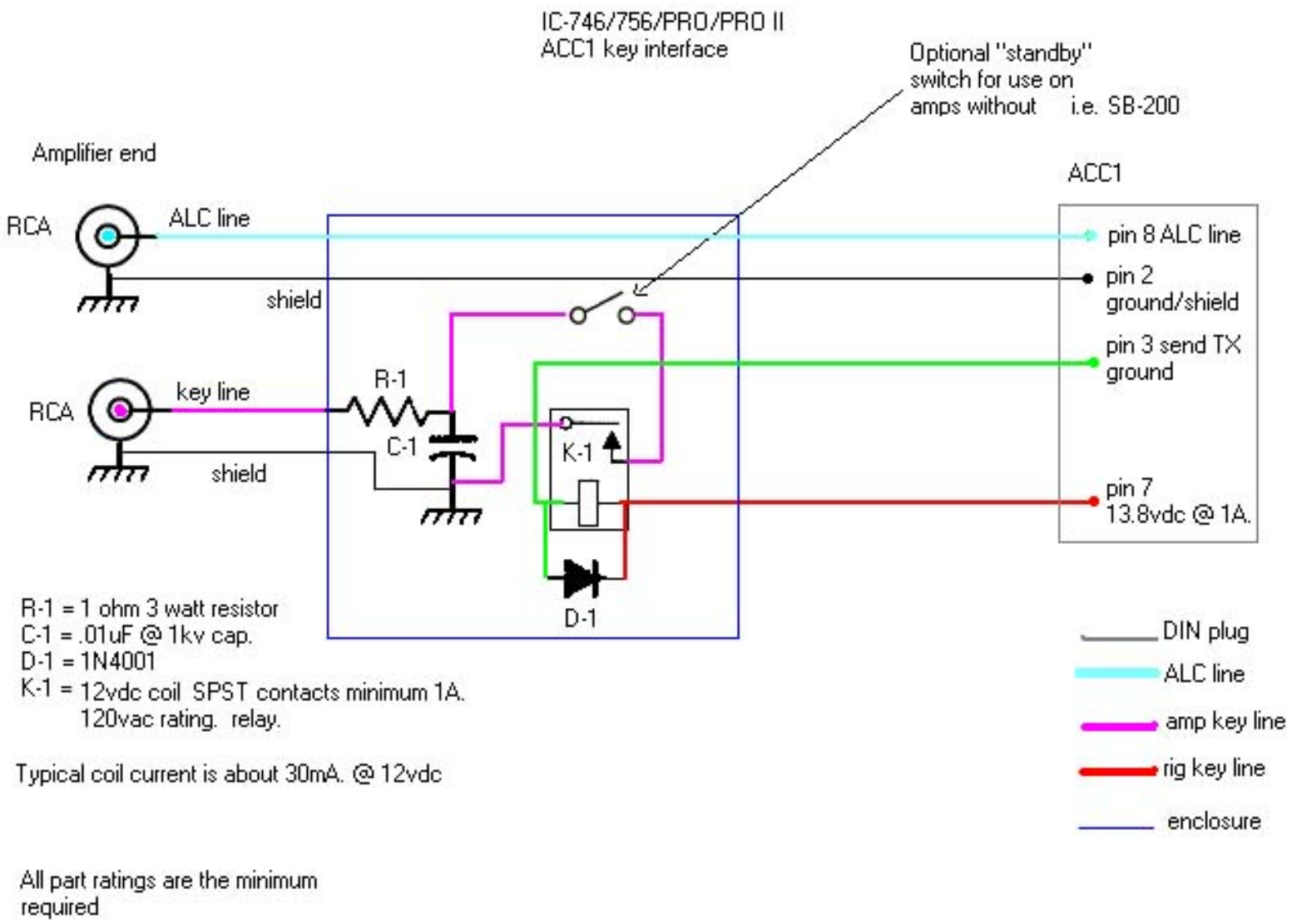
Amplifier keying "buffer" for ICOM radios & others.



See your radio operators manual, for DIN plug pin-out for this interface. This interface will work with any ICOM radio with an 8 pin ACC1 port, which includes the latest radios such as the IC-7600, 7700, 7800, 7200. It can also be adapted to the 13 pin DIN of the 706 series, and the 7000, as well as the 718, 703 etc. Just follow the diagram and the port pin-out of your favorite radio.

Note: Use a relay that draws no more than 200ma. of current. Do not use relays that are larger than 10A. contacts, because the noise of the contact closure becomes quite loud.

The cable between the interface and rig is a three conductor, shielded type.

The lines between the interface and the amplifier are separate and shielded.

R-1 is a current limiting resistor which controls the keying in-rush current level.

D-1, is a back-pulse canceling diode, protecting the delicate circuit in the rig.

C-1, is an RF bypass.

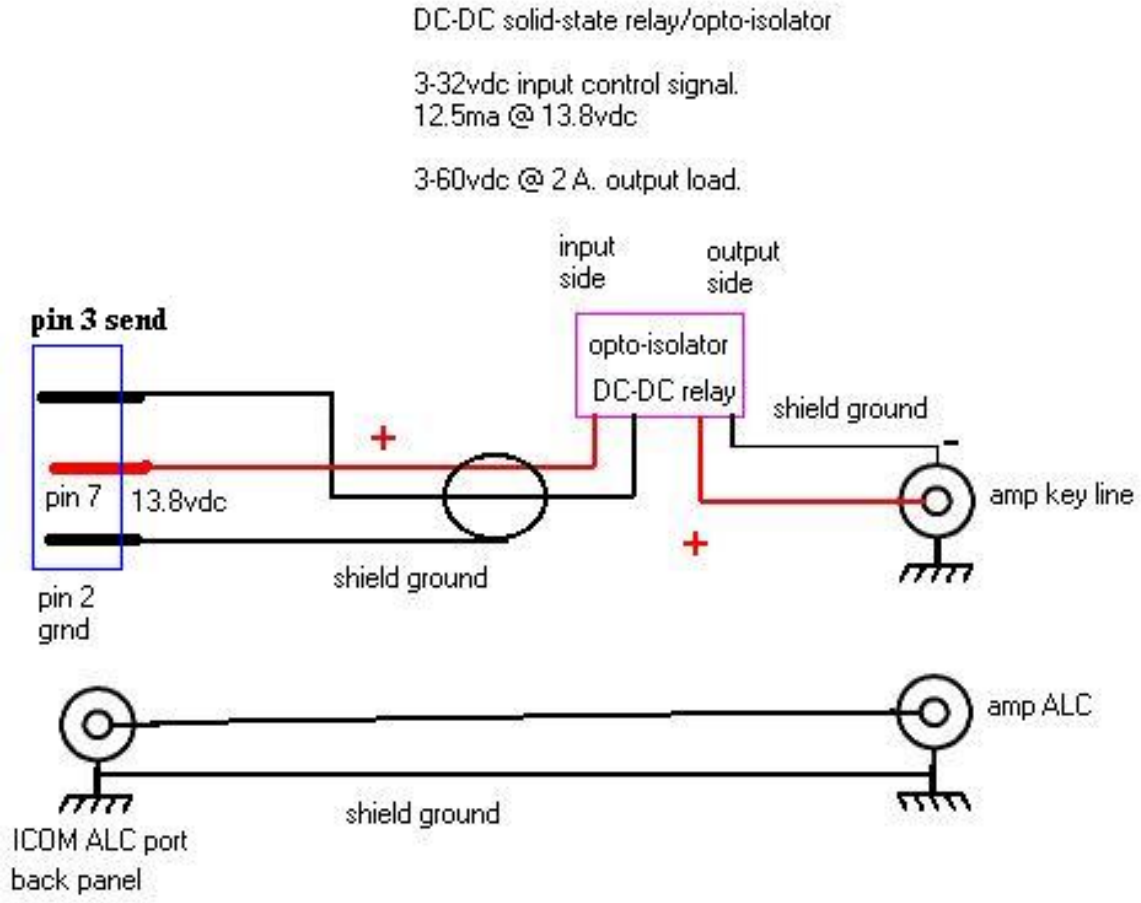
Wired in this manner, the circuit isolates the amp from the rig, sharing only a common ground.

This circuit can be adapted to many radios, by rewiring the DIN plug end(consult the manual of the radio for pin out).

Feel free to copy and build this circuit.

If you would like a completely solid state interface, I have constructed a unit around a small solid state DC-DC relay, or "Opto-isolator", from Mouser electronics. Part # 558-DMO063

Below is a circuit diagram of the unit.



The advantage of using this design, is that the relay is very, very fast, and totally silent.

Cost is about 50% higher than a mechanical relay design.

The interface is very small, about the size of two postage stamps side-by-side.

Complete isolation of the amp and radio, except for the common shield/ground of the ALC line which is paired with the keying line. The relay is completely self protected internally.

This circuit is NOT suitable for use on amps that use higher than 60vdc, i.e. SB-200,220, these are better suited for a mechanical relay circuit.

73 de Matt KK5DR