



EXTRA 2011 WEST
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NCE Users Forum

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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 one additional cab
- 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
 - Recall stack limited to 2 (6 recalls coming soon)
 - Limit of 16 Macros, each with 8 commands maximum
 - Limit of 1 additional cab (2 unofficially)
- 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 SB3a



Smart Booster SB3a

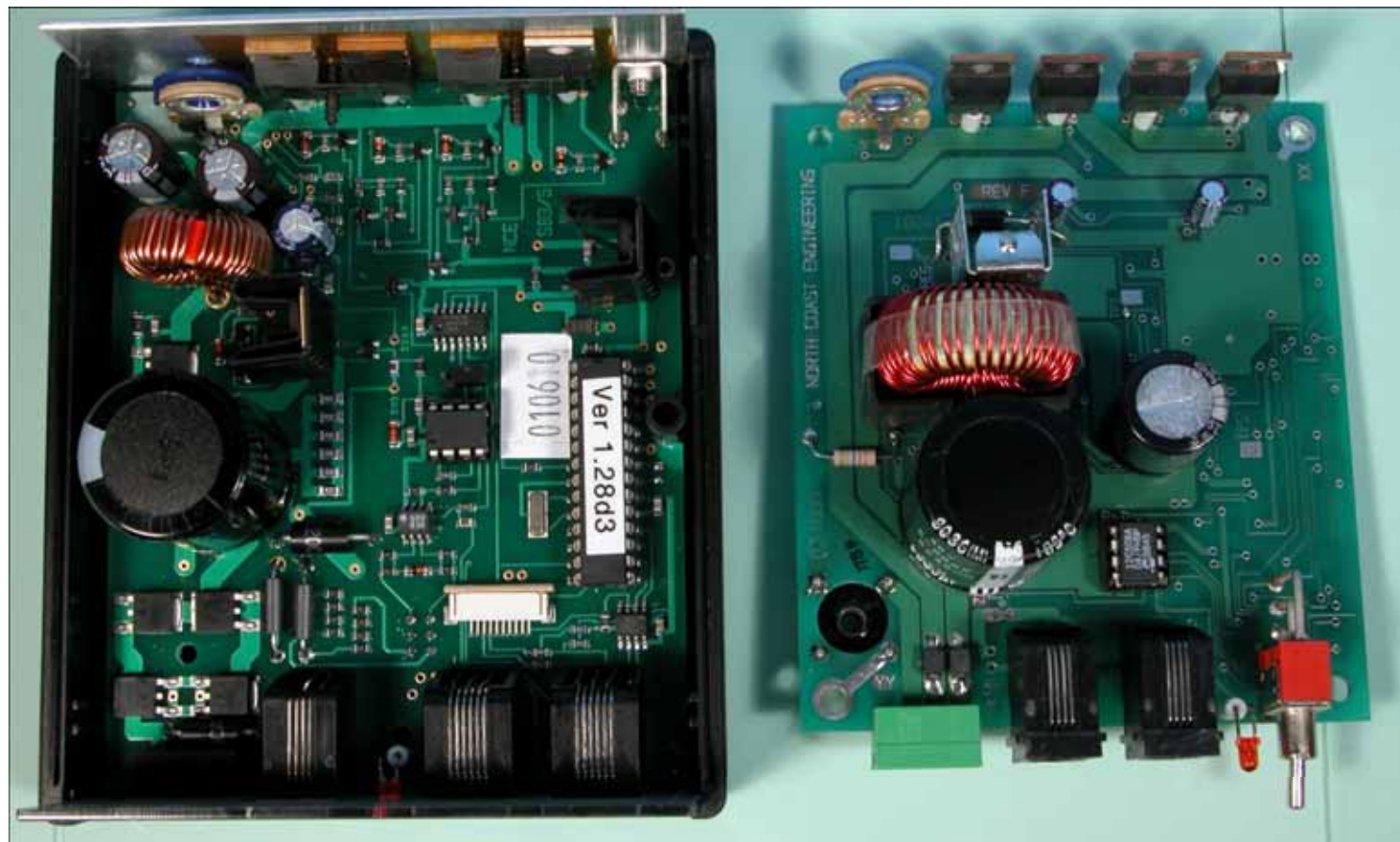
- Provides expansion path for the Power Cab
- A full 5 amp booster, requires external 15 Vac, 5 amp supply
- Expands system capabilities
 - Support for up to 4 cabs (addresses 2 through 5)
 - Supports 6 recalls per cab
 - Supports walk around control.
- Power Cab operates in ProCab mode with Smart Booster
- 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



Smart Booster SB3a

- 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 – Coming soon



Cab06/Cab06R

- Engineer cab with LED display and encoder knob
- 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.

Wireless – new product

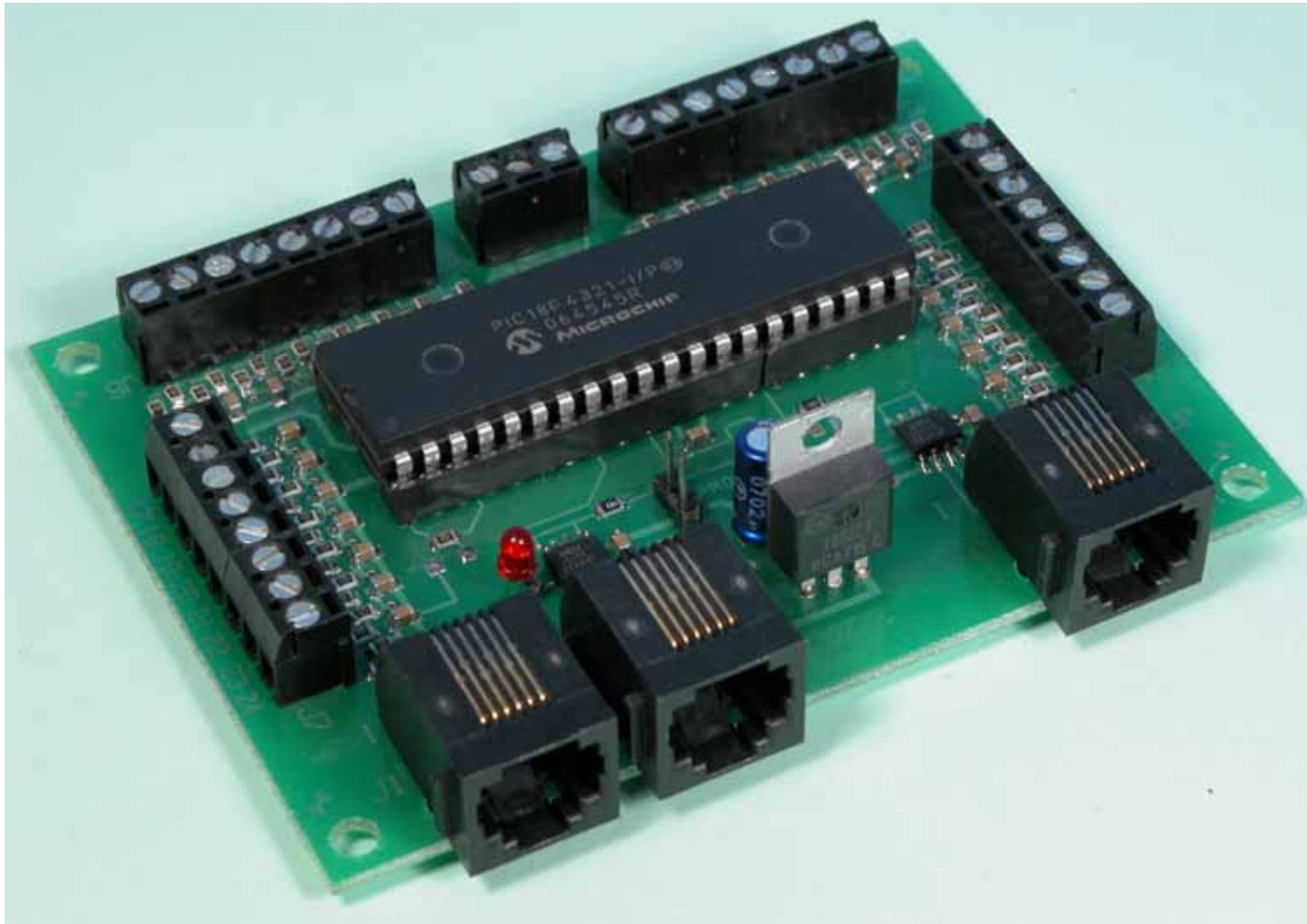


Now Shipping

- 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 shows the 'Sound Levels' tab in the JMRI Decoder Pro software. The interface includes a menu bar with options: Lights, Analog Controls, Consist, Advanced, Sound, Sound Levels (selected), CVs, Equalizer, Reverb, DDE, and AS. Below the menu bar are sub-tabs: Roster Entry, Basic, Motor, and Basic Speed Control. The main area contains 15 volume sliders, each with a numerical value and a yellow bar representing the range. The sliders are arranged in two columns.

| 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 and SB3a

- Both 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 3 years ago Version 1.5 was released and it was a quantum improvement in performance.
- Version 1.5 radio has about 500 ft range and key press reliability is greatly improved.
- Version 1.5 is a upgrade to the radio module in the cabs.
- Recently Version 2.0 of the RB02 was released and that fixed a few more issues.
- 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.

Radio Upgrades

- Version 2.0 RB02 is a software upgrade to the RB02.
- Existing radio cabs and RB02's can be upgraded by NCE for a nominal fee.

Equipment Demonstrations



Demo Equipment available

- PowerCab system
- Smart Booster SB3a
- Cab06r
- 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/>

JMRI / Decoder Pro

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

Keyspan USA-19HS serial to USB adapter

- <http://www.tripplite.com/en/products/model.cfm?txtModelID=3914>
- Available through Amazon.com, about \$30 dollars

See website for more information about:

- Built in battery charger for radio cabs
- 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.

<http://www.markschutzer.com>

Marcus's DCC website



See website for more information about:

- Marcus's DCC for Novices
 - <http://www.members.optusnet.com.au/nswmn2/DCC.htm>
- NCE equipment tips and modifications
 - http://members.optusnet.com.au/nswmn/dcc_articles.htm
- Marcus's PowerCab review
 - http://members.optusnet.com.au/nswmn1/power_cab.htm
- Stay alive capacitors for sound decoders
 - <http://members.optusnet.com.au/mainnorth/alive.htm>

<http://members.optusnet.com.au/nswmn/index.htm>

Questions?