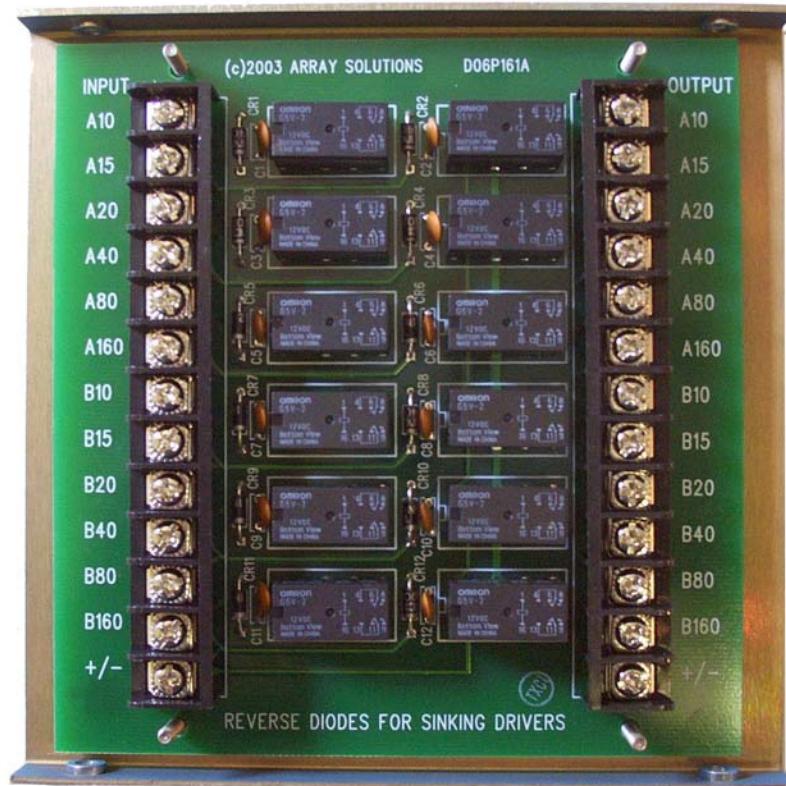




ARRAY SOLUTIONS www.arrayolutions.com
350 Gloria Rd.
Sunnyvale, TX 75182
Phone: 972 203 2008 info@arrayolutions.com
Fax: 972 203 8811



ARRAY SOLUTIONS Level Converter / Relay Driver

Thank you for purchasing the Level Converter/Relay Driver (LC/RD) product from Array Solutions. This handy device should give you a lifetime of service and make hooking up your radios and relays easier.

The LC/RD is the perfect product for supporting the band data interface of the Ten-Tec Orion Transceiver and other applications that require sink to source, sink to sink, source to source, or source to sink level conversion and high current isolated relay drive.

Features include

- 12 Inputs and outputs can be sinking or sourcing
- Outputs voltages are driven by relays to allow either + or – voltage up to 50V DC or AC which is be placed on the common armature terminal.
- This allows the outputs to be driven outside to the tower for very long distances as well as supplying isolation between inputs and outputs in case of lightning surges.
- Using relays is far superior to the bare transistor drivers in your radio, and will protect these devices from possible damage due to surges.
- Terminal strip inputs and outputs allow easy wire terminations for your devices. Use it as a convenient junction box for cables going to your bandpass filters, antenna switches, and other specialized devices.
- Low current relay inputs allow the Ten Tec Orion to drive it easily.
- Small size approximately 5X5 inches.

Applications include

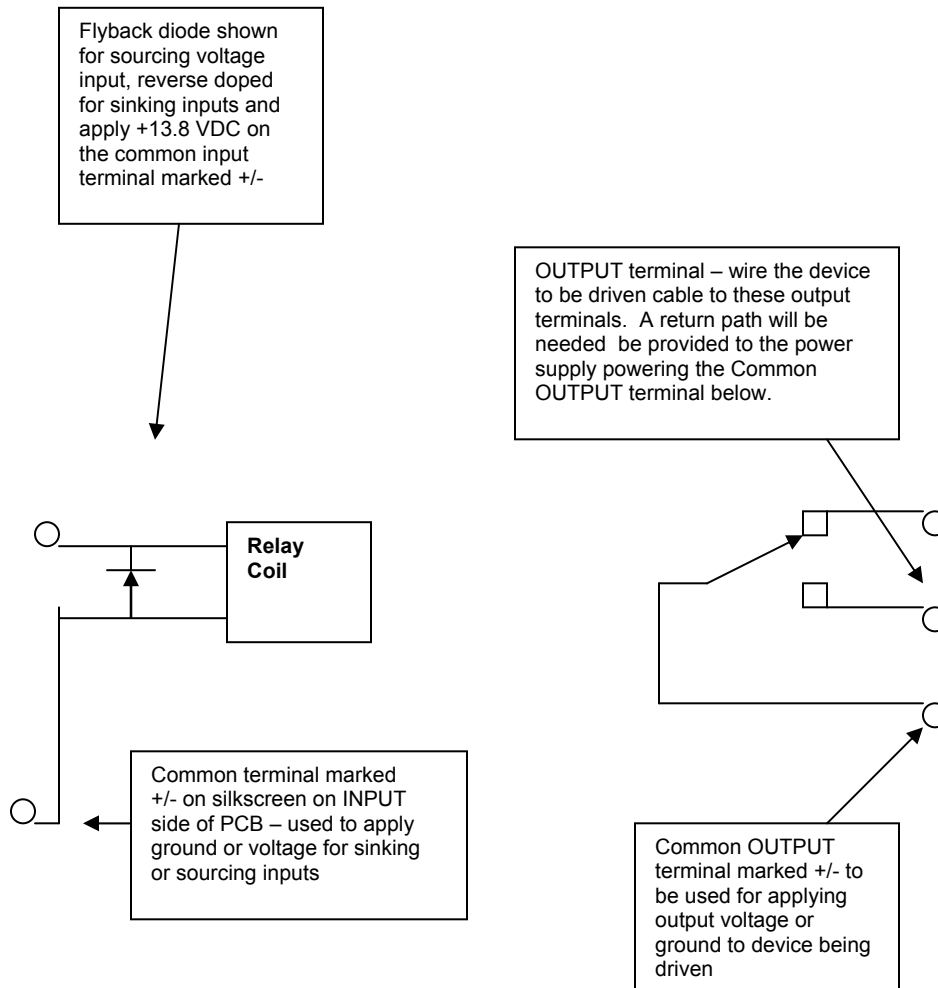
- Top Ten or W9XT band decoders which supply sinking current outputs as the standard output levels. This device will provide Source output to drive remote antenna switches that require 12VDC or more.
- Isolated high current relay drivers for driving long distances outside
- Re-drive Source to Source, Sink to Sink, Sink to Source, and Source to Sink depending on how you set it up.
- Driving ICE 419a (sink inputs) bandpass filters from decoders that only supply source drivers
- Driving 26V DC Vacuum relays or devices that require 50V AC or DC, or sinking current.
- Driving AC coil relays from DC inputs
- Driving remote relays on towers that have very long cable runs
- Protecting your band decoders from lightning surges
- The Perfect Ten-Tec Orion radio band data interface – Cables available from us for the Orion radio. No decoder necessary just this device.

Wiring the LC/R

The PCB comes configured for either sourcing or sinking inputs. The diodes on the board if inserted per the silkscreen allow for sourcing + 9-16V DC inputs. The board can be ordered with the diodes reversed to allow sinking or 0V active inputs.

1. Remove the cover of the box by removing the four #6 screws.
2. Thread your cable through the grommet and hole provided in the box.
3. Wire the input signals to the input terminals. The wires just need to be tinned with solder, no spade lug is needed since we use a special terminal that will capture the wire perfectly for you.
4. You will see a terminal marked "+/-" on the INPUT terminal strip. This is the terminal you provide the input voltage or ground for to all of the relay coils. If you are sourcing 12V inputs into the board you would connect this terminal to ground or if you have sinking inputs you would place +12V DC on this terminal. Do not put any wires on the OUTPUT +/- terminal.
5. Thread your output cable through the grommet and hole provided for it in the box
6. The output terminals are then connected to the cable wires that go to the device you are driving. If the device requires + 12V DC you would place the output of a 12V DC supply on the +/- OUTPUT terminal strip terminal. You can use more than 12VDC if you have long runs. If your device is a relay that wants to provide current to a sinking output to turn in on, then you would place the ground or – side of your supply on the +/- output terminal.
7. You can place any appropriate voltage DC or AC up to 50 volts on the +/- OUTPUT Terminal to drive the device you are using.
8. Be sure to include a **return path** to the power supply from the device for the voltage or current sink you have attached to the LC/RD box.
9. Use the four #6 stainless screws to replace the top cover.

Single Channel Schematic



Warranty – Lifetime unless damaged by Lightning