

Getting started with board examples

IAR Embedded Workbench® for Renesas

This guide briefly describes how to get started using IAR Embedded Workbench® to run an example application on a Renesas target system.

For more detailed information, see the *IAR Embedded Workbench® IDE User Guide*, and the C-SPY hardware debugger documentation, which can be found on the Help menu in the IAR Embedded Workbench IDE.

Software update

- 1 Open your web browser and navigate to <http://www.iar.com/downloads>.
- 2 Verify that you already have the latest version of IAR Embedded Workbench. If this is not the case, download and execute the installer program for your processor core.

Install USB drivers for the debugger connection

- 3 Connect your computer and the board using the USB cable. If you have a separate debug probe, connect it in-between the computer and the board.
- 4 If this is the first time that you are using the board, Windows will install USB drivers. This should take place automatically but if this for some reason does not happen, drivers can be found in the folder `Program Files\IAR Systems\Embedded Workbench x.x\target\drivers`

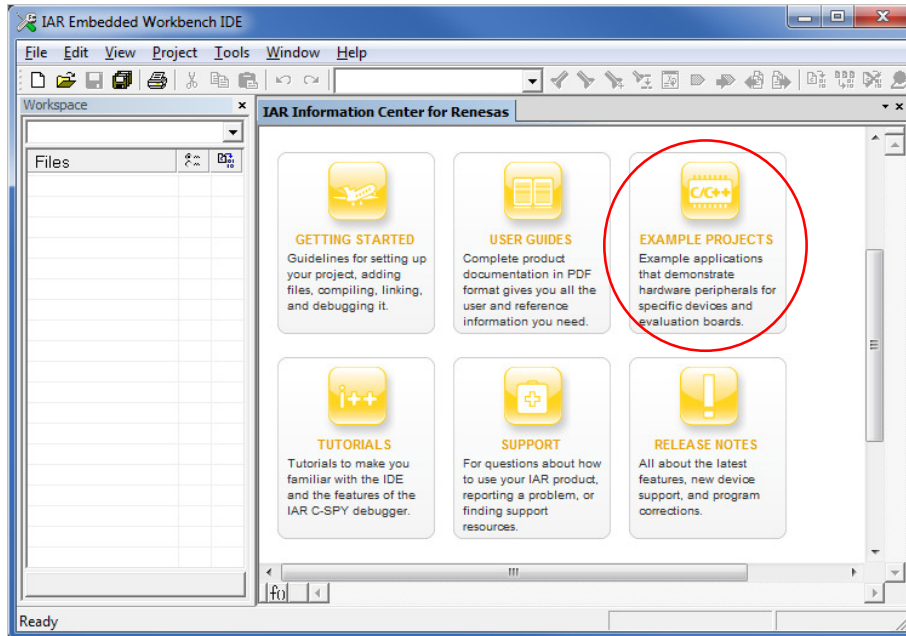
Running example applications






When you have installed and set up all the software and hardware, you can try out one of the example applications provided with the IAR Embedded Workbench.

To take full advantage of the example application, you must have some working knowledge of the IAR Embedded Workbench IDE. For a quick introduction, see the *Getting Started with IAR Embedded Workbench®*, available as an online PDF via the **IAR Information Center** shown below.

QuickStart Guide for IAR Embedded Workbench® for Renesas

- From the **Start** menu, start the IAR Embedded Workbench IDE by choosing **All Programs>IAR Systems>IAR Embedded Workbench for Renesas NN>IAR Embedded Workbench**. You will get straight into the **IAR Information Center**.
- Click **EXAMPLE PROJECTS**.

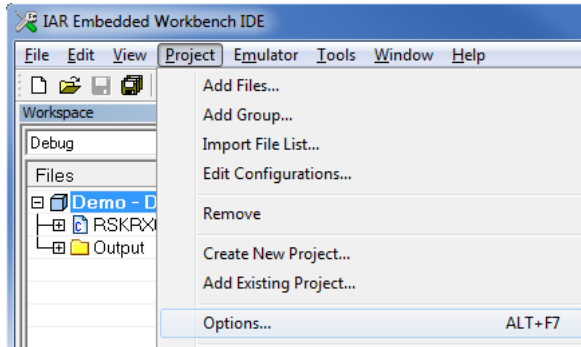


- Select the evaluation board you are using.
- Open a project workspace of your choice.
- Choose a destination folder to save a copy of this project for testing, so that the original project will not be updated for any changes you made during testing.
- Choose **Project>Make** or click the **Make** button  on the toolbar and the project will compile and link.
- Choose **Project>Download and Debug** or click the **Download and Debug** button  on the toolbar.
- Use the default settings in the hardware setup dialog box that is displayed. Click **OK**. This will cause your program to be downloaded to the evaluation board.
The source file including the `main` function is now displayed in the editor window and the application is stopped at the start.
- Click **Debug>Go** or click the **Go** button  on the toolbar to start the application.
- To stop C-SPY, choose **Debug>Break** or click the **Break** button  on the debug bar.
- To view or change emulator settings, choose **Emulator** in the menu.
- To exit C-SPY, choose **Debug>Stop Debugging** or click the **Stop Debugging** button  on the toolbar.

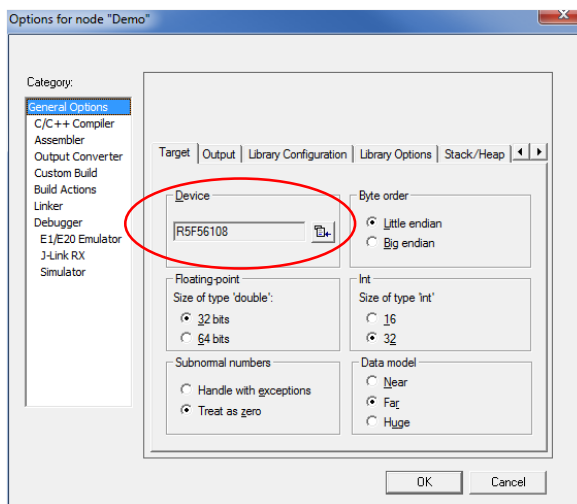
You can now try other example projects included. Click **Help>Information Center** to bring up the **IAR Information Center** again.

Viewing and editing project options

On the **Project** menu, select **Options**. Make sure the project name is highlighted in the workspace window and a dialog box will be displayed.



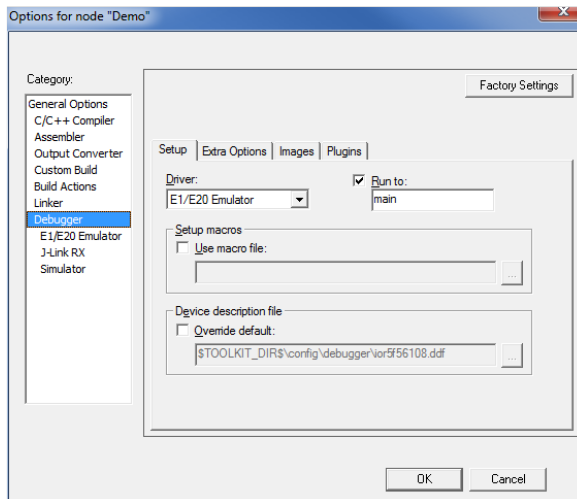
The **Options** dialog box provides options for the building tools and the debugger. For example, by selecting processor family and device, the correct linker configuration file and device description file are automatically chosen for this device.



Select **Debugger** in the category list to verify that the correct debugger driver and options are used.

The option **Run to** is used to specify the location to which C-SPY runs when the debugger is started and after a reset.

Click **OK** if you want to save your changes.



IAR visualSTATE®

IAR visualSTATE® is a Windows-based software package of integrated tools for developing, testing, and implementing embedded applications based on state machine diagrams. It includes a graphical design environment, a formal verifier that can find dead-ends and unreachable state combinations, test, validation and prototyping tools, a state-of-the-art code generator, and a documentation facility. IAR visualSTATE® has been developed in accordance with the Unified Modeling Language notation (UML). More information and a 20-state evaluation edition can be found at <http://www.iar.com/vs>.

IAR product portfolio for Renesas

IAR Systems is the biggest independent tool vendor for processors from Renesas Electronics Corporation. If you are interested in other Renesas product families supported by IAR Systems, visit <http://www.iar.com/renesas>.

Technical support and updates

Online technical support and information is available at <http://www.iar.com/support>. Latest downloadable product updates is found at <http://www.iar.com/mypages>.

If you are unable to find the cause of a problem, try resetting the evaluation board by using the reset button on the board. Then restart the C-SPY Debugger in the IAR Embedded Workbench® IDE. You can also try disconnecting and reconnecting the power to the evaluation board, pressing the reset button and then restarting C-SPY.

If the code size of some examples exceeds the KickStart size limit, download and use the 30-day evaluation edition found at <http://www.iar.com/downloads>.

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