KEIL™ An ARM® Company

RealView Microcontroller Development Kit

Create Applications for ARM7-, ARM9-, or Cortex-M3-Based Microcontrollers

The RealView® Microcontroller Development Kit (MDK) shortens development cycles by reducing the time spent configuring, testing, and debugging embedded applications.

The RealView MDK combines ARM RealView compilation tools with the Keil µVision® Integrated Development Environment (IDE), providing developers with a feature-rich environment optimized for ARM-Powered® microcontrollers.

The Keil µVision IDE Includes ▸

- Project management and device and tool configuration
- A source code editor optimized for embedded systems
- Target debugging and Flash programming
- Accurate device simulation (CPU and peripheral)

ARM technology-based projects created under µVision are automatically compiled and linked using the RealView compilation tools.

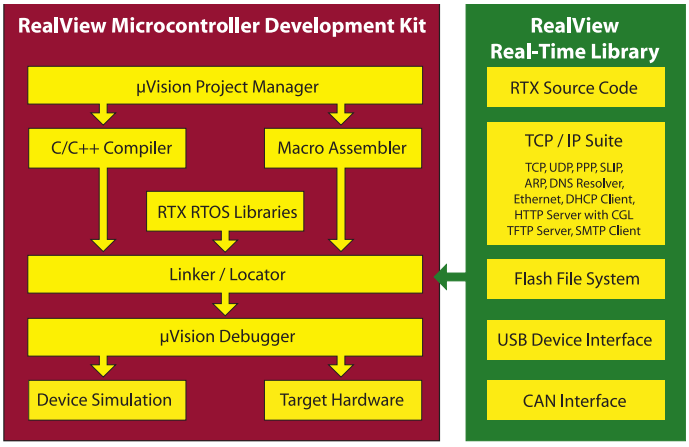
The built-in microcontroller simulator models more than 50 ARM-Powered® devices, including the ARM instruction set, on-chip peripherals, and the external signals used to manipulate them.

ARM RealView compilation tools are recognized by the industry for providing the best performance of all available ARM technology-targeted compilers. Developed and tuned to deliver the tightest code density, the compiler produces the smallest code size, which leads to significant product cost savings. The compiler generates optimized code for both the 32-bit ARM and 16-bit Thumb® instruction sets while supporting full ISO standard C and C++.

Project Configuration ▸

The µVision IDE incorporates a device database of supported ARM-Powered microcontrollers. In µVision projects, required options are set automatically when you select the device from the device database.

µVision displays only those options that are relevant to the selected device and prevents the selection of incompatible directives. Only a few dialogs are required to completely configure all the tools (assembler, compiler, linker, debugger, and Flash download utilities) and memory map for your application.



Project Management ▸

File groups allow associated files to be grouped together. They may be used to separate files into functional blocks or to identify engineers in your software team.

Project targets allow you to create several programs from a single project. You may require one target for testing and another target for a release version of your application. Each target allows individual tool settings within the same project file.

Editor ▸

The µVision Editor includes all the standard features you expect in a professional editor. Color syntax highlighting and text indentation are optimized for editing C source files, while document outlining allows you to collapse function blocks in your source code. Most Editor functions are quickly accessed from the toolbars.

While debugging, the Editor is available so you can easily make changes to your source code.

For more information on Arrow's Development Tools, pricing and availability, **visit www.arrowdevtools.com** or call **1-866-910-3650**.

Debugger ▸

The µVision Editor enables you to set simple breakpoints using the context menu (or Editor toolbar) while creating your C or assembler source. Breakpoints you set while editing are activated when you start the µVision Debugger.

In addition to simple breakpoints, the µVision Debugger supports complex breakpoints (with conditional or logical expressions) and memory access breakpoints (with read/write access from an address or range). The Debugger also displays code coverage and execution profiling information in the Editor windows.

RealView Real-Time Library ▸

The RealView Real-Time Library (RL-ARM) enables networking, communication, and real-time software. The RL-ARM is based on a real-time kernel that simplifies the design and implementation of complex, time-critical applications. A Flash file system, TCP/IP networking suite, and other communication protocols are included.

Today, microcontroller applications require simultaneous execution of multiple jobs or tasks. For such applications, the RL-ARM allows task management and flexible scheduling of system resources (CPU, memory, etc.).

The RL-ARM is a full-featured real-time kernel with task priorities, round-robin, preemptive context switching, and support for multiple instances of the same task function. It is royalty-free and is fully integrated into µVision.

Third-Party Utilities ▸

Third-party utilities extend the functions and capabilities of µVision and are available from a wide variety of vendors.

In the latest release of the RealView Microcontroller Development Kit v3.23b, the latest version of MDK adds support for the Cortex-M1 and Toshiba TMPA910CRAXBG devices. It also includes improved support for Atmel SAM926x, Freescale i.MX2x, and STMicroelectronics STM32F103 devices.

Accurate Device Simulation ▸

The µVision Debugger simulates a complete ARM-Powered microcontroller including the instruction set and on-chip peripherals. These powerful simulation capabilities provide serious benefits and promote rapid, reliable embedded software development.

- Simulation allows software testing on your desktop with no hardware environment
- Early software debugging on a functional basis improves overall software reliability
- Simulation allows breakpoints that are not possible with hardware debuggers
- Simulation allows for optimal input signals (hardware debuggers add extra noise)
- Signal functions are easily programmed to reproduce complex, real-world input signals
- Single-stepping through signal processing algorithms is possible; external signals stop when the CPU halts
- It is easy to test failure scenarios that would destroy real hardware peripherals