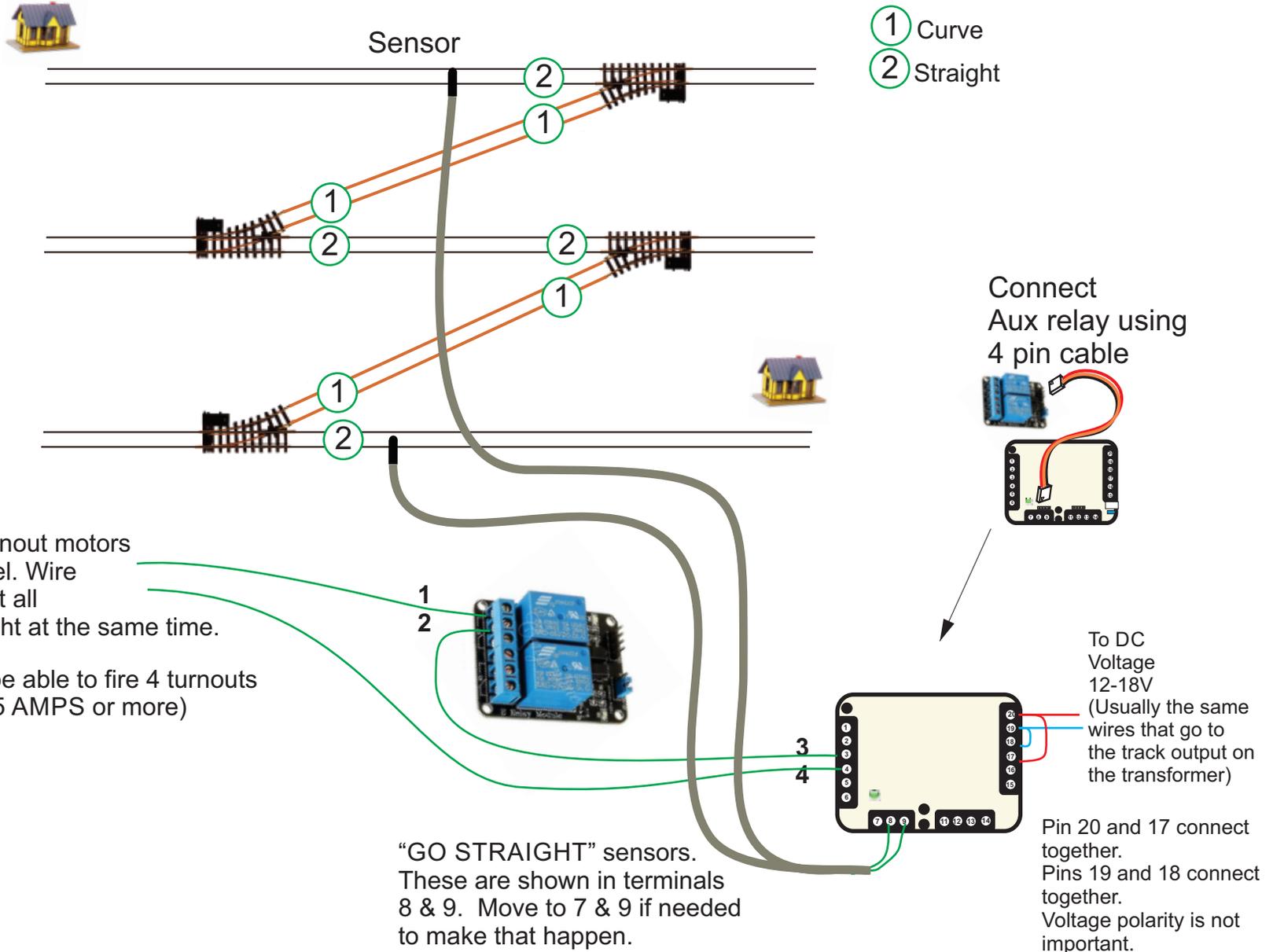


# Reversing train Switchbacks

Throwing 4 turnout motors at the same time  
YardMaster wiring only

PARTS LIST

- StationMaster Qty 1
- YardMaster Qty 1
- Train Sensors Qty 14



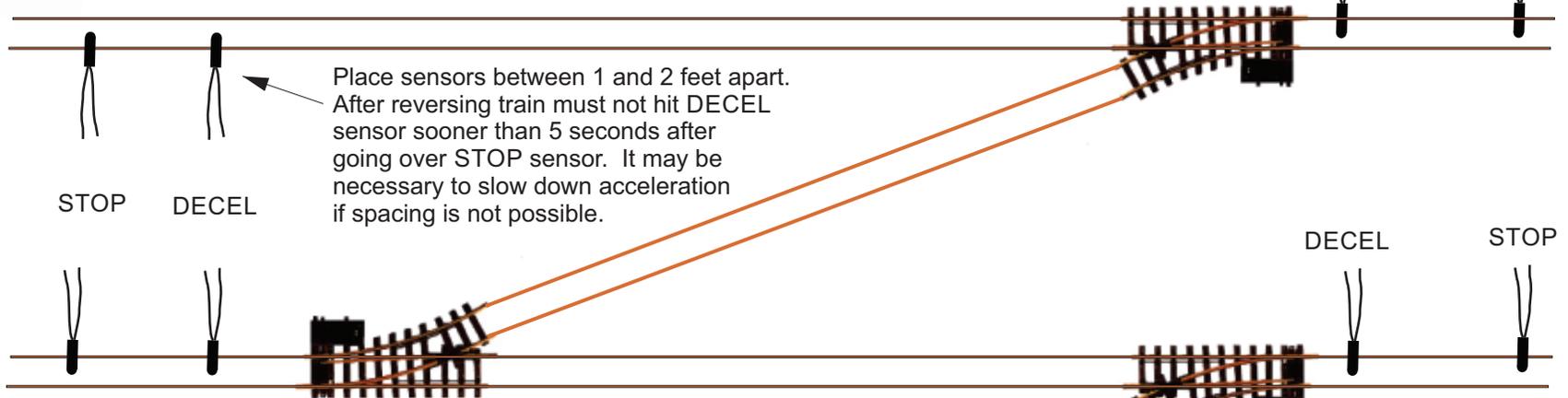
Train will zig zag from end to end. See page 1 for turnout hookup

# Reversing train Switchbacks

Track wiring only

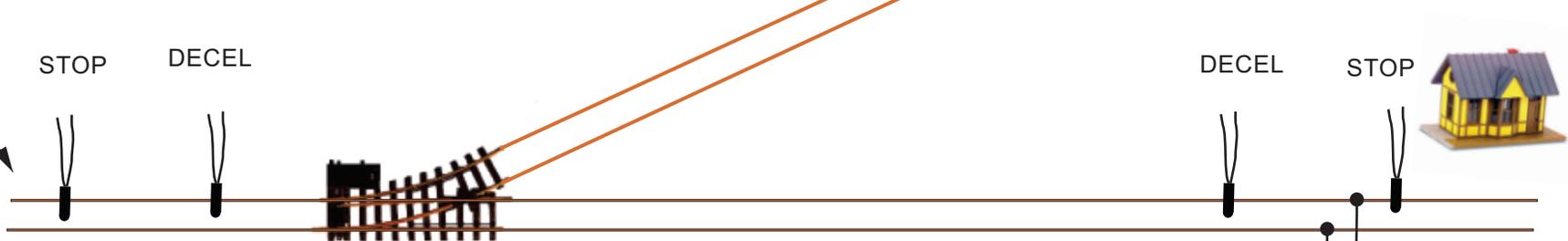


**NOTICE:** This hookup uses a special StationMaster software load which sends the ALTERNATE signal to the YardMaster and enables "blink 7".



Place sensors between 1 and 2 feet apart. After reversing train must not hit DECEL sensor sooner than 5 seconds after going over STOP sensor. It may be necessary to slow down acceleration if spacing is not possible.

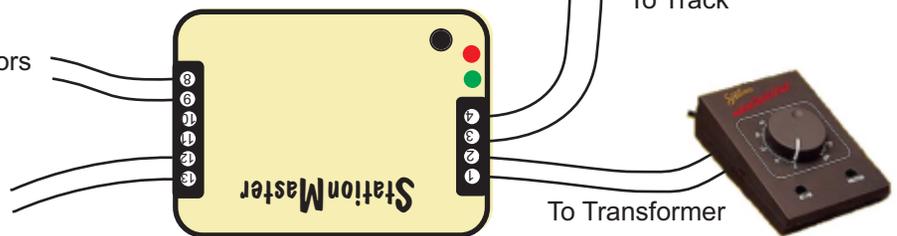
Note:  
It is possible to run without using the STOP sensors however the train may run off the end unless diode sections are in place.



Program StationMaster for reversing mode (blink 1) AND Alternate (Blink 7)  
Program acceleration rate as desired.  
Program deceleration time to MAXIMUM.  
Program pause after stopping as desired.

Terminals 8 and 9 to all DECEL sensors wired in parallel

Terminals 12 and 13 to all STOP sensors wired in parallel





# Reversing train Switchbacks

## OPERATIONS

The Reversing Trains Switchbacks hookup uses one StationMaster programmed to be in reversing mode, and also programmed to send an ALTERNATE signal to an attached YardMaster. This hookup requires a special version of software which enables the alternate YardMaster signal. Please specify that a SWITCHBACKS operation will be run so that this software is loaded.

The StationMaster stopping operations can be programmed for a simple time based deceleration using a blink count, or programmed for self-adjusting. The self-adjusting will cause the train to run more prototypically, but takes some time to settle in. For the first few runs the train will go past the sensor and possibly run off the ends if the stop sensor is near the end of track, however it will eventually settle in and run very realistically and stop precisely on the sensor.

After stopping the StationMaster will send the ALTERNATE signal to the YardMaster which will fire all the switch motors to the other side. When the train has reached the very end of the switchbacks it will again send the ALTERNATE signal however the train will run over a FORCE sensor as it approaches the first turnout which will cause the YardMaster to align and synchronize all the turnouts for the return operation. This happens on both ends of the switchback ends.

Notice that this hookup causes all 4 turnout motors to fire at the same time. This requires a transformer with at least 5 AMPS of power.

Suggested Wiring procedure: POWER DOWN WHEN ATTACHING WIRES

### 1. Wire up the StationMaster

Terminals 1 & 2 go to the track output of the transformer.

Terminals 3 & 4 go to the track

Wire up all DECEL sensors in parallel (no polarity) and attach to terminals 8 & 9.

Wire up all STOP sensors in parallel (no polarity) and attach to terminals 12 & 13. The distance between sensors will set the deceleration rate.

Plug the YardMaster into the StationMaster.

Power up and verify the StationMaster and YardMaster light up. If not reverse the track direction on the transformer.

Power down

### 2. Wire up the YardMaster.

Add a wire between terminals 20 and 17 and attach to one of the transformer track terminals. (These also go to StationMaster 1 and 2)

Add a wire between terminals 18 & 19 and attach to the other transformer track terminal.

Attach a wire between YardMaster terminal 3 and the blue auxiliary relay terminal 2. The Aux relay is a switch that pulses the turnout motors.

Attach the 4 pin cable between the YardMaster and the Aux relay. If polarity is reversed the relay will not fire, reverse polarity if needed later on.

Wire all turnout motors in parallel, red to red, blue to blue and attach to YardMaster terminal 4 and Aux Relay terminal 1.

Power up and push the alternate button on the YardMaster several times. Verify all the turnouts fire to the same directions, all straight or all curved.

If blue relay does not blink and fire the turnouts then turn the 4 pin connector around.

Add the two FORCE sensors wired in parallel to the YardMaster as shown. The terminals to use are pins 9 and either 7 or 8 depending on how the turnouts were wired. Try 8 and 9 to start with.

With a magnet trigger one of the sensors and notice which direction the turnout is thrown. If incorrect use terminals 7 and 9.

### 3. Program the StationMaster.

Program for blink 1, reversing mode (secondary programming)

Program for blink 8, send alternate signal (secondary programming)

Use factory default acceleration and deceleration rates for now. These can change later.

### 3. Add a train

Place a train on the track on one of the end sections and power up. If it goes the wrong direction press button #1 followed by button #3 to simulate DECEL and STOP. Once the train is approaching the turnout it should pass over the sensor which aligns the switch motors as needed. There should be full operation now with the train stopping and throwing turnouts as needed.

After power down the StationMaster will remember the current condition, so try to power down and up with the train at the same location.