

CANCMD Version 4d is the release version, with no further changes from 4d BETA 4.

Note that the source code can be downloaded separately from the MERG wiki, and will shortly be available on GitHub.

CANCMD Version 4d BETA 4 contains the following changes from 4d BETA 2:

1. A fix for the DCC accessory control address mapping, the addresses are no longer out by four.
2. New Node Variable NV16 can be set to a maximum speed value. This acts as a speed limiter, and overrides any cab speed above this value. It is a DCC speed value, 1 to 127, any number above that will have no effect and the default is 130.
3. CANCMD now issues a startup CBUS event by default. This can be used as a “Start of Day” event for the layout if you wish. It is issued when the track power comes on, about 2 seconds after power up. It is a long event with the cancmd node number (65534 by default) and event number 1. This feature can be disabled by an NV flag. In version 5 it will be possible to teach an alternative short or long event for this feature.

CANCMD Version 4d BETA 2 contains the following changes from 4c BETA 12:

1. DCC accessory control is now implemented. Incoming CBUS events can be mapped DCC accessory commands. This feature can be turned on and off via an NV flag, and the node number of the events that will trigger this can also be set via an NV. See the CANCMD FliM document for details of these options:

[http://www.merg.org.uk/merg\\_wiki/lib/exe/fetch.php?media=cbus:cbusmodules:cancmd:mergcmd\\_flim\\_interface\\_1a\\_draft\\_7.pdf](http://www.merg.org.uk/merg_wiki/lib/exe/fetch.php?media=cbus:cbusmodules:cancmd:mergcmd_flim_interface_1a_draft_7.pdf)

The default settings are for the feature to be enabled, and for the mapped DCC node to be set to zero, which means that CANCMD responds to CBUS short events, such as those generated by CANCAB, by operating the corresponding DCC accessory according to the event number.

2. The CBUS reset node opcode is now implemented, so you can reset a CANCMD from FCU using the nodes → reset node option. Note that with the current version of FCU (1.4.7.41 at the time of writing) you can only do this if you have assigned a new node number to CANCMD using FCU, although CANCMD will respond to this opcode when addressed to its node number at any time.
3. CANCMD now flags as being in FliM by default without the need to actually put it into FliM by pressing the pushbutton. This means that the green LED will show a double flash about once a second, to indicate that CANCMD is in FliM. (You can still use the pushbutton to register CANCMD with FCU and allocate a new node number if you wish).

This change is so that CANCMD can accept node variable setting commands straight “out of the box” without the need to put it into FliM first. This opens up the possibility, for example, of having command station settings options on the CANCAB, so you would not have to have a computer interface to change CANCMD settings.

4. The proof of concept hard coded shuttle feature is now turned off by default. It can be turned on using a node variable flag. Full shuttle support will now be implemented in version 5, which will use the common CBUS libraries and also support the use of either 18F2580 or 18F25k80 series PICs.

CANCMD version 4 contains the following changes and new features compared to version 3:

1. At start up, the track power is not turned on for 2 seconds, to allow everything to stabilise first.
2. As soon as track power is turned on, a “stop all” broadcast is issued. This avoids certain decoders (eg: Loksound) remembering the speed they were going when power was removed and setting off when the power comes back on.
3. When a released loco is reselected, the function settings (lights, sound, current direction etc) are remembered from earlier in the same operating session. This avoids the lights going out, sound going off etc when reselecting the loco.

Note that CANCMD can only remember settings for a maximum of 32 different locos, including those currently selected.

Once you select the 33<sup>rd</sup> different loco in an operating session, CANCMD will start to forget settings for the first locos and you may find that lights go out or sound goes off when reselecting an earlier loco. This not yet been found to be a problem for users of this feature.

4. When you release a loco whilst it is moving, it is considered to be “dispatched”. The cancmd does not forget about the loco (as it did in version 3). It continues to drive the loco at the current speed until it is reselected. Useful for tail chasers. When the loco is reselected, the cab will automatically set the correct direction and keep all current function settings (lights, sound etc).
5. At present, you need to set the cab knob to about the right speed when reselecting a moving train, it will then accelerate or decelerate to the speed on the knob at the rate set by the inertia in the decoder. A future upgrade to the cab firmware may provide speed matching but the current arrangement works surprisingly well.
6. Support for steal and share. When you try to select a loco that is already in use by another cab, and you get the taken message, you can press consist and the display will show “Steal?”. Press Enter, and you can steal the loco from the other cab. The other cab displays “session lost”.

If you steal a moving loco, the same comments about the speed setting apply as described above in point 4.

When the cab display shows “Steal”, you can press consist again and the display shows “Share?”. Press enter and now both cabs are sharing control. The speed will be that set by the last cab whose knob was moved. Either cab can send function commands or stop.

7. LED indicators: The yellow indicator shows that track power is on for the built in track output as before. The green LED now flashes briefly about once a second to show the cancmd is alive, and flickers with CBUS traffic.

8. FLiM: You can now put cancmd into FLiM. Press the pushbutton for a few seconds just as with any other CBUS module until FCU pops up its messages. You can assign a new node number to cancmd and now you can configure some settings via FCU.

When in FLiM, the green LED now does a double flash about once a second.

9. FLiM config – in this version most of the Node Variables described in the FLiM interface document have been implemented, except for the shuttle features. Note that this is a Beta test work in progress, so there may be some exceptions.
10. Note that event handling, shuttles and DCC accessory control are not yet implemented.