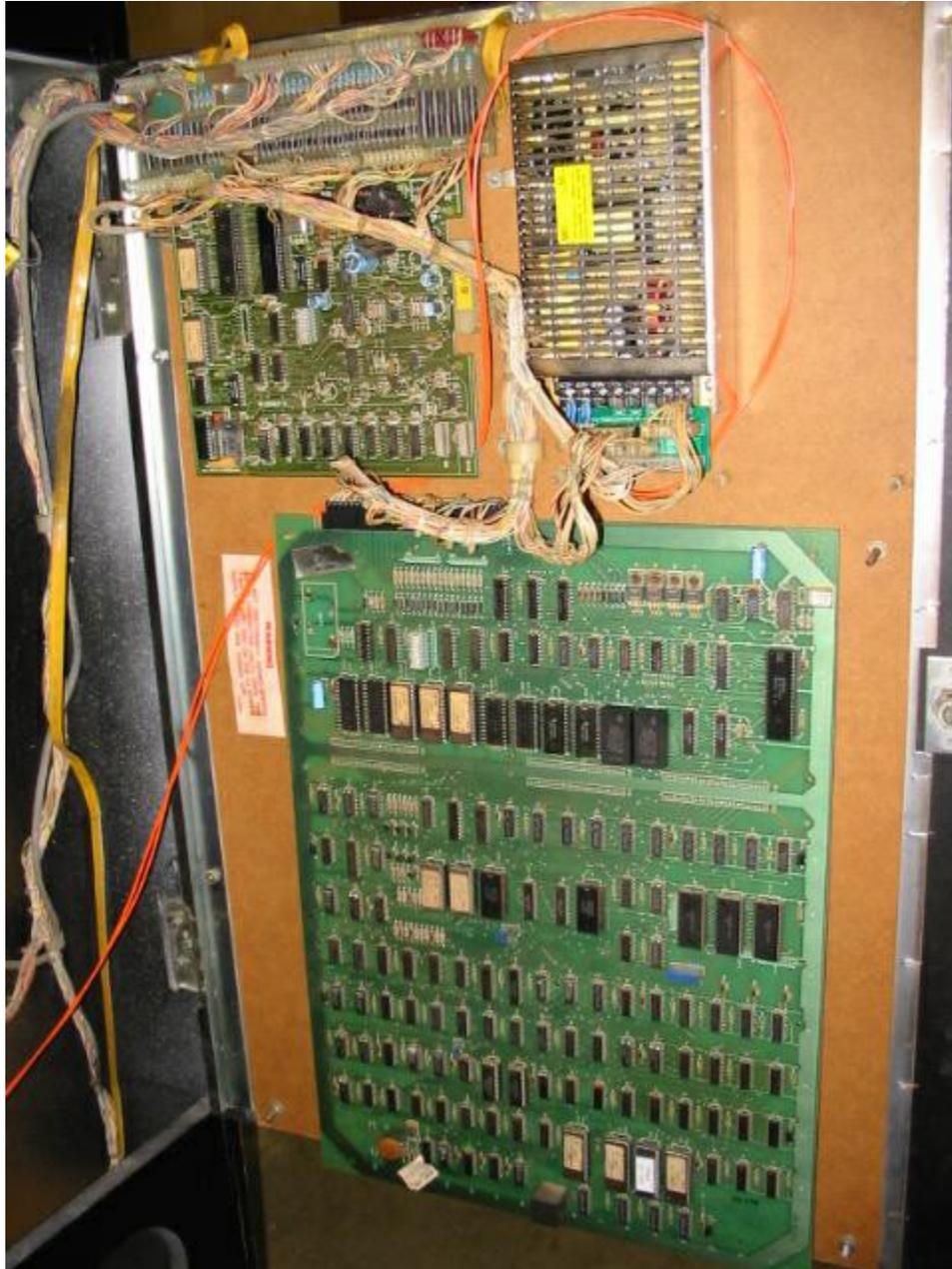
1. Secure the adapter to the power supply.
2. Plug in P4, P2, P1 and P3 connectors.
3. Mount the power supply in the location of the original power supply and be sure there is no tension on the harness.

Note: The connectors should be keyed, but to be safe, make note which end of the connector is at pin #1 and verify they are plugged in properly.



**Step Four: Hooking up 120 V.A.C. power to the new power supply...**

Using the two provided wires, connect the two ends to the A.C. L and A.C N terminals. Next, tap in the other ends to the wires feeding power to the monitor. Normally these are Black and White wires near the monitor.



### **Step Five: 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 connect the wiring, and your probably pretty anxious to see what the heck this board does in person. But from years of experience, CHECK YOUR WORK!

### **Step Six: 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 recommend setting it for 5.05v. Any higher risks damage to your game board.

That's it, time to play!

### **Trouble Shooting Tip(s):**

Check the connectors on the interconnect PCB, if they are burnt due to over heating or from a short circuit, replace them. Also make sure the pins on the interconnect PCB do not have any broken solder joints and the pins on the top side are not tarnished. Header pins, connectors and pins are available if needed. Note: Some games utilize a Power On Reset circuit and is powered by +12 volts which is supplied from the transformer in the bottom of the cabinet, not the power supply. If your game boots up to static garbage on the screen, the board set may not be getting this voltage. You will need to connect pin 27 on the main CPU connector to +12 on the new power supply. Ref. Q\*Bert wiring diagram A1 - P27.

### **Final Notes:**

This kit carries with it no guaranty of compatibility to your particular game. Although this kit has been tested with numerous games, there is 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.

### **Other items of interest...**

Q\*Bert is known to have a circuit flaw which will cause high scores to become corrupt. We now offer a [Cap Kit for the Q\\*Bert Sound and CPU boards](#). Another issue with Q\*Bert is the battery found on the CPU board, overtime it can leak causing non-repairable acid damage. A [Q\\*Bert Battery Conversion Kit](#) using SRAM modules is also available. The power supply kit along with these additional upgrades will keep your game up and running for years to come.

A new [JROK Mylstar Multigame JAMMA PCB](#) is now available.

### **Credit(s):**

Thanks to Greg S. A.K.A. Perf (R.I.P.) for providing additional testing and James R. A.K.A. JROK for clarifying some of Gottlieb's sketchy documentation. Thanks!