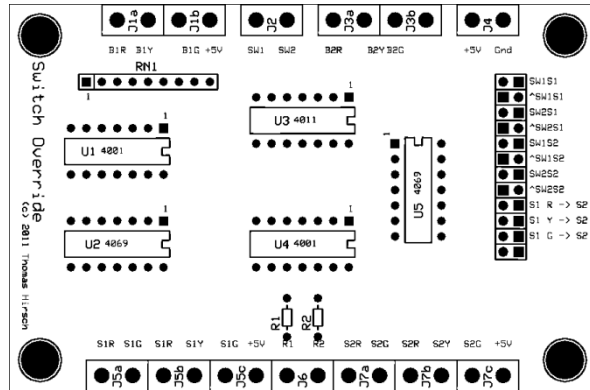
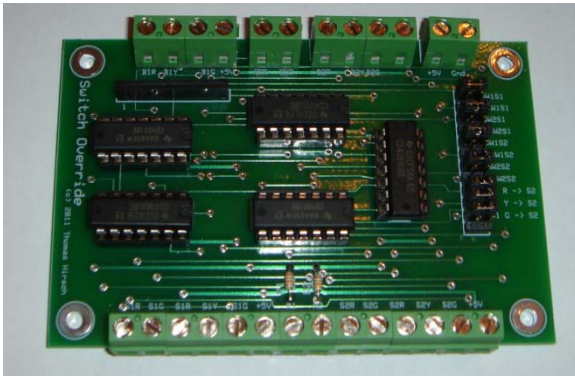
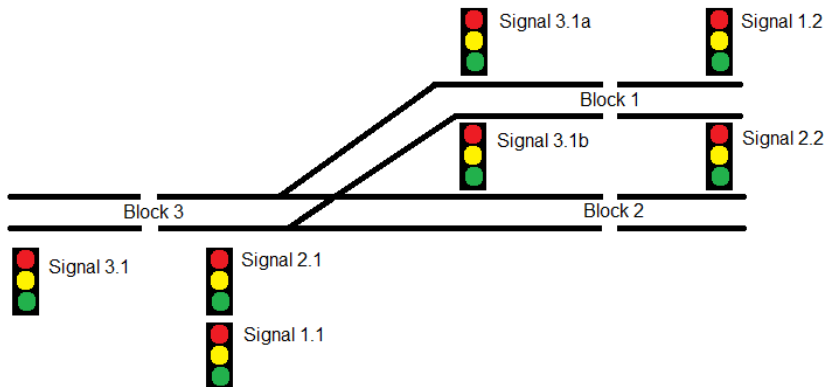


Switch Override



This circuit board will make it easy to implement more realistic signal operations for your model railroad. It accepts the RYG outputs from Logic Rail™ Technologies Block Animator or Signal Animator and combine them with turnout settings to produce new RYG outputs reflecting the turnout position combined with the block occupancy. Works with Tomar (N gauge dual searchlight) or NJ International (N gauge single searchlight) signals .



The example above shows three blocks and a turnout. Signals 2.1, 1.1, 3.1a, and 3.1b need to take into account the position of the turnout. Three Signal Animators (recommended over the Block Animators) are required to determine block occupancy. However three signals need to be driven with two of them taking the turnout position modifying the indication. If the turnout is not set for the direction of travel then even if the block is open, the signal needs to be red. The recommended method by Logic Rail does not do this without introducing a delay in returning to the green state and requiring additional Animators. Each of the Signal Override boards will alter the indication for two of the signals. Three boards would be required to implement this configuration.

Switch Override

The Signal Override board is available either assembled (\$49.95) or in kit form (\$39.95). Assembly time for the kit should be less than one hour. Also available are terminal strips for ease in connecting signals.

There is also a terminal strip with a micro miniature IR sensor to replace the sensor that comes with the Animators that sits across a tie of N gauge track requiring only very small holes through the roadbed for the wires. It does not require any tricky adjustment and is insensitive to ambient light.



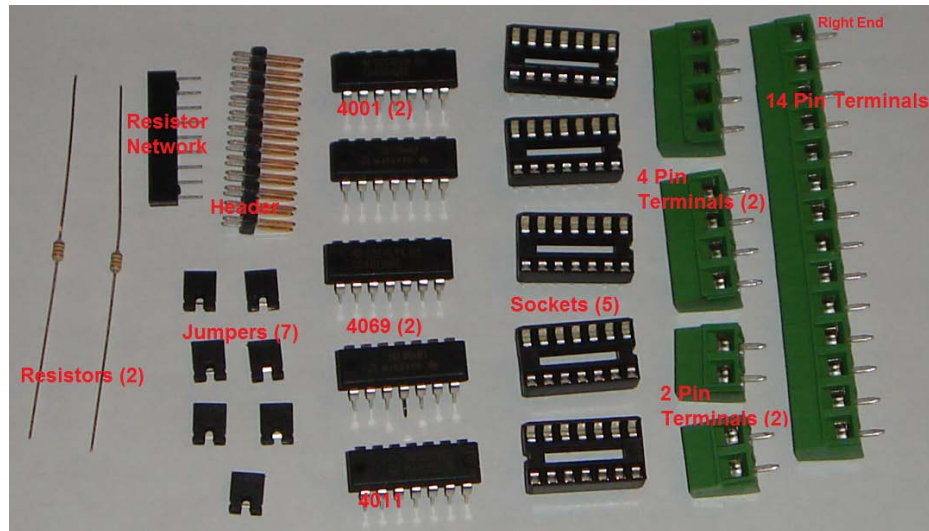
Product List	
Switch Override (assembled)	
Switch Override (kit)	
6 Terminal Strip with solder connectors for Tomar dual searchlight	
4 Terminal Strip with solder connectors for NJI single searchlight	
4 Terminal Strip with solder connectors for IR sensor including resistor and micro miniature IR sensor	

Order online at signals.thirsch.com

Switch Override

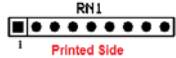

Assembly Instructions:


Identify the parts using the illustration below.



Note that the Resistor Network has printing on one side. Note that the Sockets and ICs (4001, 4011, and 4069) have indentations at one end.

Using a soldering iron with a very small tip, insert the parts in their indicated locations in the following order from the printed side of the board. You can insert the part and then flip the board over to solder it.

1. Resistor Network: The printing faces the middle of the board.  There are 9 pads to solder.
2. Sockets: The indentation matches the indentation printed on the board.  There are 14 times 5 pads to solder.
3. Header: The short pins go in board. There are 12 pins to solder.
4. Terminals: The hole for the wire faces the outside. The pins fit tightly so you may need to pull them from the bottom of the board so the plastic is snug to the top. The multiple units are just the single units docked together. Note how they are inter connected as it may be necessary to work from the right end as viewed from the holes.
5. Resistors: Push them snug to the board. After soldering them, trim the leads.

You can now insert the ICs. The numbers are visible through the sockets and are on the top of the parts. Be sure the notch on the IC  matches the notch on the socket and printed location. Check that none of the leads missed going into the socket.

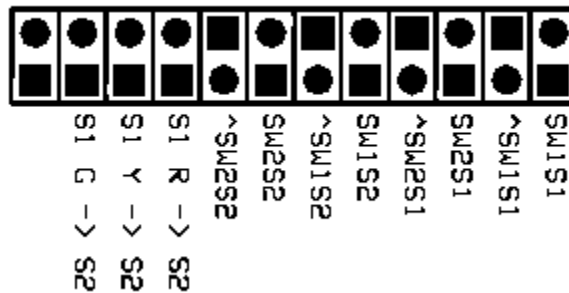
Set the jumpers according to how you want the board to operate.

Switch Override

Jumpers:

The jumpers control the operation of the board. There are two signal outputs for Tomar or NJI signals. There are inputs for two RYG outputs from the Animator. You can use jumpers JP9, JP10, and JP 11 to use only one RYG input. There are two turnout inputs where it gets +5v in one of the turnout positions. You place a jumper in either JP1 or JP2, either JP3 or JP4, either JP5 or JP6, and either JP7 or JP8 to select whether on or off controls the signal.

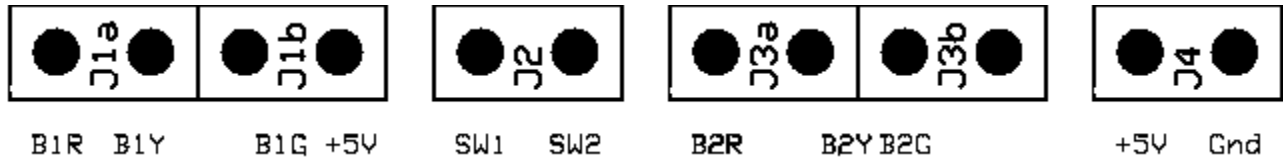
Jumper Settings				
		Block 1	Block 2	Required?
JP1	SW1S1	Switch 1		Select One
JP2	^SW1S1	Not Switch 1		
JP3	SW2S1	Switch 2		Select One
JP4	^SW2S1	Not Switch 2		
JP5	SW1S2		Switch 1	Select One
JP6	^SW1S2		Not Switch 1	
JP7	SW2S2		Switch 2	Select One
JP8	^SW2S2		Not Switch 2	
JP9, JP10, JP11	S1 (RYG) -> S2		Use Block 1	Optional



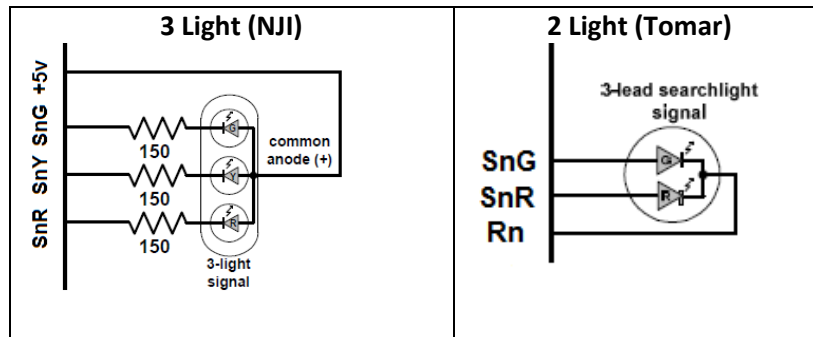
Switch Override

Wiring:

Use the GND and +5 from the Animator to connect to J4 (Gnd and +5v). Use the R, Y, and G from the Animator to connect to J1a and J1b (B1R, B1Y, and B1G) or, for the second block, J3a and J3b (B21R, B2Y, and B21G). Connect J1b (+5v) and J2 (SW1) to a contact that tracks turnout 1's position. If two turnouts are used then connect J1b (+5v) and J2 (SW2) to a contact that tracks turnout 3's position.



The outputs are J5a (S1R and S1G) for a Tomar signal with J6 (R1) for the common wire and/or J5b and J5c (S1R, S1Y, S1G, and +5v) for a NJI signal. The other signal outputs are J7a (S2R and S2G) for a Tomar signal with J6 (R2) for the common wire and/or J7b and J7c (S2R, S2Y, S2G, and +5v) for a NJI signal.



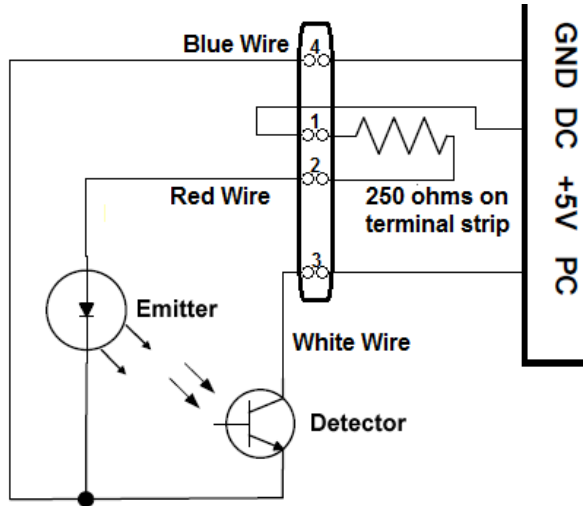
Switch Override

Wiring for IR Sensor:

Red Wire: +12v on Animator

Blue Wire: Gnd on Animator

White Wire: Signal Animator PC or Block Animator W1, W2, E1, or E2.



For further information, contact Thomas Hirsch at thirsch@thirsch.com.