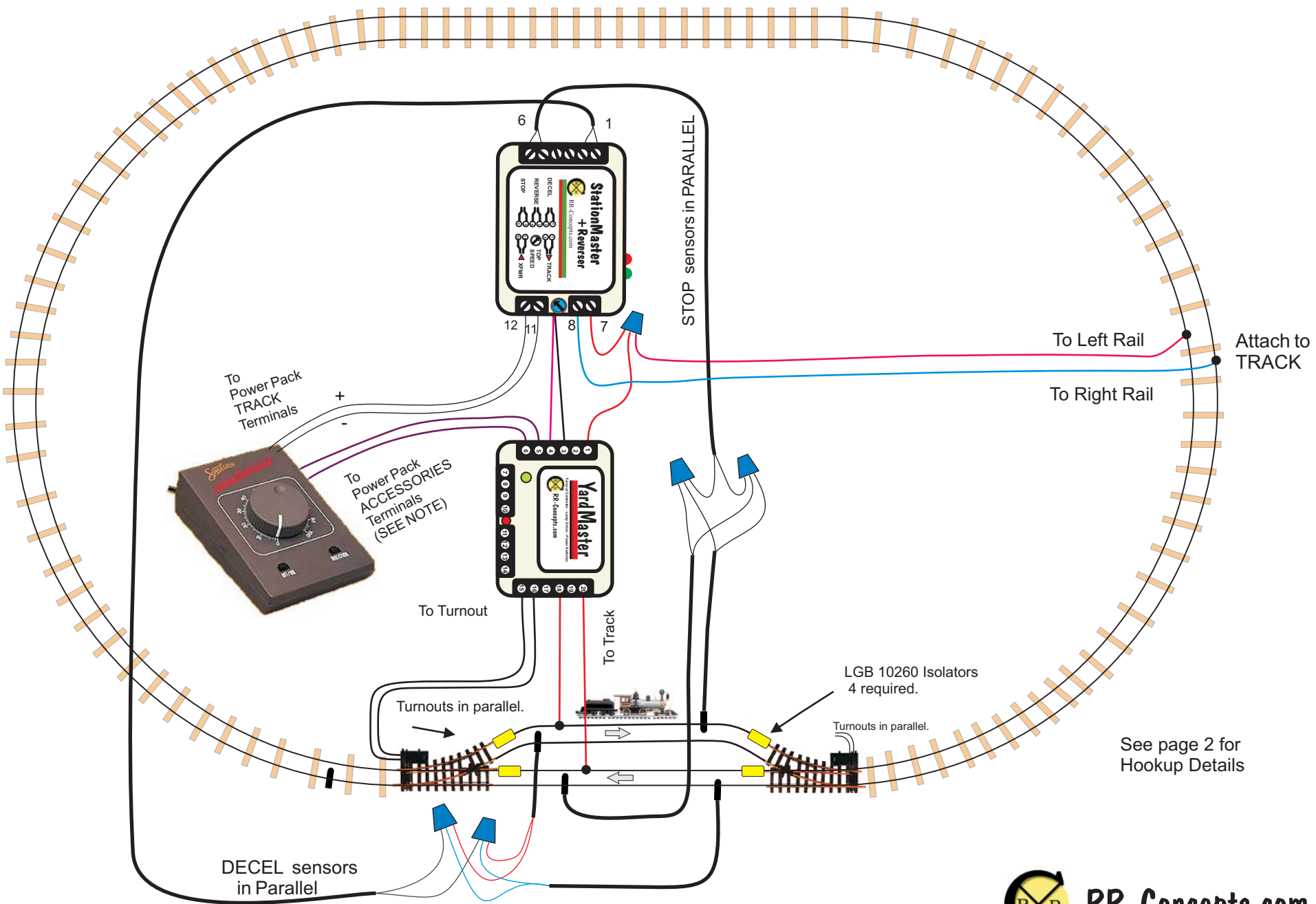


Alternate 2 Trains at a Siding with Decel/Accel Realism  
With trains traveling in OPPOSITE DIRECTIONS.

Place MAGNET  
on bottom of engines.



See page 2 for  
Hookup Details

## Alternate 2 Trains at a Siding in Opposite Directions with Decel/Accel Realism.

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### Parts Required:

StationMaster: Qty 1  
YardMaster: Qty 1 Programmed as Node 1  
Turnouts: Qty 2.  
Track Isolators: Qty 2  
Magnets: Qty 2

### Description

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The Alternating 2 train reversing siding will allow 2 trains to run around the layout. One of them will always be in the siding, while the other train will be traveling. The two trains will travel in opposite directions.

### StationMaster Hookup:

\* Sensors (6 position terminal strip) have no polarity.

Terminals 1 and 2 are the DECEL sensor inputs and attach to the REVERSE sensors as shown. The train will decelerate when passing over this sensor.

Terminals 5 and 6 are the STOP sensor. Attach these to the STOP sensors in parallel as shown.  
Note that the STOP sensor is only active while decelerating. (passing over STOP before DECEL will have no affect)

The XFMR terminals attach to the DC transformer. (Track output) Note the + and - wires must be correct. If the StationMaster does not light up then reverse the track direction or swap these two wires. The DC voltage should be set for the desired speed of the train.

The Track terminal (outside pin) attaches to the LEFT rail of the main line and to the YardMaster pin 1.  
The track terminal (inside pin) attaches to the RIGHT rail which is common throughout.

Pigtail wires from inside StationMaster: Red attaches to YardMaster pin 5, black (or brown) attaches to pin 4.

### **StationMaster PROGRAMMING:**

Set Programming Features for Green blink 4 only. (Traditional StationMaster mode with reversing before every acceleration)  
Set Train Count to 2 blinks.  
Set accel, decel, and time delay as desired.

### YardMasterHookup

Terminal #1 attaches to the StationMaster as shown. This is the voltage that will switch between the upper and lower sidings.  
(pins 18 and 20)

Terminal #2 is unused.

Terminals 3 and 4 attach to the pigtails from the StationMaster. Note the red/black colors. If these are not correct the YardMaster will not operate. (Black wire to pin 3, Red wire to pin 4)

Terminals 5 and 6 attach to the accessories output of the transformer **or** to the same DC track power that feeds the StationMaster.

Continued...

## YardMaster continued..

Terminals 7 thru 14 are unused. A signal light can be added if desired. (See YardMaster manual)

Terminals 15 and 16 attach to the electric turnouts, wired in parallel. Note that the wires to the 2nd turnout are not shown for simplicity. The turnouts must be wired so they both fire in the same direction, (both up, or both down) and are synchronized to the YardMaster. For example when set to the upper siding there should be voltage switched to the upper siding. When switched to the lower siding the lower siding should have voltage. Please swap wires to the turnouts as necessary to make this happen. Fake out the YardMaster Alternate sensor input for testing. (Touch a wire between these terminals)

Terminals 17 and 19 are unused.

Terminals 18 and 20 attach to the sidings as shown. Note that they both attach to the "upper" rail.

### YardMaster PROGRAMMING:

Set YardMaster Node ID to 2 blinks.

### VERY IMPORTANT NOTE!

The StationMaster AND YardMaster MUST obtain power from the same power supply. (transformer) If different power sources are used then serious damage WILL occur. Note that the YardMasters can also use the same DC track power as the StationMaster if desired instead of AC "Accessories" power.

## TESTING

1. Before adding trains fake out the DECELERATE and STOP sensors by using a magnet and make sure the turnouts fire to the proper sidings. **The polarity of the siding switched to the main line must match the polarity of the main line. If this is not the case damage will result when the train crosses the isolator.**

Swap the "attach to the track" wires if the polarity is reversed.

If a meter is not available touch a small engine to the live siding to check it's direction and then touch the small engine to the main line to verify the main line is going in the same direction.

2. Add 1 train to one of the sidings and watch it accelerate. The turnout should be properly set and the train should NOT stop after crossing the isolator. If the train stops, **QUICKLY** shut off power since there is a short circuit and damage will occur in a few seconds. Move the train far past the siding and power on to see if it goes in the wrong direction. If it does travel in the wrong direction then reverse the "attach to the track" wires. (see #1 above which is doing the same check)

Program the deceleration rate so that the train is traveling slowly when the STOP sensor is reached. The Acceleration rate can be as slow as desired. The train must not stop until it is completely on the siding and clear of the switch. (See additional debugging on page 4)

Enhancements:

1. Once this hookup is operational, additional station stops can be added. Please reference the StationMaster/Reverser manual for additional information.
2. A signal light or signal bridge can be wired to the YardMaster if desired. See the YardMaster manual for info.



## Additional setup and debugging notes

This is a re-wording of the previous page. Sometimes that helps clear things up.

**1. Verify the SM/Reverser is programmed for red-red-red-green-red-red-red (only #4 is green)**

**2. Make sure the turnouts are synchronized correctly with the siding power.**

The YardMaster will switch between the sidings but there should be voltage on the switched-in siding. Perhaps use a meter or very small engine to verify that when a siding is switched to the main line then that siding has voltage. If not then reverse the two wires to the turnouts to make this happen. The 2 turnouts are wired in parallel they should follow each other. (both up or both down)

**3. Double check again that the polarity of the siding with power matches the main line.** If the “to track” connections are reversed this WILL cause a short circuit and WILL damage the StationMaster.

**4. When starting up for the first time use 1 train and put it on the track somewhere that's not near the siding.**

It should start to decelerate when it hits one of the DECEL sensors.

It should go into the “live” siding if #2 above was done correctly.

It should continue running to the stop sensor if #3 above was done correctly. (also see #5 below)

If not wired correctly it will stop when it crosses over the isolator. (Quickly shut off and go back to #2 or #3 above)

**5. The siding that we just entered should have the STOP sensor at the extreme end.**

If not then please either move the sensor to the end or reverse the power wires (to track) between these sidings and also reverse the wires to the turnouts.

**6. The train will not stop when it hits a STOP sensor unless it has hit the DECEL sensor first.**

The STOP sensor is only active while decelerating.

**7. Use a magnet and fake out the sensors before running engines.**

It's nice to see that things are working as expected with all the switches wired correctly, etc.

Once the wiring is correct this hookup will work very well. The systems will remember the locations of trains so it will carry on when power is removed.

