EDB™   Source-level Debugger

Key Features of EDB:

♦ **Extensive Set of GUI Debugger Window Types**

♦ **Compatible with a wide selection of compilers including: EPI, ARM, GNU-gcc, Mentor, Metaware, MontaVista-gcc, Wind River gcc and Diab.**

♦ **Sophisticated Breakpoint Control Features**

♦ **Supports the Most Extensive List of ARM, MIPS, and Intel XScale Cores in the Industry**

♦ **Customizable RTOS Support**

♦ **Extensible Debugger Command Language**

♦ **Multiple Context Support**

♦ **Integrated GUI Support for MAJIC® Series Intelligent JTAG Debug Probes**

♦ **Integrated Execution Tracing Window with Source Code Annotation**

♦ **Application Access to Host I/O System via EPI-OS facility**

♦ **Support for a Broad Spectrum of Third Party Compilation Tools**
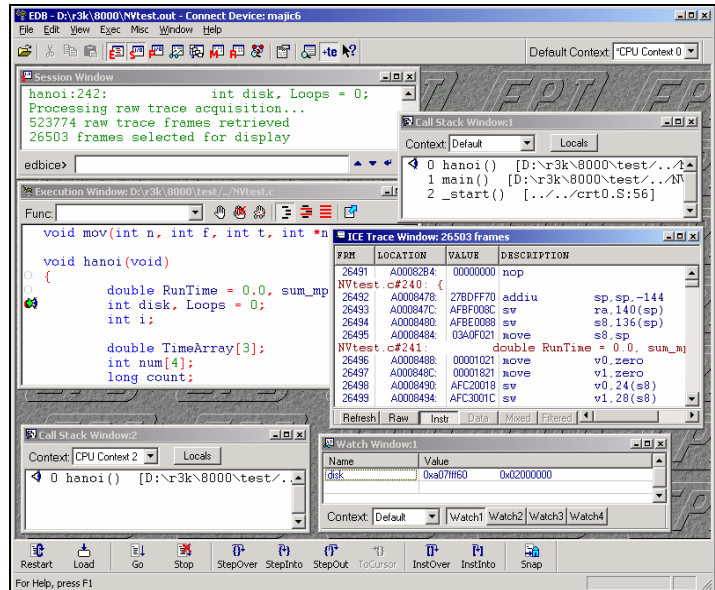
EDB features Integrated Trace Display

PRODUCT INFORMATION

EDB is a modern, professional grade source-level debugger targeted to the leading embedded RISC microprocessor architectures. It was designed for debugging embedded code and has evolved with only the developer of embedded software and firmware in mind.

EDB is specially designed for operation on Microsoft Windows hosts and features the intuitive "look and feel" which you are familiar. This intuitive design reduces learning time and allows even the novice to quickly become familiar with routine operations.

Underneath this easy to use exterior is a powerful source-level debugger that is the result of over 15 years of development by EPI. Its robust operation and wealth of features always impress even the most experienced embedded software developers.

It fully supports the 16, 32, and 64 bit ARM and MIPS instruction-set architectures (ISAs) including support for both ARM Thumb and MIPS16 code. In addition to the support for the basic ISAs, EDB also supports the device specific features of a constantly growing community of cores from ARM and MIPS Technology along unique cores from their licensees such as Intel, Texas Instruments, Broadcom, IDT, Philips, LSI Logic, and Motorola.

In addition to support for a wide choice of microprocessor core implementations, EDB also contain support for unique features of ASSP and SoC devices based on these cores. Check out the "Pick-a-Processor" menu on our web site at http://www.epitools.com/ for the latest listing of the approximately 200 devices that are supported by EDB.

EDB provides many powerful features that are seldom found in debuggers targeting the embedded market. For example, with EDB, you are able to display variables that are either in-scope or out-of-scope, and in their declared types. Lines in the source code that have associated executable code are clearly identified, allowing you to set breakpoints on multi-line statements without the usual trial-and-error. With the EDB formatting options, you can display structures in a variety of ways including your own custom format.

Products based on embedded RISC processors often have very large application programs. . Unlike debuggers that were originally developed for the 8 and 16-bit CISC processor market, EDB was developed especially to handle the large code sizes associated with RISC processors.

If your project requires a large code size, you will find EDB to be extremely valuable. EDB is able to work with unusually large programs and the associated large symbol tables. While other debuggers may crash or exhibit extremely slow operation, EDB will allow you to debug you large application quickly and reliably.

EDB not only supports the EPI world-class compilation tools, but also the executable object format of a wide variety of other third-party tools. This flexibility and market choice are just some of the ways we strive to give you tools to achieve the best possible time to market for your product or application software.

EPI *Embedded Performance, Inc.*

SPECIFICATIONS OF THE TASK AWARE DEBUGGER

RTOS Window

Thread	TCB Ptr	State	Priority	Scheduled	Time Slice	Stack Ptr	Stack Base	Stack End
TASK 0	0x800128a0	Ready	1	32	20	0x80013494	0x80013390	0x80013774
TASK 1	0x80012948	Ready	10	111	5	0x800139f0	0x80013788	0x80013b6c
TASK 2	0x800129f0	Ready	10	117	5	0x80013e3c	0x80013b80	0x80013f64
TASK 3	0x80012a98	Semaphore Susp	5	2	0	0x80013f78	0x80013f78	0x8001435c
TASK 4	0x80012b40	Sleep Susp	5	2	0	0x80014640	0x80014370	0x80014754
TASK 5	0x80012be8	Ready	7	2	0	0x800149c8	0x80014768	0x80014b4c

Queue	QCB Ptr	Start Addr	Q Size	# Msgs	Avail	Suspend	T Wait	TCB List	UTCB List
QUEUE 0	0x80012c90	0x80014b60	100	1	50	Fifo	0	0x00000000	0x00000000

Semaphore	SCB Ptr	Count	Suspend	T Wait	TCB List
SEM 0	0x80012cd8	0	Fifo	1	0x800142ac

Event	ECB Ptr	Flags	T Wait	TCB List
EVGROUP0	0x80012d00	0x00000000	0	0x00000000

MemoryPool	MPCB Ptr	Start Addr	Pool Size	MinAlloc	TotalAvail	SearchPtr	Suspend	T Wait	TCB_List
SYSMEM	0x80012d28	0x80013380	15288	52	8744	0x80014cf0	Priority	0	0x00000000

- Partitions 0
- Timers 0
- Mailboxes 0
- Pipes 0
- Histories 0

A Modern GUI Interface that Features:

- Easy-to-configure and intuitive GUI displays
- Persistent layout, configuration and window data
- Multiple Register, Memory, Watch, and Call Stack windows with extensive display formatting options and editable objects
- A sophisticated Source/Execution window that provides extensive capabilities for browsing and examining program source, assembly, and mixed-mode code
- An integrated Trace window that allows viewing of source, assembly level and raw trace data for the ARM ETM and MIPS PCTrace off-chip trace as well as the Intel XScale Microarchitecture, ARM, and LEXRA on-chip trace facilities.
- Hyperlink facilities that allow views to snap to referenced locations from other windows
- Dockable and sizable toolbars
- An on-line help system with context sensitive help
- A Program I/O window that allows target programs to easily display I/O information without tying up target resources

Full Execution Control that Features:

- Direct access to both Source Level and Machine Level execution control
- Extensive color-coded breakpoint control including software, hardware, and data breakpoint types
- Breakpoint properties that include conditional expression, pass count, thread and CPU context qualification
- The ability to load a variety of program (object) file formats including ELF, COFF, PECOFF, S-Records, Intel Hex, and straight binary files
- Support for a wide variety of third party compiler tools and object/debug file formats including ARM, Diab, various GNU builds, Metaware, Symbian, Texas Instruments and Wind River

Extensive Command Language that Includes:

- The ability to automate your debug and test sessions
- C expression evaluation which supports target function calls
- Extensive command file logging and playback

Full Task Awareness Featuring:

- RTOS object browsing, thread-qualified breakpoints, and thread view switching
- Open RTOS API and sample source code that allow the user to configure EDB for unsupported and custom RTOSs

  (See our EDB RTOS data sheet for RTOS feature details)

Many Additional Features Including:

- Multi-Context CPU support
- Non-Intrusive startup mode allows impact-less connection to running targets
- Fully compatible with the EPI MAJIC® Series of intelligent debug probes.
- EPI-OS feature allows target programs access to full host I/O system
- Hot-link source module and line # to third party source editors

SUPPORTED COMPILERS/FORMATS:

Compiler	Formats
ARM	ADS v1.0, v1.0.1, v1.1, v1.2, and SDT v2.51
GNU gcc	ELF/DWARF2, ELF/DWARF1.1, ELF/STABS, and COFF/STABS
Metaware	High C
Symbian	EPOC V5.0, V6.0 GNU-gcc
TI	Code Composer (COFF2)
Wind River	Tornado 2.0 GNU-gcc (COFF/STABS)

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