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**Digitrax Command Control**

## **DN122K2**

### **1 Amp Digital Command Control Mobile Decoder for Kato N-scale RDC**

1.0 Amp Mobile DCC Decoder

Supports both short (127) and long (10,000) addresses

User programmable address, acceleration, deceleration,  
start, midpoint & max voltage & more

Programmable from DCC compatible equipment without opening the loco

Automatic conversion to analog operation with functions operational

2 user configurable, independent function leads rated at 125ma are pre-wired  
to lamp boards to fit the RDC. The lamps are pre-set for prototypical  
RDC. These function leads can also be used as standard leads,  
directional lights or as user configurable strobes (CS)

Smooth locomotive speed control, from zero to full throttle,  
with user selectable 14, 28, or 128 forward & reverse speed step capabilities

User loadable speed tables for customized speed control  
& loco speed matching with 128 speed step resolution

Supports Basic, UniVersal & Advanced Consisting

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

Scalable Speed Stabilization for precision low speed operation

Integrated Digitrax Transponder

Interoperable with other DCC systems

**Made in USA**

Digitrax manuals & instructions are updated periodically.

Please visit [www.digitrax.com](http://www.digitrax.com) for the latest version.



## Decoder Installation Instructions. For DN122K2 Kato N-scale RDC

See the Digitrax Decoder Users Manual for complete decoder operation instructions. This manual is available on line at [www.digitrax.com](http://www.digitrax.com) or from Digitrax (770) 441-7992.

*DN122K2 cannot be tested prior to installation in the loco.*

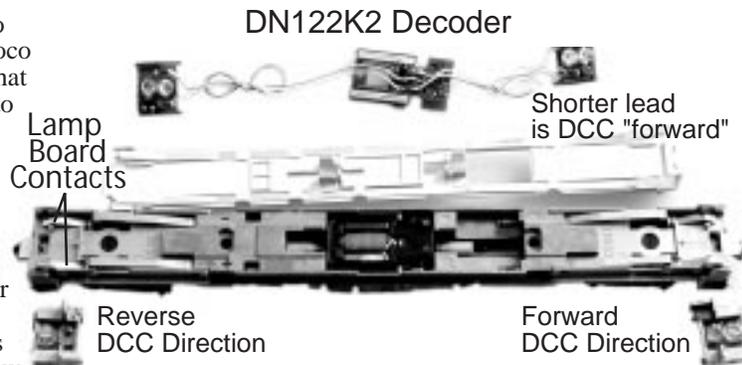
1. Carefully remove the shell from the locomotive. Carefully remove the plastic casting from the bottom side of the frame using a flat bladed screwdriver to pry it loose.



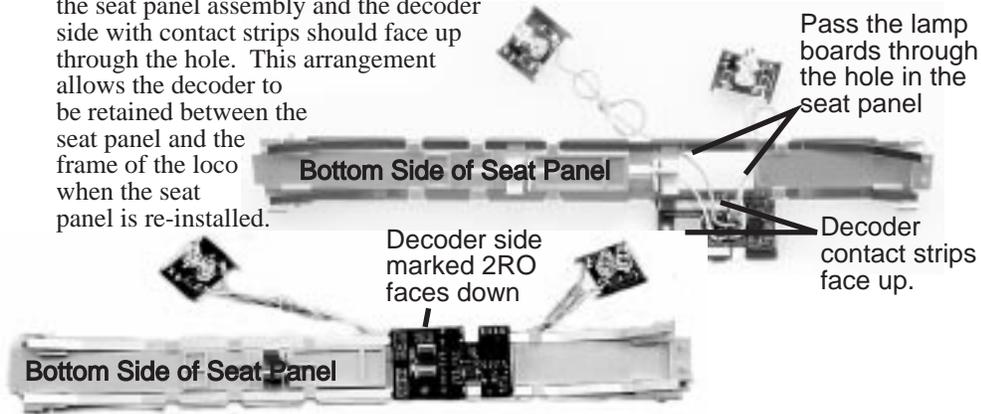
2. Gently remove the white clip that holds the seat panel in place. Remove the seat panel by pushing up gently from the bottom of the frame. The seat panel has clips underneath that are very easy to break so be very careful.

3. Take extra care to notice how the loco comes apart so that you will be able to re-assemble it.

4. Remove the lamp boards at each end of the locomotive. When the decoder is installed as shown here lights will operate yellow in the forward end and red in the rear end when the loco is running forward. The lights will automatically change when the loco is reversed.

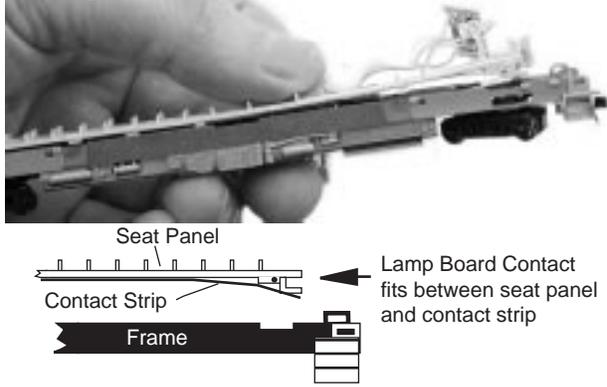


5. Remove the white plastic plug from the frame to make room for the decoder. Pass the lamp boards on the decoder through the hole in the seat panel positioning the decoder as shown. The decoder side marked "2RO" should be facing away from the seat panel assembly and the decoder side with contact strips should face up through the hole. This arrangement allows the decoder to be retained between the seat panel and the frame of the loco when the seat panel is re-installed.

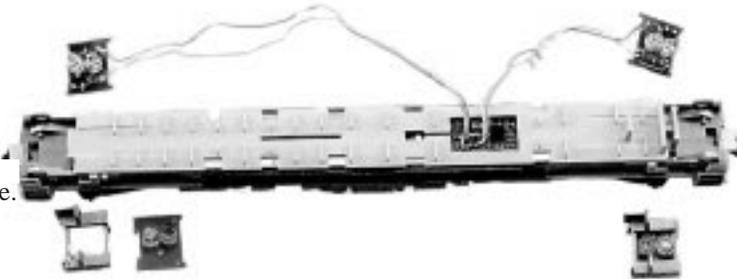


- Carefully re-install the seat panel making sure that all brass contacts are in their original position. The lamp board contacts fit between the seat panel and the contact strip. Match the holes in the lamp board contacts to the pins on the frame for the correct fit. If the seat panel was damaged during installation and you are not able to secure it back into the frame, you can use tape to hold it securely in place. Proper decoder operation depends on the seat panel assembly holding the decoder against the brass contacts.

Engage seat panel at both ends of loco, press down gently in the center to clip into place.



- Remove the lamp boards from the plastic clips as shown here.



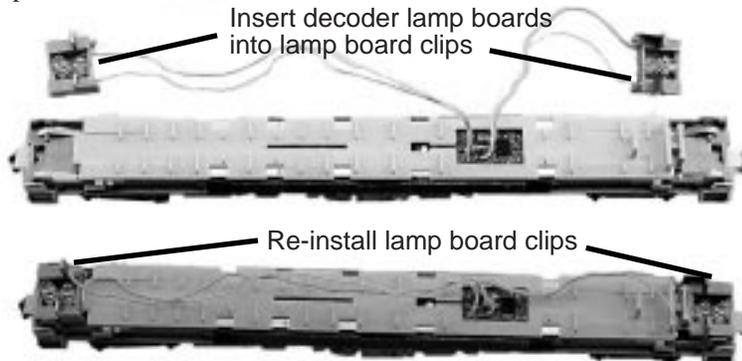
- Modify the lamp board clips as shown here by cutting notches. You can do this with small diagonal cutters or with a hobby knife.

Unmodified lamp board clip (no notches)



Modified lamp board clip with notches cut so that wires can pass through the clip.

- Insert the decoder's lamp boards into the modified plastic clips and re-insert the clips into the locomotive.



- Test decoder for correct operation. Once test is completed, replace loco shell.

# Digitrax<sup>®</sup> DN122K2 for Kato N-scale RDC

## RDC Prototypical Lighting

The DN122K2 comes from the factory pre-wired with lamp boards that simulate prototypical lighting in the model. The yellow lamp will be lit in the direction of travel and the red lamp in the opposite end will also be lit. When the direction of travel is changed, the lamps will change automatically.

## Scaleable Speed Stabilization

The DN122K2 comes from the factory with Scaleable Speed Stabilization disabled. To activate Scaleable Speed Stabilization, program CV57 to a value of 06.

This will give good performance with most brands of locomotives.

If the locomotive surges while using Scaleable Speed Stabilization, try programming CV56 to a lower CV value.

Adjust the CV values programmed into CVs 55, 56, & 57 to set up the motor performance characteristics you want for each individual locomotive.

## Digitrax Transponding

The DN122K2 comes from the factory with Digitrax Transponding disabled.

To activate transponding program CV61 to a value of 02.

## See your Digitrax Decoder Manual for complete information on all CVs and their values

Commonly Used Configuration Variables			Commonly Used Configuration Variables		
CV#	Used For	Default (hex/dec)	CV#	Used For	Value (hex)
CV01	2-digit address	x03/003	CV61	Directional Lights	?0
CV02	Start voltage	x00/000		White=F0 & Yellow=F4.	?1
CV03	Acceleration rate	x00/000		Disable Speed Stab w/F5 ON	1?
CV04	Deceleration rate	x00/000		Disable Vstart,Vmid,Vmax in 128 step mode	2?
CV05	Maximum voltage	x00/000			
CV06	Mid Point voltage	x00/000			
	<b>Scaleable Speed Stab.</b>		CV49-50	Configurable Strobes (CS) (W & Y)Set ups (?1 - ?6)	See Manual
CV55	Static Adjustment	x80/128		1? = Rev	
CV56	Dynamic Adj.	x30/048		2? = F0 Qualified	
CV57	Droop	x00/000 (x00-xFF)		4? = On in either direction	
	0?=Std	(000-255)	CV65-95	Loadable Speed Tables	See Manual
	?0=Adv. Consist				
CV29	Configuration Register	x06/006=Advanced Mode, Analog Conversion On			
	Examples:	x04/004=Standard Mode (14 Speed Steps), Analog Conversion On			
		x07/007=Reversed Direction, Advanced Mode, Analog Conversion On			
		x16/022=Enable Loadable Speed Table, Analog Conversion On			

**Values are shown in Hexadecimal & Decimal format.**  
DT100 & DT200 use hex & DT300 & DT400 use decimal or hex

Damaged decoders should be returned directly to Digitrax for repair.  
The standard repair charge is \$17.

*Digitrax, Inc. is not responsible for unintentional errors or omissions in this document.*