Renesas Synergy™ Platform

DK-S7G2 v3.0 Out-of-Box Demonstration Programming Guidelines

Introduction

This guide covers how to reload the out-of-box demonstration onto the DK-S7G2 Development Kit. To follow the guide, a full JTAG software installation is not needed, as a copy of a supported version is included.

Prerequisites

The reader of this application note is assumed to have some experience with the Renesas Synergy™ e² studio ISDE and the Synergy Software Package (SSP). For example, before you perform the procedure in this application note, you should follow the procedure in your board's *Quick Start Guide* to build and run the Blinky project. By doing so, you will become familiar with e² studio and the SSP and ensure that the debug connection to your board is functioning properly.

Required resources

The example application targets the DK-S7G2 Development Kit and the Synergy MCU Group devices. To build and run the application, you will need:

- A Renesas Synergy DK-S7G2 Development Kit (v3.0) with included LCD Module, as shown in the following photo.
- A PC running Microsoft® Windows® 7 with the following Renesas Synergy software installed:
  — e² studio ISDE v5.4.0.023 or later
  — Synergy Software Package (SSP) v1.3.3 or later
  — IAR Embedded Workbench® for Renesas Synergy™ v 7.71.3 or later
  — Renesas Synergy Standalone Configurator (SSC) v5.4.0.023 or later

You can download the required Renesas software from the Renesas Synergy™ Gallery: (https://synergygallery.renesas.com).

See *Importing a Renesas Synergy Project* (**r11an0023eu0118-synergy-ssp.pdf**) included with your out-of-box installation package, for instructions on importing the project into e² studio ISDE and building the project.
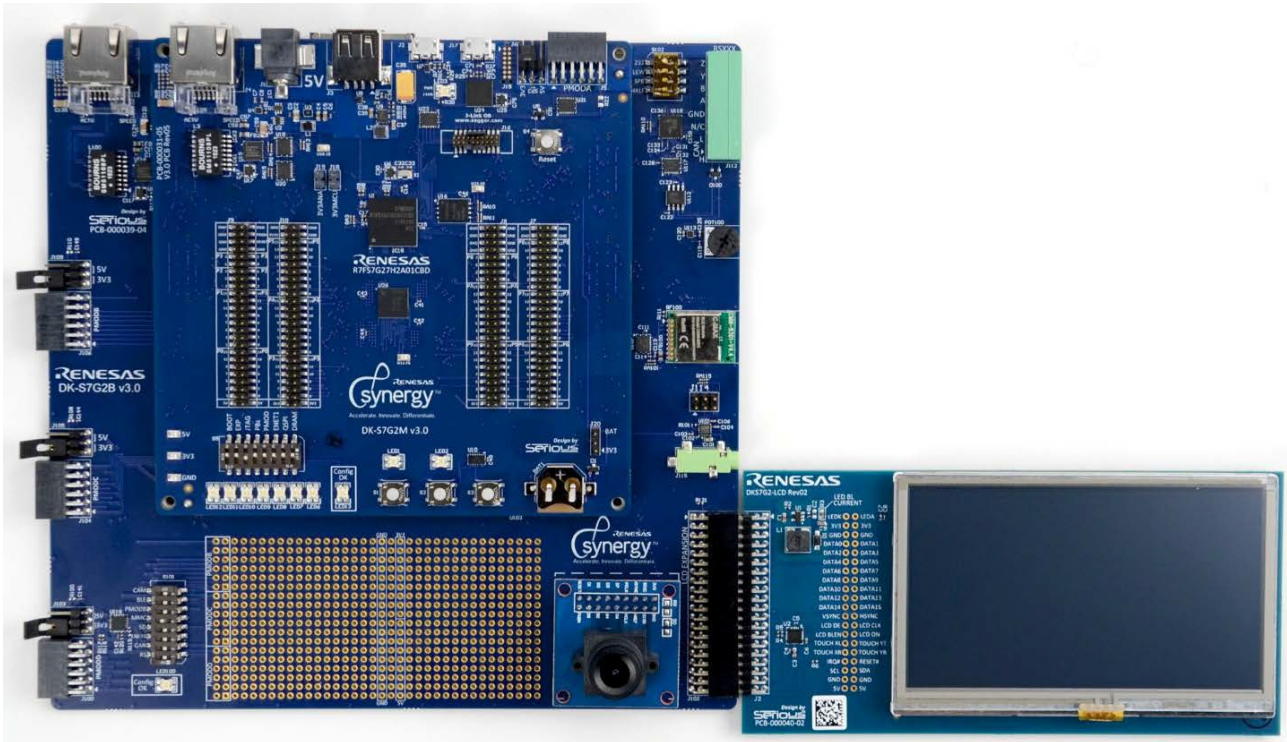
Required software and tools

Minimum PC Requirements: Microsoft® Windows® 7 with Intel® Core™ family processor running at 2.0 GHz or higher (or equivalent processor), 8 GB memory, 250 GB hard disk or SSD, USB 2.0, and a connection to the Internet.

Install e² studio v5.4.0.023 or greater or IAR EW for Synergy v7.71.3 or greater. This out-of-box demonstration requires the drivers that are installed with e² studio and IAR EW for Synergy. e² studio and IAR EW for Synergy are available on https://synergygallery.renesas.com/. Synergy Software Package (SSP) is version 1.3.3

Contents

This programming guide applies to v3.0/3.1 of the DK-S7G2 Development Kit. The out-of-box demonstration loaded on your system may be newer than the factory-installed demonstration and include the latest improvements.
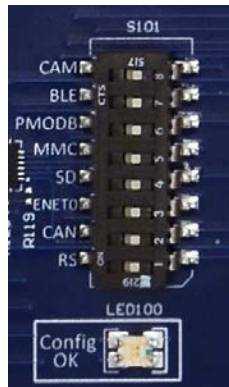
1. Reload the out-of-box demonstration

Follow these steps to reload the out-of-box demonstration into the development kit.

1. Set the JTAG DIP switch 6 and DRAM switch 1 on S5 to ON (toward the LEDs).
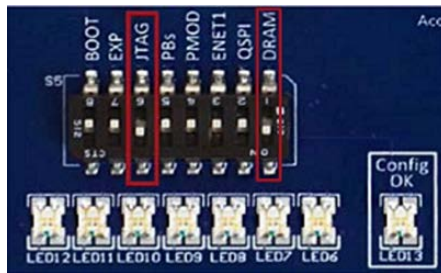

2. Verify all the S101 DIP switches on the Breakout Board are set to OFF.

3. Using the power supply provided with the DK-S7G2 Kit, applies power through the 5 V barrel connector (J1) on the Main Board. LED3 will turn on yellow with a red LED flashing below it. The yellow/red flashing LEDs informs you that the kit cannot communicate with the PC on the debug port.
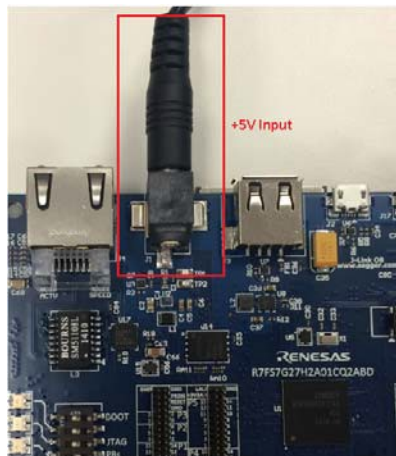
4. Connect the USB cable provided with the DK-S7G2, J-Link OB (J17) on the Main Board.
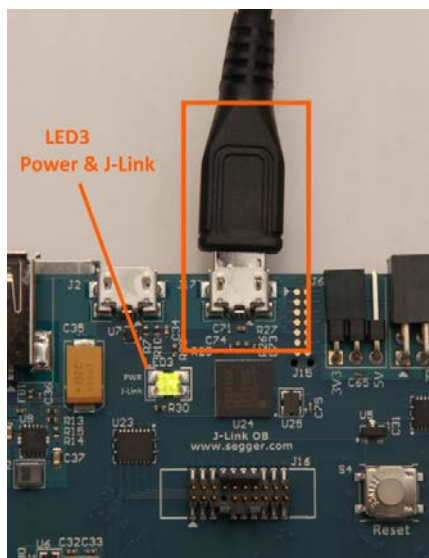
5. Connect the other end of the USB cable to a USB port of the PC. The LED3 will turn green, indicating a good connection.

6. In Windows Explorer, double click on the **Program DK-S7 OOB Demo.bat** file to program the kit using SEEGER J-Link®.

Note: If the update J-Link firmware dialog box is displayed, it is recommended that you click **Yes**. A programming failure may occur if you update the firmware. If this happens, double click on the .bat file again.
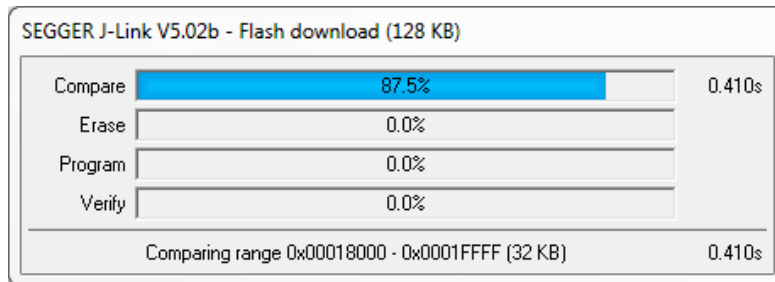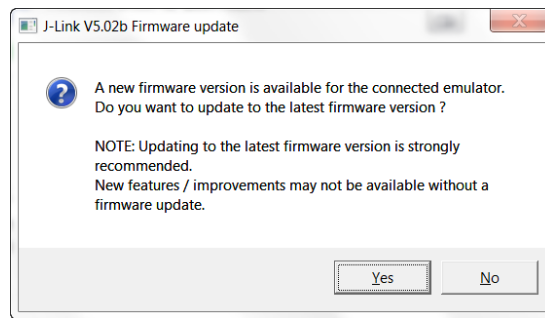
The out-of-box demonstration application is now loaded onto the DK-S7G2 board and the board is automatically reset.

2. Out-of-box demonstration notes

1. During initialization, the S7G2 MCU turns on the LEDs that it can control (Red and Green). The MCU also turns on the Red LEDs inside the Ethernet connectors, so you can verify if the Ethernet connections worked. At the end of initialization, LED1 and LED2 are off while the Configuration LEDs, LED6 to LED12 are green.

2. A splash screen is displayed on the LCD showing a date and time.
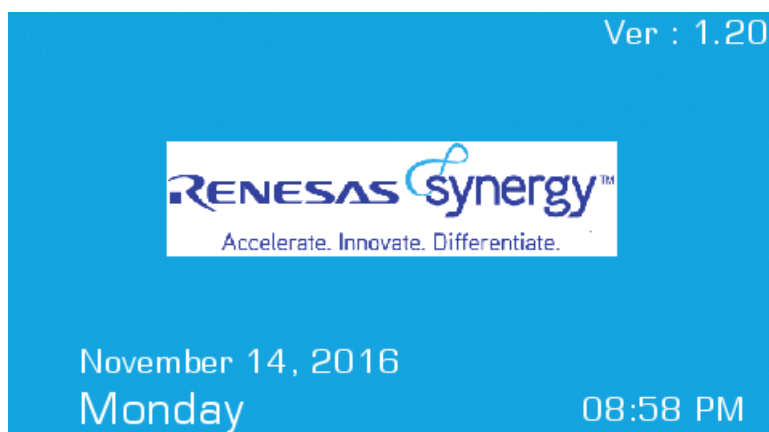
3. Press anywhere on the splash screen to go into the Thermostat Demonstration.
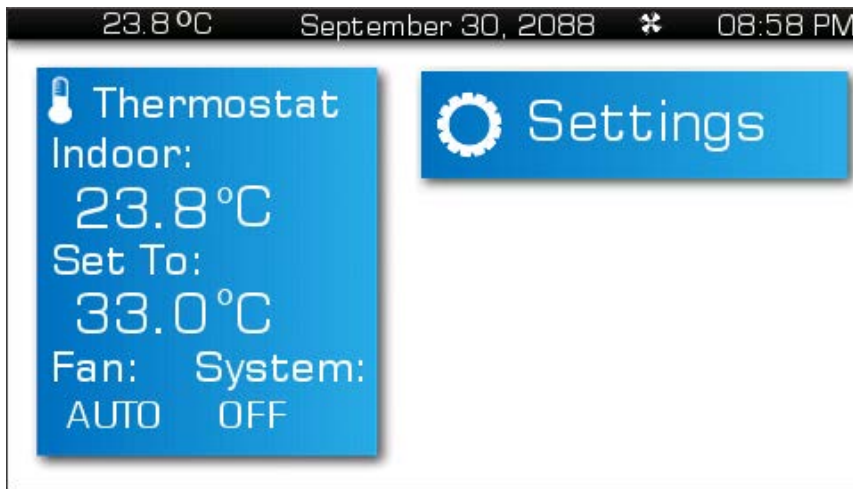
4. Press Settings on the top right.
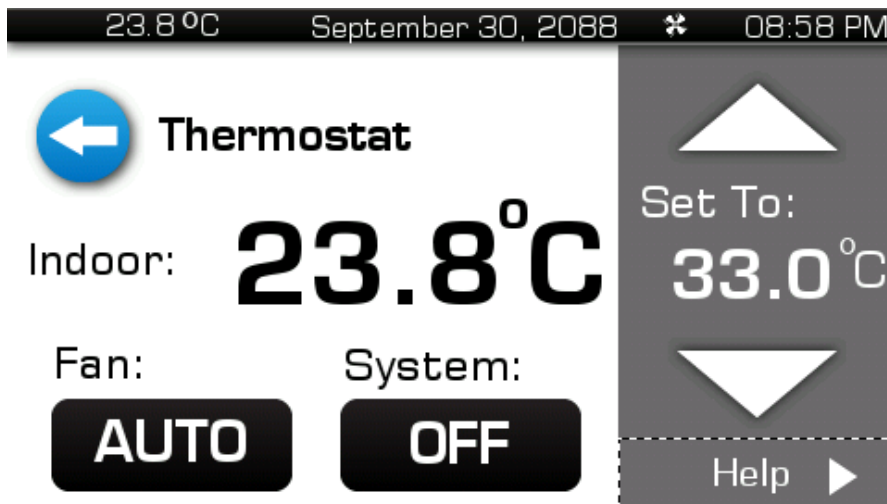
5. Go into **Thermostat**, **Display**, **Set Time**, **Set Date** and **Sound** to make adjustments to the demonstration.
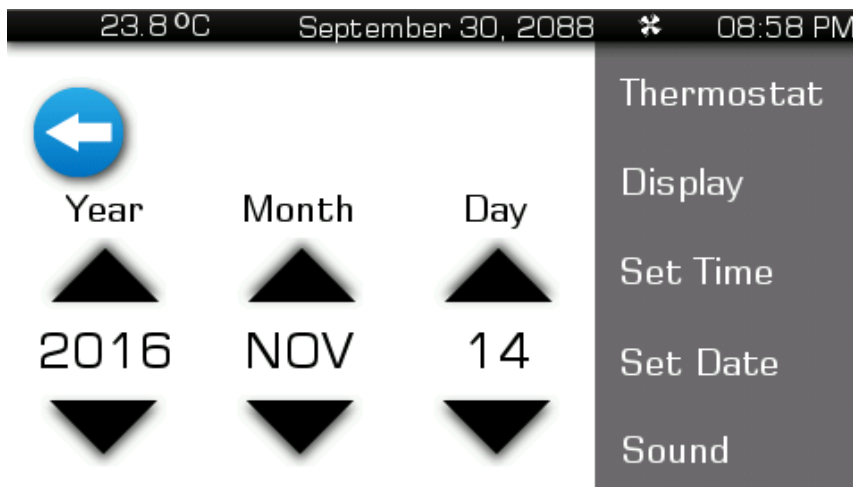
6. Click on the left side of the Thermostat main screen to enter the Thermostat Control Menu.

7. Within the Control Menu, adjust the **System**, **Fan**, and **Temperature** and review the Help screen (shown below).
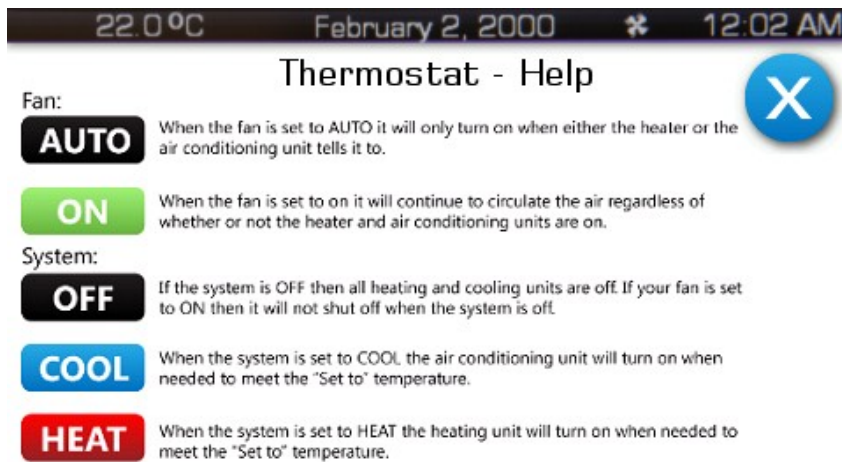
3. Version information

- DK-S7G2 Kit v3.0/v3.1
- Out-of-box demonstration v1.20

Website and Support

Support: https://synergygallery.renesas.com/support

Technical Contact Details:

- America: https://www.renesas.com/en-us/support/contact.html
- Europe: https://www.renesas.com/en-eu/support/contact.html
- Japan: https://www.renesas.com/ja-jp/support/contact.html

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Revision History

Rev.	Date	Description	
		Page	**Summary**
1.00	January 5, 2016	—	Initial version
1.01	June 17, 2016	2	Specified SSP v1.1.0
1.20	Nov 1, 2016	All	Revisited all pages and updated the new screen shots
1.21	Nov 30, 2016	1	Added support for IAR EW
1.22	Aug 17, 2017	—	Upgraded to SSP 1.3.0
1.23	Sep 25, 2017	—	Edit Rev. for SSP 1.3.0
1.24	Nov 17, 2017	—	Upgraded to SSP 1.3.2
1.25	Jan 17, 2018	—	Upgraded to SSP 1.3.3

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Renesas Electronics Corporation

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