



Configuring

How to set Blink Marine Keypad ID with PDM

Usually, Blink Marine's keypad come with a CAN ID 0x15 and operate at a bitrate of 125 kbit/sec as factory settings.

3. Default settings

Setting	Default state or level	How to change
Baud Rate	125 kbit/s	Object 2010h
CANopen Node ID	15h	Object 2013h

To use a Blink Marine keypad with AiM PDM, it is possible to configure via Race Studio 3 up to a maximum of 4 keypads on the CAN 2 Stream and using an additional protocol on the same bus, but keypads need to have different CAN IDs and work with the same Bitrate.

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Question:

How to set Blink Marine Keypad **ID** with PDM devices?

Answer:

Race Studio 3 can configure Blink Marine Keypad with 8 or 12 buttons, for using them with PDM08 and PDM32. Race Studio 3 can manage:

8 buttons Keypads with CAN ID value:

0x15, 0x16, 0x17, 0x18

PKP-2400-SI (8 keys)



Enable Keypad with ID: 0X15 (8 keys)

Enable Keypad with ID: 0X16 (8 keys)

Enable Keypad with ID: 0X17 (8 keys)

Enable Keypad with ID: 0X18 (8 keys)

12 buttons Keypads with CAN ID value:

0x19, 0x1A, 0x1B, 0x1C.

PKP-2600-SI (12 keys)



Enable Keypad with ID: 0X19 (12 keys)

Enable Keypad with ID: 0X1A (12 keys)

Enable Keypad with ID: 0X1B (12 keys)

Enable Keypad with ID: 0X1C (12 keys)

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You can use CAN2 Output feature of PDM configuration to set a specific CAN ID.

To change the CAN ID of a keypad, follow the instructions below:

- 1) You need to know the current keypad ID.
- 2) Connect only and exclusively the keypad to be set on the CAN 2 Stream of the PDM.
- 3) Open Race Studio 3 and create a new configuration for PDM, do not configure anything but go directly to the CAN Output tab and select CAN 2 sub – Tab.
- 4) Click on Add New Payload and create a new one like the one in the picture below.

The ID must be $0x600 +$ the current keypad ID (in the picture keypad ID is $0x15$). Follow the other parameters and confirm by pressing OK.

The dialog box titled "Set CAN Header Details" contains the following fields and controls:

- ID CAN (hex):
- Bit length: 11 bits 29 bits
- DLC:
- Byte Order:
- Frequency:
- Buttons: OK, Cancel

Confirm by pressing OK.

Now you can start compiling the Payload:

The interface shows the CAN2 configuration window with the following details:

- Bit Rate Protocol (bit/s): 1 Mbit/s
- Name:
- Table of CAN ID (hex) and bytes:

CAN ID (hex)	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
<input checked="" type="checkbox"/> 0x615	EH							

Buttons: Add New Payload, Export, Import

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- 5) Click on Byte **0** and configure it like in the image on the right:

The screenshot shows the 'Set CAN Payload Details' dialog box. The 'Num Bytes' dropdown is set to '1 byte'. The 'Use channel' radio button is unselected, and the dropdown is set to '-- Not Set --'. The 'Use static value' radio button is selected, and the text input field contains '0x2F'. The 'Use counter' radio button is unselected, and the 'step', 'start', and 'end' input fields are all set to '0'. At the bottom, there are 'OK', 'Delete', and 'Cancel' buttons.

Confirm by pressing OK

- 6) Click on Bytes **1-2** and configure it like in the image on the right:

The screenshot shows the 'Set CAN Payload Details' dialog box. The 'Num Bytes' dropdown is set to '2 bytes'. The 'Use channel' radio button is unselected, and the dropdown is set to '-- Not Set --'. The 'Use static value' radio button is selected, and the text input field contains '0x2013'. The 'Use counter' radio button is unselected, and the 'step', 'start', and 'end' input fields are all set to '0'. At the bottom, there are 'OK', 'Delete', and 'Cancel' buttons.

Confirm by pressing OK

- 7) Click on Byte **3** and configure it like in the image on the right:

The screenshot shows the 'Set CAN Payload Details' dialog box. The 'Num Bytes' dropdown is set to '1 byte'. The 'Use channel' radio button is unselected, and the dropdown is set to '-- Not Set --'. The 'Use static value' radio button is selected, and the text input field contains '0'. The 'Use counter' radio button is unselected, and the 'step', 'start', and 'end' input fields are all set to '0'. At the bottom, there are 'OK', 'Delete', and 'Cancel' buttons.

Confirm by pressing OK

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8) Click on Byte **4** and configure it like in the image on the right:

Pay attention to set here the value of the new CAN ID for the keypad (in the picture it is supposed a new ID value 0x16)

Confirm by pressing OK.

9) Configure the remaining **3** Bytes respectively as in the image on the right: (=0)

Confirm by pressing OK.

10) Finally, you will have configured a payload as in the figure below:

Bit Rate Protocol (bit/s)	Name							
	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
125k bit/s	0x615	STATIC VALUE: '0x2F'	STATIC VALUE: '0x2013'	STATIC VALUE: '0'	STATIC VALUE: '0x16'	STATIC VALUE: '0'	STATIC VALUE: '0'	STATIC VALUE: '0'

CAN ID (hex) 0x615

Once the configuration is transmitted to the PDM, the connected keypad will change its CAN ID. (in the example the CAN ID will change from 0x15 to 0x16).



Configuring

How to set Blink Marine Keypad CAN Bus bitrate

Usually, Blink Marine's keypad come with a CAN ID 0x15 and operate at a bitrate of 1Mbit/sec as factory settings.

Race Studio 3 can manage the Bitrate value of the CAN Bus at 125 kbit/sec, 250 kbit/sec, 500 kbit/sec and 1Mbit/sec. If you configure a CAN 2 Stream protocol, the Bitrate of all keypads must be the same as that of the protocol.

Question:

How to set Blink Marine Keypad **Bitrate** with PDM devices?

Answer:

You can use CAN 2 Output feature of PDM configuration to set a specific keypad bitrate. To change the bitrate of a keypads, follow the instructions below:

- 1) You need to know the current keypad ID.
- 2) Connect only and exclusively the keypad to be set on the CAN 2 bus of the PDM.
- 3) Open race Studio 3 and create a new configuration for the PDM, do not configure anything but go directly the CAN Output tab and select the CAN 2 sub-tab.
- 4) Click on Add New Payload and create a new one like the one in the picture below.

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The ID CAN must be $0x600 +$ the current ID (in the picture keypad ID is $0x15$).

The dialog box titled "Set CAN Header Details" contains the following fields and controls:

- ID CAN (hex):
- Bit rate: 11 bits 29 bits
- DLC:
- Byte Order:
- Frequency:
- Buttons: OK, Delete, Cancel

Click on OK.

- 5) Click on Byte **0** and configure it like in the image on the right:

The dialog box titled "Set CAN Payload Details" for Byte 0 contains the following fields and controls:

- Num Bytes:
- Use channel:
- Use static value:
- Use counter: step: start: end:
- Buttons: OK, Delete, Cancel

Confirm by pressing OK.

- 6) Click on Bytes **1-2** and configure it like in the image on the right:

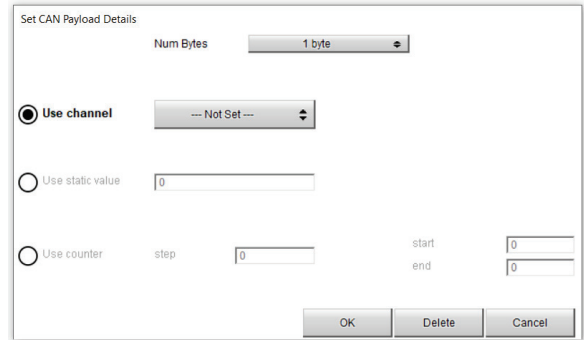
The dialog box titled "Set CAN Payload Details" for Bytes 1-2 contains the following fields and controls:

- Num Bytes:
- Use channel:
- Use static value:
- Use counter: step: start: end:
- Buttons: OK, Delete, Cancel

Confirm by pressing OK.

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7) Click on the Byte **3** and configure it like in the image on the right:

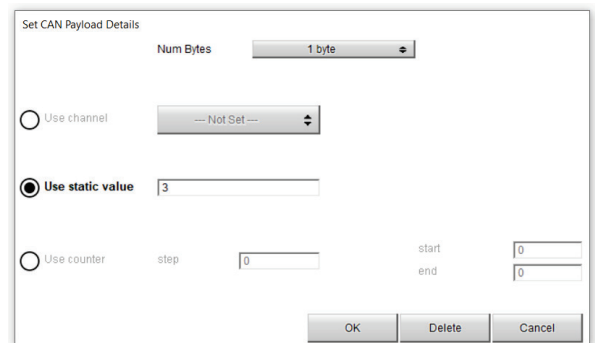


Confirm by pressing OK.

8) Click on Byte 4 and configure it like in the image on the right:

Pay attention to set here the value corresponding to Bitrate you want:

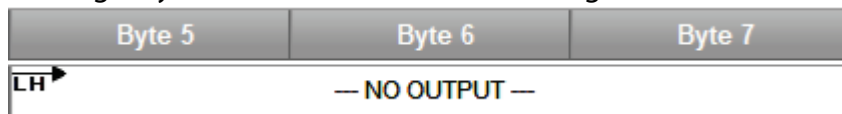
- Value 0 for 1 Mbit/sec
- Value 2 for 500 Kbit/sec
- Value 3 for 250 Kbit/sec
- Value 4 for 125 Kbit/sec



(In the picture we set a new Bitrate of 250 Kbit/sec)

Confirm by pressing OK.

9) Leave in the remaining 3 Bytes without value, as in the image below:



10) Finally, you will have configured a Payload as in the figure below:

<input checked="" type="checkbox"/>	CAN ID (hex)	Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
<input checked="" type="checkbox"/>	0x615	STATIC VALUE: '0x2F' LH	STATIC VALUE: '0x2010'	STATIC VALUE: '0'	STATIC VALUE: '4'	LH	— NO OUTPUT —		

Once the configuration is transmitted to the PDM and the connected keyboard will change its Bitrate. (in the example the new Bitrate will be 250 kbit/sec).