Release notes for CANCMD version 3d.

These notes document changes not yet included in the DCC system Technical Bulletins and user guide.

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I have made the following changes to the MERG DCC command station firmware written by Andrew Crosland:

Version 3d:

Fixed a problem bootloading via CBUS from version 3b or earlier.

If you try to bootload to version 3c from version 3b or earlier, the bootload would appear to succeed but you would be left with a non-working PIC that would then have to be reprogrammed directly using a PIC programmer.

Version 3D fixes this problem. You can bootload to version 3d from any earlier 3? version.

Note that you cannot bootload from versions 2 or earlier anyway because of the change in clock speed with version 3.

If you have version 3c already, there is no requirement to upgrade to 3d as, apart from the bootloading fix, they are functionally identical. You will be able to bootload from 3c to future versions.

If you have version 3b or earlier, do not upgrade to version 3c via the bootloader, upgrade to version 3d instead.

This problem does not affect those programming the PIC directly with a PIC programmer.

Version 3c:

1. CBUS transmit error checking is now implemented. This allows the command station to detect if there is not a working CBUS connection.
2. If the command station is unable to transmit on CBUS, 2 beeps will sound. This will be normal behaviour if you turn on the command station with nothing connected to the CBUS connector. If you get 2 beeps with other modules connected, then there is a fault between the PIC and the CBUS.
3. If the on board booster is shorted, with J7 in and nothing connected to the CBUS connector, the continuous beeping and flashing LED behaviour is now as described in the build instructions. Versions 3b and earlier would beep once and the LED would then go out in this situation.
4. The enable output to the output bridge chip is now turned off during the retry wait when overloaded, and also turned off when using the on board output as the programming track whenever the power is off on the programming track. This provides extra protection for the bridge chip during fault conditions.

Compatibility

Version 3d will work in either an 18F2480 or 18F2580 PIC.

Version 3d will run with any version of the cancab firmware and any version of JMRI that supports CBUS command stations.

However, some features will not be available in older versions of the cancab firmware – see the cancab release notes for details. The current version of cancab at the time of writing these notes is cancab2d.

If you are using JMRI controlled trains with your cancmd, then you need to be running 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 to the version mentioned above, or later.

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

Pete Brownlow, 30th July 2011