

Electro-Resales

Getting started with the 2 Port Antenna Switch

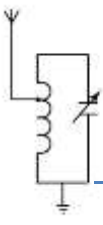
Many thanks for purchasing this Antenna switch. The switch is designed to be quickly deployed as a way of providing an easy and transparent RF path either from one antenna to two radios or one radio to two antennas.

We appreciate your business and want to ensure that your experience with our products is a pleasurable one. We understand that you want the product to work without fault and that is our wish also. The following notes are designed to help you get up and operational as quickly as possible.

Product details

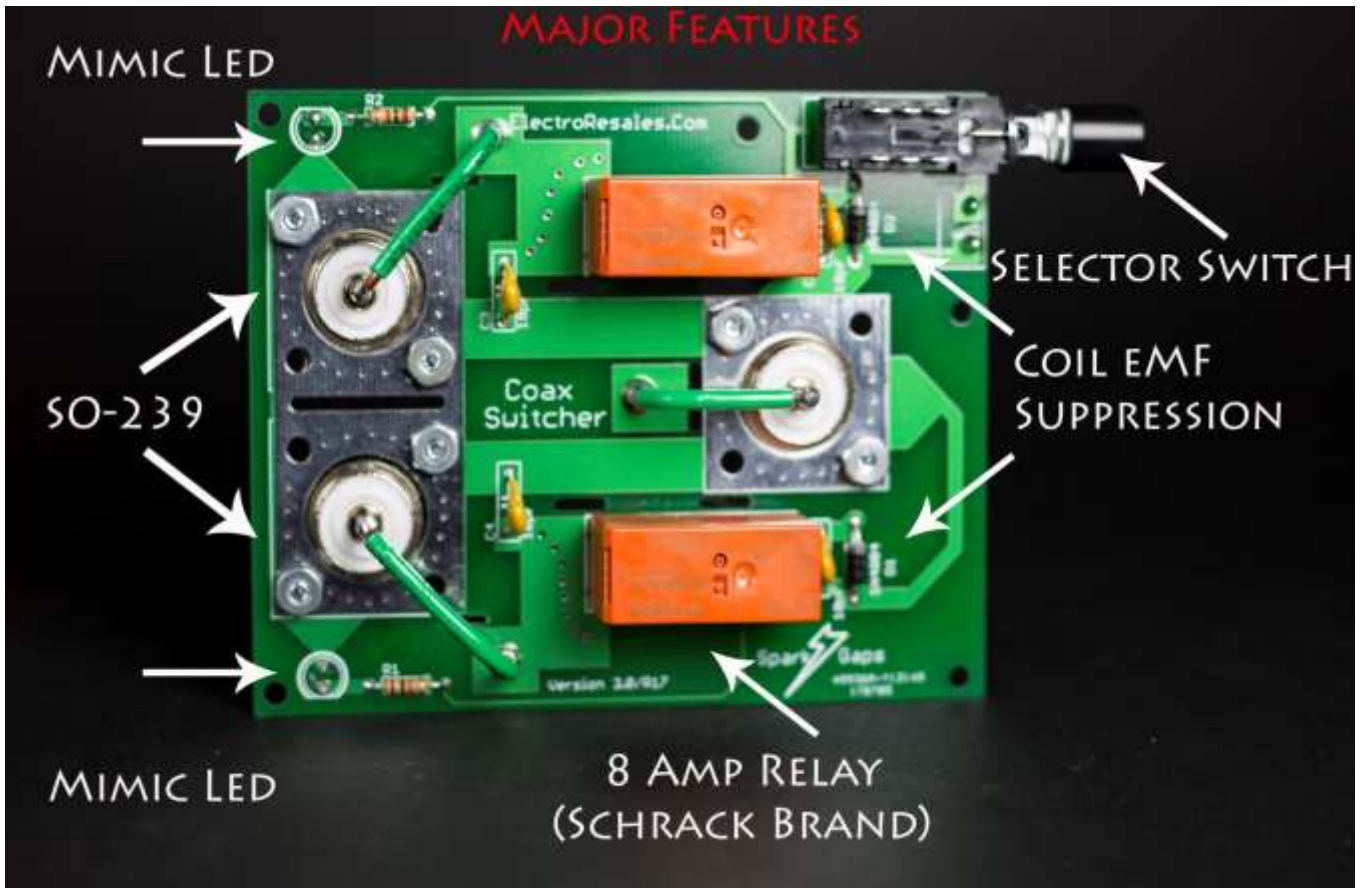
Please refer to Photo 1 & 2 while reading these notes

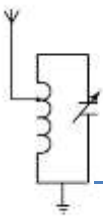
1. The unit requires a DC power source of 12 Volts to operate. The board has a 2 pin screw terminal connector for attaching power leads.
2. When power is applied, one relay will energize, as indicated by the corresponding LED lighting. Which relay energizes will depend on the position of the push selector switch.
3. To change the relay that is operational to the opposite relay press the push selector switch, the relay LED will change to indicate the new relay that is energized.
4. When pressing the selector switch allow the switch to latch fully before releasing the plunger button.
5. Connection to RF sources is via the three SO-239 sockets on the PCB. It is possible to configure the antenna switch in several ways to suit your operational needs.
 - a. In its basic form the antenna switch can be used to connect a radio to either one of two antennas so operation on various bands can be achieved with dedicated dipole antenna say.
 - b. It is also common to have one port connected to an antenna, and the second port a dummy load or maybe an RF Sampler and dummy load.
 - c. In another configuration a single antenna could be switched between two radios.
6. As shown above several possible set-up configurations are possible.
7. When attaching the coaxial connectors to the pcb SO-230 connectors, make sure to push home the center pin of the PL-259 connector before tightening the housing shell, this insures a satisfactory connection is achieved.



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Photo 1 - Layout diagram of major features





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Photo 2 – Power connection detail – Make sure to observe correct polarity

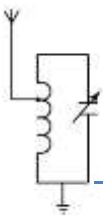


Remote Operation

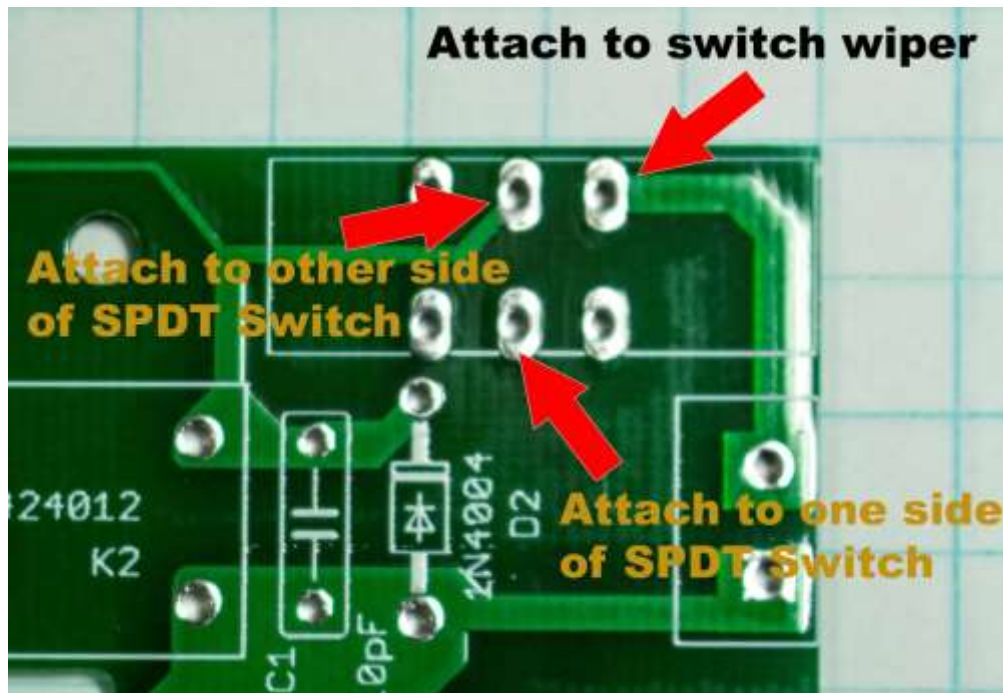
The unit is primarily designed for operation near the transmitting or other radio equipment (shack), however, it is possible to locate the unit at the antenna or some other (remote) location and operate the port switch remotely by means of a suitable SPDT switch and a three core cable.

To effect remote operation may require the switch PCB to be modified. If the PCB was purchased with the changeover switch installed, this will need to be removed and a 3 core cable attached as shown in the following image:

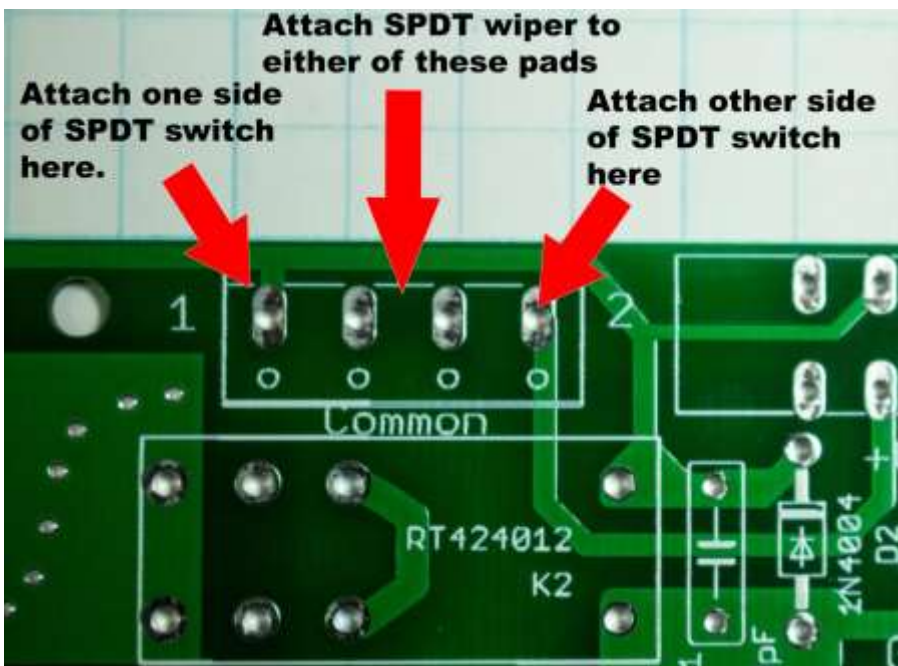
Photo 3 – Remote operation – How to configure using the vacated switch pads or breakout pads in revision 4 PCB's.

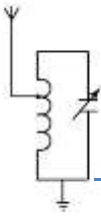


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Alternatively, a later revision (#4) has broken out the switch connections; while the switch (if installed) will still need to be removed this version allows the board to be easily reverted if needed. The image below shows these pads and the necessary connections.





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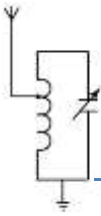
Troubleshooting

In the unlikely event that the unit does not function 'out of the box', please refer to these simple help steps. If the unit is still not working contact us at this email: resalese@gmail.com

1. Application of power does not light any LED's you do not hear a relay 'click over' – This is generally due to an issue with either the power source itself or an incorrect hook-up of the power connections. Check your connections and ensure the power supply in use is on/working.
2. Operation of the selector switch does not change over the operational relay – Ensure the switch plunger is fully pressed home and latched before releasing the selector switch button.
3. Relays operate or switchover without operation of the selector switch. This may be due to stray RF entering the switch and causing issues. Check for RF or grounding issues with your transmitting equipment.
4. All other issues please contact us at the above mentioned email. Please note we will not be able to troubleshoot remote operation issues beyond assisting with connections to the switch.

Features & Specifications

- 2 Port antenna switch unit using relays to switch ports
- Contacts on relays rated to 8 Amps @ 250 Volts AC
- Low RF noise level on relay coil energizes (LC tank frequency of coil and suppression capacitor is 93 KHz).
- Port isolation greater than 40dB
- Insertion loss of -0.15dB
- 1KV suppression capacitors used throughout and back EMF diodes installed on relay coils
- LED indicator for identification of port activated.
- Remote operation possible



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A person who constructs or works on electronic equipment may be exposed to hazards, including physical injury, the risk of electric shock or electrocution.. These hazards can result in health problems, injury, or death. Only qualified persons who understand and are willing to bear these risks themselves should attempt the construction of electronic equipment. By purchasing this item, the buyer acknowledges these risks. There is a risk of electric shock, electrocution, burns, or fires that is inherent in the construction and use of electronic equipment. By purchasing this item, the buyer acknowledges these risks.

IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE including, but not limited to, property damage, personal injury, death or legal expenses. Buyer's recovery from Seller for any claim shall not exceed the purchase price paid by Buyer for the goods, irrespective of the nature of the claim, whether in warrant, contract or otherwise. By purchasing this item, BUYER AGREES TO INDEMNIFY, DEFEND AND HOLD SELLER HARMLESS FROM ANY CLAIMS BROUGHT BY ANY PARTY REGARDING ITEMS SUPPLIED BY SELLER AND INCORPORATED INTO THE BUYER'S PRODUCT.