

# PC-JAMMA Installation Guide

## Before we begin...

This installation guide is broken up into a few sections that will step you through installing a the PC-JAMMA and a computer into your arcade cabinet. It is written with the assumption you have a fully working JAMMA arcade cabinet. I also assume you know what you are doing and how to use basic hand tools and a multi-meter.

If you unsure about anything get help from someone who knows what they are doing.

Exercise common sense when playing around inside an arcade machine. If you do something stupid and destroy your cabinet, computer or other components it is totally your problem.

I take no responsibility for your actions. This document is a guide and is only to be used as such.

## Linking Cables

Before any installation takes place, you need to establish what linking configuration to use to connect your computer to PC-JAMMA.

If your PC has HDMI and you are planning on using it, you need to know if your video card supports audio over HDMI. Most modern video cards and laptops support this

If in doubt test it by connecting your computer to your flat screen TV using only an HDMI cable. Play some music on your PC and see if you can hear that music on the TV.

If you can hear the music, your video card supports audio over HDMI

If you can't hear the music, your video card probably doesn't support audio over HDMI.

There are 3 linking cable options.

## HDMI + USB

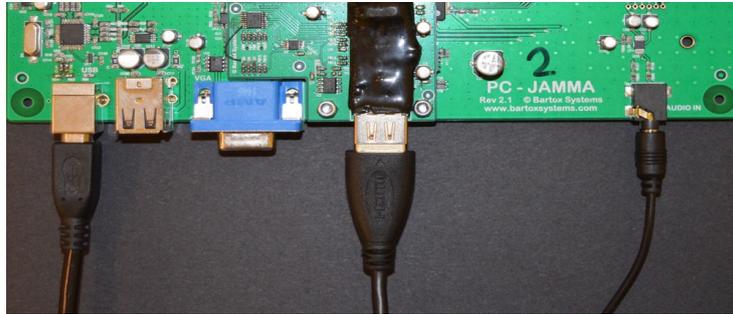
This is the best and easiest option. It gives the best sound and picture results and only requires HDMI and USB cables. This configuration works on modern computers and laptops that support audio over HDMI



*HDMI + USB*

### HDMI + Analog Audio + USB

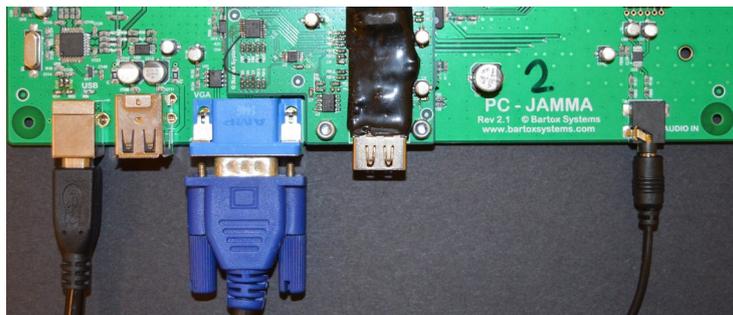
This is the next best option. It still benefits from HDMI's good quality picture but requires an additional 3.5mm analog audio cable to make up for the lack of audio over HDMI support. For this mode only need to change the default audio settings in the PC-JAMMA configuration utility to "Force Analog" audio mode. This is covered later the manual.



*HDMI + Analog Audio + USB*

### VGA + Analog Audio + USB

This is the only option for computers that do not have HDMI support. For the best results use a good quality VGA cable and a shielded 3.5mm stereo audio cable



*VGA + Analog Audio + USB connections*

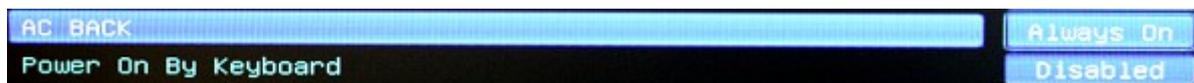
### Placement of your computer

Turn off and unplug your cabinet.

If you are planning on mounting your computer in your cabinet, I suggest that you set your CMOS AC BACK option to ON so that your computer starts every time you power on your cabinet.



*Award Bios*



*AMI Bios*

In an OEM bios this option is also referred to as AC recover.

Find a suitable place to mount your computer. It needs to be somewhat accessible and have adequate ventilation.

In my cabinet for example, the best placement option for the computer is behind the cash box next to the monitor.

I have secured it with a Velcro strap that is screwed in multiple places to the cabinet which allows for easy removal when required. (Velcro brand luggage strap: 1.5m x 50mm part number VL22873)



*Computer placement to suit my cabinet.*

Placement of your computer will vary depending on the size of your PC and the layout of your game cabinet.

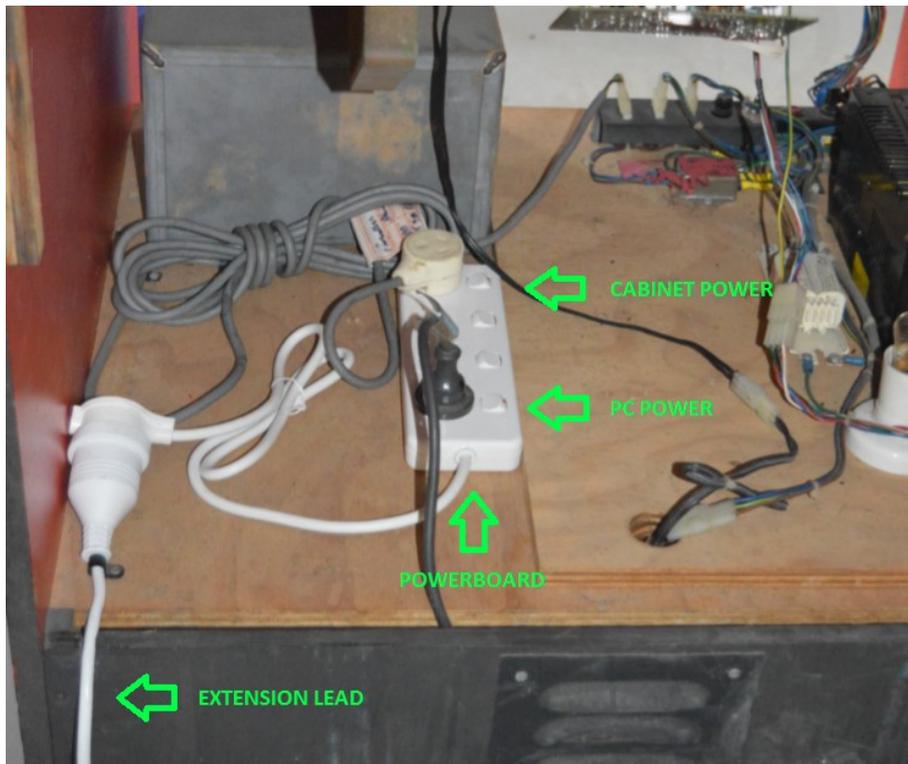
For safety reasons your computer **must be secured** in your cabinet. It is dangerous to have a computer floating around loose especially when the cabinet is powered on or being moved!

Having a keyboard and mouse is a good idea. I use a wireless keyboard with integrated mouse to make life easy, but ultimately this is your decision.

### **Getting PC power**

Unless you are qualified, **do not mess with mains wiring!**

My cabinet came pre-wired with a 2-way general purpose power outlet making it very easy to supply power to my PC. It is very unlikely that your cabinet will have this power arrangement and I suggest you use a 4-way power board with extension lead or similar



*Power board setup with extension cable powering the cabinet. Cabinet Power is plugged into the power board as indicated*

### **Running Linking Cables**

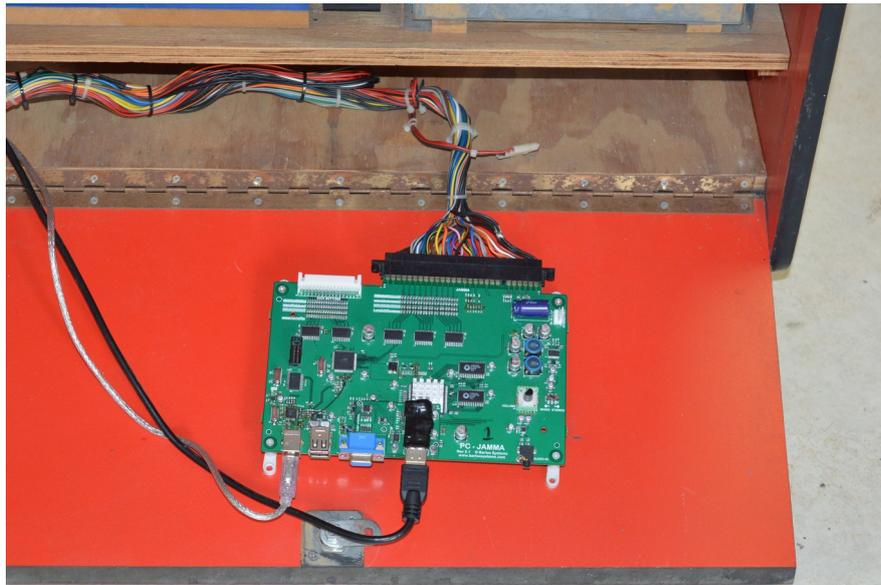
You need to work out where to place your linking cables so they neatly run from your computer to PC-JAMMA. Swap out your existing game board for the PC-JAMMA making sure to connect it to the JAMMA edge connector. Doing this makes it easier to establish a good cable path.

Cable paths differ between cabinet types. Try to place cables in existing cable runs where possible. Avoid running cables on top of the monitors chassis or near fluorescent lights as this may cause unwanted audio and video interference.



*Linking Cable Path for my cabinet shown in blue*

Leave enough slack so the linking cables can tucked out of the way when other game boards are plugged in and in use.



*PC-JAMMA cable arrangement to suit my cabinet*

### Testing and setup

Turn on your cabinet and check that everything is on.

**Check that the PC-JAMMA power indicator LED's are on.**

Once the monitor has warmed up you should be able to see your computers video output on the screen.

### Power Supply Settings

To ensure a trouble free operation make sure the power supply is set correctly.

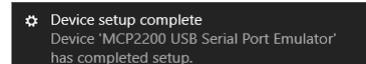
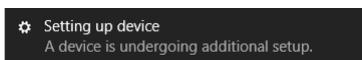
With a multi-metre, measure the 5V rail across C27 or directly on the JAMMA edge connector.



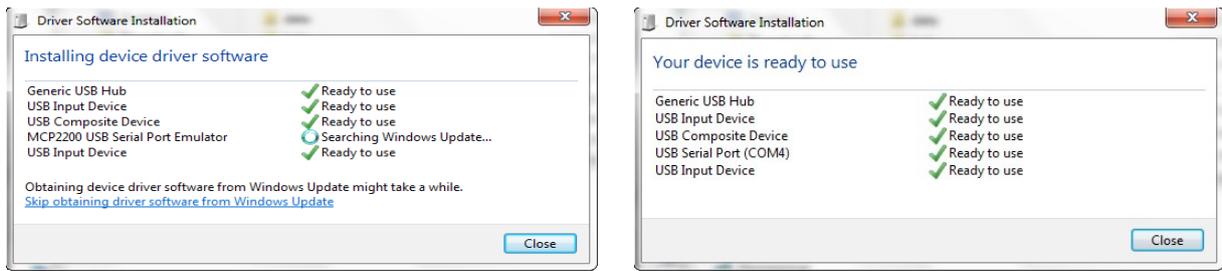
This board operates at 5V. Adjust the voltage as necessary staying below **5.3V absolute maximum**. **Any voltage higher than the absolute maximum will damage PC-JAMMA.**

### Drivers

By now windows should have found all of the USB devices and installed their drivers ready for use



*Serial Port emulator driver installation in windows 10*



*PC-JAMMA driver installation in Windows 7*

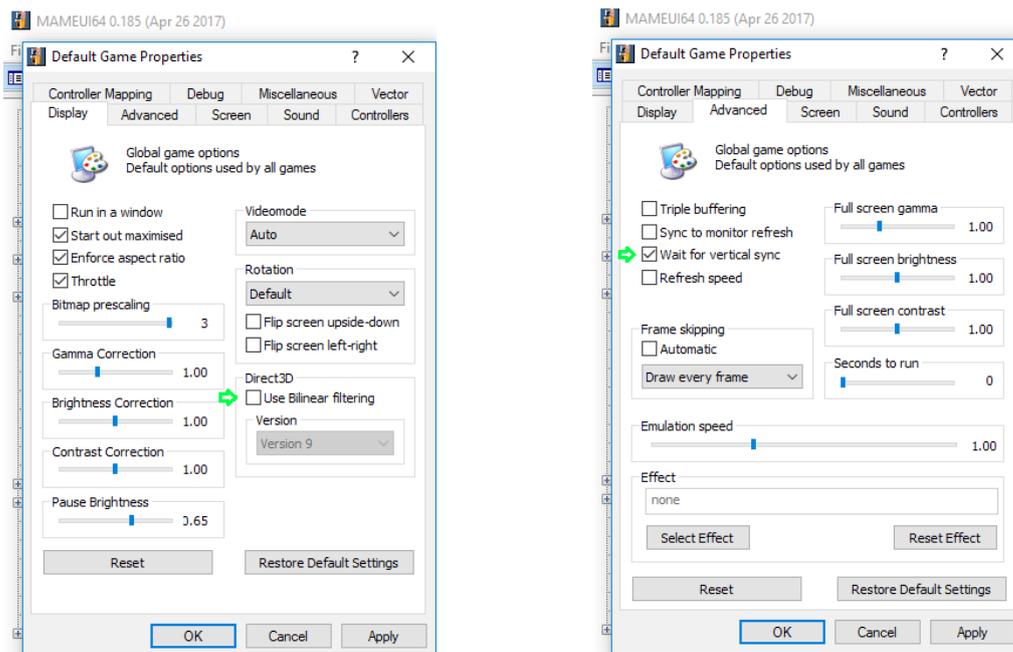
If Windows is unable to get the Serial port emulator driver, Get it here:

<http://ww1.microchip.com/downloads/en/DeviceDoc/MCP2221%20Windows%20Driver%202014-10-09.zip>

## MAME Settings

The following settings will let you get the best out of your PC-JAMMA when using MAME. Settings in this section are shown using MameUI and are the same as standard MAME settings.

For the best image results using a standard CRT monitor, disable Bilinear filtering. To stop vertical image tearing, enable wait for vertical sync.



*MameUI suggested settings*

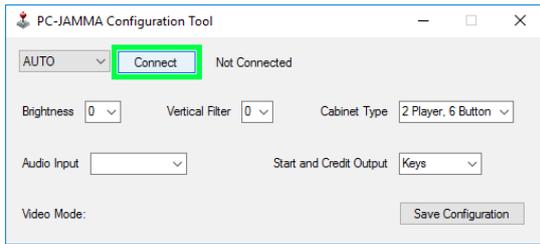
MameUI has joystick inputs enabled by default. Make sure that you have joystick inputs enabled on your emulator.

## Configuration Tool

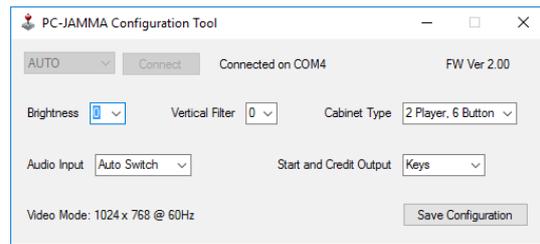
This tool lets you configure PC-JAMMA for use on your cabinet.

Note: Depending on your monitor, it may be necessary to reduce your resolution to clearly read the configuration text.

Start the configuration tool and click connect.



*Not connected*



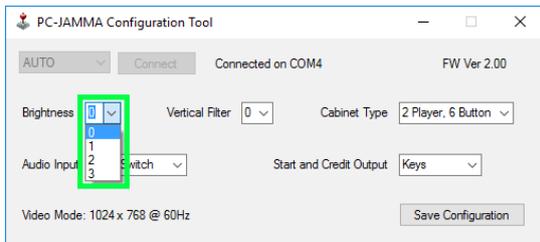
*Connected showing configuration*

If required you can manually select a serial port in the pull down list  
Once connected, the current configuration is displayed.

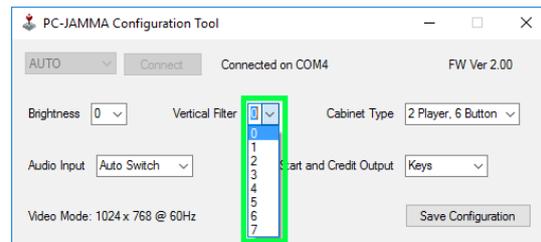
### Display Settings

Before changing PC-JAMMA display settings, make sure your monitor controls are adjusted for optimum appearance.

The PC-JAMMA video output settings can be adjusted by changing brightness and vertical filter settings.



*Brightness Setting*

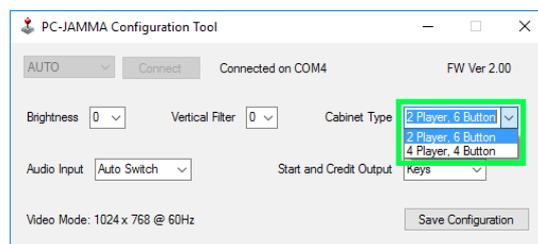


*Vertical Filter Setting*

Any changes to video settings are output to the screen immediately.  
Click save configuration to save the current display settings.

### Cabinet Type

This setting changes the cabinet type from a 2 player cabinet to a 4 player cabinet



*Cabinet type setting*

### 2 Player, 6 Button

This option enables 2 x 6 Button USB controllers for use on a standard cabinet.

Extra buttons 4, 5 & 5 for each player are accessible from the Kick Harness.

Button 4 is also accessible on the JAMMA Edge Connector for compatibility with NEO GEO cabinets.

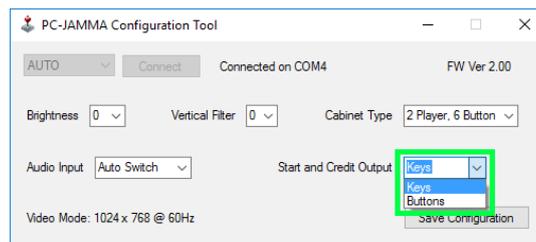
### 4 Player, 4 Button

This option enables 4 x 4 Button USB controllers for use on 4 player cabinets  
Player 3 and Player 4 controls are accessible from the Kick Harness

Select the cabinet configuration option you need and click save configuration.  
If the cabinet type has changed, PC-JAMMA will restart with the new configuration.  
Refer to the Pin outs section for wiring information

### Start and Credit Settings

This setting allows the start and credit outputs to be configured as keys or as additional joystick buttons for the configured number of controllers.



*Start and Credit Output setting*

#### Keys

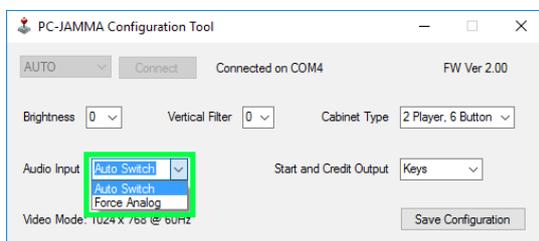
The keys option sets start and credit outputs for each controller to the default MAME keys.  
Player 1 start button is output as key '1'. Player 1 credit switch is outputs as key '5'  
Player 2 start button is output as key '2'. Player 2 credit switch is outputs as key '6'  
Player 3 start button is output as key '3', Player 3 credit switch is outputs as key '7'  
Player 4 start button is output as key '4', Player 4 credit switch is outputs as key '8'

#### Buttons

The buttons option sets start and credit outputs for each controller additional buttons  
All players start buttons are output on that players usb controller as button 7.  
All players credit switches are output on that players usb controller as button 8.

### Audio Setting

This setting should only ever need adjusting when using a video card that does not support audio over HDMI. It allows analog audio from the 3.5mm audio input socket to be used with HDMI video input.



#### Auto Switch

In normal operation, Auto Switch mode option automatically selects the audio source based on the video input type.

If HDMI is used, Audio is sourced from HDMI.

If VGA is used, Audio is sourced from the 3.5mm audio socket

### Force Analog Mode

In Force Analog mode, audio is **always** sourced from the 3.5mm audio socket regardless of the video input type.

### Adjust the sound.

Finally with some sound or a game going, adjust the volume control of PC-JAMMA to a suitable volume. If your cabinet has an additional volume control take this into account when setting the volume level.

Everything should be done and running well.

If not consult the trouble shooting section.

## Troubleshooting

### Power

PC-JAMMA has no power	<ul style="list-style-type: none"><li>• Is the cabinet plugged in and have power?</li><li>• Check Cabinet fuse</li><li>• Check power supply</li></ul>
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### Picture

Blank screen	<ul style="list-style-type: none"><li>• Are you trying to use an unsupported video mode?</li><li>• Is the Monitor video input connected?</li><li>• Is the Monitor power connected?</li><li>• Is a video source connected to HDMI or VGA?</li><li>• Does another JAMMA board work in the cabinet?</li></ul>
Blue tearing on bright screens	<ul style="list-style-type: none"><li>• Check if 5V supply voltage is too high</li></ul>
Multicoloured lines and pattern interference on screen	<ul style="list-style-type: none"><li>• Check if 5V supply voltage is too low.</li><li>• Is the VGA Plug correctly connected ?</li><li>• Try another vga lead</li></ul>
Overlay zoomed and cropped image is displayed and no controls	<ul style="list-style-type: none"><li>• PC-JAMMA is in flash recovery mode. Reflash with the firmware update utility.</li></ul>
PC-JAMMA is out of focus, other game boards look OK	<ul style="list-style-type: none"><li>• Vertical filter setting in the configuration utility is set too high.</li></ul>

### Sound

No sound, but picture OK on HDMI input	<ul style="list-style-type: none"><li>• Does your video card support audio over HDMI?</li><li>• Is Force Analog mode set incorrectly?</li></ul>
No Sound, but picture OK on VGA input	<ul style="list-style-type: none"><li>• Check the 3.5mm audio lead</li></ul>
No Sound	<ul style="list-style-type: none"><li>• Check speaker connection and continuity</li><li>• Check for 12V supply on JAMMA edge connector</li></ul>
Sound seems to be missing something on mono speaker cabinet	<ul style="list-style-type: none"><li>• Make sure the MONO/STEREO selector is in MONO mode</li></ul>
Sound is always distorted	<ul style="list-style-type: none"><li>• Turn down PC-JAMMA volume and turn up cabinet volume</li><li>• Check if 12V supply voltage is too low</li><li>• Too many speakers in parallel? Minimum impedance per channel is 4 ohms</li></ul>

## Controls

No USB controllers on PC

- Check USB cable
- Try a different USB port on your computer
- Check 5V supply voltage is correct
- Try a shielded USB cable

My 2 player cabinet doesn't seem to have all 6 Buttons available

- Check the cabinet mode setting is correct using the configuration utility
- Check Kick harness is plugged in correctly
- Check Kick harness connections to extra buttons

## Serial Port

Cannot connect to PC-JAMMA with configuration utility

- Check USB cable
- Check is 5V supply voltage is too low
- Is the serial port emulator driver installed correctly?