

## PROGRAMMING

This decoder supports all programming methods including register, page CV, direct CV and programming on the main (OPS mode programming).

CV	Register	Description	Range	Factory Value
CV1	R1	Short address	1-127	3
CV2	R2	Start voltage	0-32	0
CV3	R3	Acceleration	0-32	0
CV4	R4	Deceleration	0-32	0
CV5	---	Maximum voltage	0-32	0
CV29	R5	Basic configuration	---	2
CV7	R7	Manufacturer version number	---	32
CV8	R8	Manufacturer ID	---	143
CV17	---	Long address upper byte	192-231	192
CV18	---	Long address lower byte	0-255	3
CV19	---	Advanced consist address	1-127	0
CV50	---	Horn type	0-2	1
CV51	---	Bell type	0-2	1
CV52	---	Horn volume	0-31	31
CV53	---	Bell volume	0-31	31
CV54	---	Diesel volume	0-31	31
CV55	---	Brake volume	0-31	31
CV56	---	Dynanic brake volume	0-31	31
CV57	---	Brake release volume	0-31	31
CV58	---	Air pump volume	0-31	31
CV59	---	Coupling volume	0-31	31
CV60	---	Conductor volume	0-31	31
CV61	---	Reverser	0-31	31
CV62	---	Exhaust	0-31	31
CV63	---	Sand release volume	0-31	31
CV64	---	Air release volume	0-31	31
CV105	---	User identification number	0-255	0
CV106	---	User identification number	0-255	0
---	R6	Page number	0-31	1
CV112	---	Light effects	see chart	0
CV113	---	Ditch/mars light rate	0-48	10
CV114	---	Strobe light rate	0-48	10
CV115	---	Brake squeal	0=off, 1=on	0

**NOTE:** Due to limitations in older DCC Systems, some of the sound functions or light effects functions may not be able to be accessed. ALSO, you might be limited to factory default CV values.

## ADDITIONAL INFORMATION

The MRC 1626 HO gauge synchronized diesel sound decoder should perform well when used with other brand command systems. See your DCC command stations manual to learn how to program and operate the decoder. For more information about register/CVs and their functions, please refer to the NMRA DCC Standard & Recommended practices, RP-9.2.2 this is available directly from the NMRA or their website at [www.nmra.org](http://www.nmra.org).

## FCC COMPLIANCE

This device complies with the part 15 of FCC rule. Operation is subject to the following two conditions. (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that cause undesired operation.

## RETURN PROCEDURE

If it should become necessary to return your decoder, unplug the decoder and return the decoder only. Please include a letter (printed clearly) with your name, address, a daytime telephone number, and a detailed description of the problem you are experiencing. Please also include a \$15.00 check for handling and shipping fee. **Be certain to return the decoder only.**

Send the decoder to:

Model Rectifier Corporation  
Attn: Parts & Service  
80 Newfield Avenue  
Edison, NJ 08837-3817 U.S.A



# HO Gauge Synchronized Diesel Sound Decoder with 12 Sound Functions

Item #0001626

Thank you for purchasing our highly advanced DCC locomotive decoder. Combined with any DCC System, our decoder will make your model railroad more realistic and exciting.

- Synchronized diesel rumble with random sounds
- 1.5 amp capacity
- Programmable for either 2-digit (1-127) or 4-digit (1-9999) addresses
- Programmable start voltage
- Programmable acceleration rate
- Programmable deceleration rate
- Programmable top voltage
- Programmable 14, 28, 128 speed steps
- Directional lighting, (FO) at 0.2 amp rate
- Programmable "Rule 17" directional lighting
- Programmable for either ditch lights, mars light, or strobe light
- programmable different horns and bells
- 12 accessory sound functions (F1-F12)
- Supports advanced consisting (CV19)
- Supports programming on the main
- Compatible with NMRA DCC standards
- NMRA 8 pin plug included for easy installation
- Complies with the part 15 of FCC
- 20mm speaker included
- Dimensions: 50.0mm x 17.5mm x 6.0mm

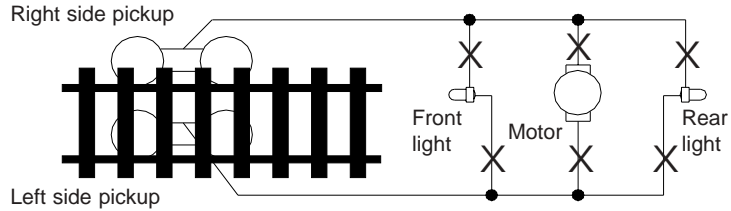
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80 NEWFIELD AVENUE  
EDISON, NJ 08837-3817  
Tel. 732-225-6360  
PRINTED IN USA

## INSTALLATION

It is quite a challenge to install a decoder into a locomotive. You should have some basic electrical knowledge and soldering skills. If you do not have the above requirements, please ask the dealer for help in installation.

Figure 1 shows the electrical circuit of most standard locomotives. The terminals of the motor and light(s) are directly connected to the wheel pick-ups. Each type of loco has its own method of electrical pick-up and distribution. The connection between the wheels, motor and light(s) could be wires, clips, the body or chassis, a PC board or any other type of conductor. Figure out your loco's electrical system and how to disconnect (isolate) the motor and light(s).

Figure 1. Connection of standard locomotive. *Note: The 'X' marks indicate where to disconnect (isolate).*

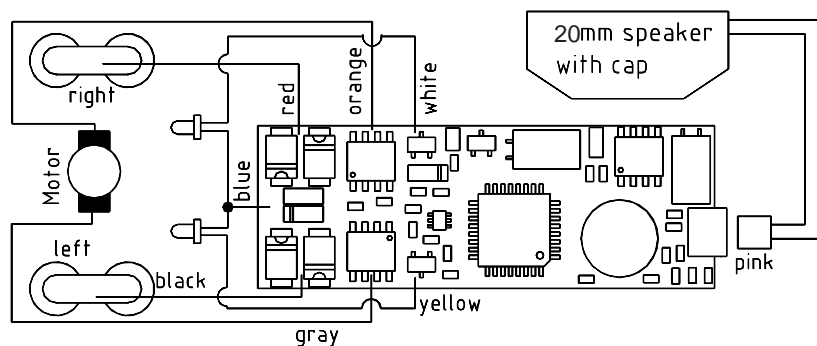


The decoder will be inserted between the wheel pick-ups and the motor. The 'X' marks in Figure 1 show you where to disconnect (isolate).

Figure 2 shows you how to wire the decoder. After disconnecting the motor terminals from pick-ups, connect the red wire to the right side pick up and the black wire to the left side pick up. Connect the orange wire to the motor terminal that originally connected to the right pick up. Connect the gray wire to the motor's other terminal. Connect the front light to the blue wire and the white wire. Connect the rear light to the blue wire and the yellow wire.

The blue wire is the common terminal for lights and accessory functions. You may use the black wire or the red wire to replace the blue wire. This is very useful when you find that it is hard to isolate one of the light terminals from the pick up. Wiring the bulb this way will also make the light dimmer. If your loco has only a front light, you should connect the white and the yellow wires together. If your locomotive has a NMRA 8 pin receptacle, just remove the dummy plug and plug in the decoder.

Figure 2. 0001626 decoder wiring diagram



## SPECIAL LIGHTS WIRING

If your loco has ditch lights or mars light/strobe light you can wire these lights to the two solder pads on the back of the decoder. Again, the blue wire is common for the light. You should program CV112 to select special light effect.

## SPEAKER PLACEMENT

The 1626 HO gauge synchronized diesel sound decoder comes with a speaker rated at 8-ohms. Placement of the speaker is up to you.

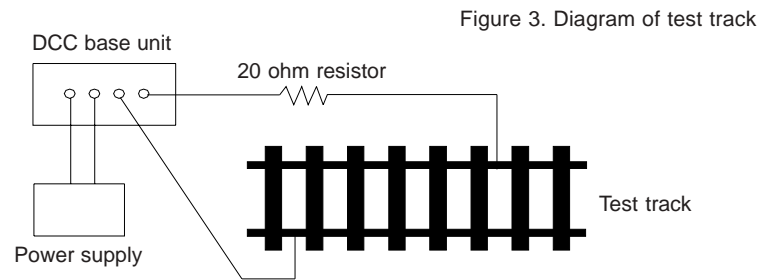
Use hot glue to affix the speaker to the locomotive.

## SPEAKER SELECTION

This decoder includes one 20mm 8-ohm speaker. If it is too large, smaller speakers can be purchased from other manufacturers, as long as it is rated at 8-ohms. If you have the room for a large speaker or speakers, and what improved sound effects, you can order 28mm 8-ohm speakers from MRC.

## MAKE A TEST TRACK

Before you start with your decoder installation, we strongly recommend building a test track that uses a 20-ohm resistor to limit current. Only test your installed decoder on the test track. The test track will prevent any damage due to an incorrectly wired decoder.



## TEST

All MRC decoders have been factory programmed with address #3, 28/128 speed steps and maximum top voltage. After you have finished your decoder installation, you are ready to test it. **Never run the installed decoder on your layout without first passing the test.** You may damage the decoder if it is not wired correctly or if you have not properly isolated the motor and the lights.

Put the loco on the test track. Select the Run Mode of your DCC system and select or acquire address #3. Move up throttle and the loco should move forward. Push the light button and the front light of your loco should turn on. Push the reverse direction button. The loco should move backward and the rear light should turn on. The loco cannot get normal speed because there is a 20-ohm protection resistor in the test track. If you are able to turn on/off the front and rear lights and you are able to move the loco forward and reverse, you did a great job. Congratulations! **Do not test the loco on the test track for an extended period of time. To do so will cause the protection resistor to overheat.**

If your installed decoder does not pass the test, find the problem, correct it and test it again. As long as you test the decoder on the test track there is little chance of damaging your decoder. This is why making a test track is so important.

## OPERATION

This decoder can be operated with the diesel sounds on or off. Pressing F12 or double clicking your headlight button (F0) will turn the diesel sounds on or off. When the diesel sounds are turned off, all accessory function sounds will also be turned off.

Double clicking your bell button, (F1) will turn on or off the decoder's accessory lighting, (ditch, mars, or strobe lights). See programming chart to program this feature.

There are three horn type sounds and two bell type sounds built into this decoder for you to choose. See programming chart for selecting the type you want.

## DIESEL SOUNDS CHART

Function	Idle	Moving
Double click F0	Sound on/off	Sound on/off
F1	Bell on/off	Bell on/off
F2	Long horn	Long horn
F3	Short horn	Short horn
F4	Conductor	Coupling
F5	Brake release	Brake
F6	Dynamic brake	Dynamic brake
F7	Reverser	Reverser
F8	air release	Air release
F9	Coupler lift bar	Air pump
F10	Sand	Sand
F11	Exhaust	Flange squeal
F12	Sound on/off	Sound on/off

The long horn sound, (F2) will remain on when you activate it. To turn it off press the F2 button again. This feature lets you pick the duration of the horn blast for realistic horn signaling.

## LIGHT EFFECT PROGRAMMING CHART FOR CV#112

Your MRC synchronized diesel sound decoder is equipped with normal directional lighting, plus MRC light effects. By using the headlight blue common wire and a combination of the solder pads on the decoder board, (see wiring diagram), you can choose from ditch lights or a mars light or a strobe light. Also without any complicated wiring, just by simple programming, your diesel locomotive can have "Rule 17" directional headlights.

Light Effect	Head Light (white wire)	Rear Light (yellow wire)	Solder Pad #1	Solder Pad #2	CV value
CV#112	Normal on/off	Normal on/off	Ditch light	Ditch light	0
CV#112	Normal on/off	Normal on/off	Mars light	Single strobe light	1
CV#112	Normal on/off	Normal on/off	Mars light	Double strobe light	2
CV#112	Rule 17	Rule 17	Ditch light	Ditch light	16
CV#112	Rule 17	Rule 17	Mars light	Single strobe light	17
CV#112	Rule 17	Rule 17	Mars light	Double strobe light	18