

## M800 ECU Comms Setup

The hundred series ECUs offer a low level of customisable communication. Predefined data sets and two custom data sets can be transmitted on CAN and RS232. Only predefined CAN templates can be received, which includes templates for all CAN-based MoTeC products, and NMEA GPS information on RS232.

### Custom Data Sets

There are two custom data sets where a list of channels to be transmitted can be selected. Up to 64 channels can be selected per set. The 'Export Comms template' feature creates CAN templates of the custom data set that appear in the templates list of the selected devices. These templates require the custom data set to be transmitted from the M800 in the 'CRC32' format on a CAN Address of '1520'.

### CAN Setup

Within the CAN setup parameters there are 7 sections, CAN 0 to CAN 6. Different data can be received and transmitted for these sections in a fixed format.

Custom data sets can be transmitted in three different fixed formats: Compound, Sequential, or CRC32.

**Compound** format transmits each group of 3 channels in custom data set item number order with an identifier at the start of each message. Transmitted on the CAN address specified until all channels are sent before repeating at the transmit rate defined.

Offset	0	1	2	3	4	5	6	7
CAN Address	0x0000		Item 1		Item 2		Item 3	
CAN Address	0x0100		Item 4		Item 5		Item 6	
CAN Address	0x0200		Item 7		Item 8		Item 9	

*Example of transmitting 9 channels in compound format*

**Sequential** format transmits each group of 4 channels in custom data set item number order on a sequentially incremented CAN address starting at the address specified. Up to 16 CAN addresses can be used for 64 channels, transmitted at the rate specified.

Offset	0	1	2	3	4	5	6	7
CAN Address	Item 1		Item 2		Item 3		Item 4	
CAN Address + 1	Item 5		Item 6		Item 7		Item 8	
CAN Address + 2	Item 9		Item 10		Item 11		Item 12	

*Example of transmitting 12 channels in sequential format*

**CRC32** format transmits all channels in the MoTeC CRC32 format. This is an RS232 type format, beginning with a header and ending with a CRC32 32bit checksum. Data packet is sent on the CAN address specified. This format is also used when transmitting custom data sets on telemetry (RS232).

Offset	0	1	2	3	4	5	6	7
CAN Address	0x82	0x81	0x80	Length	Item 1		Item 2	
CAN Address	Item 3		Item 4		Item 5		Item 6	
CAN Address	Item 7		Item 8		CRC 3	CRC 2	CRC 1	CRC 0

*Example of transmitting 8 channels in CRC32 format*