

PARENTS, PLEASE NOTE: As with any electrically operated unit, it is always best to periodically examine it and have repaired or replaced any potentially hazardous part.

**- FOR YOUR PROTECTION -**

- (1) Never reverse locomotive without stopping it first. To do so may damage locomotive engine.
- (2) Never connect locomotive to AC terminals of your TRAINPOWER 5. This may damage your locomotive motor.
- (3) Turn power switch off at end of day's operation.
- (4) When a short circuit or power overload occurs and circuit protector trips, turn the TRAINPOWER 5 off and correct the short or overload. Allow 2-5 minutes for the thermal circuit protector to reset before turning your unit back on.
- (5) Avoid prolonged overloads and short circuits. While your TRAINPOWER 5 is equipped with several safety devices to prevent accidental damage due to short circuits and overloads, it is unwise to subject it to these frequently or often.
- (6) Do not store in damp area.
- (7) For best performance, keep wheel and track surfaces clean. Intermittents and "jerky" operation are often caused by an oxide coating which has formed on the track or wheels.
- (8) Before returning your unit for repair or servicing, make certain it is defective. Do not shut down your layout unnecessarily.
- (9) If it is necessary to return your unit, repack it in its original carton and then in an outer carton, placing at least four inches of packing material on each side. Mail the unit to:

Model Rectifier Corporation  
2500 Woodbridge Avenue  
Edison, New Jersey 08817

Be certain to send the unit Parcel Post insured or United Parcel Service, and include a letter with your name and address printed clearly, describing the problem you are experiencing.

All of us at MRC would like to join in wishing you many happy years of model railroading with your new TRAINPOWER 5.

**MODEL RECTIFIER CORPORATION**

Printed in U.S.A.

**INS-2207**

**CAUTION - ELECTRICALLY OPERATED PRODUCT**  
INPUT 120VAC 60 Hz  
OUTPUT 0-16VDC, 16VAC, 20VDC  
TOTAL OUTPUT 35VA  
NOT RECOMMENDED FOR CHILDREN UNDER 12 YEARS OF AGE.  
**AS WITH ALL ELECTRIC PRODUCTS, PRECAUTIONS SHOULD BE OBSERVED DURING HANDLING AND USE TO PREVENT ELECTRIC SHOCK.**

**PLEASE READ INSTRUCTIONS THOROUGHLY BEFORE MAKING ANY HOOKUP TO YOUR LAYOUT!**

**OPERATING INSTRUCTIONS FOR**



**TRAINPOWER 5**

**CONGRATULATIONS!**

You have just purchased one of the most advanced train controls on the market. MRC's new TRAINPOWER 5, with "LIGHT TOUCH" control buttons and the Load Compensator, is the latest in powerpack technology. The "LIGHT TOUCH" buttons help you to operate your locomotive in a realistic manner similar to full-size locomotives. The Load Compensator helps keep full-track output regardless of track conditions, giving tight feedback between the locomotive and the powerpack. This powerpack also features high output power, ergonomic controls, indicator lamps, attractive metal housing, and much more. Optional extras are a meter monitoring system and a hand-held remote control. As you operate your layout with the new TRAINPOWER 5, you will appreciate the engineering and thought that went into its design.

**SPECIFICATIONS**

INPUT - 120V AC, 60 Hz  
OUTPUT - 0-16V DC (Variable)  
20V DC (Fixed DC)  
16V AC (Accessories)  
TOTAL OUTPUT - 35VA

CONTROL SYSTEM - MRC's Proportional Tracking Control and Load Compensation

LOAD COMPENSATION - This will enable the locomotive to maintain a set speed when additional load demands are required.

**MODEL RECTIFIER CORPORATION**

2500 WOODBRIDGE AVE., EDISON, N.J. 08817  
(201) 985-7800

## CONTROLS

### POWER SWITCH

The Power ON-OFF SWITCH disconnects the input power from your TRAINPOWER 5 and shuts the unit down completely. However, please be aware of certain conditions that will occur in your TRAINPOWER 5 when using this switch.

- (A) With all controls in the OFF position (throttle at OFF, momentum in OFF, remote in OFF, etc.), when this switch is placed in the ON position, there may be a sudden bright glow from the power monitor lamp. This is normal and is caused by the output sensing circuitry of the unit.
- (B) If the throttle control is in the "full" position and this switch is placed in the ON position, the power monitor lamp will light, with the lamp blinking rapidly. This is normal and it will stop as soon as the throttle is turned down. For best performance, never turn on the unit with the throttle in the "full" position.
- (C) If the unit has been on and all the switches are in the ON position (all lamps are glowing) and you then turn the power switch off, the lamps will remain on for a short while before slowly dimming out. This is normal and is caused by the voltage compensating output circuitry in your TRAINPOWER 5.

### DIRECTION CONTROLS

There are two (2) "LIGHT TOUCH" buttons that are used to control the voltage polarity that is applied to the track and thereby control the direction of travel for your locomotive. These buttons are "LIGHT TOUCH" controls and have to be pressed to change direction. These switches should only be operated when the locomotive is not moving. There are two (2) triangular Light Emitting Diodes that will glow to indicate which direction switch button has been activated.

### MOMENTUM SWITCH

The MOMENTUM SWITCH in your TRAINPOWER 5 allows operation in either of two modes.

- (1) With the switch in the OFF position, a change in the throttle setting will result in an immediate change in the locomotive speed.
- (2) With the switch in the ON position, the locomotive speed reacts slowly and gradually, like a real locomotive, as the "LIGHT TOUCH" buttons are depressed.

### WIRING FOR A REVERSE LOOP

Reverse Loop Terminals are controlled by the speed control and the reverse loop direction switch in the TRAINPOWER 5. The purpose of the reverse loop terminals is to simplify the wiring of turning tracks. From this illustration we see that when a locomotive is entering the turning track (reverse loop), the reverse loop direction control must be set for the same polarity as the mainline.

Same Polarity--Your TRAINPOWER 5 has been wired so that when the Mainline direction and the Reverse Loop direction switches are both in the same position, both right or left, the polarity for the TRACK DC and REVERSE LOOP Terminals is the same. After entire train is in the turning section and before it begins to emerge from the turning section, the mainline direction control must be reversed so that the locomotive will leave the turning track with wheels maintaining unchanged polarity. If this were not done, the locomotive could not return to the mainline.

### REMOTE CONTROLLER SOCKET

This socket is for use with the optional hand-held controller. When this hand-held controller is used, the remote switch must be placed in the ON position.

**SPECIAL NOTE:** When connecting to any terminal, care must be taken that wires do not touch more than one terminal at one time. Loose wires are a danger to your unit and layout; be certain wires are properly wrapped around the terminal screw and that the screws are properly tightened. **DO NOT MAKE CONNECTIONS WHEN THE UNIT IS ON.** Always shut the power switch OFF before attaching any wires to the terminals.

Your TRAINPOWER 5 is a high-powered unit. **CAUTIONS MUST BE TAKEN TO AVOID ANY SHORT CIRCUITING.** The TRAINPOWER 5 is equipped with automatic reset thermal protectors which will protect the unit, but proper care must be taken with all connections.

### THROTTLE CONTROL

The throttle is used to set the speed of the locomotive you are controlling. When the **MOMENTUM SWITCH** is in the OFF position, your locomotive will immediately accelerate to the speed dictated by the throttle and will decrease immediately when the throttle is turned down. However, when the **MOMENTUM SWITCH** is in the ON position, the speed of the locomotive and the amount of time it will take to reach that speed are determined by the **INERTIA CONTROLS** (acceleration and deceleration). The acceleration and deceleration of the locomotive are controlled by the **LIGHT TOUCH** buttons. The maximum speed or minimum speed the locomotive will achieve is determined by the throttle position.

### REVERSE LOOP DIRECTION

This switch is used to control direction for a reverse loop track section.

### REMOTE SWITCH

This switch is for an accessory hand-held controller. Leave this switch in the OFF position. If it is in the ON position, the light will be on and the controls on the face panel will not function. **THIS SWITCH MUST BE OFF AT ALL TIMES UNLESS YOU ARE USING THE REMOTE CONTROLLER UNIT.**

### INDICATORS

#### POWER MONITOR

The power monitor lamp is used to give an approximate indication of output voltage. You will find this very useful in detecting shorts, opens on your track, etc. If the throttle control is left in an ON position and the light intensity increases, this indicates less current is being drawn. If the light becomes less intense, more current is being drawn. If the light goes out suddenly, this indicates a short circuit and will shortly be followed by the overload indicator lamp being lit. A slight flickering of this lamp during operation or during switching the **POWER SWITCH** on or off is normal and does not indicate a problem.

#### OVERLOAD INDICATOR

Your **TRAINPOWER 5** is equipped with sensitive overload and short circuit protectors. In the event of a short circuit or overload, the circuit protectors will trip. Your overload indicator lamp will light when the protectors are activated, giving a visual indication that there is a problem. When this occurs, turn your unit off; correct the source of the short circuit or overload; for a short circuit in your AC or fixed DC lines, wait two to five minutes for the circuit breaker to reset; then turn the unit back on. For a short circuit in your mainline or reverse loop, once the cause is removed the overload lamp will instantly go off. If the overload indicator lamp is still lit, you have either failed to correct the source of the short circuit or overload, or you have not waited long enough for the circuit breaker to reset.

#### PILOT LAMP

The **PILOT LAMP** will go on when the **POWER SWITCH** is placed in the ON position.

#### MOMENTUM LAMP

This is the lamp alongside the momentum switch, and it will go on when the **MOMENTUM SWITCH** is placed in the ON position.

#### REMOTE LAMP

This is the lamp alongside the remote switch, and it will go on when the **REMOTE SWITCH** is placed in the ON position.

### OUTPUT TERMINALS

The terminals are numbered 1 through 12. It is important that you connect the correct wires to the correct terminals.

#### Terminal 1 (labeled LAMP)

This is for an accessory--a Meter Monitoring Unit, which is illuminated and requires this terminal for operation.

#### Terminals 2 and 3 (labeled with a Minus (-) and a Plus (+) Sign)

These are for a voltage meter hookup.

