



Complete Train Control  
Run Your Trains, Not Your Track!

## DN166I3

Fits New InterMountain N Scale SD40-2

released 2017

.329" x 2.603" x .065"

8.36mm x 66.11mm x 1.64mm

**N Scale**

Mobile Decoder

Board Replacement

1.5 Amp/2.0 Amps Peak

6 FX<sup>3</sup> Functions, 0.5 Amp

### Features:

- **FX<sup>3</sup> 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.
  - FX<sup>3</sup> & 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<sup>®</sup> 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 (NDOT)** 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 DN166I3 Mobile Decoder

1 Instruction Sheet

## Installation Information

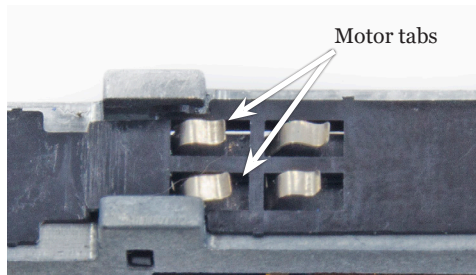
See the Digitrax Decoder Manual for complete decoder test procedures, installation instructions, programming and technical information. Digitrax manuals and instructions are updated periodically. Please visit [www.digitrax.com](http://www.digitrax.com) for the latest versions, technical updates and additional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

## Installation Instructions

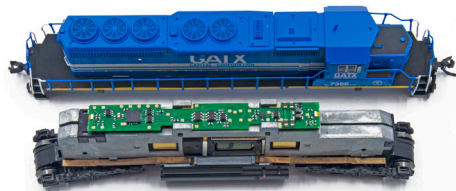
1. Carefully remove the locomotive's shell from the frame.
2. Once the shell is off, remove the existing light board by pressing down and sliding it forward from under the frame clips.
3. Before installing the decoder we recommend gently bending the motor tabs up to ensure they make contact with the bottom of the decoder. Be careful that the tabs do not make contact with the locomotive frame.
4. Install the decoder by pressing it down and sliding it back under the frame tabs.
5. Test your locomotive by placing it on the track and selecting address "03". Check for forward and reverse light and motor function. If there is no motor function double check your motor tabs are making contact.
6. Reinstall the locomotive shell.



**Figure 1:** Locomotive with shell and light board removed



**Figure 2:** Locomotive motor tabs



**Figure 3:** Locomotive with DN166I3 installed

## Customizing Your Decoder

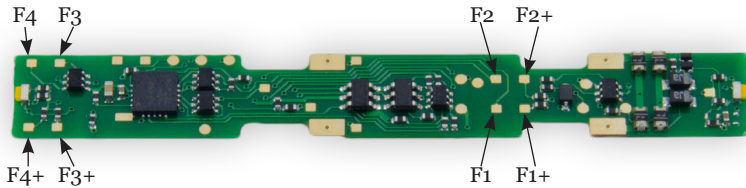
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Your Digitrax decoder is ready to run and will operate using address 03 with no additional programming. For a more prototypical railroading experience, your decoder can be customized for your specific locomotive by programming some of the Configuration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

## Function Outputs on the DN166I3

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The DN166I3 is set up at the factory to control six functions. The unit has two LEDs for directional lighting. Functions F1 , F2 , F3 and F4 and their corresponding + pad can be used by soldering a wire from the pad for the function you wish to use to the LED (or other function) you wish to control. The decoder is equipped with resistors for LED using 750 ohms for correct brightness.



## Decoder Reset CV08

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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. To do this program CV08 to a value of 009.

## Warranty & Repair

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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](http://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

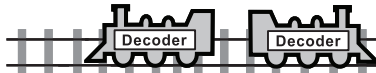


Your Digitrax LocoNet® Starter Set is just the beginning of an exciting trip! Pick the one that's right for you!



## Locomotive Shops

Mobile Decoders  
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.

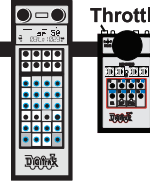
Universal Panels



Boosters



Throttles



## Maintenance Of Way

Make your layout more fun & simpler to operate!

Automatic Reversing & Power Management

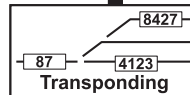
Stationary Decoders

## Computer Controls

Computer Interface  
Decoder Programmer  
Sound Programmer

Signals

## It All Adds Up To Complete Train Control



Made in the USA

Part 15, Class B  
RFI Compliant



2443 Transmitter Road  
Panama City, FL 32404

[www.digitrax.com](http://www.digitrax.com)

Need Support?

[helpdesk.digitrax.com](mailto:helpdesk.digitrax.com)

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