Renesas Synergy™ Platform

DK-S3A7 v2.0 Out-of-Box Demonstration Programming Guidelines

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Introduction

This guide covers how to reload the out-of-box demo onto the Renesas Synergy™ DK-S3A7 Development Kit. To follow the guide, you do not need a full JTAG software installation, as a copy of a supported version is included.

Target Device

DK-S3A7 Development Kit v2.0

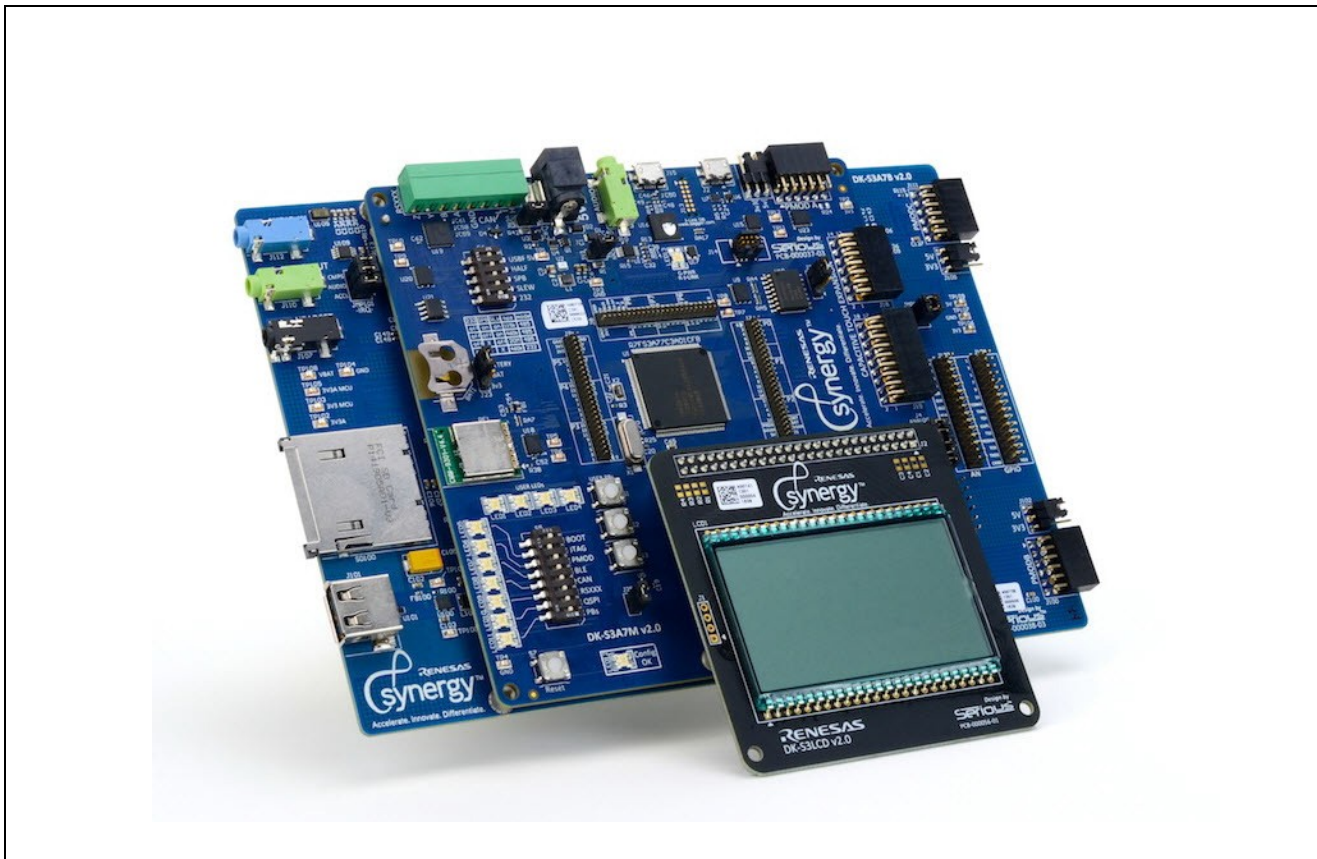## Contents

1. 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, Connection to the Internet.
- e^2 studio ISDE v5.4.0.018 or later. This out-of-box demonstration requires the drivers that are installed with e^2 studio v5.4.0.018.
- IAR Embedded Workbench® for Renesas Synergy™ v7.71.2.12612
- Synergy Software Package (SSP) v1.3.3 or later
- Synergy Standalone Configurator (SSC) v5.4.0.018

All available on https://synergygallery.renesas.com/.
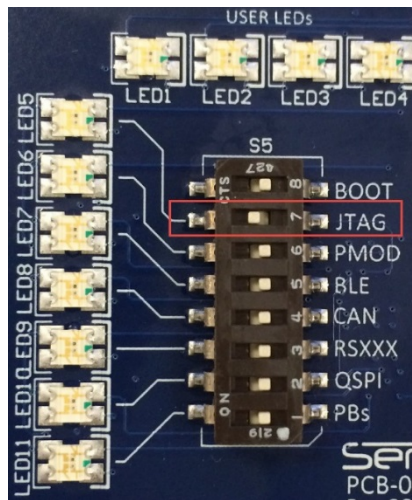
2. DK-S3A7 Kit

This programming guide applies to version 2.0 of the DK-S3A7 Development Kit. The out-of-box demo that we load may be a newer and improved version compared to the factory installed demo.
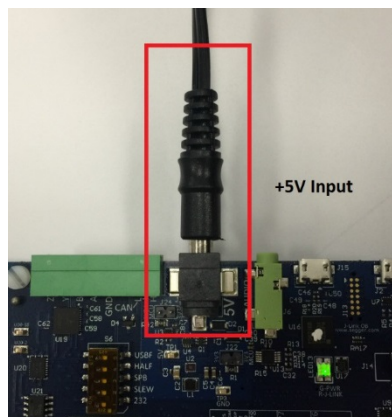
3.   Reload the out-of-box demonstration

Follow these steps to reload the out-of-box demo onto the development kit:

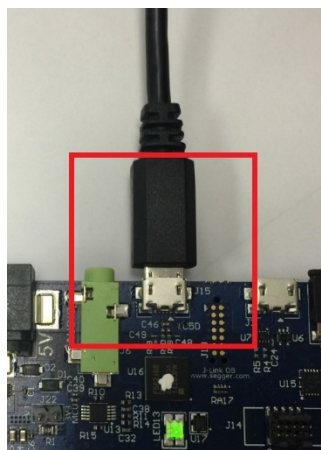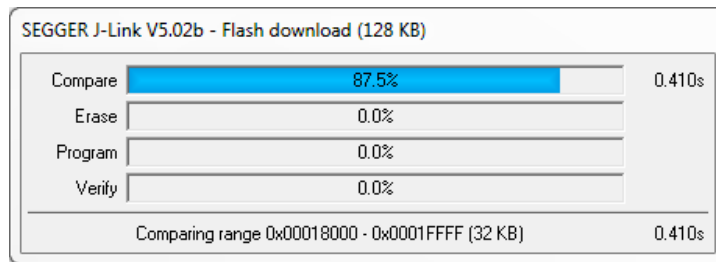1. Set the JTAG DIP switch 7 on S5 to ON (toward the LEDs).

2. Using the power supply provided with the DK-S3A7 kit, apply power through the 5-V barrel connector (J1) on the Main Board. LED13 (shown green below) will flash red. The red flashing LED informs you that the kit cannot communicate with the PC on the debug port.
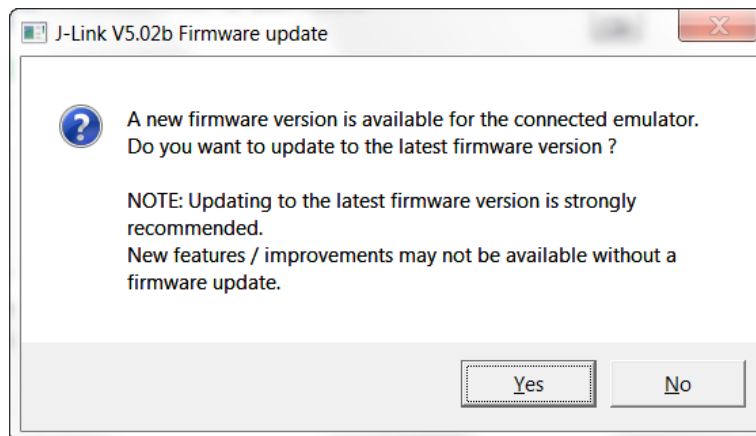

3. Connect the USB cable provided with the DK-S3A7 to the J-Link OB (J15) on the Main Board.

4. Connect the other end of the USB cable to a USB port of the PC. The LED13 will turn green indicating a good connection.
5. Unzip the file **dk_s3a7_out_of_box_image_source**.
6. Double click on **Program DK-S3 OOB Demo.bat** in the files that accompany this Application Note.

SEGGER J-Link V5.02b - Flash download (128 KB)

Compare	87.5%	0.410s
Erase	0.0%	
Program	0.0%	
Verify	0.0%	

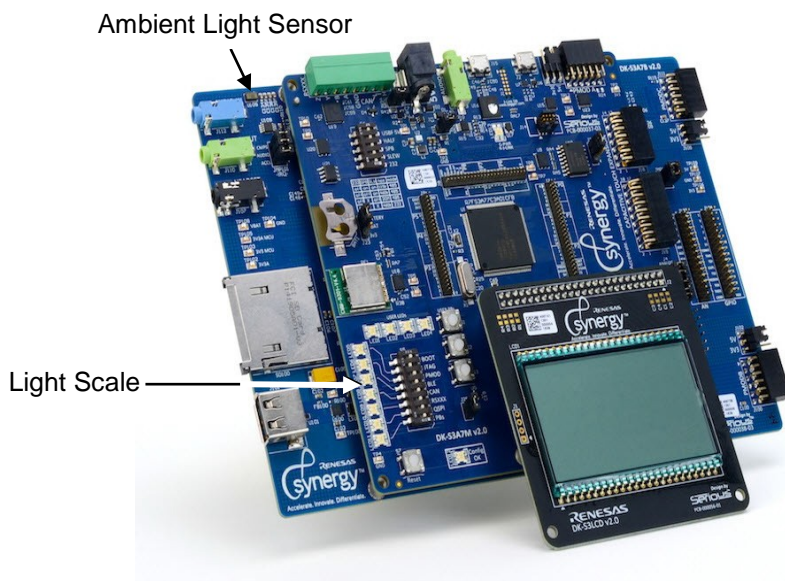Comparing range 0x00018000 - 0x0001FFFF (32 KB)   0.410s

Note: If the update J-Link firmware dialog box is displayed, we highly recommend that you click **Yes**. Programming failure may occur if you update the firmware. If this happens just double click on the **.bat** file again.

J-Link V5.02b Firmware update

A new firmware version is available for the connected emulator.
Do you want to update to the latest firmware version ?

NOTE: Updating to the latest firmware version is strongly recommended.
New features / improvements may not be available without a firmware update.

[Yes]   [No]

The out-of-box demo is reloaded onto the DK-S3A7 Kit.

4.   Out-of-box demo notes

1. The out-of-box demo starts by flashing the configuration (Light Scale) and USER LEDs (LED1 to LED4) for a few seconds. It then turns on and off through all segments of the segment LCD. This is a configuration test that is verifying performance of the hardware. If a problem is found, LED1 and LED2 will be red. If no problems exist, LED3 and LED4 are green.

1. After about 12 seconds, the DK-S3A7 starts sensing the amount of light of the Ambient Light Sensor. The demo takes the top 8 bits of the A/D reading and uses it to display a Light Scale on the configuration LEDs and the battery level and digital count on the segment LCD. The elapsed time of the demo is shown on the segment LCD.
2. Move a light source closer and farther from the Ambient Light Sensor and observe the LEDs of the Light Scale and the LCD values.
3. When the light sensor's output is close to its maximum value, the MCU flashes the LCD segments on and off quickly.

5. Version information for the out-of-box demonstration

- DK-S3A7 v.2.0
- Demo version 1.0

Website and Support

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

Technical Contact Details:

- America: https://www.renesas.com/en-us/support/contact.html
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Revision History

		Description	
Rev.	**Date**	**Page**	**Summary**
1.00	Jan 7, 2016	-	Initial version
1.10	Jun 14, 2016	-	Updated for SSP v1.1.0
1.11	Nov 18, 2016	-	Minor format changes
1.12	Feb 14, 2017	-	Upgrade to SSP v1.2.0 for e2studio and IAR EW
1.13	May 29,2017	-	Upgrade to SSP v1.2.1 for e2studio and IAR EW
1.14	Jul 18,2017	-	Upgraded to SSP v1.3.0
1.15	Jan 16, 2018	-	Upgraded to SSP v1.3.3

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