



DN126M2

Fits Micro Trains Line SW1500

Locomotive

.418" x .621" x .107"

10.63mm x 15.79mm x 2.72 mm

N Scale

Mobile Decoder

DCC Board Replacement

1.5 Amp/2 Amp Peak

2 FX³ Functions, 0.5 Amp

Features:

- FX³ Function outputs for prototypical lighting effects and on/off control:
 - Constant Brightness Lighting** with directional or independent control.
 - Optimized selectable LED or incandescent lamp operation**
 - Realistic Effects** like Ditch lights, Mars lights, strobes, and many more
 - Configurable Pulse Function** available on all function outputs.
 - FX³ & Standard Function Qualifiers** operate functions based on direction, Fo on or off, direction and Fo, and whether loco is moving.
 - Function Mapping** for custom function setup.
 - Master Light Switch** turns off all lights & functions with one keystroke.
 - Advanced Consist Function Controls.**
- **Digitrax LocoMotion® System**-Your locomotives look like the real thing. The Digitrax LocoMotion System makes them run like the real thing too!
 - Scaleable Speed Stabilization (Back EMF)** with simple setup & 256 level resolution.
 - Torque Compensation.**
 - 128 Speed Step** operation (14 or 28 steps can also be used).
 - Momentum** with acceleration and deceleration.
 - Normal Direction of Travel** is user selectable.
 - Switching Speed** feature for easier and faster access to yard speeds.
 - 3 Step Speed Tables** set start, mid and max voltage for custom control.
 - 28 Step Speed Tables** with 256 level resolution for precise control.
- Program CVs using any Digitrax Compatible Control system without having to buy any extra equipment.
- 2 Digit and 4 Digit Addressing.
- Basic, Advanced & UniVersal Consisting.
- SuperSonic motor drive for silent operation.
- DIRect mode programming.
- Decoder Reset CV with or without speed table reset.
- Transponder Equipped ready for transponding on your Layout.
- Motor Isolation Protection helps prevent damage to your decoder.
- Automatic Analog Mode Conversion when running on DC layout.
- Decoder Lock for individual programming of multiple decoders in one loco.
- Digitrax "No Worries" Warranty.

Parts List

1 DN126M2 Function Decoder

1 Instruction Sheet

Installation Information

See the Digitrax Decoder Manual V2 for complete decoder test procedures, installation instructions, programming and technical information. Digitrax manuals and instructions are updated periodically. Please visit www.digitrax.com for the latest versions, technical updates and additional locomotive-specific installation instructions. **CAUTION: Programming and layout track must not exceed 16V when using this decoder.**

Installation Instructions

1. Carefully remove the fuel tank cover and the locomotive's shell from the frame. **Be extra careful to not damage the pickups attached to the locomotive shell, not spreading the shell sides adequately with e.g. toothpicks may lead to the contacts catching and being damaged as the shell is being removed from the chassis.** (Figure 1) Notice the orientation of the shell to the frame (Figure 2) so that you can reinstall the shell correctly.
2. Gently remove the wires from the factory light board by pulling them up and out of the sockets. (Figure 3)
3. Slide the factory light board forward and out of the locomotive frame.
4. Install the DN126M2 by sliding it back into the slot where the factory light board was removed. Insert the wires into the corresponding sockets on the DN126M2. (Figure 4)
5. Replace shell and fuel tank cover. Be extra careful to not damage the pickups attached to the locomotive shell. You are now ready to run your locomotive. The DN126M2 is factory programmed to address 03. You can easily customize the address and other features. See section "Customizing Your Decoder" that follows.

Figure 1. Removal of shell

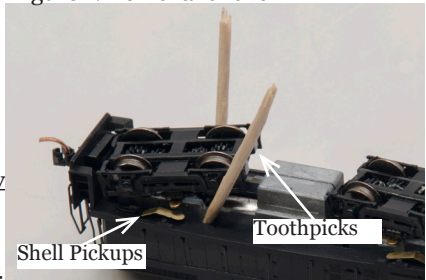


Figure 2. Shell removed

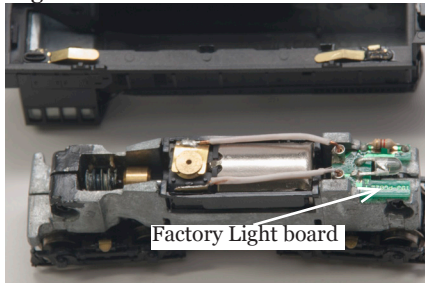
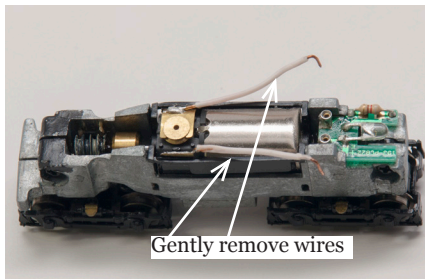


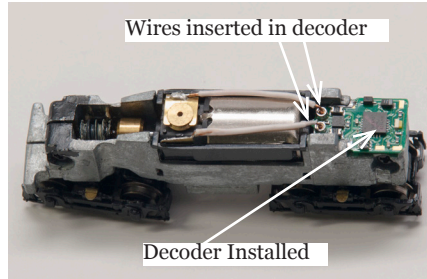
Figure 3. Remove Factory Light Board



Customizing Your Decoder

Your Digitrax decoder is ready to run and will operate using address 03 with no additional programming. For a more prototypical railroading experience, your decoder can be customized for your specific locomotive by programming some of the Configuration Variables, or CVs, available. See the Digitrax Decoder Manual or the Digitrax web site for more information.

Figure 4. Decoder Installed



Changing the Decoder Address

The first CV most people change is the decoder address. This allows you to independently control each loco with a unique address. Digitrax decoders are shipped with CV01 (AD2), the two digit address, set to 03. Following is a brief description of how to change the decoder address with a Digitrax DT4XX series throttle. See your Starter Set Manual for complete programming instructions.

1. Go into **DIRECT Mode Programming** on your system. On the DT4XX throttle press **PROG** until **DIR** is displayed.
2. Choose AD2 for 2 digit addressing or AD4 for 4 digit addressing.
3. Choose the address you want to set up for the decoder.
4. Complete address programming by pressing **ENTER**.

Note: CV29 must also be programmed to enable 4 digit addressing, this is done automatically by the DT4XX throttles. See your Digitrax Decoder Manual or the Digitrax Toolbox App for how to set up CV29.

Digitrax LocoMotion® System

Your locomotives look like the real thing, now you can make them run like the real thing, too. Digitrax decoders incorporate torque compensation for smooth as silk operation. You can also program CVs that control momentum, 3 step and 128 step speed tables, switching speed, normal direction of travel, scalable speed stabilization and more to take full advantage of the Digitrax LocoMotion System.

Momentum-CV03 & CV04

Momentum is part of the LocoMotion System. Acceleration is controlled by CV03 and deceleration by CV04. Both come from the factory set to 000. A range of 000 to 031 is available for both accel and decel. Try CV03:003 and CV04:000 as a starting point for experimenting with momentum.

Speed Tables-How the Loco Responds to the Throttle

With Digitrax LocoMotion, there are two types of speed tables: 3 Step Tables and High Resolution 28 Step Tables. Please see your Decoder Manual V2 for a discussion of the 28 Step Tables. The 3 Step Tables are set up by programming 3 CVs: Start Voltage (CV02), Mid point Voltage (CV06) and Max Voltage (CV05). These values are set at 000 at the factory. All have a range of values from 000 to 255. We recommend the following CV values as a starting point for experimenting with speed tables.

Loco Type	V Start CV02	V Mid CV06	V Max CV05
Switcher Concentrated low speed. Limited top speed	002	038	064
Road Switcher Prototypical top speed w/evenly distributed curve from 0 to top speed	002	048	098
Mainline Loco Quick increase to cruising speed then levels off to prototypical top speed.	002	128	154

Other LocoMotion® Features: Switching Speed, Normal Direction of Travel & Scalable Speed Stabilization (Back EMF) Features

Switching speed is controlled by CV54. The factory setting is 000 for OFF. To turn on the switching speed feature, program CV54 to a value of 001. When this feature is on, use F6 to activate and deactivate switching speed. With the feature on the throttle's target speed is effectively reduced by about 50% and the effects of accel and decel programmed into the decoder are reduced by 1/4. This is useful for yard switching operations.

Normal Direction of Travel is controlled by CV29. See your decoder manual or the Digitrax Toolbox App for additional information on the settings for CV29.

The intensity, or droop, of **Scalable Speed Stabilization** (Back EMF) is

controlled by CV57. The factory setting for this feature is 006 which is suitable for most locos. You can adjust this value in the range of 000 for OFF to 015 for the maximum effect. Consult your Digitrax Decoder Manual for info about CVs 55 & 56 and their effects on scaleable speed stabilization.

SuperSonic Silent Operation and Torque Compensation

The factory settings in the decoder provide silent, smooth operation of your locomotive under most conditions. For more information about these settings, please see the Digitrax Decoder Manual or our website.

Digitrax Transponding CV61

Digitrax Transponding is controlled by CV61. The initial factory set value is 000 for OFF. To turn on transponding, program CV61 to a value of 002. This allows you to use Digitrax transponding to keep track of your rolling stock. When transponding is enabled, the front light of the locomotive will flicker slightly to indicate transponding signal is being communicated.

Decoder Reset CV08

Decoder reset lets you reset all CV values to the initial factory settings. To reset all CV values, program CV08 to a value of 008. You also have the option of resetting all the CV values except the 28 speed step tables and CV60 selected sound scheme. To do this program CV08 to a value of 009.

Warranty & Repair

Digitrax gives a one year “*No Worries*” *Warranty* against manufacturing defects and accidental customer damage on all Digitrax command stations, boosters, throttles, decoders, power supplies and layout control devices.

That’s it! A simple, straightforward warranty with no tricky language!

Visit www.digitrax.com for complete warranty details and instructions for returning items for repair.

Please return warranty items directly to Digitrax - DO NOT return items to place of purchase.

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Go Beyond DCC With Digitrax® Complete Train Control

Main Station

Starter Sets
LocoNet®
Power Supplies



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Function Decoders
SoundFX™ Decoders

More Fun For Everyone

Add More Boosters,
Advanced & Simple Throttles,
Power Supplies,
Universal Panels,
IR and/or Radio
for more trains and operators.

Maintenance Of Way

Make your
layout more
fun & simpler
to operate!

Computer Controls

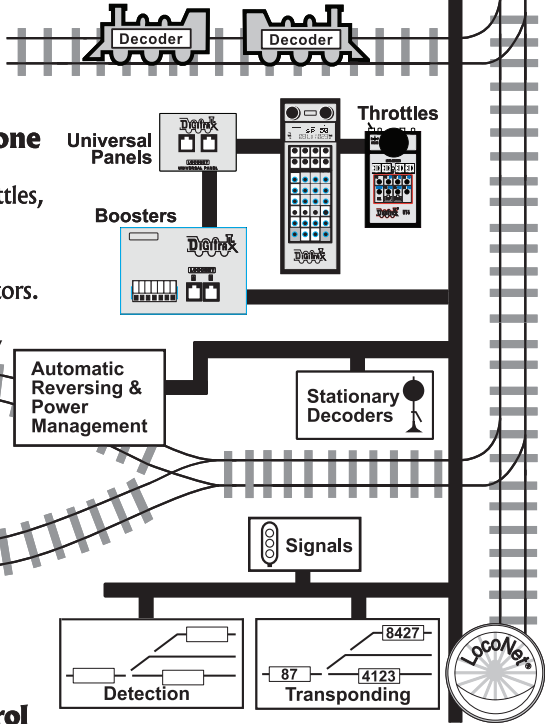
Computer Interface
Decoder Programmer
Sound Programmer

It All Adds Up To Complete Train Control

Your Digitrax LocoNet® Starter Set is just the beginning of an exciting trip! Pick the one that's right for you!



LocoNet®
The Digitrax
Difference



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Part 15, Class B
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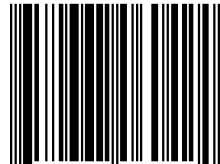
www.digitrax.com

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