Development tools for STM32, STR9 and STR7

Master the possibilities of ST ARM® core based microcontrollers

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www.st.com/mcu

Complete tool line, tailored to ST ARM core based MCUs, meets every need...

Starter kits

Starter kits are complete sets of hardware and software designed to help users discover device features and start application development quickly and easily. Kits include an evaluation board, JTAG in-circuit debugger/ programmer, integrated development environment, C/C++ compiler and sample applications with source code.

Kit	Evaluation board	Target device	In-circuit emulator	IDE	C/C++ compiler
Hitex kits					
STM3210B-SK/HIT	STM32 PerformanceStick plus I/O board (USB, CAN, ADC, I/O, …)	STM32F103RB (USB)	Embedded via USB interface	HiTOP5 (unlimited)	Tasking C/ C++
STR91X-SK/HIT	General-purpose board (UART, SPI, I²C, LEDs, I/Os, ...) with target MCU and device specific features	STR912F (Ethernet, USB)	Tantino (USB/JTAG)	HiTOP5 (For code up to 16 KB)	GNU C/C++
STR750-SK/HIT		STR750F			
STR730-SK/HIT		STR730F (CAN)			
STR710-SK/HIT		STR710F (CAN, USB)			
IAR KickStart					
STM3210E-SK/IAR	General-purpose board (UART, SPI, I²C, LEDs, I/Os, ...) with target MCU and device specific features	STM32F103ZE (USB, SDIO, I2S)	J-Link (USB/JTAG)	EWARM (For code up to 32 KB)	IAR C/C++
STM3210B-SK/IAR		STM32F103RB (USB)			
STR91X-SK/IAR		STR912F (Ethernet, USB)			
STR750-SK/IAR		STR750F			
STR731-SK/IAR		STR731F (CAN, 100 pins)			
STR730-SK/IAR		STR730F (CAN, 144 pins)			
STR712-SK/IAR		STR712F (CAN)			
STR711-SK/IAR		STR711F (USB)			
Keil kits					
STM3210E-SK/KEIL	General-purpose board (UART, SPI, I²C, LEDs, I/Os, ...) with target MCU and device specific features	STM32F103ZE (USB, SDIO, I2S)	ULINK (USB/JTAG)	µVision3 (For code up to 16 KB)	ARM RVCT
STM3210B-SK/KEIL		STM32F103RB (USB)			
STR91X-SK/KEI		STR912F (Ethernet, USB)			
STR750-SK/KEIL		STR750F			
Raisonance REva					
STM3210B-SK/RAIS	REva motherboard with UART, SPI, I²C, LEDs, I/Os, ... and daughterboard mounted MCU(s)	STM32F103RB (USB)	Embedded RLink (USB/ JTAG)	RIDE (For code up to 32 KB)	GNU C/C++
STR91X-SK/RAI		STR912F (Ethernet, USB)			
STR750-SK/RAIS		STR750F		RIDE (For code up to 16 KB)	
STR730-SK/RAIS		STR730F			
STR71X-SK/RAIS		STR711F (USB) and STR712F (CAN)			

ST motor control starter kits

Complete development platforms with ready-to-run motor control demo for quick, easy motor control feature evaluation with STM32 (dedicated peripherals, dual ADC, sensorless mode, Cortex™-M3 core) or STR750. Kits allow rapid implementation of sensor and sensorless vector-based control for three-phase PMSM and AC induction motors. They include a PMSM motor, motor control board, device-specific evaluation board, opto-isolation board, J-Link (USB/JTAG), motor control GUI, application and C sources.
ST order codes: STM3210B-MCKIT.

Evaluation boards

ST evaluation boards implement all device features and come with sample code (C sources) for feature implementation that is based on ST firmware libraries, which users are free to adapt and use in their own applications. ST order codes:

- STM3210E-EVAL
- STM3210B-EVAL
- STR910-EVAL
- STR750-EVAL
- STR730-EVAL
- STR710-EVAL

Evaluation boards are also available from numerous third-party providers including Anby, Embest, Greenchips, Manley, Olimex and Propox.

Complete, third-party tool solutions

Choose from a full range of development solutions offering start-to-finish control of application development from a single environment. Solutions are available for a range of compilers and in-circuit emulators, and offer project management, source editing, application building and debugging from a single, easy-to-use graphical interface.

Supplier	IDE	C/C++ compiler	In-circuit emulator
Aiji System	OPENice-EDS	Supports a variety of images (Dwarf1/2, ELF, AxF)	OPENice-1000 OPENice-RT
Altium Tasking	EDE	Tasking VX	Tantino, Tanto, J-Link
Anby	IAR EWARM	IAR	AnbyICE
ARM - RVDS	Eclipse RealView® Compilation	Tools RealView® ICE RealView® Trace	
Ashling	AsIDE	GNU, ARM, GHS, IAR, Keil, MetaWare, Wind River	Vitra, Genia, Opella
Embest	Embest IDE	GNU, ARM	UNetICE, Power ICE
Green Hills Software (GHS)	MULTI®	GHS	Green Hills probe SuperTrace™
Hitex	HiTOP5	Tasking, GNU, ARM, GHS, High-Tec, IAR	Tantino Tanto PortTrace
IAR - YellowSuite™ [1]	Embedded Workbench for ARM (EWARM)	IAR	J-Link J-Trace
iSYSTEM	WinIDEA™	ARM, GHS, GNU, IAR, Keil, Tasking	iONE iC3000
Keil - RVMDK	µVision™	RealView® Compilation Tools, GNU, Keil	ULINK JTAGjet-Trace
Lauterbach	PowerView	ARM, GNU, IAR, MetaWare, Wind River	Trace32-Power tool Trace32-ICD
Nohau	Seehau	ARM, MicroCross GNU, GHS, High-Tec, IAR, Keil	EMUL-ARM
PLS	UDE	GNU	UAD2
Raisonance - RKIT [2]	RIDE™	GNU	RLink
Rowley - CrossWorks	CrossStudio	GNU	CrossConnect
Signum	Chameleon	GNU, ARM, GHS	JTAGjet JTAGjet-Trace

1. IAR Embedded Workbench for ARM with IAR C/C++ compiler is available from STMicroelectronics, order code STR-EW/IAR
2. Raisonance RIDE with GNU C/C++ compiler and RLink is available from STMicroelectronics, order code STX-PRO/RAIS

Promotion kits

STM32 Primer

Ultra low-cost, complete development kit for fun, easy introduction to STM32 and the ARM Cortex™-M3 core. The STM32 drives ergonomic, MEMS-based controls for graphical user interface and game demos. It includes an evaluation board (USB, LCD), integrated debugging/programming via USB (RLink), software toolset (RIDE - debug code up to 32 K, GNU C /C++ compiler) and application sources.

ST order codes: STM3210B-PRIMER
STM3210E-PRIMER

Try the STM32, share creative ideas, join www.stm32circle.com, today!

STM32-PerformanceStick

Very low-cost evaluation and development kit to explore the performance features of the ARM Cortex™-M3 core based STM32. Includes DashBoard graphical interface for real-time display of processor performance (power consumption, speed of execution, etc.), evaluation board with integrated debugging/programming via USB and unlimited software toolset (HiTOP5, Tasking C compiler), sample applications (USB, CAN, ADC, etc.). Connector for peripheral specific extension boards.

ST order code: STM3210B-PFSTICK

STR9-comStick

Very low-cost, unlimited STR9 development kit for fast and easy integration of network connectivity in any application. It includes an evaluation board (Ethernet, USB, CAN), integrated debugging/programming via USB, unlimited software toolset (HiTOP5, GNU C/C++ compiler), code samples and web server application.

ST order code: STR9-COMSTICK

Programmers

Programmers for ST's ARM core based devices, including single position, gang and automated programming solutions that are ready to integrate into a production environment, are available from BP Microsystems, Data I/O, Dataman, Elnec, System General and Xeltec. In-circuit programming solutions that can be adapted to an engineering or production environment include the complete list of JTAG in-circuit debugging/programming tools, as well as dedicated programming tools like those from PLS, Segger and SofTec Microsystems.

STM32 development flexibility with trace capability

The STM32 SWV (Single Wire Viewer, available on all STM32) provides a low-bandwidth data and instruction tracing over one single output pin. This feature is made available with the latest release of the development tools/in-circuit emulator without any additional cost.
In addition, the STM32 Embedded Trace Macrocell™ delivers full real-time instruction trace. Trace tools connect to the STM32 via a low cost 20-pin high-density connector.
A range of trace tools are available from third-party tool suppliers including:

Supplier	Trace Tools
Keil - RVMDK	JTAGjet-Trace
IAR - EWARM	J-Trace
Lauterbach - PowerView	TRACE32 CombiProbe TRACE32 PowerTool
Signum - Chameleon	JTAGjet-Trace

Take advantage of STR9 trace capability

The STR9 Embedded Trace Macrocell™ provides configurable trace capability during application development, making it possible to view the processor's state before and after a specific event. Trace tools connect to the STR9 via a dedicated 38-pin trace connection on the application or evaluation board. A range of trace tools is available from third-party tool suppliers including:

Supplier	Tools
ARM	RealView™ Trace
Ashling	Vitra
Green Hills Software (GHS)	SuperTrace™
Hitex	Tanto with PortTrace
IAR	J-Trace
iSYSTEM	iC3000 with iTrace
Lauterbach	Trace32-Power Tool
Nohau	EMUL-ARM with trace option
PLS	UAD with OCDS L2
Signum	JTAGjet-Trace

Development tool kits with trace for STR9

ST provides affordable, complete tool bundles that include an in-circuit emulator with trace capability, integrated development environment, C/C++ compiler and evaluation board. Solutions include:

IAR advanced development kit

Includes EWARM-BL512 (debug up to 512 KB of code), IAR C/C++ compiler, STR912F evaluation board and J-Trace (USB/JTAG) featuring 38-pin trace connection. ST order code: STR91X-DK/IAR

Raisonance professional developer kit

Includes RIDE, GNU C/C++ compiler, REva demonstration motherboard, daughter board with STR912F and Signum JTAGjet-Trace (USB/JTAG) with 38-pin trace connection. ST order code: STR9-DK/RAIS

Operating systems, solution stacks and more

Development tools include a range of portable embedded system software such as graphical packages, TCP/IP stacks and several royalty-free, small-footprint operating systems that meet a variety of application constraints from low cost to high security.

Supplier	Product	Description	Typical footprint	
			STRx (bytes)	STM32 (bytes)
CMX	CMX-RTX	Multi-tasking, royalty-free, real-time OS that is also available in a scaled down version.	ROM: <10 K RAM: <1 K	ROM: <5 K RAM: <1 K
	CMX-TCP/IP	Portable, high-performance TCP/IP stack for embedded systems. Can also be run without an operating system.	ROM: <10 K RAM: 1 K + buffer	–
eCosCentric	eCosPro	Based on the eCos open-source RTOS, it combines high performance with the flexibility to minimize footprint.	ROM: 2 K RAM: <1 K	–
freeRTOS.org	freeRTOS	Open-source, real-time kernel that can be used in commercial applications. SafeRTOS, IEC 61508 certified sister product also available from Wittenstein	ROM: 4.2 K RAM: 1 K	ROM: 2.7-3.6 K RAM: 0.2 K
GNU	uClinux	A derivative of Linux 2.0 kernel intended for microcontrollers without memory management units (MMUs). Free download for STR7 microcontrollers from ST.	ROM: <512 K	–
Green Hills Software (GHS)	VelOSity Microkernel	Small, fast and royalty-free, this OS is a perfect fit for cost-sensitive, high-volume, resource constrained embedded applications.	ROM: 60 K RAM: 15 K	–
	INTEGRITY	A secure, royalty-free, real-time operating system for use in embedded systems that require maximum reliability.	ROM: 95 K RAM: 40 K	–
IAR	PowerPac	A full-featured, real-time operating system with a high-performance file system. Highly integrated with EWARM, free limited edition available.	ROM: 2-4 K RAM: 51	ROM: 2-4 K RAM: 51
InterNiche	TCP/IP stacks	Small footprint, full-featured TCP/IP stacks: NicheStackTM and NicheLiteTM. NicheTool software for debug and system optimization.	ROM: 12 K RAM: -	–
Keil	ARTX-ARM	Preemptive, multi-tasking RTOS that supports mailbox and memory pools, and includes Flash file system and TCP/IP networking support.	ROM: 6 K RAM: 0.5 K	ROM: 1.5-3 K RAM: 0.5 K
Micrium	uC/OSII	Portable, ROMable, scalable, preemptive, real-time kernel with TCP/IP stack. Pre-certified software for safety critical systems.	ROM: <20 K RAM: <2 K	ROM: 16 K RAM: 2 K
NexGen	NexGenIP	A complete, high-performance TCP/IP stack for embedded systems supporting TCP, UDP, IP, ICMP, IGMP, Multicast, ARP and more.	ROM: 45-60 K RAM: 14-20 K	–
Quadros Systems	RTXC Quadros	Real-time kernel with a suite of stacks and middleware (TCP/IP, USB, File System, GUI, CAN, ...) and VisualRTXC Design Tool for debug and system optimization.	ROM: <20 K RAM: <4 K	–
Port	ETHERNET Powerlink	Deterministic, real-time Ethernet protocol for transfer of time-critical data in very short isochronic cycles. Starter kit for implementation of STR9 Ethernet node available.	ROM: <30 K RAM: <10 K	–
Segger	embOS	Small footprint, real-time kernel offering multitasking, fast context switches, low interrupt latency. EmbOS View software for debug and system optimization.	ROM: 3 K RAM: 51	ROM: 1.7 K RAM: 51
	emWin	LCD controller-independent graphical user interface, compatible with any embedded operating system. Delivered as “C” source code.	–	ROM: 2 K RAM: 20 / window
Wittenstein high integrity systems	safeRTOS	IEC 61508 Safety Integrity Level (SIL) 3 compliant, small footprint, real-time kernel for applications requiring a specified level of dependability.	ROM: 4.2 K RAM: 1 K	–

Internet support

A complete online selection guide, user groups and free downloads of the latest software and documentation for ST ARM core based microcontrollers can be found at www.st.com/mcu. For further information about a specific third-party tool, please visit the web site of the relevant third-party tool supplier:

Aiji System (아이지시스템): www.aijisystem.com
Altium Tasking: www.tasking.com
Anby (安比): www.anby.cn
ARM: www.arm.com
Ashling: www.ashling.com
BP Microsystems: www.bpmicro.com
CMX Systems: www.cmx.com
Data I/O: www.data-io.com
Dataman: www.dataman.com
eCosCentric: www.ecoscentric.com
Elnec: www.elnec.sk
Embest (英蓓特): www.embedinfo.com
freeRTOS.org: www.freertos.org
Greenchips (그린칩스): www.greenchips.co.kr
Green Hills Software: www.ghs.com
Hitex: www.hitex.com
IAR: www.iar.com
InterNiche: www.iniche.com
iSYSTEM: www.isystem.com
Keil: www.keil.com
Lauterbach: www.lauterbach.com
Manley (万利): www.manley.com.cn
Micrium: www.micrium.com
NexGen Software: www.nexgen-software.com
Nohau: www.icetech.com
Olimex: www.olimex.com
PLS: www.pls-mc.com
Port: www.epl-tools.com
Propox: www.propox.com
Quadros Systems: www.quadros.com
Raisonance: www.raisonance.com
Rowley: www.rowley.co.uk
Segger: www.segger.com
Signum: www.signum.com
SofTec Microsystems: www.softecmicro.com
System General: www.sg.com.tw
Xeltec: www.xeltec.com

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