StationMaster © 1997 Roecks Railroad Concepts

Visit our Internet site at **http://www.RRconcepts.com** for customer support and up-to-date technical information.

Technical help is also available by sending email to rrc@cts.com or calling (760) 840-5556

RR Concepts assumes no responsibility for incidental damage that may occur due to incorrect hookups, or abuse of this product.

RR Concepts will repair or replace this product for up to 1 year after date of purchase. Shipping charges are not inclusive.

Welcome to the exciting world of Automatic Train Control !

The RR Concepts **StationMaster** is a very easy to use train decelerator, *and* a very expandable control system capable of performing realistic train control operations.

The most basic use of the **StationMaster** is to perform an automatic slowdown, pause, and accelerate function at a station on your railroad. This manual will show how to do this. Advanced built-in functions are described in the BELLS & WHISTLES manual.

Features and Capabilities

- Overload protection with FAULT indicator and automatic shutdown.
- *Automatic Train Detector* feature that allows *every* engine to be controlled without modifications.
- 6 AMP load capability. With the StationMaster-HP, up to 15 AMPS can be controlled.
- State-of-the-art POWER MOSFET CIRCUITRY.
- Full adjustments for decelerate, accelerate, and delay time to accommodate any size railroad.
- Input protection for incorrect hook-ups. The StationMaster can not be damaged !
- Top speed adjustment.
- Built-in block control ability for multiple trains sharing a common track.
- Configurable reset on power up.
- Output signal for automatic control of electric switches, block control, or direction control electronics.
- Exact train stopping position input so that every train can stop at exactly the same position.
- LED indicator lights to assist in adjusting decelerate and accelerate times.

- Bi-Directional operations available.
- EASY 3 WIRE HOOKUP.

LED Indicators

The **StationMaster** has many indicator lights that assist in adjusting the acceleration, deceleration and delay times. These indicator lights are not required, but will make it easy to determine what the **StationMaster** is doing at any given time.

LOWER CIRCUIT BOARD INDICATORS**:**

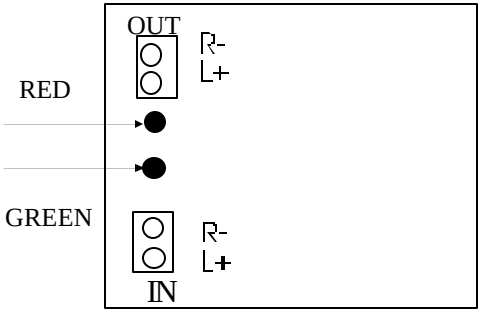
Red indicator : OVERHEATED

The system has overheated due to excessive current draw. After a cool-down period, the system will continue. This indicates one of the following:

1. The StationMaster is improperly connected.
2. There is a short circuit on the track somewhere,
3. The Current Capability of the StationMaster has been exceeded. (A fan or 10 AMP modification may be required.)
4. The StationMaster is in the direct sun and is too hot.

Green Indicator: TRAIN ON TRACK

A train has been detected on the track. At this time the **StationMaster** will begin decelerating the train *unless the AUTOMATIC TRAIN DETECTOR feature has been disabled. (See Bells & Whistles manual)*



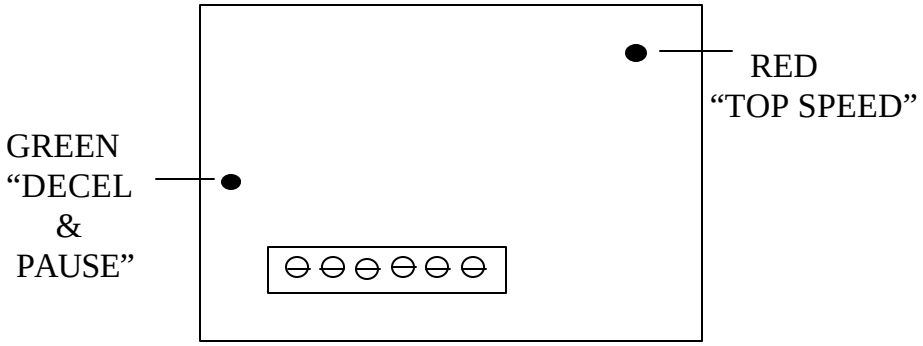
UPPER CIRCUIT BOARD INDICATORS:

GREEN Indicator: DECEL & PAUSE

The **StationMaster** is decelerating the train and will pause as long as this light is ON. When this light goes out, the **StationMaster** will accelerate.

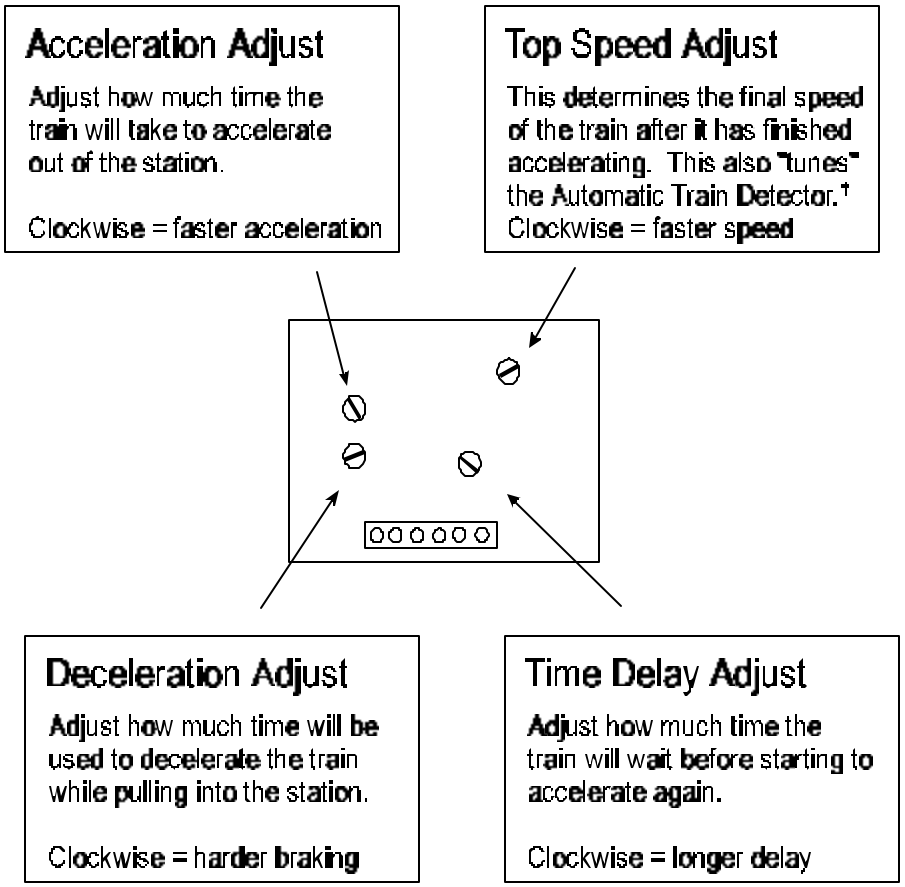
RED Indicator: TOP SPEED

The **StationMaster** has finished accelerating and is now at top speed. This indicator will be ON when the **StationMaster** is ready for the next train.



StationMaster Adjustments

The following adjustments will allow the **StationMaster** to perform perfectly for the smallest layout as well as the largest. The factory settings for these adjustments may be "just right" for some layouts.



† Slightly DECREASE the top speed adjust if the *Automatic Train Detector* does not detect your train. See text for more information.

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Basic Three Wire Hookup

The easiest **StationMaster** hookup requires only 3 external wires. This configuration uses the ***Automatic train Detector*** feature which does not require magnets to be installed on locomotives. Every train that enters the isolated section will slow down, pause, and then accelerate again. The 3 wire hookup is as follows:

1. **Keep or install track power** from the transformer to the main track (non slow-down section) in the usual manner.

2. **Isolate the left rail** of a section of track where the slow down and speed up will occur. This requires an isolating connector on each end of the isolated section. The RIGHT RAIL will go straight through and is not isolated. The distance between the start of the isolated section and the desired stopping position will determine how slowly the train can decelerate. This distance should be between 1 and 2 feet. After pausing , the train will then use the remainder of the blocked section to accelerate. The acceleration distance should be a minimum of 2 feet for realistic operation. Shorter distances will work but will not produce a realistic operation. A good acceleration distance is 6 feet or more. Therefore, a good isolated track section length would be 8 feet or more.

2. **Attach the StationMaster to the track as shown**. Track connections can be done using any method. Some popular methods include using [1]LGB 5016 track connectors, soldering to the rails, or drilling and tapping screw holes in the rails and attaching wires to the screws.

[1]LGB is a trademark of E.P. Lehmann Patentwerk.

Recommended wire size is between 16 and 20 AWG. (Use the thickest wire you can find that will fit in the connector.)

Input connection:

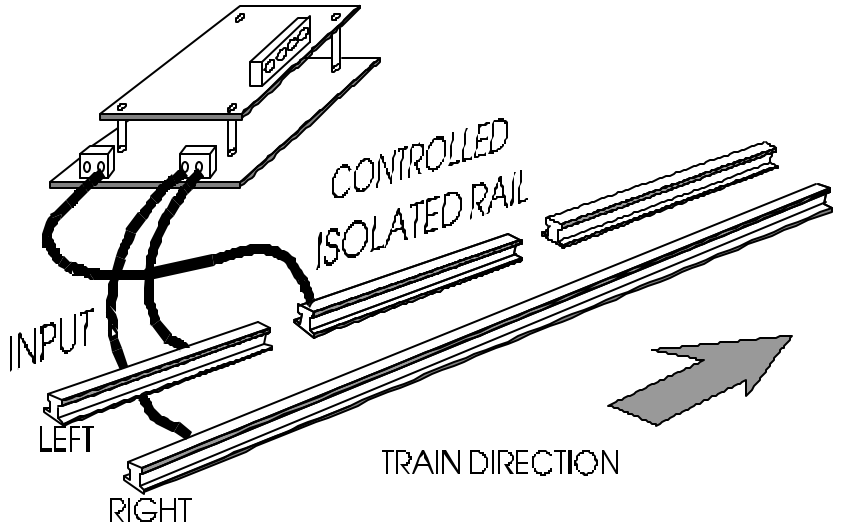
Attach the input LEFT rail to the terminal marked **IN L+.**
Attach the input RIGHT rail to the terminal marked **IN R-**

Output Connection:

Attach the terminal marked **OUT L+** to the LEFT rail.
The terminal marked **OUT R**- has no connection.

Verify that the red **TOP SPEED** indicator on the upper circuit board lights up when track power is applied before placing any train on the track.

*Notice that the **StationMaster** has input protection, hence an incorrect installation will not damage the **StationMaster.** The unit, however, will not operate until the connections are correct*.



NOTE: If the train STOPS after exiting the isolated section, you must attach a jumper wire from the INPUT track section to the OUTPUT track section.

3 Wire Hookup Adjustments

1. Turn the **TOP SPEED** and **DELAY** adjustments fully clockwise. Turn the **ACCELERATE** and **DECELERATE** adjustments about half way.

2. Bring a train up to cruising speed and enter the blocked section. Notice that both the **TRAIN DETECTOR** and the **DECEL & PAUSE** green indicators both light up when the block is entered. At this time the train should start decelerating.

3. If the **TRAIN DETECTOR** indicator does not turn on, *slightly* decrease the TOP SPEED adjustment until the train is sensed on the track.

4. If the train does not completely stop and exits the block without stopping, or stops past the desired stopping position, then turn the **DECELERATE** adjustment slightly **clockwise** to **increase** the braking . Repeat the procedure until the stopping position is correct.

5. After the train stops, it will delay for the maximum time before accelerating again. If desired, this time period can be bypassed at any time by turning the track power off for two seconds, and then back on again. Cycling input power to the **StationMaster** at any time will perform a system reset and the train will go full speed without slowly accelerating.

6. After the train stops at the desired position, change the **DELAY** time adjustment. Counter-clockwise will decrease

the delay time, and **clockwise** will **increase** it. Adjust this time to suit your fancy. Notice, however, that this delay time includes both the time to decelerate *and* the time to pause. If this time is too short, then the train will not fully stop before accelerating again!

7. Finally the **ACCELERATION** rate can be adjusted. Adjust this time so that the train achieves top speed when the engine reaches the end of the blocked section. If the acceleration is too gradual, then the train will "jerk" as it leaves the controlled track and enters the "full speed" track. Turning the dial **clockwise** will **increase** the acceleration rate.

Notes:

- **Deceleration adjustments for vastly different trains.**
  If a combination of very fast trains and very slow trains are used with the **StationMaster**, then it may be necessary to shorten the deceleration distance so that both types of trains stop at nearly the same position. A deceleration distance of 1 foot or less may be necessary. Shorter deceleration distances cause trains to slow down much quicker, hence the difference in speeds between the trains is less of a problem. The acceleration distance, however, can be any length and should be as long as possible for the most realistic effect. If a long deceleration time is desired for both trains, then it will be necessary to use the STOP input as described in the StationMaster BELLS & WHISTLES manual.

And now your trains are running AutoMagically!

Manual RRC-501-200

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