



PinPAC4 Spike, Spike2 Installation Manual

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Warnings and Agreements

Welcome! The PinPAC Pinball Person Audio Controller has been designed for simplicity of installation! As with any Pinball Machine modification and add on kit there is a required level of expertise for the installation. If you are not proficient in basic pinball parts installation we recommend having our kit installed by someone who is proficient with the basics of pinball repair. Pinnovators requires our kit be installed by an experienced Pinball service technician with basic electrical skills. As with any electrical piece of equipment a danger does exist and you must agree to not hold Pinnovators responsible for any injury, damages, etc. before continuing.

Sound Levels: Pinnovators recommends running your headphone sound level at a safe level to prevent long term hearing loss. For a good example of recommend sound levels, we recommend following suggestions given by major audio equipment manufacturers such as Apple and their Ipod.

phys.org/news80304823.html

www.macworld.com/article/1060274/hearingprotection.html

ESD: We recommend always discharging the headphone cable by touching it to an exposed metal part of the pinball machine before plugging it into the machine.

Power Cord: ALWAYS UNPLUG THE POWER CORD for safety when working on your pinball machine!



Playfield Propping: Pinnovators highly advises following Playfield propping instruction for your pinball machine. These instructions are typically found inside the Operators manual for each machine. Failure to follow these instructions can cause fatal injuries or even Death. Pinnovators also recommends having an assistant hold a propped

playfield in the up position when servicing under the playfield.

1. What's included in the PinPAC4 Kit

PinPAC4MAC Front Panel	
Spike 2 Back Box Board (BBB)	
3.5mm Panel Interface Cable	
Optional Accessory: Sub Cable kit	

2. Requirements:

- A. The Pinnovators PinPAC4 system require a Universal Validator Door slot on the machine's Coin door in the lower left location. (H Door)

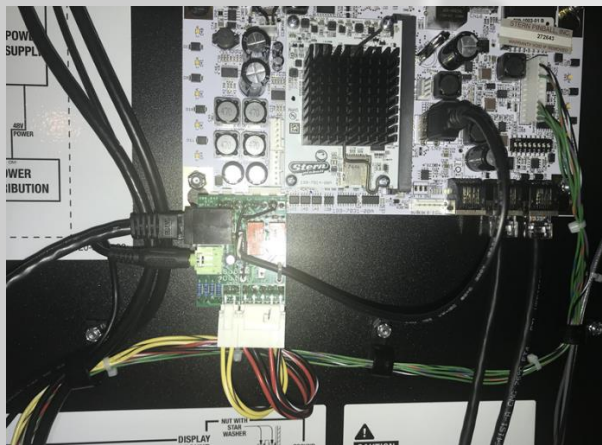


3. Preparation

Unplug the Pinball Machine!



Next remove the back glass on the system and open the light board to expose the System circuit board. The Stern SPIKE is shown below as an example. (shown with our sub board already installed)

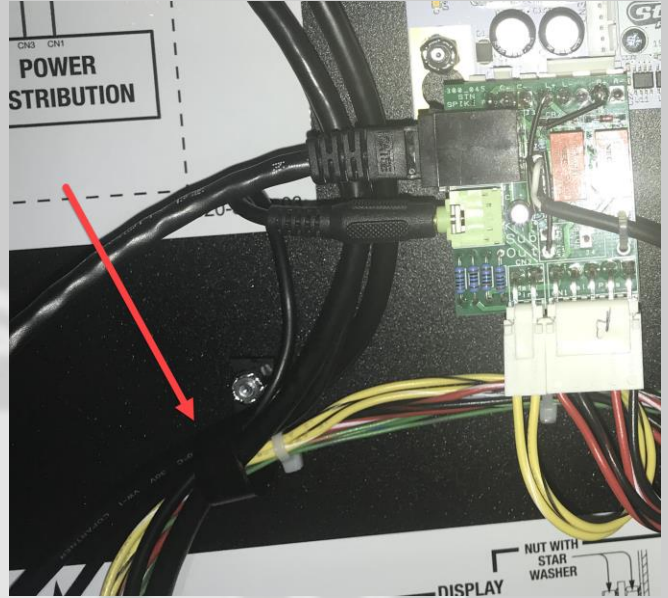
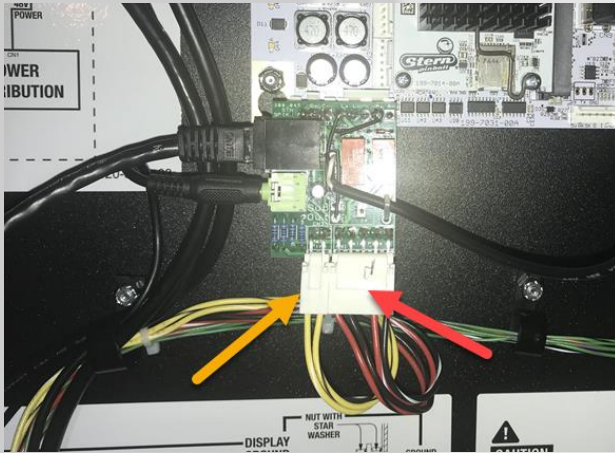


4. Back Box Board Installation:

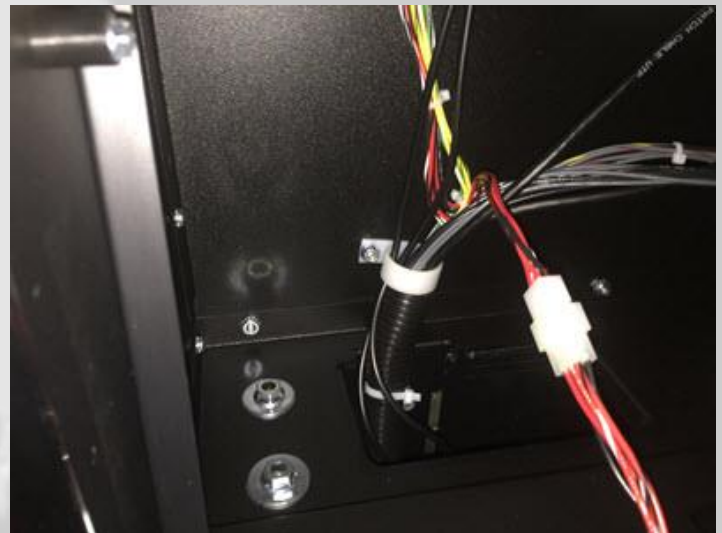
Locate the five-pin speaker connector shown by the red arrow in the picture. Remove the speaker connector by carefully rocking the connectors while pulling it out.

Locate the two-pin cabinet speaker cable (Yellow Arrow) and remove it.

Insert both speaker wires into the adapter board as shown.



Run the cables down through the bottom of the back box and into the main cabinet.



Plug (Optional accessory) Pinnovators 3.5 mm 12ft cable from the subwoofer cable kit into the 3.5mm green jack on the Back Box Board (BBB).

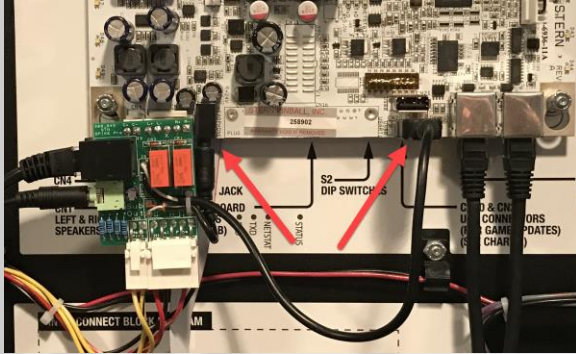
Connect the 3.5mm Interface cable into the RJ45 jack on the BBB adapter

Route the both cables through the black cable clamp as shown.

5. USB Cable

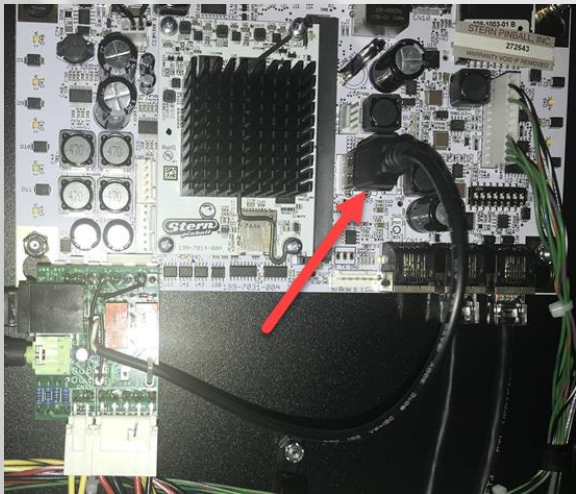
Spike:

Insert the end of the USB cable into the open USB receptacle on the CPU board.



SPIKE 2

Insert the end of the USB cable into the open USB receptacle on the CPU board.



6. Subwoofer cable (Optional)

The subwoofer cable is now an optional accessory and available on the Pinnovators.com website.

Gently push up on one of the vent screens underneath the pinball machine. A staple holds the screen in place but can be easily removed.



Finally, route the 3.5mm sub cable out the vent hole. Use the included Velcro tie to secure the cable to the leg of the pinball machine.



NOTE: Leave some slack in the cable so the back box can be easily folded down without stretching the cable!

Reassemble the Back Box.

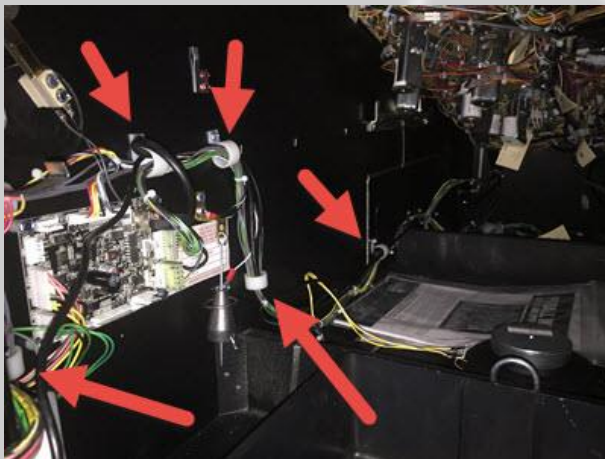
7. Panel Interface Cable

Using a helper, remove the playfield glass and lift up the playfield. Depending on the game, tuck the new cable into the wire harness clips as shown.

NOTE: Leave some slack in the cable so the back box can be easily folded down without stretching the cable!

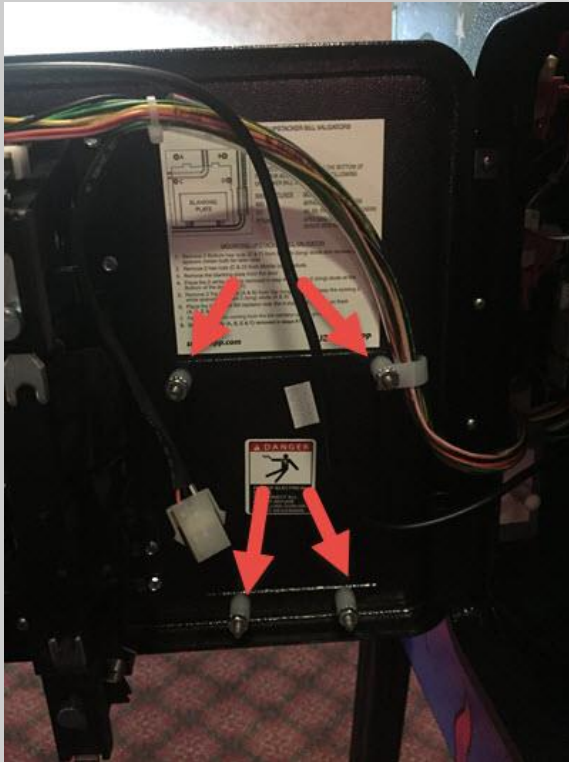


Continue to route the cable along the wire harness. Secure the cable in the white cable clamps. The cable will end up at the coin door.



8. Coin Door Installation PinPAC4:

Remove validator blank plate by unbolting the four nuts as shown. Note: Save the spacers. The spacers are used to properly space the length of the screw.



Insert the PinPAC4 plate as shown below. Position the ESD ground wire (the green wire) on the threaded stud. Fasten with the original hardware.



Insert the end of the RJ45 Cable into the connector on the PinPAC4 front control panel as shown.

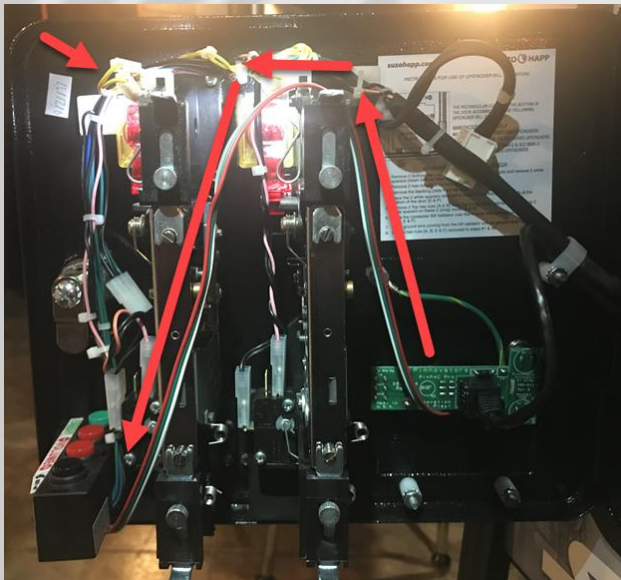
Route the cable into the cable harness clip behind the door as shown. Test the door to make sure it closes properly. Adjust as necessary.

9. MAC Cable Installation

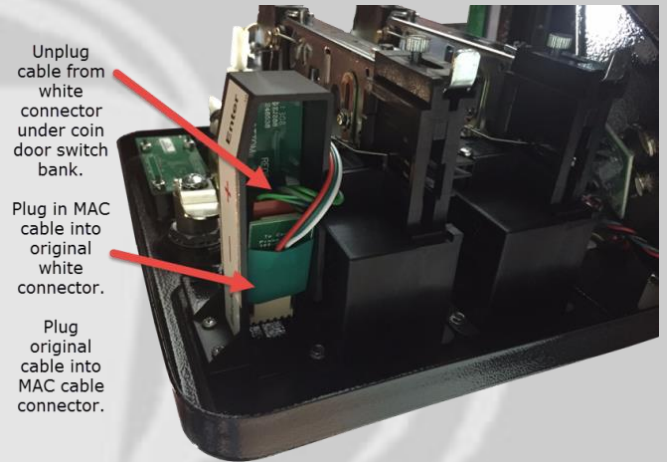
This section of the instructions is for SPIKE and SPIKE 2.

Route the PP4MAC remote cable over the top of the coin slot as shown below. Continue down to the system control panel buttons.

Clip the tie-wrap in the upper left corner of the coin door to allow more cable slack to the control buttons.



The MAC cable has a small Printed Circuit board with connectors mounted to it. The PCB is inserted in line with the cable going to the coin door pushbuttons as shown below.



If your coin door does not have the inline connector shown above then please contact us for a Posi-tap adapter. Exported SPIKE systems usually do not have the connector and will need the adapter BUT there

The new 2021 MAC-TAP board looks like this:



16. Posi-Taps Adapter Cables!

For Export SPIKE(2) machines.

This optional adapter uses three Posi-Tap connectors. The Posi-tap connectors will be used to cleanly splice into the button signals for the up and down volume control.

This is a picture of the optional adapter along with a few YouTube video links showing how to install the Posi-Taps. Please watch the video first.
(Note, Pinnovators did not make the videos)

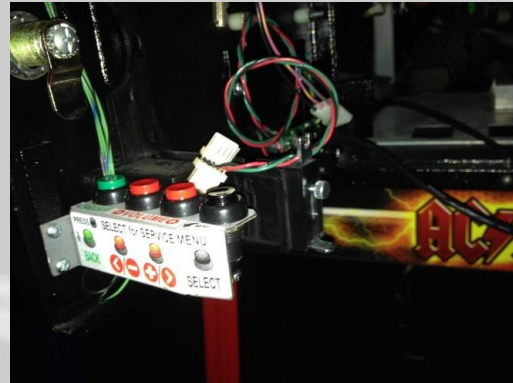


This is the newer adapter (2021)



<http://www.youtube.com/watch?v=NQWYWuNbpg>

<http://www.youtube.com/watch?v=Yiimgl-Rdmw>



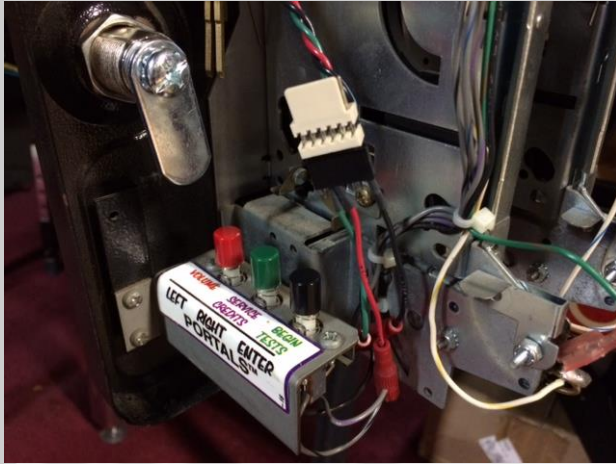
Connect the the Posi-tap adapter cable for export SPIKE systems as follows:

Poisi-Tap Adapter Cable wire Pre 2021	New 2021 Posi-Tap adapter.	Wire Function	Push Button Panel cable wire:
Black	Green	Ground	Black
Red	Red	Volume Up	Green/Purple
Green	White	Volume Down	Green/Blue

This picture shows wires colors for the original Posi-Tap adapter. See the table above for the new wire colors.



This is a set of pictures of the original MAC adapter installed on a Stern Monopoly game (for reference only).



23. Final Checkout

- Power up the system and start a game!
- Verify sound can be heard from the Back Box speakers and the lower Cabinet speaker.
- Insert headphones into the jack and verify levels in headphones can be adjusted with the volume control knob.
- Operate the System Volume UP button and verify the system volume increases. Operate the System Volume Down button and verify the system volume decreases.

24. Recommended Headphones.

Pinnovators tested the PinPAC1, 2,3 and on many different headphones. Our favorite was the Beats by Dr. Dre. We also tested a moderately priced set of headphones ~\$30 and was still blown away by how good the bass response was and how clear the treble was!

Thank your purchase of our product! We hope you get many years of service from it.

The Pinnovators Team.