



Power Pro

Software Update Notes

Effective date: 22 March 2021



Summary of new features:

1. Support for new DCC time packet for simplified automation
2. Optional 'purging' of unused cabs to speed up system response
3. Setting of all 1024 CVs in any programming mode
4. Improved startup for Cab06 cabs
5. Ability to disable Momentum button on cabs
6. Numerous bug fixes
7. Other changes and improvements

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

If you are updating from a previous version:

Mar 7, 2007:

All system memory such as macros, consists, selected locos, recall stacks and system setup will be preserved

Dec 21, 2004:

Macros, consists and system setup will be preserved. Currently selected locos and recall stacks will be cleared out.

Apr 9, 1999 or earlier:

All memory will be cleared and reset to back factory default conditions.

Fixed bugs in older versions of system software:

- 1 - It was possible for two cabs to simultaneously setup an advanced consist with the same consist address. This has been fixed.

In advanced consist setup when you accept the suggested consist address (or any other consist address that you enter) that address is temporarily marked as in use. This will cause another cab accessing the consist setup menu to get the next lower available consist address. If you cancel the setup process before a LEAD or REAR loco is entered the consist address is released.
- 2 - System, Macro and Consist backup would hang the system.
- 3 - 28 speed mode commands from type C cabs (mini panel, etc) were only sent to the TEMP Queue. This resulted in the speed commands being sent only 4 times. If a loco derailed or otherwise lost power it would not know what speed to go when power was restored.
- 4 - When using Program on the Main if a loco with a long address below 128 was selected the asterisk was not placed in front of the address on the LCD display.
- 5 - The Cab bus 0xDB command only returned loco addresses 0-4095 correctly. Addresses in the range 4096-8191 were reported too low by 4096 and addresses in the range 8192-9999 were reported too low by 8192. The speed mode was always reported as 28 and there was no differentiation between long and short addresses. This affected how the Cab06 and Cab07 reported the selected loco address. (this fix is also in the 3/21/2007B version).
- 6 - If Recalls were set to 1 a Cab06 would not react properly.
- 7 - When using the program track the system wouldn't program CVs above 256.
- 8 - The type C 'select loco' command (OP Code 0x00, data 0x00) inadvertently set loco speed to 0 and turned off all functions. This could cause problems with WifiTrax' WFD30 WiFi interface and JMRI.
- 9 - If 0 was entered for the fast clock ratio the system would hang.
- 10- At system power up the fast clock was always set to AM. AM/PM is now preserved.

New features in the version:

- 1 - When using a long address and programming a new long address in OPs mode a second program packet group is sent to program CV18. This solves a problem with newer Blueline locomotives.
- 2 - A new setup parameter in SET CMD STA has been added to disable issuing of speed and function packets when a new loco has been selected.
- 3 - In the SET CMD STA menu there is now a setting to disable the Momentum button.
- 4 - A new cab bus command has been added primarily for Cab06 cabs. If the cab sends 0x6e for the first byte of the response the command station will expect 5 more bytes in the type 'c' format. This will greatly speed up Cab06 SELECT LOCO and SELECT ACCY process. You will need Cab06 version 2.1 or higher to use this feature
- 5 - A cab 'purge' timer has now been implemented. If a cab is unplugged or the radio turned for a period of time between 1 and 9 minutes it will be removed from the normal polling rotation. If the cab is later turned back on or plugged in will be placed back into regular service. The default for this feature is off. This will reduce cab bus latency due to radio cabs that have automatically powered down or operators that have stopped operating (taking a break or gone home?).

A setup menu is added for the cab purge time in the SET_CMD_STA menu settings. Valid entries are from 1 to 9 minutes with 0 to disable the feature.

The menu looks like this:

```
CAB PURGE TIME  
1-9 MIN 0=OFF: 9
```

- 6 - The DCC time packet has been added. A DCC packet containing the current time (hours, minutes and clock ratio) and day of the week is sent out on the track every 1 minute of fast clock time and when the clock is stopped. This allows simple automation to be performed by decoders that respond to this packet. The feature can be enabled or disabled via a setup parameter in the SET CMD STA menu. The entry looks like this:

```
DCC TIME PACKET  
ENABLE: 1=Y 0=N
```

There is an additional item in the SET CLOCK menu for setting the day of the week. Valid entries are from 1 to 6 minutes with 0=Monday, 2=Tuesday etc.

The menu looks like this:

```
SET TIME  
WEEKDAY(0=MON):1
```

Features changed or removed in the version:

DELETION

- Sound decoders have finally standardized on F2 for the Horn. The Horn button mapping in the SET CAB PARAMS menu has been removed

DELETION

- Reporting success/failure of the first verify packet in service mode (program track) has been deleted. It is not possible for a conforming decoder to verify a single programming track packet, therefore it is not necessary to check for a response. This will improve the number of false reports by decoders that have different packet timing/ack response. Those decoders are not necessarily in violation of S-9.3.3 it's just that the RP timing has a lot of "slop" necessitating addition of "magic" delays and other software gymnastics for proper operation.

DELETION

- The unneeded 'Radio Fix' has been removed from the SET CMD STA menu.

DELETION

- Broadway Limited special programming mode has been removed. It has changed several times over the years and has become too difficult to support.

DELETION

- For reliability reasons the 38.4 and 19.2 Baud option for the serial port has been removed.

CHANGE

- The menu selection "PROG ACCY ON MAIN" has been changed to read "OPS PROG ACCY CV". This change has been made to clarify what the menu actually does.

CHANGE

- The menu selection "PROG SIG ON MAIN " has been changed to read "OPS PROG SIG CVS". This change has been made to clarify what the menu actually does.

CHANGE

- When entering broadcast OPs broadcast programming mode (option 0) is selected you are now asked if you are sure. Pressing "6" continues with programming - all other keys exit.

CHANGE

- The "Repeat LCD" routine in the command station now checks to see what type of cab it is talking to (LCD or non-LCD) and sends only the appropriate information to the cab over the cab bus. This significantly speeds up operation of smaller "engineer" cabs via radio and provides faster overall system operation.

CHANGE

- This way Cab06s can have their display refreshed by pressing ENTER

CHANGE

- The upper limit of CV numbers has been raised from 999 to 1024 in the following modes:
Program track
Program loco on the main
OPS program accessory CV
OPS program signal CV
Also the corresponding LCD message has changed from "ENTER CV NUM:" to "PROG CV NUM" to accomodate the 4th digit

CHANGE

- The fast clock now works (internally) with 24 hour time. The time on the cabs is still displayed in 12 or 24 hour format. Users will not notice the difference other than it is now possible to enter 0 hours in the SET SYSTEM CLOCK menu. Previously you had to enter 23 hours and wait for the 12 hour clock to roll over - a real pain the neck. This greatly simplified internal code as well as fixed the time set bug.

Computer Related stuff:

CHANGE

- Binary Command 0xAA now returns 6.2.3 for this version

ADDITION

- At the request of JMRI:
A new binary command has been added to enable/disable echo of binary commands back to the computer. The echo of the command can be used to distinguish between an AIU broadcast command and the response to a computer command.

Command Format: 0xB2 <data>

0=no echo, 1=echo 1st byte of command, 2=echo entire command

CHANGE

- Type C 'Select Loco' (OP Code 0x00, data 0x00) commands now sets speed mode (28/128) and consist address if loco is in a consist

Addition

- Memory location 0xdc17 is the Cab Purge Time. Valid Entries are 0-9 for 0-9 minutes. Factory default is 0 (disable purging).
- Memory location 0xdc29 is day of the week for purposes of sending DCC time packets. Valid entries are 0-6 (0=Monday). Factory default is 0