

# Software and Development Tools

Quarter 4, 2004  
SG1011Q42004 Rev 0

# *About This Revision—Q4/2004*

When new products are introduced, a summary of the new products will be provided in this section. However, the New Product section will only appear on this page when new products have been introduced during the quarter.

In addition, a change bar appears in the left margin of every page in this selector guide that contains new or revised information.

If products are discontinued, a What's EOL? page is included at the end of this guide. The What's EOL? page lists end-of-life products along with their respective last order date, last ship date, and suggested possible replacement information.

## 32-BIT EMBEDDED PROCESSORS

### SOFTWARE TOOLS

#### 68K, ColdFire, MPC5xx, PowerPC ISA, and MCORE — Metrowerks

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support	Compiler Output Formats
CW68K	CodeWarrior Software Development Tools for 68K Embedded Systems	MC68SZ328, MC68VZ328	PPSM, RTXC, ATI	DragonBall VZ (M68VZ328ADS), DragonBall SZ (M68SZ328ADS)	MetroTRK; P&E Microcomputer CPU32 BDM Cable	Windows 98/2000/ME/NT	C/C++, 68000 Assembly	ELF/DWARF, Freescale Semiconductor S-Record
CWARMHBB	CodeWarrior Development Studio, ARM ISA Edition for Hardware Board Bring-Up, Maintenance, and Support	i.MX1, i.MXL, i.MX21	Quadros	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1 EBSP (M9328MX1EBSP) i.MX21	MetroTRK, Run Control Interface JTAG, ARM Multi-ICE, Abatron BDI2000, Ashling Vitra/Genia/Opella, EPI Majic, Hitex Tanto	Windows 2000/XP	C/C++, Assembly	ELF/DWARF2, Freescale Semiconductor S-Record
CWARMRAD	CodeWarrior Development Studio, ARM ISA Edition for Linux Application Development	i.MX1, i.MXL, i.MX1EBSP, i.MX21	Linux	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	MetroTRK	Windows 98/2000/XP	C/C++, Assembly	STABS
CWARMPLD	CodeWarrior Development Studio, ARM ISA Edition for Linux Platform Development, Maintenance, and Support	i.MX1, i.MXL, i.MX21	Linux	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	MetroTRK, Run Control Interface JTAG, ARM Multi-ICE, Abatron BDI2000, Ashling Vitra/Genia/Opella, EPI Majic, Hitex Tanto	Windows 2000/XP	C/C++, Assembly	STABS
CWCF	CodeWarrior Software Development Studio for ColdFire Embedded Systems	MCF5206e, MCF5307, MCF5407, MCF5272, MCF5249, MCF5282	Precise-MQX, Quadros-RTXC, Blunk-Target OS, KADAK-AMX, Micro Digital-SMX, ATI-Nucleus Plus	M5249C3, M5307C3, M5407C3, M5272C3, M5206eC3, M5282EVb	P&E Microcomputer ColdFire BDM Cable; Abatron BDI 2000	Windows 98/2000/NT/XP	C/C++, ColdFire Assembly	ELF/DWARF, Freescale Semiconductor S-Record
CWEPPC	CodeWarrior Development Studio, Embedded PowerPC ISA Edition	MPC555, MPC56x, MPC7xx, MPC74xx, MPC8xx, MPC82xx, PPC603, PPC603ei	Quadros RTXC, Embedix SDK, Precise MQX, ATI Nucleus	MPC8260, MPC8266, ADS Board, MPC857DSL IAD Board, MPC866/2/59 ADS, PQ27ADS Board, ADS-P, RPX Lite, RPX Classic, Freescale Semiconductor FADS MBX, Sandpoint, Cognet CMA 102, Axiom 555, Freescale Semiconductor ETAS555, Eximer, AMC Eval	MetroTRK, CodeTAP, PowerTAP, WireTAP Run Control Interface JTAG and BDM (8xx only), Macraigor Systems COP Raven (for MPC82xx and PPC6xx), Macraigor Systems BDM Raven (for MPC8XX, MPC5xx), Abatron BDI 2000 (5xx, 8xx, B2xx, 74xx), P&E Micro CABLEPPC (BDM only)	Windows 98/2000/NT/XP	C/C++, EC++, and PowerPC ISA Assembly	ELF/DWARF, Freescale Semiconductor S-Record
CWMCORE	CodeWarrior Software Development Tools for MCORE	M2xx/3xx family processors	n/a	MMC2001, MMC2075/2080, MMC2107, MMC2103, MMC3401, MMC2114	MetroTRK; Metrowerks EBDI	Windows 95/98/2000/NT	C/C++, Assembly	ELF/DWARF 1.0, Freescale Semiconductor S-Record
CWPLM	CodeWarrior Development Studio, Palm OS®	i.MX1, i.MXL, i.MX1EBSP, i.MX21	Palm OS	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	Palm OS 68K Debugger Interface (Serial and USB) and PalmSource FAST Toolkit (Serial)	Windows 98/2000/Me/XP/NT 4.0 with Service Pack 4	C/C++	Palm OS 68K PRC Files and Palm OS ARM .bin files with Separate DWARF2 Debugging Information
CWSYOEM	CodeWarrior Development Studio, Symbian OS, OEM Edition	i.MX1, i.MXL, i.MX1EBSP, i.MX21	Symbian	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	MetroTRK, Run Control Interface JTAG, ARM Multi-ICE, Genia/Opella, Lauterbach	Windows 2000/NT 4.0 with Service Pack 4	C/C++, Assembly	E32/PECOFF STABS
CWSYPER	CodeWarrior Development Studio, Symbian OS, Personal Edition	i.MX1, i.MXL, i.MX1EBSP, i.MX21	Symbian	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	X86 Emulation Debug Support	Windows 2000/XP	C/C++, Assembly	E32/PECOFF STABS

## 32-BIT EMBEDDED PROCESSORS

### 68K, ColdFire, MPC5xx, PowerPC ISA, and MCORE — Metrowerks (continued)

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support	Compiler Output Formats
CWSYPRO	CodeWarrior Development Studio, Symbian OS, Professional Edition	i.MX1, i.MXL, i.MX1EBSP, i.MX21	Symbian	i.MX1 (M9328MX1ADS) i.MXL (M9328MXLADS) i.MX1EBSP (M9328MX1EBSPADS) i.MX21	MetroTRK, X86 Emulation Debug Support	Windows 2000/XP	C/C++, Assembly	E32/PECOFF STABS
MWOPDAMX1	OpenPDA Development Studio for Freescale Semiconductor i.MX1	i.MX1	Linux	i.MX1 (M9328MX1ADS)	Metrowerks Platform Creation Suite "Target Wizard"	Red Hat 7.3, 8.0 Mandrake 8.2, 9.0 Suse 8.2	C/C++, Assembly, Java	STABS

### Other Software

Company	Product Name	Product Type
Bytecodes	Embedded Bytecode Interpreter	Optimized Java Virtual Machines
Counterpoint Systems Foundry	IrLite Development Kit	Infrared communications SDK
Precise Software Technologies	Various	Embedded I/O components
Grammar Engine	PromICE	Firmware development
Inverness Systems	ATIC	ATM protocols and applications
Micro APL	PortAsm	Porting tools that implement the PowerPC architecture <sup>Note</sup>
Pacific Softworks	Fusion	Internet protocols for Embedded Solutions
Sun Consumer Electronics	Internet Software Solution	Embedded Internet software
Total Impact	Total PowerSMPPCI	Multiprocessing application accelerator
US Software	USNET	Real-time embedded TCP/IP
Wind River Systems	SystemsWind	ViewSystem visualizer for embedded software

Note: Check with tool vendor for specific derivative support.

### 32-BIT EMBEDDED PROCESSORS (continued)

#### HARDWARE TOOLS

#### Metrowerks Hardware Tools

Product	Description	Target Board	Power Supply	Schematic	Documentation	Interface Board/Wiggler	RTOS Support
M9328MX1ADS	i.MX1 Development Board	•	•	•	•		•
M9328MX1EBSP	i.MX1 Enhanced Development Board	•	•	•	•		•
M9328MXLADS	i.MXL Development Board	•	•	•	•		•
MPC823FADS	MPC823 FADS Board	•	•	•	•	•	•
MPC850SRFADS	MPC850 FADS Board	•	•	•	•	•	•
MPC8260ADS-PQ2	MPC8260 ADS Board	•	•	•	•	•	•
MPC860FADS	MPC860 FADS Board	•	•	•	•	•	•
MPC860TFADS	MPC860 TFADS Board	•	•	•	•	•	•
MPC862ADS	MPC862 ADS Board	•			•		
MPC862ADS-KITS	MPC862 ADS Board with Debugger and Host Software	•	•	•	•	•	•
MMCEVB1200PV	MMC2001 Low Cost Evaluation	•	•	•	•		
MMCEVB1200PV-A	MMC2001 Low Cost Evaluation Academic	•	•	•	•		
MMCCMB1200	MMC2001 Development Platform	•	•	•	•		
KITEVSMMC1200	MMC2001 High Performance System	•	•	•	•	•	
MMCEVB2107	MMC2107 Low Cost Evaluation	•	•	•	•		
MMCEVB2114	MMC2113/2114 Evaluation Board	•	•		•		•
MMCCMB2107	MMC2107 Development Platform	•	•	•	•		
MMCCMB2114	MMC2113/2115 Development Kit	•	•		•		•
KITEVSMMC2107	MMC2107 High Performance Kit	•	•	•	•	•	
KITEVSMMC2107	MMC2107 Complete Development Kit	•	•	•	•		
M5206EC3	MCF5206e Development Kit	•		•	•	•	•
M5307C3	MCF5307 Development Kit	•		•	•	•	•
M5407C3	MCF5407 Development Kit	•		•	•	•	•
M5272C3	MCF5272 Development Kit	•		•	•	•	•
M5249C3	MCF5249 Development Kit	•		•	•	•	•
MPC564EVB	MPC564 Evaluation Board	•	•	•	•	•	•
MPC566EVB	MPC566 Evaluation Board	•	•	•	•	•	•
MPC862ADS	MPC862 ADS Board	•			•		
MPC862ADS-KITS	MPC862 ADS Board with Debugger and Host Software	•	•	•	•	•	•
M5282EVB	MCF5282 Evaluation Board	•	•	•	•	•	•
M5475EVB	MCF547x Evaluation Board	•	•	•	•	•	•
M5485EVB	MCF548x Evaluation Board	•	•	•	•	•	•

## 32-BIT EMBEDDED PROCESSORS

### Metrowerks Hardware Tools (continued)

Product	Description	Target Board	Power Supply	Schematic	Documentation	Interface Board/Wiggler	RTOS Support
M5475LITE	MCF547x Low Cost Board	•	•	•	•	•	•
M5485LITE	MCF548x Low Cost Board	•	•	•	•	•	•
M5235BCC	MCF523x Low Cost Board	•		•	•		•
M5235BCCKIT	MCF523x Low Cost Kit	•	•	•	•	•	•
M523xEVB	MCF523x Evaluation Board	•	•	•	•	•	•
M5282LITE	MCF5282 Low Cost Board	•		•	•		•
M5282LITEKIT	MCF5282 Low Cost Kit	•	•	•	•	•	•
MPC555CME	MPC555 Evaluation Kit	•	•	•	•	•	•
MPC564EVB66	MPC564 66 MHz Evaluation Board	•	•	•	•	•	•

### DEVELOPMENT SYSTEMS

#### Metrowerks Development Systems

Product	Description	RTOS Support	Debug Interface	Serial Cable	CD ROM	User Manuals	Power Supply	Host Platforms
CWARMMLDS	CodeWarrior Development System for i.MXL	•	•	•	•	•	•	Windows 98/2000/ME/NT
CWDEVSYS5249	CodeWarrior Development System for ColdFire MCF5249	•	•	•	•	•	•	Windows 95/98/2000/NT
CWDEVSYS5272	CodeWarrior Development System for ColdFire MCF5272 <sup>(1)</sup> <sup>(2)</sup>	•	•	•	•	•	•	Windows 95/98/2000/NT
CWDEVSYS5407	CodeWarrior Development System for ColdFire MCF5407 <sup>(1)</sup> <sup>(2)</sup>	•	•	•	•	•	•	Windows 95/98/2000/NT
CWDEVSYS823FADS <sup>(2)</sup>	CodeWarrior Development System for MPC823	•	•		•	•	•	Windows 98/2000/ME/NT/XP
CWDEVSYS850FADS <sup>(2)</sup>	CodeWarrior Development System for MPC850	•	•		•	•	•	Windows 98/2000/ME/NT/XP
CWDEVSYS860FADS <sup>(2)</sup>	CodeWarrior Development System for MPC860	•	•		•	•	•	Windows 98/2000/ME/NT/XP
CWDEVSYS860TFADS <sup>(2)</sup>	CodeWarrior Development System for MPC860T	•	•		•	•	•	Windows 98/2000/ME/NT/XP
CWDEVSYS8260AMC <sup>(2)</sup>	CodeWarrior Development System for MPC8260	•	•		•	•	•	Windows 98/2000/ME/NT/XP
CWCF5282ENDSEVL	CodeWarrior Embedded Networks for ColdFire M5282 with RTOS							Windows 98/2000/NT/XP
CWDSENA850EVL	CodeWarrior Embedded Networks for the MPC850 with Precise/MQX RTOS	•	•	•	•	•	•	Windows 98/2000/NT/XP
CWDSENA860EVL	CodeWarrior Embedded Networks for the MPC860 with Precise/MQX RTOS	•	•	•	•	•	•	Windows 98/2000/NT/XP
CWDSENA8260EVL	CodeWarrior Embedded Networks for the MPC8260 with Precise/MQX RTOS	•	•	•	•	•	•	Windows 98/2000/NT/XP
CWCF5272ENDSEVL	CodeWarrior Embedded Networks for the MCF5282 with RTOS	•	•	•	•	•	•	Windows 98/2000/NT/XP

(1) 12-month support plan available

(2) Contact Metrowerks for more information

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## CABLES AND HOST-TARGET INTERFACES

### Metrowerks Cables and Host-Target Interfaces

Product/Part Number	Description	Target Support	Connection Device	Power Supply
CWWIRETAPBDM	AMC's WireTAP Run Control Interface (BDM)	•	•	•
CWWIRETAPJTAG	AMC's WireTAP Run Control Interface (MPC6xx, 7xx, 82xx, 74xx)	•	•	•
CWPOWERTAPJTAG	PowerTAP Pro for JTAG, Hardware Only	•	•	•
CWPTAPPROJCWW	PowerTAP Pro for JTAG with CodeWarrior for Windows	•	•	•
CWPTAPPROJMW	PowerTAP Pro for JTAG with MWX-ICE Windows	•	•	•
CWPTAPPROJMS	PowerTAP Pro for JTAG with MWX-ICE Solaris	•	•	•
CWPOWERTAPDPI	PowerTAP Pro for DPI, Hardware Only	•	•	•
CWPTAPPRODCWW	PowerTAP Pro for DPI, with CodeWarrior for Windows	•	•	•
CWPTAPPRODMW	PowerTAP Pro for DPI with MWX-ICE Windows	•	•	•
CWPTAPPRODMS	PowerTAP Pro for DPI with MWX-ICE Solaris	•	•	•

## 32-BIT EMBEDDED PROCESSORS

### 32-BIT EMBEDDED PROCESSORS (continued)

#### THIRD PARTY TOOLS

#### 32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Assemblers</b>						
Avocet Systems, Inc.	•	•				www.avocetsystems.com
Green Hills Software	•	•	•	•	•	www.ghs.com
Metrowerks		•	•	•	•	www.metrowerks.com
P&E Microcomputer Systems		•			•	www.pemicro.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>BDM Support Tools</b>						
Cosmic Software		•				www.cosmic-software.com
Wind River Systems		•	•	•	•	www.wrs.com
Hitex Development Tools		•				www.hitex.com
Agilent Technologies, Inc.		•	•	•		www.agilent.com
iSystem		•	•	•		www.isystem.com
Lauterbach		•	•	•	•	www.lauterbach.com
Macraigor Systems LLC		•	•			www.macraigor.com
Metrowerks				•	•	www.metrowerks.com
P&E Microcomputers Systems		•			•	www.pemicro.com
TASKING		•				www.tasking.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Code Coverage Tools</b>						
Ashling Microsystems			•			www.ashling.com
Cosmic Software		•				www.cosmic-software.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
Hitex Development Tools		•				www.hitex.com
iSystem		•	•			www.isystem.com
TASKING		•		•		www.tasking.com
CodeTEST			•		•	www.metrowerks.com



32-BIT EMBEDDED PROCESSORS (continued)

THIRD PARTY TOOLS (continued)

32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Compilers</b>						
Accelerated Technology Inc.		•	•		•	www.acceleratedtechnology.com
Byte Craft Limited				•		www.bytecraft.com
TASKING		•		•		www.tasking.com
Cosmic Software		•				www.cosmic-software.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
P&E Microcomputers Systems		•			•	www.pemicro.com
GNU	•				•	www.gnu.org
Metrowerks		•	•	•	•	www.metrowerks.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Debuggers</b>						
Ashling Microsystems		•	•			www.ashling.com
Accelerated Technology Inc.		•	•	•	•	www.acceleratedtechnology.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
iSystem		•	•	•		www.isystem.com
Lauterbach	•	•	•	•	•	www.lauterbach.com
P&E Microcomputers Systems		•			•	www.pemicro.com
Metrowerks		•	•	•	•	www.metrowerks.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Evaluation Boards</b>						
Axiom Manufacturing			•	•		www.axman.com
Arrow		•	•	•	•	www.arrow.com
Avnet		•	•	•	•	www.avnet.com
Future		•	•	•	•	www.future.com
Matrix Design Inc.					•	www.cadreiii.com
Metrowerks		•	•	•	•	www.metrowerks.com

## 32-BIT EMBEDDED PROCESSORS

### 32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Logic Analyzers</b>						
Agilent Technologies, Inc.		•	•	•		www.agilent.com
iSystem		•				www.isystem.com
Tektronix		•	•	•		www.tek.com/measurement/logic_analyzers
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>In-Circuit Emulators or Hardware Debug Interface</b>						
Ashling Microsystems		•	•			www.ashling.com
Wind River Systems		•	•		•	www.wrs.com
Hitex Development Tools		•				www.hitex.com
iSystem		•	•			www.isystem.com
Lauterbach		•	•		•	www.lauterbach.com
Microtek International Inc.		•			•	www.microtek.com.tw/mice
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Performance Analysis Tools</b>						
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
iSystem		•	•			www.isystem.com

**32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire (continued)**

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Real-Time Operating Systems</b>						
Accelerated Technology Inc.	•	•	•	•	•	www.atinucleus.com
Quadros Systems		•	•	•	•	www.metrowerks.com
ETAS		•	•			www.etasinc.com
Green Hills Software	•	•	•	•	•	www.ghs.com
ARC International	•	•	•	•	•	www.metrowerks.com
Snap Gear					•	www.snapgear.com
TASKING		•				www.tasking.com
U S Software		•	•		•	www.ussw.com
Wind River Systems	•				•	www.wrs.com
Blunk Microsystems	•	•	•	•	•	www.blunkmicro.com
Kadak	•	•	•		•	www.kadak.com
Micro Digital			•		•	www.smxinfo.com
ENE A			•			www.ose.com
Metrowerks			•			www.metrowerks.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Simulation Tools</b>						
Wind River Systems	•	•		•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
TASKING		•		•		www.tasking.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Initialization Tools</b>						
MicroAPL			•			www.microapl.com.uk

## ANALOG

### ANALOG DEVELOPMENT SYSTEMS

#### Development Tools — Communications Application-Specific Standard Products

Product	Description	Key Product	Status	Documentation
MC14LC5480EVK	PCM Codec-Filter Evaluation Kit	MC14LC5480, MC145481, MC145482, MC145483, MC145484	Available	MC14LC5480EVK
MC145572EVK	ISDN U-Interface Transceiver Evaluation Kit	MC145572	Available	Note
MC145574EVK	ISDN S/T-Interface Transceiver Evaluation Kit	MC145574	Available	Note
MC145576EVK	ISDN Single-Chip NT1 Evaluation Kit	MC145576	Available	Note
MC145576DRV	Driving Board for the MC145576EVK for Smart NT1 Evaluation	MC145576	Available	Note
Hipster™	Hipster Reference Design for SOHO Router	MC145572, MC145574, MPC850DH	Available	Note

Note: For documentation, go to [www.freescale.com](http://www.freescale.com), and click on Design Tools.

**DIGITAL SIGNAL PROCESSORS**  
**56800/56800E/56F8300 Development Tools — Software**

Product	Description	Status
PP-JTAG	JTAG controller with Printer Port Interface and software supporting production Flash programming	Available
DSPOSRTOS	DSP OS Real-Time Operating System (RTOS)	Available
DSPOSNET	DSP OS Network Software	Available
RTXC	RTXC Real-Time Operating System (RTOS)	Available
RTXCNET	RTXC Networking Protocol Suite	Available
DSP56852SFP	DSP56852 with Feature Phone Application	Available
DSP56858SFP	DSP56858 with Feature Phone Application	Available
CW568XSE	CodeWarrior Development Studio for 56800/E with Processor Expert (limited to 16 KB of program RAM)	Available
CW568XC32K	CodeWarrior Development Studio for 56800/E with Processor Expert (limited to 64 KB of program RAM)	Available
CW568XC64K	CodeWarrior Development Studio for 56800/E with Processor Expert (limited to 128 KB of program RAM)	Available
CW568X	CodeWarrior Development Studio for 56800/E with Processor Expert	Available

**DIGITAL SIGNAL PROCESSORS (continued)**  
**56800 Development Tools — Hardware**

Product	Description	Status
DSP56800TDC1	Daughter Card for DSP56F826EVM and DSP56F827EVM	Available
DSP56F800DEMO	56F800 Demonstration Kit with US power supply	Available
DSP56F800DEMO-E	56F800 Demonstration Kit with universal power supply	Available
DSP56F801EVM	Evaluation kit for the DSP56F801 and DSP56F802 processor (Metrowerks)	Available
DSP56F803EVM	Evaluation kit for the DSP56F803 processor (Metrowerks)	Available
DSP56F805EVM	Evaluation kit for the DSP56F805 processor (Metrowerks)	Available
DSP56F807EVM	Evaluation kit for the DSP56F807 processor (Metrowerks)	Available
DSP56F826EVM	Evaluation kit for the DSP56F826 processor (Metrowerks)	Available
DSP56F827EVM	Evaluation kit for the DSP56F827 processor	Available
DSPCOMMANDPCI	Emulation support for DSP56F80X processors. Requires PCI slot (Metrowerks)	Consult Web or Metrowerks for availability of CodeWarrior software support
DSPCOMMETHERNET	Emulation support for DSP56F80X processors. Requires Ethernet network	Consult Web or Metrowerks for availability of CodeWarrior software support
DSPCOMMPARALLEL	Emulation support for DSP56F80X processors. Requires parallel port (Metrowerks)	Available
DSOSRTOS	DSP OS Real-Time Operating System (RTOS)	Available
ECCTR908MR32	MC68HC908MR32 Control Board	Available
ECINLHIVSR	Three-Phase Switched Reluctance High-Voltage Power Stage	Available
ECLOVACBLDC	Three-Phase BLDC Low-Voltage Power Stage	Available
ECLVSR	Three-Phase Switched Reluctance Low-Voltage Power Stage	Available
ECMTREVAL	Evaluation Motor Board	Available
ECOPT	Optoisolation Board	Available
ECOPTHIVACBLDC	Three-Phase AC BLDC High-Voltage Power Stage	Available
ECOPTINL	In-Line Optoisolation Box	Available

**56800E Development Tools — Hardware**

Product	Description	Status
DSP56852EVM	Evaluation Kit for DSP56852 Processor	Available
DSPCOMMPARALLEL	Parallel Port Command Converter for DSP	Available
DSPCOMMETHERNET	Ethernet Command Converter for DSP	Available
DSPCOMMANDPCI	PCI Command Converter for DSP	Available
DSPCOMMAND	Universal Command Converter for DSP	Available
DSP56858EVM	Evaluation Kit for DSP56858 Embedded Systems	Available
DSP56800TDC1	Daughter Card for DSP56852EVM and DSP56858EVM	Available

**DIGITAL SIGNAL PROCESSORS (continued)**  
**56F8300 Development Tools — Hardware**

Product	Description	Status
MC56F8300DSK	56F8300 Demonstration Kit with US power supply	Available
MC56F8323EVM	Evaluation kit for the 56F8322 and 56F8323 processor (Metrowerks)	Available
MC56F8346EVM	Evaluation kit for the 56F8345 and 56F8346 processor (Metrowerks)	Replaced by MC56F8357EVM
MC56F8357EVM	Evaluation kit for 56F8345 - 56F8357 processors (Metrowerks)	Available
DSPCOMMANDPCI	Emulation support for 56F8300 processors. Requires PCI slot (Metrowerks)	Available
DSPCOMMETHERNET	Emulation support for 56F8300 processors. Requires Ethernet network	Available
DSPCOMMPARALLEL	Emulation support for 56F8300 processors. Requires parallel port (Metrowerks)	Available
DSPOSRTOS	DSP OS Real-Time Operating System (RTOS)	Available
ECCTR908MR32	MC68HC908MR32 Control Board	Available
ECINLHIVSR	Three-Phase Switched Reluctance High-Voltage Power Stage	Available
ECLOVACBLDC	Three-Phase BLDC Low-Voltage Power Stage	Available
ECLOVSR	Three-Phase Switched Reluctance Low-Voltage Power Stage	Available
ECMTREVAL	Evaluation Motor Board	Available
ECOPT	Optoisolation Board	Available
ECOPTHIVACBLDC	Three-Phase AC BLDC High-Voltage Power Stage	Available
ECOPTINL	In-Line Optoisolation Box	Available

**DSP56300 and MSC8100 Development Tools — Hardware**

Product	Description	Status
DSPTOOLSCD	DSP56300 Family Simulator/Assembler/Librarian for IBM PC, SUN-4, and Hewlett-Packard Series 700. DSPTOOLSCD is only available as a download from Metrowerks at <a href="http://www.metrowerks.com/embedded/suite56">www.metrowerks.com/embedded/suite56</a> .	Available
CDDSP56300	DSP56300 Training CD	Available
DSP56301ADM	DSP56301 Applications Development Module	Available
DSP56303EVM	DSP56303 Evaluation Module	Available
DSP56L307EVM	DSP56L307 Evaluation Module	Available
DSP56309EVM	DSP56309 Evaluation Module	Available
DSP56311EVM	DSP56311 Evaluation Module	Available
DSP56321EVM	DSP56321 Evaluation Module	Available
DSPAUDIOEVMMB1	DSP5636x Evaluation Module (Daughter Card listed separately)	Available
DSPB362DB1	DSPB56362 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPF362DB1	DSPF56362 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPB364DB1	DSPB56364 Evaluation Module Daughter Card	Available
DSPB366DB1	DSPB56366 Evaluation Module Daughter Card	Available
DSPD366DB1	DSPD56366 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPA367DB1	DSPA56367 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPB367DB1	DSPB56367 Evaluation Module Daughter Card	Available

**DSP56300 and MSC8100 Development Tools — Hardware (continued)**

Product	Description	Status
DSPC367DB1	DSPC56367 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPD367DB1	DSPD56367 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
DSPA371DB1	DSPA56371 Evaluation Module Daughter Card; Dolby and DTS Licensing Required	Available
MSC8101EVM	MSC8101 Evaluation Module (Metrowerks)	Available
MSC8101ADS	MSC8101 Application Development System Board (Metrowerks)	Available
DSPCOMMAND	16-, 24-, 32-bit Command Converter Board, which allows the host to talk with DSP target system via OnCE/JTAG port. Either a DSPPCHOST or DSPSUN4HOST is required with the DSPCOMMAND.	Available
DSPPCHOST	PC-Compatible Host Interface Board	Available
DSPSUN4HOST	Sun-4 Host Interface Board	Available
DSPCOMMANDPCI	Command Converter with PCI Host Interface	Available
DSPCOMMETHERNET	Command Converter with Ethernet Host Interface	Available
DSPCOMMPARALLEL	Command Converter with Parallel Port Host Interface	Available
HTIONCEJTAG	Panther HTI for OnCE/JTAG Communication. CodeWarrior for StarCore Windows/Solaris	Available
CWDSSTAR8101-WIN	MSC8101 Application Development System for Windows (Metrowerks)	Available
CWDSSTARWIN	Development System with Panther for Windows (Metrowerks)	Available
CWSTARCOREWIN	Metrowerks CodeWarrior Software Development Tools for StarCore v.1.1 (Windows) (Metrowerks)	Available
CWSTARCORESOL	Metrowerks CodeWarrior Software Development Tools for StarCore v.1.1 (Solaris) (Metrowerks)	Available
CWDSSTAR8101-SOL	MSC8101 Application Development System for Solaris	Available
CWDSSTARARSOL	Development System with Panther for Solaris	Available



*DIGITAL SIGNAL PROCESSORS (continued)*

**DSP56300 and MSC8100 Development Tools - Software**

Tools Description	Partner	Contact
Real-Time Operating System	Eonic Systems Embedded Power Corporation Quadros Systems, Inc. OSE Systems Precise Software Technologies	<a href="http://www.eonics.com">www.eonics.com</a> <a href="http://www.embeddedpower.com">www.embeddedpower.com</a> <a href="http://www.quadros.com">www.quadros.com</a> <a href="http://www.ose.com">www.ose.com</a> <a href="http://www.psti.com">www.psti.com</a>
Integrated Development Environment	Green Hills Software Metrowerks Signalogic TASKING	<a href="http://www.greenhills.com">www.greenhills.com</a> <a href="http://www.metrowerks.com">www.metrowerks.com</a> <a href="http://www.signalogic.com">www.signalogic.com</a> <a href="http://www.tasking.com">www.tasking.com</a>
Optimizing Compilers/Assembler/Linker	Green Hills Software Metrowerks TASKING	<a href="http://www.greenhills.com">www.greenhills.com</a> <a href="http://www.metrowerks.com">www.metrowerks.com</a> <a href="http://www.tasking.com">www.tasking.com</a>
Debugger	Domain Technologies Green Hills Software Metrowerks ARC International TASKING	<a href="http://www.domaintec.com">www.domaintec.com</a> <a href="http://www.greenhills.com">www.greenhills.com</a> <a href="http://www.metrowerks.com">www.metrowerks.com</a> <a href="http://www.psti.com">www.psti.com</a> <a href="http://www.tasking.com">www.tasking.com</a>
Simulator	Metrowerks ARC International TASKING	<a href="http://www.metrowerks.com">www.metrowerks.com</a> <a href="http://www.psti.com">www.psti.com</a> <a href="http://www.tasking.com">www.tasking.com</a>
DSP Algorithm Development	Mathworks Hyperception	<a href="http://www.mathworks.com">www.mathworks.com</a> <a href="http://www.hyperception.com">www.hyperception.com</a>
System Simulation and Verification	Cadence Mentor Graphics Synopsys	<a href="http://www.cadence.com/alta">www.cadence.com/alta</a> <a href="http://www.mentorgraphics.com">www.mentorgraphics.com</a> <a href="http://www.synopsys.com">www.synopsys.com</a>
Hardware Debug Connections/Analyzers	Corelis/HP Macraigor Systems Metrowerks Signalogic	<a href="http://www.corelis.com">www.corelis.com</a> <a href="http://www.macraigor.com">www.macraigor.com</a> <a href="http://www.metrowerks.com">www.metrowerks.com</a> <a href="http://www.signalogic.com">www.signalogic.com</a>
Hardware Development Tools	CDA Systems United Electronic Industries White Electronic Designs	<a href="http://www.cdasy.com">www.cdasy.com</a> <a href="http://www.ueidaq.com">www.ueidaq.com</a> <a href="http://www.whiteedc.com">www.whiteedc.com</a>
Device Driver Software	Aisys Freescale Semiconductor I/O Driver Library for MSC8101	<a href="http://www.aisysinc.com">www.aisysinc.com</a> <a href="http://www.freescale.com">www.freescale.com</a>

## MICROCONTROLLERS

### MICROCONTROLLERS SOFTWARE TOOLS

#### HC05, HC08, HC11, HC12, HC16, MPC5xx, 568xx, and MCORE — Metrowerks

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support
CWHC05ASM	CW ASM Tools for HC05	HC05 family processors (B, BD, C, F, J, JB, JJ, JP, K, KJ, L, LJ, P, PV, SR, SU, and X families)	n/a	MMEVS, MMDS	n/a	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC05	CW Full Package for HC05	HC08 family processors (AB, AS, AZ, EY, GP, GR, GT, JB, JK, JL, JG, QT, QY, KX, LJ, MR, RF, RK, SR families)	n/a	MMEVS, MMDS	n/a	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC11ASM	CW ASM Tools for HC11	HC11 family processors (D, E, F, FC, K, KS, KW and P families)	n/a	n/a	Monitor	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC11	CW Full Package for HC11	HC11 family processors (D, E, F, FC, K, KS, KW and P families)	n/a	n/a	Monitor	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC11MIG	CW Full Package for HC11 Migration	HC11 family processors (D, E, F, FC, K, KS, KW and P families)	Metrowerks OSEKturbo OS H	n/a	Monitor	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC16ASM	CW ASM Tools for HC16	HC16 family processors (R, X, Y, and Z families)	n/a	n/a	P&E ICD, Abatron BDI, Lauterbach BDM	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC16	CW Full Package for HC16	HC16 family processors (R, X, Y, and Z families)	n/a	n/a	P&E ICD, Abatron BDI, Lauterbach BDM	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWHC16MIG	CW Full Package for HC16 Migration	HC16 family processors (R, X, Y, and Z families)	n/a	n/a	P&E ICD, Abatron BDI, Lauterbach BDM	Windows 95/98/2000/ME/NT4.0	Assembly, C/C++, cC++, EC++
CWMCORE	CodeWarrior Software Development Tools for MCORE	M2xx/3xx family processors	n/a	MMC2001, MMC2075/2080, MMC2107, MMC2103, MMC3401	MetroTRK; Metrowerks EBDI	n/a	n/a

## **MICROCONTROLLERS (continued)**

### **HC(S)08 DEVELOPMENT SOFTWARE**

#### **CodeWarrior Development Studio for HC(S)08, Special Edition**

This comprehensive special edition toolset combines the best from Freescale Semiconductor, Metrowerks, and leading third-party developers and is bound to establish a new standard with the included components for fast and easy MCU development.

##### **Features:**

- Industry-leading CodeWarrior Integrated Development Environment
  - Project manager for up to 32 files
  - Built-in “stationary” templates with example assembly and C code to help create new projects faster
- Full-chip simulation and Flash programming with P&E Microcomputer Systems technology
  - Start software development immediately using simulator without waiting for target hardware or requiring an evaluation board
- Assembler, linker, and assembly source level debugger supports all 68HC08 MCUs
- Highly optimized ANSI C compiler and C source level debugger for many of the most popular Freescale Semiconductor 68HC08 MCUs
  - Fully supports the 68HC908JL3, JK3, JK1, KX2, GR4, RF2, QT4, QT2, QT1, QY4, QY2, QY1, and future derivatives with less than 4 Kb of memory
  - Over 60 optimization strategies specifically designed to boost performance and reduce code size
- Processor Expert™ rapid application design tool from UNIS
  - Provides optimized and tested automatic C code generation for most 68HC08 on-chip peripherals to dramatically reduce development time and improve code quality
  - Helps to eliminate time spent on low-level details, which allows more time for adding value to system solution
  - Promotes reusability and easy system configuration
  - Verifies design based on actual MCU resources and timing contentions to help catch potential problems before you begin debugging
- Fully supports Freescale Semiconductor 68HC08 hardware development tools
- MMDS, MMEVS, ICS, Cyclone, and MON08 Multilink
- Supports BDM Multilink and ROM monitor debugging for HCS08
- Takes full advantage of innovative on-chip HCS08 debug module

The special edition software is available on CD-ROM and for download from [www.freescale.com](http://www.freescale.com)

The order number for this product is CDCWSEHC08.

##### **C Compiler**

The special edition is a full-featured toolset with a 4K code size limited version of our highly optimized C compiler. You can upgrade to a 32K version or an unlimited 64K version to support all HC(S)08s. Both upgrades have project management for greater than 32 files.

The order number is CWHC08C32UPG (32K version)  
CWHC08C64UPG (64K version)  
CWHC08CC (Unlimited version)

##### **Standard Edition**

The standard edition includes an unrestricted C compiler, project management for greater than 32 files, unlimited data visualization tools to ease debugging, and access to an additional 170-plus software-only objects for the Processor Expert design tool.

The order number for this product is CWHC08STD.

##### **Professional Edition**

The professional edition provides the following additional advanced tools to speed your design to market:

- Code coverage analysis allows the user to isolate unused or badly used portions of code
- Profiler/performance analysis to identify and optimize critical portions of code
- Software trace/logic analyzer, combined with breakpoints, to quickly isolate complex problems
- Additional advanced objects for the Processor Expert design tool, including support for complex communication modules such as CAN
- Processor Expert Wizard that allows design of custom beans
- OSEK awareness
- I-Logix Rhapsody in MicroC interface

The order number for this product is CWHC08PRO.

### *MICROCONTROLLERS (continued)*

#### **HC08 DEVELOPMENT SYSTEMS**

##### **Cyclone Pro Universal Standalone In-Circuit Debugger/Programmer**

The Cyclone Pro provides all the capabilities of the BDM Multilink plus USB/Ethernet interfaces, the ability to function as a standalone programmer with push buttons and LEDs to control operation, and support for all MON08 HC08s and BDM HS08s and HS12s.

- Supports all H(S)08s and H(S)12s
- Ethernet, USB, and Serial interfaces
- Fast in-circuit flash programming
- Scripting capability automates programming of test routines, test execution, erase, and final SW programming
- Auto-detects baud rate and frequency of target MU
- Provides optional overdrive clock to target MCU
- Automatically cycles power for security checks (up to 500 mA)
- Supports 1.8 V to 5.5 V

The order number for this product is M68CYCLONEPRO.

##### **68HC908QT4 Demonstration Board**

The 68HC908QT4 demonstration kit contains everything a designer needs to develop and evaluate applications for the Q Family of M68HC08 Microcontrollers.

###### **Features**

- Evaluation board with a 4K FLASH 68HC908QT4 8-pin MCU
- Tutorial and demonstration code including A/D, timer, PWM, and keyboard interrupt routines to help you learn the 68HC908QT Family quickly
- Free Special Edition Code Warrior Development Suite for HC08, allowing you to:
  - Modify demo code or develop new code for the 68HC908QT4 in assembly or C
  - Program and debug code through DB9 serial port and included RS232 serial cable

The order number for this product is M68DEMO908QT4.

##### **MON08 Multilink**

The MON08 Multilink is an easy to use low-cost development tool for Freescale Semiconductor 68HC08 FLASH MCUs. The MON08 Multilink provides in-circuit emulation, debugging, and programming through the 68HC08's standard MON08 serial debug/breakpoint interface.

Some of the features that help make the MON08 Multilink such a versatile, time-saving tool are:

Universal development tool for all MON08 68HC08s

- Real-time in-circuit emulation and debug
- Fast in-circuit programming
- Auto-detects baud rate and frequency
- Provides optional overdrive clock to target
- Small unobtrusive size (approximately 3" x 2" x 3/4")
- Supports 2.0 V to 5.5 V 68HC08s
- Automatically cycles power for security checks (up to 125 mA)
- USB interface
- Includes CodeWarrior Development Studio for HC08, Special Edition

Complete with sample of 68HC908GP32 FLASH MCU and comprehensive documentation

The order number for a USB version of this product is USBMULTILINK08.

## **MICROCONTROLLERS (continued)**

### **HCS08 DEVELOPMENT SYSTEMS**

#### **Innovative On-Chip Debug**

The HCS08's innovative on-chip debug module allows expensive emulators to be replaced with low-cost serial real-time emulation and debug.

- Unique on-chip trigger and buffer hardware avoids the expense of traditional bus analyzers
  - Nine flexible trigger modes with three hardware break points
  - Change of flow address or event data buffer
- Real-time emulation of all MCU functions at HCS08's full operating voltage and frequency range with no limitations – unlike traditional emulators
- Non-intrusive debugging through a single, dedicated background debug mode (BDM) pin eliminates the need and cost of cumbersome emulator cables
- View and change internal registers and memory while running an application
- Single step, run, or trace application code

#### **MC9S08GB60 Demonstration Board**

The GB60 demonstration kit contains everything a designer needs to develop and evaluate MC9S08GB or GT Family applications.

- Evaluation board with a 60K Flash MC9S08GB60 MCU, dual DB9 RS232 serial ports, switches, LEDs, potentiometer, MCU pin-breakout header, and small prototype area
- Powered by 2 AA batteries (included) or optional external power supply
- Learn the HCS08 MCU Family quickly with demonstration code including A/D, timer, PWM, and keyboard interrupt routines
- Modify demo code or develop new code for the GB60 in assembly or C using free CodeWarrior Development Suite for HC(S)08, Special Edition
- Program and debug code using free CodeWarrior Development Studio for HC08, Special Edition through DB9 serial port and included RS232 serial cable or optional BDM Multilink

The order number for this product is M68DEMO908GB60.

#### **MC9S08GB60 Evaluation Board**

The GB60 evaluation kit contains everything a designer needs to develop and evaluate MC9S08GB or GT Family applications.

- Evaluation board with a 60K flash MC9S08GB60 MCU, LCD display, dual DB9 RS232 serial ports, switches, LEDs, and a breadboard area
- Modify demo code or develop new code for the GB60 in assembly or C using free CodeWarrior Development Suite for HC(S)08, Special Edition
- Program and debug code using free CodeWarrior Development Studio for HC08, Special Edition through DB9 serial port and included RS232 serial cable or optional BDM Multilink
- Universal power supply

The order number for this product is M68EVB908GB60.

#### **MC9S08RG60 Demonstration Board**

The RG60 demonstration board allows a designer to develop and evaluate MC9S08RG, RC, RD, or RE Family applications.

- Demonstration board with a 60K Flash MC9S08RG60 MCU, DB9, RS232 serial port, switches, LEDs, Voltage Regulator, and MCU pin-breakout header
- Small Form Factor (approximately 5.5 cm x 4 cm)
- Innovative HCS08 Serial Monitor allows users to program, debug, and emulate application code via the RS232 DB serial port
- Modify demo code or develop new code for the GB60 in assembly or C using free CodeWarrior Development Suite for HC(S)08, Special Edition

The order number for this product is DEMO9S08RG60.

#### **BDM Multilink Universal In-Circuit Debugger/Programmer**

The BDM Multilink is an easy-to-use, low-cost universal development tool for all HCS08 MCUs.

- Real-time in-circuit debug through HCS08s BDM interface
- Fast in-circuit flash programming
- Small unobtrusive size (approximately 3" x 2" x 3/4")
- Supports 1.8 V to 5.5 V HC(S)08s
- Includes CodeWarrior Development Studio for HC08, Special Edition
- USB interface

The order number for a USB version of this product is USBMULTILINKS08.

## MICROCONTROLLERS

### MICROCONTROLLERS (continued) HC05/HC08 DEVELOPMENT SYSTEMS In-Circuit Simulator (ICS) Kits

#### Economical, Integrated Developing and Debugging

Freescale Semiconductor in-circuit simulator kits are low-cost tools for developing and debugging target systems incorporating the most popular Freescale Semiconductor 68HC05 and 68HC08 MCUs. They provide an innovative interface to a user's target system for Windows-based editing, assembly, software simulation, programming, and in-circuit simulation. In-circuit simulation allows you to use the actual inputs and outputs of your target system during simulation of your code.

#### Features:

- Windows-based integrated development environment (IDE) with editor, assembler, debugger, and simulator:
  - Run under Windows 3.x®/Windows 98®
  - Examine and modify memory, registers, and I/O
  - Up to 64 instruction and register (accumulator, stack, index) break points
  - Several single-stepping and run modes of execution
  - Trace buffer holds previously executed instructions and variables
  - Data variable display window
  - Simulates all I/O, interrupts, timers, and other on-chip hardware
  - Detects attempted use of uninitialized or unimplemented locations
  - Data logging and script commands for recording and automatic execution of a sequence of commands
  - On-screen context-sensitive Windows help
- In-circuit simulation:
  - Emulation cable for connection to target system
  - Non-realtime in-circuit emulation
- Program EPROM, OTP, EEPROM, and FLASH microcontrollers

#### Kit Contents:

- Windowed EPROM or FLASH MCU sample
- Comprehensive documentation:
  - MCU technical data books
  - Software and hardware user's manual
  - Application guide/text book
  - MCU technical documentation CD-ROM
- Serial cable for PC to ICS connection
- Wall-mount power supply

#### Added Capabilities of the 68HC08 ICS Kits:

- Real-time in-circuit emulation available except for clock control and communication
- Real-time in-circuit debug using the 68HC08's MON08 serial debug/breakpoint capability
- Includes CodeWarrior Development Studio for HC08, Special Edition

In Support of	Freescale Semiconductor Part Number
68HC705B16	M68ICS05B
68HC705C8A/C9A	M68ICS05C
68HC705JP7/JJ7	M68ICS05JP
68HC705KJ1/J1A	M68ICS05KJ
68HC705P6A	M68ICS05P
68HC908AB32	M68ICS08AB
68HC908AZ60A/AS60A/AZ32A/AS32A	M68ICS08ASAZ
68HC908GP32	M68ICS08GPGT
68HC908GR4/GR8	M68ICS08GR
68HC908GT8/16	M68ICS08GPGT
68HC908JB16/JG16	M68ICS08JBIG
68HC908JB8	M68ICS08JB
68HC908JL3/JK3/JK1/JK8/JL8	M68ICS08JLJK
68HC908KX8/KX2	M68ICS08KX
68HC908LJ12	M68ICS08LJ
68HC908MR8/MR16/MR32	M68ICS08MR
68HC908SR12	M68ICS08SR
68HC908GT8/16	M68ICS08GPGT

## MICROCONTROLLERS (continued)

### HC05/HC08 DEVELOPMENT SYSTEMS (continued)

#### Modular Evaluation System (MMEVS) Kits

The Freescale Semiconductor modular evaluation system (MMEVS) is the economical, two-board emulator for the 68HC(7)05 and 68HC(9)08 Families of microcontrollers. The MMEVS consists of a platform board and an emulator module (EM). Connected to your target system, the emulator replicates the actual target system MCU. An integrated development environment (IDE) allows for quick edits and changes to assembly code, which makes design, debug, and real-time evaluation of the target system as efficient as possible. Use this economical system to perform traditional debugging activities such as executing code in run or step mode, setting break points, monitoring or modifying CPU registers, memory and application variables, and creating log or script files to record test results or create test suites.

#### Features:

- Real-time, non-intrusive, in-circuit emulation at the MCUs operating frequency
- 64 hardware break points
- Control of code execution in run or step mode
- 64K-bytes of fast emulation memory (SRAM)
- Current-limited target input/output connections
- 6 software-selectable oscillator clock sources
- Command and response logging to save session history and/or to generate script files
- SCRIPT command for automatic execution of a sequence of commands (such as system configuration setup and automated test runs)
- Assembly source-level debugging
- Host/emulator communication speeds as high as 57,600 baud
- Extensive on-line MCU information via the CHIPINFO command
- Includes CodeWarrior Development Studio for HC08, Special Edition

#### Kit Contents:

- MMEVS platform board (M68MMPFB0508):
  - IDE (including editor, assembler, debugger)
  - 9-lead RS-232 serial cable
  - 9- to 25-pin serial cable adapter
  - MMEVS user's manuals
  - Power supply
- Device-specific emulation module
- Device- and package-specific target cables/adapters
- In-circuit simulation and programming kit (ICS)

In Support of	Freescale Semiconductor Part Number
68HC705B16	KITMMEVS05B
68HC705C8A/C9A	KITMMEVS05C
68HC705JP7/JJ7	KITMMEVS05JP
68HC705KJ1/J1A	KITMMEVS05KJ
68HC705P6A	KITMMEVS05P6A
68HC908AB32	KITMMEVS08AB32
68HC908AP64/32/16	KITMMEVS08AP
68HC908AZ60A/AS60A/AZ32A/AS32A	KITMMEVS08ASAZ
68HC908EY16	KITMMEVS08EY
68HC908GP32	KITMMEVS08GPGT
68HC908GR4/GR8/GR16/GR32A/GR48A/GR60A/GZ8/GZ16/GZ32/GZ48/GZ60	KITMMEVS08GZ
68HC908GT8/16	KITMMEVS08GPGT
68HC908JB12/JB16/JG16	KITMMEVS08JBJG
68HC908JB8	KITMMEVS08JB8
68HC908JL3/JK3/JK1/JK8/JL8	KITMMEVS08JL
68HC908KX8/KX2	KITMMEVS08KX
68HC908LJ12/LJ24/LK24	KITMMEVS08LJLK
68HC908MR16/MR32	KITMMEVS08MR32
68HC908QT1/QT2/QT4/QY1/QY2/QY4	KITMMEVS08QTQY
68HC908SR12	KITMMEVS08SR12

## MICROCONTROLLERS (continued)

### HC05/HC08 DEVELOPMENT SOFTWARE (continued)

#### Modular Development System (MMDS) Kits

The Freescale Semiconductor modular development system (MMDS) is a full-featured emulator system for developing embedded systems using 68HC(7)05 and 68HC(9)08 microcontrollers. In addition to incorporating the debug features of the Freescale Semiconductor modular evaluation system (MMEVS), the MMDS adds advanced features such as real-time, dual-ported memory and a bus state analyzer to capture user-defined bus cycles or events. Use the dual-ported memory to tune filter circuits or monitor changes to program variables while your program is running at full speed. Verify nested or complex program flows using the bus state analyzer's full range of sequenced or logical event triggering and data capture modes. These added features help users develop, debug, and deliver 68HC05 or 68HC08 products in less time.

#### Features:

- Real-time, non-intrusive, in-circuit emulation at the operating frequency of the target device
- Control of code execution in run or step mode
- Real-time bus state analyzer:
  - 8K x 64 real-time trace buffer
  - Display of real-time trace data
  - Four hardware triggers
  - Nine triggering modes
  - up to 8190 pre- or post-trigger points for trace data
  - 16 general-purpose logic chips
  - 16-bit time tag, or optional 24-bit time tag
- 4 complex break points (any combination of address, data, control, and/or I/O)
- 64 instruction break points
- 32 real-time variables
- 32 bytes of real-time memory
- 64K-bytes of fast emulation memory (SRAM)
- Current-limited target input/output connections
- 6 software-selectable oscillator clock sources
- Command and response logging to save session history and/or to generate script files
- SCRIPT command for automatic execution of a sequence of commands (such as system configuration setup and automated test runs)
- Host/emulator communications speeds as high as 57,600 baud
- Extensive on-line device information via CHIPINFO command
- Includes CodeWarrior Development Studio for HC08, Special Edition
- Takes full advantage of innovative on-chip HCS08 debug module

#### Contents:

- MMDS Station module with built-in power supply (M68MMDS0508):
    - 39 cm deep x 25.9 cm wide x 7 cm high
    - Two logic clip cable assemblies
    - 9-lead RS-232 serial cable
    - 9- to 25-pin serial cable adapter
    - IDE with editor, assembler, and debugger
  - Device-specific emulation module
  - Device- and package-specific target cables/adapters
- In-circuit simulation and programming kit (ICS)

In Support of	Freescale Semiconductor Part Number
68HC705B16	KITMMDS05B
68HC705C8A/C9A	KITMMDS05C
68HC705JP7/JJ7	KITMMDS05JP
68HC705KJ1/J1A	KITMMDS05KJ
68HC705P6A	KITMMDS05P6A
68HC908AB32	KITMMDS08AB32
68HC908AP64/32/16	KITMMDS08AP
68HC908AZ60A/AS60A/AZ32A/AS32A	KITMMDS08ASAZ
68HC908EY16	KITMMDS08EY
68HC908GP32	KITMMDS08GPGT
68HC908GR4/GR8/GR16/GR32A/GR48A/GR60A/GZ8/GZ16/GZ32/GZ48/GZ60	KITMMDS08GZ
68HC908GT8/16	KITMMDS08GPGT
68HC908JB12/JB16/JG16	KITMMDS08JB.JG
68HC908JB8	KITMMDS08JB8
68HC908JL3/JK3/JK1/JK8/JL8	KITMMDS08JL
68HC908KX8/KX2	KITMMDS08KX
68HC908LJ12/LJ24/LK24	KITMMDS08LJK
68HC908MR16/MR32	KITMMDS08MR32
68HC908QT1/QT2/QT4/QY1/QY2/QY4	KITMMDS08QTQY
68HC908SR12	KITMMDS08SR12
68HC908GT8/16	KITMMDS08GPGT



**MICROCONTROLLERS (continued)**

**HARDWARE TOOLS**

**68HC05 Emulators, Cables, and Adapters**

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC05B6/B8/B16/B32 68HC705B16N/B32	M68MMPFB0508 or M68MMDS0508	M68EM05B32	56-pin SDIP (B) 64-pin QFP (FU) 52-pin PLCC (FN)	M68CBL05B M68CBL05C M68CBL05C	M68TB05B32B56 M68TC05B32FU64 M68TC05B32FN52	M68TQP064SA1 <sup>(1)</sup> M68TQS064SAG1 <sup>(1)</sup>
68HC05BD3/BD5/BD7 68HC705BD3/BD7	M68MMPFB0508 or M68MMDS0508	M68EM05BD7	40-pin DIP (P) 42-pin SDIP (B)	M68CBL05B M68CBL05B	M68TB05BD7P40 M68TB05BD7B42	
68HC05BD9/BD16/BD24 68HC705BD9/BD24	M68MMPFB0508 or M68MMDS0508	X68EM05BD9	40-pin DIP (P) 42-pin SDIP (B)	M68CBL05B M68CBL05B	M68TB05BD9P40 M68TB05BD9B42	
68HC05C4A/C8A/C12A 68HC705C8A	M68MMPFB0508 or M68MMDS0508	M68EM05C9A	40-pin DIP (P) 44-pin PLCC (FN) 44-pin QFP (FB) 42-pin SDIP (B)	M68CBL05B M68CBL05C M68CBL05C M68CBL05B	M68TB05C9P40 M68TC05C4FN44 M68TC05C9FB44 M68TB05C9B42	M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC05C9A 68HC705C9A	M68MMPFB0508 or M68MMDS0508	M68EM05C9A	40-pin DIP (P) 44-pin PLCC (FN) 42-pin SDIP (B) 44-pin QFP (FB)	M68CBL05B M68CBL05C M68CBL05B M68CBL05C	M68TB05C9P40 M68TC05C9FN44 M68TB05C9B42 M68TC05C9FB44	M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC05E6 68HC705E6	M68MMPFB0508 or M68MMDS0508	M68EM05E6	28-pin SOIC (DW) 44-pin QFP (FB)	M68CBL05C M68CBL05C	M68TC05E6P28 M68TC05E6FB44	M68DIP28SOIC M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC705F32	M68MMPFB0508 or M68MMDS0508	M68EM05F32	100-pin TQFP (PU) 80-pin TQFP (PU)	M68CBL05E M68CBL05E	M68TE05F32PU100 M68TE05F32PU80	
68HC05H12 68HC705H12	M68MMPFB0508 or M68MMDS0508	X68EM05H12	52-pin PLCC (FN)	M68CBL05C	X68TC05H12FN52	
68HC05J5A 68HC05LJ5 68HC705J5A	M68MMPFB0508 or M68MMDS0508	X68EML05J5A	16-pin DIP (P) 20-pin DIP (P) 16-pin SOIC (DW) 20-pin SOIC (DW)	M68CBL05A M68CBL05A M68CBL05A M68CBL05A	M68TA05J5AP16 M68TA05J5AP20 M68TA05J5AP16 M68TA05J5AP20	M68DIP16SOIC M68DIP20SOIC

1. Each QFP target head adapter includes one TQSOCKET with guides (M68TQSxxxSyG1) and one TQPACK disposable surface mount adapter (M68TQPxxxSy1 – 1.2-mm lead length or M68TQPxxxSyM01 – 1.6-mm lead length). Order additional TQPACKs and TQSOCKETS (optional) using part numbers referenced in the Surface Mount Adapters column to support multiple target systems.

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

HARDWARE TOOLS (continued)

68HC05 Emulators, Cables, and Adapters (continued)

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC705JB3	M68MMPF0508 or M68MMDS0508	X68EM05JB3	20-pin DIP (P) 28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A M68CBL05A	M68TA05JB3P20 M68TA05JB3P28 M68TA05JB3P28	M68DIP28SOIC
68HC705JB4	M68MMPF0508 or M68MMDS0508	X68EM05JB4	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05JB4P28 M68TA05JB4P28	M68DIP28SOIC
68HC705JJ7 68HC05JJ6	M68MMPF0508 or M68MMDS0508	X68EM05JP7	20-pin DIP (P) 20-pin SOIC (DW)	M68CBL05A M68CBL05A	X68TA05JJ7P20 X68TA05JJ7P20	M68DIP20SOIC
68HC705JP7 68HC05JP6	M68MMPF0508 or M68MMDS0508	X68EM05JP7	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	X68TA05JP7P28 X68TA05JP7P28	M68DIP28SOIC
68HC05J1A 68HC705J1A	M68MMPF0508 or M68MMDS0508	M68EM05J1A	20-pin DIP (P) 20-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05J2P20 M68TA05J2P20	M68DIP20SOIC
68HC705KJ1	M68MMPF0508 or M68MMDS0508	M68EM05J1A	16-pin DIP (P) 16-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05KJ1P16 M68TA05KJ1P16	M68DIP16SOIC
68HC05L5/L16 68HC705L16	M68MMPF0508 or M68MMDS0508	M68EML05L16	80-pin QFP (FU)	M68CBL05E	M68TE05L16FU80	M68TQS080SBG1 <sup>(1)</sup> M68TQP080SBM01 <sup>(1)</sup>
68HC05L25 68HC705L26	M68MMPF0508 or M68MMDS0508	M68EML05L26	52-pin LQFP (PB)	M68CBL05C	M68TC05L26PB52	
68HC05P1A/P4A/P9A 68HC705P6A	M68MMPF0508 or M68MMDS0508	X68EML05P6A	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05P9P28 M68TA05P9P28	M68DIP28SOIC
68HC05P18 68HC805P18	M68MMPF0508 or M68MMDS0508	X68EM05P18	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05P9P28 M68TA05P9P28	M68DIP28SOIC
68HC05PL4 68HC705PL4	M68MMPF0508 or M68MMDS0508	X68EML05PL4	20-pin DIP (P) 28-pin DIP (P) 20-pin SOIC (DW) 28-pin SOIC (DW)	M68CBL05A M68CBL05A M68CBL05A M68CBL05A	M68TA05PL4P20 M68TA05PL4P28 M68TA05PL4P20 M68TA05PL4P28	M68DIP20SOIC M68DIP28SOIC
68HC805PV8	M68MMPF0508 or M68MMDS0508	X68EM05PV8	28-pin SOIC (DW)	M68CBL05A	X68TA05PV8P28	M68DIP28SOIC

1. Each QFP target head adapter includes one TQSOCKET with guides (M68TQxxxSyG1) and one TQPACK disposable surface mount adapter (M68TQPxxxSy1 – 1.2-mm lead length or M68TQPxxxSyM01 – 1.6-mm lead length). Order additional TQPACKs and TQSOCKETs (optional) using part numbers referenced in the Surface Mount Adapters column to support multiple target systems.

**MICROCONTROLLERS (continued)**

**HARDWARE TOOLS (continued)**

**68HC05 Emulators, Cables, and Adapters (continued)**

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC05RC18 68HC705RC16/RC17	M68MMPFB0508 or M68MMDS0508	X68EM05RC16	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	X68TA05RC16P28 X68TA05RC16P28	M68DIP28SOIC
68HC05SR3/SU3A 68HC705SR3	M68MMPFB0508 or M68MMDS0508	M68EM05SR3	40-pin DIP (P) 44-pin QFP (FB) 42-pin SDIP (B)	M68CBL05B M68CBL05C M68CBL05B	M68TB05SR3P40 M68TC05SR3FB44 M68TB05SR3B42	M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAM01 <sup>(1)</sup>
68HC05X4 68HC705X4	M68MMPFB0508 or M68MMDS0508	M68EM05X4	28-pin DIP (P) 28-pin SOIC (DW)	M68CBL05A M68CBL05A	M68TA05X4P28 M68TA05X4P28	M68DIP28SOIC
68HC05X16/X32 68HC705X32	M68MMPFB0508 or M68MMDS0508	M68EML05X32	64-pin QFP (FU)	M68CBL05E	M68TE05X32FU64	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SA1 <sup>(1)</sup>

1. Each QFP target head adapter includes one TQSOCKET with guides (M68TQSxxxSyG1) and one TQPACK disposable surface mount adapter (M68TQPxxxSy1 – 1.2-mm lead length or M68TQPxxxSyM01 – 1.6-mm lead length). Order additional TQPACKs and TQSOCKETS (optional) using part numbers referenced in the Surface Mount Adapters column to support multiple target systems.

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

HARDWARE TOOLS (continued)

### 68HC08 Emulators, Cables, and Adapters

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC908AB32 68HC08AB16A	M68MMPFB0508 or M68MMDS0508	M68EML08AB32	64-pin QFP (FU)	M68CBL05C	M68TC08AB32FU64	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SA1 <sup>(1)</sup>
68HC908AP64/32/16	M68MMPFB0508 or M68MMDS0508	M68EML08AP64	42-pin SDIP (B) 44-pin QFP (FB) 48-pin QFP (FA)	M68CBL05C	M68TB08AP64B42 M68TC08AP64FB44 M68TC08AP64FA48	M68TQS044SAG1 M68TQP048SD1
68HC08AS20/32/60 68HC08AZ32/60 68HC908AS32/60A 68HC908AZ60A 68HC908AZ32A	M68MMPFB0508 or M68MMDS0508	M68EM08AS/AZ60A	52-pin PLCC (FN) 64-pin QFP (FU)	M68CBL05C M68CBL05C	X68TC08AX48FN52 X68TC08AX48FU64	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SA1 <sup>(1)</sup>
68HC908BD48	M68MMPFB0508 or M68MMDS0508	M68EM08BD48	42-pin SDIP (B) 44-pin QFP (FB)  28-pin DIP (P)	M68CBL05B M68CBL05C M68CBL05B	M68TB08BD48B42 M68TC08BD48FB44  M68TB08BD48P28	M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC908EY16	M68MMPFB0508 or M68MMDS0508	M68EML08EY	32-pin QFP (FA)	M68CBL05C	M68TC08EYFA32	M68TQP032SA1
68HC908GP32 68HC08GP32 68HC908GT16 68HC908GT8	M68MMPFB0508 or M68MMDS0508	M68EML08GPGT	40-pin DIP (P) 42-pin SDIP (B) 44-pin QFP (FB)	M68CBL05B M68CBL05B M68CBL05C	M68TB08GP32P40 M68TB08GP32B42 M68TC08GP32FB44	M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC908GR4/GR8/GR16/GR32A/GR48A/ GR60A/GZ8/GZ16/GZ32/GZ48/GZ60	M68MMPFB0805 or M68MMDS0508	M68EML08GZ	28-pin DIP (P) 32-pin QFP (FA) 32-pin LQFP (FJ) 48-pin QFP (FA) 64-pin QFP (FB)	M68CBL05C	M68TC08GZP28 M68TC08GR8FA32 M68TC08GZFJ32 M68TC08GZFA48 M68TC08GZFB64	M68DIP28SOIC M68TQS032SAG1 <sup>(1)</sup> M68TQP032SA1 <sup>(1)</sup> M68TQP048SD1 M68TQS064SAG1 M68TQP064SA1

1. Each QFP target head adapter includes one TQSOCKET with guides (M68TQxxxSyG1) and one TQPACK disposable surface mount adapter (M68TQPxxxSy1 – 1.2-mm lead length or M68TQPxxxSyM01 – 1.6-mm lead length). Order additional TQPACKS and TQSOCKETS (optional) using part numbers referenced in the Surface Mount Adapters column to support multiple target systems.

## 68HC08 Emulators, Cables, and Adapters (continued)

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC908JB8	M68MMPFB0508 or M68MMDS0508	M68EM08JB8	20-pin DIP (P) 20-pin SOIC (DW) 28-pin SOIC (DW) 42-pin SDIP (B) 44-pin QFP (FB)	M68CBL05C M68CBL05C M68CBL05C M68CBL05B M68CBL05C	M68TC08JB8P20 M68TC08JB8P20 M68TC08JB8P28 M68TB08JB8B42 M68TC08JB8FB44	M68DIP20SOIC M68DIP28SOIC  M68TQS044SAG1 <sup>(1)</sup> M68TQP044SAMO1 <sup>(1)</sup>
68HC908JB12 68HC908JB16	M68MMPFB0508 or M68MMDS0508	M68EM08JB1G	32-pin LQFP (FA) 28-pin SOIC (DW)	M68CBL05C	M68TC08JB16FA32 M68TC08JB16P28	M68DIP28SOIC
68HC908JG16	M68MMPFB0508 or M68MMDS0508	M68EM08JB1G	32-pin LQFP (FA)	M68CBL05C	M68TC08JG16FA32	
68HC908JK1 68HC908JK3 68HC908JK8	M68MMPFB0508 or M68MMDS0508	M68EML08JLK	20-pin DIP (P) 20-pin SOIC (DW)	M68CBL05C	M68TC08JK3P20 M68TC08JK3P20	M68DIP20SOIC
68HC908JL3 68HC08JL3 68HC908JL8	M68MMPFB0508 or M68MMDS0508	M68EML08JLK	28-pin DIP (P) 28-pin SOIC (DW) 32-pin QFP (FA)	M68CBL05C	M68TC08JL3P28 M68TC08JL3P28 M68TC08JL8FA32	M68DIP28SOIC
68HC908KX8 68HC908KX2	M68MMPFB0508 or M68MMDS0508	M68EML08KX	20-pin SOIC (DW) 16-pin SOIC (DW)	M68CBL05C	M68TA08KX6P16	M68DIP16SOIC
68HC908LD64	M68MMPFB0805 or M68MMDS0508	M68EML08LD64	64-pin QFP (FU)	M68CBL05C	M68TC08LD64FU64	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SA1 <sup>(1)</sup>
68HC08LJ12 68HC908LK24	M68MMPFB0508 or M68MMDS0508	M68EML08LJK	52-pin QFP (PB) 64-pin QFP (FU) 80-pin QFP (FA)	M68CBL05C	M68TE08LJKFB52 M68TE08LJKFU64 M68TE08LJKFQ80	M68TQS064SAG1
68HC908LJ12	M68MMPFB0805 or M68MMDS0508	M68EML08LJ12	64-pin QFP (FU) 64-pin LQFP (PB) 52-pin QFP (FB)	M68CBL05C	M68TC08LJ12FU64 M68TC08LJ12PB64 M68TC08LJ12FB52	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SA1 <sup>(1)</sup>
68HC908MR8 68HC08MR4	M68MMPFB0805 or M68MMDS0508	M68EM08MR8	32-pin QFP (FA)	M68CBL05C	MC68TC08MR8FA32	M68TQS032SAG1 <sup>(1)</sup> M68TQP032SA1 <sup>(1)</sup>

## MICROCONTROLLERS

### 68HC08 Emulators, Cables, and Adapters (continued)

Product	Platform	Emulation Modules	Packages Supported	Flex Cable	Target Head Adapter	Surface Mount Adapter
68HC908MR32 68HC908MR24 68HC908MR16	M68MMPFB0508 or M68MMDS0508	M68EM08MR32	64-pin QFP (FU)  56-pin SDIP (B)	M68CBL05C  M68CBL05C	M68TC08MR24FU64  M68TC08MR24B56	M68TQS064SAG1 <sup>(1)</sup> M68TQP064SAMO1 <sup>(1)</sup>
68HC908QT1 68HC908QT2 68HC908QT4 68HC908QY1 68HC908QY2 68HC908QY4	M68MMPFB0508 or M68MMDS0508	M68EML08QTOY	8-pin DIP (P) 8-pin SOIC (DW) 16-pin DIP (P) 16-pin SOIC (DW) 16-pin TSSOP (DT)	M68CBL05A	M68TA08QTP8 M68TA08QTP8 M68TA08QYP16 M68TA08QYP16 M68TA08QYT16	M68DIP8SOIC  M68DIP16SOIC M68DIP16TSSOP
68HC908SR12	M68MMPFB0508 or M68MMDS0508	M68EML08SR12	42-pin SDIP (B)  48-pin QFP (FA)	M68CBL05B  M68CBL05C	M68TB08SR12B42  M68TC08SR12FA48	M68TQS048SDG1 <sup>(1)</sup> M68TQP048SD1 <sup>(1)</sup>

1. Each QFP target head adapter includes one TQSOCKET with guides (M68TQSxxxSyG1) and one TQPACK disposable surface mount adapter (M68TQPxxxSy1 – 1.2-mm lead length or M68TQPxxxSyM01 – 1.6-mm lead length). Order additional TQPACKs and TQSOCKETS (optional) using part numbers referenced in the Surface Mount Adapters column to support multiple target systems.

### 68HC11 Evaluation Board

Product	Board
68HC11A8 68HC11E9 68HC711E9 68HC811E2	M68HC11EVBU2

**MICROCONTROLLERS (continued)**

**HARDWARE TOOLS (continued)**

**68HC05 Programmable**

Product	Packages Supported	Programming Adapter	Programmer Board
68HC705B16 68HC705B32	52-pin PLCC (FN) 56-pin SDIP (B)	n/a	M68ICS05B Serial Programmer/In-Circuit Simulator
68HC705C8A 68HC705C9A	40-pin DIP (P/S) 44-pin PLCC (FN/FS)	n/a	M68ICS05C Serial Programmer/In-Circuit Simulator
68HC705E6	44-pin QFP (FB) 28-pin SOIC (DW)	n/a	M68HC705E6PGMR
68HC705KJ1 68HC705J1A	16-pin and 20-pin DIP (P) 16-pin and 20-pin SOIC (DW)	n/a	M68ICS05KJ Serial Programmer/In-Circuit Simulator
68HC705J5A	16-pin DIP (P) 20-pin DIP (P) 20-pin SOIC (DW)	M68UPA05J5AP16 M68UPA05J5AP20 M68UPA05J5ADW20	M68HC705J5PGMR
68HC705JB3	20-pin DIP (P) 28-pin DIP (P) 28-pin SOIC (DW)	M68UPA05JB3P20 M68UPA05JB3P28 M68UPA05JB3DW28	M68HC705J3PGMR
68HC705JB4	28-pin DIP (P) 28-pin SOIC (DW)	M68UPA05JB4P28 M68UPA05JB4DW28	M68HC705J4PGMR
68HC705JJ7	20-pin DIP (P) 20-pin SOIC (DW)	n/a	M68ICS05JP Serial Programmer/In-Circuit Simulator
68HC705JP7	28-pin DIP (P) 28-pin SOIC (DW)	n/a	M68ICS05JP Serial Programmer/In-Circuit Simulator
68HC705P6A	28-pin DIP (P) 28-pin SOIC (DW)	n/a	M68ICS05P Serial Programmer/In-Circuit Simulator
68HC805PV8	28-pin SOIC (DW)	n/a	X68HC805PV8PGMR
68HC705SR3	40-pin DIP (P) 44-pin QFP (FB)	M68UPA05SR3P40 M68UPA05SR3FB44	M68HC705SR3PGMR
68HC705X4	28-pin DIP (P/S) 28-pin SOIC (DW)	n/a	M68HC705X4PGMR
68HC705X32	64-pin QFP (FU) 68-pin PLCC (FN)	n/a	M68HC705X32PGMR

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

HARDWARE TOOLS (continued)

### 68HC08 Programmable

Product	Packages Supported	Programming Adapter	Programmer Board
68HC908AB32	64-pin QFP	M68UPA08AB32FU64	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
68HC908BD48	44-pin QFB (FB)	M68UPA08BD48FB44	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	42-pin SDIP (B)	M68UPA08BD48B42	
	28-pin DIP (P)	M68UPA08BD48P28	
68HC908GP32	40-pin DIP (P)	M68UPA08GP32P40	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	42-pin SDIP (B)	M68UPA08GP32B42	
	44-pin QFP (FB)	M68UPA08GP32FB44	
68HC908JB8	20-pin DIP (P)	M68UPA08JB8P20	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	20-pin SOIC (DW)	M68UPA08JB8DW20	
	28-pin SOIC (DW)	M68UPA08JB8DW28	
	42-pin SDIP (B)	M68UPA08JB8B42	
	44-pin QFP (FB)	M68UPA08JB8FB44	
68HC908JK3/JK1	20-pin DIP (P)	M68UPA08JK3P20	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	20-pin SOIC (DW)	M68UPA08JK3DW20	
68HC908JL3	28-pin DIP (P)	M68UPA08JL3P28	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	28-pin SOIC (DW)	M68UPA08JL3DW28	
68HC908LD64	64-pin QFP (FU)	M68UPA08LD64FU64	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
68HC908SR12	42-pin SDIP (B)	M68UPA08SR12B42	M68HC705UPGMR or M68HC705UGANG Parallel Programmer
	48-pin QFP (FA)	M68UPA08SR12FA48	



## **MICROCONTROLLERS (continued)**

### **HCS12 DEVELOPMENT SOFTWARE**

#### **CodeWarrior Development Studio for HCS12, Special Edition**

This comprehensive special edition toolset combines the best from Freescale Semiconductor, Metrowerks, and leading third-party developers and is bound to establish a new standard with the included components for fast and easy MCU development.

##### **Features:**

- Industry-leading CodeWarrior Integrated Development Environment
  - Project manager for up to 32 files
- Built-in “stationary” templates with example assembly and C code to help create new projects faster
- CPU and timer simulation
- Flash programming
- Assembler, linker, and assembly source level debugger supports all HCS12 MCUs
- Highly optimized ANSI C compiler and C source level debugger for up to 12K-bytes code size
  - Over 60 optimization strategies specifically designed to boost performance and reduce code size
  - Upgrades to support larger memory HCS12s available
- Processor Expert™ rapid application design tool from UNIS
  - Provides optimized and tested automatic C code generation for most HCS12 on-chip peripherals to dramatically reduce development time and improve code quality
  - Helps to eliminate time spent on low-level details, which allows more time for adding value to system solution
  - Promotes reusability and easy system configuration
  - Verifies design based on the actual MCU resources and timing contentions to help catch potential problems before you begin debugging
- Fully supports Freescale Semiconductor HCS12 hardware development tools
  - Cyclone Pro and BDM Multilink

The special edition software is available on CD-ROM and for download from [www.freescale.com](http://www.freescale.com)

The order number for this product is CDCWSEHC12.

##### **C Compiler**

The special edition is a full-featured toolset with a 12K-byte code size limited version of our highly optimized C compiler. Upgrade to a 32K-byte version, a 64K-byte version, or an unrestricted version to support any HCS12. All upgrades have project management for greater than 32 files.

The order number is CWHC12C32UPG (32K version)  
CWHC12C64UPG (64K version)  
CWHC12CC (Unlimited version)

##### **Standard Edition**

The standard edition includes an unrestricted C compiler, project management for greater than 32 files, unlimited data visualization tools to ease debugging, and access to an additional 170-plus software-only objects for the Processor Expert design tool.

The order number for this product is CWHC12STD.

##### **Professional Edition**

The professional edition provides the following additional advanced tools to speed your design to market:

- Code coverage analysis allows the user to isolate unused or badly used portions of code
- Profiler/performance analysis to identify and optimize critical portions of code
- Software trace/logic analyzer, combined with break points to quickly isolate complex problems
- Additional advanced objects for the Processor Expert design tool, including support for complex communication modules such as CAN
- Processor Expert Wizard that allows design of custom beans
- OSEK awareness
- I-Logix Rhapsody in MicroC interface

The order number for this product is CWHC12PRO.

### MICROCONTROLLERS (continued)

#### HCS12 DEVELOPMENT SYSTEMS

##### HCS12 Development Kit

The HCS12 Development Kit is an economical tool for developing code and evaluating it on HCS12 “Dx”, “A”, and “B” Family MCUs. This easy to order kit combines the BDM Multilink and an evaluation board (EVB). The EVB simplifies user evaluation of prototype hardware and software by providing the essential MCU timing and I/O circuitry as well as a prototype area to allow custom interfacing. The BDM Multilink interfaces to the EVB through the 6-pin BDM connector for real-time in-circuit emulation and fast FLASH programming.

##### HCS12DP256 Evaluation Board

- MC9S12DP256 MCU provides superset evaluation of all HCS12 “Dx”, “A”, and “B” derivatives
- 256K-bytes FLASH
- Prototyping area
- Header connectors for access to the MCU’s I/O and bus lines
- RS232 Communications
- CAN Communication

##### BDM Multilink

- Universal development tool for all BDM 68HC12s and HCS12s
- Real-time in-circuit emulation and debug
- Fast in-circuit programming
- Auto-detects frequency
- Small unobtrusive size (approximately 3” x 2” x 3/4”)
- Supports 2.0 V to 5.5 V targets

##### CodeWarrior Integrated Development Environment

- Full debugger, assembler, linker, and programmer
- Evaluation C compiler

The order number for this product is M68KIT912DP256.

##### BDM Stand-Alone Programmer

The BDM Programmer provides a fast, efficient, low-cost method of programming the on-chip FLASH and EEPROM memory of our 68HC12 and HCS12 Families utilizing the BDM interface. The programmer can be used stand-alone with a simple push button and LED interface.

- Fast in-circuit stand-alone programming
  - Simple push button and LED user interface
  - Performs erase, program, and verify cycle on 256K FLASH parts in as little as 10.5 seconds
- Host-based programming with scripting capability to execute a series of commands
  - Automated programming of test routines, test execution, erase, and final software programming
- Optionally provides FLASH programming voltage via the BDM connector

The order number for this product is SCBDMPGMRS12.

##### BDM Multilink Universal In-Circuit Debugger/Programmer

The BDM Multilink is an easy-to-use, low-cost universal development tool for all HCS12 MCUs.

- Real-time in-circuit debug through HCS12s BDM interface
- Fast in-circuit flash programming
- Small unobtrusive size (approximately 3” x 2” x 3/4”)
- Supports 1.8 V to 5.5 V HC(S)12s
- Includes CodeWarrior Development Studio for HC12, Special Edition
- USB interface

The order number for a USB version of this product is USBMULTILINK12.

##### Cyclone Pro Universal Standalone In-Circuit Debugger/Programmer

The Cyclone Pro provides all the capabilities of the BDM Multilink plus USB/Ethernet interfaces, the ability to function as a standalone programmer with pushbuttons and LEDs to control operation, and support for all MON08 HC08s and BDM HCS08s and HCS12s.

- Supports all HC(S)08s and HC(S)12s
- Ethernet, USB, and Serial interfaces
- Fast in-circuit flash programming
- Scripting capability automates programming of test routines, test execution, erase, and final SW programming
- Auto-detects baud rate and frequency of target MCU
- Provides optional overdrive clock to target MCU
- Automatically cycles power for security checks (up to 500 mA)
- Supports 1.8 V to 5.5 V

The order number for this product is M68CYLCONEPRO.

##### HCS12E128 Evaluation Board

The E128 evaluation board allows a designer to develop and evaluate MC9S12E128 and E64 family applications.

- MC9S12E128 112-pin Thin Quad Flat Pack (TQFP)
- Two 50-pin connectors bring out all I/O pins of the MCU
- Versatile connector design for use with solderless breadboards, prototyping cards, or embedding into your design
- Supplied with 8 MHz crystal, but internal bus can run up to 24 MHz (using on-chip PLL)
- On-chip single-wire Background Debug Module (BDM) fully supported for loading and debugging user code
- Program and debug code using free CodeWarrior Development Studio for HC(S)12, Special Edition, through DB9 serial port and included RS232 serial cable or optional BDM Multilink

The order number for this product is M68EVB912E128.

## **MICROCONTROLLERS (continued)**

### **HCS12 DEVELOPMENT SYSTEMS (continued)**

#### **HCS12C32 Evaluation Board**

The C32 evaluation board allows a designer to develop and evaluate MC9S12C32 family applications.

- 80-QFP 9S12C32 MCU
- 8 general purpose LEDs (Port B), power LED, reset LED
- 8 DIP switches for general purpose input (Port A)
- High speed 82C250 CAN transceiver
- SPI connected to socket for serial EEPROM application
- SCI connected to RS-232 transceiver and 9-way D-type socket
- BDM interface header connection
- Large area for prototyping with +5.0 V and GND connection strips at either end
- MCU Pin-Breakout Header for easy access to all MCU signals
- Program and debug code using free CodeWarrior™ Development Studio for HC(S)12, Special Edition, through DB9 serial port and included RS232 serial cable or optional BDM Multilink

The order number for this product is M68EVB912C32

#### **HCS12C32 Demo Kit**

In addition to the MCU module (M68MOD912C32), the M68DKIT912C32 includes a Docking Module, which provides a programming interface with a personal computer and support circuitry for working with the microcontroller. This includes a power regulator, a socket for the MCU module, user LEDs and pushbuttons, and a snap-off prototyping area. A power supply and serial cable are included with the kit. A resource CD containing this manual, example programs, and all the MCU documentation, along with a CodeWarrior™ C compiler on CD complete the package.

##### **The Demo Kit consists of the following items:**

- M68DEMO9S12C32 module, in 32-pin DIP form factor
- Docking Module (to accommodate above)
- 9-pin serial cable
- 6.0 V DC power supply
- CD with examples, manual with full schematics, and data sheets
- Accommodation for dual 40-pin I/O bus expansion connectors (user-installed option)
- Program and debug code using free CodeWarrior™ Development Studio for HC(S)12, Special Edition, through DB9 serial port and included RS232 serial cable or optional BDM Multilink

The order number for this product is M68DKIT912C32.

#### **HCS12C32 Module Board**

The M68MOD912C32 MCU Module contains everything a designer needs to develop and evaluate MC9S12C32 microcontroller (MCU) applications. The M68MOD912C32 MCU module contains the support circuitry to function as a standalone development board. The user just supplies the power.

The M68MOD912C32 MCU module comes in standard 32-pin DIP footprint that plugs into 0.6" wide DIP sockets and solder-less breadboards. A BDM connector is provided on the MCU Module for development tool application and is compatible with standard HCS12 BDM interface cables and software. Also once the user develops and tests the code, they can place the same MCU Module into the "system" due to the 32-pin DIP form factor; the tool becomes the end product.

- 9S12C32 MCU in 48-pin LQFP
- 8-MHz crystal
- PLL circuit
- Local 5.0 V low-dropout 100 mA regulator
- RS232 transceiver circuit, with hardware handshaking
- Standard 6-pin BDM connector
- On-chip serial monitor
- LOAD/RUN switch to support serial monitor
- Pinout is super-set of competing 24-pin modules on the market

The order number for this product is M68MOD912C32.

#### **HCS12NE64 Demo Board**

The MC9S12NE64 demonstration board contains everything a designer needs to develop and evaluate MC9S12NE64 applications.

- Demonstration board with a 64K flash MC9S12NE64 MCU, clear enclosed plastic case, DB9 RS232 serial port, switches, LEDs, potentiometer, MCU pin-breakout header, and Ethernet port
- Three third party TCP/IP stacks with accompanying CDs containing documentation from leading developers offering a range of software price points
- Evaluation TCP/IP stacks including an open source stack
- Multiple software demonstrations using the TCP/IP stacks
- Learn the MC9S12NE64 MCU quickly with demonstration code including low level Ethernet drives, A/D, timer, PWM, and keyboard interrupt routines
- Modify demo code or develop new code for the MC9S12NE64 in assembly or C using free CodeWarrior Development Suite for HCS12, Special Edition
- Program and debug code using free CodeWarrior Development Studio for HCS12, Special Edition through DB9 serial port and included RS232 serial cable or optional BDM Multilink
- Universal power supply included

The order number for this product is DEMO9S12NE64.

### *MICROCONTROLLERS (continued)*

#### *HCS12 DEVELOPMENT SYSTEMS (continued)*

##### **HCS12NE64 Evaluation Board**

The MC9S12NE64 evaluation board contains everything a designer needs to develop and evaluate MC9S12NE64 applications.

- Evaluation board with a 64K flash MC9S12NE64 MCU, Ethernet port, IrDA port, LCD display port, keyboard port, 512 KB SRAM, dual DB9 RS232 serial ports, switches, LEDs, and a breadboard area
- Evaluation TCP/IP stacks including an open source stack
- Multiple software demonstrations using the TCP/IP stacks
- Modify demo code or develop new code for the MC9S12NE64 in assembly or C using free CodeWarrior Development Suite for HCS12, Special Edition
- Program and debug code using free CodeWarrior Development Studio for HC08, Special Edition through DB9 serial port, RS232 serial cable included, via the MC9S12NE64 serial monitor or optional BDM Multilink
- Universal power supply

The order number for this product is EVB9S12NE64.

**MICROCONTROLLERS (continued)**

**HARDWARE TOOLS (continued)**

**68HC12 Family**

Product	Part Number	Evaluation Board	BDM Multilink Cable	Software	Programming	Additional Information
68HC812A4	M68HC12A4EVB	•		•		Evaluation board for HC812A4
68HC912B32	M68EVB912B32	•		•		Evaluation board for HC912B32
68HC912D60A	M68KIT912D60A	•	•	•	•	Kit includes M68EVB912D60A and BDM Multilink
	M68EVB912D60A	•		•		Serial cable to connect to HC12 BDM debug connector
68HC912DG128A	M68KIT912DG128A	•	•	•	•	Kit includes M68EVB912DG128A and BDM Multilink
	M68EVB912DG128A	•		•		Evaluation board for HC912DG128A
All HC12 Family	SCBDMPGMRS12		•	•	•	Serial programmer usable without host PC
	M68CYCLONEPRO		•	•	•	Universal standalone in-circuit debugger/programmer
	USBMULTILINK12		•	•	•	USB in-circuit debugger/programmer

**HCS12 Family**

Product	Part Number	Evaluation Board	BDM Multilink Cable	Software	Demo Board	Programming	Additional Information
9S12DP256	M68EVB912DP256	•		•			Evaluation board for 9S12Dx256/128
9S12DT256/128	M68KIT912DP256	•	•	•		•	Kit includes M68EVB912DP256 and BDM Multilink
9S12DJ256/128	CWDEVSYS12DP256	•	•	•			Includes full compiler and EVB in handsome suitcase
9S12DG256/128	SCBDMPGRS12					•	Serial programmer usable without host PC
All HCS12 Family	M68CYCLONEPRO		•	•		•	Universal standalone in-circuit debugger/programmer
	SCBDMPGRS12					•	Serial programmer usable without host PC
	USBMULTILINK12		•	•		•	USB in-circuit debugger/programmer
9S12E128	M68KIT912E128	•		•		•	Evaluation Board for 9S12E128
9S12E64							
9S12C32	M68EVB912C32	•		•			Evaluation Board for 9S12C32
	M68MOD912C32			•	•	•	9S12C32 Module board in the form of a 32-pin DIP package
	M68DKIT912C32			•	•	•	Includes the M68MOD912C32 and Module docking board
9S12NE64	EVB9S12NE64	•		•		•	Evaluation Board for the 9S12NE64
	DEMO9S12NE64			•	•	•	Demo Board in clear plastic case for the 9S12NE64

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

HARDWARE TOOLS (continued)

68HC16 and 68300 MEVB Families

Product	Platform	Package	Microcontroller Personality Board	BDM Cable (Note)	Software
68HC916X1	M68MPFB1632	120-pin PQFP (FH)	M68MPB916X1C	M68ICD16 or M68SDIL	Included M68SDBG16AB
68HC16Y1	M68MPFB1632	160-pin PQFP (FT)	M68MPB16Y1B	M68ICD16 or M68SDIL	Included M68SDBG16AB
68HC16Z1	M68MPFB1632	132-pin PQFP (FC)	M68MPB16Z1B	M68ICD16 or M68SDIL	Included M68SDBG16AB
68331	M68MPFB1632	132-pin PQFP (FC)	M68MPB331B	M68ICD32 or M68SDIL	Included M68SDBG32AB
68332A	M68MPFB1632	132-pin PQFP (FC)	M68MPB332AB	M68ICD32 or M68SDIL	Included M68SDBG32AB
68332G	M68MPFB1632	132-pin PQFP (FC)	M68MPB332GB	M68ICD32 or M68SDIL	Included M68SDBG32AB
68336	M68MPFB1632	160-pin PQFP (FT)	M68MPB336GB	M68ICD32 or M68SDIL	Included M68SDBG32AB
68376	M68MPFB1632	160-pin PQFP (FT)	M68MPB376GB	M68ICD32 or M68SDIL	Included M68SDBG32AB

Note:

ICD = Parallel cable to connect to the HC16 or 6833X BDM debut connector

SDI = Serial cable to connect to the HC16 or 6833X BDM connector

### M68300 Business Card Computer

Product	Platform	BCC
68331	M68300PFB	M68BCC331
68332A	M68300PFB	M68BCC332A
68332G	M68300PFB	M68BCC332G

### MCORE Family

Product Supported	Description	Part Number	Serial Cable	CD ROM	User Manuals	Power Supply	Silicon Samples
MMC2107	Low-cost evaluation board	MMCEVB2107	•	•	•	•	•
	Mid-range evaluation board	MMCMB2107	•	•	•	•	•
	Mid-range evaluation board plus platform board	KITEVSMMC2107	•	•	•	•	•
	Serial debugger interface to 6833X BDM or MCORE OnCE debug connector	MMC14EBDI02	•		•	•	
MMC2114	Low-cost evaluation board	MMCEVB2114	•	•	•	•	•
	Serial debugger interface to 6833X BDM or MCORE OnCE debug connector	MMCCMB2114	•	•	•	•	•
		MMC14EBDI02	•		•	•	

**MICROCONTROLLERS (continued)**

**THIRD PARTY TOOLS (continued)**

**32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCORE, and ColdFire**

Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
<b>Assemblers</b>						
Avocet Systems, Inc.	•	•				www.avocetsystems.com
Green Hills Software	•	•	•	•	•	www.ghs.com
P&E Microcomputer Systems		•			•	www.pemicro.com
Metrowerks		•	•	•	•	www.metrowerks.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
<b>BDM Support Tools</b>						
Cosmic Software		•				www.cosmic-software.com
Wind River Systems		•	•	•	•	www.wrs.com
Hitex Development Tools		•				www.hitex.com
Agilent Technologies, Inc.		•	•	•		www.agilent.com
iSystem		•	•	•		www.isystem.com
Lauterbach		•	•	•	•	www.lauterbach.com
Macraigor Systems LLC		•	•			www.macraigor.com
Metrowerks				•	•	www.metrowerks.com
P&E Microcomputers Systems		•			•	www.pemicro.com
TASKING		•				www.tasking.com
Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
<b>Code Coverage Tools</b>						
Ashling Microsystems			•			www.ashling.com
Cosmic Software		•				www.cosmic-software.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
Hitex Development Tools		•				www.hitex.com
iSystem		•	•			www.isystem.com
TASKING		•		•		www.tasking.com
Company	68xxx	68300	MPC500	MCORE	ColdFire	Web Address
<b>Compilers</b>						
Accelerated Technology, Inc.		•	•		•	www.acceleratedtechnology.com
Byte Craft Limited				•		www.bytecraft.com
TASKING		•		•		www.tasking.com
Cosmic Software		•				www.cosmic-software.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
P&E Microcomputers Systems		•			•	www.pemicro.com
GNU	•				•	www.gnu.com
Metrowerks		•	•	•	•	www.metrowerks.com

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

THIRD PARTY TOOLS (continued)

32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire (continued)

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Debuggers</b>						
Ashling Microsystems		•	•			www.ashling.com
Accelerated Technology, Inc.		•	•	•	•	www.acceleratedtechnology.com
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
iSystem		•	•	•		www.isystem.com
Lauterbach	•	•	•	•	•	www.lauterbach.com
P&E Microcomputers Systems		•			•	www.pemicro.com
Metrowerks		•	•	•	•	www.metrowerks.com

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Evaluation Boards</b>						
Axiom Manufacturing			•	•		www.axman.com
Arrow		•	•	•	•	www.arrow.com
Avnet		•	•	•	•	www.avnet.com
Future		•	•	•	•	www.future.com
Matrix Design, Inc.					•	www.cadreiii.com
Metrowerks		•	•	•	•	www.metrowerks.com

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Logic Analyzers</b>						
Agilent Technologies, Inc.		•	•	•		www.agilent.com
iSystem		•				www.isystem.com
Tektronix		•	•	•		www.tek.com/measurement/logic_analyzers

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>In-Circuit Emulators or Hardware Debug Interface</b>						
Ashling Microsystems		•	•			www.ashling.com
Wind River Systems		•	•		•	www.wrs.com
Hitex Development Tools		•				www.hitex.com
iSystem		•	•			www.isystem.com
Lauterbach		•	•			www.lauterbach.com
Microtek International, Inc.		•			•	www.microtek.com.tw/mice



*MICROCONTROLLERS (continued)*

*THIRD PARTY TOOLS (continued)*

**32-Bit Third Party Tools 68xxx, 683xx, MPC500, MCore, and ColdFire (continued)**

Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Performance Analysis Tools</b>						
Wind River Systems	•	•	•	•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
iSystem		•	•			www.isystem.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Real-Time Operating Systems</b>						
Accelerated Technology, Inc.	•	•	•	•	•	www.atinucleus.com
Lineo		•	•	•	•	www.rtxc.com
ETAS		•	•			www.etasinc.com
Green Hills Software	•	•	•	•	•	www.ghs.com
Precise Software	•	•	•	•	•	www.psti.com
Snap Gear					•	www.snapgear.com
TASKING		•				www.tasking.com
U S Software		•	•		•	www.ussw.com
Wind River Systems	•				•	www.wrs.com
ENE A			•			www.ose.com
Metrowerks			•			www.metrowerks.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Simulation Tools</b>						
Wind River Systems	•	•		•	•	www.wrs.com
Green Hills Software	•	•	•	•	•	www.ghs.com
TASKING		•		•		www.tasking.com
Company	68xxx	68300	MPC500	MCore	ColdFire	Web Address
<b>Initialization Tools</b>						
MicroAPL			•			www.microapl.com.uk

## MICROCONTROLLERS

MICROCONTROLLERS (continued)

THIRD PARTY TOOLS (continued)

### Microcontroller Third Party Development Tool Partners

Company Name	HC05	HC08	HC11	HC12	HC16	World Wide Web URL	Email Address
<b>Adapters</b>							
Adapters.com	•	•	•	•	•	www.adapters.com	sales@adapters.com
Logical Systems Corporation		•	•			www.logicals.com	info@logicals.com
<b>Assemblers</b>							
Avocet Systems, Inc.	•	•	•	•	•	www.avocetsystems.com	sales@avocetsystems.com
Engineers Collaborative, Inc., The (TECI)	•		•			www.tec-l.com	sales@tec-l.com
IAR Systems	•		•	•	•	www.iar.se	info@iar.se
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com
P&E Microcomputer Systems	•	•	•	•	•	www.pemicro.com	pemicro@pemicro.com
Virtual Micro Design	•	•	•			www.vmdesign.com	info@vmdesign.com
<b>BDM Support Tools</b>							
Archimedes Software, Inc.					•	www.archimedessoftware.com	customer-service@archimedesinc.com
Avocet Systems, Inc.				•		www.avocetsystems.com	sales@avocetsystems.com
Axiom Mfg.				•		www.axman.com	Gary@axman.com
Cosmic Software, Inc.				•	•	www.cosmic-software.com	info@cosmic-us.com
Hitex Development Tools				•		www.hitex.com	info@hitex.com
IAR Systems				•		www.iar.se	info@iar.se
iSYSTEM				•	•	www.isystem.com	emulators@isystem.com
Kevin W Ross				•		www.kevinro.com	www.kevinro@nwlink.com
Lauterbach, Inc.				•	•	www.lauterbach.com	info@lauterbach.com
Metrowerks				•	•	www.metrowerks.com	info@metrowerks.com
Nohau Corporation				•	•	www.nohau.com	sales@nohau.com
Noral Micrologics, Inc.				•		www.noral.com/pages/bdmhc12.htm	www.noral.com/pages/moreinfo.htm
P&E Microcomputer Systems				•	•	www.pemicro.com	pemicro@pemicro.com
Sid Price's Software Tools				•		www.softtools.com/tools	sales@softtools.com
<b>Code Coverage Tools</b>							
Ashling Microsystems, Ltd.	•	•	•	•		www.ashling.com	www.ashling.com/motocontact.html
Cosmic Software, Inc.	•	•	•	•	•	www.cosmic-software.com	info@cosmic-us.com
Hitex Development Tools	•	•	•	•		www.hitex.com	info@hitex.com
iSYSTEM	•	•	•		•	www.isystem.com	emulators@isystem.com
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com

## Microcontroller Third Party Development Tool Partners (continued)

Company Name	HC05	HC08	HC11	HC12	HC16	World Wide Web URL	Email Address
<b>Compilers</b>							
Archimedes Software, Inc.	•	•	•	•	•	www.archimedessoftware.com	customer-service@archimedesinc.com
Avocet Systems, Inc.			•		•	www.avocetsystems.com	sales@avocetsystems.com
Byte Craft Limited	•	•				www.bytecraft.com/c6805.html	info@bytecraft.com
Cosmic Software, Inc.	•	•	•	•	•	www.cosmic-software.com	info@cosmic-us.com
IAR Systems			•	•	•	www.iar.se	info@iar.se
ImageCraft Creations, Inc.		•	•	•	•	www.imagecraft.com/software	info@imagecraft.com
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com
<b>Debuggers</b>							
Ashling Microsystems, Ltd.	•	•	•	•	•	www.ashling.com/advice	www.ashling.com/advice/motocontact.html
Avocet Systems, Inc.	•		•	•	•	www.avocetsystems.com	sales@avocetsystems.com
Cosmic Software, Inc.	•	•	•	•	•	www.cosmic-software.com	info@cosmic-us.com
IAR Systems			•	•	•	www.iar.se	info@iar.se
iSYSTEM	•	•	•	•	•	www.isystem.com	emulators@isystem.com
Lauterbach, Inc.	•	•	•	•	•	www.lauterbach.com	info@lauterbach.com
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com
Nohau Corporation				•		www.nohau.com	sales@nohau.com
Noral Micrologics, Inc.				•		www.noral.com/pages/bdmhc12.htm	www.noral.com/pages/moreinfo.htm
P&E Microcomputer Systems	•		•	•	•	www.pemicro.com	pemicro@pemicro.com
Sid Price's Software Tools	•		•	•		www.softtools.com/tools	sales@softtools.com
Virtual Micro Design	•	•	•			www.vmdesign.com	info@vmdesign.com
<b>Evaluation Boards</b>							
Avnet Design Services		•				www.ads.avnet.com/evalkits.html	ads@avnet.com
Axiom Manufacturing		•	•	•		www.axman.com	Gary@axman.com
emWare		•				www.emware.com	sales@emware.com
Engineers Collaborative, Inc., The (TECI)	•		•			www.tec-l.com	sales@tec-l.com
Kevin W Ross		•	•			www.kevinro.com	www.kevinro@nwlinc.com
MCT Paul & Scherer GmbH			•			www.mct.net	sales@mct.de
Mekatronix, Inc.			•			www.mekatronix.com	customer@mekatronix.com
Noral Micrologics				•		www.noral.com/pages/bdmcfire.htm	www.noral.com/pages/moreinfo.htm
Oztechnics P/L	•	•				www.oztechnics.com.au	info@oztechnics.com.au
P&E Microcomputer Systems					•	www.pemicro.com	pemicro@pemicro.com
SofTec Microsystems		•		•		www.softecmicro.com	info@softecmicro.com

# MICROCONTROLLERS

## Microcontroller Third Party Development Tool Partners (continued)

Company Name	HC05	HC08	HC11	HC12	HC16	World Wide Web URL	Email Address
<b>Fuzzy and Neuro Tools</b>							
Aptronix, Inc.	•	•	•		•	www.aptronix.com/fide	sales@aptronix.com
Inform Software Corporation	•	•	•	•	•	www.fuzzytech.com	hotline@inform-ac.com
<b>Code Generation Tools</b>							
Aisys, Inc.	•	•				www.aisysinc.com	info@aisysinc.com
ETAS, Inc.				•		www.etasinc.com	sales@etasinc.com
<b>In-Circuit Emulators (ICE)</b>							
Ashling Microsystems, Ltd.	•	•	•	•	•	www.ashling.com/advice	www.ashling.com/advice/motocontact.html
Avocet Systems, Inc.			•		•	www.avocetsystems.com	sales@avocetsystems.com
Engineers Collaborative Inc.,The (TECI)	•		•			www.tec-l.com	sales@tec-l.com
Hitex Development Tools	•	•	•	•		www.hitex.com	info@hitex.com
iSYSTEM	•	•	•	•		www.isystem.com	emulators@isystem.com
Lauterbach, Inc.	•	•	•	•	•	www.lauterbach.com	info@lauterbach.com
Microtek International, Inc.						www.microtek.com.tw/mice	mice@smtp.microtek.com.tw
Nohau Corporation			•		•	www.nohau.com	sales@nohau.com
Noral Micrologics, Inc.				•		www.noral.com/pages/bdmcfire.htm	www.noral.com/pages/moreinfo.htm
<b>Performance Analysis Tools</b>							
Ashling Microsystems, Ltd.	•	•	•	•		www.ashling.com	www.ashling.com/motocontact.html
Avocet Systems, Inc.			•		•	www.avocetsystems.com	sales@avocetsystems.com
Hitex Development Tools	•	•	•	•		www.hitex.com	info@hitex.com
iSYSTEM	•	•	•		•	www.isystem.com	emulators@isystem.com
Virtual Micro Design	•	•	•			www.vmdesign.com	info@vmdesign.com
<b>Programmers</b>							
BP Microsystems, Inc.	•	•	•	•	•	www.bpmicro.com	info@bpmicro.com
Data I/O Corp.	•	•	•		•	www.dataio.com	webmaster@dataio.com
Engineers Collaborative, Inc.,The (TECI)	•		•			www.tec-l.com	sales@tec-l.com
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com
Noral Micrologics, Inc.				•		www.noral.com/pages/bdmhc12.htm	www.noral.com/pages/moreinfo.htm
P&E Microcomputer Systems				•	•	www.pemicro.com	pemicro@pemicro.com
Phyton, Inc.	•			•		www.phyton.com	info@phyton.com

### Microcontroller Third Party Development Tool Partners (continued)

Company Name	HC05	HC08	HC11	HC12	HC16	World Wide Web URL	Email Address
<b>Real-Time Operating Systems (RTOS)</b>							
Accelerated Technology, Inc.			•		•	www.atinucleus.com	info@atinucleus.com
Avocet Systems, Inc.	•	•	•	•	•	www.avocetsystems.com	sales@avocetsystems.com
CMX Systems, Inc.	•	•	•	•	•	www.cmx.com	cmx@cmx.com
ETAS Inc.				•		www.etasinc.com	sales@etasinc.com
Metrowerks					•	www.metrowerks.com	info@metrowerks.com
<b>Simulation Tools</b>							
Cosmic Software, Inc.	•	•	•	•	•	www.cosmic-software.com	info@cosmic-us.com
Metrowerks	•	•	•	•	•	www.metrowerks.com	info@metrowerks.com
Oztechnics P/L	•		•			www.oztechnics.com.au	info@oztechnics.com.au
P&E Microcomputer Systems	•	•	•	•	•	www.pemicro.com	pemicro@pemicro.com
TASKING						www.tasking.com	sales@tasking-us.com
Virtual Micro Design	•	•	•			www.vmdesign.com	info@vmdesign.com

## NETWORK AND COMMUNICATIONS PROCESSORS

### NETWORK AND COMMUNICATIONS PROCESSORS SOFTWARE TOOLS

#### PowerPC ISA — Metrowerks

Product	Description	Target Support	RTOS Support	Board Support	Host-Target Interface	Host Platforms	Language Support	Compiler Output Formats
CWEPPC	CodeWarrior for PowerPC ISA	MPC505, MPC509, MPC555, MPC56x, MPC821, MPC823, MPC850, MPC86x, MPC8240, MPC826x, PPC603, PPC603ei, MPC7400	QNX Neutrino; RTX from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	MetroTRK, CodeTAP, PowerTAP, WireTAP Run Control Interface (JTAG and BDM (8xx only)), Macraigor Systems COP Raven (for MPC82xx and PPC6xx), Macraigor Systems BDM Raven (for MPC8xx, MPC5xx), Abatron BDI 2000 (5xx, 8xx)	Windows 98/2000/NT/XP	C/C++, EC++, and PowerPC ISA, Assembly	ELF/DWARF 1.0; Freescale Semiconductor S-Record

### HARDWARE TOOLS

#### Metrowerks

Product	Description	Target Board	Power Supply	Schematic	User Manual	Documentation	Interface Board
MPC823FADS	MPC823 FADS Board	•	•	•	•	•	
MPC850SRFADS	MPC850 FADS Board	•	•	•	•	•	
MPC8260ADS-PQ2	MPC8260 ADS Board	•	•	•	•	•	
MPC860FADS	MPC860 FADS Board	•	•	•	•	•	
MPC860TFADS	MPC860 TFADS Board	•	•	•	•	•	

**NETWORK AND COMMUNICATIONS PROCESSORS (continued)**  
**SOFTWARE AND DEVELOPMENT TOOLS**  
**C-PORT NETWORK PROCESSOR FAMILY DEVELOPMENT ENVIRONMENT**  
**C-Ware Software Toolset (CST)**

Part Number	Description	Additional Information
CSCC500	C-Ware Software Toolset annual support contract. Provides email and phone support, as well as online updates of the CST for a period of one year from date of purchase.	Note: The CST can be downloaded from the C-Port Family support site at <a href="http://motorola.cportcorp.com/support">motorola.cportcorp.com/support</a> .
CSTC501W	C-Ware Software Toolset, web site download of <i>current</i> CST release. (For example, Windows or UNIX)	
CSTC501C	C-Ware Software Toolset, CD-ROM of <i>current</i> CST release for Microsoft Windows	
CSTC501D	C-Ware Software Toolset, CD-ROM of <i>current</i> CST release for Sun Solaris UNIX	
CSTC501X <sup>(Note)</sup>	C-Ware Software Toolset for C-Port Network Processor family, custom order (purchase order description should specify CST release number, web download or CD-ROM, and intended operating system. (For example, Microsoft Windows or Sun Solaris UNIX.)	

Note: Use this order number only if you want an archived CST release.

**C-Ware Development System (CDS)**

Part Number	Description	Status
<b>Base System</b>		
CDEV101A	CDS Base Unit (Chassis, Power Supply, Single Board Computer)	Available
CDEV501A	CDS Power Supply (additional or spare)	Available
<b>Network Processing Modules</b>		
CDEV201200A	C-5 Switch Module (C-5 NP v. D0 silicon, 200 MHz max operating frequency)	Discontinued
CDEV221200A	C-5 Switch Module (C-5 NP v. D0 silicon, external classifier support, 200 MHz max operating frequency)	Available
<b>Physical Interface Modules (PIMs)</b>		
CDEV301A	10/100Ethernet PIM (16 10BASE-T/100BASE-T Ethernet ports)	Available
CDEV302A	Gigabit Ethernet PIM (2 ports of Gigabit Ethernet with 1000BASE-SX GBICs)	Available
CDEV304A	OC-12 PIM (4 OC-12 ports with SC optical connectors)	Available
CDEV305A	Combo 1 – Ethernet x OC-3 PIM (4 ports 10BASE-T/100BASE-T, 1 port Gigabit Ethernet with 1000BASE-SX GBIC, 4 ports OC-3 with MT-RJ connectors)	Available
CDEV306A	Combo 2 – Ethernet x OC-3 x OC-12 PIM (1 port Gigabit Ethernet with 1000BASE-SX GBIC, 4 ports OC-3 with MT-RJ connectors, 1 port OC-12 with SC optical connector)	Available

Note: Hardware Reference Designs for Switch Modules and PIMs are available on the C-Port Family support site at [motorola.cportcorp.com/support](http://motorola.cportcorp.com/support).

## NETWORK AND COMMUNICATIONS PROCESSORS

NETWORK AND COMMUNICATIONS PROCESSORS (continued)

SOFTWARE AND DEVELOPMENT SYSTEMS (continued)

### MPC8xx and MPC82xx — Metrowerks

Product	Description	RTOS Support	Flex Cable	Serial Cable	Integrated Development Environment	CD ROM	User Manuals	Power Supply	Host Platforms	In-Circuit Simulator/ Programmer (Board)
CWDEVSYS823FADS	MPC823 Development System	QNX Neutrino; RTXC from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	•	4.2.1	•	•	•	Windows 95/98/2000/NT	n/a
CWDEVSYS850FADS	MPC850 Development System	QNX Neutrino; RTXC from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	•	4.2.1	•	•	•	Windows 95/98/2000/NT	n/a
CWDEVSYS860FADS	MPC860 Development System	QNX Neutrino; RTXC from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	•	4.2.1	•	•	•	Windows 95/98/2000/NT	n/a
CWDEVSYS860TFADS	MPC860T Development System	QNX Neutrino; RTXC from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	•	4.2.1	•	•	•	Windows 95/98/2000/NT	n/a
CWDEVSYS8260AMC	MPC8260 Development System	QNX Neutrino; RTXC from Lineo; Embedix SDK from Lineo, Precise MQX, ATI Nucleus	n/a	•	4.2.1	•	•	•	Windows 95/98/2000/NT	n/a

## CABLES AND HOST-TARGET INTERFACES

### Metrowerks

Product	Description	Target Support	Connection Device	Power Supply
CWWIRETAPBDM	WireTAP Run Control Interface (BDM)	•	•	•
CWWIRETAPJTAG	WireTAP Run Control Interface (MPC6xx, 7xx, 82xx, 74xx)	•	•	•
CWPOWERAPJTAG	PowerTAP Pro for JTAG, Hardware Only	•	•	•
CWPTAPPROJCWW	PowerTAP Pro for JTAG with CodeWarrior for Windows	•	•	•
CWPTAPPROJMW	PowerTAP Pro for JTAG with MWX-ICE Windows	•	•	•
CWPTAPPROJMS	PowerTAP Pro for JTAG with MWX-ICE Solaris	•	•	•
CWPOWERAPDPI	PowerTAP Pro for DPI, Hardware Only	•	•	•
CWPTAPPRODCWW	PowerTAP Pro for DPI, with CodeWarrior for Windows	•	•	•
CWPTAPPRODMW	PowerTAP Pro for DPI with MWX-ICE Windows	•	•	•
CWPTAPPRODMS	PowerTAP Pro for DPI with MWX-ICE Solaris	•	•	•



**NETWORK AND COMMUNICATIONS PROCESSORS (continued)**  
**SOFTWARE AND DEVELOPMENT SYSTEMS (continued)**

**Third Party Tools**

Third Party Vendor	Website	Families Supported	Embedded Operating Systems	Compilers and Code Generation Tools	Software Debuggers	Coverification Tools and Simulation Models	Emulators and Diagnostic Tools	Logic Analyzers	Boards and Systems	Support Chips	Drivers/ Protocol Stacks
Abatron	www.abatron.ch	MPC8xx, MPC82xx, G2, G3, G4					•				
Accelerated Technology	www.acceleratedtechnology.com	MPC8xx, MPC82xx, G2, G3	•		•						
Agilent Technologies	www.agilent.com	MPC8xx, MPC82xx, G2, G3, G4					•	•			
Aisys	www.aisysinc.com	MPC8xx, MPC82xx, G2		•							•
Apogee Software	www.apogee.com	G2, G3, G4		•							
Artis Microsystems	www.artismicro.com	G2, G4							•		
CMX Systems	www.cmx.com	MPC8xx, MPC82xx, G2, G3, G4	•		•						
Cogent Computer Systems	www.cogcomp.com	MPC82xx, G2, G3							•		
Corelis	www.corelis.com	G2, G3, G4			•		•				
Data Connection	www.dataconnection.com	MPC8xx, MPC82xx									•
DY 4 Systems	www.dy4.com	G2, G3, G4							•		
Embedded Planet	www.embeddedplanet.com	MPC8xx, MPC82xx							•		
EmuTec	www.emutec.com	MPC8xx, MPC82xx, G2					•				
Express Logic	www.expresslogic.com	MPC8xx, MPC82xx, G2, G3	•								
Force Computers	www.forcecomputers.com	MPC8xx, MPC82xx, G3, G4							•		
GDA Technologies	www.gdatech.com	MPC8xx, MPC82xx, G4							•		
Green Hills Software	www.ghs.com	MPC8xx, MPC82xx, G2, G3, G4	•	•	•		•				
Hughes Network Systems	www.hns.com	MPC8xx									•
International Test Technologies	www.intertesttech.com	G2, G3					•				
Jungo	www.jungo.com	MC8xx									•
Kadak	www.kadak.com	MPC8xx, MPC82xx, G2, G3, G4	•		•						
Lauterbach	www.lauterbach.com	MPC8xx, MPC82xx, G2, G3			•		•				
LinuxWorks	www.linuxworks.com	MPC8xx, MPC82xx, G2, G3, G4	•	•	•						
MAI Logic	www.mai.com	G2, G3, G4							•	•	
Macraigor Systems	www.macraigor.com	MPC8xx, MPC82xx, G2, G3, G4			•		•				
Marvell Technology	www.marvell.com	G2, G3, G4							•	•	
Mentor Graphics	www.mentor.com	MPC8xx, MPC82xx, G2, G3	•	•	•	•					
MetaWare	www.metaware.com	MPC8xx, MPC82xx, G2, G3, G4		•	•						

## NETWORK AND COMMUNICATIONS PROCESSORS

### Third Party Tools (continued)

Third Party Vendor	Website	Families Supported	Embedded Operating Systems	Compilers and Code Generation Tools	Software Debuggers	Coverification Tools and Simulation Models	Emulators and Diagnostic Tools	Logic Analyzers	Boards and Systems	Support Chips	Drivers/ Protocol Stacks
Metrowerks	www.metrowerks.com	MPC8xx, MPC82xx, G2, G3, G4		•	•				•		
MicroAPL	www.microapl.co.uk	G2, G3, G4		•							
Micro Digital	www.smxinfo.com	MPC8xx, MPC82xx, G2, G3	•		•						
MicroWare	www.microware.com	MPC8xx, MPC82xx, G2, G3	•	•	•						
MontaVista Software	www.mvista.com	MPC8xx, MPC82xx, G2, G3, G4	•		•						
Motorola Computer Group	www.motorola.com/computers	G2, G3, G4							•		
Freescale Semiconductor	www.freescale.com	MPC8xx, MPC82xx, G2, G3, G4				•			•	•	
MPI Software	www.mpi-softtech.com	G3, G4		•							
Netplane	www.netplane.com	MPC8xx									•
OnCore Systems	www.oncoresystems.com	MPC82xx, G2, G3	•		•						
OSE Systems	www.ose.com	MPC8xx, MPC82xx, G2, G3, G4	•		•						
Pacific-Sierra Research	www.psrv.com	G4		•							
PLX Technology	www.plxtech.com	MPC8xx, G2, G3, G4							•	•	
Precise Software Technologies	www.psti.com	MPC8xx, MPC82xx, G2, G3, G4	•		•						
PrimeLayer	www.primelayer.com	MPC8xx, MPC82xx									•
QNX Software Systems	www.qnx.com	MPC8xx, MPC82xx, G2, G3, G4	•	•	•						
Radstone Technology	www.radstone.com	G2, G3, G4							•		
Red Hat	www.redhat.com	MPC8xx, MPC82xx, G2, G3, G4	•	•	•						
Simpod	www.simpod.com	MPC8xx, MPC82xx, G2, G3, G4				•					
Sophia Systems	www.sophia.com	MPC8xx, MPC82xx, G2, G3			•		•				
Summit Design	www.summit-design.com	MPC8xx, MPC82xx, G2, G3, G4				•					
Sun	www.sun.com/chorusos	MPC8xx, MPC82xx, G2, G3, G4	•	•	•						
Synopsys	www.synopsys.com	MPC8xx, MPC82xx, G2, G3, G4				•					
TASKING	www.tasking.com	MPC8xx, MPC82xx, G2, G3		•	•						
Tektronix	www.tektronix.com	MPC8xx, MPC82xx, G2, G3, G4						•			
Tundra Semiconductor	www.tundra.com	MPC8xx, MPC82xx, G2, G3, G4							•	•	
US Software	www.ussw.com	MPC8xx, MPC82xx	•								•
Wasabi Systems	www.wasabisystems.com	G2, G3, G4	•	•	•						
Wind River Systems	www.windriver.com	MPC8xx, MPC82xx, G2, G3, G4	•	•	•		•		•		•

## NETWORK AND COMMUNICATIONS PROCESSORS

### SOFTWARE TOOLS

#### Network Processor Alliances

Alliance	Description	Additional Information
<b>SOFTWARE</b>		
Wind River Systems	Tornado for Managed Switches (TMS) 2.0 integration with the C-Port Family development environment. C-5 Switch Support Package (C-5 SSP) available from Wind River Systems.	<a href="http://www.windriver.com/products">www.windriver.com/products</a>
<b>COPROCESSORS</b>		
Corrent™	2Gbps+IPSec 7120 (Hurricane) security coprocessor interfacing with the C-Port C-5e NP, enabling fast path security solutions such as VPN.	<a href="http://www.corrent.com">www.corrent.com</a>
Cypress®	Network Database Search Engines (CYNSE70032) and Cypress coprocessor (CYNCP80192) connecting via SRAM ZBT to the C-Port C-5 NP, delivering higher levels of search performance and throughput for mission critical applications.	<a href="http://www.cypress.com/products">www.cypress.com/products</a>
PMC-Sierra™	PM2329 ClassiPI™ high performance, Layer 2–7, content processor interfacing with the C-Port C-5 NP, providing OC-48 rate classification. Software Development Kit available from PMC-Sierra.	<a href="http://www.pmcsierra.com/products/details/pm2329">www.pmcsierra.com/products/details/pm2329</a>
IDT	PAX.port™ 2500 classification processor interfacing with the C-Port C-5e NP, enabling multi-Gigabit processing (up to 2.5 Gbps).	<a href="http://www.idt.com">www.idt.com</a>
<b>FABRICS</b>		
IBM™	PowerPRS (Packet Routing Switch) Fabric connecting through a UDASL interface to the C-Port C-5 NP, plus new versions of IBM PowerPRS connecting through CSIX L1 to the C-Port C-5e NP.	<a href="http://www-306.ibm.com">www-306.ibm.com</a>
<b>DESIGN SERVICES AND SOLUTIONS</b>		
HCL	Expert design services for the C-Port Network Processor Family, including hardware design and embedded, networking and telecommunication software development.	<a href="http://www.hcltechnologies.com">www.hcltechnologies.com</a>
Motorola® Computer Group	System solutions based on the C-Port Network Processor Family, including networking line cards using C-Port C-5 NPs inside the Packet Transport Platform.	<a href="http://www.motorola.com/computers">www.motorola.com/computers</a>
Motorola India Electronics (MIEL)	Extensive experience in developing application software for the C-Port Network Processor Family and has developed key reference applications for the C-Ware Software Toolset (CST), such as aal2Switch, volpToVoAtmSwitch, switch Router, and ATM Traffic Management.	<a href="http://www.motorola.com/miel">www.motorola.com/miel</a>

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