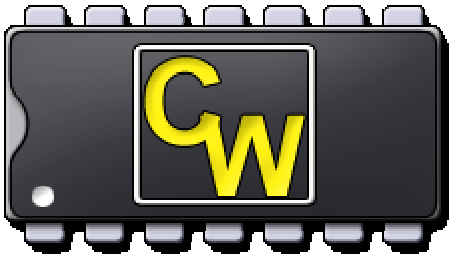


CIRCUITWERKES

Makers of Innovative Electronics

Operation &

Technical Manual

SRE-16 & SRD-16

Serial Relay Encoder & Decoder

Hardware Version 1
Revised 12/18/2008

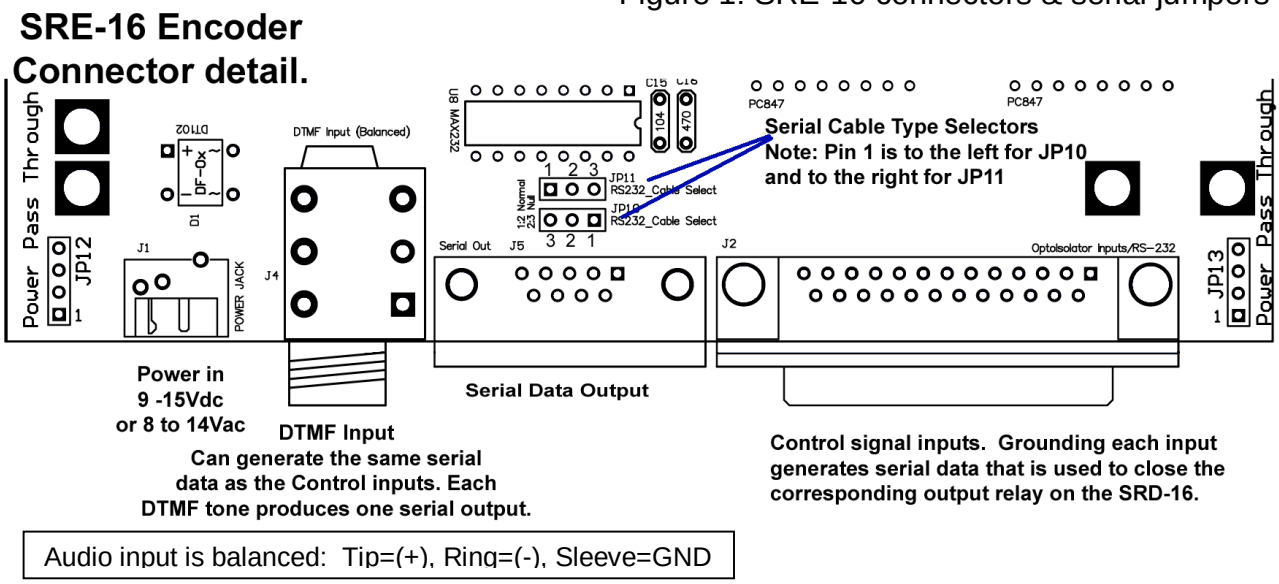
Introduction

The CircuitWerkes SRE-16 is a single direction contact transporter & encoder that will accept either contact closures, or DTMF tones and generate a serial data steam that can be used to control remote devices. An SRD-16 is normally required at the receiving end of the cable to decode the serial data. The SRE-16 has 16 optically-isolated inputs, a 6.3mm TRS audio input jack for receiving DTMF tones and a typical D-9 connector for the serial output data.. Whenever one of the inputs is grounded, the corresponding relay closes on the second unit. The SRE-16 can generate serial relay commands by grounding the appropriate input on the D-15 connector or be sending a DTMF tone to the audio input. Data is transmitted at 1200b, N,8,1. 9600b is available upon request.

Installation

Power is provided by the supplied 9Vdc adapter that comes with your units. If you wish to provide your own power, it must be 7 to 14Vac or 8 to 15Vdc at 250mA or greater. A serial connection between the two units is also required. Serial connections can be standard or null modem types. Jumper JP10 & JP11, lets you choose the type of cable that will connect the two units. If a standard serial connection is used, then The SRE-16 should be set for 1-2. If performing a straight through cable test between the SRE-16 and the SRD-16, you will need to set the jumpers on the SRD-16 to the 2-3 positions.

Figure 1: SRE-16 connectors & serial jumpers



Audio input is balanced: Tip=(+), Ring=(-), Sleeve=GND

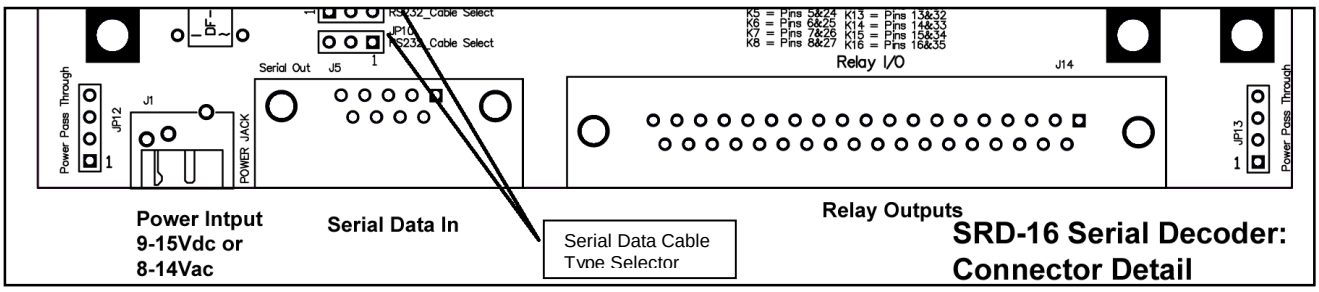
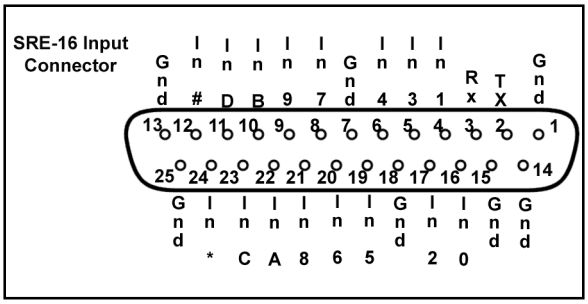
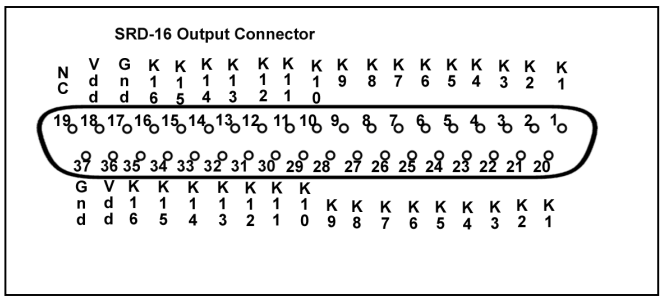


Figure 2: SRD-16 Decoder Connectors & Jumpers detail

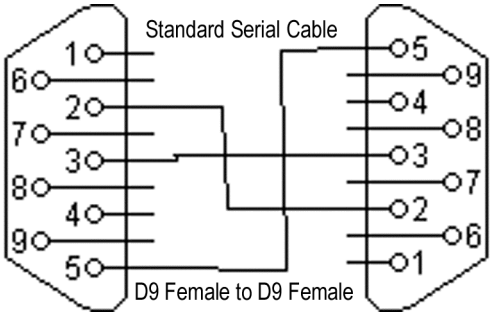


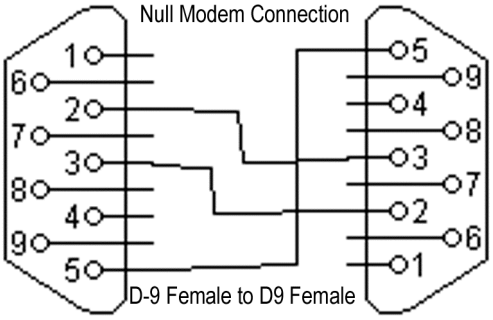


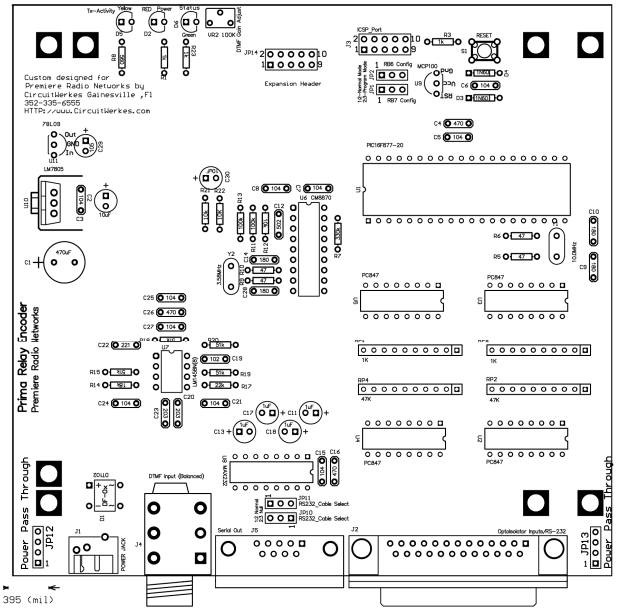
The SRE-16 uses a female D-25 connector for its input connections and the SRD-16 uses a D-37 female for its relay outputs. All of the inputs are optically isolated and are factory defaulted to be internally pulled up. Any SRE-16 input can be activated by connecting its associated pin to ground. When that happens, the corresponding relay output on the SRD-16 should close.

The SRE-16's D-25 connector includes the same serial data on pins 2 & 3 that are found on the D-9, so it is possible to make all of the I/O connections to the SRE-16 on one connector.

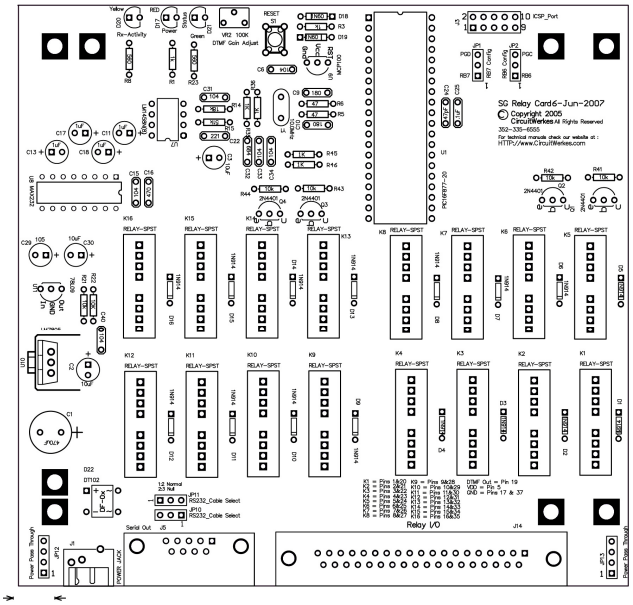
The SRE-16 & SRD-16 support two types of serial cable configurations as described in the "Installation section page three. Both types of wiring configurations are shown below.





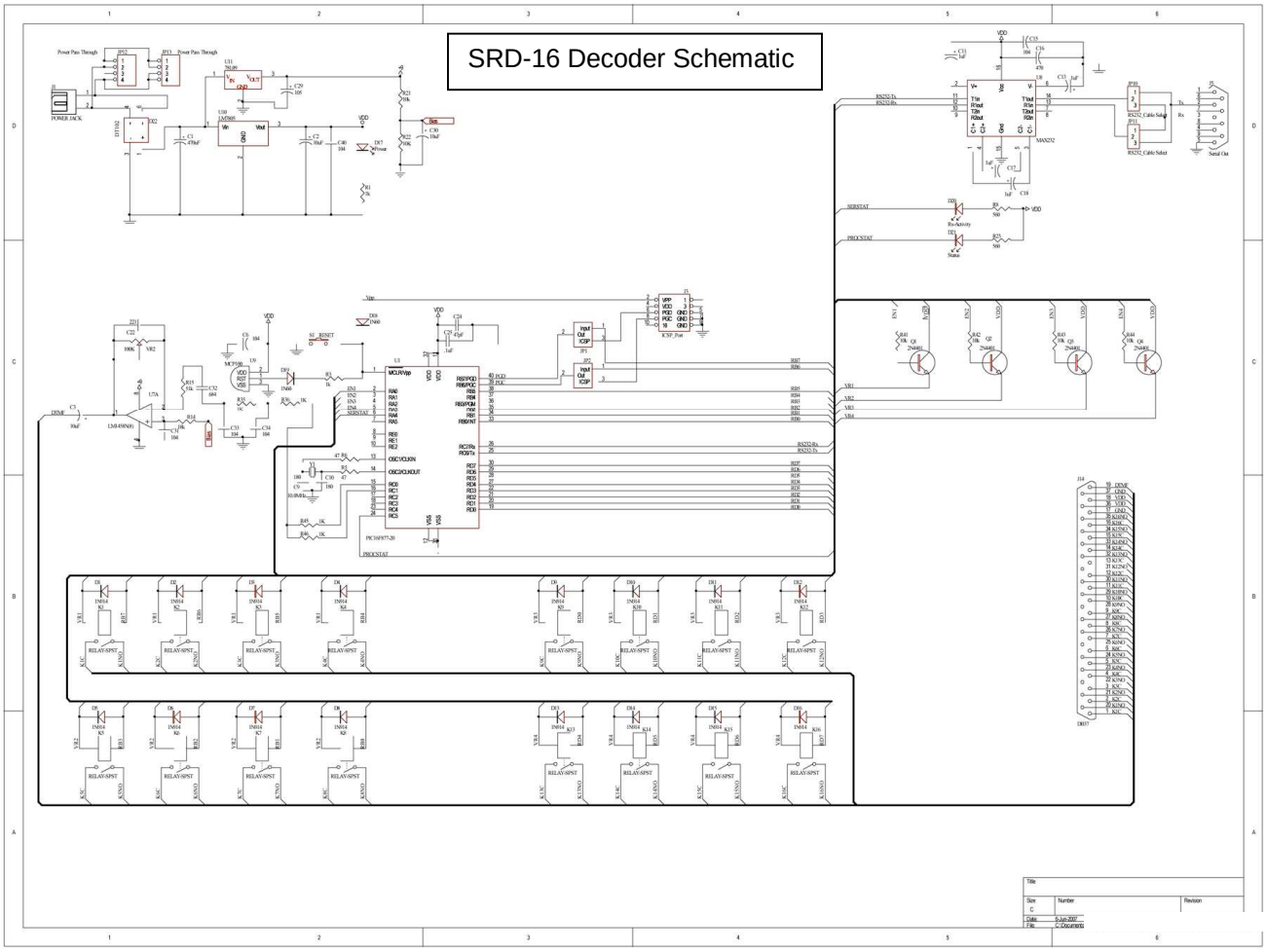


SRE-16 PCB Layout

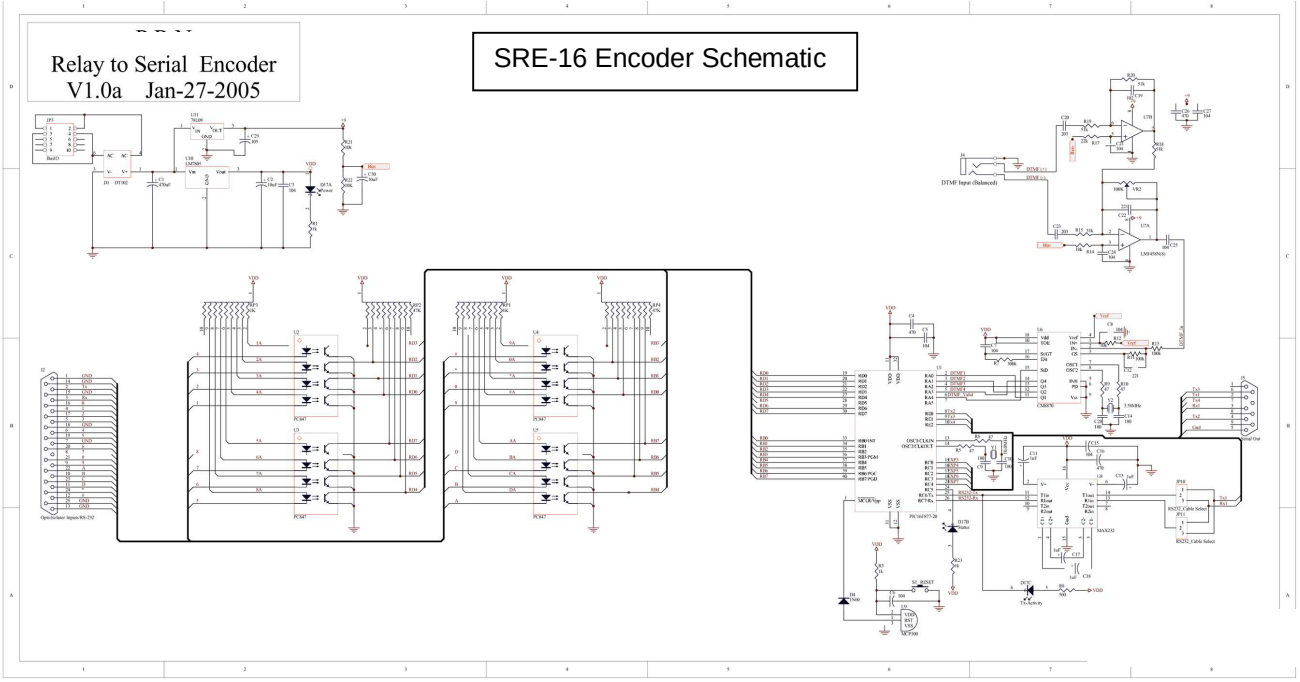


SRD-16 PCB Layout

SRD-16 Decoder Schematic



SRE-16 Encoder Schematic



SERVICE & REPAIR

In the event of the need for service or repair, call CircuitWerkes at (352) 335-6555 for a Return Merchandise Authorization number (RMA). Then carefully package the unit along with a note of the problem and send it to the address below. Clearly indicate the RMA number on the outside of the box. We cannot accept returns without an RMA. Be sure to include your address (not a PO box), telephone number and best time to call.

CircuitWerkes
ATTN: CUSTOMER SERVICE DEPT.
2805 NW 6TH STREET
GAINESVILLE, FL 32609

E-MAIL: info@circuitwerkes.com
WEB SITE: www.circuitwerkes.com

CircuitWerkes Limited 2-Year Warranty

This product is warranted against defects for two years from date of purchase from CircuitWerkes and CircuitWerkes authorized distributors. Within this period, we will repair it without charge for parts and labor. Proof of purchase-date required. Warranty does not cover transportation costs, or a product subjected to misuse, accidental damage (including lightning), alteration (except as authorized by CircuitWerkes), improper installation, or consequential damages.

Except as provided herein, CircuitWerkes makes no warranties, express or implied, including warranties of merchantability and fitness for a particular purpose. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.