

Installation & Operating Instructions

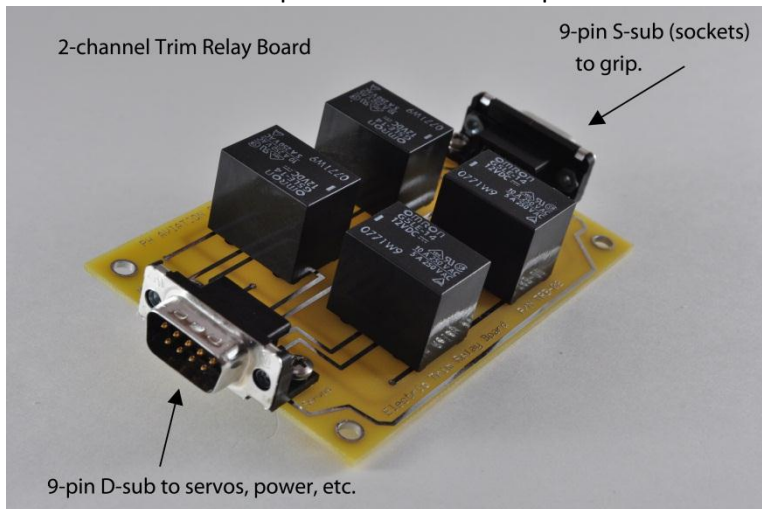
2-channel Trim Relay Board

Part No. TRB-02

The Trim Relay Board (TRB) should be mounted in the aircraft in a convenient location using 4-40 hardware and nylon standoffs or washers to allow for clearance under the printed circuit board (PCB) contacts and for ventilation purposes. CAUTION: Be careful to prevent any of the traces on the top or bottom of the PCB from coming into contact with any part of the aircraft structure or mounting hardware as this could short out the circuits. Terminate your wire bundle from the grip with a male 9-pin connector as shown in the attached schematic. Terminate your wire bundle from the servos, etc., with a female 9-pin D-sub connector.

The TRB is designed to utilize only 3 of the buttons on the grip and the 4-way trim switch. Some grips have more buttons, but for those who only need three, this is the best option because it allows you to use the smaller 9-pin D-sub connectors. An example of use of the three buttons might be PTT, Autopilot CWS, and an IDENT for the transponder. See the attached schematic for details. A TRB with 15-pin connectors is available for those who wish to use more than 3 buttons.

The D-sub connectors' pins are rated at 5 amps continuous. The Omron relays are rated at 10 amps



continuous. It is recommended that you use AWG 22 wire when making up your D-sub connectors—where you have to use your own wire. Many of the grips will have their own wire. You can gang (splice) all of the grounds that come from the grip and use pin #9 for your ground.

One of the advantages of using the 9-pin D-sub connectors is that you can make a disconnect for your grip inside of the stick tubing by cutting off the “ears” of two D-sub. You

may have to use a bit of epoxy to reinforce the D-sub after you cut off the “ears.” The modified D-sub will fit down into the stick tube. This way you can remove the grip for maintenance without having to uninstall the entire stick assembly. To do this, we recommend that you use as short a pigtail as possible off of your grip and mate it to a 9-pin D-sub as described. Leave enough of a pigtail so that you can splice all of your ground wires to a single wire that will go to pin #9. Then you can complete your own 9-wire harness from that point, through the bottom of the stick, to the TRB, using the standard machined pins and sockets. It is quite an easy process to crimp these pins and assemble your D-sub connector. About the most difficult part is keeping track of the pin numbers as you switch from pins to sockets. CAUTION: Double check your pin-outs! We drilled a small hole near the hinge point of the stick (for minimum movement), added a grommet, and fished our harness through the hole. This gives you a nice clean install and allows you to remove the grip or the TRB for troubleshooting and/or repair.

Be sure to use appropriate protection on the power lead (pin #1) for the size wire you select. Current draw for each Ray Allen servo is approximately 150 milliamps unloaded.

Disclaimer & Warranty:

This part was manufactured by PH Aviation Services, Inc. and should NOT be installed in Certified Aircraft. It is intended for use only in Experimental Aircraft and installed by the builder. There are no warranties expressed or implied and purchaser assumes all risk for the operation of this part. However, the purchaser may return this part for repair, replacement, or full refund if it fails to operate as intended at any time during the first 12 months after the date of purchase.