



246 W. Main St.  
 Leola, PA 17540  
 (717) 661-7041

## STATIONARY DIESEL LOCO HORNS #1

CAUTION: THIS DEVICE CAN BE DAMAGED BY STATIC DISCHARGE. PLEASE EXERCISE CARE DURING INSTALLATION TO AVOID THIS POSSIBILITY. DISCHARGE YOURSELF TO AN ELECTRICAL GROUND (OUTLET COVER SCREW) BEFORE REMOVING THIS DEVICE FROM ITS ANTI-STATIC BAG. PLEASE READ INSTRUCTION SHEET COMPLETELY BEFORE ATTEMPTING TO INSTALL AND OPERATE THIS PRODUCT.

Overview: The STATIONARY DIESEL LOCO HORN #1 features five separate air horns and a bell with user selectable variations of ring pitch and speed simulating different size bells. One horn represents a generic horn of unknown origin which is from an early locomotive which had two single chime horns facing in opposite directions. Also featured are a Leslie 3 chime, a Leslie S-5, a Nathan K-3 and a Nathan P-5. The bell is a studio recording of an actual bell removed from a Reading Company locomotive. The controller is powered by 12-20 Volts AC or 14-25 Volts DC, and is activated manually with a push button switch. A three inch speaker is included. The volume is user adjustable.

Initial Connection Instructions: The STATIONARY DIESEL LOCO HORN #1 is completely assembled, except for the speaker, on a 5.75 X 2.75 inch circuit board which has standoffs at the four corners for easy mounting with #6 wood screws. Viewing the circuit board with the terminal connectors to the left, note the two pin connector labeled "SPKR" and the potentiometer labeled "VOL" along the lower edge. The supplied speaker needs to be mounted in an enclosure for proper sound. The least of all would be a styrofoam cup or cardboard tube a few inches deep (sound timbre will vary with enclosure used). A 3" hole could also be made along the edge of a mountain or skirt to hold the speaker. In some cases it is not necessary to enclose the back of the speaker since the surrounding building / mountain would act as a proper baffle. The speaker has two terminals that need to connect to the flying leads from the two pin connector. Since speakers are mounted at different locations, wire needs to be soldered to the speaker terminals using appropriate solder (no plumbing type solder!). This pair of wires then needs to be soldered or connected with wire nuts to the pair of wires from the two pin connector. Make sure that no shorts exist and that no contact can be made to any other object by properly insulating with electrical tape or heatshrink tubing. Any soldering to the board will void any warranty / repairs. All other connections are made at the terminal connectors at the left of the circuit board. Input power can be from 12 to 16 volts AC or 14-25 VDC, DCC track power can also be used. The input power is connected to terminals labeled "AC" or "6" and "7". Terminal "5" or "C" and Terminal "8" or "SW" are used to connect the push button switch which activates the horn. The push button switch is supplied with wire attached. More wire can be attached if needed. Be sure to have all components connected properly before any power is applied to the board! If you missed plugging the speaker into the connector, turn the power off, wait 30 seconds, plug the speaker in and then re-apply power. Failure to do so could cause failure in the audio amplifier.

Installation and Operating Instructions: In the upper right corner of the circuit board, just below the mounting stand off, you will find a block of four mini-rocker switches which control variations in the operating characteristics of the STATIONARY DIESEL LOCO HORN #1. Turning these switches "on" selects

an individual horn. If all switches are "off" the generic horn is selected. Turning two or more switches "on" selects the bell. The ring pitch and speed is governed by which combination of switches is "on".

Pick your location on the layout and mount the circuit board and the speaker (if not already done by now). As information, a styrofoam cup (coffee cup) makes an excellent mounting and sound chamber for the speaker. Connect your input power to terminals 6 & 7. Connect the wires from the push button switch to terminals 5 & 8. If additional wire is needed simply splice to the wire that is furnished with the switch. If you need a power source, Item 690 is ideal for this use (you can connect more than one stationary sound unit to one of these).

Set all rocker switches "off" to select the generic horn. As you press the push button switch the horn will sound. Use the volume control to set an adequate level for your layout. Select the other horns one at a time by using the rocker switches as follows:

- Switch "1" on = Nathan P-5
- Switch "2" on = Nathan K-3
- Switch "3" on = Leslie S-5
- Switch "4" on = Leslie 3 chime
- More than one on = Bell

Set at least two switches "on" to select the bell. Try the various combinations of switches to see which pitch and speed is most appropriate to your preferences. Remember that you must have at least two switches "on" for the bell and that three or all four switches can be turned "on".

The push button switch allows the horn to be played in a manner similar to the way an actual air horn was blown by the engineer of the locomotive.

For your information, included are samples of some common railroad whistle-horn signals.

The sound of the whistle-horn should be distinct, with intensity and duration proportionate to the distance signal is to be conveyed.

### SOUND

- short
- 2-long
- long, 3-short
- 4 or 5 long
- 2-short
- 3-short
- 4-short
- short, long
- 2-long, short
- 2-long, short, long
- continuous long
- successive shorts

### INDICATION

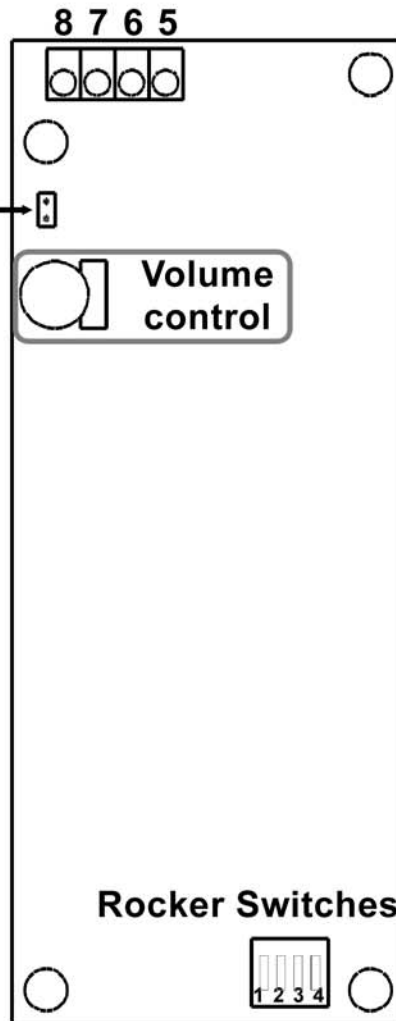
- apply brakes, stop
- release brakes, proceed
- flagman protect rear of train
- recall flagman
- acknowledgment
- back up movement
- call for signals
- inspect train line for leak or brakes sticking
- approaching meet or wait point
- approaching grade crossings
- approaching stations or junctions
- alarm for something on track

**TERMINAL STRIP CONNECTIONS:**

- 5 MANUAL SWITCH (COPPER WIRE)
- 6 INPUT POWER TERMINAL 1 (AC/DC)
- 7 INPUT POWER TERMINAL 2 (AC/DC)
- 8 MANUAL SWITCH (SILVER WIRE)

install wires by stripping insulation back 3/16", place wire in hole, run screw down to clamp in position.

**Speaker connector**



use #6 wood screws to secure PC board at desired location

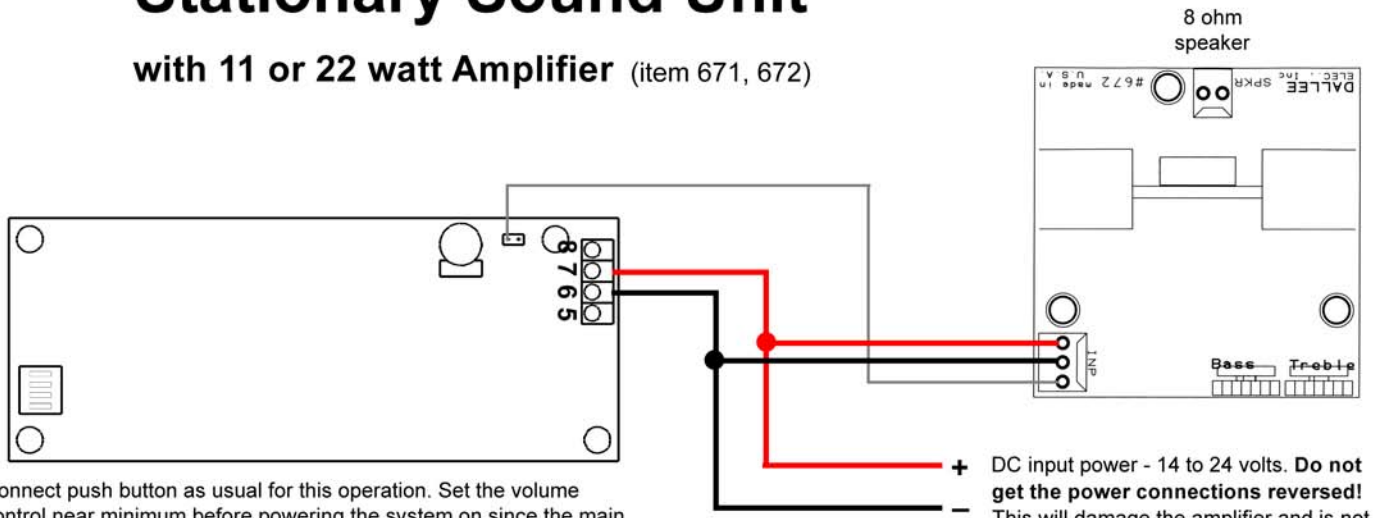
Maximum AC or DC input power is: 20 volts AC, 26 volts DC (DC input polarity is not important unless utilizing the auxiliary amplifier as shown below).

The input power must be switched on, a gradual increase in voltage or inadequate power source will make the sound unit appear to be inoperative. If this occurs simply switch off, wait a few seconds, and switch back on. The solution is to use a power source of adequate power. Item #690 is an excellent AC source to power this (and other) stationary sound units as well as other items.

DIESEL HORN CONTROLLER  
installation drawing - rev 4

# Stationary Sound Unit

with 11 or 22 watt Amplifier (item 671, 672)



Connect push button as usual for this operation. Set the volume control near minimum before powering the system on since the main volume is controlled by this volume control.

**+** DC input power - 14 to 24 volts. **Do not get the power connections reversed!** This will damage the amplifier and is not covered under any warranty.

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