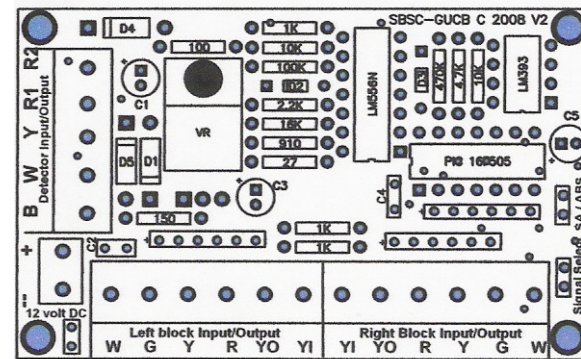


South Bend Signal Company, LLC

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Large Scale Detector/Signal Driver



LDSD

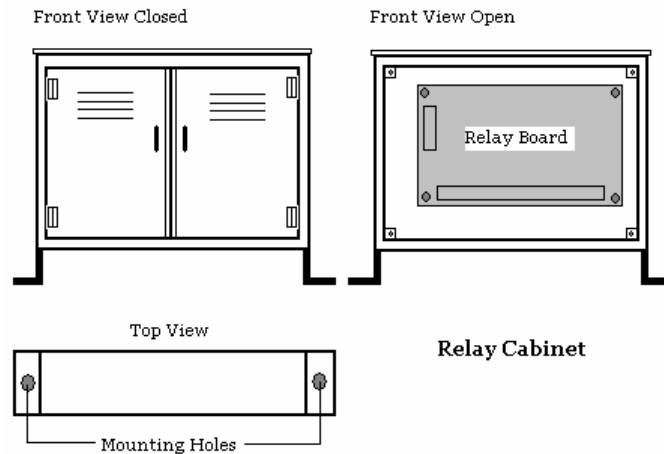
LDSD Manual

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Preparing the Relay and Crossing Bell Cabinets and Card

The relay cabinet comes with the following:

- Relay cabinet shell
- Cabinet front panel
- Mounting screws for mounting
 - Base
 - Relay card
 - Front panel

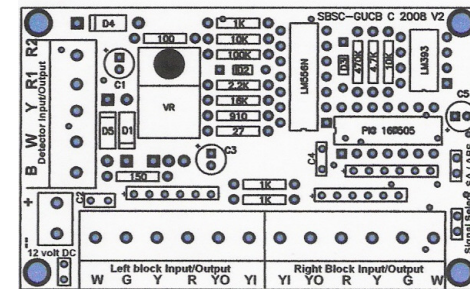


[1] Prepare a board to mount the relay and crossing bell cabinets next to the track near the crossing signals. Tape the drill pattern on a board and mark the position of the holes for both cabinets. Drill holes on the marks with a 3/32nd and 1/4th inch drills. Do not mount the relay cabinet at this time.

[2] Lay the relay cabinet on its back on a clean flat surface. Open the cabinet cover. Insert wires through the holes in the mounting board and through the bottom of the cabinet and connect them to the relay card as per the manual instructions. Connect the yellow wire from the crossing bell cabinet to the relay card as described in STEP [6]. Place a small bead of silicon caulk around the front edge of the cabinet and secure the front panel of the Relay Cabinet with (4) #2 brass screws. Position the Cabinet upright and secure to the mounting board with (4) #4 1/2 inch wood screws.

LDSD Terminal Descriptions

Refer to the diagram of the Relay board below to become familiar with the terminals and there purpose.



- + (input) Power wire 12 volt DC *
- (input) ground wire 12 volt DC

Left and Right Block Input/Output Terminals

- W Common (+) for Color Light Signals
- G (output) Green wire for block signal
- Y (output) Yellow wire for block signal
- R (output) Red wire for block signal
- YO (left) (output) To next block left
- YO (right) (output) To Next block right
- YI (left) (input) from next block left
- YI (right) (output) from next block right

Detector Terminals (2 per Block)

- R1 (input) Red wire: Receiver input from detectors
- R2 (input) Red wire: Receiver input from detectors
- Y (output) Yellow wire: Emitter output to detectors
- W (output) White wire: common ground to detectors
- B (output) Black wire: positive power to transmitters

- Use a separate DC power supply for this signal system. Do not use power from the rails or other throttle source to power this system. Failure to improperly power this system may damage the board. **SBSC will not be responsible for improperly connecting the system to an incorrect power source.**

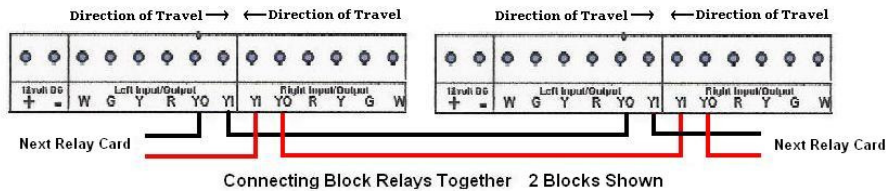
Step [6] Connecting Blocks Together

If you are interested in having a yellow (next block occupied) for the interlocked version, you must connect the YO and YI input/outputs together, otherwise you will only have two aspects; green (block clear), and red (block occupied). If you are selecting the STAND ALONE version skip this step.

To connect the blocks together for yellow aspect do the following: (See Fig. 7).

[1] Connect all LEFT block Input/Outputs together by running a wire from each YO to the next block to the LEFT YI.

Fig. 7 (2 blocks illustrated)

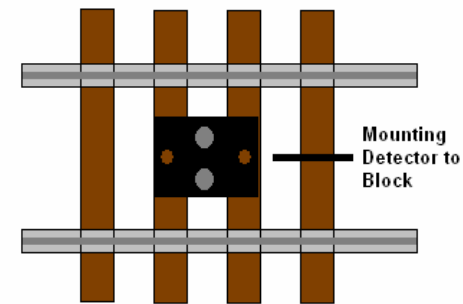


[3] Continue connecting block relay boards together until you have connected all the YO and YI input/Outputs together.

Step [2] Mounting Detectors

After establishing the Grade Crossing block for your layout, one detector is mounted at each end of the block. See Figure 3. To mount the detectors remove ballast between the two ties closest to the mounting area. Insert a detector between the ties so that the mounting holes are over the two adjacent ties and the wires from the detector are between the ties. Pull the detector wires to the side of the track. Place a mark on each tie for the mounting holes on the detector. Use a 3/32nd inch drill and drill holes in the marked positions. Use two 1/2 inch screws (provided) and fasten the detector to the ties. See Figure 4. If you have a double track main at the grade crossing connect two additional detector sets to the second set of rails as described above.

Fig.4



Step [3] Installing the Relay Cabinet

The Relay cabinet should be positioned close to the grade crossing by the crossing signals. The Crossing bell cabinet should be placed close to the relay cabinet so that the wires from the crossing bell cabinet can be connected to the relay cabinet board as described in STEP [6].