AUDESSE

FlexCase

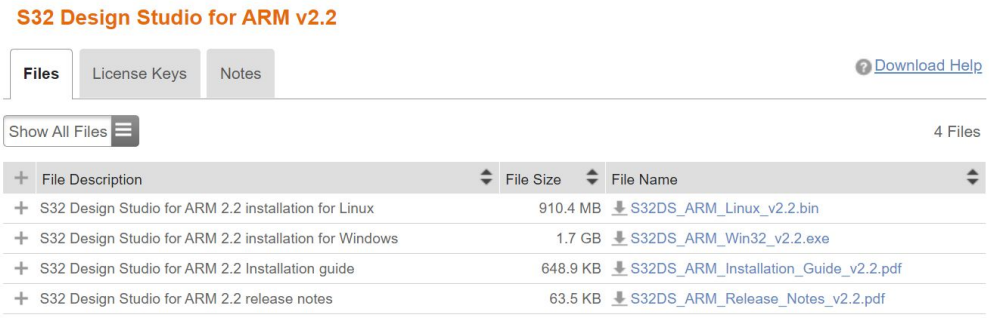
Quick-Start Guide

In this tutorial:

- Connect prototyping wire harness
- Connect to microcontroller
- Flash prebuilt files

Step 0 - Software Prerequisites

- Download and install S32DS for ARM - This is the IDE that will be used to flash software
    - Direct download / Main Page. You must make a free account with NXP to get the software and most up to date installation instructions. During installation, you will be prompted to activate a license, which can be found in the “License Keys” tab.



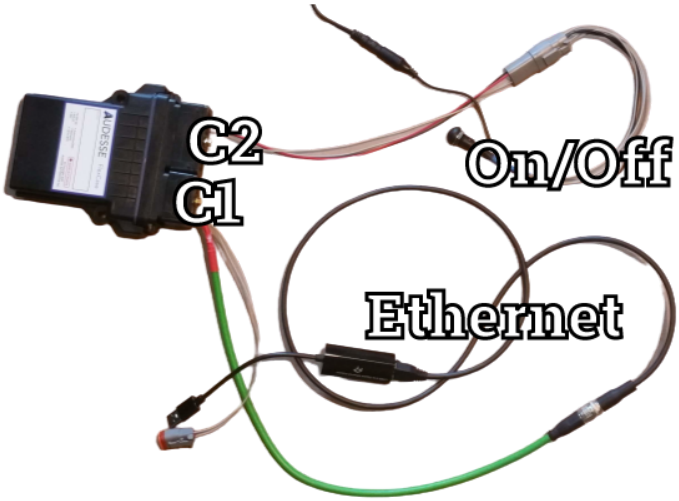
- Download VirtualHere client executable - This is how your computer connects to the microcontroller
    - Direct Download for Windows 64bit OS
- Download Audesse provided example code (links on webpage)
    - S32DS flashing template/blank project
    - Precompiled .elf files

Step 1 - Assemble Wire Harness

Assemble the provided wire harness:

- Attach the two header connectors (C1 and C2) to the FlexCase, and fasten the connectors with a 1/4" socket/wrench. **Neglecting to properly fasten the connectors will result in poor signals.**
- Use the ethernet adapters to connect C1 to your computer via USB/Ethernet
    - Industrial Ethernet to RJ45
    - RJ45 to USB
- Connect C2 to the 4-pin power connector, and the barrel jack to the power supply
- Leave the CAN 2-pin connector unconnected for this tutorial

Supply power to the FlexCase by connecting the power supply to a wall outlet and connecting the barrel jack. Then press the On/Off button to boot the board. The button will glow red to indicate that power is supplied to the device.



Step 2 - Start the required software

Start the VirtualHere executable and let it run in the background.

It will begin automatically searching for the FlexCase and auto connect when a connection is found. **Be patient. This process can take up to 5 minutes on complicated networks.** If the device can't be found automatically you can also specify the IP of the FlexCase.

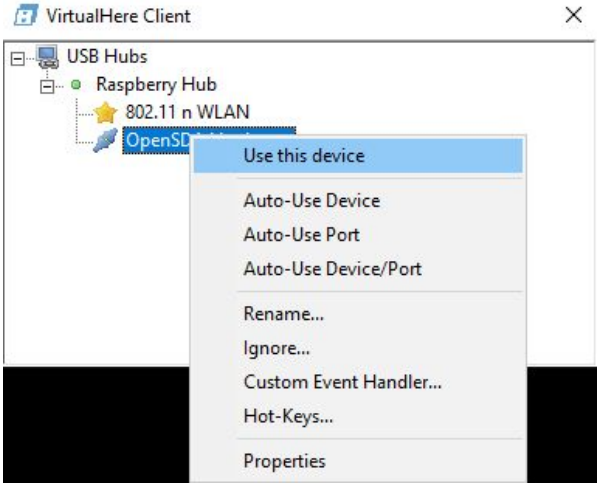
Start S32DS for ARM and import the flashing project.

1. Click File > Open Projects from File System…
2. Select "Directory…"
3. Select the folder labeled "ExampleFlash" from the Audesse provided example files.
4. Click "Finish"
5. The project will not be imported

Step 3 - Establish the programming interface

By now the VirtualHere client should have found the FlexCase.

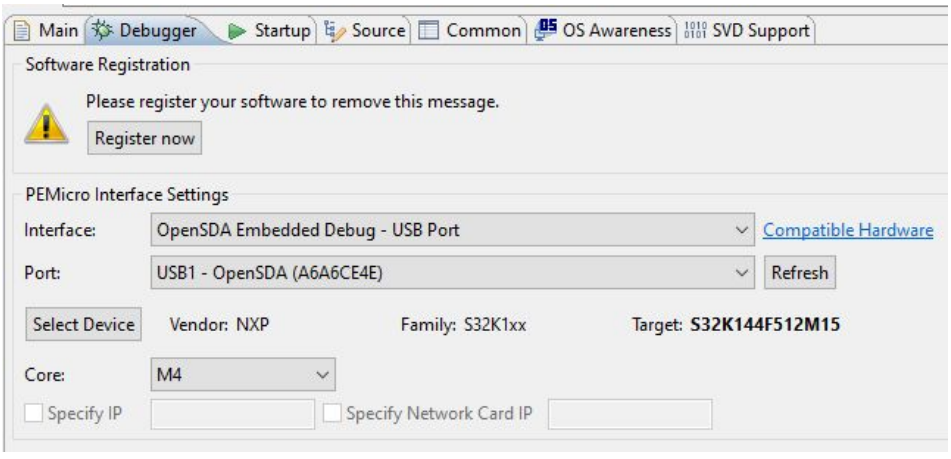
1. Right click the OpenSDA device
2. Select “Use this device” (Device should read “In use by you”)
3. (Optional) select “Auto-Use Device” to have the board connect whenever the client is running



Step 4 - Flash a precompiled example file

Open up S32DS again. Now we are going to set up the flashing program.

1. Select Run > Flash from file…
2. In the debug configurations window, select “ExampleFlash_Debug_FLASH_PNE” configuration from the options in the left column.
3. Select the “Debugger” tab to setup the physical interface
    a. Ensure that Interface is set to “OpenSDA Embedded Debug - USB Port”
    b. Ensure that Port is recognized as some USB port (Not blank)
    c. Ensure the Target is S32K144F512M15



4. Select the “Main” tab to select and flash the file
    a. Select “Browse…” from the C/C++ Application section
    b. Select “Buzzer.elf” from the provided preconfigured files and “Open”

    c. Click “Flash” in the bottom-right corner of the flash configurations window
5. S32DS will not flash the program to the FlexCase. After about 10s the device should reset and start beeping occasionally

Step 5 - Success!

You have successfully flashed your first program. To turn off the beeping you can select the “EmptyProject.elf” for the C/C++ Application and flash that.

You will always hear a short beep to confirm the board has been flashed, reset, and is running the chosen program

Step 6 - Shutdown

You can shutdown the FlexCase by pressing the power button and waiting for everything to shut down correctly. The LED in the button will go out when everything is powered down.

Warning: Suddenly removing power can cause memory corruption to the MPU over time so a graceful shutdown is always recommended.