Release notes for CANCAB version 2p **5th March 2012**

These release notes document changes that may not yet be included in the DCC system Technical Bulletin

.

The changes have been made variously by Mike Bolton and Pete Brownlow.

See also the notes on compatibility at the end of this document.

Version 2p:

- The cab now responds when FCU is building a configuration using the QNN query and PNN response.
- Save loco address in EEPROM for walkaround and check this also on reconnect – to further reduce the likelihood of a cab thinking it has control of a session, when the cab had been taken on walkaround and then plugged in long after the session has been timed out and acquired by another cab-loco combination.
- Integrate changes for momentary function keys and function storage in EEPROM with the previous changes to take the function settings from the commands station when selecting a loco – to support taking over moving trains and caching function settings in a future version of the command station firmware.
- New feature: When a loco function key is pressed, a CBUS event packet is sent in addition to a DCC function packet. This allows the action of pressing a loco function to be taught to a CBUS consumer. This feature is in addition to the dedicated accessory control feature.
- Send 1 speed packet when taking over a loco (required for compatibility with cancmd up to ver 3 which does not cache direction)
- Fix blank screen if handle or address does not match when the cab is plugged in after walkabout - now goes to loco prompt
- Fix problem with bit pattern for loco functions F10,F11,F12 – in version 2n these functions issued the command using the bit pattern for the last used loco function.

Version 2o was skipped to avoid confusion

Version 2n:

- Added facility for momentary loco function keys. Press Consist with Fn key in to change a function key to momentary operation or back to normal on/off toggle operation. See Technical Bulletin DCC 20, The MERG DCC user guide, Version 2 or later, for full details.
- All loco function states are now stored in EEPROM so they are kept during walkaround
- Correction to keep alive CAN_ID
- Fix to watchdog timer resets
- Fix for accessory numbers following speed change
- Speed control and STOP now continue to work when CV programming

Version 2m was a development version and not released

Version 2l:

- Fixed a bug with STOP! Behaviour that had crept in – train would not emergency stop if knob had been turned to zero and train was still coasting to a stop.
- Added “Firmware Update” message on display during boot loading from FCU
- Send full range speed byte to command station in 14 and 28 step mode
- Add display of ON or OFF when selecting loco functions – this stays on the display until you do something else.

- When you select a loco address, any number of leading zeroes will force a long address, rather than needing all 4 digits as before. Eg: 09 is now long address, 9 is short address, previously you would have had to enter 0009 for the long address.
- When you release a moving train, the display now shows “Disptch?” instead of “Release?”
- The display string routine now limits to 8 characters, even if the terminating 0 is not found. This avoids the cab locking up if you have downloaded the wrong version of a language file.
- CAN receive now ignores extended frames (except when boot loading)
- The following changes have been made to support features being developed in the command station firmware:
  - Check the speed when selecting a loco, and set this speed and direction if non-zero, to support taking over control of moving trains
  - When selecting a loco, set all the function settings to the information provided by the command station – for when the command station caches settings for previously selected locos.
  - Check for session not found error whilst controlling a loco – support for forced takeover.

Version 2k was a development version and not released

Version 2j:

Accessory control display modified so it all fits on line 2, leaving the top line unchanged whilst driving a loco

Version 2i:

Uses the “Keep alive” CBUS packet for the regular “keep alive” messages to the command station, instead of the speed/direction packets used up to now. This reduces the problems that can be caused when 2 cabs think they are controlling the same loco.
Some internal re-entrancy problems fixed that might very occasionally have caused unpredictable behaviour.

Versions 2g and 2h were development versions and not released

Version 2f:

Accessory control now also works when no loco is selected
The short events sent in accessory mode now have the node id set to zero so you can teach device numbers to CBUS consumers directly from the cab
The version number message at startup is now always the same duration (it used to vary)

Version 2e:

New feature to be able to send CBUS events from the handset, to be able to control layout accessories. To get into accessory mode, press Enter at any time (except when Enter is expected in context with what you are doing, such as selecting a loco). You can then select the accessory number, use the consist button to choose ON or OFF (shown by + or -) and then Enter again to send the accessory event. See Technical Bulletin DCC 20, The MERG DCC user guide, Version 1 issue 3 or later, for full details.

Version 2d:

As with the previous release, there are no operational changes but there are further internal changes in connection with multiple language support. Use this version or later if you are downloading standalone language files via FCU.

The only functional change is that if you press Prog twice with no loco selected, you enter a test mode where you can step through all of the messages by repeatedly pressing Prog. To exit this mode press loco.

Version 2c:

This version is functionally the same as version 2b, but has internal changes to support different languages for the messages on the LCD. See the comments at the top of the source file for details of the internal changes.

Version 2b:

1. Fixed bug (introduced with 2a) that after carrying out a service mode read, the display shows “Prog” although it is correctly still in read mode – now shows read correctly
2. With no loco selected, if a cab receives emergency stop all, it displays “STOP ALL”. In previous versions, if you moved the knob, the display would go blank (although still waiting for a loco to be entered). It now returns to the loco prompt.

Version 2a:

1. When selecting service mode programming, the initial default is now read CV rather than prog as before, toggle between Read and Prog using the CV R/W button.
2. Version 2a now reports node parameters (module type and version number) to Roger Healey's FliM configuration utility.
3. Version 2a now supports reprogramming the PIC via the CBUS from Roger Healey's FliM configuration utility.

Compatibility

At the time of writing, the current release of the cancmd command station firmware is version 3e.

Cancab Version 2p will run with earlier versions of the command station firmware, including version cancmd_j uploaded in Sep 2010.

However, a train that you have released whilst running from the cab will only be stopped by the “emergency stop all trains” if you are running command station revision p (cancmd_p) or later.

The features to take over a moving train and keep function settings when re-selecting a previously controlled loco are only supported in version 4a onwards of the cancmd command station firmware. That version is still under development and has not yet been released at the time of writing.

If you are also using computer controlled trains (JMRI or Rocrail) with your cancmd, then you need to be running command station revision p (cancmd_p) or later with JMRI version 2.11.2 or later for full emergency stop all functionality. This affects trains controlled by JMRI on screen throttles, withrottles and script controlled trains.

If you find that, when you press “Stop!” twice on a cancab, JMRI trains decelerate to a stop (rather then immediately emergency stopping) and/or the stopped trains immediately start moving again, then you need to update JMRI and the command station firmware as described above.

You can also create an “emergency stop all” button on a JMRI panel, or in other PC software, by having it issue the CBUS “Request stop all” packet. Trains controlled by cancabs will stop correctly in response to such a command issued from JMRI or any other source.

To be able to read node parameters and re-program the cab PIC using Roger Healeys FLiM configuration utility (FCU), you need FCU version 1.3.3.3 or later.

The long events generated when a loco function key is pressed can be taught directly to CBUS SLiM consumers. To use these events with FLiM consumers and FCU, you require FCU version 1.4.4.12 or later.

It is known that to successfully program Tsunami decoders in service mode, you require command station firmware cancmd3b or later.

Pete Brownlow, 5th March 2012.