

Internet and Networking Solutions for Motorola 68HC08 Microcontrollers

The Promise of Network-Ready Products

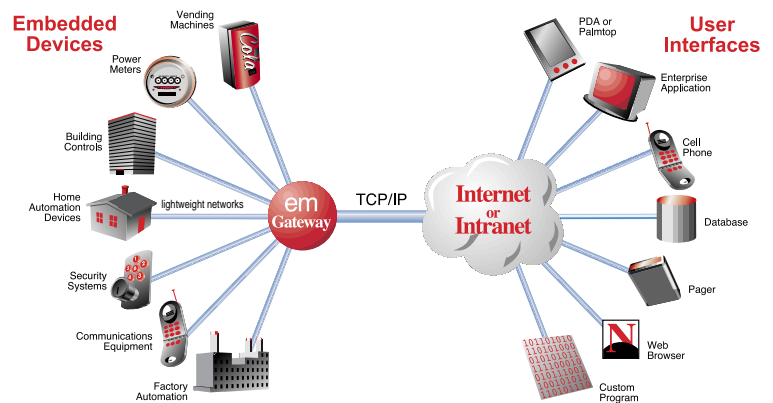
You don't have to look hard to find someone to evangelize the far-reaching impact of the Internet on our everyday lives. One thing is clear; the Internet is changing our expectations about immediate access to information and our desire to get to it from wherever we are. We also expect that the user interface will be intuitive, a graphical user interface that we can use without opening an instruction manual. Unfortunately, meeting these expectations was not practical for the millions of products that use small, inexpensive microcontrollers (MCUs). That is, not practical until now!



Motorola Introduces Network-Ready 8-bit Microcontrollers

By utilizing Motorola's 68HC08 family of 8-bit MCUs with FLASH memory combined with networking and communications software from emWare®, we've made networking your product a practical and low cost possibility. With FLASH memory MCUs you can offer features customized to different markets, matched to different price points, and flexible through remote reprogrammability. Embedded Micro Internetworking Technology™ (EMIT®) from emWare is the distributed device-networking software that provides the communication link between the microcontroller-based product and networks, including the Internet. EMIT includes a device object server, emMicro™, embedded on the microcontroller which provides the communications necessary to link the product to emGateway™ through many possible lightweight communications networks including RS232, RS485, RF, and IR. emGateway provides a bridge between lightweight device networks and large TCP/IP networks. It passes data and control between users and devices as well as other services for emMicro and User Interfaces.

The EMIT® Solution



Boxed and Ready Evaluation Kit Provides the Means to Get Connected

Now available for \$99 U.S. suggested list from emStore (www.emstore.com/motorola) is a fully equipped evaluation kit that allows you to experience first hand what easy to use networking can do for your products. Based around Motorola's 68HC908GP32 FLASH MCU, the **NET.08 Kit** contains a complete development environment for embedding network connectivity into your product including:

- EMIT 3.0 Evaluation Software with emMicro for Motorola's 68HC08 family
- Reference board for demonstration and development with an expansion interface for prototyping
- User interface and development tools from Cosmic, Symantec and emWare
- Pre-loaded demo applications
- Motorola's microcontroller documentation on a 2-CDROM set



NET.08

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EMIT Software Highlights

The EMIT CDROM contains a complete 60-day trial development environment for creating a device-networking platform using the Internet, Intranet, WAN, or LAN. Development tools and examples are included to create custom device control applications. Primary components include:

- **Visual Café®** from Symantec provides a simple Java programming environment for user interface components. EMIT-specific Visual Café extras and templates are included to allow developers to quickly and easily create customized EMIT user interfaces.
- **emMicro** is EMIT's embedded device object server. emMicro "C" source code is provided for the 68HC908. The hardware reference board has been programmed with a sample implementation of emMicro to demonstrate the software's functionality.
- **emGateway** serves as the host to the embedded device object server and provides network communication with the Internet and intranets for the embedded system. emGateway software is loaded onto a host PC or a single-board computer, providing communication access to and from connected emMicro-enabled devices. In turn, emGateway communicates the information to and from the user interface.
- **emObjects™** and Java class files interact with your Web browser to provide a superior user interface that communicates with an emMicro-enabled device. The emObjects used by Visual Café are Java Bean compliant components.
- The **EMIT Access Library** is a collection of software tools that allow development of custom control applications to access and control devices. The EMIT Access Library is used when a graphical Web browser-based interface is not appropriate, such as with large databases and automated processes.
- The **C Simulator** is a demonstration of emMicro on a virtual microcontroller. The virtual device communicates via a serial port that is "looped back" to a second serial port used by emGateway.
- **Cosmic Software Eval08** contains a full-featured, size restricted version of the Cosmic IDEA, Compiler and ZAP Simulator debugger products.
- **Tools, examples, utilities, and demos** are also included and documented to provide the necessary information and background for developers to use EMIT.

NET.08 Kit Contents

- EMIT 3.0 Software Development Kit (SDK), 60 day evaluation
- Netscape® 4.5 and Microsoft Internet Explorer® 5.0
- Standard emMicro port to 68HC08 in "C" source code
- emMicro hex file used in programming the 68HC08 device
- On-line general EMIT User's and Developer's manuals and user interface guide
- On-line NET.08 specific Developer's Guide and Reference Board Manuals
- Motorola Microcontroller Reference Manuals (CDROM)
- Reference board including Motorola 68HC908GP32 FLASH Microcontroller
- 9V battery with cable
- RS232 to RS232 device cable

System Requirements

- Microsoft Windows® 95 or Windows NT® 4.0 or later (32 MB RAM recommended)
- 20 MB HD space for full EMIT installation
- (Optional) 240 MB HD space for Visual Café®
- Available serial port (9-pin D-type or suitable adapter)
- Netscape® 4.05 or Internet Explorer® 4.0 or later
- TCP/IP installed
- Software compilers, assemblers, and other tools required to develop custom embedded applications

Ordering Information

Visit emStore at www.emstore.com/motorola to purchase NET.08 kit.

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