# Connecting the Solo TEK-Slot switchbox to your Control Unit

The solo box can be mounted to a shoulder piece (preferably to the left of the CU) and connected to the Control Unit (CU) rails and power. Please note, opening the CU requires breaking Carrera's warranty seal. This WILL void the factory warranty, so if you are hesitant to do so, stop right here! TEK-Slots will not warranty the CU for you for any reasons, so buyer beware!

Tools required:

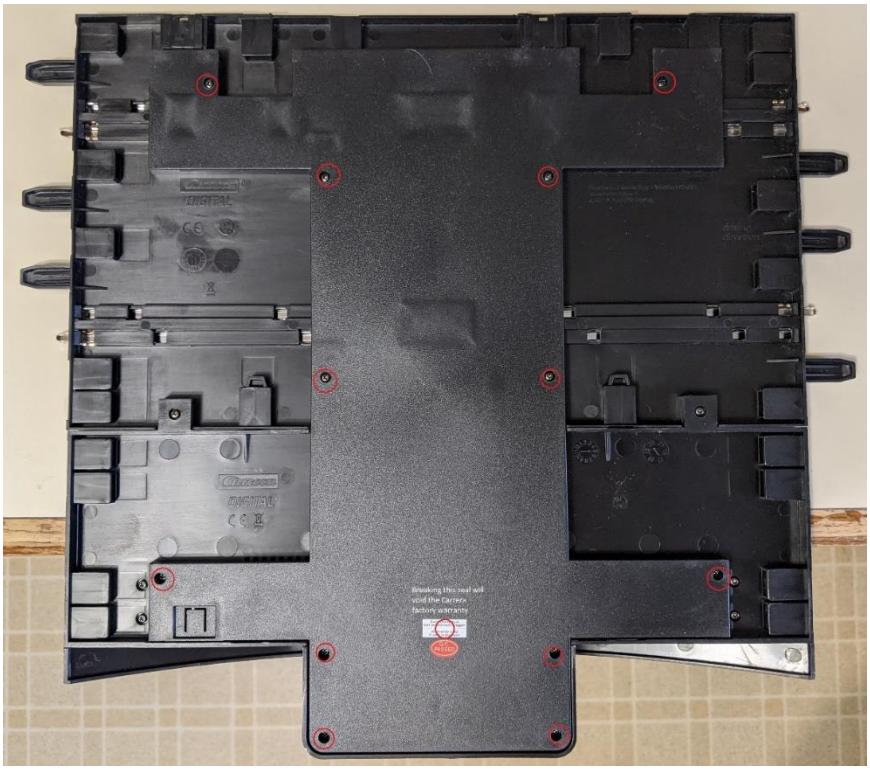
- #0 or #1 Phillips screwdriver
- T8 Torx bit and driver
- 20 gauge wire strippers with crimping capability and wire cutters
- Dremel tool with cutting wheel or heavy wire cutters
- Tape
- Soldering iron 25-45W and electrical (not plumbing) solder. DO NOT use a high wattage soldering gun or butane torch to solder!

Some electronics skill with a soldering iron and wire strippers/crimping are necessary to complete the installation.

With the Switchbox unpackaged, and if you desire to mount it to a shoulder piece as we usually do with the Carrera ¼ round end shoulder, mark out where a ½" hole will be drilled on the shoulder. The hole will typically be 50mm from the right edge, and 34mm from the bottom edge.

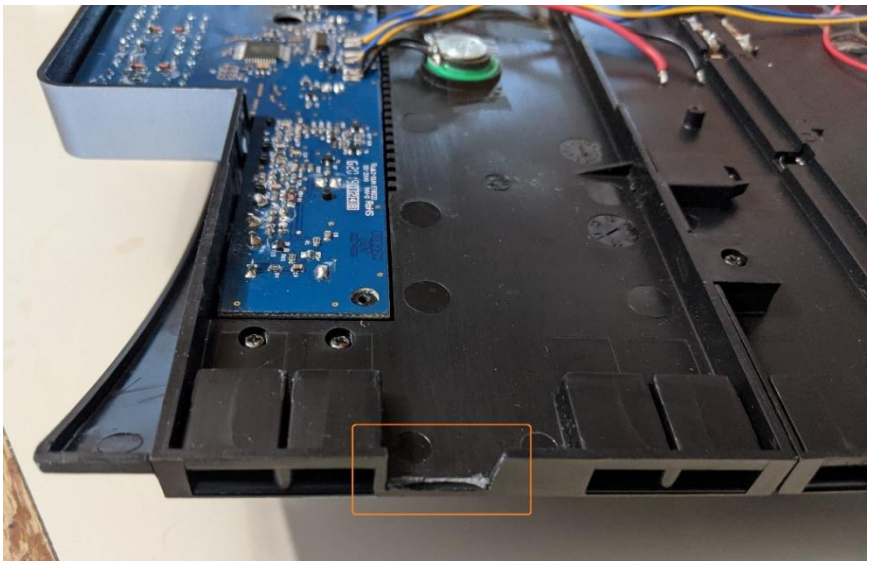
Using a ½” drill bit, drill the hole through your shoulder piece, and attach two red track clips to the shoulder.

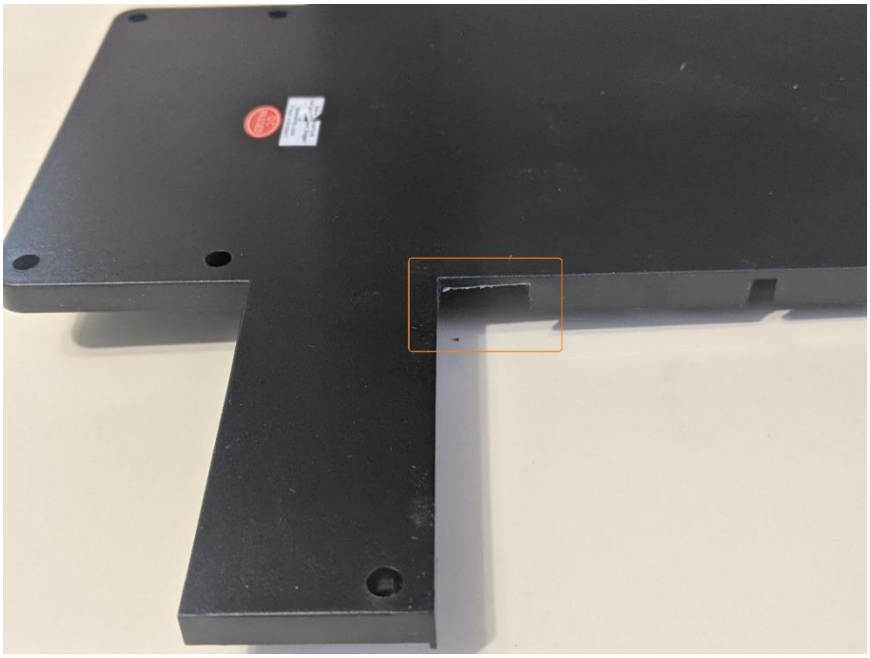

Remove the back cover from your CU.  There are twelve Phillips (#1 or #2) screws to remove, and one T8 Torx screw under the warranty seal.

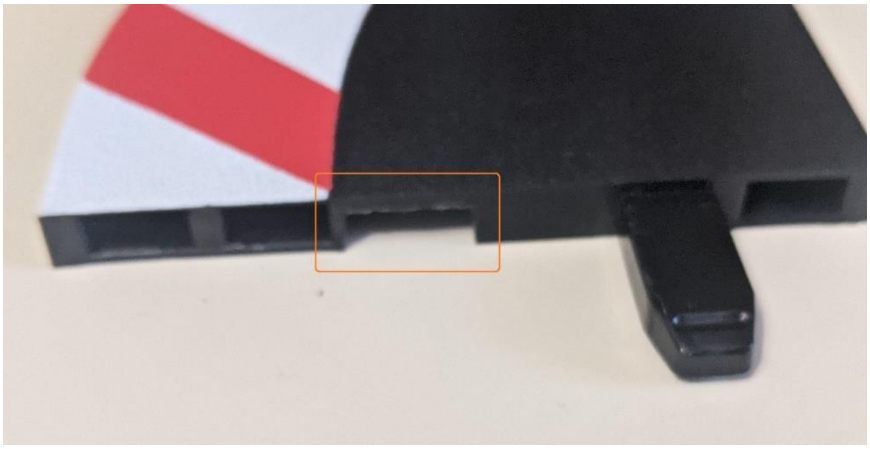


Again, breaking the warranty seal will void the Carrera factory warranty.

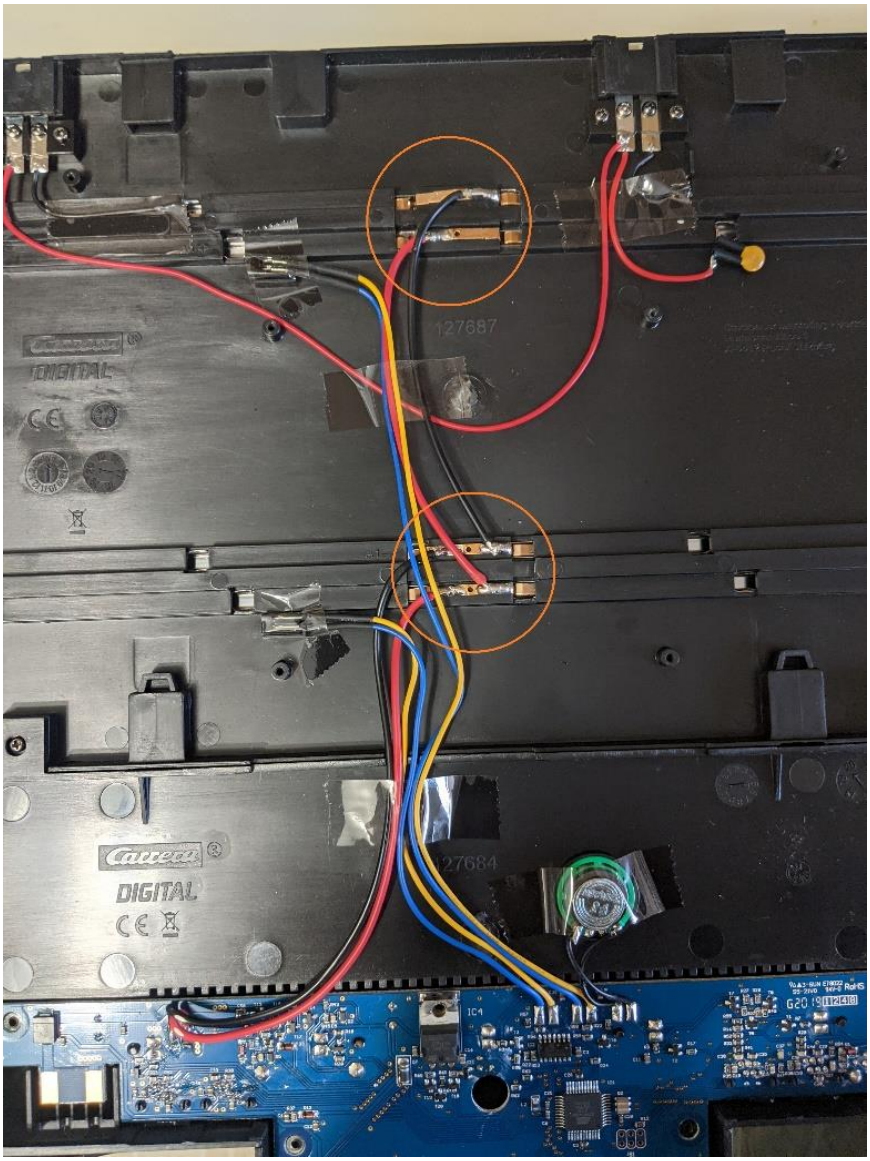
Once the back cover is removed, use a Dremel cutting wheel or a heavy pair of wire cutters and snip a cut out on the back cover, the left most side of the CU, and the shoulder as indicated in the following photos. The cut out only need to be ½”-3/4” wide and should not break beyond the edge. Make sure the cut away is smooth so as to not cause abrasions on the wires.







Connect the shoulder mounted Switchbox (if you are using a shoulder) to the left side of the CU. Route the six wires around the speaker and toward the rails. Unsolder the factory wires from the copper inserts on each rail as shown in the photo below. Be careful not to use too much heat for a long period of time, as the plastic track may melt. Leave the red and black power wires connected at the circuit board.



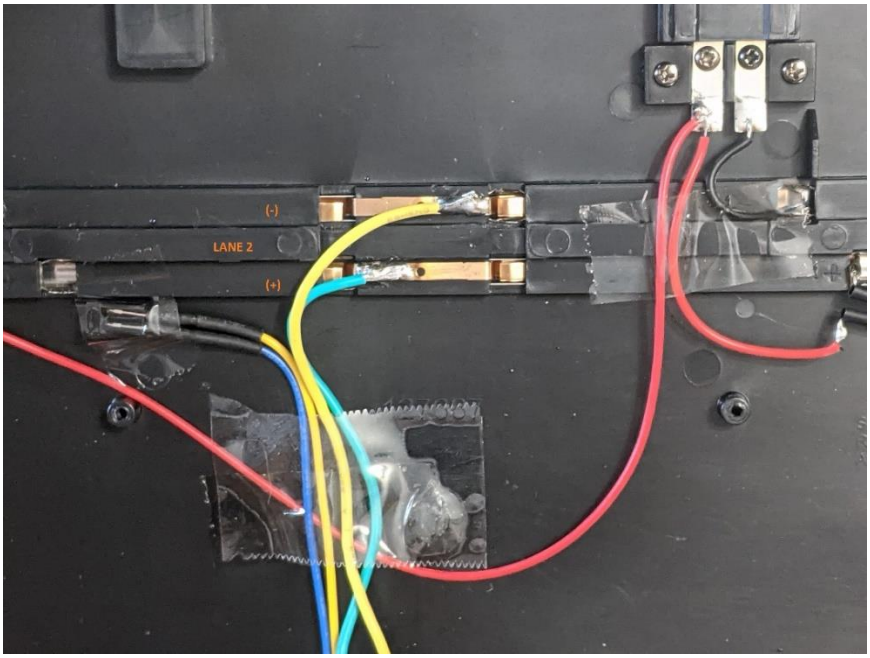
See the photos below for the proper wire placement on each lanes rails. Trim the wire in case there is a significant amount of wire (sent that way). You don't want too much wire bunched under the CU plate, but you do want enough slack so nothing is tight either.

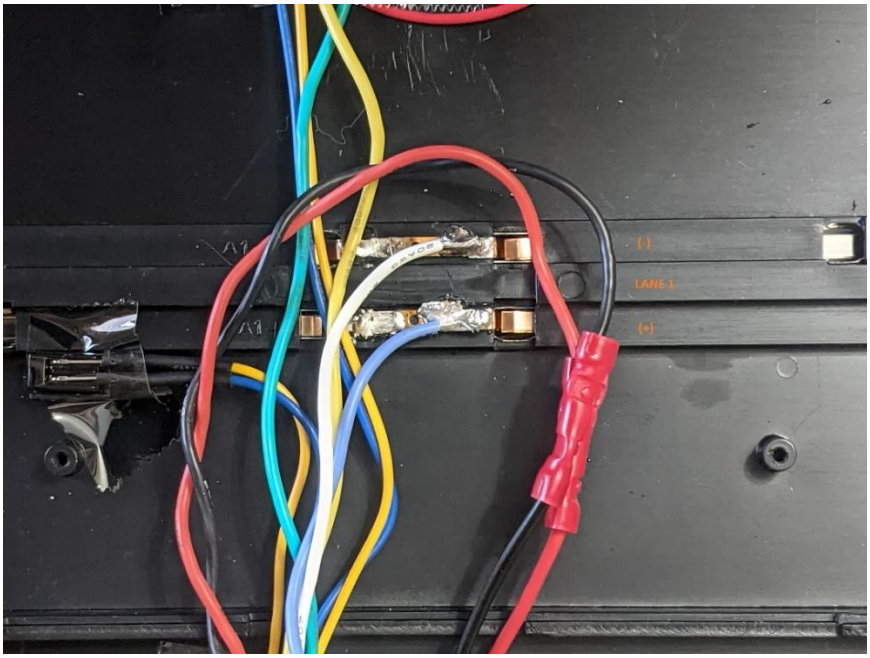
Yellow = Lane 2 (-) Green = Lane 2 (+)

White = Lane 1 (-) Blue = Lane 1 (+)

Strip a quarter inch of insulation off each wire above, tin with some solder, and solder to the rails. Do not hold too much heat on the copper clips at each rail, as the plastic around may melt.

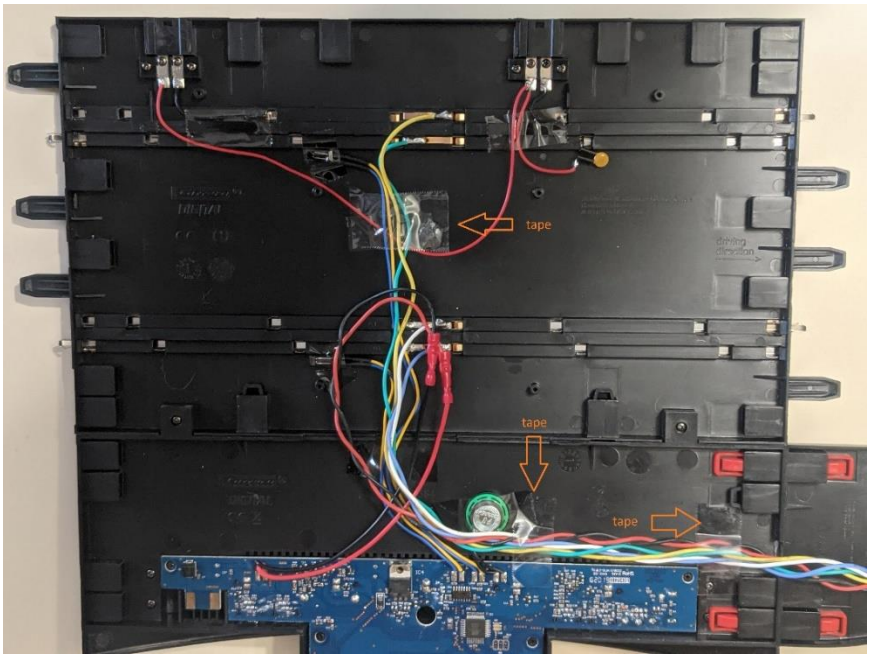
Route the power wires (red & black) similar to the lane wires. Strip half inch of insulation from the Switchbox wires as well as the Carrera wires going to the circuit board. Use the barrel wire crimps to connect red to red, and black to black.



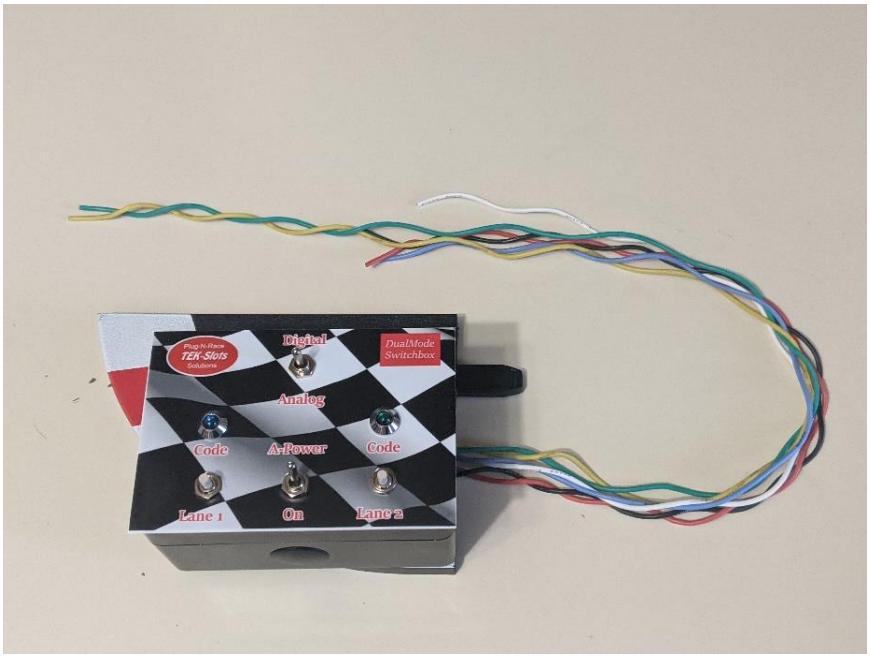


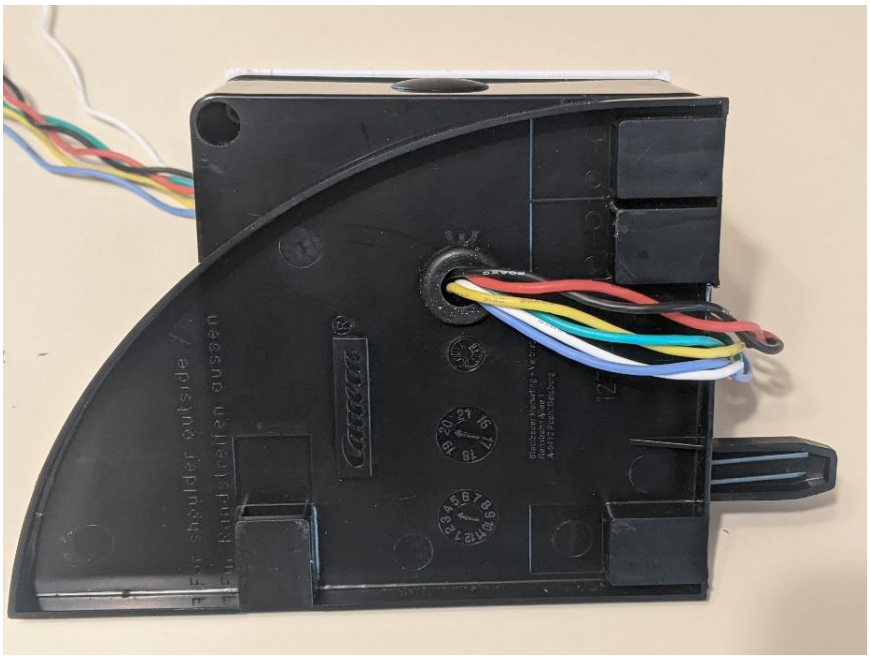

Make sure these crimps are secure.

Secure the wires to the CU with tape at the designated spots. Duct, electrical, or packing tape will suffice.




Replace the CU plate cover and secure with the screws removed earlier.


Digital
DualMode
Switchbox
Analog
Code
A-Power
Code
Lane 1
On
Lane 2


For shoulder outside /
Für Randstreifen aussen

## To operate the switchbox with the modified CU for dual mode use:

In Digital mode, the CU and digital cars will operate as usual. It is recommended that you keep the A-Power (Analog Power) switch in the up, or OFF, position. This will power off the decoders in the switchbox, conserving power (and reducing heat), and allowing you to code digital cars without affecting the coding of the internal decoders.

WARNING! Do not place analog cars on the lanes when in Digital mode. The cars will immediately take off at full speed in reverse!

In Analog mode, turn the A-Power switch on after switching to Analog. The two LEDS will light on the Switchbox. These simulate the brake lights of the digital cars. When they blink rapidly after coding, that will indicate that lane is coded.

To code Lane 1, press the "CODE" button on the CU. Press and hold the Lane 1 button on the Switchbox while pressing the Lane Changer button on the desired controller. Once the lights are done blinking, release the Lane 1 pushbutton. Lane 1 is now coded to that controller.

To code Lane 2, press the "CODE" button on the CU. Press and hold the Lane 2 button on the Switchbox while pressing the Lane Changer button on the second desired controller. Once the lights are done blinking, release the Lane 2 pushbutton. Lane 2 is now coded to the second controller.

These settings (as well as SPEED and BRAKE) will retain their setting to each Lane in Analog as long as the A-Power switch is turned OFF while in Digital (as you may be coding and setting speed and brake separately in Digital). NOTE: Do not use FUEL in Analog mode. It won't work for more than 30 seconds.

**THIS IS IMPORTANT!**

In Analog mode, the rails (the negative rails specifically) need to be isolated from each other. In Digital, they are connected, as are the two positive rails to each other. But in analog, the customer is responsible for insuring lane isolation throughout their track. Mind your power tap wiring to keep lanes isolated, and curved lane changes may be modified or replaced (they also jumper the rails together).

This is literally 95% of all problems customers have with a dual mode solution. Operating in analog mode without lane isolation will eventually burn out the internal decoders within the Switchbox, and is NOT covered by warranty.