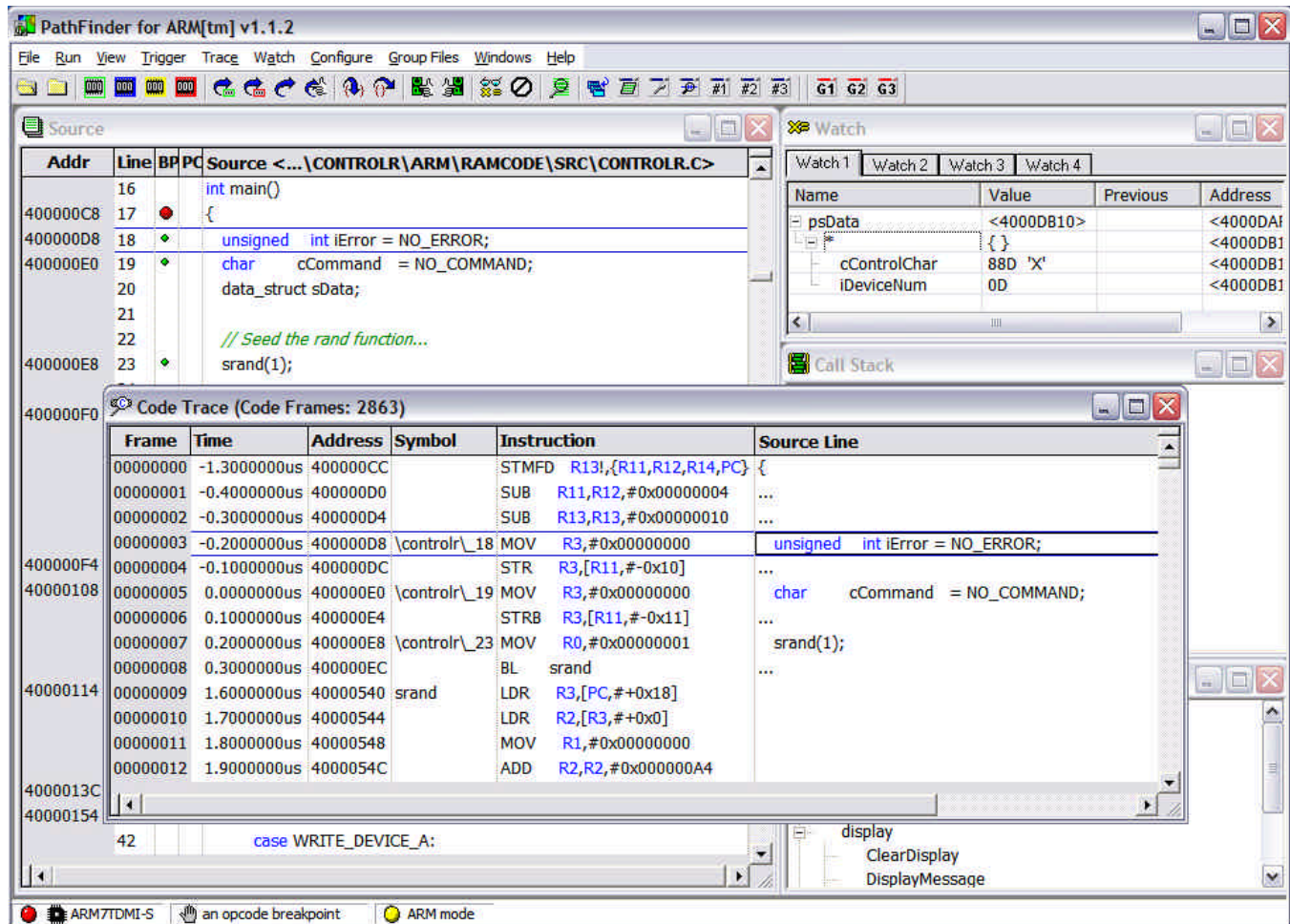


PATHFINDER SOURCE DEBUGGER

Source Debugger for Embedded Microprocessor Development



Ashling's **PATHFINDER** Source Debugger features multiple user-configurable windows, point-and-click, drag-and-drop, hover help and hover data display, splitter windows, menu-bar, button, hot-key and script (macro)-file controls. PathFinder runs on all 32-bit versions of Windows, including Windows XP, 2000, Me and NT.

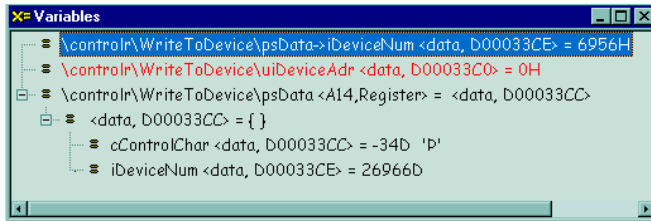
OVERVIEW

PathFinder's user-interface utilizes the Windows XP look-and-feel, to reduce the debugger learning curve and increase user friendliness, while maintaining a consistent style between the debugger and other Windows™ applications. Emulation, Source Debug, Simulation, Performance Analysis and Code Coverage are all controlled by PathFinder, thus providing a true integrated view of the embedded development domain.

PathFinder is the user Interface for all Ashling Emulator, Trace and Simulator products, including the Ashling Vira, Genia, Opella and Ultra Emulators. PathFinder supports a wide range of 8-, 16- and 32-bit processor architectures. The highly modular PathFinder debugger can be easily configured to support different targets including Emulators, Evaluation Boards, On-chip Debug Interfaces and Instruction-Set Simulation Models. In addition, PathFinder supports simultaneous debugging of both Multi-core systems (Systems on Chip) and Co-processors.

PATHFINDER FEATURE SET

- Operates under all 32-bit versions of Windows™
- Full C and Assembler Source Debug support
- Full C expression handling support
- Non-intrusive 'On-the-Fly' Variable and Memory viewing during program execution
- Supports all popular C compilers, including ARM, GNU, AsIDE, Green Hills, Wind River (Diab Data), IAR, Keil, ARC MetaWare, Motorola Metroworks and Altium-Tasking
- Support for all standard industry file formats (object formats) including ELF/DWARF, COFF, , IEEE695 and OMF
- Automatic update and synchronization of all windows after halt from program execution
- Code Browser window allows rapid browsing of loaded program, showing all modules and functions
- Full run-time control features including: single step, step over, step into, step out of (current function), go and halt.
- Support for software and hardware breakpoints and watchpoints
- Windows for on-chip RAM, external data memory, SFRs, CPU status and Co-processor status
- Full Multi-core and Co-processor debugging support
- All changed Memory and Variable values are highlighted when the program halts



Variables that have changed since the previous halt are shown in Red. Full scope is shown for all variables (in this case all variables are local to the function `WriteToDevice()` in the module `controlr`).

- 'Splitter' windows allow you to open up to four distinct views (panes) within a single window.
- Drag & Drop Support (drag a variable from the Source Window to the Variable Window)
- Hover Data Display

Addr	Line	BP	PC	Source
A0000300	14	●		{
	15			char szLocalString[DISPLAY_SIZE];
	16			
A0000306	17	◆		ClearDisplay();
	18			
	19			/* Select the message string */
A0000308	20	◆		if (cCommand == READ_DEVICE_A)
A000030C	21	◆		strcpy (szLocalString, "Reading from A");
A000031E	22	◆		else if (cCommand == READ_DEVICE_B)
A0000322	23	◆		strcpy (szLocalString, "Reading from B");

In PathFinder's Source window, you can position the mouse pointer (not shown) over the variable `szLocalString` to automatically open a pop-up window showing the current value of `szLocalString`.

- Right mouse button pop-up context menu support for all windows
- Powerful C-like script (macro) language to control, monitor and log all emulator functions, for automatic testing of software and hardware.
- Record mode allows automatic generation of scripts
- Most Recently Used (MRU) file list
- RTOS debugging support using the using the Kernel Debug Interface (KDI) standard. Allows debug support for third party or 'in-house developed' Operating Systems.
- Full support for Trigger and Trace including Bus Trace window (shows low-level 'bus' view) and Code Trace window (shows traced code as C or Assembler)
- Integrated Support for Ashling Software Quality Assurance tools including the **STARS** Performance Analyzer and **CODESCAN** Code Coverage System
- Ethernet, USB and RS232 connections to host PC

PATHFINDER ORDER CODES

PathFinder is available for all Ashling Emulators. For order codes and detailed specifications, please refer to the appropriate Ashling Emulator datasheet.

DS201 V6U

Ashling Microsystems Ltd. is Certified to EN ISO 9001, NSAI Registration No. M619.

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