PINNOVATORS ™

Installation Manual for

Mech-MAC and PB-MAC for American Pinball, Jersey Jack, Spooky and Stern Pinball Machines

Version 1.1 February 14, 2021

1. Contents

2. Warnings and Agreements

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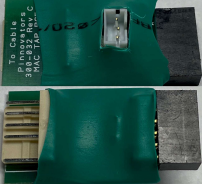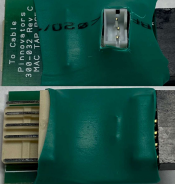
ESD: We recommend always discharging the headphone cable by touching it to an exposed metal part of the pinball machine before plugging it into the machine.

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.

3. What's Included in the kit

Door Types: https://pinnovators.myshopify.com/pages/coin-door-type	Mech-MAC Kit American, Jersey Jack, Stern	Mech-MAC Kit Spooky	PB-MAC Kit American, Jersey Jack, Stern	PB-MAC Kit Spooky
Switch Assembly				
Cables	2 foot, 3-pin cable 	2 foot, 3-pin cable 	2 foot, 3-pin cable 	2 foot, 3-pin cable
MAC-TAP board				
Posi-Tap adapter				

4. Requirements

The Pinnovators Mech-MAC Requires a coin door with TWO Coin Reject Buttons.

The Pinnovators PB-MAC requires an "H" door with Universal Validator Door slot.
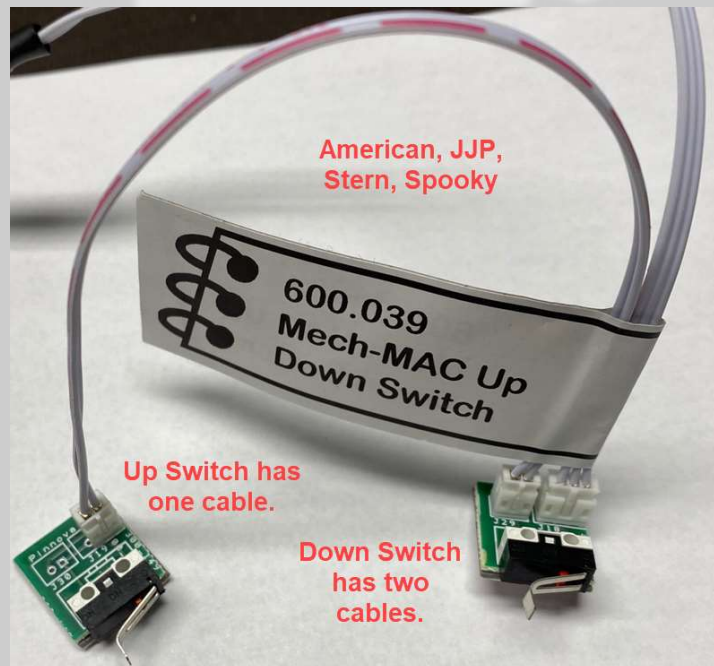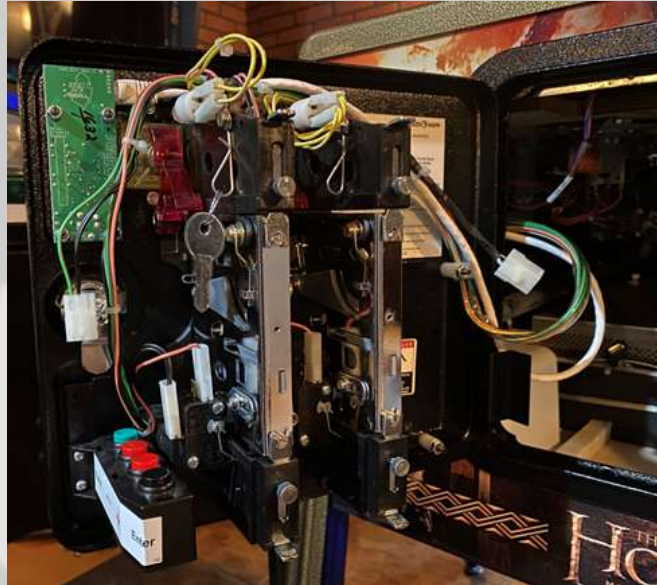
5. Preparation

Unplug the pinball machine!

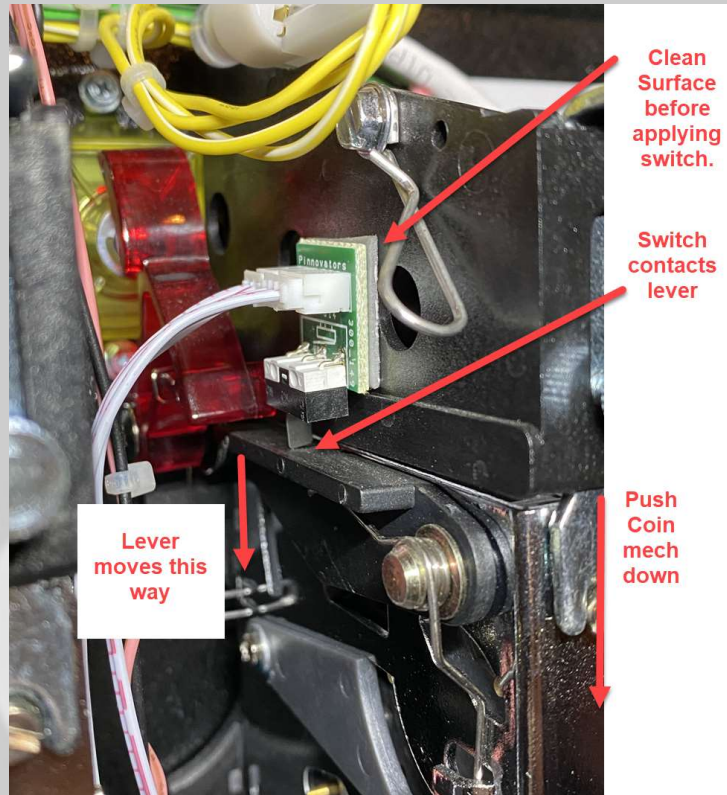Open the coin door.

6. Mech-MAC Switch Installation

We will use pictures from The Hobbit for some of this installation section.

American, JJP, Stern, Spooky

600.039
Mech-MAC Up
Down Switch

Up Switch has one cable.

Down Switch has two cables.

Labels on image:
- Clean Surface before applying switch.
- Switch contacts lever
- Push Coin mech down
- Lever moves this way

Overview: The "Up" switch assembly will be mounted on the RIGHT coin mech (right as viewed when looking at the outside of the coin door). The "Down" switch assembly will be mounted to the LEFT coin mech. (Note, this is opposite of a CG-MAC or WB-MAC kit!)

Make sure the plastic area on the coin chute is free of dirt and dust.

Push down on the coin mechanism until it is fully seated.

Test fit the "down" switch assembly so that the lever of the switch makes contact with the lever of the coin mech. The switch should be activated when the coin mech lever is not pressed. When the coin reject button is pressed, the lever of the coin mech will be pressed in a downward motion. The switch on the "down" assembly switch board needs to be deactivated when the coin mech lever is down.

Verify the switch reactivates when the coin reject button is released.

Once proper operation is verified, remove the adhesive backing on the switch assembly and mount it in place.

Mount the "up" switch assembly on the right coin mechanism.

Route the cable to the "up" switch assembly across the top of the coin mechs.
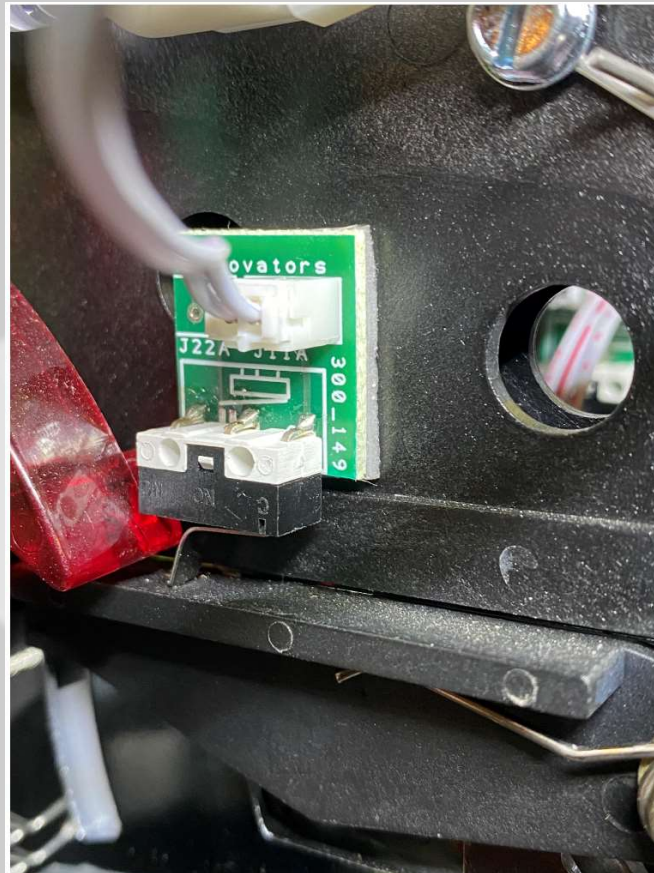
7. PB-MAC Button Installation
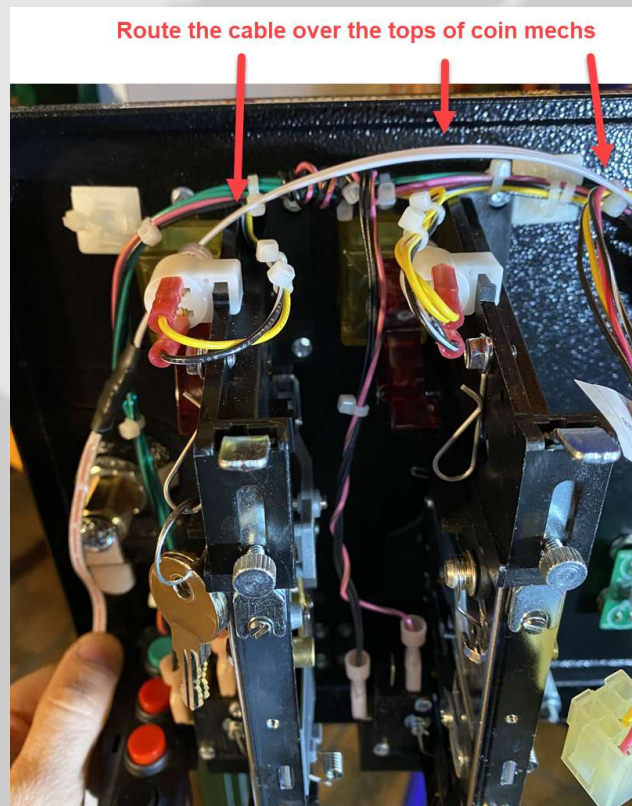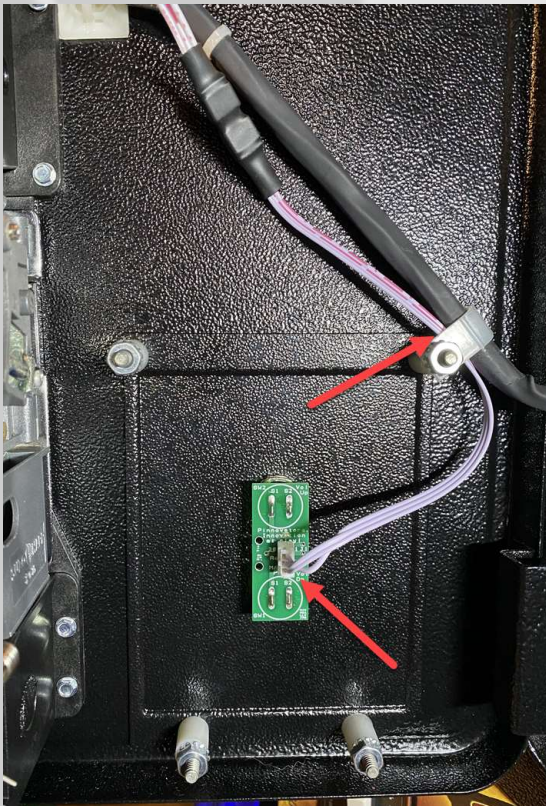
If your kit is the PB-MAC version, then remove the 4 nuts that hold the DBA plate onto the coin door.

Remove the DBA plate and install your new Pinnovators DBA plate with PB-MAC control. Reinstall the nuts and spacers. Install the 3-pin cable into the connector on the DBA plate and route the cable behind the cable clamp as shown.

Route the cable over the tops of coin mechs

8. MAC-TAP board Installation

This section applies to the Mech-MAC and PB-MAC kits.

There are three possible ways to tap into the up and down volume buttons.

1. Inline cable tap
2. Under pushbutton panel
3. Direct wire tap using Posi-taps

8.1 Inline cable tap

Unplug Connector from white male-to-male adapter.

Insert MAC-TAP board as shown.
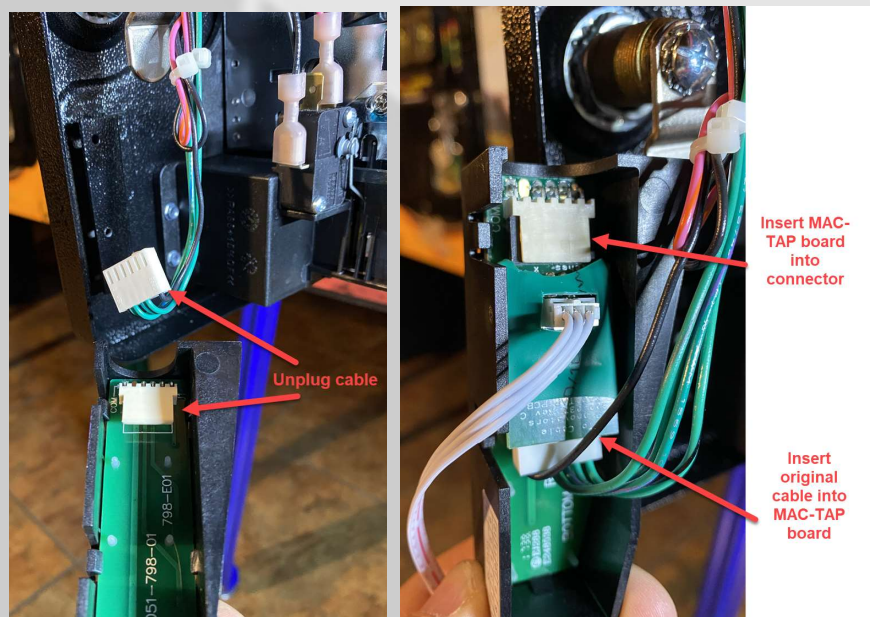
8.2 Under pushbutton panel

Using a P1 phillips screwdriver, unscrew the two bolts that hold the control panel to the coin door.

Cut the tie wrap in the upper left corner if there is not enough cable slack for the next steps.

Unplug the cable going into the control board. Insert the MAC-TAP board as shown.

Reassemble the control panel to the coin door.

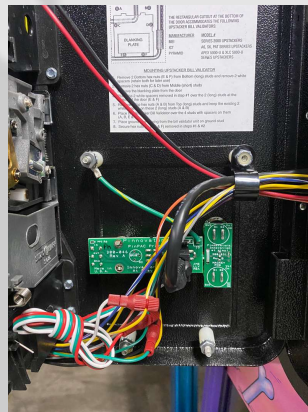## 8.3   Posi-Tap Installation for Spooky Pinball

This MAC cable 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.

Here are some YouTube video links showing how to install the Posi-Taps. Please watch the video first. (NOTE: Pinnovators did not make the videos) http://www.youtube.com/watch?v=NQWYWuNbpog http://www.youtube.com/watch?v=Yiimgl-Rdmw

Don't forget to remove the Posi-Tap from the end of the wires before installing.

Attach the three-wire MAC cable from the DBA plate to the system control panel buttons. The wires from the buttons may pass in front of the DBA plate as shown in the example from Rick and Morty. You can also tap into the wires under the control panel buttons. That example will be shown next.

Plug the Posi-Tap adapter into the end to the supplied 3-pin cable.

(Headphone kit shown)
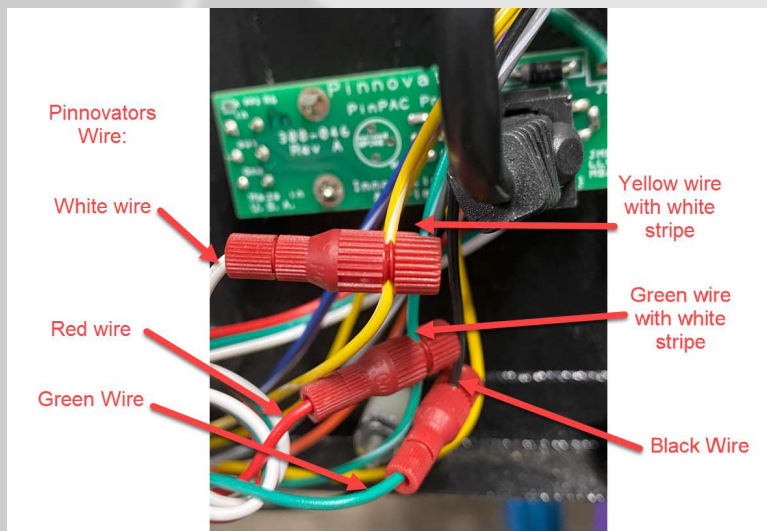
8.4 Posi-Tap Alternate Installation for Spooky Pinball
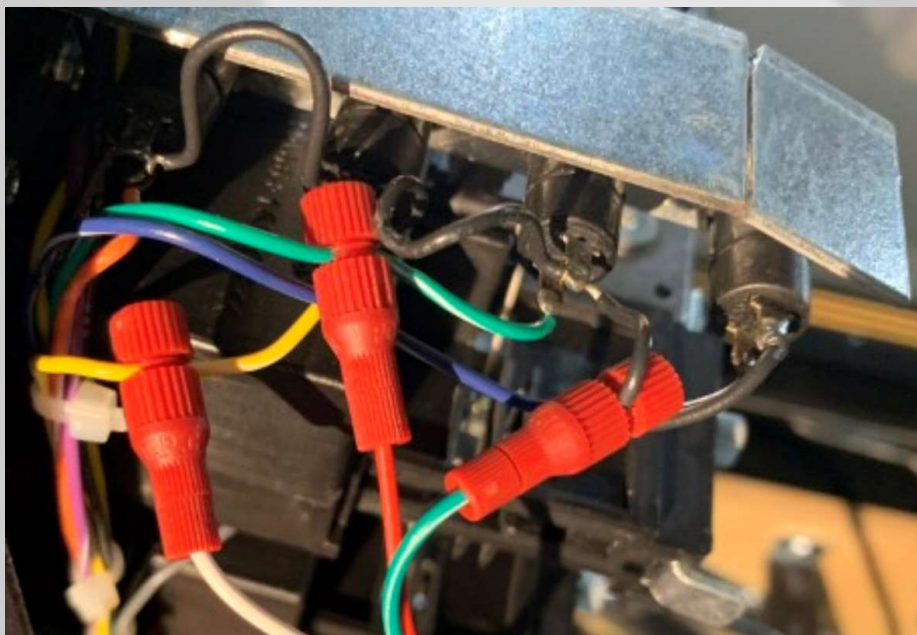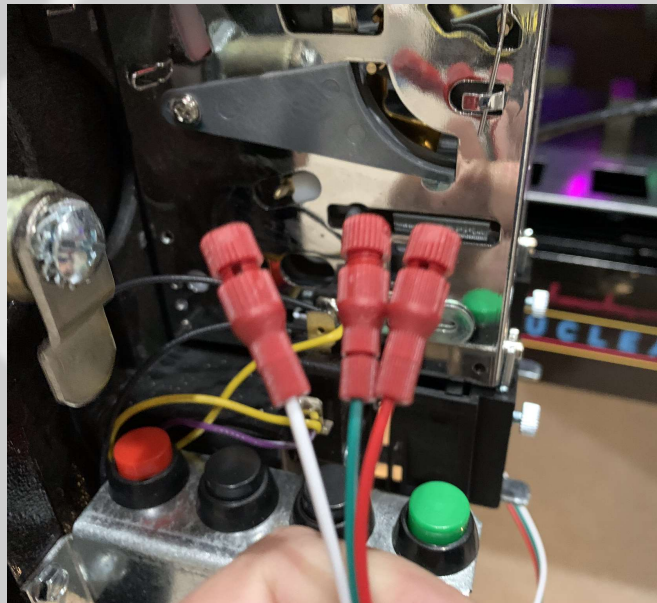
Alternate method for Mac cable hook-up:

Connect the three Posi-Tap wires to the wires coming off the pushbutton switches as follows:

MAC green to black switch wire.
MAC red to green/white stripe switch wire.
MAC white to yellow/white switch wire.

9. Final Checkout

Reassemble your system and close the coin door.

Power up your game and let it boot!

Mech-MAC:

Push the left coin reject button and verify the system volume decreases.

Push the right coin reject button and verify the system volume increases.

PB-MAC:

Push the lower MAC button and verify the system volume decreases.

Push the upper MAC button and verify the system volume increases.

For Stern Whitestar games, make sure to press the volume down button first before pressin the Up button.

10. Closing Statements

We appreciate your business!

Thank you for purchasing our products. We try our best to make pinball products that we find useful and sell them for a fair price. We keep our eyes open for useful pinball product ideas we are pinball people too!

Warranty and repairs:

Pinnovators will stand behind everything we sell. If our product ever fails, contact us and we will make it right! (even if you didn't make the original purchase or you break our product)

Contact Us:

Please contact us with any ideas or suggestions for making our products better!

We can be reached at Sales@Pinnovators.com

Thanks,

The Pinnovators Team