

## The ultimate debug solution: J-Link Ultra+

Hilden, Germany - April 30<sup>th</sup>, 2012 – Based on the ultra fast J-Link Ultra, SEGGER Microcontroller introduces a new member of the J-Link family to the market: The fast and versatile J-Link Ultra+.

By adding licenses for all J-Link related software packages to J-Link Ultra, the developer receives access to an unlimited number of breakpoints in flash memory, production grade flash programming and compatibility with all popular tool-chains including GDB and RDI based tool-chains for ARM and Renesas RX cores.

As with all J-Link models, the J-Link Ultra+ comes with SEGGER's ultra fast flash programming algorithms, allowing download into external CFI-compliant flashes as well as the internal flash of all common microcontrollers. Related software and firmware updates are free of charge.

With download speeds of up to 1.5 MByte/sec, the J-Link Ultra+ is second to none. The already fast algorithms for flash programming from SEGGER benefit significantly from the improved speed.

The price tag of 598 Euro (748 US Dollars) makes the J-Link Ultra+ the emulator of choice in the ARM and Renesas RX worlds.

"The introduction of the J-Link Ultra+ is an easy choice for developers using ARM and RX cores. Unsurpassed speed, the ease of use, fast and free flash loaders, unlimited flash breakpoints and compatibility with all tool-chains are the outstanding features of this device. There is no other emulator with as much value for the money", says Dirk Akemann, marketing manager of SEGGER.

### Behind the Technology

SEGGER's Unlimited Flash Breakpoints have been optimized to such a high level, the user will not even realize he has run out of hardware breakpoints during his debug session. J-Link reprograms the flash memory as little as possible. A number of optimizations are used, such as usage of hardware breakpoints whenever possible, automatic conversion of breakpoint types where applicable, instruction set simulation and emulation, flash cache, and other methods SEGGER has developed over the many years of this features evolution.

An unlimited number of breakpoints can be set anywhere in program memory; including the target device's, internal flash memory, external CFI-compliant flash, and internal or external RAM. Debugging limitations imposed by the number of hardware breakpoints available (2 on ARM7/9, 4 on Cortex-M0, M1 and typically 6 on Cortex-M3, M4) are completely eliminated.

This presents a flash debugging environment which is virtually the same as that when debugging in RAM.

All J-Link models have built-in "intelligence": They are all based on 32-bit CPUs running code which is highly optimized for the target CPU and fast and stable debug operation. Many competing products consist of simple USB-to-JTAG or USB-to-SWD conversion circuits and leave all decision making up to the PC, slowing down the debug process and making it more error prone especially in environments with low and changing CPU-clock speeds.

### About J-Link

The SEGGER J-Link is the industry-standard for ARM debug emulators, supported by all major tool chains for ARM cores. The SEGGER J-Link is independent and will work with IDEs from: Freescale, IAR, KEIL, Mentor Graphics, Rowley, Renesas, Tasking, Phyton and others. In addition to those listed above; any RDI compliant debugger can be used with the optional RDI module, and any GDB compliant debugger with the free GDB-Server. Therefore; as projects change, a different compiler/debugger may have to be used. With the J-Link family,





investments (monetary and learning curve) in development/production tools are preserved. Setup of a J-Link is done in mere minutes.

J-Link supports multiple CPU families, such as ARM 7/9/11, Cortex-M0,M1,M3,M4,R4,A5,A8,A9, Renesas RX in a single model; there is typically no need to buy a new J-Link or new license when switching to a different CPU family. SEGGER is also continuously adding support for additional cores, which in most cases, only requires a software/firmware update. Unlimited free updates are included with even the baseline model of the J-Link. SEGGER is excited to continue advanced development of its cutting edge embedded tool solutions to be utilized with pretty much any development environment you choose. All J-Links are fully compatible to each other, so an upgrade from a lower-end model to a higher end model is a matter of a simple plug-and-play.

Full product specifications are available at: <http://www.segger.com/jlink.html>

The J-Link-Software is available at: [http://www.segger.com/download\\_jlink.html](http://www.segger.com/download_jlink.html)

U.S. On-Line Web Shop: <http://shop-us.segger.com>

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## About SEGGER

**SEGGER Microcontroller** develops and distributes hardware and software development tools as well as software components for embedded systems. An "embedded system" is one in which a microprocessor and associated components are incorporated into a device helping to accomplish difficult and complex tasks in products such as cell phones, medical instruments, instrument clusters, measurement instruments, satellite radios, digital cameras etc.

SEGGER was founded in 1997, is privately held, and is growing steadily. Based in Hilden with distributors in all continents and a local office in Massachusetts, SEGGER offers its full product range worldwide.

SEGGER software products include: embOS (RTOS), emWin (GUI), emFile (File System), emUSB (USB host and device stack) and embOS/IP (TCP/IP stack). With the experience in programming efficiently on embedded systems, SEGGER created highly integrated, cost-effective programming and development tools, such as the Flasher (stand-alone flash programmer) and the industry leading J-Link/J-Trace emulator.

SEGGER's intention is to cut software development time for embedded applications by offering affordable, high quality, flexible and easy-to-use tools and software components allowing developers to focus on their applications. Find out more at <http://www.segger.com>.

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