

## OPERATING INSTRUCTIONS TECH II MODEL TRAIN SOUND GENERATOR MODEL 8000

**CONGRATULATIONS!** You have just purchased one of the most advanced model train sound generating controls on the market, MRC's new TECH II Sound Generator Model 8000. Powered by the fixed AC Accessory output terminals of your power pack, the Model 8000 provides you with four life-like model railroading sounds that will enhance the operating enjoyment of any layout.

The Model 8000 Sound Generator's circuit responds to track voltage and can be synchronized with most locomotives. The synchronization rate and speaker volume (speaker included) are controllable. Steam or diesel locomotive sound is selectable, and the HORN/WHISTLE CONTROL allows you to duplicate the shriek of a whistle or the blare of horns, just as you want to hear them.

MRC has created the Sound Generator 8000 for modelers who want more realism and fun from their layouts than ever before. Welcome to the ranks of model railroaders who purchase the best in Model Railroading supplies, MRC.

**NOTE:** The Model 8000 Sound Generator is not compatible with certain power packs. If it fails to operate with your unit, you may require a pulse converter. See page 5 for more information.

### ELECTRICAL SPECIFICATIONS:

<b><u>INPUT VOLTAGE:</u></b>	REQUIRES A POWER PACK WITH A FIXED AC OUTPUT VOLTAGE BETWEEN 14 TO 24 VOLTS
<b><u>SOUND GENERATOR:</u></b>	1 WATT AUDIO POWER INTO 8 OHMS IMPEDANCE 65db SIGNAL/NOISE RATIO
<b><u>TERMINALS:</u></b>	TERMINALS 1- 2 SPEAKER OUTPUT TERMINALS 3 - 4 INPUT 14 TO 24 VOLTS AC TERMINALS 5 - 6 TO TRACK DC FOR SOUND SYNCHRONIZATION

Included: Speaker, with mounting hardware and 12 feet of two-conductor cable. Note that for correct sound, the speaker must be properly mounted into a baffle.

MODEL RECTIFIER CORPORATION  
200 CARTER DRIVE EDISON, NEW JERSEY 08817 U.S.A.

## **CONTROLS:**

### **SOUND SELECTOR:**

In the STEAM position, the 8000 system accurately emulates the chuffing sound of a steam locomotive and will produce a steam WHISTLE sound when the HORN/WHISTLE CONTROL slide is moved. In the DIESEL position, the system emulates the throbbing sound of a diesel locomotive and will produce a diesel HORN blast when the HORN/WHISTLE CONTROL is moved.

### **RATE:**

This control knob synchronizes the steam or diesel sound of the Model 8000 with the speed and motion of your particular locomotive. To synchronize the sound to your locomotive, turn the RATE knob fully counterclockwise, then, with your locomotive on the track, increase throttle control on your power pack until the locomotive is moving at a medium speed suitable for your layout. Adjust the RATE control until the Model 8000's sound and the locomotive's motion appear to be synchronized. Now, move the throttle control on your power pack to OFF and bring the speed to medium once again, comparing the synchronization of sound as the throttle is gradually increased from the off position. If sound and motion are still slightly out of synch, use the RATE control to fine tune. Results will vary with individual locomotives and motors.

**NOTES:** For diesel sound, do not turn the Rate Adjustment beyond 75% of its motion or distortion will result when the horn is blown.

Not all locomotives will be able to synchronize perfectly with sound.

If you wish to operate your locomotives without sound, turn the rate and volume controls fully counterclockwise.

### **VOLUME:**

This knob determines loudness. Volume is increased by turning this knob clockwise.

### **HORN/WHISTLE CONTROL:**

To activate the horn or whistle sound, move the HORN/WHISTLE CONTROL from the bottom position towards the top, with the VOLUME control turned up. For best results, this slide control should be moved in a fluid up and down motion to produce sound most like a real horn or whistle. With a little experimentation, you'll easily achieve the full effects of a piercing steam whistle or the blare of a diesel horn.

## **INDICATOR: POWER MONITOR:**

The Power Monitor LED indicates DC output from the power pack. If the power pack to which this Sound Generator unit is connected is OFF, the Power Monitor LED indicator will also be off. When the power pack is ON and the throttle is turned up, this LED will go from dim to bright, indicating that the throttle control on your power pack is supplying variable DC voltage. A slight flickering of this LED during operation or when switching your power pack ON or OFF is normal and does not indicate a problem.

## **TERMINALS:**

The Model 8000 features a 6 position screw type terminal board for simple and easy connection.

*(SEE "WIRING YOUR SOUND 8000" ILLUSTRATION)*

**NOTE:** When connecting to any terminal, care must be taken that wires do not touch more than one terminal at a time. Loose wires are a danger to your unit and layout. Be certain wires are properly wrapped around terminals before tightening screws.

**CAUTION:** When connecting wires to the terminals, make certain that the power pack's switch is OFF and the unit is unplugged; no power should reach the Model 8000 during hookup. When all wiring is connected, inspect the wires again, making certain they are connected to the correct terminals.

### **TERMINALS 1 AND 2:**

These are for the speaker wire connection. The speaker is already wired, so just connect the two speaker cable wires to these two terminals. Polarity is not critical.

### **TERMINALS 3 AND 4:**

These terminals are for fixed AC input voltage from your power pack. Fixed AC input voltage must be between 14 and 24 volts. Polarity does not matter.

### **TERMINALS 5 AND 6:**

These terminals are for DC track connection. They are connected to the track in parallel to the DC terminal wires which connect your power pack to the track connector. Polarity of these wires does not matter.

### **SPEAKER INSTALLATION:**

For best sound reproduction and volume, you will need a baffle to enclose the speaker. If you like, you may use the Model 8000's cardboard carton as a baffle. Use the line drawing on page 6 as a guide to cut a hole for the speaker and its four mounting holes, preferably in the bottom panel. Install the speaker inside the carton with the cone of the speaker facing outward. Fasten the speaker to the carton (baffle) with the four screws, eight washers and four nuts supplied.

Speaker wiring should exit the carton and the carton should be closed. Seal all edges with tape to prevent air from escaping. An alternative to using the cardboard carton is to use a wooden box of your own design. Use your best judgement in selecting a method of installing and hiding the speaker in your layout, but make every effort to choose a location where the sound will not be muffled. The speaker must be firmly mounted in the baffle for best sound reproduction. Do not allow any debris or material from your layout to contact the speaker cone as this can distort the sound.

Output impedance of the internal speaker amplifier is eight (8) ohms and the furnished speaker is also eight (8) ohms, a perfect match.

### **FOR YOUR PROTECTION:**

- 1- Never connect the AC input voltage to the speaker terminals. Doing so will damage the speaker.
- 2- Do not allow any object to contact the speaker cone surface. Doing so will damage the speaker.
- 3- It is always good practice to switch your power pack OFF after every operating session.
- 4- Do not operate or store this unit in a damp area.
- 5- For best performance, keep wheel and track surfaces clean. Intermittent and jerky operation is often caused by an oxide coating which has formed on the track and/or wheels.
- 6- Before returning your unit for repair or servicing, make certain it is defective. Are all connections made correctly? Is your power pack plugged into an operating AC outlet?
- 7- If the Model 8000 Sound Generator fails to operate with your power pack, you may require a pulse converter. See page 5 for more information.

If it is necessary to return this unit, remove the speaker and repack the unit in its original carton, even if the hole for the speaker has been cut into the carton. Place the original carton into an outer carton, adding at least three inches of soft packing material to each side.

Mail the Unit to:

MODEL RECTIFIER CORPORATION  
200 Carter Drive  
Edison, New Jersey 08817

Send the unit Parcel Post Insured or United Parcel Service. Describe the problem you are experiencing, and be sure to include your name, address and telephone number, typewritten or printed clearly.

All of us at MRC would like to join in wishing you many happy years of model railroading with your Model 8000.

**NOTE:** The Model 8000 Sound Generator is not compatible with all power packs. If it fails to operate with your unit, you may require a pulse converter. Please contact us at (908) 248-0730 for technical assistance. If required, a DC Converter Module will be sent to you at no charge.

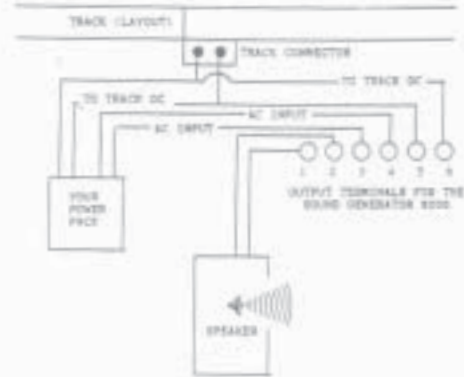
Please have the following information handy before you call:

- 1) Name of the power pack you will use with the Model 8000
  - 2) Model number of that power pack
  - 3) Your name, shipping address and daytime phone number
- Or you may mail this information to:

DC CONVERTER MODULE  
MODEL RECTIFIER CORPORATION  
200 Carter Drive  
Edison, NJ 08817

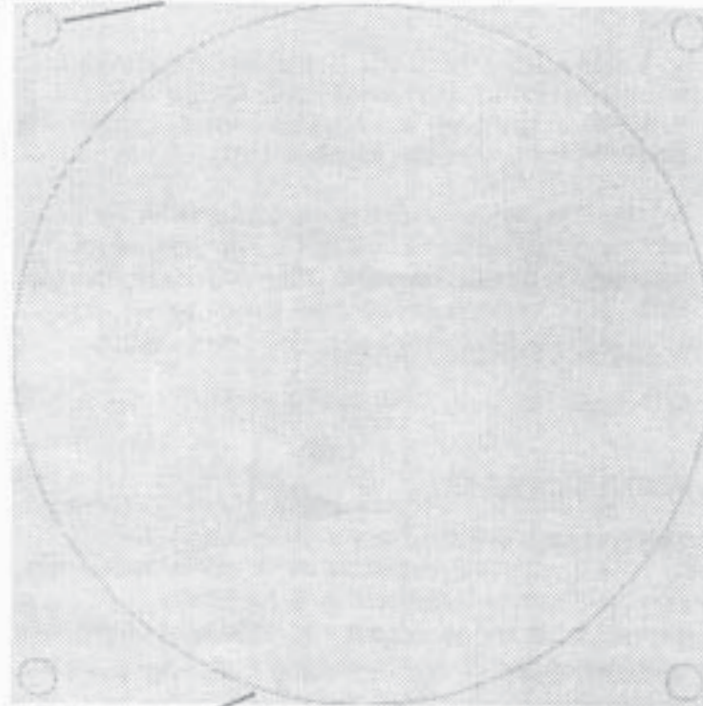
## WIRING YOUR SOUND 8000 ILLUSTRATION

(TERMINAL BOARD HOOKUP OF THE SOUND MODEL 8000  
TO THE SPEAKER, YOUR POWER PACK AND TRACK)



### SPEAKER CUT-OUT

3/16" Diameter



3 5/8" Diameter

MODEL RECTIFIER CORPORATION, EDISON, NEW JERSEY 08817  
Telephone 1-908-248-0730

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