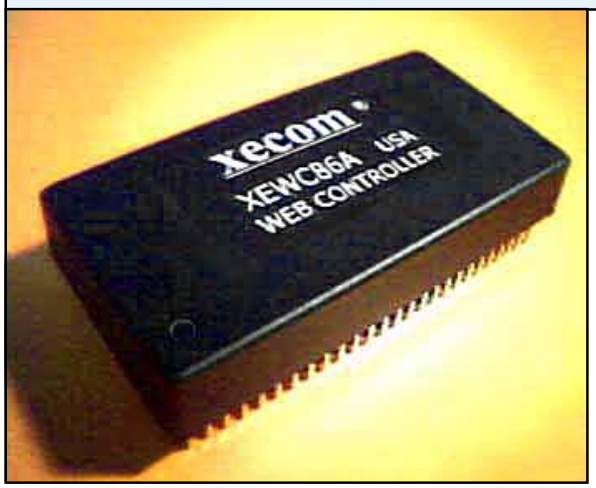
Embedded Web Controller



DESCRIPTION

Xecom's **XEWC86 Web Controller** is designed for embedded control applications which require remote monitoring, update, or control. The Web Controller combines an industry standard micro-controller with a integral web page server in one compact module. The **XEWC86** incorporates a standard 10Base-T interface so the web and network functions can be easily integrated into equipment without a separate, complex hardware and software development project.

In a typical application, the **XEWC86** will have a user developed control or monitoring task and a web server task running concurrently. The application task presents real time process and/or control information to the web server. The web server then responds to queries from a standard web browser such as Microsoft Internet Explorer or Netscape Navigator by creating dynamic web pages containing the variable process and control information in a format defined by the system designer.

A TCP/IP Protocol stack and network firmware are integrated into the module, providing a ready-to-play interface to an internal Ethernet network and, if desired, to the worldwide Internet. The **XEWC86** family is loaded with firmware like real time task management, dynamic web page hosting and user web page developing tools, to support user application development. Thus the **XEWC86** dramatically reduces the time and effort to add a web or network interface into an embedded application.

The **XEWC86** is based on a standard 186 family processor. System designers can use standard C or C++ development tools to quickly develop their control applications. Special monitor and debugging firmware are provided in the module to further speed development and shorten time-to-market

XEWC86/A family's miniature form factor reduces the board space required in a system to less than four square inches. The **XEWC86** family is available in two versions. **XEWC86A** has eight analog channel inputs and two analog output channels, both in 12-bit resolution. The **XEWC86** has only digital I/O lines and is suitable for a simple, lower cost design.

CONTROLLER FEATURES

* Fully integrated micro-controller in a single module
* AM186 Processor with real time clock on board
* 34 I/O function pins software selectable and configurable;
  - Two serial ports
  - Eight 12-bit analog inputs and two 12-bit analog outputs (XEWC86A)
  - Digital I/O, Timers
* 512KB Flash memory for user application code, web page layouts and control data;
* 512KB SRAM for run time code and data buffering
* Monitor firmware with real time kernel using serial port to support application development
* Development kit available with wire wrap area, supporting circuitry and network connectors

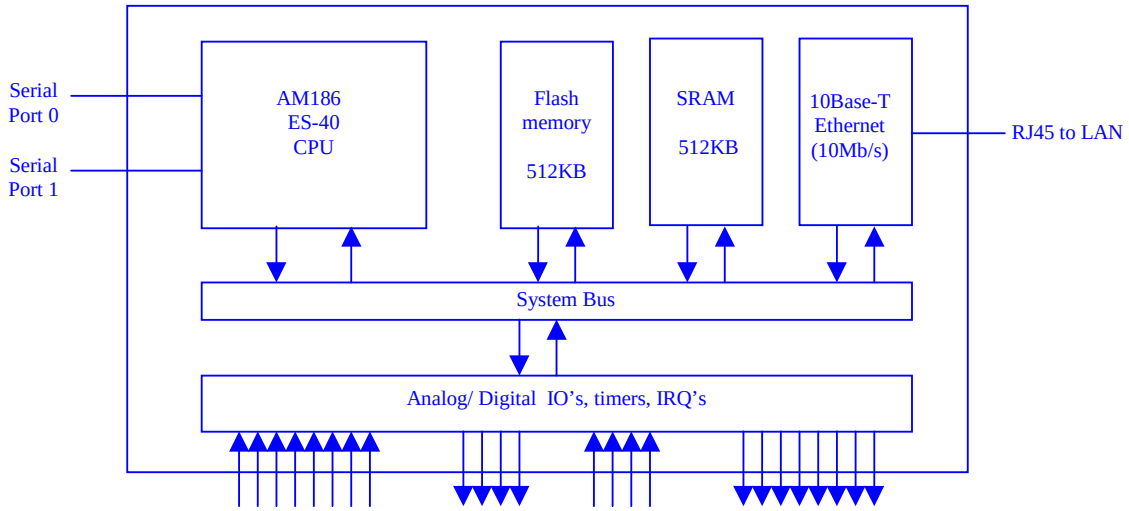
WEB SERVER FEATURES

* 10Base-T Ethernet MAC and PHY interface needs only RJ45 connector;
* TCP/IP stack and web server firmware included
* Compatible with all current browsers including Internet Explorer and Netscape Communicator
* Development tools, Internet utilities and example web pages library file provided

PACKAGING FEATURES

* Small size: 2.75"L x 1.38"W x 0.42"H
* Single component solution saves procurement, testing, inventory, assembly costs
* Sturdy, encapsulated construction seals circuits from harsh environment;
* Industrial temperature range available (-40C to +85C)

XEWC86 Functional Block Diagram



XEWC86 Feature Table

Feature	XEWC86	XEWC86A
CPU	AM186ES-40	AM186ES-40
FLASH	512 KBytes	512 KBytes
RAM	512 KBytes	512 KBytes
NETWORK I/F	10BASE-T	10BASE-T
PROGRAMMABLE I/O PINS	26 user programmable digital input, digital output, timer and Serial Port Pins	22 user programmable digital input, digital output, timer and Serial Port Pins
DIGITAL & ANALOG INPUTS	8 Dedicated Digital inputs	8 Analog Channels each with 12 bit resolution
ANALOG INPUTS	None	8 Channel, 12 bit resolution
ANALOG OUTPUTS	None	2 Channel, 12 bit resolution
REAL TIME CLOCK	N/A	Year/Month/Date Hour/Minute/Second External Battery Back-up Required