# QuickStart Guide | H8/38024 StarterKit Plus™ SKP38024

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**Figure 1: SKP38024**

# 1.0 StarterKit Plus Software Install

Do **not** connect hardware to your computer until the software has been installed.

Please insert the enclosed CD into your computer's CD-ROM drive. The CD should auto-start, displaying the SKP Picker Install Screen. Follow the directions in the installation windows to install the Renesas software tools. It is recommended that you select all default install options.

a.) If the installation screen does not appear, please browse the CD root folder and double-click on "SKP-Installer.exe".

- Do not plug the E8 Debugger into your PC's USB port until instructed to in Section 2, USB Driver Installation.
- You may be prompted to restart your computer during the installation process. **Do not restart** until the SKP installer has completed installation of all the software items.
- During the SKP install, dialog boxes will appear asking if you would like to install the development tools. The development tools will allow you to evaluate the different features of the H8/38024 MCU and the High-performance Embedded Workshop (HEW) software development environment (debugger, compiler, linker, etc.).
- During the installation process, the AutoUpdater installer will launch. Do not configure it until all tools have been installed and the "Installation Complete" window is displayed.

b.) The install process installs HEW into the `C:\Program files\Renesas` folder, copies all SKP information and sample projects into `C:\Renesas\SKP38024,` and creates the folder `C:\Workspace.`

## 2.0 USB Driver Installation

When you connect the E8 Debugger to your computer for the first time, Windows will recognize the new device and request the driver. Follow the steps below to install the driver. Administrator privileges are required to install the driver on a Windows 2000/XP machine.

- a.) Connect the SKP as shown in Figure 1, and connect the USB cable to your PC.
- b.) Verify that the Green LED ("ACT") is on; otherwise, check your USB connection.
- c.) If using Windows 2000, no intervention by the user is needed. When the E8 Debugger is plugged in, Windows automatically attaches the correct driver for your device and it is ready to use. Skip to step 2.0e.).
- d.) If using Windows XP, the first time the E8 Debugger is plugged into a different USB port, the Windows XP "Found New Hardware Wizard" window will appear.
  - i) If Windows asks you to connect to "Windows Update", select "No, not this time".
  - ii) Select the option "Install the software automatically (recommended)". Windows will then begin installing the USB driver.
  - iii.) Another screen will probably appear stating that this driver has not been XP certified by Microsoft. Click the <**Continue Anyway**> button. (We did not participate in the Microsoft XP driver certification program.)
  - iv.) After the driver has installed, you will be able to click <**Finish**> to close the wizard.

- e.) If the Windows "New Hardware Wizard" does not automatically find the driver, browse to the `C:\Windows\System32\drivers` directory.

*NOTE: If you have problems installing the drivers, or if your PC will not recognize the E8, please see the "Troubleshooting" section of the SKP38024 User's Manual for help.*

## 3.0 HEW IDE QuickStart

The High-performance Embedded Workshop software (HEW) integrates various tools such as the compiler, assembler, debugger, and editor into a common Graphical User Interface.

- a.) Launch HEW from the Start menu (Start > (All) Programs > Renesas > High-performance Embedded Workshop > High-performance Embedded Workshop).
- b.) In the "Welcome!" dialog box:
  - i.) Verify that "Create a new project workspace" is selected.
  - ii.) Click <**OK**>.
- c.) In the "New Project Workspace" dialog box:
  - i.) Verify that "CPU family" is set to "H8S, H8/300" and "Tool chain" is set to "H8S, H8/300 Standard".
  - ii.) Select "H8/38024 Starter Kit Plus" (Figure 2).
  - iii.) Enter "SKP38024 Quickstart" for the Workspace. The Project Name will auto fill with the Workspace name.
  - iv.) Click <**OK**>.
- d.) In the "H8/38024 – Step 1" window:
  - i.) Select "Verify".
  - ii.) Click <**Next**>.
- e.) In the "H8/38024 – Step 2" window:
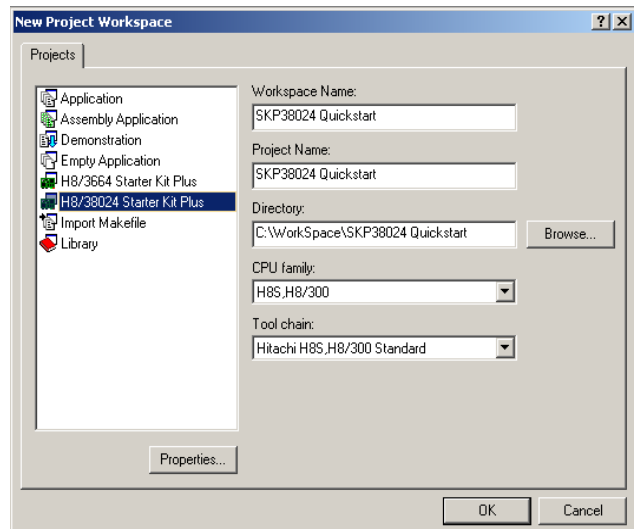  - i.) Click <**Finish**>.



**Figure 2: HEW New Project Workspace**

f.) In the "Project generator information" window:

    i.) Click <**OK**>. The project that is created has two configurations: The "Release" configuration can be used for the final release code version and by default, the executable does not include debug information. The "Debug" configuration allows full source level debugging within HEW.

g.) Select the "Debug" build configuration in the left hand drop down list on the tool bar. (Figure 3)

h.) Click the "Build" icon ▦ to compile, assemble and link the project. After the build is complete, the HEW Build window will look similar to Figure 4.

i.) After ensuring there are no errors, proceed to 4.0, HEW Debugger QuickStart.


**Figure 3: Debug Configuration**
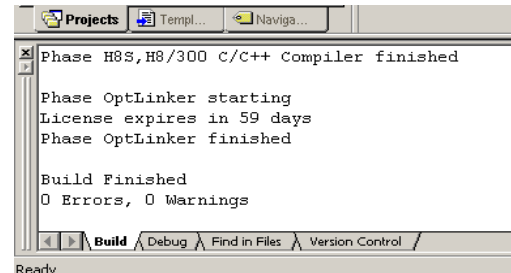

**Figure 4: HEW Build Complete**

*NOTE: To learn more on how to use HEW, open the HEW Manual Navigator on your computer (Start > (All) Programs > Renesas > High-performance Embedded Workshop > Manual Navigator).*

# 4.0 HEW Debugger QuickStart

a.) If not already done, plug one end of the USB cable into the E8 Debugger and the other into a USB port on your PC.

b.) Use the Session pull-down box and select "E8_H8_300L_Session" as shown in Figure 5. If requested to save the session, click <**Yes**>.

c.) In the "Select Emulator Mode" window, select Device "H8/38024F"

    i.) Select "Download emulator firmware". (Figure 6)

    ii.) Click <**OK**>.

d.) The first time the E8 is used, you are asked to choose the driver (Figure 7). Click <**OK**>.
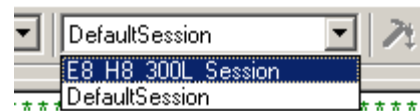

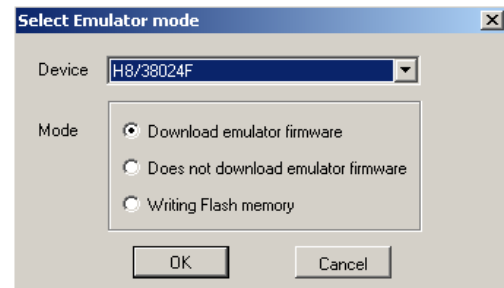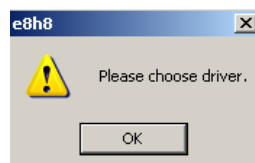**Figure 5: HEW Session Selection**


**Figure 6: Emulator Mode Selection**


**Figure 7: Choose Driver**

e.) Select "Renesas E-Series USB Driver". The "Details" items will autofill within a few seconds (Figure 8).

    i.) Click <**Close**>.

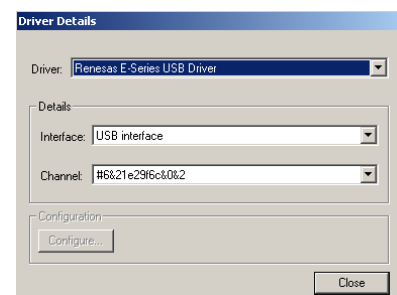f.) Accept any dialogue warning that an older version of the E8 firmware is necessary to work with the application.


**Figure 8: Driver Details**

g.) Select "Power supply is carried out". With this selection, the E8 will provide power to the SKP board.
    i.) Select "3.3V", click <**OK**> (Figure 9).
    ii.) The red "Power", "USR1" and "USR2" LEDs will turn on.

Warning: Applying a higher voltage than 3.3V via the Debug Connector may damage your board.
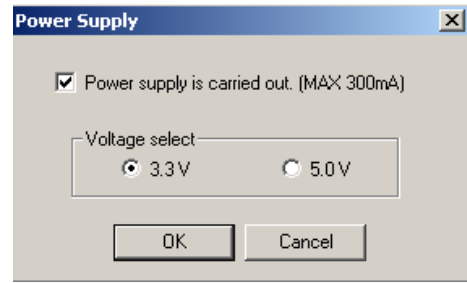
h.) Enter "9.8034" MHz in the System clock window and click <**OK**> (Figure 10).
i.) Enter "00E8" for ID code and click <**OK**> (Figure 11).
j.) Under the "Debug" menu item, select "Download Modules > All Download Modules", or right click on the ".abs" file in the left (workspace) window.
k.) Click on the "Reset-Go" icon to start the program. The red "USR2" LED will start to blink. After an approximately 10 second delay the LCD will start to display alternating patterns.
l.) Click on the "Stop" icon to halt the program. Code execution will stop and the source code window display the code at the current program counter address.
m.) From the "File" pull-down menu, select "Exit". If requested to save workspace and/or session, click <**Yes**>.
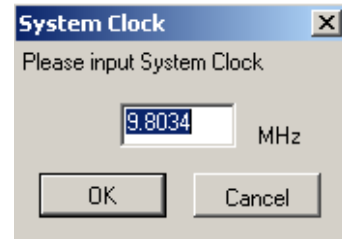
**Figure 9: Power Supply Selection**
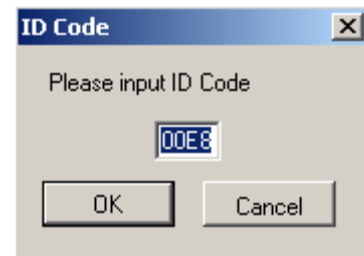
**Figure 10: System Clock**

**Figure 11: ID Code Window**

# 5.0 Next Steps

After you have completed this QuickStart procedure, please review the tutorials that came with the kit. The tutorials will help you understand and jumpstart the software development process using Renesas' development tools.
You can view the tutorials from the Start Menu via Start > (All) Programs > Renesas > SKPH8Tiny > All Documents.

# 6.0 Renesas H8S, H8/300 Compiler

Included in the SKP is the Evaluation Version of the H8S, H8/300 C-compiler. The limitations are:
    1. No support or warranty without the purchase of a full license.
    2. After 60 days, code size is limited to 64 kBytes.
The full licensed version is available from your Renesas supplier.

# 7.0 Support

Online technical support and information is available at: www.renesas.com/skp
Technical Contact Details:
        America:  techsupport.rta@renesas.com
        Europe:   tools.support.eu@renesas.com

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