

WIND RIVER

Wind River Probe

Increasing code size and new hardware advancement are inevitable trends. Within the next few years, the number of lines of code in an average device is expected to double, while microprocessors are becoming faster and more complex. To compete successfully in this dynamic environment, your engineers need powerful tools to help them gain access to the core processor and its peripherals.

Wind River Probe, a USB connectivity solution for developers who want to connect their host development environment to their target under development, enables engineers to see what's happening in the system every step of the way, from board bring-up to production and test. Wind River Probe allows your entire organization to profit from shorter development cycles, higher product quality, reduced cost, and faster time-to-market by standardizing on a common, smart debugging tool. Probe helps you to free engineering bandwidth for product innovation and focus on high-value differentiation.

Wind River Probe uses the on-chip debugging capabilities available in most embedded microprocessors. It allows developers to connect to the target via the JTAG, EJTAG, or BDM interface and communicate information to and from the host PC through a USB 1.x-compliant and 2.0-compliant interface. Combined with Wind River JTAG accelerator technology, the USB 2.0 interface enables Wind River Probe to offer the fastest download speeds in the Device Software Optimization (DSO) industry.

Features

- USB 2.0-compliant
- No external power supply needed
- Simple plug-and-play host connection with small form factor USB connector
- Upgradeable software for additional processor architectures
- Custom hardware adaptable
- Full integration with the industry-leading, Eclipse-based debugger: Wind River Workbench, On-Chip Debugging Edition

Fast, Simple Connectivity

Combining USB 2.0 compliance with Wind River's JTAG accelerator technology ensures a fast download speed to the target using Wind River Probe, as well as an improved ability to use the full JTAG scan chain. This provides developers with a more responsive debug interface, compared with parallel port interface-based probes and products compliant only with USB 1.x. The improved download speed offers users more development iterations per day, in addition to a more responsive and improved debug experience. The USB connector provides a simple plug-and-play connection method.



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Industry-Leading JTAG Performance

Wind River Probe can support up to 100MHz JTAG clock speeds, far surpassing the requirements for any products available today—so it will support new silicon from major CPU vendors for years to come. Probe also supports I/O voltage tracking from 1.2V to 3.3V, so it can automatically plug and play from one device to another. Users don't need to manage or swap out personality modules when moving from one architecture family to another. New processor support is added through firmware updates and by changing the target selection in the GUI, enabling Wind River Probe to support multiple processor families with one piece of hardware.

Full Integration with Wind River Workbench

Wind River Probe is fully compatible with Wind River Workbench, the industry-leading open and extensible development suite. Wind River Workbench, On-Chip Debugging Edition is a feature-rich development suite optimized for the capabilities of JTAG-based debugging using Wind River ICE and Wind River Probe. Our on-chip debugging solution provides an advanced graphical JTAG development environment that allows organizations to standardize on a common framework of tools for hardware bring-up, kernel debugging, and software development (OS, middleware, applications), as well as test and manufacturing.

Full Integration with Wind River On-Chip Debugging API

Engineers in the manufacturing environment can use Wind River ICE and Wind River Probe through Wind River On-Chip Debugging API. The API can be used for flash programming and to gain access to the built-in diagnostic features available in Wind River Probe; or it can be used for customized scripts employed during manufacturing or test.

Technical Specifications

- USB 2.0-compliant host connection; also supports USB 1.1
- High-speed JTAG run control and program download, with JTAG clock speeds to 100MHz
- Hot-plug-capable interconnect system, using industry-leading Samtec interconnect system
- 1.2–3.3V interface support; 5V tolerant
- Provides the following when used with Workbench On-Chip Debugging:
 - RTOS awareness for VxWorks, Linux, and ThreadX
 - Built-in hardware diagnostics
 - Flash memory programming
 - Complete run control solution, including start, stop, and stepping capabilities, which support data- and expression-based hardware and software breakpoints
 - Support for the usage of Memory Management Units (MMUs) to create virtual memory or protected applications
 - Internal register configuration
 - Additional custom registers
 - Open API integration

Processors and Operating Systems

Wind River Probe supports a wide range of processors and operating systems. Please visit www.windriver.com/products/OCD/workbench_OCD for a current list. Supported operating systems include Wind River's industry-leading VxWorks and Linux, in addition to kernel.org Linux and Express Logic's ThreadX. Other commercial operating systems and in-house proprietary operating systems can be integrated by Wind River Professional Services.

Supported Hosts

- Red Hat Enterprise Linux 4, 32-bit, x86
- Red Hat Enterprise Linux 5, 32-bit, x86
- OpenSUSE Linux 10.2, 32-bit, x86
- SUSE Linux Enterprise Desktop 10, 32-bit, x86
- Windows XP Professional with Service Pack 2, 32-bit, x86
- Windows Vista, 32-bit, x86

How to Purchase Wind River Solutions

Please visit www.windriver.com/company/contact/index.html to find your local Wind River sales contact. To have a sales representative contact you, please call 800-545-9463 or write to inquiries@windriver.com.