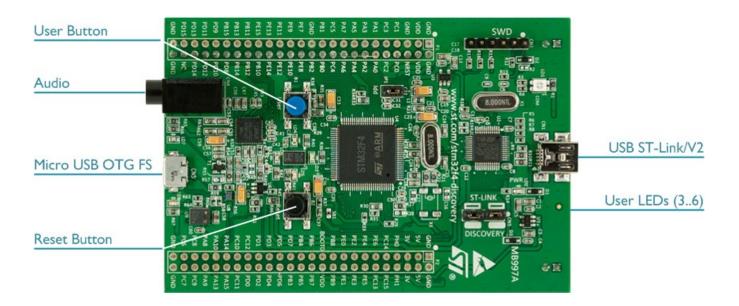
Quick Start Guide

STMicroelectronics 32F401C Discovery Board





Install Keil MDK Version 5

Download and install the MDK Core from <u>www.keil.com/mdk5/install</u>

Add Software Pack using the Pack Installer

• Keil::STM32F4xx_DFP – STMicroelectronics STM32F4 Series Device Support

Power up the board

- Do **not** connect the board to the PC! Go to C:\Keil_v5\ARM\STLink\USBDriver and double-click **stlink_winusb_install.bat** to install the drivers for the on-board USB ST-Link/V2.
- Connect a USB power supply **USB ST-Link/V2** port to the computer using a Mini USB cable. Windows recognizes the ST-Link/V2 device and installs the drivers automatically.

Verify Installation using example projects provided in the Software Pack

• Copy an example using the Pack Installer. Compile, download to Flash, and debug the application. The provided examples are ready to run.

More Information

- Getting Started User's Guide
- Board Information
- STM32F4 Discovery User's Guide

Related Products

- MDK Version 5
- MDK-Professional Middleware

www.keil.com/gsg http://www.keil.com/boards2/st/stm32f401c_discovery www.st.com/stm32f4-discovery

www.keil.com/mdk5 www.keil.com/mdk5/middleware

Debug and Trace Configuration

STMicroelectronics 32F401C Discovery Board

Enable ST-Link Debugger

Select **Options for Target** or press **ALT+F7**. Go to the **Debug** tab and select the **ST-Link Debugger**.

Connect Using SWD

Click on the **Settings** button. On the **Debug** tab select the Port **SW**. This board does not support JTAG.

Configure Trace using Serial Wire Viewer

Go to the **Trace** tab and enter the correct CPU **Core Clock** speed as specified in your project. Check the **Trace Enable** box.

Note:

To use SWO trace, you have to close the solder bridge **SB15** on the board. Refer to the documentation on the STMicroelectronics webpage for further instructions.

When debugging, the Status bar shows information about the Trace connection.

Cortex-M Target Driver Setup		—
Debug Trace Flash Download		
Core Clock: 84.000000 MHz	✓ Trace Enable	
Trace Port Serial Wire Output - UART/NRZ SWO Clock Prescaler: 42 Autodetect SWO Clock: 2.000000 MHz	Timestamps ✓ Enable Prescaler: 1 ▼ PC Sampling Prescaler: 1024*16 ▼ □ Periodic Period: <disabled> □ on Data R/W Sample</disabled>	Trace Events CPI: Cycles per Instruction EXC: Exception overhead SLEEP: Sleep Cycles LSU: Load Store Unit Cycles FOLD: Folded Instructions EXCTRC: Exception Tracing
Enable: 0x80000001		Port 8 7 Port 0
Advanced settings Advanced settings Ignore packets with no SY Overwrite CYCCNT	INC	
	ОК	Cancel Apply



Linker	Debug	Utilities			
Use	e: ST-Lii	nk Debugger	•	Settings	

Debug Trace Flash Download		
Debug Adapter Unit: ST-LINK/V2-1		
Serial Number:		
HW Version: V2-1		
FW Version: V2J24M10		
Port: SW		
Max Clock: 4MHz 💌		