



DH123D

Fits Many HO
Locomotives

HO Scale

Mobile Decoder
Digitrax Easy Connect 9 Pin Harness
1.5 Amp/2 Amp Peak
2 FX³ Functions, 0.5 Amp

Features:

- **Digitrax LocoMotion[®] System**-Your locomotives look like the real thing. The Digitrax LocoMotion[®] System makes them run like the real thing, too!
 - Torque Compensation** for smooth as silk silent operation.
 - 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.
- **SuperSonic** motor drive for silent operation.
- **FX³ Function** outputs for prototypical lighting effects and on/off control:
 - Constant Brightness Lighting** with directional or independent control.
 - Realistic Effects** like Ditch lights, Mars lights, strobes, and many more.
 - FX³ & Standard Function Qualifiers** operate functions based on direction, F0 on or off, direction and F0, and whether loco is moving.
 - Function Remapping** for custom function setup.
 - Master Light Switch** turns off all lights & functions with one keystroke.
- **Digitrax Easy Connect 9 Pin Plug** design makes installation quick and easy.
- **Transponder ID Equipped** ready for transponding on your Layout
Compatible with digital surround sound systems
- **All Mode Programming**
- **Decoder Reset CV** with or without speed table reset.
- **Motor Isolation Protection** helps prevent damage to your decoder.
- **Basic, Advanced & UniVersal Consisting**
- **2 Digit and 4 Digit Addressing**
- **DCC Compatible**
- **FCC Part 15, Class B RFI compliant**

Parts List

1 DH123D Decoder

1 Instruction sheet

1 DHWH Digitrax Easy Connect 9 Pin Harness

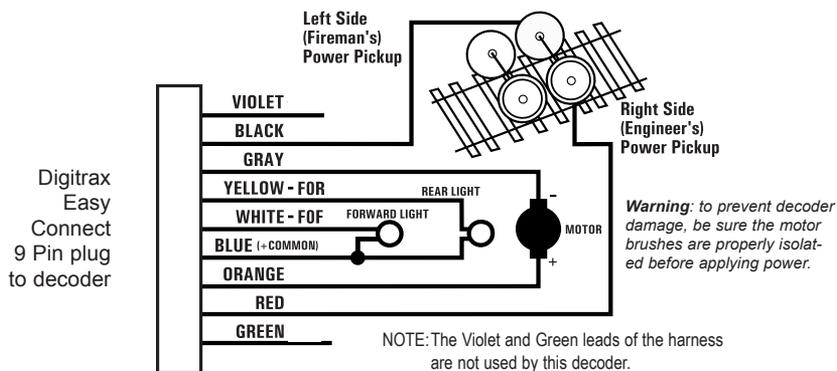
Installation Information

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 for the latest versions, technical updates and additional locomotive-specific installations.

Installation Instructions

1. Carefully remove the locomotive's shell from the frame. Notice the orientation of the shell to the frame so that you can reinstall correctly.
2. The DH123D uses the DHWH Digitrax Easy Connect 9 Pin Harness System which consists of a 6" harness that has a Digitrax 9-pin plug on one end and wires on the other. The harness allows the decoder to be easily installed in a variety of locomotives. The bare ends of the wires of the harness are wired to the motor connections, power pickup connections and the lights according to the following diagram. (*Figure 1*)
3. Plug the 9 Pin plug on the DHWH harness into the socket on the decoder. The plug is notched to fit easily into the socket in only one orientation.
4. Replace the loco shell. You are now ready to run your locomotive. The DH123D is factory programmed to address 03. You can easily customize the address and other features. See section "Customizing Your Decoder" that follows.

Figure 1. DH123D Wiring Diagram



Installation Notes:

1. Do not exceed the decoder's 500mA total function output rating.
2. We recommend that the Blue wire, also called +Common or Lamp Common, be connected as shown. If you wish to omit the Blue wire in your installation, consult the Digitrax Decoder Manual.
3. To use a function output with an inductive (coil) type load, see the Digitrax Decoder Manual for more information to avoid damage to the decoder.
4. See the Digitrax Decoder Manual for full details of wiring 12-16V lamps, 1.5V lamps, and LEDs. Lamps that draw more than 80 mA when running require a 22 ohm 1/4 watt resistor in series with the directional light function lead to protect the decoder.

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.

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 DT series throttle. See your Starter Set Manual for complete programming instructions.

- 1 Place the loco on the programming track. Go into Program Mode on your system. On DT400 press **PROG**. On DT300, DT100 & DT200 press **RUN/STOP & FN/F0**.
2. Choose AD2 for 2 digit addressing or AD4 for 4 digit addressing (DT300 & DT400). (Ad for DT100 & DT200, see your Starter Set manual for 4 digit instructions).
3. Use your throttle to choose the address you want to set up for the decoder.
4. Complete address programming. On DT400 press **ENTER**. On DT300, DT100 & DT200 press **SEL**.

Note: CV29 must also be programmed to enable 4 digit addressing, this is done automatically by the DT300 & DT400 but not on earlier throttles.

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 values except the 28 speed step tables. 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 products.

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.



Damaged decoders should be returned directly to Digitrax for repair.



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Go Beyond DCC With **Digitrax** Complete Train Control

Main Station

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



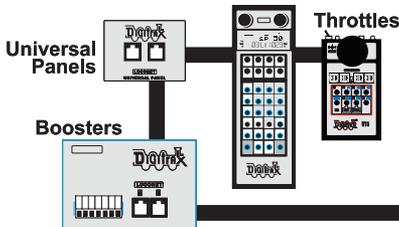
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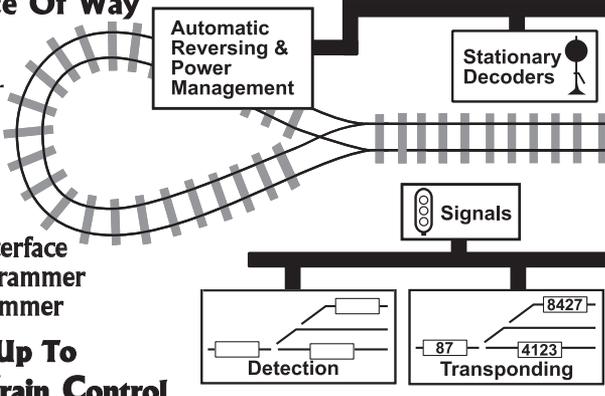
More Fun For Everyone

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
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It All Adds Up To Complete Train Control



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