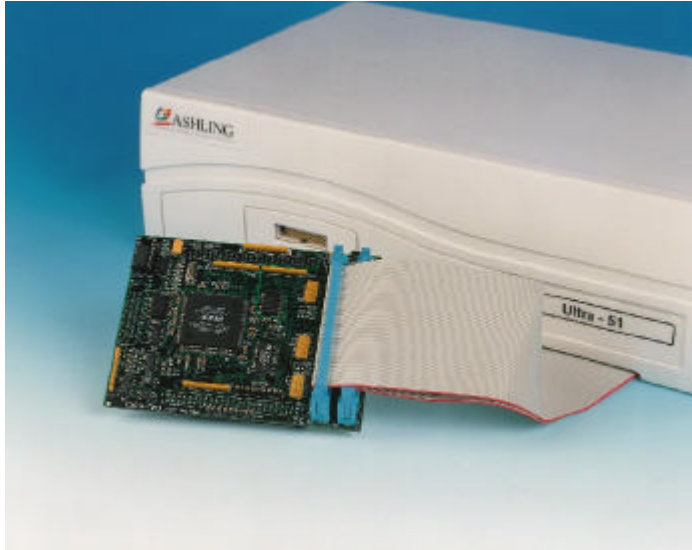


Ultra-51

Real-time In-Circuit Emulator for 80C51 and all derivatives



Ashling's emulators for the 80C51 family provide In-Circuit Emulation, real-time Trace, source debugging, performance analysis and software quality assurance tools for rapid and reliable development of 80C51 applications. All Philips 80C51 devices and package-types are fully supported.

System Specification

Source-Level Debugging

PathFinder source debugger for C and Assembly. Automatic synchronization of Source Code, Traced Executed Source Code, Disassembled Code Memory, Port Activity, Code Browser and Code Coverage windows; on-chip RAM, Banked External Data memory, Special-function Registers, Status, Stack, and Variables windows.

Software Quality Assurance

Built-in options for high-speed, non-intrusive real-time Performance Analysis, Code Coverage and report generation. Symbolic function trace, time-stamping, timing analysis and automatic software-verification reports, using a dedicated real-time measurement subsystem.

Banked Program Support

Optional built-in support for banked program development, including banked code memory, banked code breakpoints, banked triggers and banked code execution trace. Auto configuration for banked programs up to 1MB.

Languages Supported

Keil C, IAR C, Altium-Tasking C, Ashling ASM51, Intel ASM51, Keil RTX51 RTOS.

Clock Speed

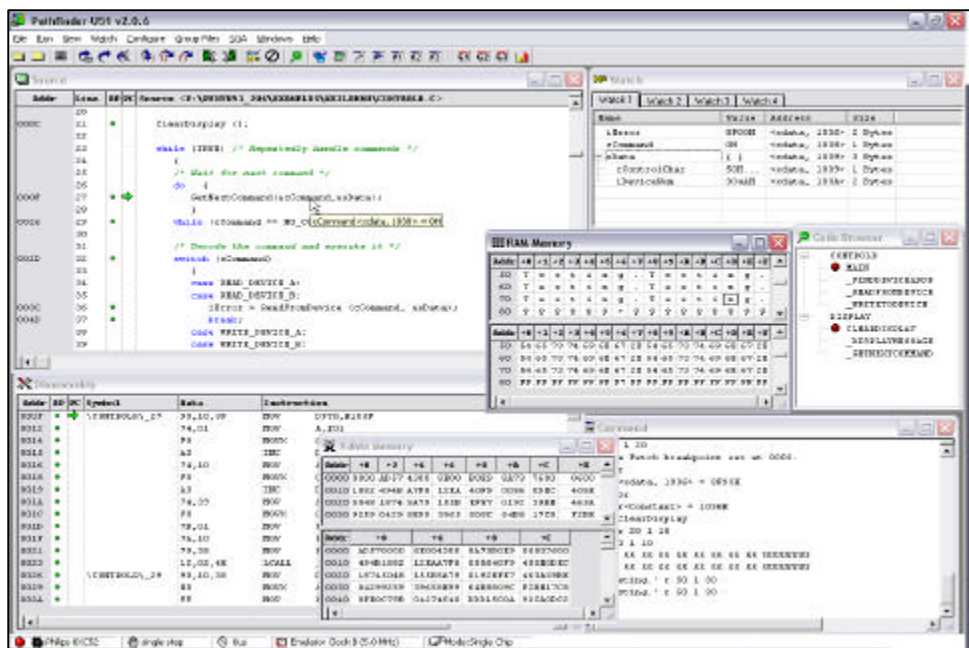
Emulation clock speeds to 48MHz. Full support for x2 clock devices.

Host

PC with Windows™9x/2000/Me/NT/XP, standard RS232 serial port.

Flash microcontroller emulation

Full-speed code overlay memory emulates On-Chip Flash microcontrollers.



The PathFinder Source Debugger provides real-time in-circuit emulation and source-level debugging for the Philips 80C51 microcontroller family with mouse, command-line, accelerator-key and button-bar controls.

Emulator Specification

Emulator Memory	64KB Emulator Code Overlay Memory and 64KB Emulator Xdata Overlay Memory. Upgradeable to 1MB banked overlay memory.
On-the-Fly Debugging	Full On-the-Fly, non-intrusive debugging: You can set breakpoints, define a trigger, view trace contents and monitor variables while your program is executing.
Trace Display	32K Frames by 96 bits trace buffer, with variable trace length. Time-stamp on every traced frame. Optional trace expansion to 512K Frames. Display signals in cycle-by-cycle, hex, or source code. Full real-time tracing of address, data, ports, control and external buses. Save/load trace display. Compare trace against reference traces.
Triggering	Six multiple trigger Event recognizers; symbolic, binary, or hex values. Trigger on Boolean combinations of the Event recognizers. Trigger on address and/or data values or range(s). Pre/center/post trace triggers. Save/load trigger definition files. Modify trigger On-the-Fly.
Breakpoints	64K code breakpoints (optional upgrade to 1MB). 64K Xdata read and 64K Xdata write breakpoints. Break on frames after stop trigger. Break on Trace buffer full. Execution timer breakpoint. External signal breakpoint. All breakpoints are halt-before-instruction, non-intrusive, real-time.
Variables	Full expression handling for assembler for C and assembly. Variable monitoring, including complex arrays and structures. On-the-fly variable monitoring.
Performance Analyzer	STARS-51 (Software Test, Analysis and Reporting System) high-speed, non-intrusive real-time performance analysis system option with full bank-memory support. Symbolic Function Trace, timing analysis and automatic software-verification reports.
Code Coverage	CodeScan-51 Code Coverage system option for software quality assurance. Measures all tested, untested and partially-tested code, by instruction, by line, by function, by module and by program.
Power Supply	Stand-alone in-circuit emulator with standard 115Kbits/s serial connection to PC. Supplied with 100V-230V 50/60Hz Universal power unit.

Ultra-51 Device Support Range *please specify device-type when ordering*

80C51	80/83/87C51FA	89C668	TDA93xx
80C52	80/83/87C51FB	89C669	TDA95xx
80C31	80/83/87C51FC	80/83/87C552	83/87C19x
80C32	80/83/87C51RA+	80/83/87C554 LQFP	83/87C39x
8xC51X2, 52X2, 54X2, 58X2	83/87C51RB+	80/83/87C554 PLCC	8WE50xx
80C31X2, 32X2	83/87/89C51RC+	8xC557	8WE60xx
89xC51RA2xx, RB2xx, RC2xx, RD2xx	83/87/89C51RD+	8xC591	MIF2ICD8x
89xC60X2, C61X2	80/83/89C51RA2	8xC592	8RF50xx
80/87/89C51	80/83/89C51RB2	8xC598	8RF60xx
80/87/89C52	80/83/89C51RC2	87C51MB2 (Mx2)	P5Sxxx, P5Cxxx
80/87/89C54	80/83/89C51RD2	87C51MC2 (Mx2)	TDA8006, 8008
80/87/89C58	89C660	PCD509xy	TDA8029/30/31
80/83/87C524, C528	89C662	SAA55xx	
80/83/87C652, C654	89C664	SAA56xx	

Upgrade Path

All Ultra-51 systems can be easily field-upgraded to a different processor type. Ashling's continuing technical co-operation with Philips Semiconductors ensures that development support is provided for each new 80C51, 80C51Mx2, XA and Smart Card derivative introduced by Philips.

DS179 V14

Ashling Microsystems Ltd. is Certified to I.S. EN ISO 9001:2000, NSAI Registration No. 19.09069.

Ashling Microsystems Inc.
18612 Devon Avenue
Saratoga
CA 95070-4646 USA
Tel: (408) 884 3020
Fax: (408) 884 3026
Email: sales.usa@ashling.com

Ashling Microsystèmes
2, rue Alexis de Tocqueville
Parc de Haute Technologie
92183 Antony Cedex, France
Tel: 01.46.66.27.50
Fax: 01.46.74.99.88
sales.fr@ashling.com

Ashling Microsystems Ltd
Intec 2, Wade Road
Basingstoke
Hants. RG24 8NE, U.K.
Tel: (0870) 240 5209
Fax: (01256) 811761
sales.uk@ashling.com

Ashling Microsystems Ltd
National Technology Park
Limerick
Ireland
Tel: +353-61-334466
Fax: +353-61-334477
sales.ie@ashling.com

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