

## *Installation and Operation Manual*

### **LR-5** *Latching Relay 5*

Manual Update: 08/15/2008

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## INTRODUCTION

Thank you for your purchase of the Broadcast Tools® LR-5, Latching Relay 5, which we will refer to through out the manual as the LR-5. We're confident this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the product.

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## 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:

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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.

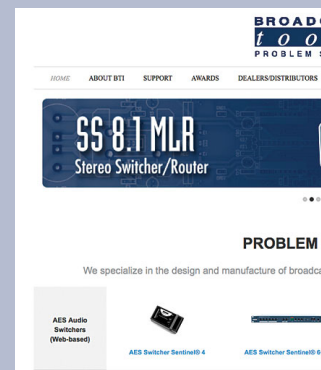


### NOTE:

This manual should be read thoroughly before installation and operation.

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## Product Description

The LR-5 is a mechanical latching relay with one set of four pole double throw contacts and one set of single pole normally open contacts. The LR-5 may be used to switch all types of audio, AES and AC/DC circuits. Additional features include; an five-volt DC 100ma power supply to power external equipment; removable euroblock screw terminals and LED indicators to display power and relay ON. The LR-5 assembly is housed in a plastic snap track.

## Installation

Please examine your LR-5 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 LR-5 installed in a plastic snap track, 9 VAC wall power transformer and this manual.

Installation of the LR-5 in high RF environments should be performed with care. Surge protection with RF filtering such as the Tripp-Lite “ISOBAR 4 or 6” is also suggested for the wall transformer.

The LR-5 interfaces to your equipment through the removable euroblock screw terminals. Follow the labels on the circuit board for all connections. Refer to the terminal functions on the next page. Unplug the plug and remove about 1/8” of insulation from the wire, insert the wire into the plug, and tighten the screw. Reinsert the plug when finished. Be certain that no bare wires are exposed. The terminals accommodate wire sizes from 18 - 28 AWG solid or stranded wire.

### TB-1, Terminal connections / pin-out:

Pin 1 = Regulated external 5 volt DC power out	Pin 10 = Contact 2 N.C.
Pin 2 = GND (Ground)	Pin 11 = Contact 3 N.O.
Pin 3 = Relay ON	Pin 12 = Contact 3 Common (wiper)
Pin 4 = Relay OFF	Pin 13 = Contact 3 N.C.
Pin 5 = Contact 1 N.O.	Pin 14 = Contact 4 N.O.
Pin 6 = Contact 1 Common (wiper)	Pin 15 = Contact 4 Common (wiper)
Pin 7 = Contact 1 N.C.	Pin 16 = Contact 4 N.C.
Pin 8 = Contact 2 N.O.	Pin 17 = Contact 5 N.O.
Pin 9 = Contact 2 Common (wiper)	Pin 18 = Contact 5 Common (wiper)

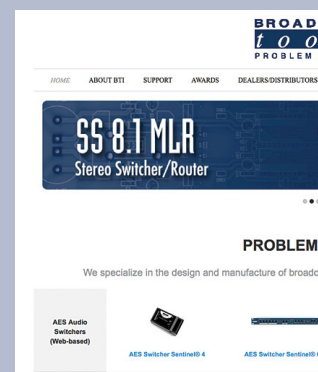
Note: N.C. refers to the relay being OFF.

Mounting the LR-5 may take many forms. The LR-5 may be removed from the snap track for mounting. The plastic snap track can be screwed, cable tied or velcro'd to most surfaces. Optional DIN rail and clips may be purchased from other manufacturers to mount the snap track to the DIN rail.

When installation is complete, proper power can be applied to either jack J1 or J2, the “PWR” light will illuminate. The additional jack is supplied for daisy-chaining multiple LR-5's.

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## Operation

To turn the relay **ON**, place a momentary contact across the **GND** and “**ON**” terminals.

To turn the relay **OFF**, place a momentary contact across the **GND** and “**OFF**” terminals.

External five-volt power may be taken from the “EXT 5VDC and GND terminals.

## Specifications

Control inputs ON/OFF. Activate by momentarily grounding each input. Approximately 12 VDC at 35ma per input.

### Relays

Contact form	2 x 2 form C and 1 – form A
Contact material	Silver alloy with gold alloy overlay
Contact ratings max switching power	30 W, 62.5 VA
Maximum switching voltage	220 Vdc, 250 Vac
Maximum switching current	1 amp
Maximum carrying current	2 amp
Minimum contact ratings	10 mVdc, 10 $\mu$ A (resistive)

**CAUTION! For safety, never connect 120 Vac circuits to these relays!**

Connectors Removable euroblock screw terminals

External power output 5 volts regulated DC at 100ma MAX.

Power Requirement 9 VAC or 12 VDC, 1 Amp, wall transformer, supplied.

Size 3.00” x 4.00” x 1.00”, supplied with a plastic SnapTrack

Weight 1.0 lb.

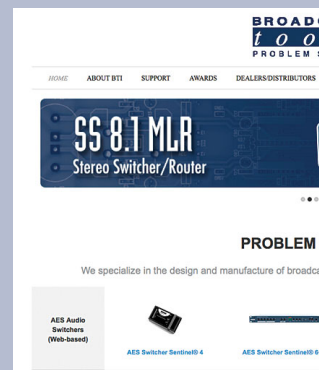
Options 230 VAC CE wall transformer



*The LR-5 utilizes mechanical relays, removing power DOES NOT force the relay to open.*

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## OPERATION

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