

Title: Connecting Renesas E8 to H8S/2600 MPUs

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Author: Robert Bielik, Xponaut AB, <http://www.xponaut.com>

This document specifies how to connect the Renesas E8 debugger/programmer to a H8S/2633F MPU (which is not directly supported). Its very probable that this could be adapted to other series of H8S MPUs, but only the 2633F is described since that's the one I needed to be able to program.

Disclaimer: I can't vouch for this working on other H8S MPUs, so I can not and will not answer any questions as to the non-functionality of a particular design.

1 Hardware

1.1 Connecting the E8 to a H8S/2633F

The pinout of the H8 is based on the FP-128 package.

E8Direct pinout		H8S/2633F	
Pin	Descr	Pin	Descr
1	Output D		
2	GND	-	GND on board
3	Output C	82	FWE
4	Output A	2	MD2 (L=Bootmode)
5	Target TxD	26	TxD2
6	GND	-	GND on board
7	Output B		
8	UVCC	-	+VCC of board supply (+5 or +3.3V)
9	BUSY		
10	GND	-	GND on board
11	Target RxD	27	RxD2
12	GND	-	GND on board
13	RESET	79	/RES
14	UCONNECT	-	GND on board

I chose to use Output A & C to connect to MD2 (MSB Operating Mode Control) and FWE (Flash Write Enable), but any of the generic outputs A – D of E8Direct can be used with the appropriate change in software configuration (next section).

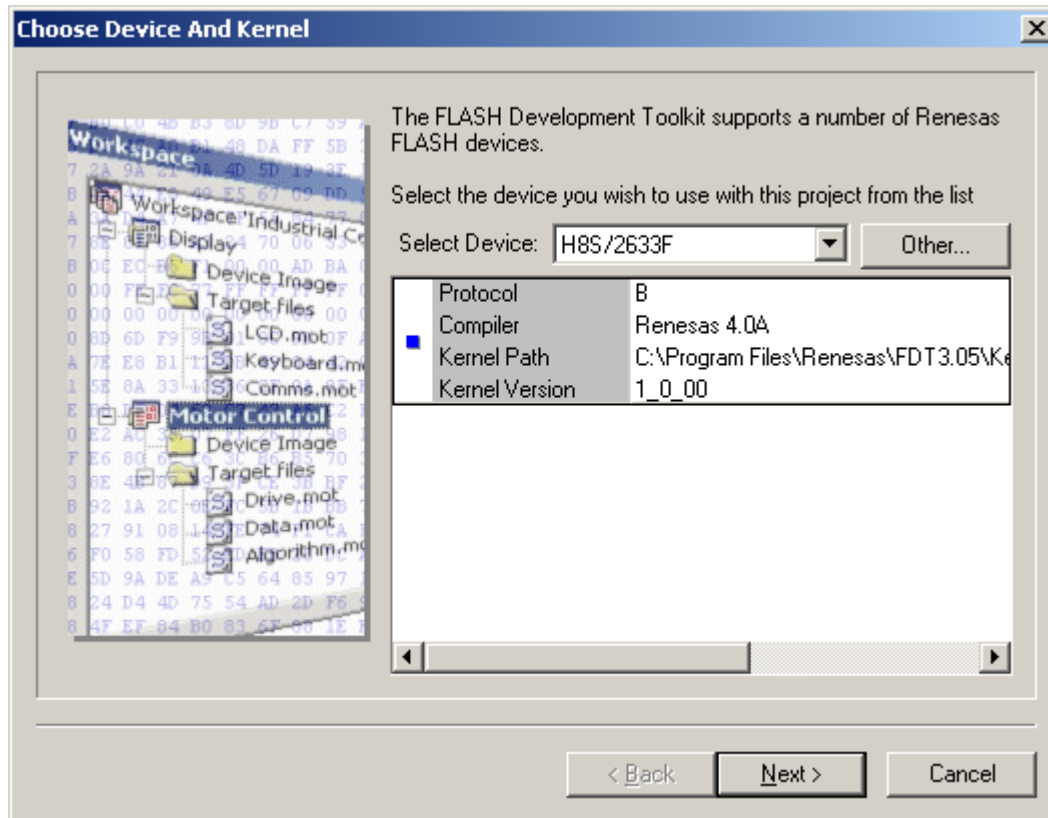


The E8 cable.

2 Flash Development Toolkit settings

I use FDT V3.05 in this setup, when installing you have to select which MPU families it will support. Naturally, I chose the H8S/2600 family...

2.1 Chose H8S/2633F processor



2.2 Chose E8Direct as port

The FLASH Development Toolkit supports connection through the standard PC Serial port and the USB port. Use this page to select your desired communications port. All settings may be changed after the project is created.

Select port:

Select an Interface type to connect to the target device with. Normally this will be "Direct Connection" or simply left blank.

Select Interface:

< Back Next > Cancel

2.3 Select crystal freq (my design uses 18.432 MHz)

Please enter the specific device options based on:

Select the external clock or the internal clock:

Enter the CPU crystal frequency for the selected device: Mhz

Enter the clock mode for the selected device:

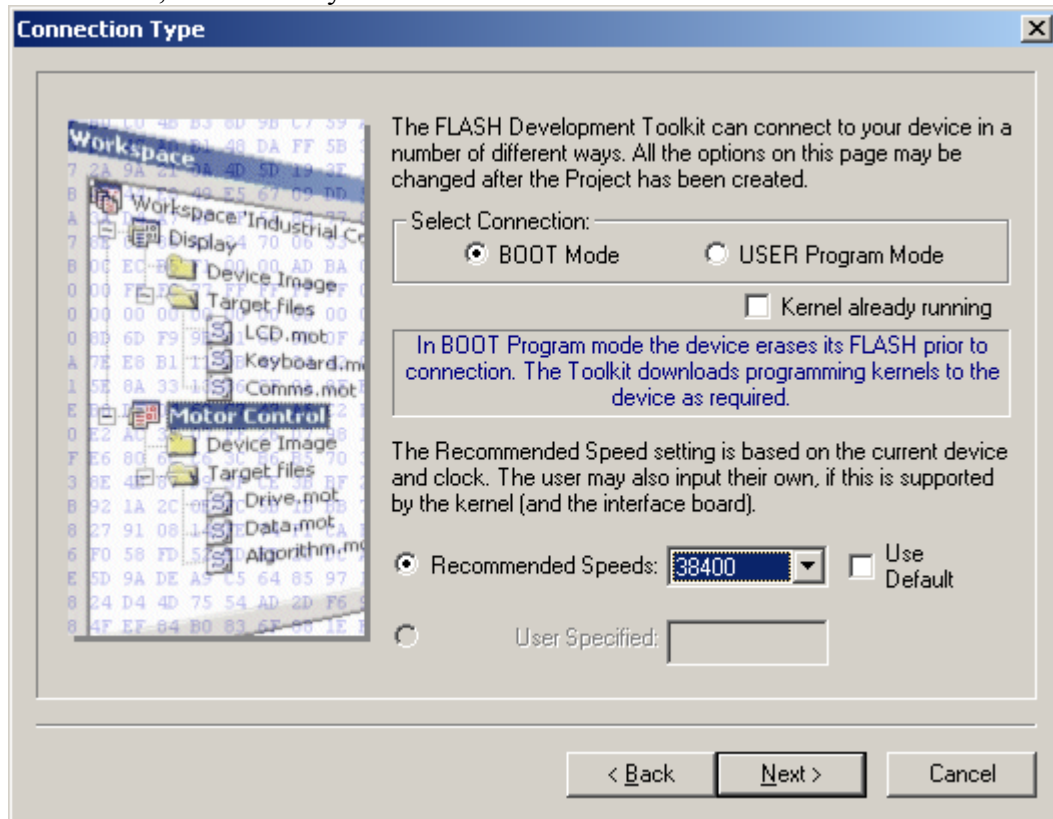
Select the multiplier for the Main clock frequency (CKM):

Select the multiplier for the Peripheral clock frequency (CKP):

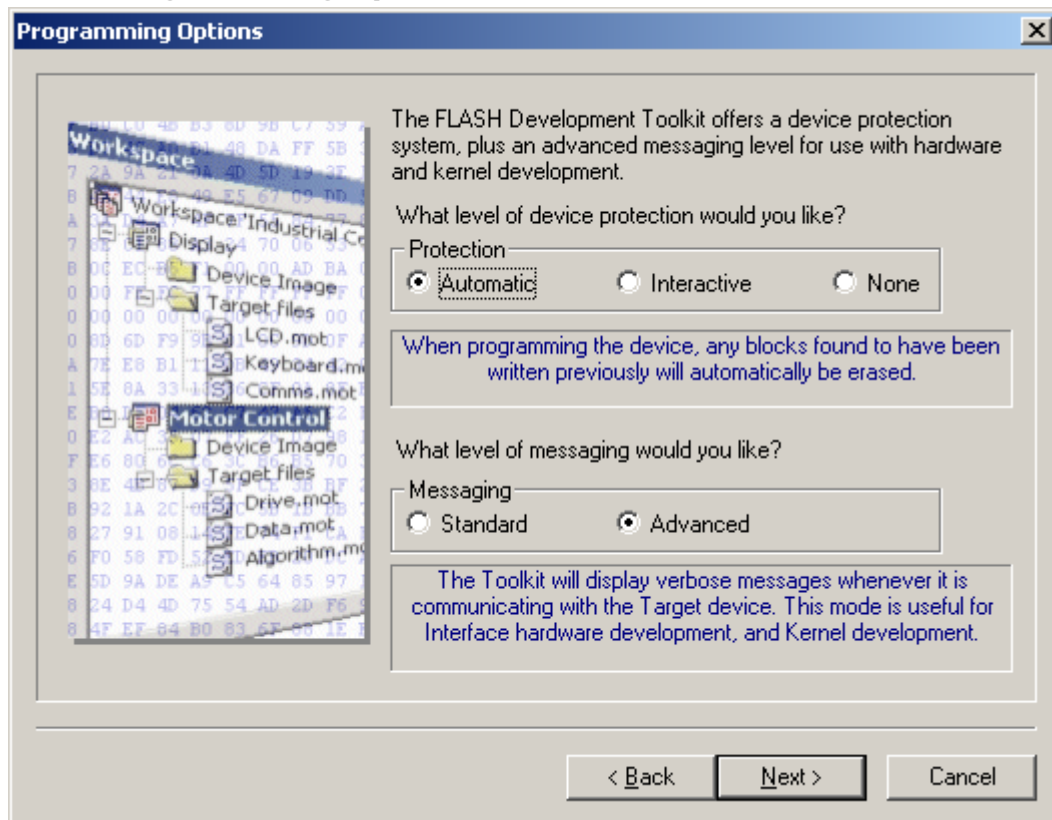
< Back Next > Cancel

2.4 Select BOOT mode as connection option

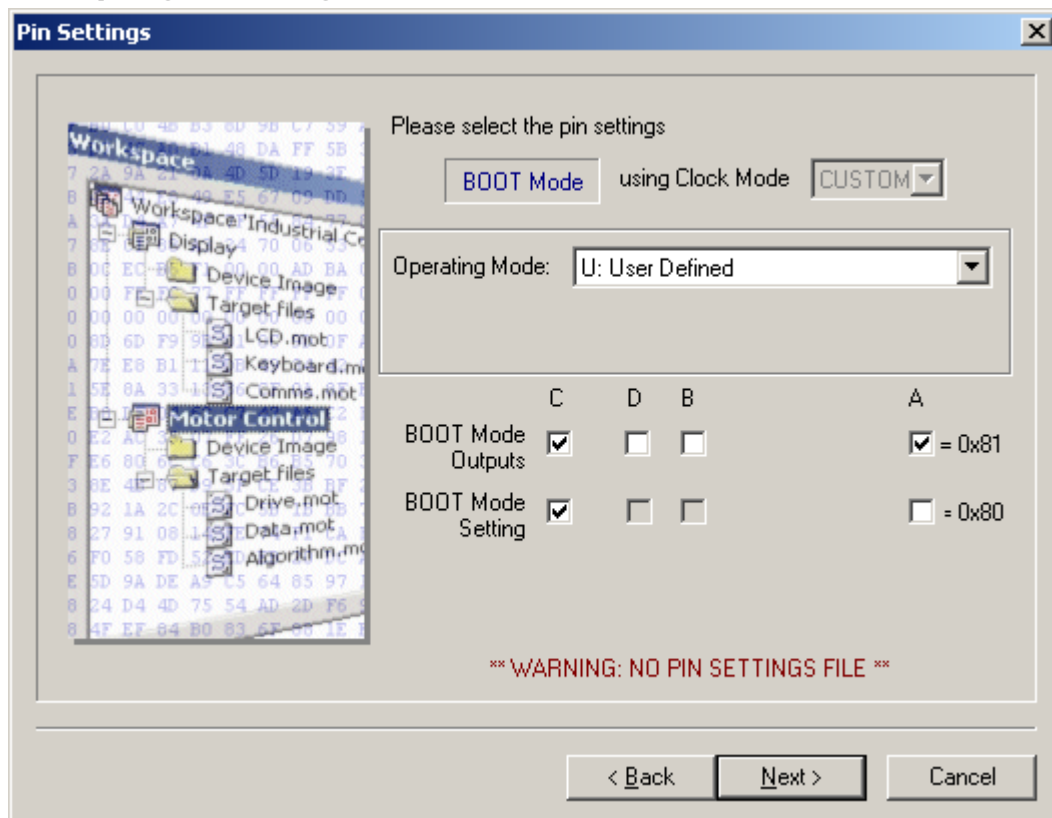
Also set the communication speed (deselect the “Use Default” checkbox). Here it is 38400 baud, but I actually use 57600 baud now.



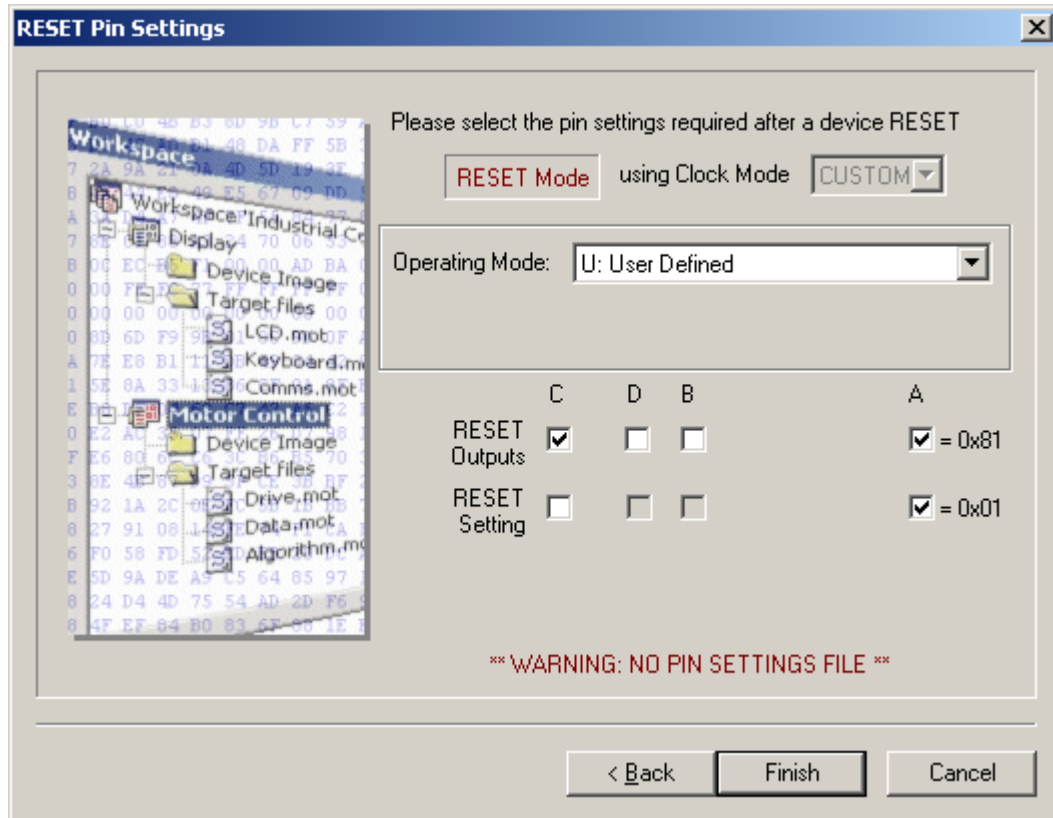
2.5 Programming options



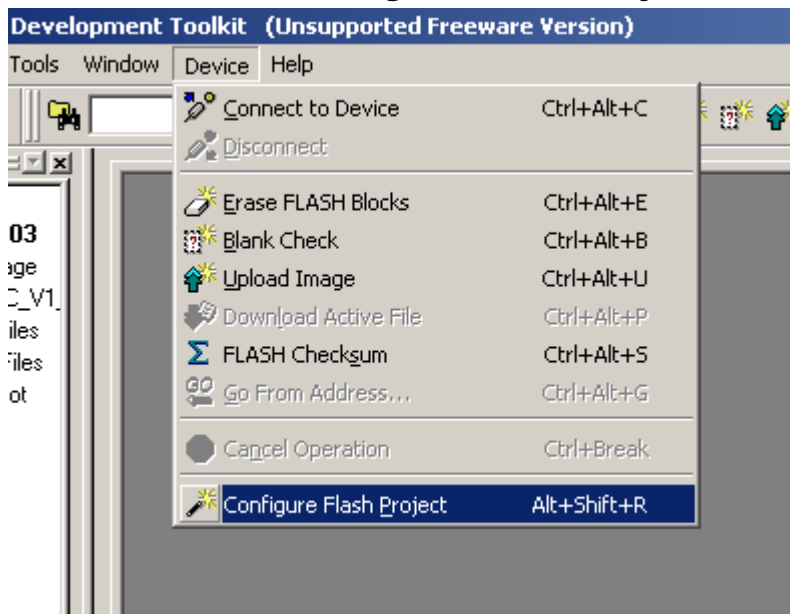
2.6 Chose output pin settings in BOOT mode (when FDT is programming the H8S device)



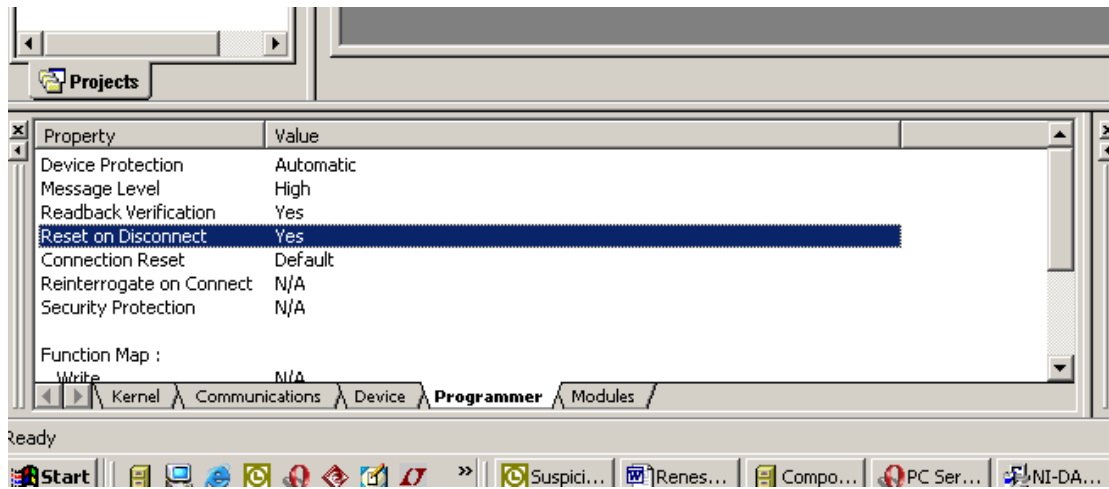
2.7 Chose output pin settings in RESET mode (after FDT disconnects the H8S device)



2.8 Chose to "Configure Flash Project" in FDT



When you've done that a collection of settings are shown in bottom left of FDT GUI:



Make sure “Reset on Disconnect” is set to “Yes”. This will ensure that the MD2 and FWE are set to HI and LO respectively after the device is disconnected (so you’ll be able to run your user program even though the programmer is connected).

That’s about it. Happy programming!!