



NCE Users Forum

Hosts: Mark Schutzer and Mark Gurries
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Copies of this presentation can be found at
<http://www.markschutzer.com>

NCE Users Forum

- The beginning of this forum will provide an introduction to the various different DCC systems offered by NCE. This first part is somewhat structured as to the presentation.
- We will then open things up based on what “you” the audience would like to talk about. Any NCE products or computer control of these products is fair game. This will be an open forum and we will see where it goes.
- The various modules and layouts in the room will allow you to touch and feel the different systems and equipment as you like. Please ask questions and grab a throttle for a hands on experience.

Power Cab – Starter System



Features

- Low cost Starter DCC system.
- Comes with everything you need to run trains.
- 2 amps of track current, enough to run 2 or 3 HO trains.
- Same easy to use commands of the Power Pro system.
- Service mode and Ops mode programming support.
- Supports 3 additional cabs and 3 accessories.
- Doubles as a regular ProCab for use at the club.
- Decoder Pro compatible (with USB adapter)
- Reads sound decoders without a programming track booster.
- Expandability
- Wireless radio support can be added. (for ProCab mode use)

Some Limitations

- No walk around control
- 2 amps of track current instead of the 5 amps of PowerPro.
- While the Power Cab supports the advanced features of the Power Pro system there are some numerical limitations.
 - Limit of 16 advanced consists
 - Limit of 16 Macros, each with 8 commands maximum
 - Limit of 3 additional cabs
 - Limit of 6 accessories, 3 shared with cab addresses
- No support for track detection, AIU's not supported

Power Cab – As a Programming Station



Ideal programming station

- With the addition of the NCE USB adapter the Power Cab becomes an ideal computer controlled decoder programming station.
- Fully supported by JMRI / DecoderPro for easy programming of today's complex sound decoders
- Only one set of wires to hook up to the track, the Power Cab will automatically switch between Service mode and Ops mode as needed.
- The Power Cab can read back from sound decoders without the need of a programming track booster!
- Makes it easy to set up and tune your loco's to work the way you want them to.

Smart Booster SB5 / SB3a



Smart Booster SB5 / SB3a



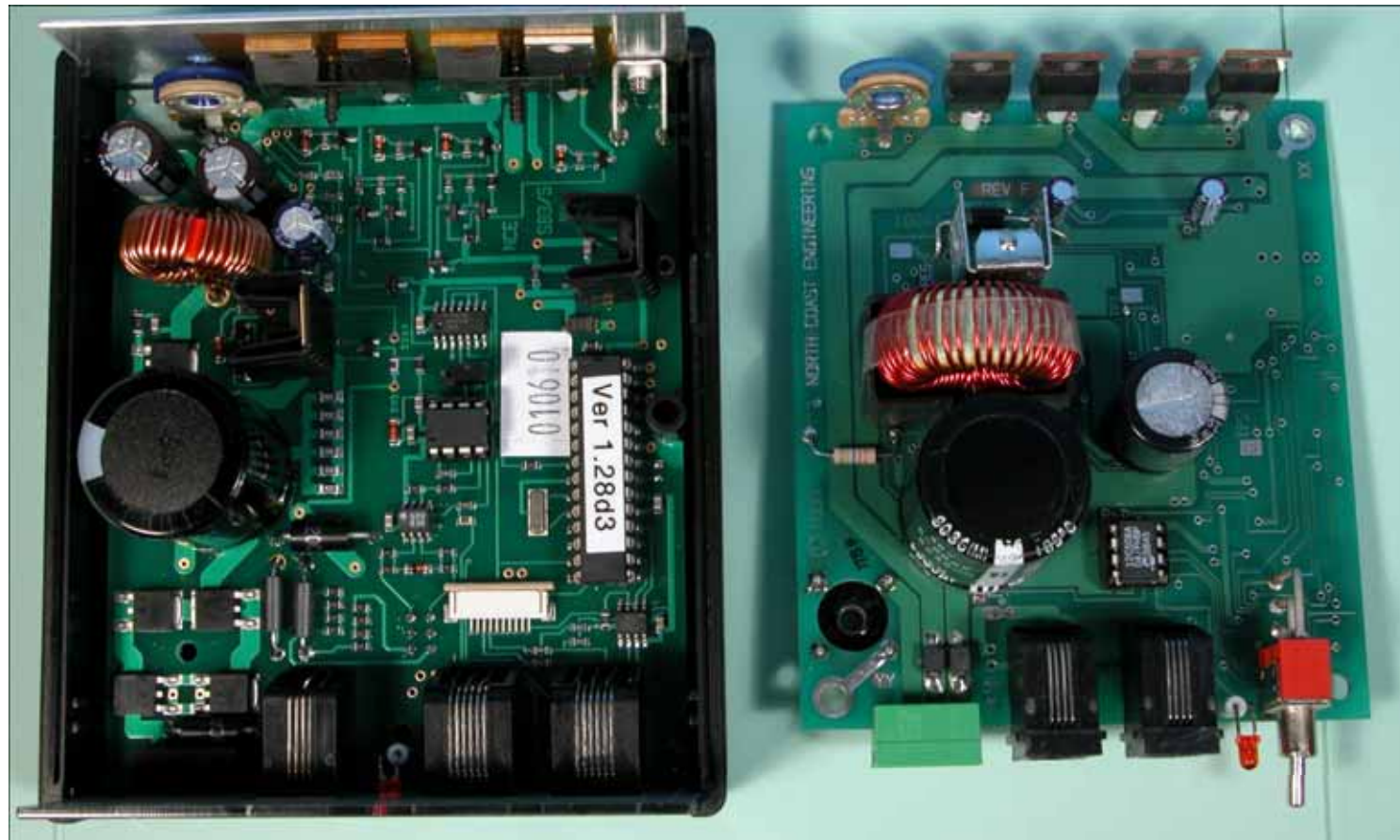
Smart Booster SB5/SB3a

- Provides expansion path for the Power Cab.
- A full 5 amp booster
 - SB3a requires external 15 VAC, 5 amp supply (retired)
 - SB5 includes AC/DC desktop supply
- Expands system capabilities
 - Support for up to 4 cabs (addresses 2 through 5)
 - Supports 6 recalls per cab
 - Supports walk around control.
- Power Cab operates in ProCab mode with Smart Booster.
- Supports optional wireless operation with the addition of RB02 base station and radio equipped cabs.
- No obsolescence, can also configured as a stand alone booster for use with the Power Pro system.
- No programming track support.

Smart Booster SB3a / SB5a

Smart Booster SB3a shown

- Uses same rugged components as the PB105 booster, side by side comparison photo below:



Power Pro



Power Pro

- NCE's full feature, 5 amp DCC system
- Easy to use commands and menus in “plain English”
- Supports up to 63 cabs with up to 48 of these Wireless.
- Supports all styles of NCE cabs.
- External booster bus and cab bus connectors support expansion for the largest of layouts
- Includes NCE's easy to use four digit advanced consisting
- Service mode and Ops mode programming support
- Built in serial port for use with JMRI or other computer control.
- Wireless radio support with optional RB02 radio base station

Cabs



ProCab

- Full featured cab

Cab04

- Engineer cab with knob

Cab05

- Engineer cab with buttons, not shown



All cabs can be optionally radio equipped.

Cabs



Cab06/Cab06R

- Engineer cab with LED display
- Encoder or Potentiometer versions
- Up to 6 recalls
- 28 function support
- Macro and Accessory support
- 28/128 speed steps
- Built in battery charger (optional)

Sel	-loco	^Sel	-accy
Dir	-direction	^Dir	-recall
0-9	-F0-F9	^0-9	-F10-F19
Horn	-horn	^Horn	-Radio off
^^Sel	-macro	^^^Sel	-
^^Dir	-recall	^^^Dir	-set recall
^^0-8	-F20-F28	^^^0-9	-
^^Horn	-	^^^Horn	-28/128
Setup- hold Select while plugging in			
Adnn	-Set cab address (1-63)		
Nor	-0 = normal, 1=yard		
BAL	-Ballistic tracking (1-7)		
SH-n	-Max shift level (0-3)		



Wireless – RB02 and Cab radio module



Wireless

- Can easily be added to Power Pro and Smart Booster SB3a systems.
- Components consist of a RB02 radio base station, and a radio module for each cab.
- Range in excess of 200 feet
- Optional repeaters are available to extend the Wireless range.
- Upgraded radio system has “same as plugged in” performance.
- Supports 48 wireless cabs, 16 ProCabs, and 32 Cab04/05/06’s.
- Any cab can be upgraded to wireless via NCE or NCE authorized radio installer.

Now Shipping

- Internal antenna cab radio modules
- No more broken antenna connectors to worry about
- Range about 100 feet



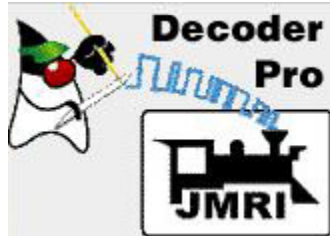
Mini Panel



Mini Panel

- Think of it as a cab that can run a pre-programmed sequence of commands when triggered.
- Up to 30 different command sequences can be pre-programmed.
- Ideal for selecting switch routing in a yard, push one button and up to 10 switches can be thrown via a Macro.
- Programming can be chained together to create basic automation features.
- Will do most things a cab will do, you can select locomotives, run locomotives, run Macros, send accessory commands to switch machines.
- Ideal companion product to use with Switch-8 accessory decoders, provides push button panel control.

Programming Decoders with JMRI



Typical programming pane shown to the right.

No complicated CV's to worry about. All values presented in plain English.

Supports all NCE equipment.

Best of all it's FREE!

The screenshot displays the 'Sound Levels' tab in the JMRI Decoder Pro software. The interface features a top navigation bar with tabs for 'Lights', 'Analog Controls', 'Consist', 'Advanced', 'Sound', 'Sound Levels', 'CVs', 'Equalizer', 'Reverb', 'DDE', and 'AS'. Below this, there are sub-tabs for 'Roster Entry', 'Basic', 'Motor', and 'Basic Speed Control'. The main area contains a list of volume controls, each with a numerical value and a slider:

Control Name	Value
Master Volume Control	192
Whistle Volume	225
Bell Volume	128
Exhaust Volume	192
Rod Clank Volume	32
Air Pump Volume	48
Dynamo Volume	32
Power Reverse Volume	64
Injector Volume	64
Blower Volume	16
Blower Draft Volume	128
Brake Squeal Volume	128
Brake Release Volume	64
Coupler Volume	128
Glad Hand Release Volume	0

Power Cab, SB3a, and SB5

- Systems connect to a computer's USB port using the optional USB adapter board.
- One side of the USB board plugs into the cab bus and the other side connects to the computer with a standard USB cable.



Computer Interfaces on NCE equipment



Power Pro

- The Power Pro has a 9 pin serial port that can directly plug into a serial port on the computer.
- If computer does not have a serial port use a Keyspan USA-19HS serial to USB adapter.



Radio Upgrades

- Early NCE radio systems had some performance and range issues. Range was limited to 30 ft and key press reliability was poor.
- About 7 years ago Version 1.5 was released and it was a quantum improvement in performance.
- Version 1.5 radio has about 500 ft range (external antenna) and key press reliability is greatly improved.
- Version 1.5 is a upgrade to the radio module in the cabs.
- Version 1.5 improvements allowed NCE to release radio cabs with internal antennas.
- In 2010 version 2.0 of the RB02 was released and that fixed a few more issues.

Radio Upgrades

- Version 2.0 eliminates runaways and surges, also improves performance when wired and radio cabs are used at the same time. Fixes radio cab addresses 8, 18, and 49.
- Version 2.1 was released with the new Cab06R to optimize the Cab06R performance when used on low cab addresses.
- Version 2.0/2.1 RB02 is a software upgrade to the RB02.
- Existing radio cabs and RB02's can be upgraded by NCE for a nominal fee.

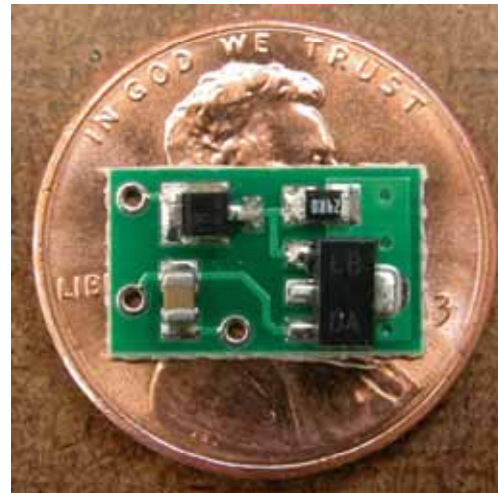
Systems, Cabs, and Accessories

- PowerCab – Version 1.65, coming soon 1.65B (bug fix)
- SB5/SB3a – Version 1.65, coming soon 1.65B (bug fix)
- Powerhouse Pro – Version March 1, 2007C
- ProCab – Version 1.3
- ProCab / PowerCab radio version 1.5, or 1.5B (internal antenna versions)
- RB02 radio base station – Version 2.1
- USB adapter – Version 7

Upgrades to version 1.65B and USB version 7 available in clinic tonight.

Radio Cab Battery Charger

- Standard radio cabs are powered by AA batteries.
- While rechargeable batteries can be used they must be removed from the cab periodically for recharging.
- Small add on radio charger board eliminates removing batteries as cabs recharge whenever plugged into a live cab bus jack.

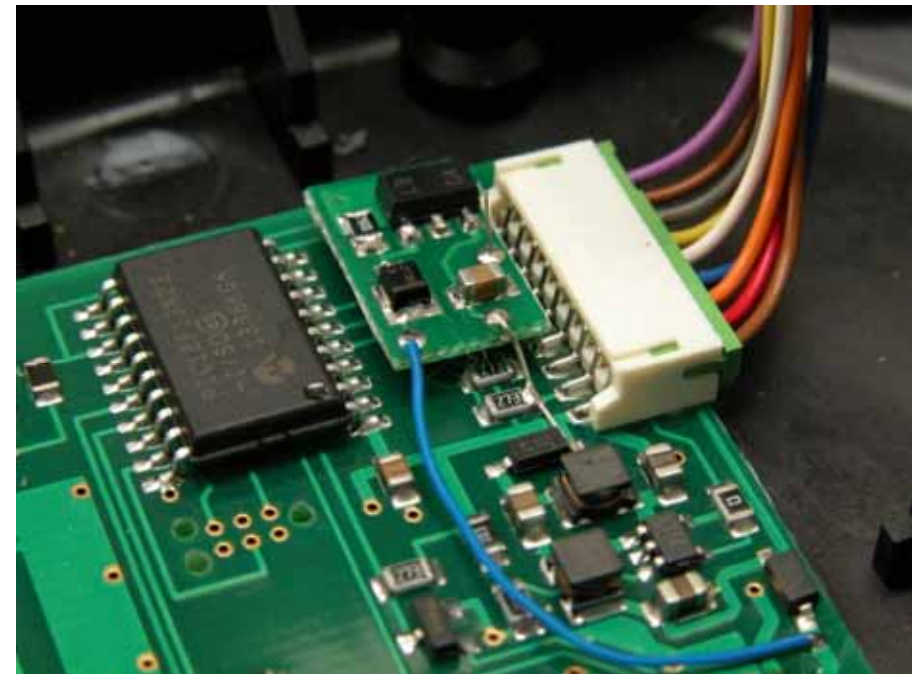


Wireless – Add on 3rd party enhancements



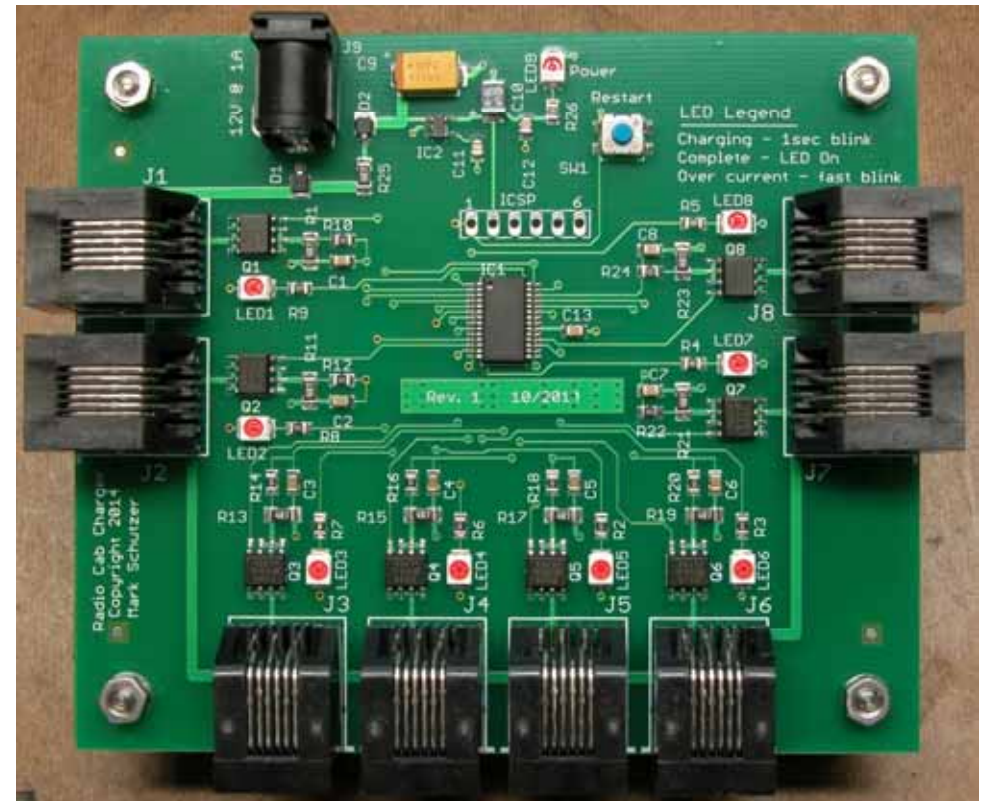
Radio Cab Battery charger

- Trickle charges NiMH batteries at 50mA, 24 hour charge cycle
- Designed for both old and new style radio boards.



Charging Station

- Allows charger equipped cabs to be charged independent of layout power.
- Supports up to 8 cabs charging simultaneously.
- Each port shuts off after independently timed 24hr charge period.
- Each port is overload and short circuit protected.
- Charging indicator for each port.
- Includes universal voltage 12 volt, 1 amp power supply.



Equipment Demonstrations



Demo Equipment available

- Standalone battery powered PowerCab system
- Smart Booster SB3a
- ProCabR, Cab06PR, Cab04PR
- Power Pro system and radio system
- Mini-Panel Demo
- Computer interfaces, USB adapter, Keyspan adapter

Discussion topics, Open forum



What are folks interested in discussing?

Systems

PowerCab

Computer control / Decoder Pro

Accessories

Radio's

Detection

Automation

Sources



NCE Website – Home of all things NCE

- <http://www.ncedcc.com/>

NCE-DCC Users Group at Yahoo Groups Site

- <https://groups.yahoo.com/neo/groups/NCE-DCC/info>

JMRI / Decoder Pro

- <http://jmri.sourceforge.net/>

Keyspan USA-19HS serial to USB adapter

- <http://www.tripplite.com/keysan-high-speed-usb-to-serial-adapter~USA19HS/>
- Available through NewEgg.com, about \$30 dollars

Mark S's Website



See website for more information about:

- How to install an internal antenna in a radio cab.
- Modifications to the Power Pro to allow it to read sound decoders without a programming booster.
- A fix to make old radio ProCabs easier to turn on.
- Battery charger options and the charging station.
- Copies of this clinic

<http://www.markschutzer.com>

Mark G's DCC website



For lots of great information on all sorts of DCC topics

- Mark G's DCC topics home page
 - <http://www.markgurries.com>

Mark G. also has a whole site dedicated to all things NCE

- Mark G's NCE info site
 - <https://sites.google.com/site/mgurriesncedcc/home>

<http://www.markgurries.com>

Questions?