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Digitrax Command Control

DN147A

1 Amp Plug N' Play DCC Mobile Decoder for ATLAS N-scale SD-50, SD-60 & SD-60M

1.0 Amp (1.5 Amp Peak) Mobile DCC Decoder

Easy, no solder installation

Supports Both Short (127) & Long (10,000) Address Modes

User Programmable Address, Acceleration, Deceleration,
Start-voltage, Mid-point voltage, Max voltage and more

Programmable from DCC compatible equipment without opening the loco

Smooth conversion to analog operation with functions operational

4 User Configurable, Independent Function Leads Rated at 200ma
Use These as Regular Function Outputs or as FX™ Outputs
To Generate Special Lighting Effects

Choose from Mars, Gyalite, Single or Double Strobe, Ditch Lights and more

Smooth locomotive speed control with user selectable
14, 28, or 128 forward & reverse speed step capabilities

User loadable speed tables for customized speed control
with 128 speed step resolution

Supports Basic, Advanced & UniVersal Consisting

User configurable loco direction of travel, you decide
which way is forward without rewiring the motor

Compatible with the DCC Standard

Made in USA

Complies with FCC Part 15, class B RFI requirements

Digitrax manuals & instructions are updated periodically.
Please visit www.digitrax.com for the latest version.





Decoder Installation Instructions. For DN147A In Atlas N-scale SD-60

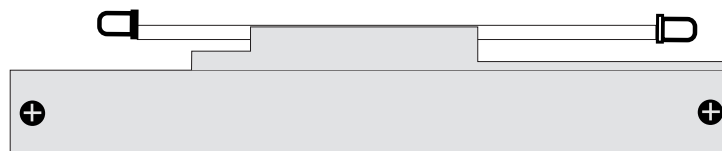
See Digitrax Decoder Users Manual for complete decoder test procedures, installation instructions & technical information. This manual is available at no charge from your dealer. If your dealer is out of these manuals, contact Digitrax (770) 441-7992, Fax (770) 441-0759, or e-mail sales@digitrax.com and we will gladly send you a copy.

This procedure will provide a quick installation that does not require complete disassembly of the loco and removal of trucks and gear train.

1. Remove locomotive shell and black plastic front lamp guard.
2. Back off the front & rear screws approx 2 1/2 turns. This will leave the screws engaged in the nuts to hold the frame halves together during installation. There is no need to completely remove these screws.
3. Remove the fuel tank cover leave the trucks in place.
4. Grasp the frame at the fuel tank area. Insert a small flat blade screwdriver at point A and twist gently to pry open the left side of the frame. This will disengage the PC board on the left side.
5. Insert small blade screwdriver at point B and gently pry the PC board away from the right side of the frame with a twisting motion. This will completely free the PC board for removal.
6. Lift out the PC board
7. Before inserting the DN147A, be sure that the two motor contacts below points A & B are properly aligned and are not touching each other or the frame.
8. Insert the DN147A in the frame by placing it on the right side of the frame in the orientation shown in the diagram.
9. Gently press the frame halves together and re-tighten the screws.
10. Replace the front lamp guard and the locomotive shell.

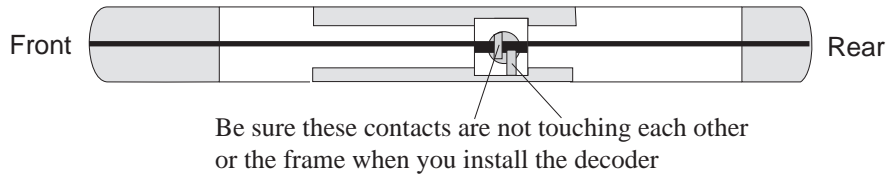
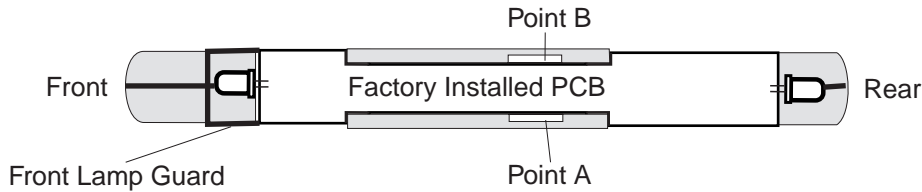
Now you are are ready to run with Digitrax Command Control!

Side View of SD-60 Frame



Caution: To avoid breaking your DN147A, do not bend or flex the decoder board during installation. Do not attempt to install the decoder by pushing it into the frame by the rear of the decoder. Boards broken due to bending or flexing will not be covered under warranty.

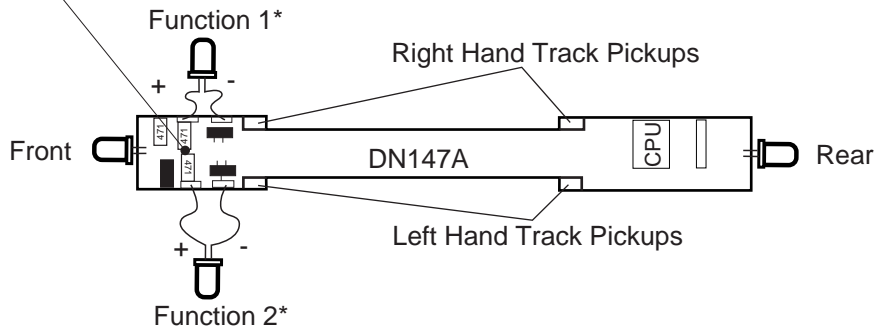
Top Down View of Original PCB Installation



**Top Down View of DN147A
With Functions 1 & 2 Hooked Up**

*Pads for Function 1 & Function 2 are set up to work with **LED's** with + & - connections made as indicated. The resistor needed is pre-installed on the decoder. If you wish to use **1.5V bulbs**, please replace the resistor on the decoder with a 560-680 ohm resistor.

+ Common
For 12V bulb operation
 Solder + wire here &
 - wire to pad indicated.



Functions on the DN147A

DN147A comes equipped with two LED's set up as F0 forward and F0 reverse, this means that when you install the decoder your headlights will be directional.

If you wish to control these lights separately from your throttle, then you can program F0 reverse to run on F4 as an independent non-directional function.

Function 1 & Function 2 are also available on the decoder. If you wish to use these functions you will need to solder wires to the pads indicated and then run the wires to the lights or other functions you wish to control. The decoder is set up for use with an LED (470 ohm resistors are already installed). If you wish to use 12V lamps, by pass the resistor on the decoder by soldering the + & - wires to the pads indicated in the diagram. If you are using 1.5V lamps you will need to replace the resistor on the decoder with a 560-680 ohm resistor and then install the wires as shown. For more information about lamp wiring, please check the decoder manual section on lamp wiring especially if you are using 1.5V lamps since current setting resistors are needed for these applications.

All four functions can be set up with Digitrax Real FXTM functions. See your Digitrax Decoder Manual for complete instructions for setting up these special lighting effects.

Commonly Used Configuration Variables			Commonly Used Configuration Variables		
CV#	Used For	Default	CV#	Used For	Value
CV01	2-digit address	03	CV61	Directional Lights or	0
CV02	Start Voltage	0		White=F0 & Yellow=F4.	1
CV03	Acceleration Rate	0	CV49-54	FXTM Effect Set ups	See Manual
CV04	Deceleration Rate	0	CV65-95	Loadable Speed	See Manual
CV05	Maximum Voltage	0		Tables	
CV06	Mid Point Voltage	0			
CV29	Configuration Register	06=Advanced Mode, Analog Conversion On			
	Examples:	04=Standard Mode (14 Speed Steps), Analog Conversion On			
		07=Reversed Direction, Advanced Mode, Analog Conversion On			
		16=Enable Loadable Speed Table, Analog Conversion On			

See your decoder manual contains a complete list of CV's and what they are used for.

Damaged decoders should be returned directly to Digitrax for repair. The standard repair charge is \$17. NOTE: DN146A decoders with circuit boards that are broken apart are not covered by our warranty. Please follow installation instructions carefully to avoid breaking the PCB.

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