

# Imp V2

**MC Cthulhus MUST be updated to newest firmware in order to work!!!!**

Thank you for purchasing an Imp version 2!

The Imp is a small circuit board meant to act as a switch for two USB devices. By using an Imp, you can connect two different USB devices to a single outgoing USB cable, and decide on plugging in which one to use. Most commonly this is used to connect both a Playstation 3 controller and an Xbox360 controller to a single outgoing USB cable for arcade sticks.

The Imp V2 comes assembled with all of the needed surface mount soldering already done for you. However, installing the Imp will almost certainly require through-hole soldering as you connect any needed wires or jacks to the board. Please be aware that although the Imp has been made to be as easy to install as possible, it is still a very technical mod, and no support is available if you are unable to handle the installation on your own. If you have any doubts about your ability, please consult a technician to take care of the work for you.

There are four different ways an Imp V2 can be installed. This welcome sheet will describe each of the needed connections for each of these four common setups. Take a moment to look through the description of each of these so you know which column on the other side to use.

1. MC Cthulhu Setup – This setup involves the use of a Multi-Console 'MC' Cthulhu game controller along with a common ground Xbox360 controller. If you are using an MC Cthulhu in your setup, this is the one you want.
2. Cthulhu+ Setup – This setup uses a PS3 Cthulhu+ game controller along with a common ground Xbox360 controller. Please plug in your Cthulhu into a computer to verify the name it shows up with as 'PS3/PC Cthulhu+', and not just 'PS3/PC Cthulhu'. If there is no '+' in the name, you need to choose #3 or #4.
3. Basic Setup – This setup will allow you to choose from any two USB devices, even non-Cthulhu ones. An easy example of when this would be wanted is when adding an Xbox360 FightPad pcb to a PS3 version FightStick, so the stick can work on both PS3 and Xbox360 systems. This setup assumes you have access to a button for Guide/Home, and is not capable of system autodetection.
4. Basic SSG Setup – This setup is the same as the Basic setup, but should be used if you do not have a dedicated button for Guide/Home. If that is the case, the Start and Select buttons on your arcade stick can be used together so that when both are pressed, the game controllers will think the Guide/Home button is pressed.

The Imp V2 has locations for installing an RJ-45 jack and USB jack, but they are optional. The RJ-45 jack should ONLY be used in MC Cthulhu setups, but it doesn't have to be used. In MC Cthulhu setups, you can use the RJ-45 jack, USB jack, or even both, with no worries about electrical problems. If you are installing an Imp into a production arcade stick that already includes a built in USB cable, there are four holes labeled D-, D+, G, and V in the USB jack area, along with the colors of these wires in a standard USB cable. You can solder the end wires of your dedicated USB cable directly to these four holes. If you are using a custom wooden case for your arcade stick, it is recommended that you use a USB jack instead of directly soldering.

Enjoy, and happy modding!  
Marcus "Toodles" Post

	MC Cthulhu Setup	Cthulhu+ Setup	Basic Setup	Basic SSG Setup
System Detection /Selection	Autodetect	Autodetect	Saved Selection: Guide/Home*	Saved Selection: Select button*
Solder Jumper A**	Left open	Short with Solder	Short with Solder	Short with Solder
Solder Jumper B	Left open	Short with Solder	Left open	Left open
Solder Jumper C	Left open	Short with Solder	Short with Solder	Short with Solder
Connect Imp 'VCC' to:	MC Cthulhu 'VCC' Screw Terminal	N/C***	PS3 controller's red USB wire.	PS3 controller's red USB wire.
Connect Imp 'G' to:	MC Cthulhu G column	PS3 Cthulhu+ G column	PS3 controller's black USB wire	PS3 controller's black USB wire
Connect Imp 'A' to:	MC Cthulhu A column	N/C	Xbox360 controller's black USB wire.	Xbox360 controller's black USB wire.
Connect Imp 'B' to:	MC Cthulhu B column	N/C	N/C	Guide/Home
Connect Imp 'C' to:	MC Cthulhu C column	PS3 Cthulhu+ C column	N/C	Start
Connect Imp 'D' to:	MC Cthulhu D column	PS3 Cthulhu+ D column	PS3 controller's white USB wire	PS3 controller's white USB wire
Connect Imp 'E' to:	MC Cthulhu E column	PS3 Cthulhu+ E column	PS3 controller's green USB wire	PS3 controller's green USB wire
Connect Imp 'F' to:	MC Cthulhu F column	PS3 Cthulhu+ F column	Guide/Home	Select
Connect Imp 'V' to:	MC Cthulhu V column	PS3 Cthulhu+ V column	Xbox360 controller's red USB wire.	Xbox360 controller's red USB wire.
Connect Imp 'RJ45-VCOL' to:	MC Cthulhu V column(different row from Imp's 'V' point)	N/C	N/C	N/C
Connect Imp 'XD+' to:	Xbox360 controller's green USB wire	Xbox360 controller's green USB wire	Xbox360 controller's green USB wire	Xbox360 controller's green USB wire
Connect Imp 'XD-' to:	Xbox360 controller's white USB wire	Xbox360 controller's white USB wire	Xbox360 controller's white USB wire	Xbox360 controller's white USB wire
Connect Xbox360's Red USB wire to:	MC Cthulhu VCC screw terminal	PS3 Cthulhu+ VCC screw terminal	Imp point 'V'	Imp point 'V'
Connect Xbox360's Black USB wire to:	MC Cthulhu GND screw terminal	PS3 Cthulhu+ GND screw terminal	Imp point 'A'	Imp point 'A'

\*Hold the button listed when plugging in to change systems. System setting is saved and replugging normally will remain on the same selection until you plug in with the button held again.

\*\* Solder Jumpers are on the bottom of the Imp and individually labeled as 'SJA', 'SJB', and 'SJC'

\*\*\* 'N/C' means 'Not Connected'.