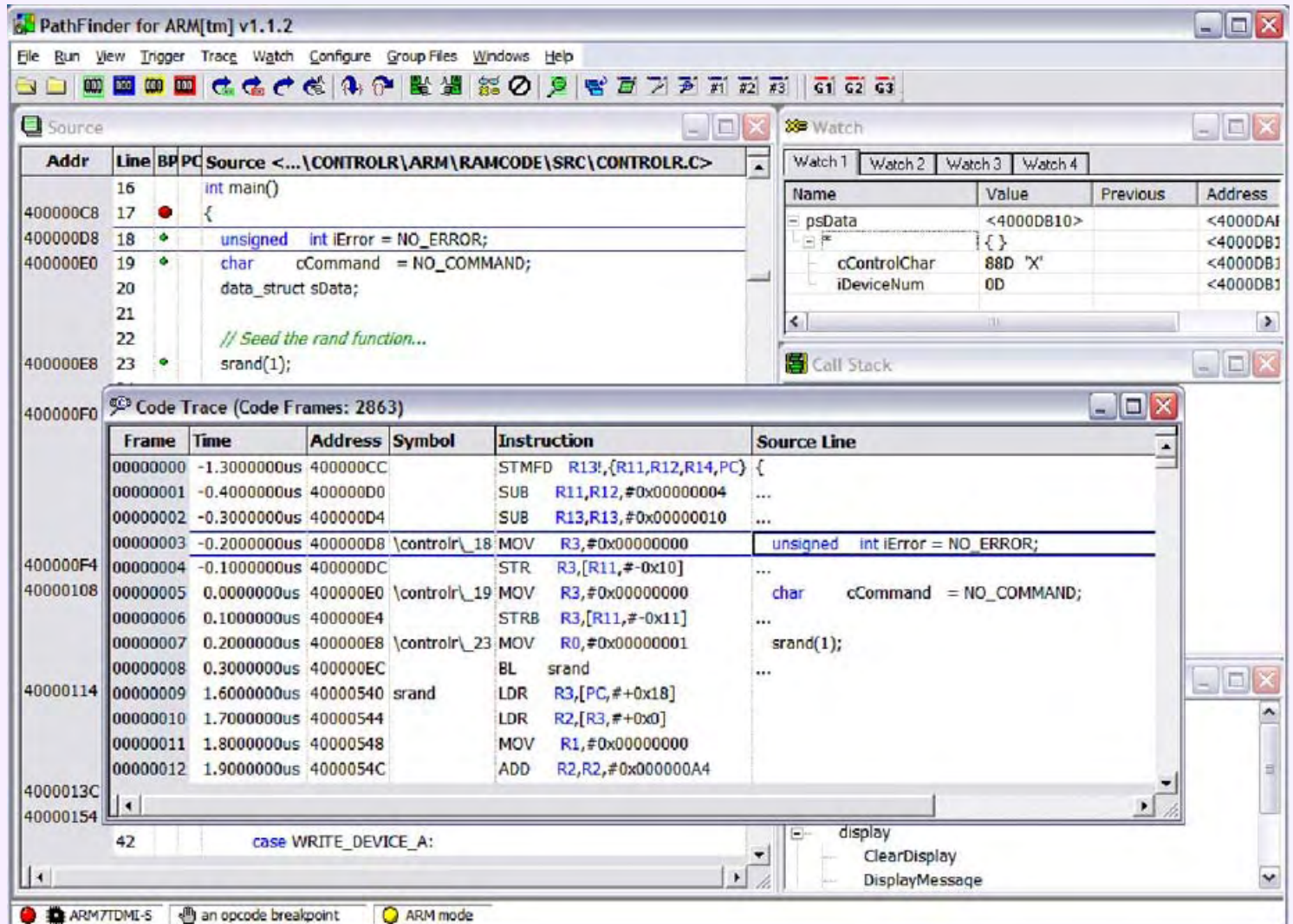


Ashling PathFinder Source-level debugger

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 Windows Vista, XP and 2000

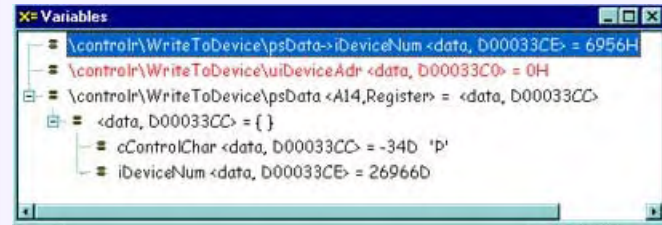
PathFinder Source Debugger Overview

PathFinder's user-interface utilizes the Windows 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 Opella, Vitra and Genia Emulators. PathFinder supports a wide range of 32-, 16- and 8-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 Source Debugger Feature-set

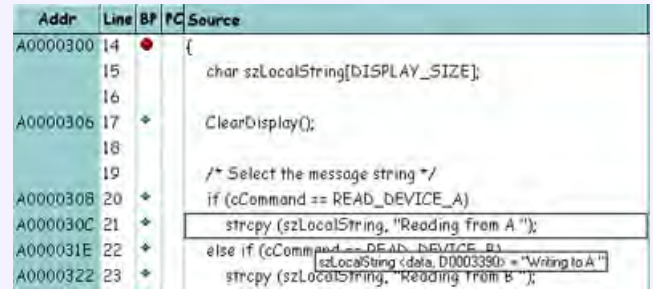
- Operates under all 32-bit versions of Windows™
- Full C and Assembler Source Debug support
- Full C expression handling support
- Non-intrusive 'On-the-Fly' Variable and Memory viewing during program execution
- Supports all popular C compilers, including ARM, GNU GCC, Green Hills, Wind River, IAR, Keil, ARC MetaWare, Freescale 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



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 Performance Analyzer and Code Coverage Systems
- USB, Ethernet and RS232 connections to host PC
- Helps with the most difficult debugging tasks: hardware bring-up, operating-system boot, post-mortem debugging
- Future-proof: works with latest hardware-debug protocols, all popular host operating-systems

PathFinder Debugger Order codes

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

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

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