

Huntsville Microsystems, Inc. (HMI) offers a broad range of products to the embedded system developer. Current product offerings include HMI-200 Series in-circuit emulators, Background Mode Debuggers (BMDs), CPU Simulators, and the recently introduced, state-of-the-art, SPS-2000 Series in-circuit emulators. All HMI products are driven by SourceGate II, a native GUI source-level debugger that provides a common user interface for Windows 3.1x/95/NT, Sun/Sparc, and HP workstations. This common user interface approach eliminates the need for the user to relearn a new interface when changing processors or host platforms.



HMI-200 Series in-circuit emulators are proven tools that include such features as dual trace buffers that can be viewed during emulation, hardware-based software performance and code coverage analysis, complex breakpoint and triggering logic, overlay memory, 16 external trace leads for logic analyzer functionality, pulse and level trigger outputs, and advanced source-level debugging support. Available for the following devices: 64180/Z180, 6809, 68HC11, 68HC16, 68000, 68020, 68030, 68040, 68302, 68306, 68307, 68330, 68331, 68332, 68333, 68340, 68349, 68356, 68360, 8051, 8085, 8096, and Z80.

SPS-2000 Series in-circuit emulators are HMI's next generation product and provide all of the features of the HMI-200 Series with the addition of a multilevel sequencer for processing ultra-complex breakpoint and triggering conditions. Up to 8 levels of sequence logic can be defined consisting of address and/or data values, processor status bits and external signals. These conditions can then be used to perform specific tasks such as breaking emulation, capturing specific information in a trace buffer, or triggering other test equipment. A 128K trace buffer can be configured to display up to 8192 separate buffers of interest. Custom back-plane based design results in a rugged, reliable, and easy to service system. Available for the following devices: 68060, MPC505, MPC8xx, and IBM40x.





Background Mode Debuggers (BMDs) provide a powerful, extremely low-cost (*\$199 Windows/\$299 Unix including SourceGate*) development solution that takes advantage of the debug port capability of select devices. BMDs include the ability to set up to 128 software breakpoints, single-step at the source or assembly level, and the capability of defining and viewing watch variables. All members of the BMD family provide support for programming of Flash devices. Available for the following devices: 68330, 68331, 68332, 68333, 68340, 68349, 68360, MCF520x, MPC505, MPC8xx, and IBM40x.

	mulator [Break point Encountered] fg Irace ∭indows ∐ebp	-0
Trace Window	_D×	SQ demo 1
Freeze Resume Find Find Nex	t Goto Trigger Top Bottom Close Help	Start Reset Step In View PC Find
Break Buffer V Disassembly/Sta	te/Source + Time Tag Relative +	BP To Cursor Step Over Module Setup
Cycle Address Time Stamp Date		Mode: Source With Assembly
0550 00001BEA 140.70 us 000	00066 FFFF 0 0110 11 11 111 110 00066 FFFF 0 0110 11 11 111 101 WR 00000066 > 00001BEA 12E00 FFFF 0 0110 11 111 110	/* Good Breakpoints */
MOVE .L DO .D7		s_tag.rvect = *(short*) 0x0; 000004AE HOVE.W 0000:@reset.W,(A5)
demo1:47:i = s_tag.times;	where here here here advect at the product of the	s_tag.rvect = *(short*) 0x2;
0552 000004AE 141.00 us 000 MOVE.W 0000:@reset.W.(A5)	DABS FFFF 0 0110 11 11 111 110	PC 000004B2 HOVE.W 0002.W,(A5) s tag.ryect = *(short*) 0x4:
demo1:52:s_tag.rvect = *(short*)		000004B6 HOVE.W 0004.W, (A5)
	00000 FFFF 0 0110 11 11 111 110 00000 FFFF 0 0110 11 11 111 101	s_tag.rvect = *(short*) 0x6; 000004BA HOVE V 0005:1.V.(A5)
CReguter Window		000004BA HOVE.W 0006:j.W,(A5) s tag.rvect = *(short*) 0x8;
MOVE.W 0002.W.	000 FFFF 0 0110 11 11 111 101	000004BE HOVE.W 0008:1.W, (A5)
PC 000004B2 SR 2704	WR 0000000 > 00001BEA	Breakpoint Window
2704 - T0 S L17 NX PS ZB NV NC		PC=000004B2
00 000000A0 A0 00001BB0	Sg Watch Window	Sequence A THEN B WITHOUT C
A1 00001B90	Add Delete Save Restore Clos	se Help Auto Restart Count 05 (X = continuou
02 00000000 A2 00000000	s_tag demo1:main():struct st =	Trace Qualifier Event D through Event C
03 00000000 A3 00001B74		Wait before each restart
24 0000000 A4 000013BE	50 s_tag (0x1bb8)	
	Set a rad (as used)	Memory Window
05 00000000 A5 00001BEA		Base address 0 4 8 C
	float x = 17.27;	
06 00000000 A6 00001BEC	double y = 17.27;	400 18740000 18F42C7C 00000000 227C0000
000000000 A6 00001BEC 07 00000000 A7 00001BA8	double y = 17.27; char[30] a = "Huntsville Microsys	400 18740000 18F42C7C 00000000 227C0000
6 00000000 A6 000010EC 07 00000000 A7 00001BA8 0P 00001BA8 CAAR 00000000	double y = 17.27; char[30] a = "Muntsville Microsys long l1 = 1045859; int times = 160;	stems1 400 HEXE0000 18F42C7C 00000000 227C0000 410 13E4203C 00000010 E4888002 429951C8 420 FFFC203C 000013F4 223C0000 040023C0
06 00000000 A6 00001BEC 07 00000000 A7 00001BA8 SP 00001BA8 CAAR 00000000	double y = 17.27; char[30] a = "Nuntsville Microsys long l1 = 1045859;	stems1 400 EEECODD 19F42C7C 0000000 227C0000 410 13E4203C 0000010 E4886002 429951C8 420 FFFC203C 000013F4 223C0000 040023C0

CPU Simulators come with a versatile scripting language that allows memory and I/O devices to be accurately simulated. A debug console can also be defined allowing the user to see system output messages and enter input to the system being simulated. Processor exceptions and interrupts can be simulated as well. Simulated trace and performance analysis are also provided. Available for the following devices: 68030, 68331, 68332, 68340, 68349, and 68360.

SourceGate II, HMI's acclaimed source-level debugger, is a common user interface for all HMI products. SourceGate II provides the advanced features expected by today's demanding embedded developer. Features like CodeView windows that control system operation from within the actual software module of interest. Multiple CodeView windows can be open at any time allowing single-step and breakpoint operations to be performed at the assembly language level, source level, or a combination of the two. Watch windows are provided to allow variable and data structure information to be displayed. In addition, changes to variable values can be made directly in these



windows. SourceGate II also provides the user interface to the HMI hardware being used showing detailed trace buffer information in several display modes on those systems that supply a trace buffer. Color-enhanced histogram, code coverage information, and timing analysis data is provided for those systems that contain HMI's hardware-based Performance Analysis system (PAC).

For additional information, contact:

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