

Warranty

This decoder is fully factory tested and warranted against manufacturing defects for a period of 1 year. As the circumstances under which this decoder is installed can not be controlled, failure of the decoder due to installation problems can not be warranted. This includes misuse, miswiring, operation under loads beyond the design range of the decoder or short circuits in the locomotive manufacturer's factory wiring. If the decoder fails for non-warranted reasons NCE will replace the decoder, no questions asked, for \$10 US plus \$2 shipping. For warranty or non-warranty replacement send the decoder (an any payment, if required) to:

NCE
Attn: Service Dept.
82 Main Street
Webster, New York 14580



05240115



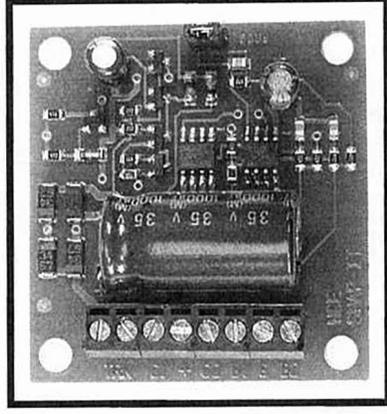
This book, schematics and artwork copyright 2019, NCE Corp., Webster, NY 14580

Warning: This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

NCE

The Power of DCC

Snap-It



\$19.95

For use with most twin coil switch machines such as: Atlas, Lifelike, Peco, Bachmann, NJ, Rix, Kemtron and others
Dimensions: 1.80" x 1.50" (46 x 38 mm)

This is an accessory (switch machine) decoder

Now with a voltage doubler for more power
Control for one twin coil switch machine
Capacitive discharge for very low current draw of track power
Snap-It supports the full range of DCC accessory addresses (1-2044)
Easy address programming, no need to connect it to programming track
Simple hook up, 2 wires to the track, 3 wires to switch machine
Includes optional connections for "local" control push buttons



05240115



Programmable CVs in the Snap-It decoder:

"Toggle" the outputs using only 1 pushbutton (CV548) Setting CV 548 to a value of 1 uses pushbutton 1 to "toggle" the switch machine output. Each press of button 1 will alternate the switch position. Pushbutton 2 will be disabled when toggle mode is enabled Set CV548 = 1 enables the toggle option or CV548 = 0 disables it.

Capacitor recharge time (CV550): You can use the PROG ACCESSORIES feature of your NCE Powerhouse Pro or Power Cab. Push "PROG" followed by "7" to access this feature. Set CV550 to ten times the number of seconds you wish to allow for the capacitors to recharge after throwing a switch machine. You will not be able to throw the switch again until the recharge time has elapsed. A Snap-It usually will recharge in .8 seconds with normal HO voltage settings. Use the lowest setting that gives satisfactory operation. The factory setting is 15 for 1.5 seconds to allow for the low voltages used in small scales.

"On time" of the output (CV552): CV552 controls how long the output of the Snap-It is enabled while throwing the switch. Set CV552 to the number of milliseconds (1/1000 second) the output is to be activated. The range is 1-255. 125 (125 milliseconds or 1/8 second) is factory default. If the switch throws then "bounces back" to its original position lengthen the on time to keep the points in the correct position until the capacitor of the Snap-It discharges.

Legacy OPS programming disable (CV554):

There are two methods for programming accessory decoders "on the main" (OPS mode programming). Legacy mode, in use since 1995, is being phased out by the NMRA and replaced by the current, newer method. The Snap-It supports both kinds of programming on the main. You can disable Legacy mode by setting CV554 to a value of 1. If you disable legacy mode and find you can no longer program the decoder with your system, your system only supports legacy mode. You can re-enable Legacy mode by resetting the Snap-It back to factory defaults as described below.

Pushbutton lockout (CV556):

On some layouts it may be desirable to disable operation of the local control pushbuttons. Setting CV556 to a value of 1 prevents operation of the decoder by the buttons. Setting CV556 to 0 enables operation of these buttons. You can disable or enable ALL decoders on the layout at the same time by using the accessory decoder broadcast address of 2044 when programming CV556.

Installation Notes:

This decoder is designed to control one "twin coil" type switch machine. The output is driven by a voltage doubled capacitive discharge supply. A capacitive discharge supply draws a small amount of current over a period of time and stores this energy in capacitors. When it comes time to throw a switch the stored energy in the capacitor is released all at once to the switch machine. This provides the large amount of power needed by twin coil machines without drawing a large amount of power from the track.

The Snap-It draws the most current when the layout power is first turned on to charge the capacitors. It will never draw more than 60mA (.060 Amps) during this time. After the capacitors are charged the current drops to about 2mA (.002 Amp). This means that 30 Snap-Its will draw about 2 Amps when the layout is first turned on, then the current will drop to about 60mA which is about the amount of current drawn by 1 locomotive headlight. Most DCC systems can easily supply twice this much power.

Wiring:

See the diagram on page 3 for the wiring particulars. The Snap-It only needs two wires to the track and three wires to the switch machine. Make sure to keep the wires to the switch machine short to prevent voltage drop while the switch is throwing. We suggest 22 AWG wires to the switch machine for runs of less than 3 feet. If you need longer runs 18 AWG is more appropriate. Wire from the track to the Snap-It can be small (22, 24 or 26 AWG are OK) as there is little current draw from the track.

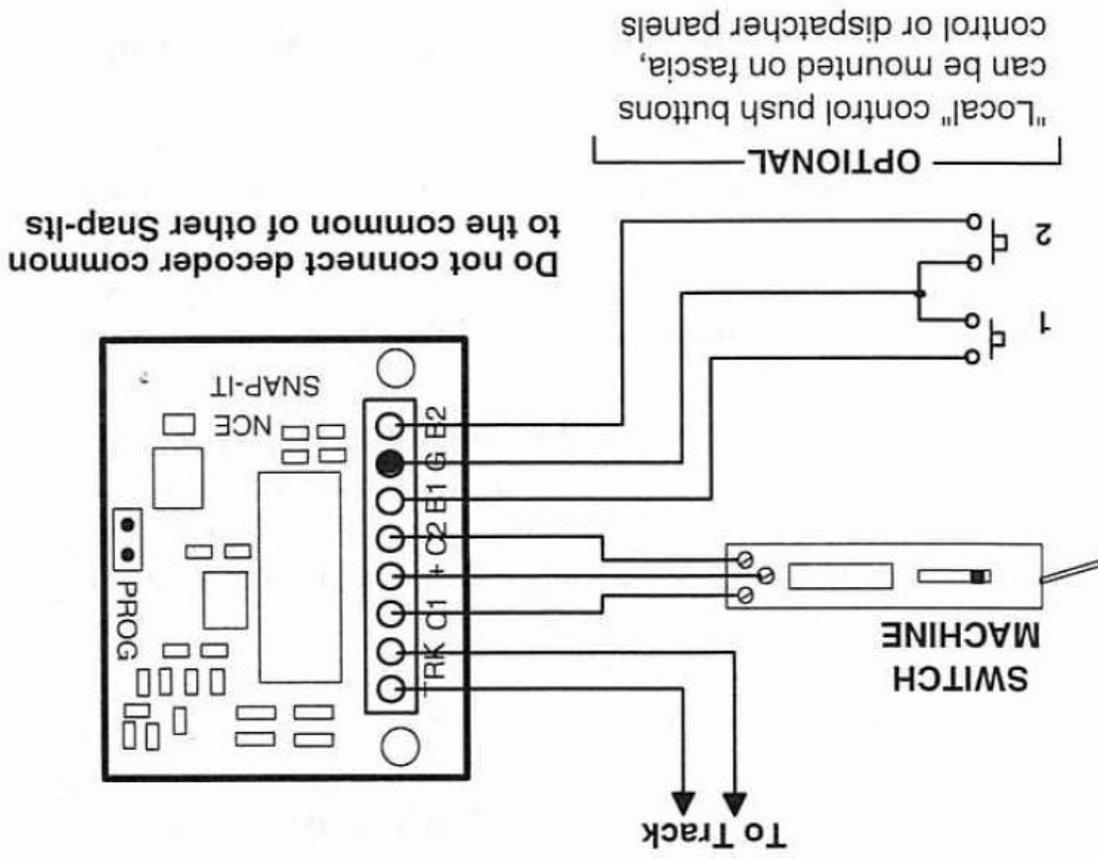
Programming the different options and features of the Snap-it:

NOTE: The Snap-It comes already set to the most popular CV settings. Entry level DCC systems (Lenz, MAC, etc.) usually do not have the "Program Accessories on the Main" (OPS mode programming of accessories) feature necessary for programming accessory decoder CVs while wired into the layout. You will not be able to change CVs if you have one of these systems. Your DCC system manufacturer may have an upgrade available to allow your system to program accessories.

Procedure for programming accessory CVs with a Power Pro or Power Cab system:

- 1) Press the "Prog/Esc" button on your cab followed by the "7" key to go to the Program Accessories menu or you can press Prog/Esc 7 times.
- 2) Press "Enter" to access the menu
- 3) Enter the address of the accessory you wish to program followed by "Enter"
- 4) Type in the CV number you want to program followed by "Enter"
- 5) Put in the value for the CV followed by "Enter"
- 6) Press "Prog/Esc" to exit the programming menu.

SNAP-IT wiring diagram

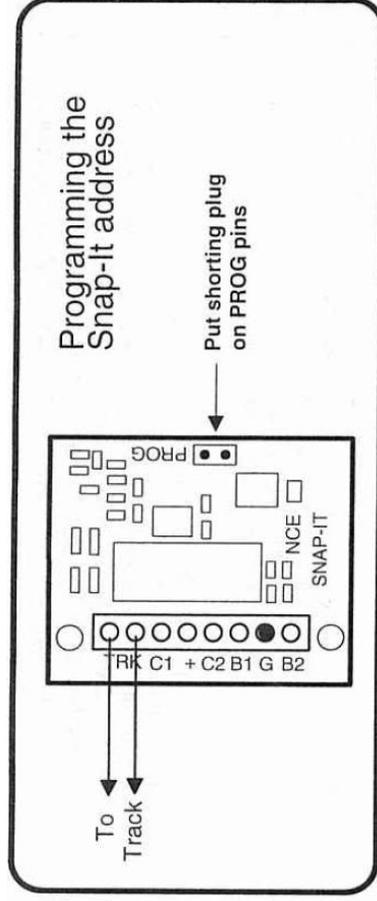


Optional push buttons:

Push buttons may be added for local control of the switches. Use momentary contact switches for local control. Do not use a toggle switch (unless it is momentary), its continuous connection will prevent DCC control of the turnout. You can have multiple buttons wired in parallel for operation of the machine from more than one control panel. You can also program the Snap-It to "loggle" the outputs with each push of the local control pushbuttons.

Programming information

The Switch-It cannot be programmed on your programming track. It is always programmed while connected to the mainline track. This decoder address can be programmed by all systems that support accessory control using the procedure below.



To program the Snap-It to a new DCC accessory address:

- 1) Connect DCC track power to the Snap-It TRK connections.
- 2) Turn your DCC system ON.
- 3) Place the supplied shorting plug on the PROG connector as shown in the diagram.
- 4) Use your DCC system to throw the accessory (switch) number you want the Snap-It to use as its new address.

To throw a switch using the **NCE** system:

Press **"SEL ACCY"**

Type in the accessory number you want followed by **"ENTER"** Push **"I"** to throw the switch.

To throw a switch using a **Digitrax** system:

Press **"SWCH"**

Type in the accessory number you want Push **"OPTN"** to throw the switch.

To throw a switch using a **Lenz** system:

Press **"P"**

Press **"5"**

Type in the accessory number followed by **"ENTER"** Push **"+"**

To throw a switch using the **MRC** system:

Press **"SEL ACCY"**

Type in the accessory number followed by **"ENTER"** Push **"I"** to throw the switch.

5) Remove the shorting jumper.

Do not leave the jumper in place after programming or you won't be able to control the switch.