

Application Note

J-Link CALLIOPE

AN08006

1.00

Date: September 26, 2017



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Manual versions

If you find an error in the manual or a problem in the software, please inform us and we will try to assist you as soon as possible. Contact us for further information on topics or functions that are not yet documented.

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| Revision | Date | By | Description |
|----------|--------|----|------------------|
| 0 | 170911 | AG | Initial Version. |

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Chapter 1

Getting started

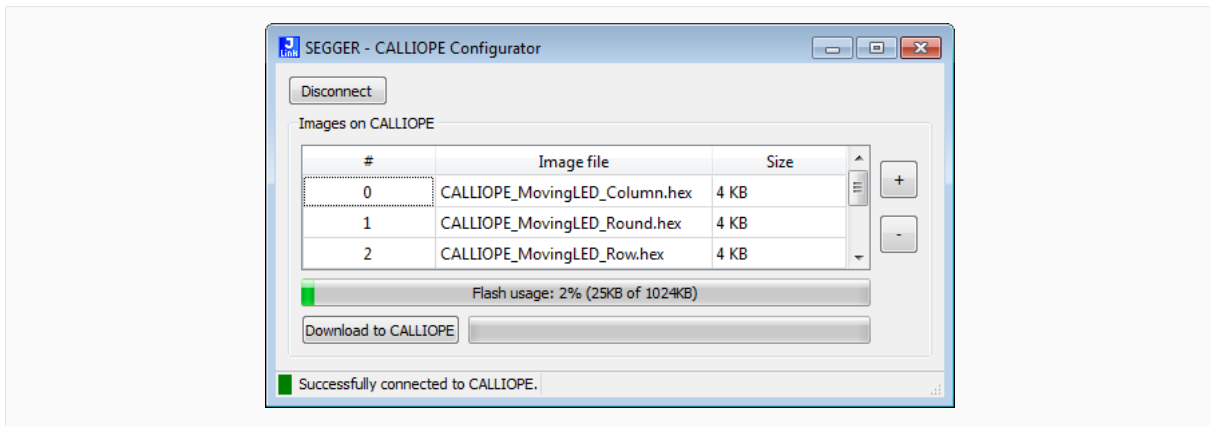
SEGGER created a J-Link firmware for the on-board debug probe on the CALLIOPE mini that is available free of charge. This firmware enhances the CALLIOPE mini by some extra features that, amongst others, allow easy flashing of different images completely stand-alone without even having the CALLIOPE mini connected to a PC.

1.1 Introduction

The J-Link firmware for the CALLIOPE mini makes the sophisticated and ultra performant J-Link technology to the early embedded starters community, at no cost! It expands the functionality of the CALLIOPE mini by a stand-alone programming mode where images that have been previously stored on the CALLIOPE mini can be selected and flashed without even having the CALLIOPE mini connected to a PC.

1.2 Preparing the stand-alone flashing mode

In order to configure the CALLIOPE mini, the desktop utility by SEGGER can be used. After executing the Configurator, simply connect to the CALLIOPE mini by clicking the "Connect" button. All image files stored on the CALLIOPE mini will be displayed inside of the central list.

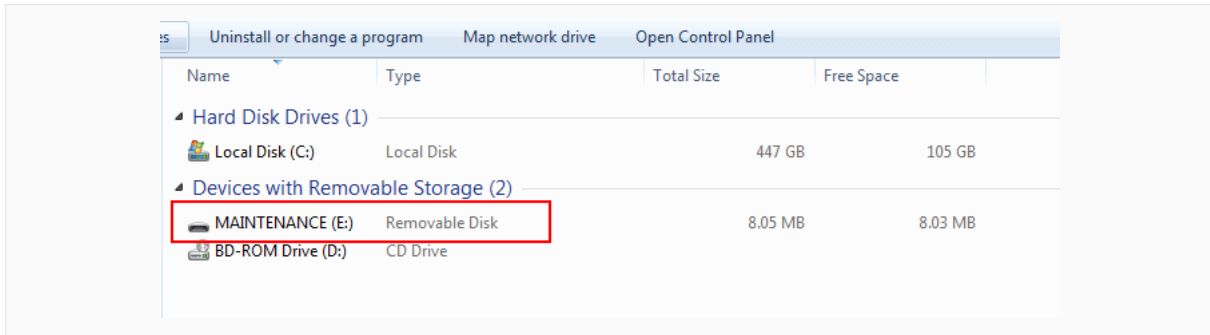


Example of the Configurator after connecting

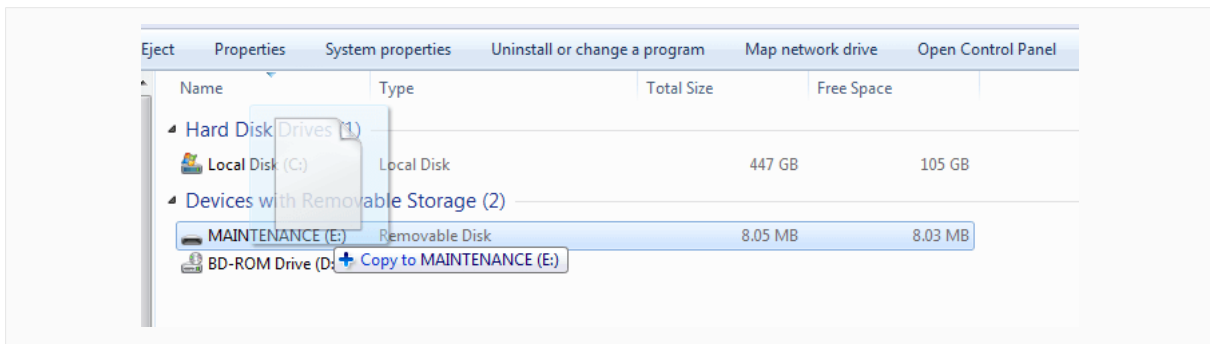
- New images can be added by clicking the "+" button and selecting the files to use.
- An image file can be removed by selecting it inside of the list and clicking the "-" button.
- After configuring the CALLIOPE mini's image files, click the "Download to CALLIOPE" button to download the new configuration onto the connected CALLIOPE mini.
- As soon as the download has finished, the CALLIOPE mini can be safely disconnected from the PC by clicking "Disconnect".

1.3 Running J-Link firmware on CALLIOPE

In order to run the J-Link firmware on a CALLIOPE mini the device needs to be in maintenance mode. This can be achieved by holding the CALLIOPE mini's reset button while plugging it into a PC using a micro USB cable. Now simply drag and drop the JLink_OB_CALLIOPE_Firmware.bin file onto the maintenance device. After that, the device name will change to "CALLIOPE" and the J-Link firmware has been programmed successfully.



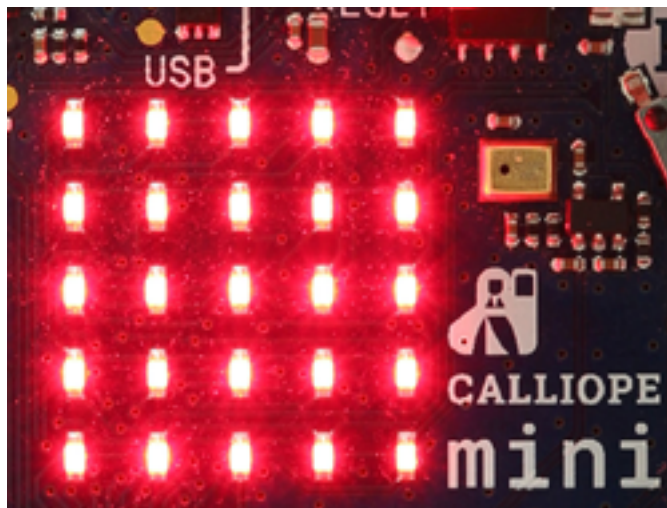
The CALLIOPE mini will be shown as "MAINTENANCE" device.



1.4 Using the stand-alone flashing mode

By default, the CALLIOPE mini will boot in normal mode where flashing new images is possible via drag & drop when having the CALLIOPE mini connected to a PC. In order to enter the stand-alone mode, the following needs to be done:

- Power the CALLIOPE mini by plugging in a USB micro cable
- Press the "RESET" button on the CALLIOPE mini for 2 seconds
- The whole LED matrix of the CALLIOPE mini will lit up twice, indicating that the stand-alone mode has been entered.



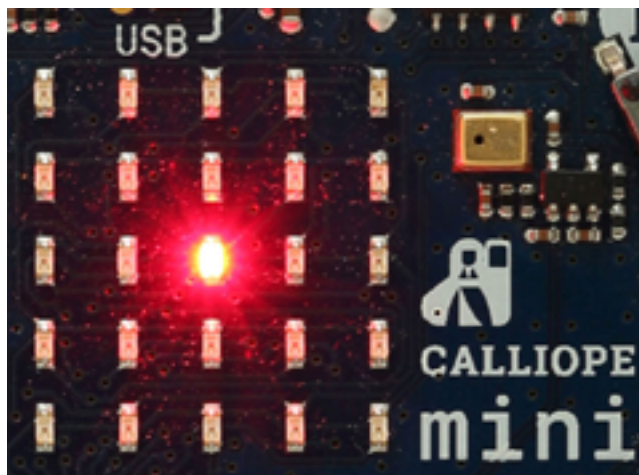
Indication of stand-alone mode entry

From now on, by using the A button, an image stored in the SPI flash of the J-Link OB, can be selected and by pressing button B, the selected image will be flashed into the CALLIOPE mini.

The currently selected image is indicated by the appropriate LED of the LED matrix being lit. The order of images is the same as has been previously configured in the *J-Link CALLIOPE Configurator* on page 8. By pushing the A button, the next image will be selected. If the end of the image list is reached, the selecting will wrap-around to the first image in the list.

By pushing the B button the currently selected image will be flashed into the CALLIOPE mini and the application is automatically started.

If there is currently no image stored in the SPI flash of the J-Link OB, after entering the stand-alone flashing mode, the center LED of the LED matrix will blink at 1 Hz.



No images for stand-alone mode available