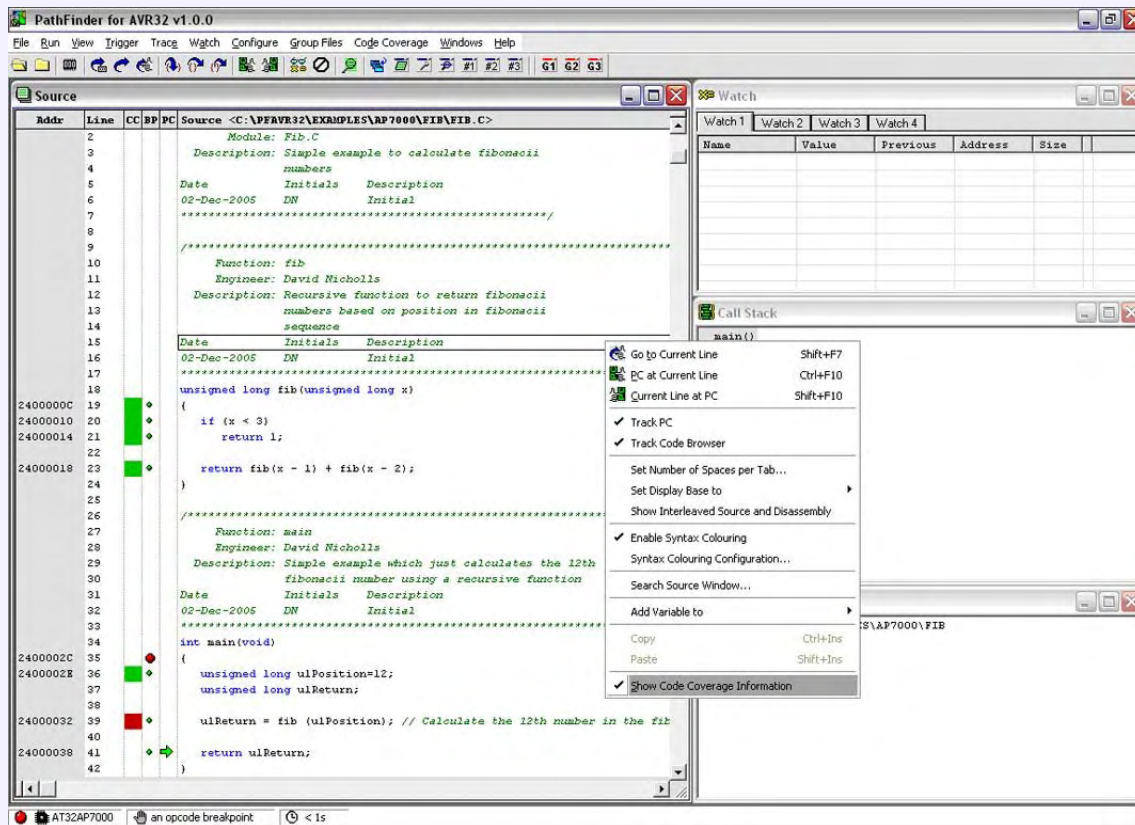


Ashling debugging tools for Atmel's AVR32® family

Source Debugger, NEXUS Debug Probe, NEXUS Real-time Trace

Atmel's AVR32® is a high-performance 32-bit RISC microprocessor core, designed for cost-sensitive embedded applications, with very low power consumption and exceptional code density. Developed in co-operation with Atmel, the Ashling toolset offers a comprehensive solution for AVR32 application development. The tools are supplied and supported by Arcadi Systems. The debug toolset includes:

- PathFinder-AVR32 Source Debugger
- Opella-AVR32 USB-connected Emulator
- Vitra-AVR32 Networked Emulator with Real-time Triggering and Trace



PathFinder-AVR32 Source Debugger

PathFinder-AVR32 is Ashling's Source-level Debugger for AVR32® devices, with multiple user-configurable windows, point-and-click, drag-and-drop, hover data display, splitter windows, menu-bar, and script (macro)-file controls. PathFinder's Object-Oriented Monitoring and Editing System provides tree-structured "click to expand" access to all memory-areas, register sets, registers and bits of the AVR32 processor, with a logical and friendly display.

PathFinder is the User Interface for the Ashling **Opella-AVR32 Emulator**, and the **Vitra-AVR32 Emulator and Trace**.

PathFinder features include:

- Full C and assembly source level debug support, including step-into, step-over and step-out-of
- Built-in Code Browser allowing rapid navigation of application source code
- Call Stack (Backtrace) window shows current function stack with optional parameter display
- Full downloading and debugging support for IAR and GNU GCC AVR32 C/C++ Compilers
- Powerful script language to control, monitor and log all Emulator functions from within PathFinder
- Remote Control Interface allows external applications to control PathFinder using TCP/IP-based API
- Operating System Debug using integrated RTOS monitoring window, based on Kernel Debug Interface (KDI) API
- "On-the-fly" support allows viewing of program memory and breakpoint operations without halting your program
- Supports on-chip AVR32 trace (Nano-trace) and comprehensive off-chip trace using the Ashling Vitra Emulator
- Data Watchpoints, Hardware breakpoints and unlimited software breakpoints
- Runs on Windows Vista/XP/2000

Opella-AVR32 USB-connected JTAG emulator

Opella-AVR32 is a powerful JTAG emulator that controls execution of the target Atmel AVR32 device using the device's NEXUS Class 1 debug control port. Opella is a compact stand-alone unit, controlled by the PathFinder-AVR32 Source Debugger via the PC's USB interface. Debugging is non-intrusive and requires no target system resources.

Opella-AVR32 features include:

- Run/stop control of the target application, including single-step (assembly-level or C source-level) and C function step-into/step-over/step-out-of
- Display and modify target processor registers, including all core and peripheral registers
- Read/Write access to both on-chip and target system memory
- Simultaneous display of source and assembly application code (including interleaved source and associated disassembly)
- High-speed application code download
- Support for all on-chip hardware breakpoints and watchpoints
- Unlimited number of software breakpoints
- Automatic sensing of target operating voltage levels from 1.8v to 5.0v. Opella senses the target system's operating voltage and sets its control signal levels accordingly.
- Flash programming support
- Full target reset control



Vitra Networked Emulator with Trace

Vitra-AVR32 is a complete debugging system with both Run-time Control (NEXUS Class 1), and real-time Instruction, Data and Ownership trace (NEXUS Classes 2 and 3). Vitra provides Ethernet, USB and RS232 serial connections to the host PC.



Real-Time Trace: Vitra traces instruction execution and data accesses at target system clock speeds up to 200MHz. PathFinder shows traced data as bus trace (data access), symbolic disassembly or source code with time-stamp. Vitra includes a 512K-frames by 128-bits trace buffer memory.

Vitra -AVR32 features include:

- Instruction flow tracing
- Data flow tracing
- Ownership message tracing
- Trace message time-stamping
- Optional External Trigger and Trace Cable allows:
 - Trace of 12 user-defined signals
 - 3 external trigger inputs to qualify trace capture
 - 2 Trigger output signals, asserted at Start or Stop triggers
- Automatic sensing of target operating voltage from 1.8v to 5.0v. Vitra senses the target system's operating voltage and sets its control signal levels accordingly.

Devices Supported

Atmel AVR32 AT32AP7000, AT32AP7001, AT32AP7002

Atmel AVR32 UC3A0512/0256/0128, UC3A1512/1256/1128, UC3B0512/0256/0128, UC3B1512/1256/1128

Order Codes

Product	Order Code	Product	Order Code
Opella Emulator for AVR32	Opella-AVR32	NEXUS 10-way Target Debug Probe Cable for Opella. Included with Opella-AVR32.	TPA-AVR32-NEXUS-10
Vitra Emulator and Trace for AVR32	VITRA-AVR32-T512K	NEXUS M38C 38-way Target Debug and Trace Probe Cable for Vitra. Included with Vitra-AVR32.	TPA-AVR32-NEXUS-38
PathFinder-AVR32 Source Debugger	PathFinder-AVR32	Extended Trigger and Trace Probe Assembly for Vitra	TPA-TRIG-TRACE

Ashling Microsystems Ltd. reserves the right to alter product specifications at any time and without notice



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