BROADCAST® tools INC

Installation and Operation Manual

SRC–2
Serial Remote Control

Firmware Version 1.06

Manual update 7/13/2005

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INTRODUCTION

The tiny TOOLS, SRC-2 interfaces two optically isolated inputs and two SPST relays to a RS-232 port. The SRC-2 can notify a users PC software program that any of two optically isolated inputs have been opened or closed and allows the users software to control two SPST, 1-amp relays. Communication with the SRC-2 is accomplished via short "burst" type ASCII commands from the users PC. The user may also add up to 48 ASCII strings per input and 16 user-defined strings per relay, while two units may be operated in a standalone mode (master/slave mode) to form a "Relay extension cord," with two channels of control in each direction. The unit communicates using RS-232 at baud rates of 300, 1200, 4800 and 9600. The SRC-2 is powered by a surge protected internal power supply. An optional USB-RS-232 smart cable adapter is available.

SAFETY INFORMATION

Only qualified personnel should install Broadcast Tools® products. Incorrect or inappropriate use and/or installation could result in a hazardous condition.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment.

If you would like more information about Broadcast Tools® products, you may reach us at:

Broadcast Tools, Inc.
131 State Street
Sedro-Woolley, WA 98284-1540 USA
Voice: 360 . 854 . 9559
Fax: 866 . 783 . 1742

Internet Home Page: www.broadcasttools.com
E-mail: support@broadcasttools.com

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BROADCAST TOOLS® BRAND PRODUCTS!

Broadcast Tools is a Veteran Owned Business

Designed, Assembled and Supported in WA State, USA

CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.

NOTE:

This manual should be read thoroughly before installation and operation.

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INSTALLATION

Please examine your SRC-2 carefully for any damage that may have been sustained during shipping. If any is noted, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package contains the SRC-2, 9 VAC @ 1 amp wall power transformer, serial cable and this manual.

Installation of the SRC-2 in **high RF environments** should be performed with care. Shielded cable is suggested for all I/O connections. All shields and the station ground should be connected to either of the screws on the DB-9 connector. It is recommended that all cables connected to the SRC-2 be looped through ferrite cores to suppress RF. Surge protection with RF filtering such as the Tripp-Lite "ISOBAR 4 or 6" is also suggested for the wall transformer.

Rack mounting: The SRC-2 may be rack mounted using the optional RA-1, 1-RU rack shelf. Apply a short strip of user-supplied Velcro to the bottom of the SRC-2 and attach the other mating strip to the surface of the RA-1.

Inputs connections: Two optically isolated inputs. Connect your equipment to the plug-in euroblock screw terminals labeled IN1 and/or IN2 and GND. Contact closures, TTL logic and/or open collectors may be used to activate each input. To internally power the optically isolated inputs, leave JP1 in the "LOC" position. To power externally, move JP1 to the "EXT" position and connect any positive DC voltage from 5 to 24 VDC to the "EXT+" terminal and the groundside of the power supply to the GND terminal. The red "DATA" led blinks when either input changes state.

Relay connections: Two SPST relays with Normally Open dry contacts. Make your connections to the desired relay.
K1NO & K1COM and/or K2NO & K2COM. The two yellow led's indicate which relay is active.

NOTE:

To make jumper or Dipswitch changes, all connections should be removed from the SRC-2, along with the four screws on the bottom of the enclosure. Remove the cover to expose the circuit assembly, jumper and Dipswitch.

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e-mail: support@broadcasttools.com   voice: 360.854.9559   fax: 866.783.1742

SETUP

The SRC-2 is factory programmed for an internal voltage source for the optically isolated inputs. The baud rate is set at 9600,8,N, 1 and the operating mode is set for PC control. The Dipswitches are used for baud rate and mode selection. To select the desired baud rate and mode, refer to the Dipswitch descriptions on pages 2 and 3. When your SRC-2 is reconfigured, reinstall the cover, screws, reattach all connections and apply power to the unit. Verify that the green "PWR" led is lit.

To program the SRC-2, you will need a PC running a terminal program such as Windows HyperTerminal, Tera-Term Pro, Etc. Set the terminal program for 9600, 8,N,1, while character echo must be turned on. Next, connect the supplied straight-through serial cable from the female DB-9 connector on the SRC-2 to the COM port on the PC or other serial device. To enter program mode, enter a "P" on the keyboard. Once program mode is entered, the "DATA' led on the SRC-2 will illuminate. Follow the information relayed to Dipswitch 4. To leave program mode, simply press the ESC key.

Dipswitch 1 & 2. Baud Rate setting - Only read on power up or reset

1	2	Baud Rate	
0	0	9600	default
0	1	300	
1	0	1200	
1	1	4800	
		Setup	

Dipswitch 3 OFF, (Dipswitch 4 OFF) = Computer mode.

Relay commands

*0OR1L	=	Latch relay 1
*0OR1F	=	Unlatch relay 1
*0OR1P	=	Pulse relay 1
*0OR2L	=	Latch relay 2
*0OR2F	=	Unlatch relay 2
*0OR2P	=	Pulse relay 2

Input strings

*011	=	Input 1 High
*010	=	Input 1 Low
*021	=	Input 2 High
*020	=	Input 2 Low

Product & Version Request

*uU   =   SRC-2 1.06 (or latest firmware version). This is also displayed at power-up or reset.

NOTE:

If one minute elapses with no data entry, the SRC-2 will time out and exit the program mode.

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Dipswitch 3 ON, (Dipswitch 4 OFF) = Pair mode, inputs from one SRC-2X will map directly to the outputs of another SRC-2X when connected together via the RS-232 port. NOTE: When in pair mode, as soon as a communication failure is detected, all relays will be turned off. As soon as communications is restored, the relays will be set according to the other unit's inputs. **NOTE:** You may need a "Null-Modem" serial cable for this operation.

Dipswitch 4 ON, (Dipswitch 3 OFF) = String mode, inputs 1 and 2 may be programmed to output a data string when closed. To enter program mode, enter a "P" from a terminal program. The following will be displayed:

Input data string entry

Enter a 1 or 2, then the string data you want to be transmitted when the corresponding input is closed. To enter a HEX character, enter a "/" followed by the hex value. For example, if you want to send 12345(CR/LF) for input 2, enter: 212345/0D/0A and hit the ENTER key to terminate. Up to 48 characters can be entered for each input.
NOTE: /0D counts as three characters.

OUTPUT 1:
(Non-volatile string data that will be outputted when input 1 is activated).

OUTPUT 2:
(Non-volatile string data that will be outputted when input 2 is activated).

Relay compare data entry

Enter a 3 or 4, then the string data that when received, will cause relays 1 and/or 2 to pulse for one second. The SRC-2X will receive and store whatever data it receives from the serial port, whether it be ASCII or HEX and use that to compare against incoming data. Up to 16 characters may be entered for each relay.

INPUT 1:
(Non-volatile input string data that when received and compared will pulse relay 1)

INPUT 2:
(Non-volatile input string data that when received and compared will pulse relay 2)

Specifications

Inputs	**2 - Optically isolated inputs. Internally powered or externally powered 5 to 24vdc.**
Relays	**2 - SPST, 30Vdc/1 amp.**
Logic	**Flash Microprocessor with non-volatile memory**
RS-232	**RS-232, 8N1. 300, 1200,4800, 9600. Handshaking disabled.**
Connectors	**Inputs/Relays - Plug-in euroblock screw terminals.** **Serial - Female DB-9** **Power - 2.1mm coax connector, center positive.**
Power Requirement	**9 VAC/DC, 1 Amp, wall transformer, supplied. Internal power supply surge protected. (220 Vac CE wall transformer OPTIONAL).**
Size	**2.60" x 4.25" x 1.12", Plastic enclosure with aluminum end panels.**
Weight	**1.0 lb.**
Options	**RA-1, Rack Shelf. 1 RU.** **USB-RS-232 "SMART" cable adapter**

LIMITED WARRANTY

The term "Buyer" as used in this document refers to and includes both (but only) (a) any person or entity who acquires such an item for the purpose of resale to others (i.e., a dealer or distributor of an item), and (b) the first person or entity who acquires such an item for such person's or entity's own use.

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Broadcast Tools, Inc.
131 State Street
Sedro-Woolley, WA 98284 • USA

360.854.9559 **voice** • 866.783.1742 **fax**
support@broadcasttools.com **e-mail**
www.broadcasttools.com **website**