EMAC
The EMAC Newsletter
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Welcome to EMAC Email, a newsletter from EMAC, Inc., provider of single board computers, peripherals, and custom engineering to meet your embedded systems needs.

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Trade Show News

Embedded Systems Conference

For those who made it to our booth in the **Manufacturing Week – National Design Engineering Show** last month in Chicago, we enjoyed meeting you.

We at **EMAC** look forward to seeing you at the **Embedded Systems Conference** this month in San Francisco, April 9 –12. Visit EMAC at the Anna Technology Pavilion, **Booth # 2118**.
For FREE show passes log on to http://www.esconline.com/sf/freepass.htm.
The FREE show pass entitles you to:

- Three-Day Admission to the Product Exhibits
- Keynote Address by Douglas Adams, author of The Hitchhiker's Guide to the Galaxy
- Keynote Address by James Gosling and Greg Bollella of Sun Microsystems
- Panel Discussion on Object-Oriented Programming
- Exclusive Party at the Sony Metreon
- Show Floor Reception

Coming up: Look for **EMAC** and fellow Anna Technology Company, J.Gordon Electronic Design at the **Embedded Systems Conference** (**Booth # 232**) at Navy Pier in Chicago, July 10 –11.

Product Highlight

PPC-E5 Compact Panel PC

The PPC-E5 is an AMD 486 DX5 133Mhz based Compact Panel PC with 5.5" STN color LCD (QVGA 320x240 256 colors) and resistive touch screen. The PPC-E5 comes ready to run with your choice of either Win CE 3.0 or Linux Operating System installed on 16MB of DiskOnChip® solid state flash disk with 16MB of EDO memory. This can be expanded to 288MB of DiskOnChip® and 64MB of EDO memory, allowing extra headroom for large embedded applications.

Connect the PPC-E5 onto a network with the SMC 91C96 10Base-T Ethernet controller and the onboard RJ45 connector. Expand the capabilities of the PPC-E5 with the onboard PC/104 expansion bus connector. EMAC offers a wide variety of PC/104 modules such as our inexpensive, low power PCM-36E05 V.90 56K fax/modem module. In addition, the PPC-E5 comes standard with a keyboard/mouse connector, FDD interface, and two RS-232 serial ports one of which can be optionally replaced with an RS-422/485 port.

Apply power and watch either the Linux X-Windows or the Windows CE 3.0 User Interface appear on the vivid 5.5"color LCD. Interact with the PPC-E5 using the responsive integrated resistive touch screen. Everything works out of the box, allowing you to concentrate on your application, rather than building and configuring device drivers--just write it and run it. The compact PPC-E5 is a great fit for limited-space applications in process control or industrial automation environments. An optional bezel is also available.

For more information, please visit our web site:
PPC-E5 - http://www.emacinc.com/pc_compatible_sbcs_info/ppc_e5.htm

Newsletter Promotion

SIB Developers Kit

In an average networking environment, servers control the flow of information from one computer to many computers. Using our Server-in-a-Box, a user can both send commands to and retrieve data from devices that have only a serial port for communication (e.g. PBX phone equipment, data acquisition devices, PICs, etc.). This month, we are featuring the hardware and software necessary to program serial gateway applications. (For more information see Technical Forum below.)

$100 DISCOUNT - SIB Developer's Kit for the Standard or Deluxe SIB

Regularly priced at $260.00 USD, the SIB Developer's Kit includes our Gateway Serial Interface (GSI) software and our Remote Access Device (RAD). Using the GSI software, a user can access serial devices using a web browser and conventional HTML code. With the RAD hardware, users can program or field-test the SIB without a monitor or full keyboard. A 16-key keypad provides input while a 20x2 LCD provides output.
Server In A Box - http://www.emacinc.com/server_in_a_box.htm

Technical Forum

Gateway Serial Interface

The Gateway Serial Interface is a CGI program designed to receive arbitrary data from a browser anywhere on a network, and send that data to a particular communications port. The program will then wait for a reply for a specified time, and return any data received back to the browser by merging the device reply strings with a user-supplied HTML file.

The Gateway Serial Interface (GSI) option is a unique component of the EMACs Server-In-A-Box (SIB). The SIB with the GSI option is designed to act as a communications gateway between an arbitrary control device and any WWW browser with network access to the SIB. This allows the user to control any device with a serial or network interface via the World Wide Web or Local Area Network (LAN).

The SIB with GSI option provides control and monitor of simple serial devices (i.e. PIC processors) as well as complex systems over the Internet or a LAN. The GSI option is designed to receive "field/data" pairs from the SIB's HTTP (i.e. WWW) server via the HTTP POST method, match the "field" to an identifier in a configuration file, and send the "data" string out via the communications port associated with that identifier. Connection to these serial targets can take place through RS232, 422, 485 and Ethernet interfaces using SLIP and UDP/IP or TCP/IP protocols or no protocol at all.

Users can interact with a standard browser from anywhere in the world and communicate with even the simplest controllers in a graphic format. Using EMAC's ENET software, up to 255, RS485 based EMAC's MicroPac/EPAC Single Board Controllers can communicate to one SIB.

For more information on GSI and the SIB, please visit our web site:
Server In A Box - http://www.emacinc.com/server_in_a_box.htm

Engineering Success Story

SmartMedia

When Smartmedia (http://www.smartmediaonline.com) needed a company to develop a CE based Internet Radio they knew where to look, EMAC Inc. an AnnaTechnology company. EMAC was given the task of developing an inexpensive yet hi-fidelity Internet Radio running CE 3.0 with Direct X. EMAC employed the help of its sister company Annsoft to handle the Direct X portion of the project.

The Internet Radio differs from other streaming radio products in that it is designed to be a Stereo Component with RCA output jacks not a tabletop appliance. The unit is equipped with both 10/100 Base-T Ethernet and a 56K modem allowing it to receive streaming MP3 content from a network or phone line via the Internet. A small graphic LCD and keypad arrangement allows easy selection of audio content.

EMAC decided to use the new AMD SC520 processor in conjunction with on-board flash, SDRAM, and a high-end PCI Creative Labs sound chip in the construction of the unit. The AMD processor has the horsepower (66 MHz Front Side Bus), is highly integrated (SDRAM and PCI bus controllers) and does not require a heat sink. A separate co-processor was used to control the LCD and keypad.

If you wish to have a chance to see and hear the Internet Radio come see us at the AnnaTechnology booth (# 2118) at the Embedded Systems Conference in San Francisco from April 9 – 12.

Trends in Technology

Wireless-data Market

HELSINKI, Finland - In move to jumpstart the wireless-data market, a group of companies led by Nokia, Motorola, Ericsson, Siemens and others have banded together to endorse a next-generation delivery protocol for cellular phones and other devices.

The companies will support and develop products based the XHTML (Extensible Hyper Text Markup Language) markup language. XHTML is an evolution to the Wireless Application Protocol (WAP), a much-maligned software delivery system that failed in its promises to bring wireless-data services and content over a range of portable devices.

In addition to handset manufacturers, a number of mobile operators have also announced support for XHTML: Vodafone, Orange, Radiolinja, Sonera, DNA, Telenor, Netcom, T-Mobil, TIM, RadioMobil, and EuroTel Praha.

EMAC Extras

EMAC Specials

All the items on this page are either discontinued or must leave our inventory. However, these specials are NEW and have a full two-year warranty. As always these products have EMACs service and reliability to back them.

These items could serve as a prototype for a new product without the cost of newer more expensive boards. At the same time they could serve as an inexpensive alternative to the one time application or to the basement tinkering. So don't be the last to pick up these great specials as they are of limited quantities.

EMAC Specials – http://www.emacinc.com/emac_specials.htm

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