

Introduction

This guide is intended to help you to get started quickly when using the EDK2612. It will cover how to:

1. Install the software tools
2. Build an executable file
3. Program the FLASH
4. Run the debugger and download an executable file to the board

① Software Installation

If you did not receive a CD with your EDK the required software is available for download at

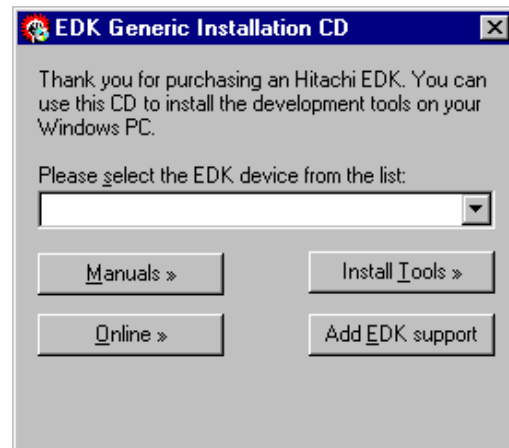
<http://www.hmse.com/products/edk/support/index.htm>

Insert the EDK Software Tools CDROM in your drive, it should automatically run the menu program. If it does not:

- Open "**My Computer**" from your desktop
- Locate and open the CDROM drive
- Double-click the "**autorun.exe**" icon to run the program.

Once the menu program is running:

- Select H8S/2612 from the drop down list.
- The buttons suffixed with the '»' symbol will display a popup menu when clicked. The content above the separator in these menus changes dynamically, depending on the selected EDK device.
- If you do not have full versions of the Hitachi tools already installed, you should install the trial versions by clicking the "**Install Tools »**" button and complete the installations for:
 - HEW2 (Hitachi H8 Toolchain)
 - FDT
- Click the "**Add EDK Support**" to install the HEW project generator, and HDI .io data file for the EDK.



Documentation

You need to have Adobe Acrobat Reader installed on your PC if you want to read the provided PDF documents. The CD's menu program will automatically detect if you need to install the Acrobat Reader when you first select a PDF document from the Manuals popup menu. Alternatively, you may install Acrobat Reader manually from the CD's menu program by selecting "**Manuals »**", "**Acrobat Reader**".

② Generating a Test Project

Once you have installed the required software you can quit the menu program and start Hitachi Embedded Workshop (HEW).

- Start HEW by using the Start Menu to navigate to and select "**Hitachi Embedded Workshop**".
- In the "**Welcome**" dialog box, select "**Create a new project workspace**" and click "**OK**".
- In the "**New Project Workspace**" dialog box, change the directory to a suitable location.
- Enter the workspace name, "**EDK2612_debug**".
- Select the CPU Family for the EDK: "**H8S,H8/300**".
- Select the Toolchain: "**Hitachi H8S, H8/300 Standard**".
- Select the Project Type "**EDK2612**" for your EDK.
- Click "**OK**".

This will start the EDK Project Generator wizard, which will set up the correct environment for your EDK.

- When asked "What type of project do you want to generate?", select "**Tutorials**" and click "**Next >**".
- Select the type of project "**edk2612_debug**".
- Click "**Finish**".
- In the "**Project generator information**" dialog box, click "**OK**".

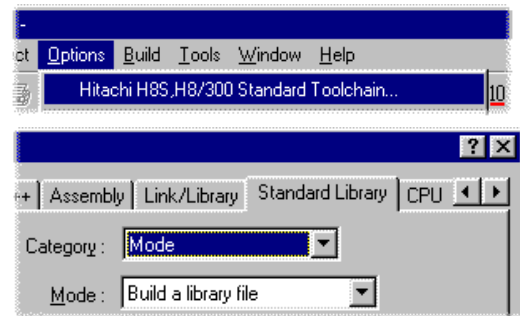
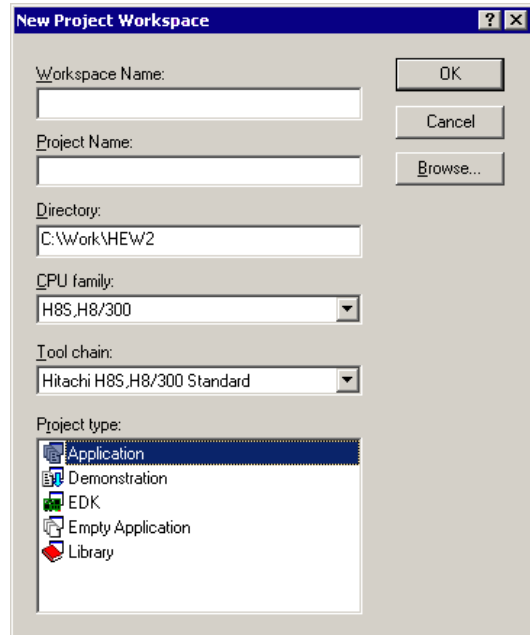
You will see a list of project files appear in the Workspace window, showing that the Project Generator has created the project for you.

Now check the Library generator output type is correct:

- In "**Options**" on the bar at the top of the screen, select "**Hitachi H8S, H8/300 Standard Toolchain...**" and select the "**Standard Library**" pane.
- Ensure the "**Mode**" is set to "**Build a library file**".
- Click "**OK**".

Now build the tutorial program and integrated HDI monitor:

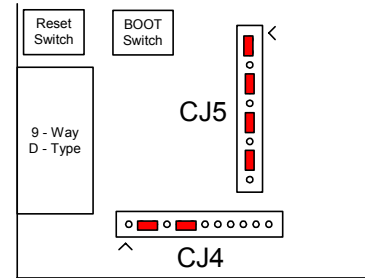
- Select the "**Build**", "**Build All**" menu item to build the program.
- If you are using the trial version of the toolchain, you will be prompted to activate it each time. Select "**Try**" to run the program. If the trial has expired, the "**Try**" button will not be available.
- Please ignore the L1100 warning - it does not affect the operation of the tutorial.
- When the build is complete, proceed to the next section to program your EDK with the HDI monitor (HDI-M).



③ Programming the Board

Before applying power to the board, please ensure that the jumpers fitted to CJ4 and CJ5 are set as follows (Pin 1 is indicated by an arrow on the silk-screen):

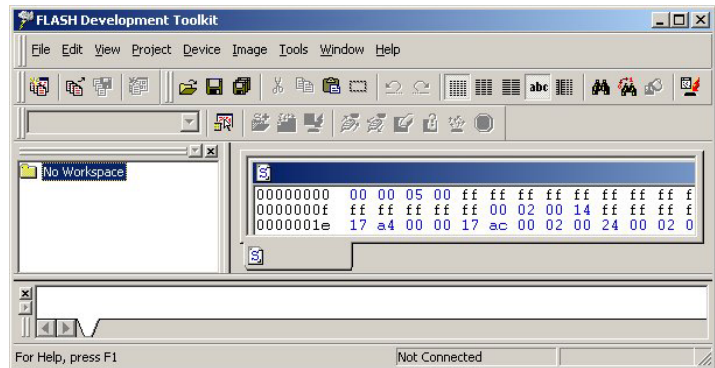
	PIN CONNECTIONS			
CJ4 (User Configuration)	2 – 3	5 – 6	–	–
CJ5 (Mode Configuration)	1 – 2	4 – 5	7 – 8	10 – 11



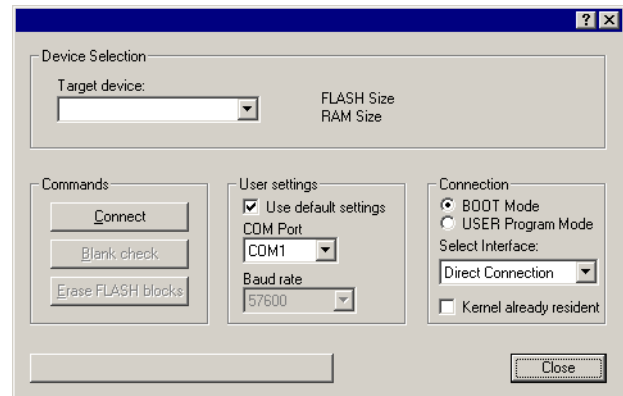
The HDI monitor will need to be programmed into the microcontroller FLASH to allow you to debug your code. **Unless this file is resident in the microcontroller no debugging can be performed with HDI.**

The Monitor allows user code to be downloaded and run from RAM, rather than needing to re-program the Microcontroller FLASH when the user code changes.

- Start FDT by using the Start Menu to navigate to and select "Flash Development Toolkit 1.5".
- When the "Welcome!" dialog box for FDT is displayed, click "Cancel". Do not create a workspace as the Quick Programming method is sufficient.
- Load the file **HDIM2612M7.mot** by selecting the "File", "Open" menu item, and navigate to the HDI – M directory on the CD.
- Once the file has been loaded into FDT, it is visible in the work area.



- Select the "Image", "Download Image" menu item to open the "FLASH Controller" dialog box.
- Set the "Target device" option to **H8S/2612F**. Ensure the correct **COM Port** is selected. Select "BOOT" mode. Set the "Select Interface" option to **Direct Connection**. Press the **BOOT** switch on the EDK. Click "Connect" to download the FLASH kernel.
- When the download is complete, the message "Connection complete" will be displayed in the Status view.
- Click "Download file HDIM2612M7.mot to device" to download your program file image.
- The message "Image successfully written to device" will be displayed in the Status view.
- Click "Disconnect" to free the COM Port for use by the debugger. Close FDT, then press the **RESET** button on the EDK.



④ Running the Debugger

The following procedure explains how to load the file you built in Section 2, into the EDK to debug using the HDI debugger.

To set up a link between the HDI-Debugger and the EDK you first need to:

- Ensure that the EDK is connected to Serial port "COM1" on the PC.
- Start HDI by using the Start Menu to navigate to and select "**Hitachi Debugging Interface\EDK Monitor**".
- In the "**Select Session**" dialog box, select "**Create a new session on:**" and set the correct debugging platform for the EDK2612 of **H8S/2600 Monitor**. Click "**OK**".
- If prompted for the communication settings, the required baud rate is **115200**.
- A successful link between the HDI debugger and the EDK will be indicated with a "**Link Up**" message in the Status Bar (found in the bottom left hand corner of the HDI window).
- Select the "**File**", "**Load Program...**" menu item to open the "**Load Program**" dialog box.
- Load the debug file **EDK2612_debug.abs**, from the project's Debug directory. If you use the Browse button, please ensure that the "**File of types**" drop list is set to **(*.*abs)** as the file extension.
- Depending on your Confirmation options, a message box may appear providing details of memory areas used by the program. Select "**OK**". (This information can also be seen in the Status view's "Memory" pane.)

To run the program:

- Select the "**View**", "**Source**" menu item and navigate to the source file main.c
- Select the "**Run**", "**Reset Go**" menu item.
- The USR2 LED on the EDK will start flashing,

Congratulations! You have installed the software; programmed the EDK and run your first program with the debugger. To continue learning about the tools and the board please read the EDK User Manual and the Tutorial Manual.

Technical Support

The EDK is a tool for evaluation purposes only. Technical support is limited to that which is provided on the Hitachi Micro Systems website at: <http://www.hmse.com/products/edk/support/index.htm>