



Fox Delta

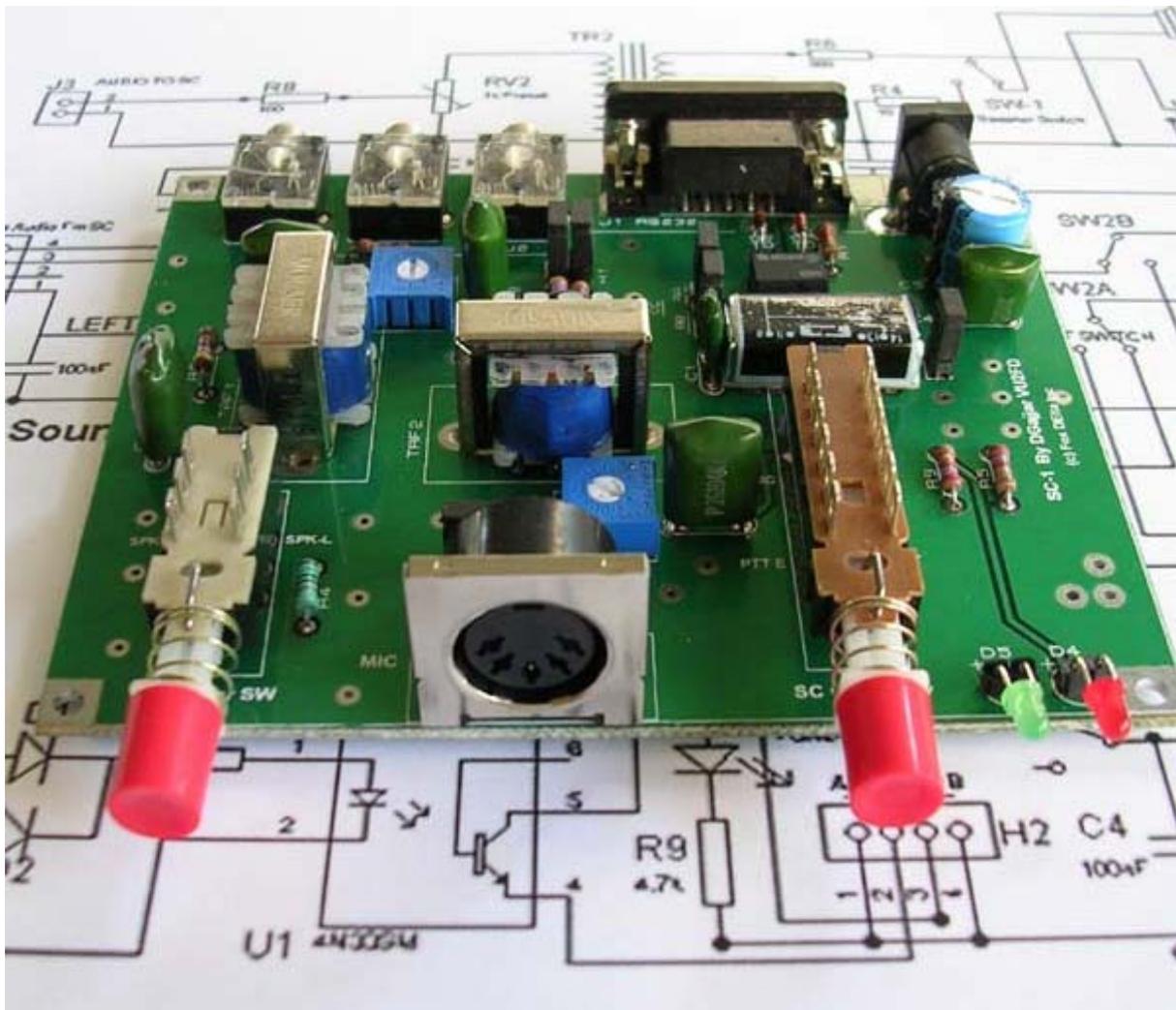
Amateur Radio Projects & Kits

FD-SC1

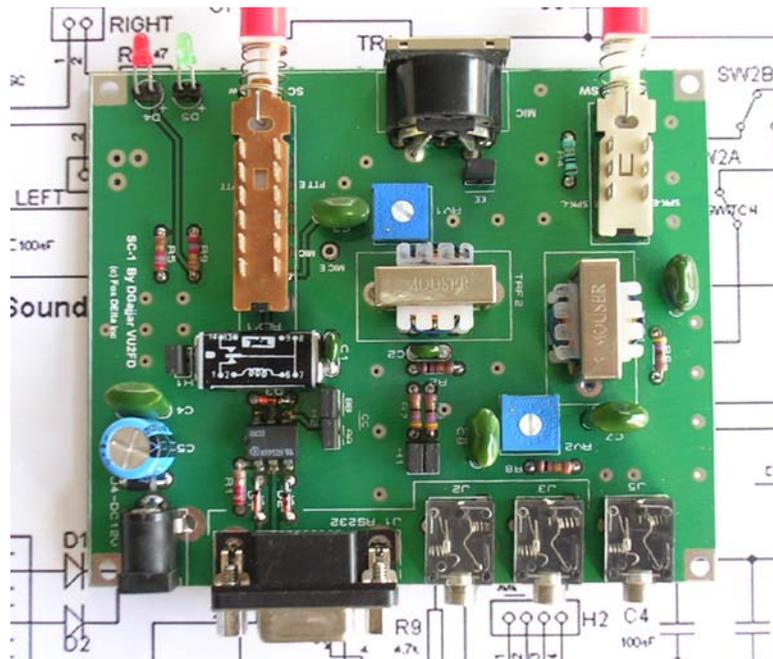
Technical Details & Assembly Note: Sound Card Interface

Sound Card Interface is a simple device to connect your PC to the Radio. In an effort to minimize computer noise entering sensitive radio section, efforts are to be made to isolate DC and AC paths of the Audio generated to & from sound card.

Photo of the Sound Card Interface assembled:



Top View of the assembled Sound Card Board:



Circuit Details:

Sound card interface is basically designed for use with your radio transceiver. There are lots of digital mode free software available to radio amateurs which gives a very good reason to start thinking about digital communication. You may find links to free software at: <http://hamradiosoftware.foxdelta.com>

Basically there is no schematic for this card. What is done is, by using two 600:600 ohms isolation transformers on Mic & Speaker line and using an Opto Coupler for PTT line, we have achieved an isolation of system grounds between PC and the radio.

I have included two push switches.

The first is (at left) to switch on speaker to monitor what is happening on radio channel. As you know, soon you insert a plug into rig speaker jack; internal speaker of rig is cut-off. You can connect an external speaker on this switch to hear your rig receiver. If you don't like to listen, just switch it off.

The second switch is for changing between microphone and digital communication. It is very frustrating that if you remove your Mic & plug-in sound card interface and when you want to interrupt digital communication & wish to use Microphone again, you have to unplug them.

With this switch, by pressing it, you are connected to soundcard and depressing it, you get instant connection to your microphone. A male plug is provided with kit.

This sound card interface may be either powered or without power.

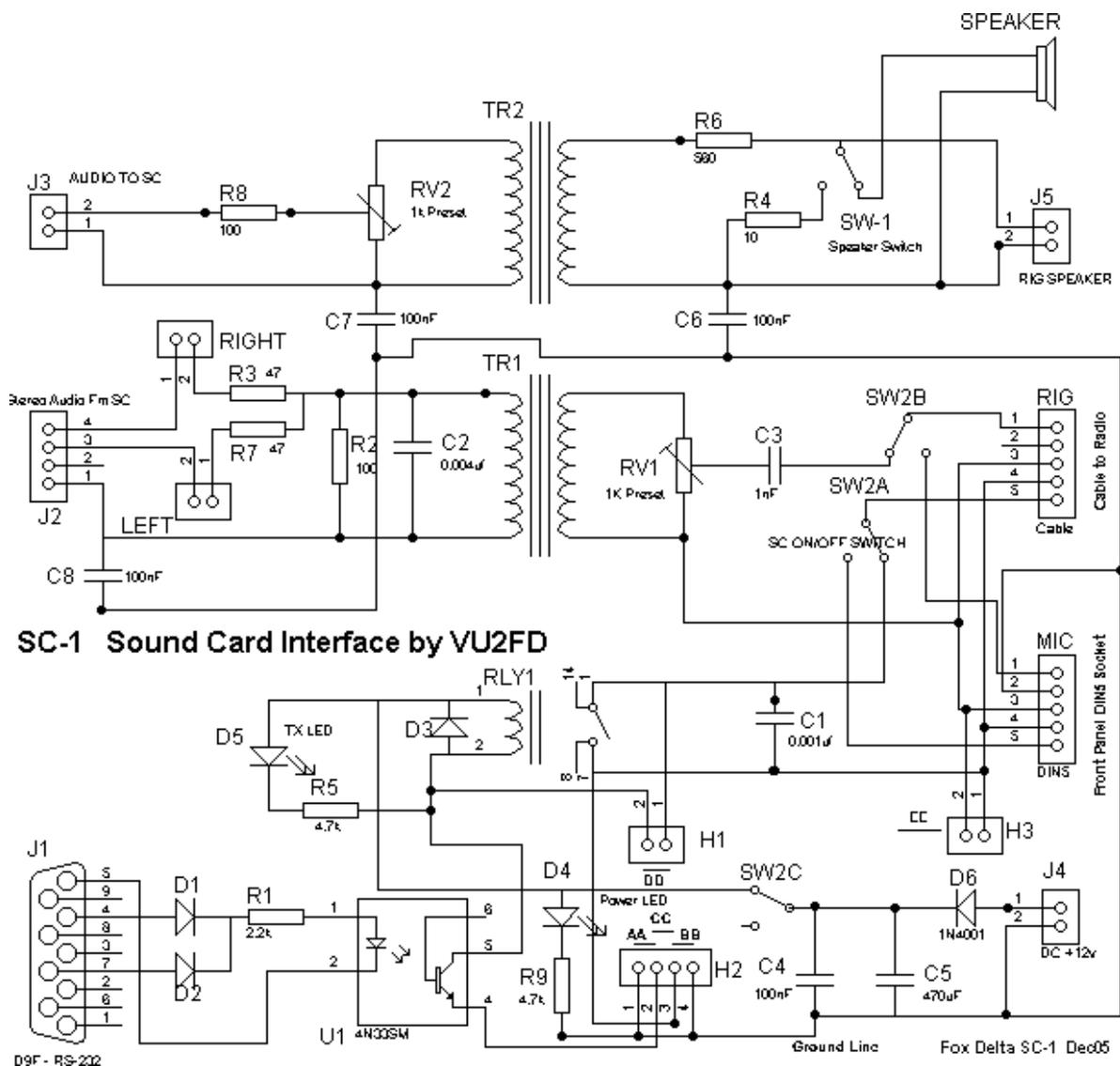
In un-powered condition, opto coupler works on its own and PTT is activated by it. LEDs wont lite in this mode.

If powered, you still have option to use opto coupler as PTT driver or install a reed relay. Appropriate jumpers are provided to configure either condition.

A shorting header is also available for connecting Mic & soundcard interface grounds together. This option may be utilized observing your station setup, hum, noise and many other factors troubling you with your communication needs.

PCB is double sided PTH, with mask & solder plated.

Schematic:



Download high resolution schematic here:
<http://products.foxdelta.com/modem/soundcardsch.jpg>

Assembly Note:

Kit is intended for radio amateurs only. You require to fully understand the circuit diagram before you buy this kit or decide to use it. This kit is equipment Independent that means it will work with almost all radios available in market.

Due to considerable cost of reed relay, two types of kits are offered. The deference between the two is that of a reed relay price.

Opto Coupler, 4N33S is a surface mount device. Since many radio amateurs hate soldering SMD parts, I deliver all kits with SMD parts soldered.

Please visit <http://shopping.foxdelta.com> for price and availability.

Please refer to “Schematic & Parts List” document for kit contents.

I hope this project & PCBs would be useful to many radio amateurs.

73s

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