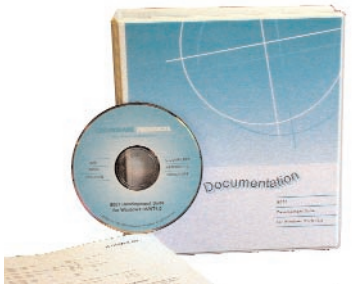
CROSSWARE 8051DS

8051 Development Suite



Crossware Products was established in September 1984 to fill an important and expanding niche in embedded development software.

It released a C compiler and assembler for the 8051 microcontroller in 1991. Following the success of this relatively simple compiler, it developed an advanced package supporting multiple memory models, common code merging, cross module type checking, code bank switching and time saving and unique smart pointers.

It was one of the first companies to release a fully 32-bit embedded development environment and tool chain for WIN32 platforms.

It released the 8051 Virtual Workshop in 1998 allowing software developers to simulate their complete target system as well as the 8051 microcontroller. In 1999 it added a serial port debugging facilities to produce a complete 8051 Development Suite.

Many more innovative features have since been added including a JTAG/C2 debugger for the Cygnal microcontrollers (February 2001), complex source level breakpoints (July 2001), debug monitors for the Atmel and Philips flash microcontrollers (December 2001), Code Creation Wizards for the Cygnal microcontrollers (February 2002), Code Creation Wizards for the Atmel flash microcontrollers (May 2002) and support for multiple application debugging (November 2002).

COMPONENTS

The 8051 Development Suite supports all 8051 8-bit variants and includes the following:

- Optimising ANSI C compiler, assembler, linker and library manager and libraries
- Source level Virtual Workshop simulator to debug complete target systems without hardware
- Source level serial port debugger and debug monitor to debug with target board
- Source level debugger to interface to the Cygnal EC1 and EC2 emulation cartridges
- Code Creation Wizards for the Cygnal chips and Atmel flash microcontrollers
- Embedded Development Studio integrated development environment eliminates the learning curve for using the tools
- Manuals in printed and electronic form
- Technical support and free updates for 12 months.

Crossware Products
Old Post House
Silver Street
Litlington
Royston
Herts
SG8 0QE
United Kingdom

Telephone
+ 44 (0) 1763 853500

Facsimilie
+ 44 (0) 1763 853330

Web
http://www.crossware.com

E-mail
sales@crossware.com

REF: 8051DS/0302

ANSI C compiler

- Optimising ANSI C compiler with extensions for embedded development
- Pre-written library routines including 32-bit and 64-bit floating point arithmetic
- Complete source level debug output
- Data output for Embedded Development Studio source code browser
- Smart pointers
- Function pointers that can have any number of parameters
- Common code merging
- Easy to use code bank switching
- Easy to use support for interrupt functions
- Full support for in-line assembler

Relocatable Assembler

- Intel standard mnemonics and segment directives
- Expandable macros with full argument passing
- Nestable conditional assembly
- Comprehensive range of assembler directives and pseudo ops
- Complex expression evaluation with Intel standard operators
- Source level debug output
- Supports code and data bank switching

Relocating Linker

- Links relocatable object modules generated by compiler, assembler and library manager
- Constructs a call tree and carries out an overlay analysis allowing non-reentrant functions to share data space
- Arranges and positions relocatable segments at appropriate memory locations. Supports multiple regions, supports precise segment location and ordering. Supports code and data banking
- Finalises the evaluation of incomplete complex expressions
- Produces the final program output in a wide range of formats including Intel hex, OMF51, extended OMF51, IEEE695, binary image and relocatable binary image
- Full output of debug records in IEEE695, OMF51 and extended OMF51 formats
- Performs full cross module type checking

Virtual Workshop Source Level Simulator

- Full source level debugging of complete target system
- Simulates timers, UARTS, parallel ports, A/D converters, capture/compare units, PWM output, watchdog timers, interrupts including enhanced priority modes and power failure, and more
- Seamless integration with the Embedded Development Studio
- Dockable windows
- Multiple watch windows for local and global variables
- Views of all memory areas, registers and disassembled program
- Tree view of enabled and active interrupts
- State capture to capture and restore the complete internal state of the microcontroller and target system
- Complex drag-and-drop source level breakpoints
- Source code profiling
- Code and data coverage analysis
- Multiple cycle counters
- Support for multiple application debugging

Source Level Debugger

- Full source level debugging on target chip
- Works with serial port debug monitor and Cygnal EC1 and EC2 JTAG/C2 cartridges
- Shares common user interface with 8051 Virtual Workshop
- Seamless integration with the Embedded Development Studio
- Multiple watch windows for local and global variables
- Views of all memory areas, registers and disassembled program
- Complex drag-and-drop source level breakpoints
- Support for multiple application debugging

Cygnal JTAG/C2 Debugger

- Full source level debugging via Cygnal EC1 and EC2 emulation cartridges
- Source level program and data hardware breakpoints
- Stack overflow and underflow hardware breakpoints

Serial Port Debug Monitor

- Debug monitor less than 2k bytes code size
- Debug monitor consumes no internal ram when target program running
- Supplied as full source code allowing recompile for any variant
- Project templates to rapidly create selected versions of the debug monitor

Embedded Development Studio

- Full multi-threaded, 32-bit development environment seamlessly integrates all Crossware 32-bit tools and utilities
- Dockable windows
- Project tree to access source files and dependency files, and project documentation
- Dependency scanning
- Context coloured editing
- Drives compiler, assembler, linker and library manager
- Maintains start up files allowing you to rapidly change target chips
- Seamlessly integrates simulation and debugging environments
- Integrated source code browser
- Wizard to create initial project setup and startup files
- Integrated viewer for fully compiled electronic manuals with full text search and highlight capability
- User defined commands to run other executables
- Integrated multiple terminal emulators

Printed and electronic manuals

User manuals are provided printed and bound so that you can study the features and facilities available at your leisure and away from your computer, and electronically so that you can rapidly locate topics from within the Embedded Development Studio.

Technical Support

All of our standard products include technical support and free updates for 12 months.

Host System Requirements

IBM compatible PC with an Intel Pentium or above running under Windows 9x, Windows NT4.0, Windows 2000 or Windows XP.