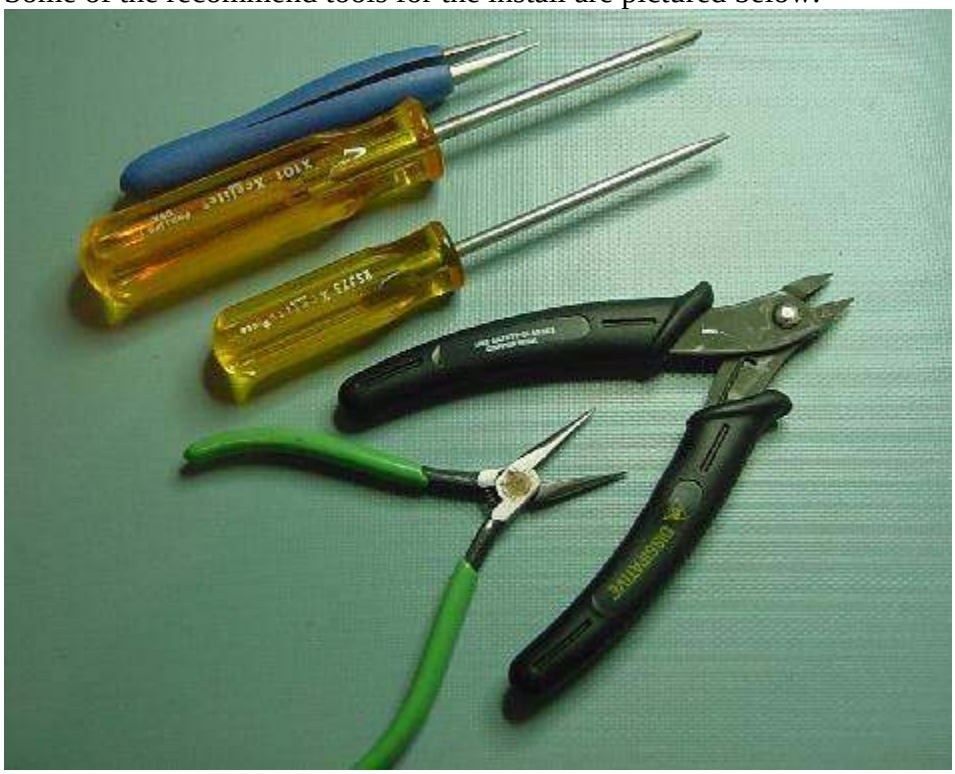
JAMMA 4 Game Selector
INSTALL GUIDE

Each Jamma Selector includes the following items:

1. Jamma 4 Game Selector PWB
2. 4 power cables 16”
3. 34 conductor ribbon daisy chain cable
4. Mounting feet and screws

Some of the recommend tools for the install are pictured below.



IMPORTANT INFORMATION - PLEASE READ & UNDERSTAND FULLY

The Jamma 4game selector kit is designed for horizontal or vertical monitor Jamma arcade cabinets. Up to 4 adapters can be added at any time by simply plugging them into the power and ribbon cables.

You can cycle though the four boards by holding down the P2 button then pressing the Player1 button 1. To add credits if your board does not support freeplay hold down P2 then joystick UP or DOWN.

The selector board controls power switching and communicates with each adapter board on power up. It is necessary for the selector to know what types & how many adapters are plugged in. Since the ribbon cable is common to all adapter boards the power cables determine the order that each game board is powered on.

An example of this is if you had only two adapters installed and they were plugged into The Game1 and Game2 connectors, on power up Game1 would be powered first. When you cycled to the next game Game2 would be powered. Since the selector (knows) that there were no adapters plugged into Game3 & Game4 connectors, when you cycle to the next game it goes back to Game1.

Another example of this is if you plug your two adapters into Game2 and Game4 connectors on the selector board. On power up Game2 would be powered first. When you cycled to the next game, Game4 would be powered. Since the selector “knows” that there were no adapters plugged into Game1 & Game3 connectors, when you cycle to the next game it goes back to Game2.

If the selector did not “know”which adapters were plugged in then when you cycled to the next game and there was no adapter installed you would just get a blank screen until you cycled to one of the four connectors that had an adapter connected.

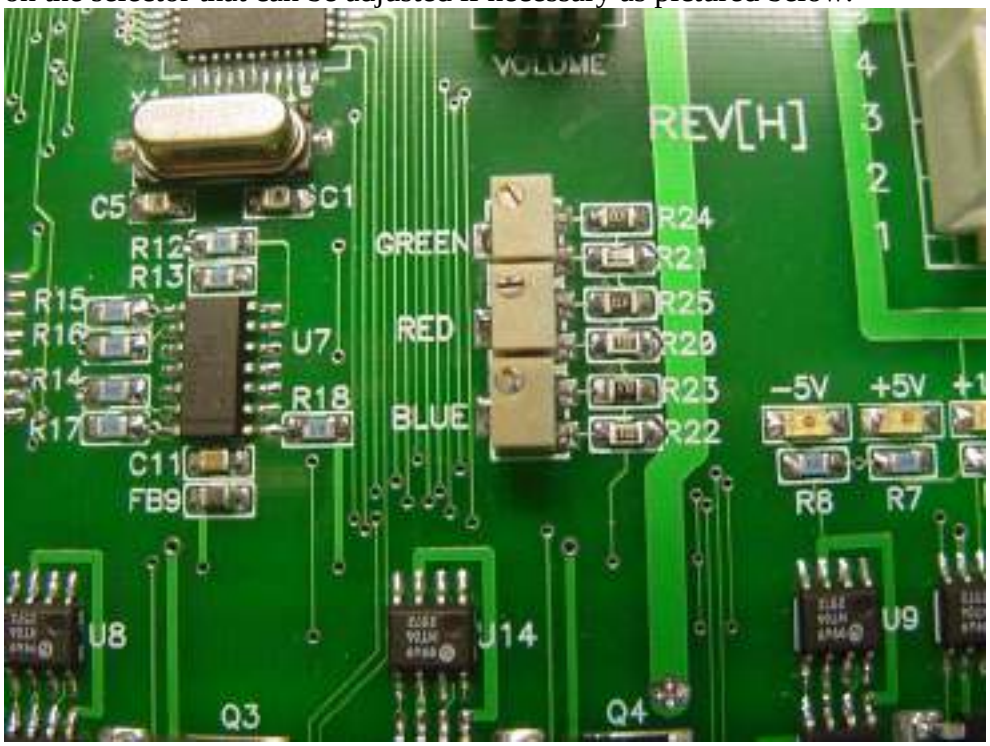
The selector can also determine if a standard Jamma or Nintendo adapter is installed and automatically invert the video so that all games are displayed correctly on your monitor. You obviously cannot mix vertical & horizontal displayed games on the selector as they would not all be oriented correctly.

For alternate controls expansion there are places to mount two 10 pin headers labeled Player1 & Player2 if extra buttons or joysticks are needed or if your cabinet does not have a way to connect via the control panel harness.

PLAYER1 CONNECTOR	PLAYER2 CONNECTOR
1. PLAYER1 START	1. PLAYER2 START
2. JOYSTICK UP	2. JOYSTICK UP
3. JOYSTICK DOWN	3. JOYSTICK DOWN
4. JOYSTICK LEFT	4. JOYSTICK LEFT
5. JOYSTICK RIGHT	5. JOYSTICK RIGHT
6. BUTTON 1	6. BUTTON 1
7. BUTTON 2	7. BUTTON 2
8. BUTTON 3	8. BUTTON 3
9. BUTTON 4	9. BUTTON 4
10. GROUND	10. GROUND

The picture below shows the LM386 audio amplifier and volume control on the selector .

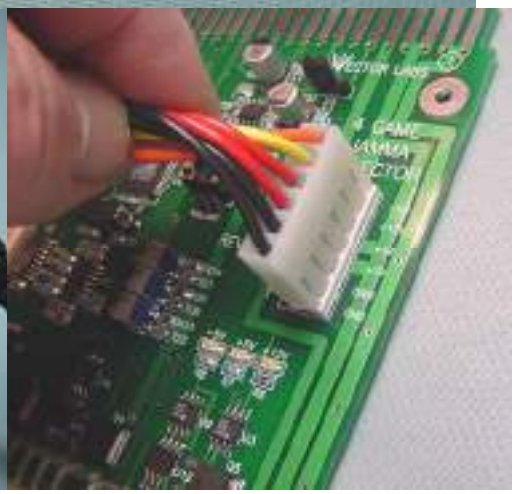
While using a Nintendo adapter with the selector the video will be inverted so that it displays properly on the monitor. There are RED, GREEN and BLUE trimmer pots on the selector that can be adjusted if necessary as pictured below.



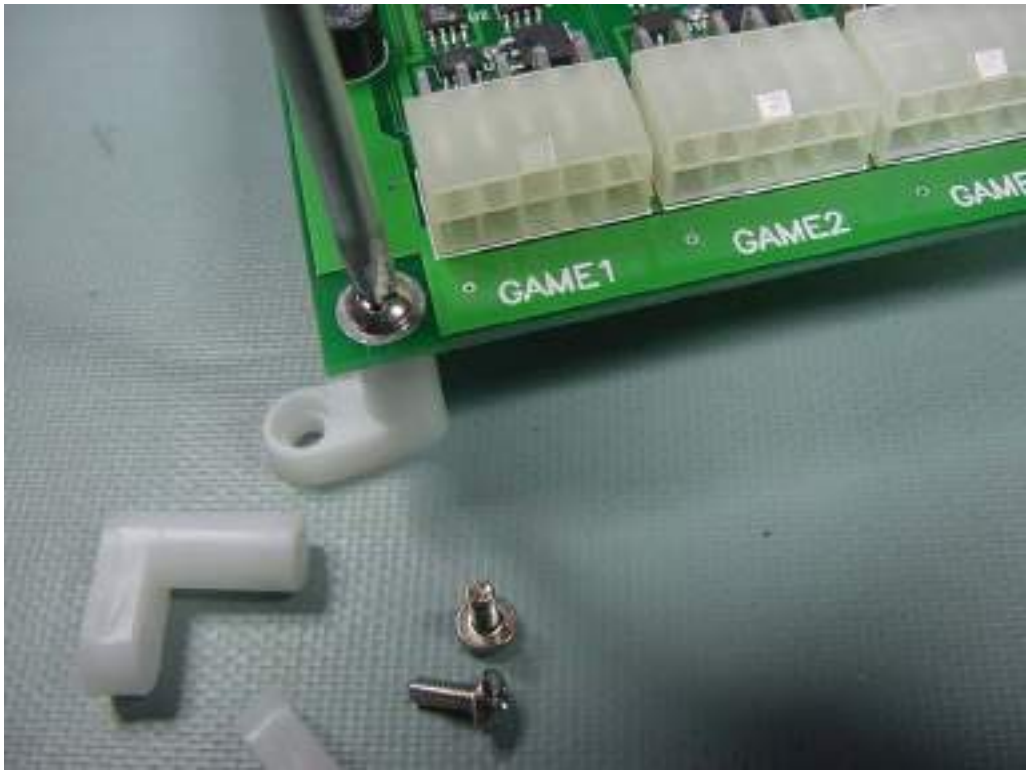
INSTALLING THE 4 GAME SELECTOR

The 4 game selector is an intelligent controller for up to four adapters as mentioned previously. The power switching utilizes power MOSFET's for quiet and reliable operation and does not have mechanical wear issues like relays. There are four 10pin Minifit connectors for power distribution to each adapter board. Power status LED's for +5v, +12v & -5v power rails are provided. A single 34pin ribbon cable header labeled JBUS or NBUS handles all the control and video signal distribution to each of the adapters.

In most Jamma cabinets the Jamma bus wiring from the power supply to the PCB can sometines be too long and as a result an excessive voltage drop can be introduced.
It is therfore recommended to get the oprional switching power supply cable that plugs directly into the selector. It is shown in the pictures below.

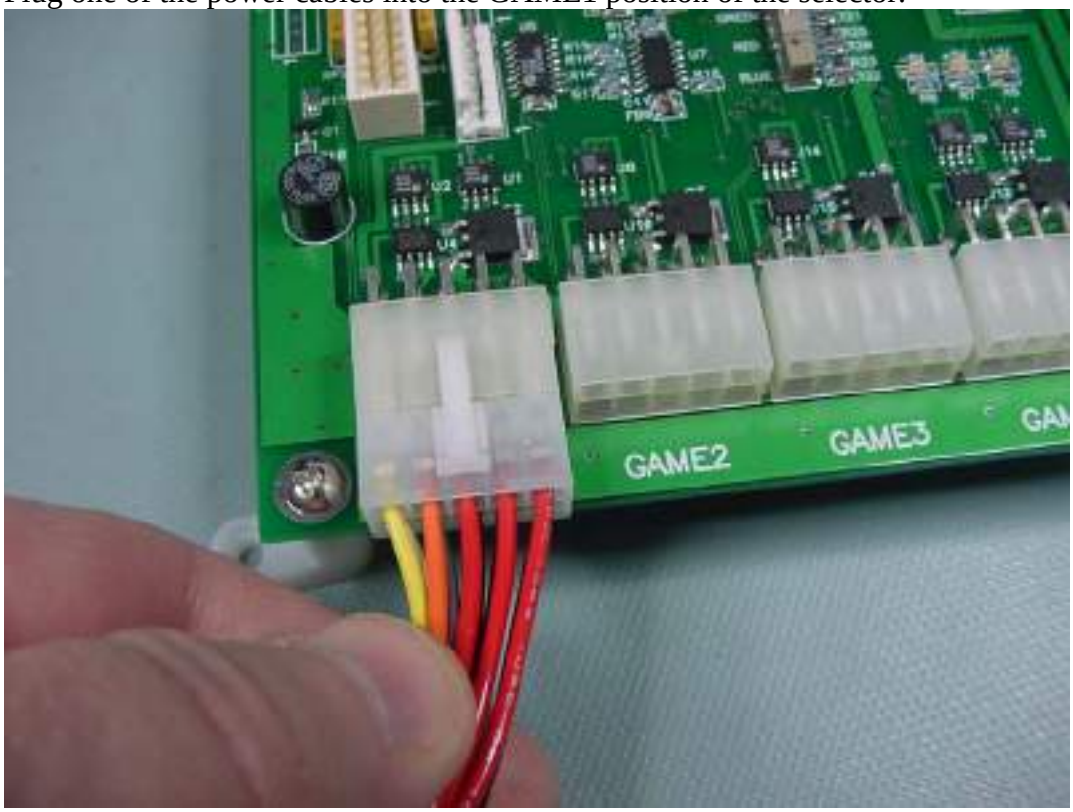


Install the four mounting feet & screws into the four holes on the selector as shown below.

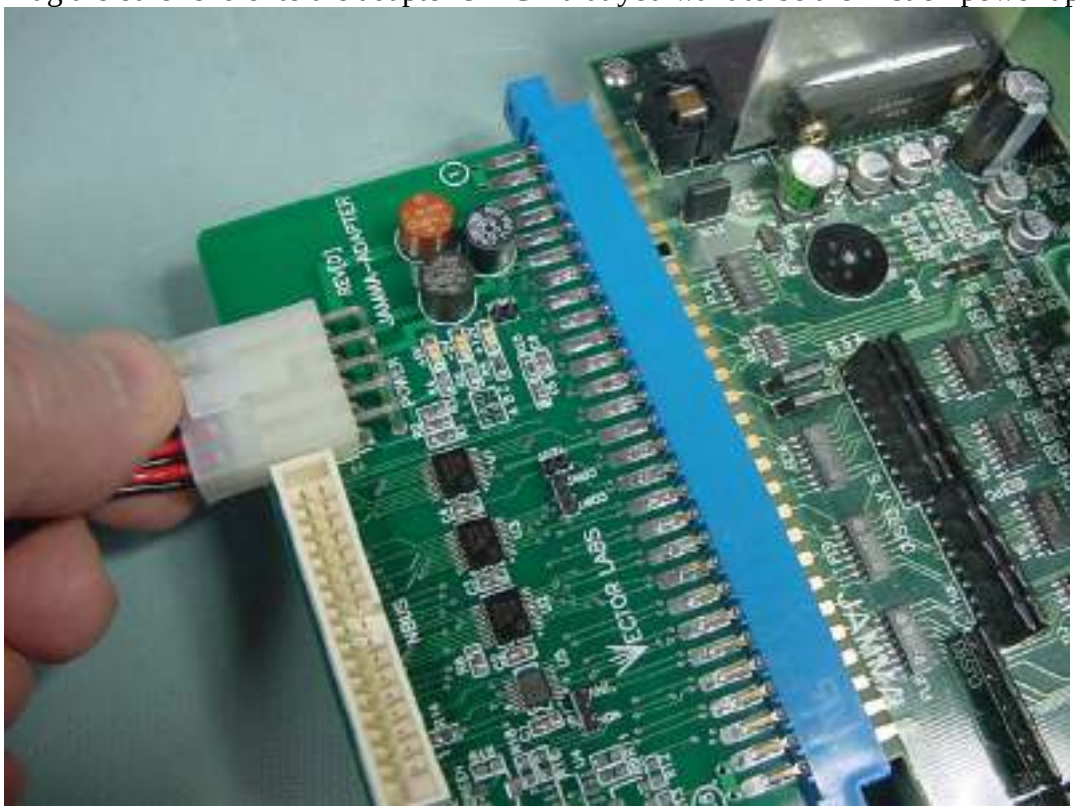


Plug in Jamma cabinet harness onto the selector as shown below.

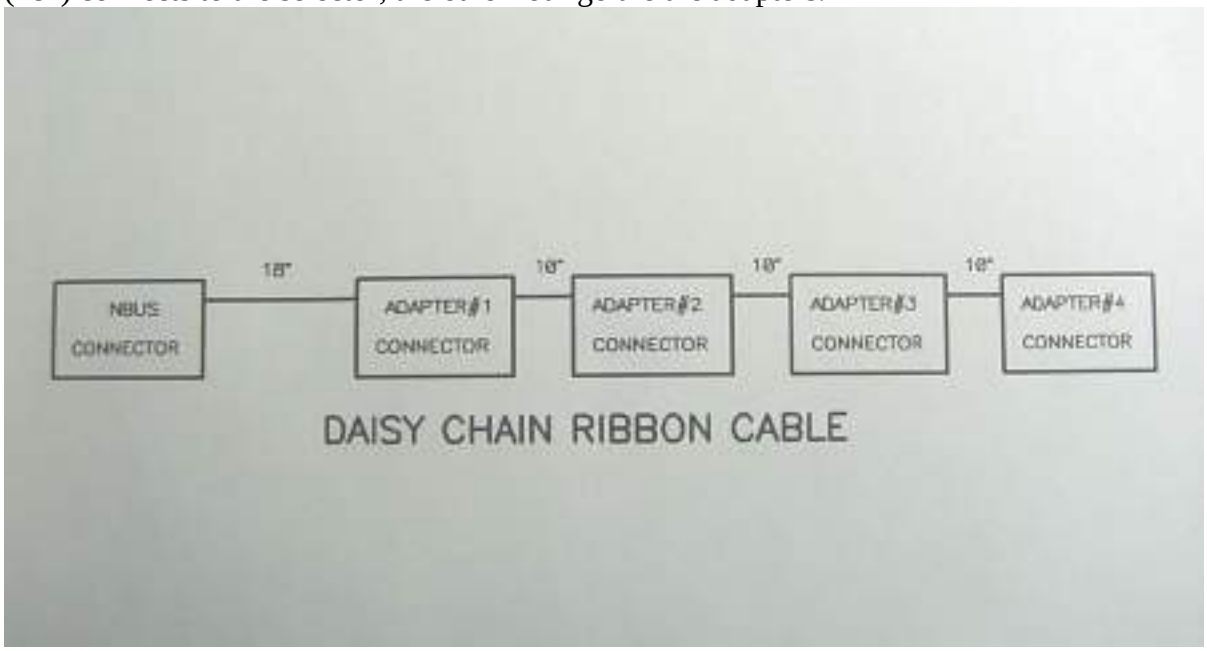
Plug one of the power cables into the GAME1 position of the selector.



Plug the other end onto the adapter & PCB that you want to be the first on power up.

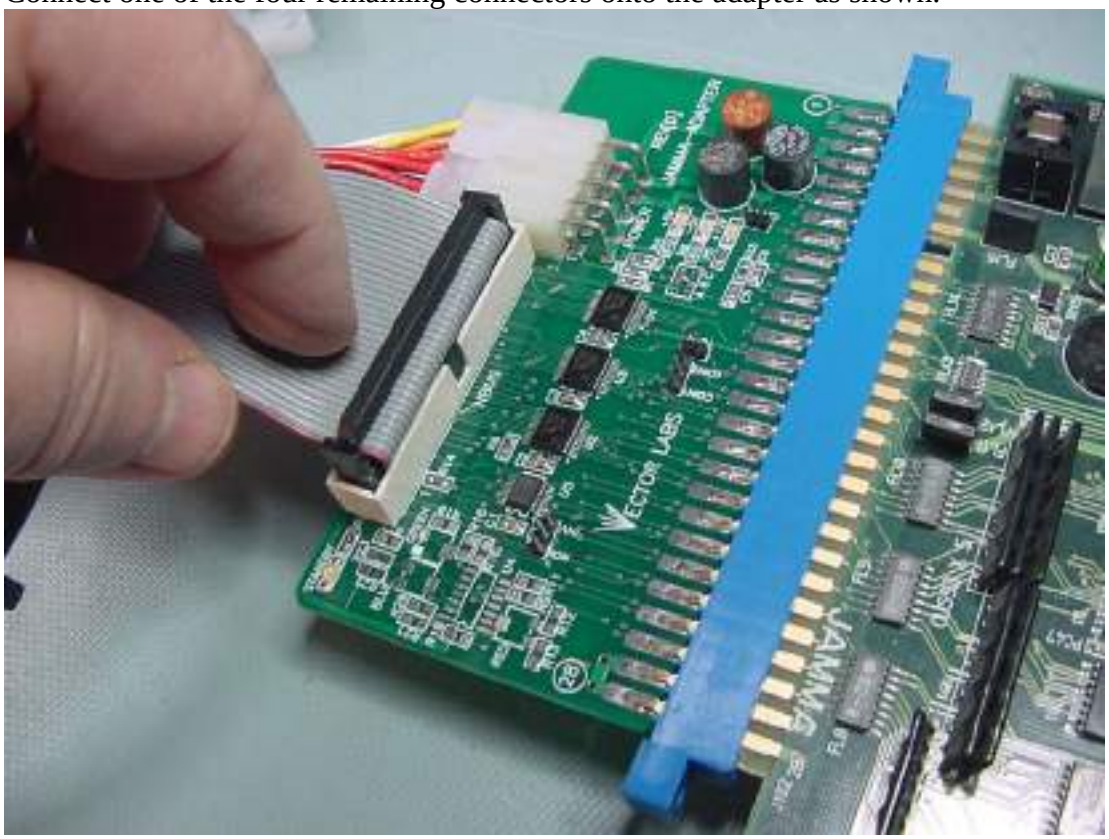


Take note of the supplied ribbon cable, there are five connectors on the cable. This 4'cable has connectors spaced as described below: Note that the connector that is spaced further (18") connects to the selector, the other four go the the adapters.

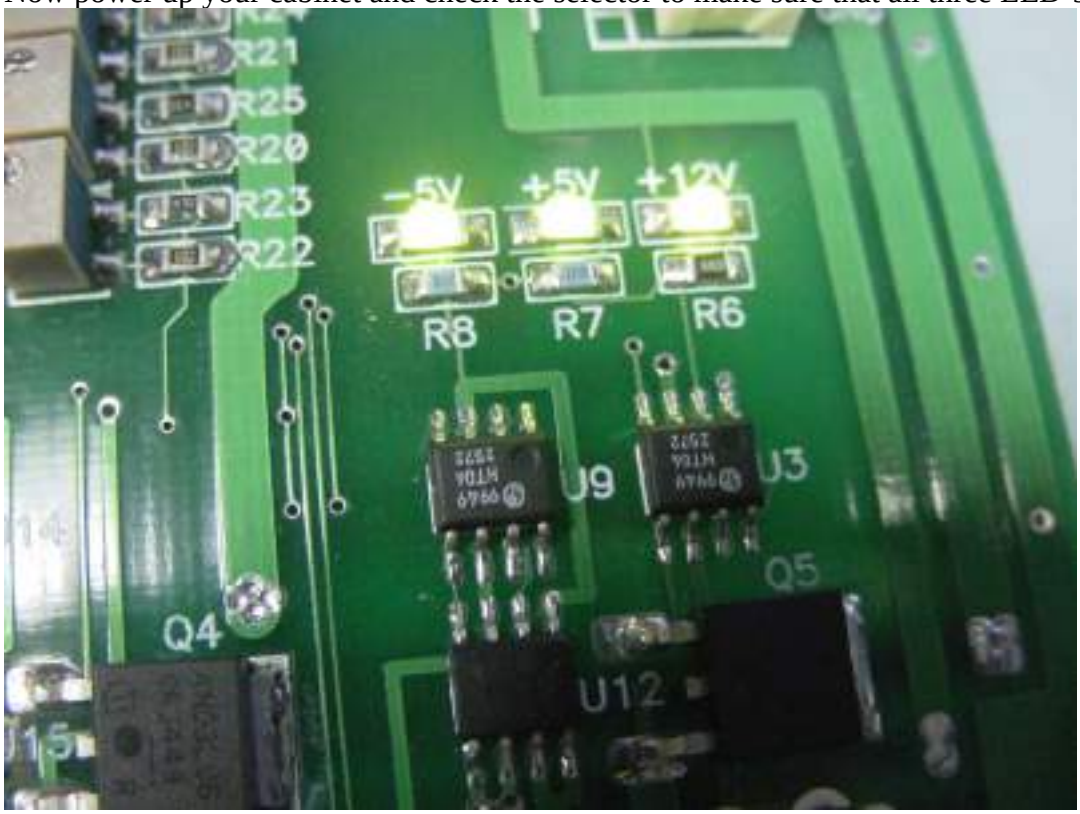


Insert this connector onto the selector as shown below.

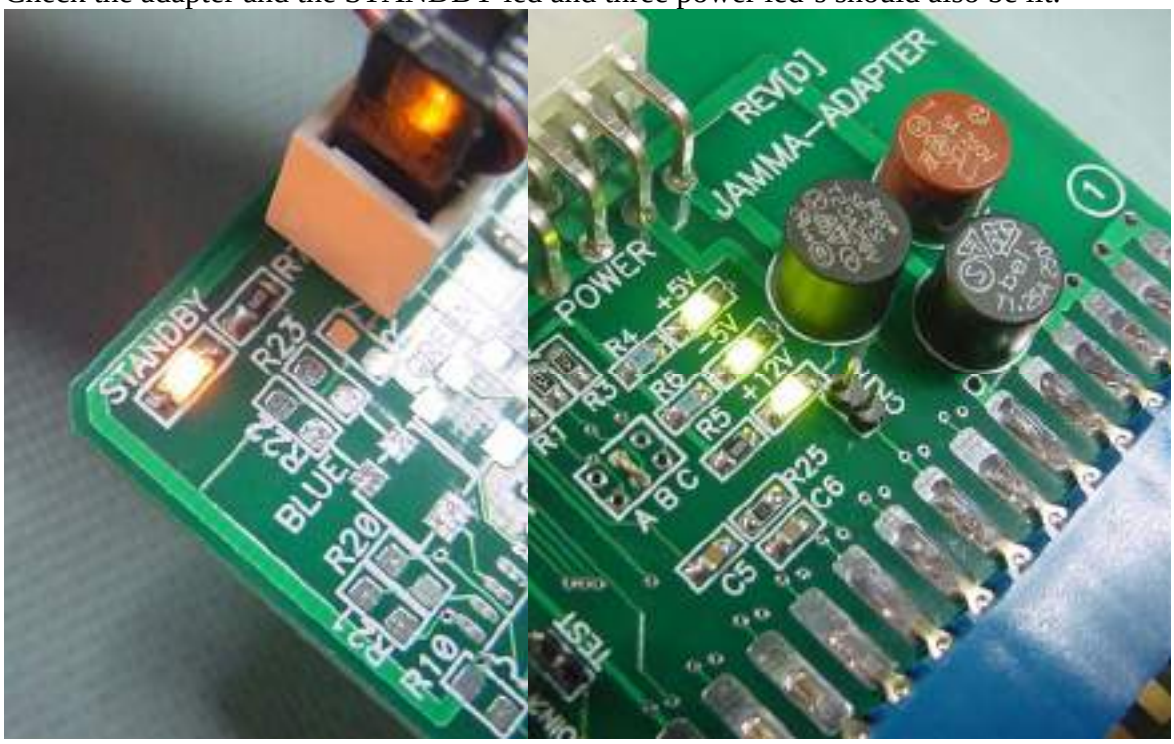
Connect one of the four remaining connectors onto the adapter as shown.



Now power up your cabinet and check the selector to make sure that all three LED’s are lit.



Check the adapter and the STANDBY led and three power led's should also be lit.



Notice that there are three fuses on the adapter, they are for +5V supply and rated at 5amps 12V supply and rated at 2.5amps, the third is for the -5v supply and rated at 1.25amps. These fuses are SOCKETED and easily replaceable. Replacements are available from Mouser or Digikey and usually cost less than $1 each.

Once the selector and adapter are powered you should see the game appear on the monitor. Verify the all buttons and joysticks on the control panel operate normally. Rotate the volume on the selector to about the 75% position and verify that you are getting sound from the cabinet speakers. If the sound is too soft or loud then adjust the volume level on the game PCB to a comfortable position. You will need to do this to each new PCB/Adapter as it is added to the selector so you can match the audio level on all PCB's.

Once this is completed then power off the cabinet and add the next adapter plugging another Power cable into the GAME2 position, then ribbon cable. Repower the cabinet and re-do the all above tests before adding additional adapter's/PCB's . To select the second game after power up, Press and hold the Player2 button then press Player1 button 1.

DO NOT JUST PLUG EVERYTHING TOGETHER, GO ONE STEP AT A TIME AS DESCRIBED.

THE INSTALL IS NOW COMPLETE!!

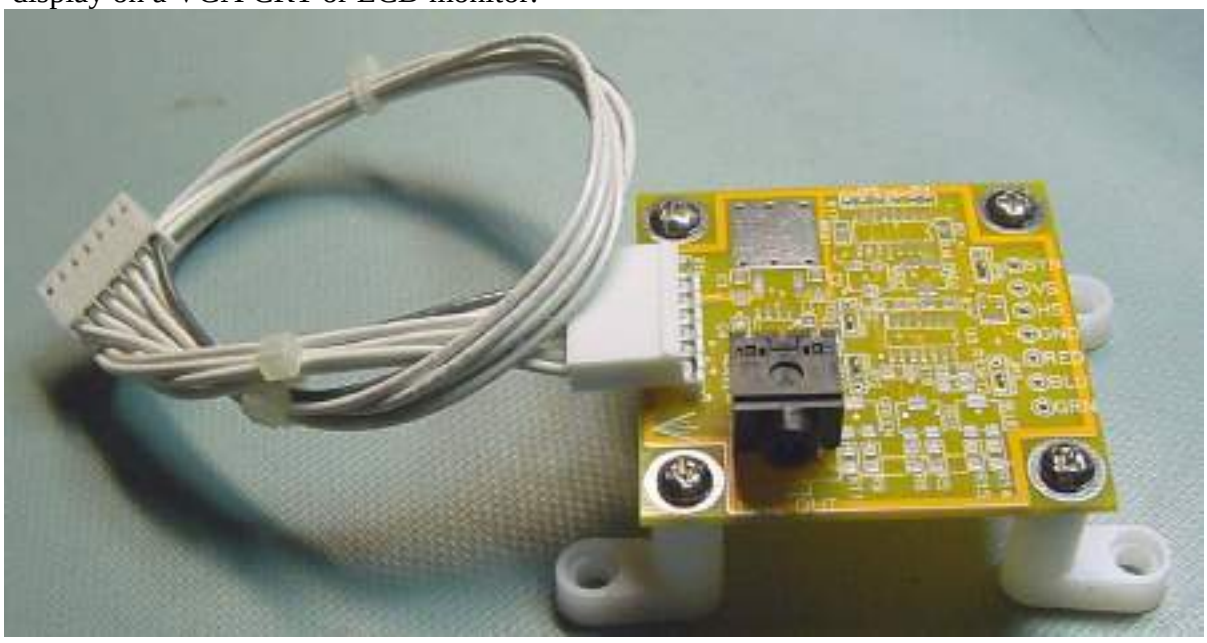
Take note of the following:

1. Standby LED: This is illuminated at all times when the ribbon cable is connected to the adapter and the cabinet is powered up. It verifies that the bus isolation circuitry is operating normally. If this LED is not lit on a single adapter and not others then the ribbon cable is either not plugged in correctly or defective. If all Standby led's are off on all adapters then check the 500ma fuse on the selector to see if it is blown.

2. Volume control: This is the Master volume of all the game PCB's. The user then
3. "trims" each game PCB so that all of the GAME PC boards are matched to the same volume level.

4. Individual green LED's monitor the fuse integrity at each power input to the adapter board. In this example the power inputs are +5V, +12v & -5V. These LED's will be illuminated when the board is activated by the selector board. If ANY of the LED's are not illuminated then its associated fuse has been blown due to an over current condition. The fuses are not resettable but can be unplugged and replaced.

4. There is a 7pin monitor expansion header, this is for an optional A/V board so you can connect to a more powerful audio amplifier, rather than the 1watt amp chip included on the selector. Or if you want to add a CGA to VGA scan line doubler to display on a VGA CRT or LCD monitor.



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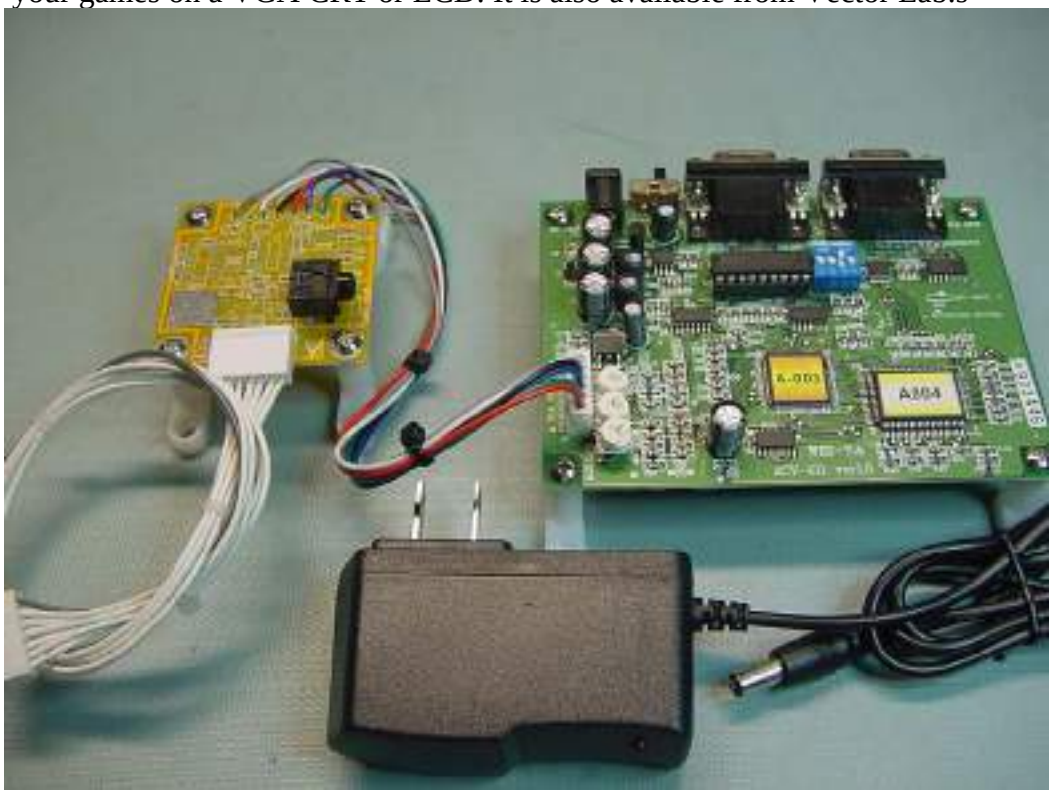
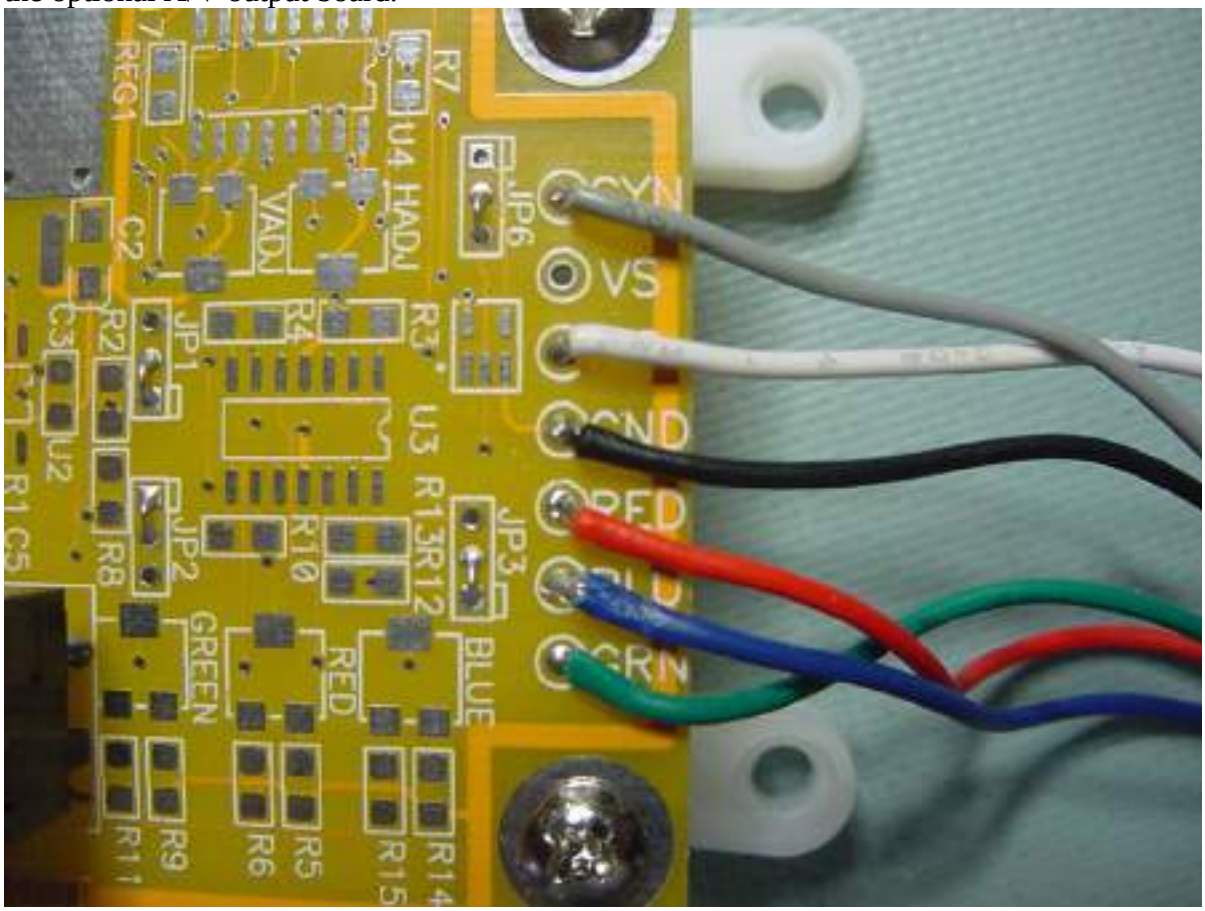
The picture below shows a typical amplifier and associated power supply and cable to enhance the audio power of your gaming experience. It is available from Vector Labs.

The picture below shows the recommended WEI-YA scan line doubler to display your games on a VGA CRT or LCD. It is also available from Vector Lab.s



The picture below shows the wiring hookup to the WEI-YA ACV-011 scan line doubler to the optional A/V output board.



The WEI-YA board is HIGHLY recommended because of stability and proper operation.

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DO NOT USE THE GBS8200 OR GBS8220 CGA TO VGA CONVERTER BOARDS DUE TO THEIR POOR QUALITY AND TROUBLESOME SYNC ISSUES.

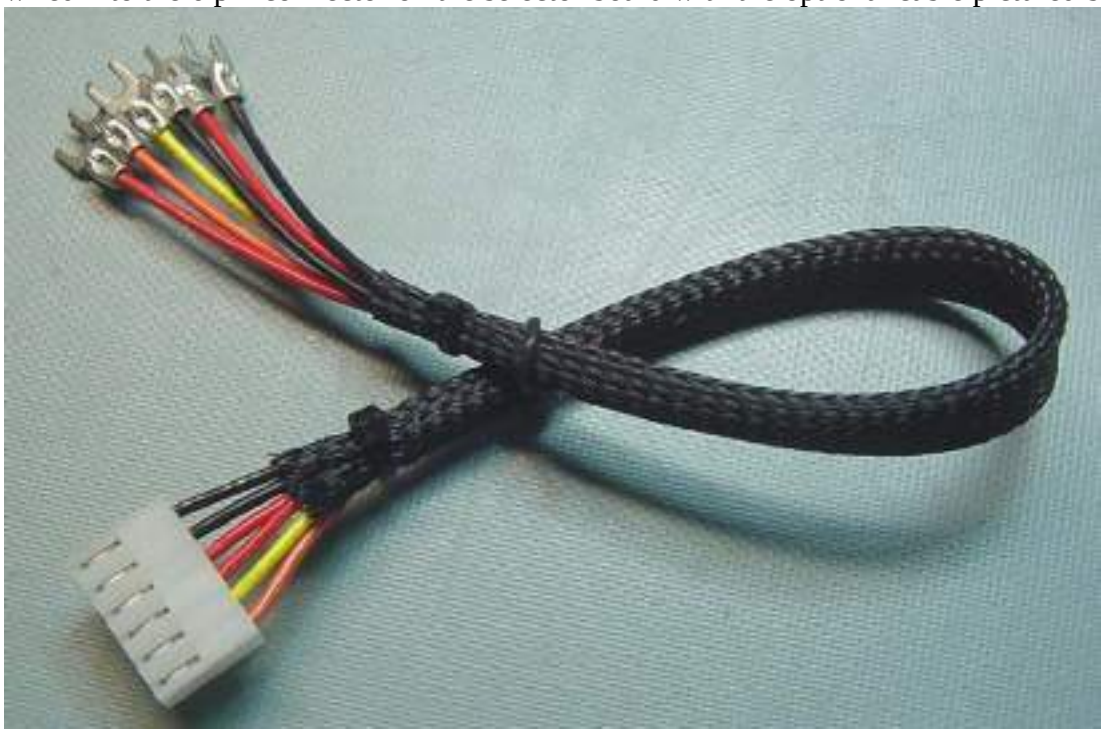
POWER SUPPLY CONSIDERATIONS

The power supplies contained in classic arcade games in general are over 30 years old some may have "drifted" out of spec on the +5v power rails. It may be necessary to replace these aging power supplies with something newer and more stable. We recommend that you perform the following test to ensure reliable & trouble free operation of your arcade game & 4 game selector. It will require an accurate digital voltmeter.

Power up your game and take note of which adapter has its green LED's lit. Take your volt meter and probe the two corner pins of one of the 20pin IC's on the game PCB as shown in the picture below.

THE VOLTAGE READING SHOULD BE NO LOWER THAT 4.75VDC.
If it is lower and you power supply does not have a way of adjusting the voltage to at least that minimum level then we strongly suggest you purchase a new switching power supply and install it like the one shown on the next page. TTL devices in these older arcade games require that the +5v line be in the range of 4.75v minimum to a maximum of 5.25v.
If you run your game PCB's at a voltage less that the spec WILL cause intermittent failures at best, to not running the game at all as a worst case.

This type of supply has an adjustable +5v (white screwdriver adjustment on left). It can be wired into the 6 pin connector on the selector board with the optional cable pictured below.



IF YOU HAVE AND PROBLEMS OR SUGGESTIONS ON HOW TO IMPROVE THIS INSTALL GUIDE PLEASE CONTACT VECTOR-LABS@TX.RR.COM