DISCOVER the STM32 with a FREE 32-bit Cortex-M0/M0+ MCU Professional Developer's Package
Q & A

Q1: Was the webinar recorded so we can replay it at a later time?

A1: Yes, this webinar is recorded to allow the developer to walk through and pause the video at various points in the software tools installation. It is located here. The developer can also easily walk through the STM32CubeMx example and restore the STM32-Discovery original demonstration.

Q2: Is there a memory size limitation for the compiler?

A2: The free Keil MDK-ARM for STM32F0\L0 supports all devices in the STM32F0 and STM32L0 families. ST has up to 256 KB of internal flash in the STM32F0\L0 families, and free Keil compiler supports up to maximum 256 KB.

Q3: What is the typical cost for this compiler license?

A3: The typical cost for a FULL Keil MDK-ARM license that supports all STM32 families is around $2000.

Q4: How long is the compiler license good for?

A4: The free Keil MDK-ARM for STM32F0\L0 only has limited technical support through Feb 2018.

Q5: Where and how do I get the tools?

A5: The free Keil MDK-ARM for STM32F0\L0 software installer can be downloaded at this web address, http://www2.keil.com/stmicroelectronics-stm32/mdk.

The free STM32CubeMx software installer can be downloaded at this web address, www.st.com/stm32cube.

The free STM32 ST-LINK Utility software installer can be downloaded, at this web address, http://www.st.com/content/st_com/en/products/embedded-software/development-tool-software/stsw-link004.html.

You can re-play the webinar video to follow the installation and activation.

Q6: In LP run mode, which parts of the STM32L0 Micro-controller will be in-active?

A6: In Low Power RUN mode, the internal voltage regulator is placed in low power mode. All peripherals can still be enabled.

Q7: STM32 Cube HAL will be fixed for the same application and it will suit itself according to the Microcontroller you will use, is that right?

A7: The STM32 Cube HAL is fully portable across all the STM32 families, so you can migrate to other STM32 devices if you need more/less performance.

Q8: What are the STM32 features geared for permanent magnet synchronous motor (PMSM)?

A8: Most STM32 devices are designed with the advanced 16-bit motor control timer. This timer can be used with ST's FOC motor control library.

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Q9: As for migrating applications, pin compatibility between packages is quite important. I am wondering if L0, F0, F1 and F3 have pin compatible packages?

A9: The STM32 MCUs are pin to pin compatible. GPIO and System pin assignments are typically on the same side of the package across all STM32 families. Each STM32 family will have some unique peripherals and features which may or may not be bonded to the same GPIO pin.

Q10: Which NUCLEO board do you recommend as an introduction to this MCU family? What is best for rapid tests and prototyping?

A10: You can get started with either the NUCLEO-F072RB or NUCLEO-L053R8. Both can be used with the free Keil MDK-ARM compiler for F0/L0 and STM32CubeMx.

Q11: Does the CMSIS library come with the MDK-ARM download?

A11: The CMSIS library is included with the STM32 Cube HAL library.

Q12: What would be the main difference between the F series and the L series? How much does the code differ between STM32F0 and STM32L0?

A12: The STM32F0 is a Cortex-M0, and the STM32L0 is a Cortex-M0+. The Cortex-M0/M0+ instruction binary is the same, so there are no binary differences between the STM32F0 and STM32L0.

Q13: I've been developing on the STM32F4 devices using standard CMSIS libraries. Can any of that code be readily ported over to the L0 or F0 devices in lieu of using STM32CubeMx?

A13: Code developed using the CMSIS for the STM32F4, will not be easily migrated over to the STM32L0 or STM32F0 device. You may be able to re-use some code for the USART, SPI, I2C and timers as these are similar peripherals across the families. The STM32 Cube HAL would make migration between families simpler.

Q14: Do you have FreeRTOS support for the STM32L0 or STM32F0?

A14: FreeRTOS is supported by the STM32F0\L0. The FreeRTOS middleware is included in the Cube HAL driver.

Q15: If I move from a STM32F0 to a STM32L0 and re-generate my STM32CubeMx files (for the L0 now), can it keep my existing code?

A15: Your existing code is retained, as long as your code is placed within the STM32CubeMX COMMENTS stating where the user code BEGINS and ENDS. Any code outside of the protection comments, the STM32CubeMx will overwrite with the standard HAL code.

Q16: Where do I find the PSN for Keil MDK-ARM uVision?

A16: The PSN can be found on the KEIL web site, as well as the presentation PDF file. The PSN is U1E21-CM9GY-L3G4L.

Q17: If you were going to perform this presentation with the STM32F0 instead of the STM32L0 for this exercise, which board would it be?

A17: I recommend the STM32F072B-DISCO.

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Q18: Can you go over some of the features of the STMStudio Monitor?

A18: The STM-STUDIO-STM32 is a free tool to help monitor variables in the STM32 in run-time. For more information here is a link, http://www.st.com/content/st_com/en/products/development-tools/software-development-tools/stm32-software-development-tools/stm32-performance-and-debuggers/stm-studio-stm32.html.

Q19: Is there an environment, forum of some sort to ask questions, or search for possible solutions for questions we have?

A19: ST has an online forum to post questions. Here is a link, https://my.st.com/public/STe2ecommunities/default.aspx.

Q20: Does the STM32F0 have built-in PHY for USB? Does USB have DMA support?

A20: The STM32F0 does have the built-in USB PHY, shown in the USB block diagram of the reference manual. There is no DMA support for the USB.

Q21: Is there an Eclipse platform supporting this board?

A21: The SW4STM32 is built on the Eclipse platform. There are plug-ins for the STM32CubeMx as well.

Q22: Where can I download MCU Finder for Windows?

A22: You can get the ST MCU Finder at the Microsoft store. Here is a link to the ST MCU Finder at the Microsoft store, https://www.microsoft.com/en-us/store/apps/st-mcu-finder/9wzdncrdm0rh.