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DHM-2 TWO-TONE DIESEL HORN MODULE

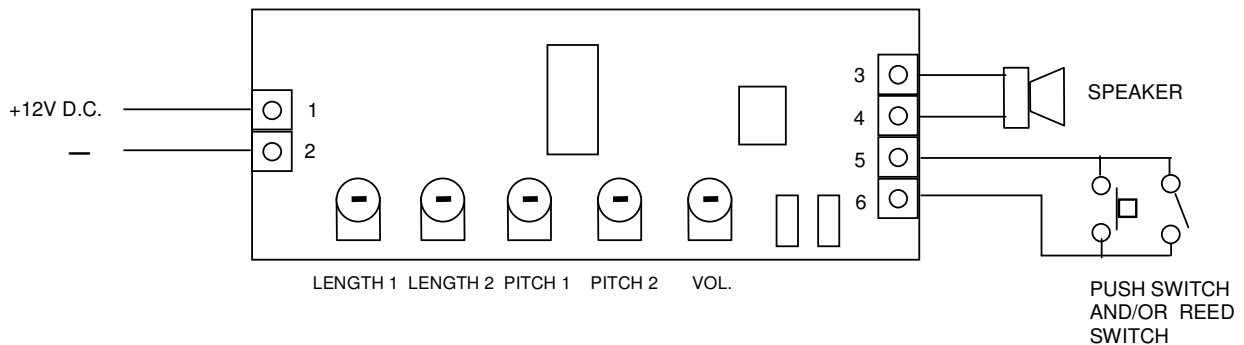


Fig. 1

These units simulate electronically the sound of a British style two-tone diesel horn. The unit may be loco mounted in the larger gauges (G scale and above), or used free standing on the home or exhibition layout. The horn is triggered manually by operating a push switch, or automatically via a loco mounted magnet passing over a reed switch in the track. Loco mounted units can be triggered by radio control, or magnets could be placed in between the rails at strategic intervals, to operate a loco mounted reed. Controls are provided for pitch and duration of each of the two notes, and overall volume level is adjustable.

POWER SUPPLIES. The module requires 12V d.c. (smoothed) from either batteries, or a regulated mains power adapter. DO NOT USE THE UNSMOOTHED 12V D.C. OUTPUT OF A LOCO CONTROLLER, as these supply in excess of 12V, and will damage the module. THIS MAY INVALIDATE THE GUARANTEE. We recommend that our Regulated Power Module RPM-1 is used, which will supply a smoothed and stabilized 12V d.c., from a 16V a.c. input (taken from a mains transformer, or 16V a.c. accessory output of a train controller). Alternatively, an adapter of the type used to power a radio or cassette player could be used (see catalogue for suitable types, and the RPM-1). If batteries are used (for example, 8 x AA cell), an on/off switch should be wired into the positive supply line, as the modules draw a small but significant idle current when not sounding. Owners of ride-on engines could use the ignition switch for this purpose, if fitted, powering the module from one of the traction batteries.

INSTALLATION. The circuit board should be located in a well ventilated position, which allows easy access to the control presets, and if loco mounted, should be kept away from the motor, to prevent possible noise interference. Ensure that the board is clear of any metal surface (a Module Mounting Kit, comprising screws, nuts, shakeproof washers and spacers is available, cat. No. M22). If the module is to be used free standing, the speaker should be positioned behind a cut-out in the baseboard, facing upward. (The hole is then covered over by a building such as a signal box, or a tunnel. The latter gives a particularly good effect). Inside a locomotive, the speaker will probably have to face downwards, through a hole in the floor. The hole size should be approximately 70 x 110mm. If glue is used, ensure that it is only applied to the outer rim of the speaker, and that none comes into contact with the paper cone.

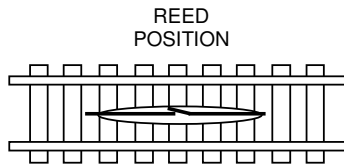


Fig. 2

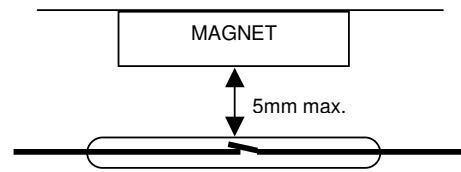


Fig. 3

WIRING. Connections to the circuit board are via screw terminals, shown in Fig. 1. Any general purpose connecting wire, rated at 1 amp or more may be used. Ensure that the plastic insulation is adequately stripped back, to prevent it from being trapped under the terminal screw, giving a bad connection. The reed switch, push switch and speaker are attached by soldering, taking care not to apply too much heat. Note that the reed switch can be omitted if track triggering is not required. Keep all wires as short as possible, especially those going to the reed, and route these away from the others if possible. As the reed has a glass encapsulation it should be handled with care, and its leadout wires not bent. On the layout, it is fitted lengthways and centrally between the rails, on top of the sleepers (ties). See Fig. 2. The reed may be covered by track furniture such as an AWS ramp, barrow crossing, or similar. The trigger magnet is attached to the underside of the loco using adhesive, and should be fitted so that it is parallel to the reed, at a maximum distance of 5mm away from it, when the loco is placed on the rails (Fig. 3). Should there be no suitable site for a magnet on the engine, it could be attached to a towed wagon or coach. To give the impression that the horn is operating on the locomotive, the trigger point should be fairly close to the speaker.

SETTING UP. When satisfied that all wiring is correct, set the controls to mid position with a small flat blade screwdriver, and apply the power. Triggering the module should result in some sort of output from the speaker, if not, switch off immediately, and re-check the wiring. (Note that the module has a reverse polarity protection diode, therefore if positive and negative supply lines are accidentally reversed, no harm will be done, but the unit will simply not function). Assuming the unit is working, the controls may now be adjusted to obtain the required horn pitch, note length and volume level. Turning the presets clockwise produces an increase in pitch or volume as appropriate.

ADDING EXTRA SPEAKERS. When used on a layout, the number of “sounding points” can easily be extended, by switching in alternative speakers at different locations on the layout. This method is really only manageable with manual triggering, but gives a very worthwhile effect. Simply use a single pole rotary switch to select the “+” terminal of the active speaker (all speaker negative connections can be tied together and taken to terminal 4 on the circuit board). For extra volume outdoors, another 8 ohm speaker may be connected in parallel with the first, giving a total impedance of 4 ohms. Alternatively, a single 4 ohm speaker could be used.

TECHNICAL SUPPORT. Should you have any queries concerning installation or operation of our products, please send an e-mail to: traxcontrols@ntlworld.com, or write to the address shown overleaf, and we will do what we can to help.

GUARANTEE. All Trax products are guaranteed for ONE YEAR from date of purchase. We will gladly replace or repair any faulty item returned within the guarantee period, provided the defect is the result of normal and proper use. If returning an item, please give details of your set-up, and let us know exactly what went wrong; this will reduce waiting time should repairs be required.