



NCE

# *The Power of DCC*

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V6.04

## **POWER PRO**

**COMPLETE 5 AMP DCC SYSTEM  
COMMAND STATION & BOOSTER  
CAB  
CABLES/CONNECTORS**



The Power Pro is the most user friendly DCC system on the market. Our Pro Cab™ walks you through every operation with clearly labeled buttons and well thought out menu prompts in plain English on its backlit LCD display. The most often performed operations usually are just a single key press.

The Power Pro is never obsolete. Plug in chips allow you to update the system when they are available. No need to return the unit to the factory.

The Power Pro starter set has everything you need to get DCC equipped trains up and running (except power transformer, see P515 on next page). It includes the user friendly Pro Cab™ and Command Station with integral Five Amp power unit. The Quick Start Guide in our system reference manual will have you up and running in less than 20 minutes.

The PH-Pro is perfect for the smallest home layout to the largest multi-room club empire.

## **UTP**

**FASCIA PANEL**



Power Pro and Power Pro-R Systems now include a UTP unit that allows use of additional optional cabs.

## POWER PRO-R

The Power Pro-R starter set is also available as a radio equipped system. It is designed to eliminate the need for a tethered throttle. All features of the Pro Cab are usable while in radio mode. (Requires four AAA cell batteries) Additional radio Pro Cabs™ and Cab 04s can also be used. Both tethered and radio cabs can be used simultaneously.



### Power Pro Command Station Specifications:

Cabs: 63 maximum  
Number of simultaneous trains: 250  
Number of consists: 127 of unlimited number of locomotives each  
Range of locomotive addresses: 0-9999  
Range of consist addresses: 1-127  
Range of accessory addresses: 1-2044  
Computer interface: Included

### Five Amp Power Station Specifications:

Continuous Output Current: 5.14 Amps  
Power requirements: 15VAC, 5 Amps (NCE P515 Power Supply)  
Short circuit handling: Automatic shutdown after 500mS of short circuit  
Output voltage: Factory set to 14.25 Volts, adjustable 9.5 to 18 Volts

### Pro Cab Specifications:

Speed control: Thumbwheel operated digital encoder with adjustable ballistic tracking rate. Plus pushbutton speed control with adjustable auto-repeat rate (4 pulses per second to one pulse per 4 seconds).  
Backlit LCD Display: 2 line by 16 characters/line. Two extra display lines available for display of additional information when used with computer dispatcher programs.



## POWER SUPPLY

P515

Five Amp Power Transformer used with the Power Pro Command Station systems.

## POWER PRO 10

COMPLETE 10 AMP DCC STARTER  
SYSTEM

COMMAND STATION & CAB  
SEPARATE 10 AMP BOOSTER



The PH-10 has all the same features as our Power Pro 5 Amp system described previously, but with a whopping 10 Amps of power for O-Scale and Large Scale (G) layouts. Requires an additional 18V, 10-12 Amp power supply.

Includes: CS01 command station, PB-110 Power station and Pro Cab.  
Not recommended for smaller scales.

## POWER PRO 10-R

The Power Pro 10-R is available as a radio equipped system. It is designed to eliminate the need for a tethered throttle. **All** features of the cab are usable while in radio mode. Requires four AAA cell batteries. Additional radio Pro Cabs™ and Cab 04s can also be used. Both tethered and radio cabs can be used simultaneously.



### **Power Pro CS02 Command Station Specifications:**

Cabs: 63 maximum  
Number of simultaneous trains: 250  
Number of consists: 127 of unlimited number of locomotives each  
Range of locomotive addresses: 0-9999  
Range of consist addresses: 1-127  
Range of accessory addresses: 1-2044  
Computer interface: Included

### **PB110 Ten Amp Power Station Specifications:**

Continuous Output Current: 12 Amps  
Power requirements: 18VAC, 12 Amps (NCE P515 Power Supply)  
Short Circuit handling: Automatic shutdown after 500mS of short circuit  
Output voltage: Factory set to 16.1 Volts, adjustable 12 to 22.5 Volts

### **Pro Cab Specifications:**

Speed control: Thumbwheel operated digital encoder with adjustable ballistic tracking rate. Plus pushbutton speed control with adjustable auto-repeat rate (4 pulses per second to one pulse per 4 seconds).  
Backlit LCD Display: 2 Line by 16 characters/line. Two extra display lines available for display of additional information when used with computer dispatcher programs.



### **PB-105 FIVE AMP POWER BOOSTER**

If you need more power than the Power Pro alone can supply, the PB-105 supplies 5 Amps of continuous voltage stabilized power to your track. Enough to handle very large lashups of locomotives and still have reserve capacity.

Recommended for Z through S scales. Normally set to provide the NMRA recommended 14.5 Volts, the voltage may also be adjusted over a range of 9.5 to 18 Volts for use with different scales. Recommended transformer 12.6 to 16V at 5 Amps or more (NCE P515).

Unlike other brands, **none** of our power boosters need cooling fans.



### **PB-110 TEN AMP POWER BOOSTER**

10 Amp Power Booster with Automatic-Reverse-Loop capability. Recommended for O, G and other large scales. The PB-110 provides true 10 Amps of continuous voltage stabilized power to your track. Enough to handle MUs of the largest multiple motored locomotives and still have reserve capacity. Normal output voltage is 16 Volts, but the voltage may also be adjusted over a range of 11 to 22 Volts for use with different scales. Unique “GFI” type sensing in auto-reverse mode for steam locomotive compatibility. Recommended transformer 18-22V at 10-12 Amps.

### **UTP**



### **UTP-DIN**



### **UTP CAB BUS PANEL**

This is our lowest cost, easiest to use cab bus panel. All four RJ-12 jacks are wired in parallel for easy plug and play use. This board also provides a convenient point to add additional 12 Volt cab bus power, just plug in a 12 Volt “wall wart” power supply. Shown with the included 1/16” thick aluminum, black anodized fascia plate.

### **UTP-DIN BUS PANEL**

Recommended for large club installations. This panel combines low cost with rugged DIN jacks for long life. RJ-12 jacks provided on back for easy plug and play installation. Solder holes also provided for high reliability hard wired installation. Includes a 1/16” thick aluminum, black anodized fascia plate.

## PRO CAB

THE HOBBY'S PREMIER  
HAND-HELD THROTTLE

ERGONOMICALLY DESIGNED

EASY TO USE



### PRO CAB ADDITIONAL CABS

Our deluxe cab provides user-friendly access to advanced system features. Uncomplicated menus on the easy to read, backlit LCD display guides you through the most advanced operations with a minimum of fuss.

This cab was ergonomically designed to correctly fit *both* left and right-handed operators. The speed controls are placed directly where your thumb naturally rests comfortably even after long operating sessions. We provide both a thumbwheel knob and automatically repeating pushbuttons for speed control. Control of single or multiple turnouts, animated accessories and lights is a snap. It's easy to setup multiple unit lashups and assign them to other cabs or control them yourself. A RECALL button allows control of 1 to 6 trains per cab.

Use this cab to access the programming track or the advanced “program on the mainline” capabilities of the NCE Power Pro. We also provide a dual function EMERGENCY STOP button. Press it once and only the loco you are controlling stops. Press it three times and kill power to the whole layout. The Pro Cab is sound system friendly, it supports all DCC compatible sound units with one button operation.

Our **Pro Cab-R** is available radio equipped.



**CAB  
04E**



**CAB  
05**



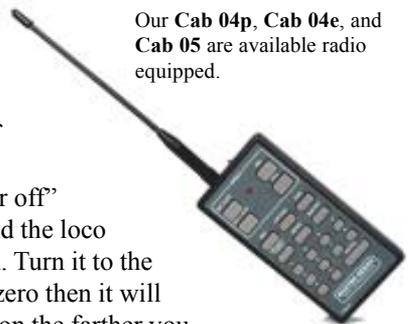
### **ADDITIONAL ENGINEER/OPERATOR CABS**

The **Cab04** and **Cab05** are our most popular engineer cabs. Both cabs feature easy selection of locos/consists, single button operation of all decoder functions, momentary HORN button. Selection and control of individual or entire routes through turnouts (via the MACRO key), and our unique OPTION button that can be programmed to act as any button you wish, even those found on a much larger cab.

The **Cab05** uses pushbuttons for loco speed control. The buttons have an adjustable automatic repeat rate from once every 4 seconds to as fast as 4 times per second. Just hold the button down and the speed changes smoothly from one speed step to the next.

The **Cab04** uses a more conventional knob for speed control and is available with either a potentiometer (**Cab04p**) or digital encoder (**Cab04e**). Both varieties of the Cab04 can be set to YARD mode. Yard mode makes the speed knob act as a “center off” speed control. Turn the knob to the right and the loco will increase speed in the forward direction. Turn it to the left and speed will decrease until it gets to zero then it will start to increase speed in the reverse direction the farther you turn it to the left.

Our **Cab 04p**, **Cab 04e**, and **Cab 05** are available radio equipped.



**CAB  
02R**



**CAB  
03R**



## **BASIC OPERATOR'S CABS**

### **THE INDUSTRY'S LOWEST COST WIRELESS CAB**

Our **Cab 02r** and **Cab 03r** are cost effective versions of the 04 and 05, with wireless radio *BUILT IN*. The **Cab 02r** uses a conventional knob for speed control. The **Cab 03r** uses pushbuttons for acceleration and deceleration. Both cabs feature forward and reverse, headlight, horn, bell, and the powerful Option key that can be programmed to any function.

Set up or program the cabs and their characteristics using the accessories included plus your Pro Cab and NCE DCC system.

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N Scale FT-A unit from Intermountain with our NIMFT-A plug and play decoder.



### **A WORD ABOUT OUR DECODERS...**

We manufacture *only* full featured Silent Running™, EPF (extended packet format) decoders with extended effects generators on *every* function output. Unlike other DCC manufacturers that make stripped down low cost models of their higher priced decoders, *all* of our decoders include Torque Compensation, 28/128 speed modes, support for all forms of programming, advanced consisting, customizable speed tables (they work in 128 speed mode too!), adjustable start voltage, acceleration and deceleration.

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### **HO/S SIZED WIRE-IN AND PLUG-IN DECODERS**

#### **D13SR**

1.3 Amp (2 Amp peak) rating and three function outputs. Size: 1.63" x 0.63" x 0.120" (very thin).

#### **D13SRP**

1.3 Amp (2 Amp peak) rating, three function outputs, and eight-pin plug. Size: 1.63" x 0.63" x 0.12".

#### **D13SRJ**

1.3 Amp (2 Amp peak) rating, four function outputs, and nine-pin plug. Size: 1.68" x 0.63" x 0.25".

#### **D15SR**

This HO sized decoder with nine-pin connectorized wiring harness provides easy installation. With 1.3 Amp (2 Amp peak) motor drive it also has six function outputs. Size: 1.00" x 0.63" x 0.25".

## D15SRP

This HO sized decoder with connectorized wiring harness provides easy installation. With 1.3 Amp (2 Amp peak) motor drive it also has six function outputs. Terminates in an eight-pin plug. Size: 1.00" x 0.63" x 0.25".

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## HO SIZED PLUG AND PLAY DECODERS

### D14SRP

This HO sized decoder is designed for the Kato RS2/RSC2 and C44-9, Stewart VO-1000, Intermountain F7, Atlas U23B and U30B locomotives in HO Scale. The easiest installation possible, just plug it in! 1.3 Amp rating (2 Amp peak). Six function outputs and Silent Running™ too! Size: 0.80" x 0.65" x 0.110".

### DA-SR

Easy installation in many locomotives with Kato drive mechanisms such as Atlas/Stewart/Kato and Proto 1000. This decoder has five function outputs. Size: 2.85" x 0.65" x 0.125" (thin).

### P2K-SR

This HO sized decoder designed for the LifeLike Proto 2000 GP7/9/30 and SD60 locomotives in HO Scale. The easiest installation possible, just plug it in! Note: follow LifeLike's directions about using the correct light bulbs for DCC. 1.3 Amp (2 Amp peak). Four function outputs, smooth and quiet. Size: 1.8" x 0.65" x 0.31".

### KRS-SR

This HO sized decoder is designed for the Kato RS2/RSC2 and C44-9, Stewart VO-1000, Intermountain F7, Atlas U23B and U30B locomotives in HO Scale. The easiest installation possible, just plug it in! 1.3 Amp rating, (2 Amp peak). Four function outputs. Size: 1.8" x 0.65" x 0.31".

### SW9-SR

This decoder is made to fit the LifeLike HO Scale SW9/SW1200 switcher. Easy installation exactly replaces the existing PC board in the locomotive. No need to remove the weight. The decoder provides a means to install a white LED or 12 Volt bulb as headlight. Because the 1.5 Volt rear light in this locomotive is difficult to replace we provide a dropping resistor right on the decoder. Three function outputs. Size: 0.100" thick - fits P2K SW8/SW9/SW1200.

## ATLS4

This decoder is specifically designed for Atlas/Roco Alco S1, S2, S3 and S4 switchers. The decoder has 2 function outputs with built-in Golden Glow LEDs for head and rear lights. We also include a motor isolating kit to prevent decoder damage.

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## O AND LARGE SCALE DECODERS

### D408SR

This is a true 4 Amp (12 Amp peak) self contained decoder for S, O and large scale with connectorized wire harnesses. Functions supported: Headlight(s) plus seven additional function outputs. All function outputs have extended effects generators capable of producing Mars lights, Ditch lights, Strobes, Beacons, etc. for each function output if desired. Size: 2.35" x 1.2" x 0.35".

### Atlas Harness - Plug and Play Wiring Harness

Converts D408SR decoder to a plug and play decoder for most Atlas and Weaver locomotives.

### D808 High Current Decoder

This Silent Running™ decoder is specifically designed for high stall current large scale locomotives such as those produced by USA Trains and Charles Ro. The decoder has 8 function outputs each capable of ½ Amp and a stall rating of 30 Amps with 8 Amps average running current. It measures 3.7" x 1.4" x 0.6".

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## N SIZED DECODERS

### Introducing the new N14SR and N14IP

Available with a wire harness (N14SR), or as an eight pin plug in (N14IP). Four function outputs. 1 Amp rating, 1.25 Amp peak. Measures 1.15" x 0.4" x 0.12".





**N12SR**

1 Amp (1.25 Amp peak) rating and two function outputs. Size: 0.34" x 0.70" x 0.120".

**N12SRP**

1 Amp (1.25 Amp peak) rating, two function outputs, and eight-pin plug. Size: 0.34" x 0.70" x 0.120".

**N12A0e**

Plug and Play decoder for the N scale Intermountain Tunnel Motor. 1 Amp (1.25 peak) rating. Golden Glow LEDs are included and installed. Size: 2.95" x 0.370" x 0.120".

**N12A0**

Plug and Play decoder for the N scale Atlas GP40-2, U25B, B23-7, 30-7, 36-7, GP38, SD25, Trainmaster, etc. 1 Amp (1.25 peak) rating. Golden Glow LEDs are included and installed. Size: 2.65" x 0.370" x 0.120".

**N12A1**

Plug and Play decoder for the N scale Atlas SD50, SD60M, SD60. 1 Amp (1.25 peak) rating. Golden Glow LEDs are included and installed. Size: 2.65" x 0.370" x 0.120".

**NIMFT-A and NIMFT-B**

Plug and Play decoder for the N scale Intermountain FT-A and FT-B units. 1 Amp (1.25 peak) rating. Includes stem pads or "feet" to drop in to the FT units. NMFIT-A is for the A unit, NIMFT-B is for the B unit. Size: 2.20" x 0.48" x 0.10".



**Z14SR**

Our smallest decoder!! 1 Amp (1.25 Amp peak) rating and four function outputs. Size: 0.34" x 0.56" x 0.125".

**Z14SRP**

1 Amp (1.25 Amp peak) rating and four function outputs, and eight-pin plug. Size: 0.34" x 0.56" x 0.125".



SWITCH-IT

SNAP-IT

SWITCH-KAT

## ACCESSORY DECODERS

### Switch-It™ Accessory Decoder

Control two SwitchMaster™, Tortoise™ or similar stall motor switch machines. Unlike other accessory decoders, Switch-It remembers the position of your switches during power outages. The Switch-It supports the full range of DCC accessory addresses (1-2044). Each output of the decoder can have a completely different accessory address eliminating “gang of four” addressing limitations of all other brands. The Switch-It provides connections for four “local control” pushbuttons. You can control switches from your cabs *and* your control panels.

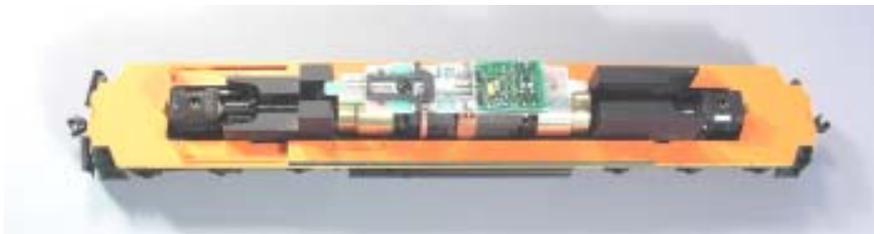
### Snap-It

Control one twin coil switch machine. Has capacitive discharge for low current draw of track power. The Snap-It supports the full range of DCC accessory addresses (1-2044). Provides connections for two “local control” pushbuttons. You can control switches from your cabs *and* your control panels. An external power supply can be connected for more power.

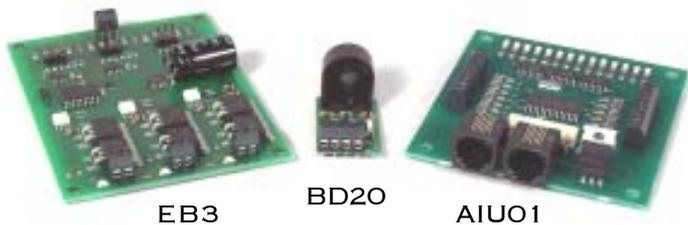
### Switch-Kat

Your Kato Unitrack™ and LGB remote control turnouts can now be DCC controlled. The Switch-Kat supports the full range of DCC accessory addresses (1-2044) and provides connections for optional switch position indicator lights and “local control” pushbuttons. Simple installation, two wires to the track, two wires to the switch. NO PROGRAMMING on the programming track is required. You set up the decoder while it is connected to the main track. Size: 1.65” x 0.630” x 0.125”.

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Ho Scale Kato SD40-2 with a D14SRP installed.



EB3

BD20

AIU01

## DCC ACCESSORIES

### EB3

Provides short circuit protection for up to three power districts. The trip current is adjustable for each power district. Easy hookup using screw terminals, no soldering. Status LEDs for each output. Additional opto-isolated outputs provided to feed signal circuits or control panel indicators. The short circuit response time is adjustable. Can be used with any DCC command system.

### BD20 Block Detector Module

Detects DCC current being drawn in a block. Range 0.01 to 20 Amps. No electrical connection to track! Simply pass the track feeder wire through the hole in the 'tombstone' current transformer. This detector does not reduce track voltage or get hot like other detectors. Includes an LED lamp and relay driver transistor for more versatility. Connects to AIU01 or most commercial signal systems.

### AIU01 Auxiliary Input Unit

The Auxiliary Input Unit provides connection of block occupancy detectors, switch position relays, etc. for purposes of signaling and/or computer control of your layout. Convenient LED indicators (right hand side of PC board) provide easy trouble shooting of your block occupancy detectors/sensors. Simply plugs in to the Cab Bus.

### Macro Panel

Use this device to build your control panels with greatly simplified wiring. Just connect pushbuttons, track trips, or block detectors to the Macro panel then connect the Macro panel to the Cab Bus. Issue turnout routing macros, individual turnout commands or CTC signal commands by pushing one button. The Macro Panel provides up to 28 pushbutton or toggle switch inputs. Each input can be individually setup to issue turnout, CTC signaling, or Aux decoder commands. Set up is easy, just plug in a Pro Cab and answer menu questions to set it up.

### Indicator Panel

Use this device to add up to 16 track occupancy status indicator LEDs or lamps to a CTC panel. Or use it to indicate train progress through a helix or staging. The panel connects to the signaling network through the two wire SigNet connector and analyzes information broadcast by block occupancy detectors on the network. Set up is easy, just plug in a Pro Cab and answer plain English language questions to set it up. NO PROGRAMMING on the programming track is involved.

## Auxiliary Decoder

Physically the same as the Indicator Panel but with different internal software. This decoder connects to the track and provides control of 16 LEDs or lamps. With various lighting effects such as Arc Welding, Theater ‘chase’ lights, crossing flashers, synchronized traffic lights, rotating fire/police beacons and strobes, lighthouses etc.



## Decoder Tester

Perfect companion to DCC installation and operation, the decoder tester works with *ANY* DCC decoder. Can be used to test the presence of track power. Program without the decoder in the engine. There are indicator lights for motor forward and reverse, functions 0F, 0R, 1, and 2. Easily connect an optional motor for under load testing.

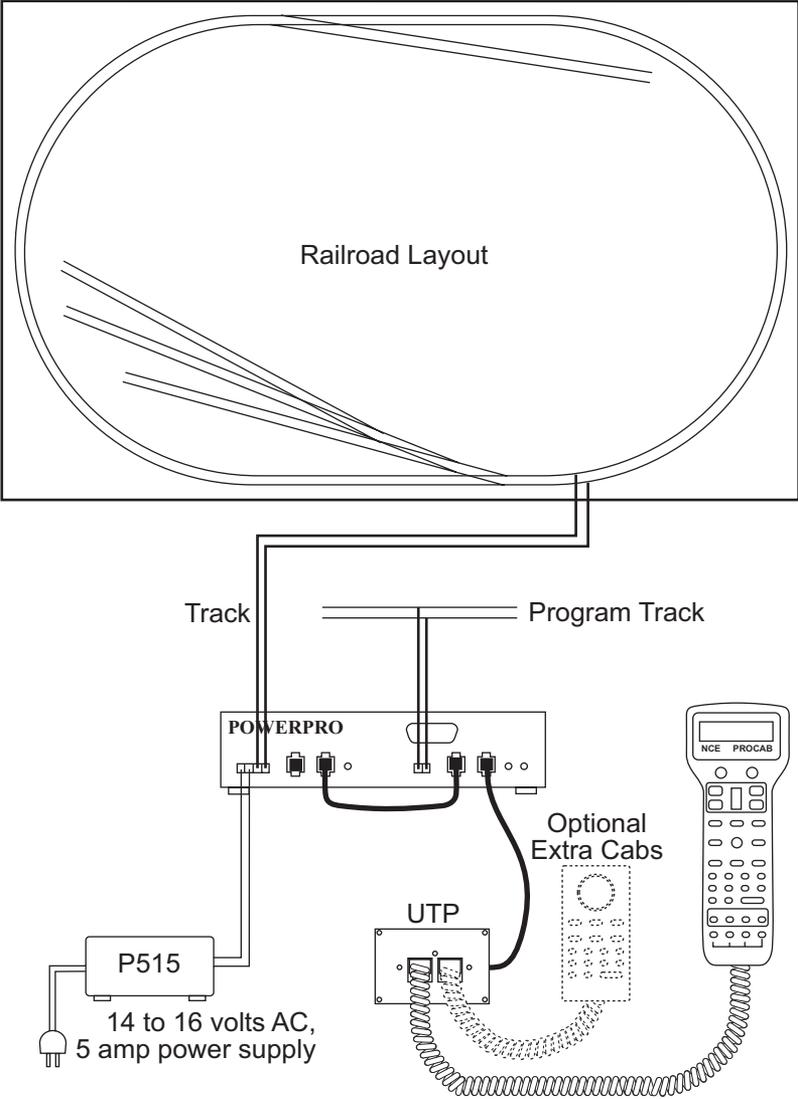


## LED Pack

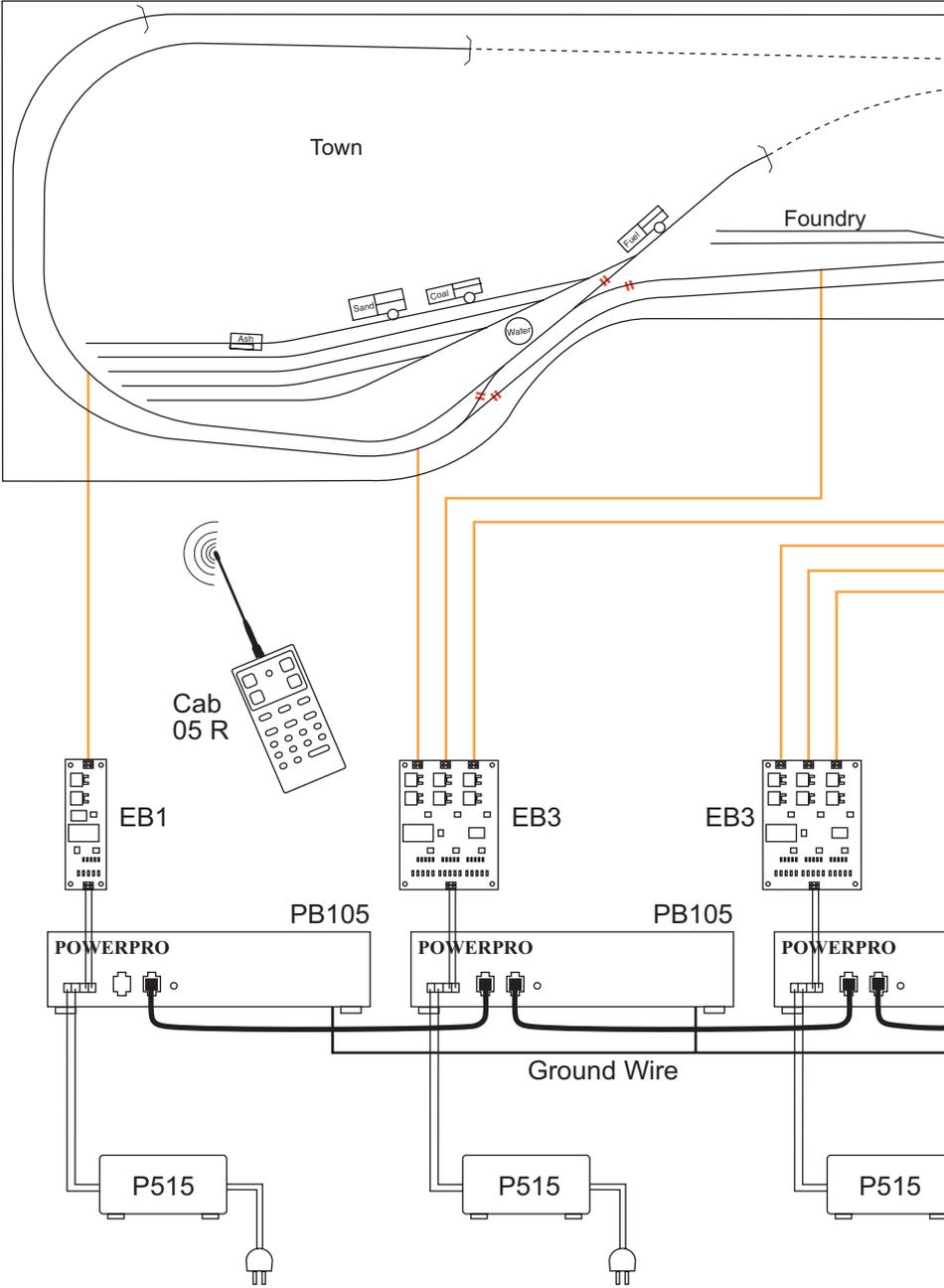
The LED pack provides ten “Golden Glow” white LEDs. Size: 0.120” (3 mm) diameter. Rated at 3 to 200 mA.

## Plug Pack

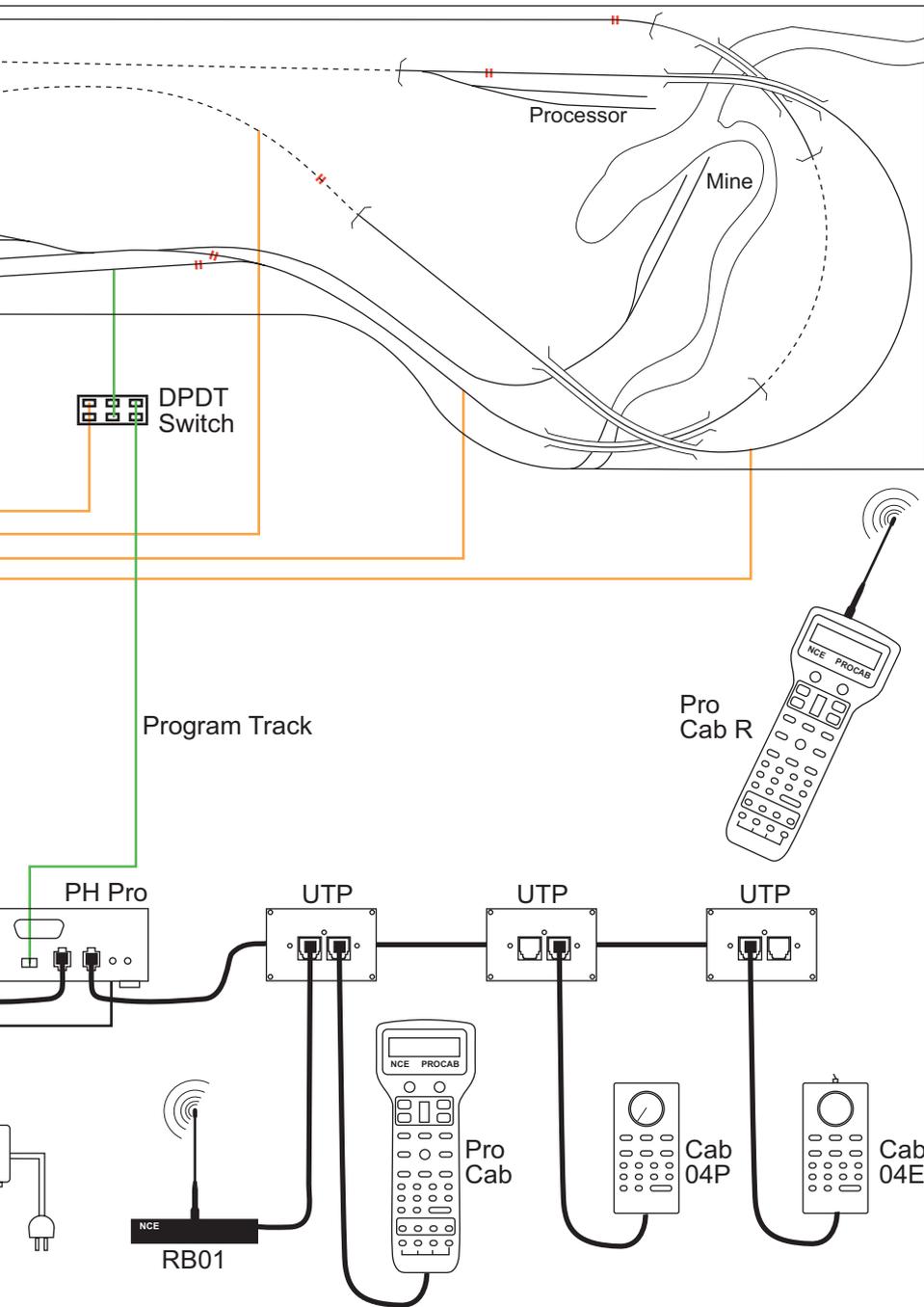
Ten pack of the NMRA eight-pin connectors used in many “DCC Ready” locomotives and accessories.



# **BASIC LAYOUT WIRING**



**ADVANCED LAYOUT**



## WIRING



## About NCE

NCE has been manufacturing DCC Products on an OEM basis since 1993. Originally we offered only “chip sets” that contained software enabling other DCC manufacturers to build DCC systems. As time went on some of those manufacturers asked us to first supply partial assemblies then complete assemblies in addition to the chip sets. This has helped NCE to grow into a full time electronic design and manufacturing firm devoted entirely to the development and sale of products for the control of model railroads. We build an amazing array of products for both our own customers, other DCC manufacturers and locomotive manufacturers. We keep labor costs low by utilizing modern automated robotic assembly for most products. Recently, we have more than doubled our manufacturing space and taken an option on an additional area to more than triple it.

Our product designer is [Jim Scorse](#). Jim models the Erie Railroad in O-Scale and has a long history in model railroading. He has numerous patents in the area of imagery, video and computer network data communications over noisy channels. Jim is active in the Layout Design SIG as well as 29 years with the “Tuesday Night Gang”, (round robin model railroad club) and is probably one of the only really active model railroaders among all the DCC manufacturers.

## **We Provide a warranty on all our Products.**

In the first year, full repair or replacement will be made to the original purchaser of any item that has failed due to manufacturer defect. Should the item no longer be produced and the item not repairable a similar item will be substituted at the manufacturer’s discretion. The customer pays only shipping to the NCE Warranty Center. Please save your original receipt as a photocopy of it may be requested. After the first year, a fair and reasonable service charge will be placed on each failed item returned for repair. This warranty is not valid if the customer has intentionally misused, miswired, altered the product or removed any product protection devices (such as heat shrink wrapping from decoders). In this case a service charge will be applied for all repairs and replacements . We reserve the right to either repair or replace components sent to us for in-warranty service. The warranty period will begin on the date shown on your retail sales receipt. Please do not send anything for repair without first writing or calling to explain the problem. Also remember include your address and phone number with a brief description of the problem. This catalog was written by the NCE Publications Department. Please address any comments to:

NCE Warranty Center  
899 Ridge Road  
Webster, NY 14580

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