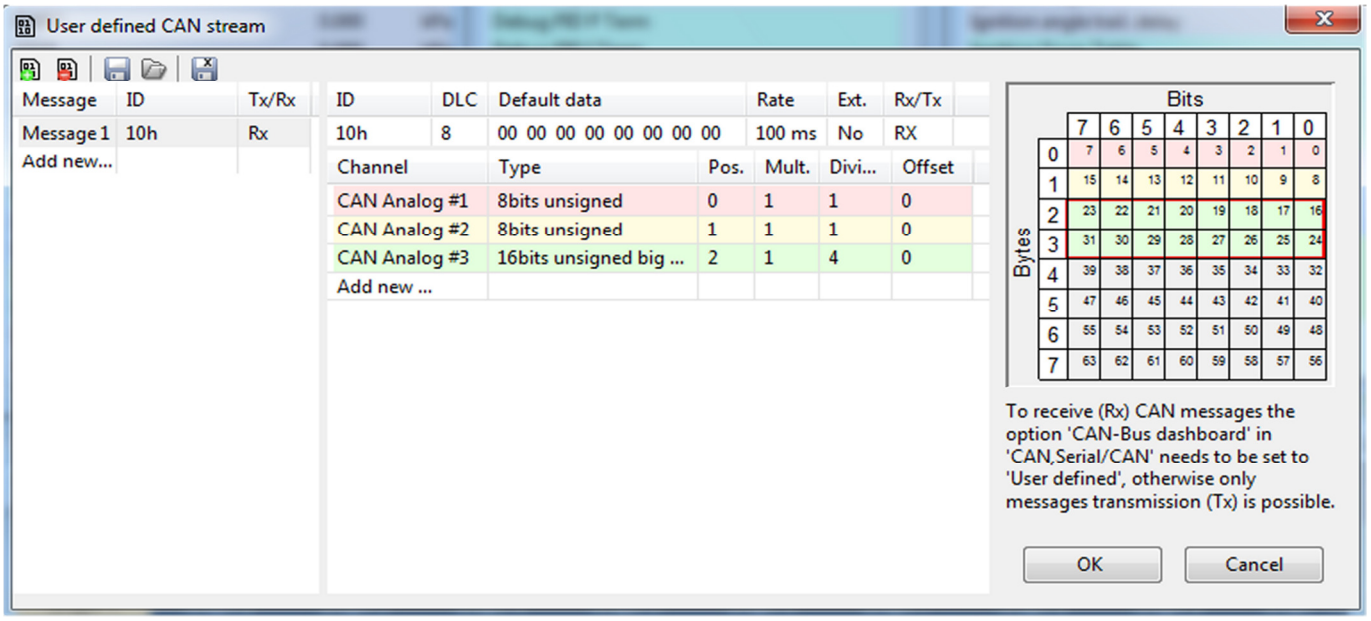
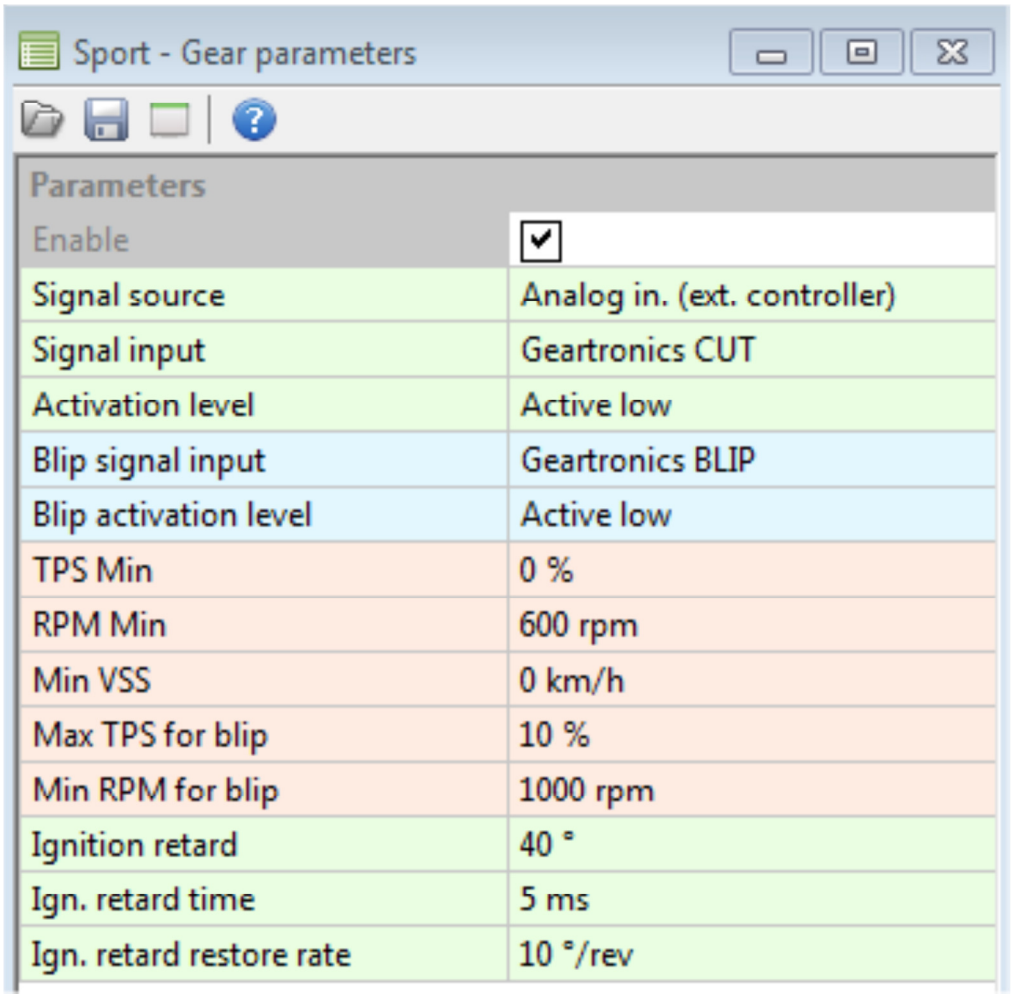
ECUmaster BLACK CANbus cut/blip setup instructions Rev-2

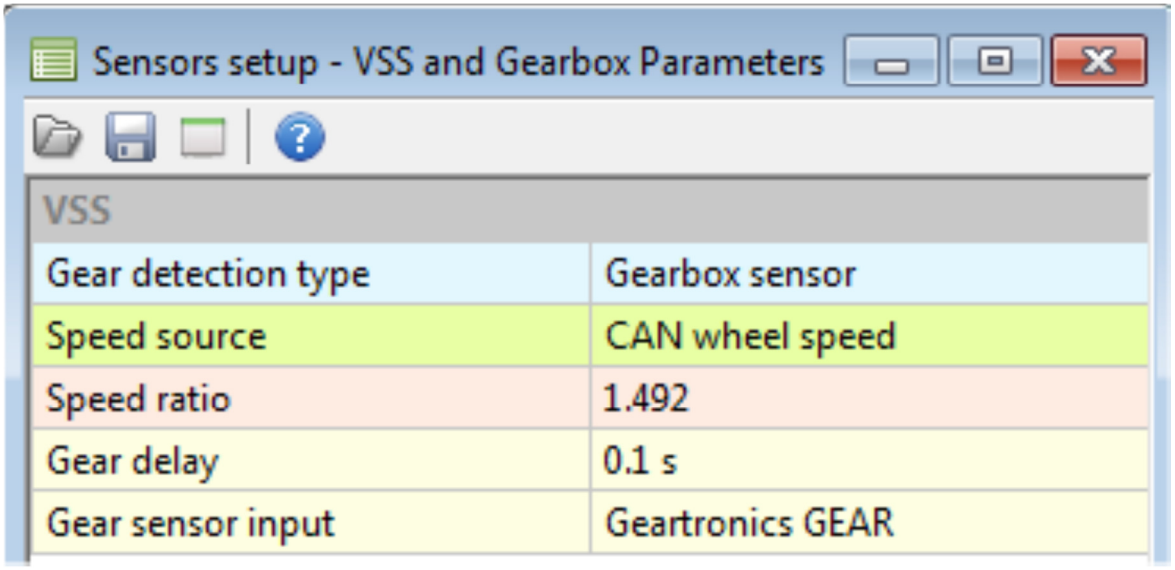
Perform setup in the following order

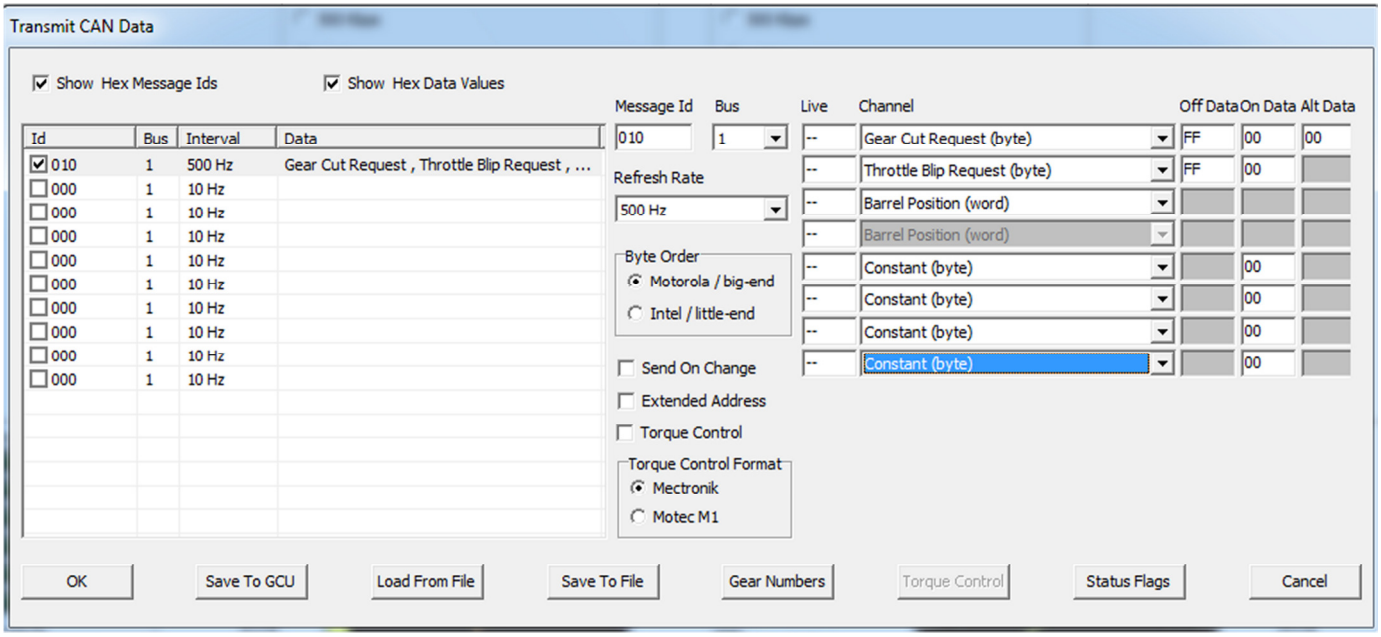
1. On the menu bar on the left, expand “CAN, Serial” and select CAN
2. Make a note of the CAN bus speed. The GCU transmit speed must be set to match, usually 1Mbit/s.
3. Set “CAN-Bus dashboard” to User Defined. IMPORTANT: If you are using an OEM dashboard then custom CAN receive is not possible!
4. Close the CAN window, then at the top of the screen select “Tools” then “User defined CAN Stream”
5. Double-click “Add new message”. Specify an ID number and tick “Rx message”. Choose a number lower than any existing messages as this will then take higher priority. We recommend using address 010h. Click OK to close the window.
6. Double-click “Add new channel”, then in the “Log channel” drop-down, select the next available “CAN Analog #” channel. Use 8-bit unsigned and specify byte position 0. This will be used for the gear cut request.
7. Add another new channel as above, but set to byte position 1. This is used for throttle blip request.
8. Add a further channel for gearbox barrel position. This should be set to “16bits unsigned big endian”. Set the byte position to 2 and the divisor to 4.
9. Click OK to exit the custom CAN setup.
10. Go to “Tools” then “Show assigned inputs”. Scroll down to the “Analog input CAN#” channels and right-click on the channel that you set in step 6 above. Rename the channel to “Geartronics CUT”
11. Do the same for the channel you set in step 7, but name this “Geartronics BLIP”
12. Repeat for the channel you set in step 8 and set the name to “Geartronics GEAR”
13. Close the input setup window and then in left hand menu, go to Sport > Gear cut > Parameters
14. Tick the enable box and set the signal source to “Analog in. (Ext. controller)”
15. Set the Signal input to “Geartronics CUT” from the drop-down list and set to active low
16. Set the Blip signal input to “Geartronics BLIP”. Set to active low
17. Set the rest of the parameters in this window as shown in the screenshot below.
18. To set up the gear position CAN input, go to Sensor Setup > VSS and Gearbox > VSS
19. Set Gear detection type to “Gearbox sensor” and set the Gear sensor input to “Geartronics GEAR”
20. Close the VSS window and go back to “Tools” and “Show Assigned Inputs”. Confirm that the 3 CAN analog inputs have been assigned to the cut, blip and gear functions.
21. In the Geartronics GCU software, select the CAN bus tab, then select “Advanced” for CAN Transmit settings. Click the “Id” box for the first empty message, then specify address 010 (hex).
22. Set 500Hz refresh rate and Motorola big endian.
23. Add 8-bit messages for CUT and BLIP. The “off” value should be set to FF and the “on” (and alt) values should be 00.
24. Add a 16-bit channel for “Barrel position (Word)”
25. For the remaining 4 bytes of the message add a “Constant (byte)” and set the “on” value to 00.
26. To calibrate gear positions in the ECUmaster software, go to Sensor Setup > VSS and Gearbox > VSS then select “Gear sensor cal.” Enter the received voltages for each gear. The voltage can be read by using the LOG function and adding the relevant analog CAN channel.



Analog input #6 inverted ...	Not assigned	
Analog input CAN#1	Sport/Gear Cut/Parameters/Signal input	Geartronics CUT
Analog input CAN#2	Sport/Gear Cut/Parameters/Blip signal in...	Geartronics BLIP
Analog input CAN#3	Sensors setup/VSS and Gearbox/VSS/Gear...	Geartronics GEAR
Analog input CAN#4	Not assigned	




Sensors setup - VSS and Gearbox Parameters
VSS
Gear detection type
Gearbox sensor
Speed source
CAN wheel speed
Speed ratio
1.492
Gear delay
0.1 s
Gear sensor input
Geartronics GEAR


Transmit CAN Data
Show Hex Message Ids
Show Hex Data Values
Id
Bus
Interval
Data
010
1
500 Hz
Gear Cut Request , Throttle Blip Request , ...
000
1
10 Hz
Message Id
Bus
Live
Channel
Off Data
On Data
Alt Data
Gear Cut Request (byte)
Throttle Blip Request (byte)
Barrel Position (word)
Constant (byte)
FF
00
Refresh Rate
500 Hz
Byte Order
Motorola / big-end
Intel / little-end
Send On Change
Extended Address
Torque Control
Torque Control Format
Mectronik
Motec M1
OK
Save To GCU
Load From File
Save To File
Gear Numbers
Torque Control
Status Flags
Cancel