



SERVICE BULLETIN		
Note No.	SVC-FSB-0026	
Release Date	08/12/2015	
Contact	ngceoservice@ngc.com	

eDrive Front Panel Programming with Renesas E8a

Summary

The eDrive front panel utilizes a Renesas microcontroller that requires Flash programming during the production process. Older tools to program the device are deprecated and no longer available. This tech note describes the process for programming the Flash using the new E8a programming adapter from Renesas.

History

The eDrive front panel historically has been programmed with the Flash over USB (FoUSB) software and the MSV-FoUSB-MON programming adapter. This product is no longer available. As a replacement, Renesas has introduced the E8 and E8a adapters.

Configuration

This tech note is written to address the configuration consisting of the E8a programming adapter and the 14-pin to 10-pin connector adapter. These parts are available from vendors as follows:

Description	Part Number
E8a programming adapter	R0E00008AKCE00
14-pin to 10-pin connector adapter	R0KZC00000002R

Software Installation

The E8a kit includes a CD with all of the necessary software to program many devices. The front panel only utilizes the M16C family so all other families may be unchecked during the installation phase.

Hardware Setup

After software installation is complete, the E8a adapter may be connected to the host computer via the included USB cable. The device should be recognized automatically. Attach one end of the ribbon cable to the E8a and the connector adapter to the other end. Connect the adapter to the front panel programming connector, J11, being careful to observe pin orientation. Align the pin 1 indicator (usually a white triangle) with the pin marked as "1" on the front panel J11.

The adapter can program the microcontroller by supplying power to it or by using the power of the front panel. To avoid contention of power supplies, do not supply power to the front panel and command power to the adapter simultaneously. The front panel may be programmed standalone by delivering power to the front panel via the E8a programming adapter.



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Software Operation

1. Locate and run the **Flash Development Toolkit 4.07 Basic**. This can be found in the Renesas folder of the Windows start menu. On the first execution, the **Choose Device And Kernal** window appears.

Choose Device	And Kernel			— X
The FLASH Select the d	Development Toolkit supports a num evice you wish to use with this projec	nber of Renesas FL4 at from the list below.	SH devices.	21
Filter:				Uther
Туре	Full Name	Kernel Version	Info	*
H8S/Tiny	H8S/201x3F (Debug.	1000		
H8S/Tiny	H8S/202x3F (Debug.	1_0_00		
H8S/Tiny	H8S/201x5F (Debug.	1_0_00		
H8S/Tiny	H8S/202x5F (Debug.	1_0_00		
H8S	H8S/2110BF	1_1_00		
H8S	H8S/2111BF	1_1_00		
H8S	H8S/2134AF	1_3_00		
H8S	H8S/2134BF	1_3_00		
H8S	H8S/2138AF	1_3_00		
H8S	H8S/2141BF	1_3_00		
H8S	H8S/2144AF	1_3_00		-
•	m			P
		< <u>B</u> ack	<u>N</u> ext >	Cancel

Figure 1-1

- 2. In the **Filter** field, type "M3026" to obtain a filtered list of the parts. Select the "M30260F3" option and click **Next**.
- 3. The **Communications Port** window appears. **Select** "E8a" in the **Select port** field. Check the **Set Reset pin as low when disconnecting** checkbox. **Click Next**.





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Communications Port	
	Use this page to select your desired communications port/interface. All settings may be changed after the project is created.
	Select port: E8a 💌
2 1	Select an Interface type to connect to the target device with. Normally this will be "Direct Connection" or simply left blank.
	Select Interface: Direct Connection
14 13.	Set Reset pin as low when disconnecting
	< <u>B</u> ack <u>N</u> ext > Cancel

4. The **Connection Type** window appears. Click **Next**.

Connection Type	×
Workspace 10 D 12 10 Workspace 10 D 12 10 Workspace 10 D 12 10 Display 10 AD BA 0 0 F P 1 Device Image 1 2 A 33 1 S Comms.mot 2 A 4 D 4 D 75 54 AD 2D 75 2 A 4 D 4 D 75 54 AD 2D 75	The FLASH Development Toolkit can connect to your device in a number of different ways. All the options on this page may be changed after the Project has been created. Select Connection:
	< <u>B</u> ack <u>N</u> ext > Cancel



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5. The Programming Options window appears. Set Readback Verification to "Yes". Click Finish.

Workspace Market level of device protection would you like? Protection Interactive None Workspace Industrial of the programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. When programming the device, any blocks found to have been written previously will automatically be erased. What level of messaging Standard Mate and the programming the device. This mode is useful for Interface hardware development, and Kernel development. Would you like to perform readback verification after programming? Readback Verification Would you like to perform readback verification after programming? Readback Verification Would you like to perform readback verification after programming? Mate Standard No	Programming Options
< <u>B</u> ack Finish Cancel	Workspace Workspace

6. The **FDT Simple Interface** window appears. Check the **User / Data Area** checkbox and enter the path to the programming file needed. Click the **Program Flash** button.

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Release Date 08/12/2015 Contact ngceoservice@ngc.com FDT Simple Interface (Unsupported Freeware Version) Options BASIC FILE PROGRAMMING Device : M30260F3 Port : E8a: (Disconnected) File Selection © Download File ✓ User / Data Area Good Programmer Files\eDrive Firmware\VDD 87-106-10\\fp_13.mot			Note No.	SVC-FSB-0026
Contact ngceoservice@ngc.com FDT Simple Interface (Unsupported Freeware Version)			Release Date	08/12/2015
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FDI Simple Interface (Unsupported Freeware Version) Options BASIC FILE PROGRAMMING Device : M30260F3 Port : E8a: (Disconnected) File Selection Image: Comparison of the selection Image: User / Data Area Good Programmer Files\eDrive Firmware\VDD 87-106-10\Vp_13.mot Image: User Boot Area	(
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Device : M30260F3 Port : E8a: (Disconnected) File Selection Download File User / Data Area Good Programmer Files\eDrive Firmware\VDD 87-106-10\fp_13.mot User Boot Area	options	BASIC FILE PROGRAMMING	Exit	
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	© Dowr I User □ Use	Iload File / Data Area Good Programmer Files\eDrive Firmw / Boot Area	are\VDD 87-106-10\fp_13.mot	

7. The **Target Power Settings** window appears. If the front panel is already connected to the controller and the power supply is fully connected, click **OK**. Otherwise, select **Supply power from E8/E8a/E1 to user target board**.

Target Power Settings	x
Supply power from E8/E8a/E1 to user target bo	pard.
Power supply from E8/E8a/E1	ОК
O <u>3</u> 3V O <u>5</u> 0V	Cancel
Information on the user-power supply	
Be sure to select this check box if user power supply at 1.8 V is to be	
Memorize the settings in this dialog box until the	workspace closed.

8. The **Select USB Device** window appears. It should have an E8a programming adapter already identified. Click **OK**.

•



1 USB device located	<u>0</u> K
E8a: 2LS055677	<u>C</u> ancel

9. The focus switches back to the **FDT Simple Interface** window. Observe the process status in the bottom pane of the window. Note whether programming is successful and verification is complete. Click the **Disconnect** button. Click **Exit** to terminate program.

FDT Simple Interface (Unsupported Freeware Version)	
Options	
BASIC FILE PROGRAMMING	Exit
Device : M30260F3 Port : E8a: (2LS055677)	
File Selection	
Download File User / Data Area Good Programmer Files\eDrive Firmware\VDD 87-106-10\fp_13.mot User Boot Area	
Program Flash	Disconnect
Writing image to device [0x000FFF00 - 0x000FFFF] Data programmed at the following positions: 0x000FA000 - 0x000FCEFF Length : 0x00002F00 0x000FF700 - 0x000FFFF Length : 0x00000100 0x000FFF00 - 0x000FFFF Length : 0x00000100 12.25 K programmed in 1 seconds Image written to device Verifying data	•
Verification OK	-
III	4