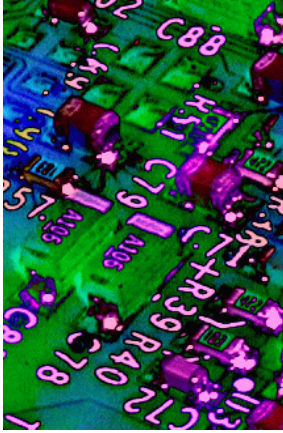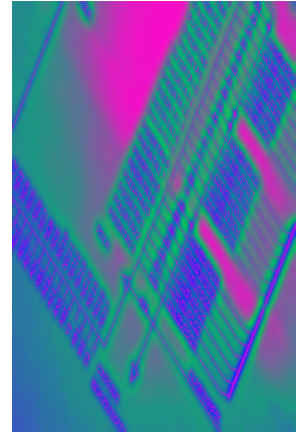# *Evergreen Design Inc.*

Providing electronic design and product development services to the OEM in the areas of:

Miniaturized AT-Compatible Embedded Computers
Low Power Battery Operated Equipment
Switching and Linear Power Supplies
PC Based Test Equipment
Automation Equipment
Control Systems
FPGA Design
Motor Control
Interface Circuitry
Data Acquistion Circuitry
Software - Assembly and High-Level
Enclosures - Plastic, Cast, Extrusion, Sheet Metal

Your internal development team is **already overwhelmed** with tasks...

But you positively must **get more accomplished..**.

You should consider **Evergreen Design Inc.** your off site development team.

By asking us to join your development team, we can perform any or all of the following for you:

- Project Management
- Design Specifications
- Electronic Circuit Design
- Mechanical Design
- Printed Circuit Board Design
- Prototype Development

- Software Programming
- Design Verification Testing
- Test Equipment Design
- Test Procedures
- Production Documentation
- Production Interface

Our turnkey solutions allow us to take your product concept every step of the way into production.

Our development team consists of a small network of engineers and designers. Some of the members of our staff have been making MINIATURIZED AT-COMPATIBLE COMPUTERS for over a DECADE. We are dedicated to providing our customers with quality designs for reliable products.

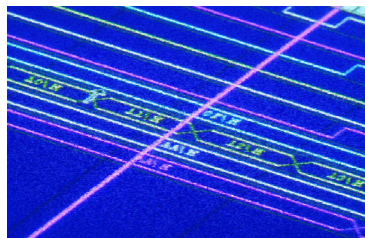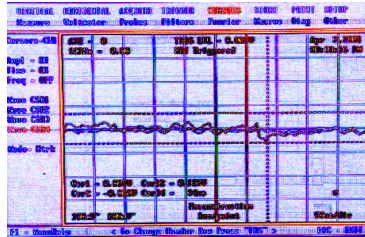**We invite you to explore our web site where you can:**
- Learn about our capabilities and about our company background.
- Learn about our **AuCPU**^TM line of rugged PCs and uCs from our **GOLD-MICRO**™ division.

Evergreen Design Inc. is a registered **Atmel AVR RISC Processor Consultant.**

Evergreen Design Inc. - 520 Stony Creek Boulevard - Edinburg, VA   22824 - www.evdes.com
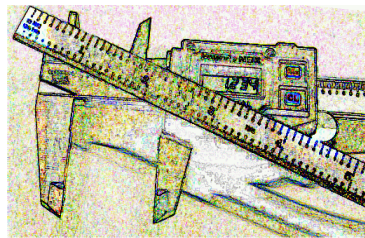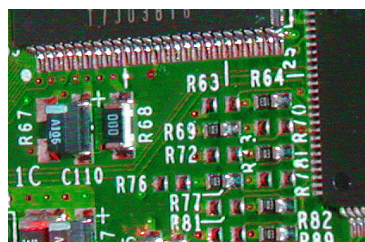Phone: (540) 984-4653 - Fax:: (540) 984-4652 - sales@evdes.com

In order to develop your product concept into a production ready reality, **Evergreen Design Inc.** can perform any of the following services:
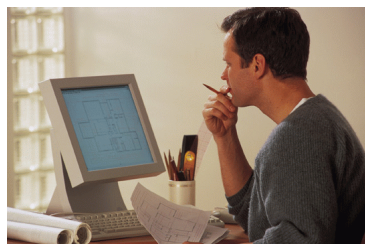
ELECTRONICS ENGINEERING DESIGN CAPABILITIES:

- Analog Circuitry
- Digital Circuitry
- uP, uC, DSP & FPGA-Based Circuitry(Atmel FPSLIC)
- Low Component / Low Cost Products
- PC-Based Automated Testers
- High Speed Bus Circuitry
- LCD Interface Circuitry
- Power Supplies - Switching and Linear
- Video A-D and D-A Conversion
- Analog A-D and D-A Conversion
- EMC/ESD Compliance
- EMI Compliance
- Low Power Consumption Circuitry

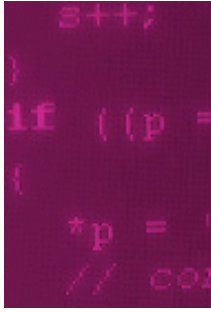## ELECTROMECHANICAL ENGINEERING DESIGN CAPABILITIES:

- SMT and Through-Hole PCB
- Advanced Interconnect
- Design For Manufacturability
- Liquid Crystal Displays (Custom)
- Enclosure Design
- Sheet Metal Part Design
- Cast Part Design
- Extruded/Extrusion Part Design
- Plastic Component Design
- Stamped Component Design
- Magnetics Solenoid/Relay
- Power Distribution Design
- Autorouting (High Speed Designs are Hand Routed)

GENERAL ENGINEERING CAPABILITIES:

- Program Management
- System Design
- Product Development Process
- Manufacturing Process
- Full Prototyping - Material Procurement & Assy. Mgmt.
- Full Compatibility & Design Verification Testing - In house & management of third party test labs.
- Full Production Documentation for Contract/Turnkey Mfg.
- FCC/VDE Test Process Engineering Support/Program Management using Third Party Test Laboratories.

SOFTWARE CAPABILITIES:

- MCUs (8/16/32 Bit MCU - **Atmel AVR** - **MicroChip PIC** & Various other manufacturers)
- DSP Assembly
- High-Level C/C++ Code
- Serial Communications
- Linux Integration

DEVELOPMENT FEES:

Evergreen Design Inc. provides both Time & Materials based rates or Fixed Bid rates on consulting and development projects. Under a Fixed Bid development project contract, the client will be charged a fee based upon NRE (Non-Recurring Engineering) payments and/or royalty payments. Typical Fixed Bid projects will be divided into multiple sections terminating in specific, measurable milestones. Each milestone will have it's own payment which will be due upon completion. Any direct costs for travel, prototypes and testing fees will be over and above the NRE fees.

Under a Time & Materials based development or consulting project the customer will be charged fees based upon the actual Time & Materials incurred during the performance of the assignment(s). Any direct costs for travel will also be included in the Time & Materials expenses.
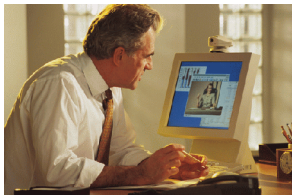
COMPANY HISTORY

Originally founded in California in 1991, **Evergreen Design Inc.** has since undergone several organizational and regional changes. Our company focus has also varied over the years.

Most recently, in June of 2000, **Evergreen Design Inc.** was reincorporated with new purpose. In this new reorganization, a number of diversely located engineers and designers have been called upon to support the company's efforts.

With different backgrounds, each development participant contributes to the company's function drawing from his own specialized area of expertise. Our development personnel are located throughout the United States. We take full advantage of the web using it's connectivity to provide for the vital information transfer between project participants. We are equipped with all of the necessary communications tools to bring our different department personnel located in different geographical locations together for individual and collective interaction.

From Edinburg, Virginia we direct the development, production, marketing and support activities involved in our business.

Our most recent company news is an effort we are making to aid our customers in that all important development requirement of a short time to market. We are developing two platforms which will be able to be licensed from Evergreen Design Inc. or purchased from our **Gold-Micro**™ division. The family of these platforms will be known as the **AuCPU**™. Two categories of platforms will be included in the **AuCPU**™ line. The first platform category, has full PC-AT compatibility, will be called the **AuCPU**™**-PC**. The second platform category, built around various microcontrollers, will be called the **AuCPU**™**-MC**. Both platform categories provide building blocks that can be customized to the customer's specific criteria and both have customizable FPGA(s) with user specified Input/Output Connector Area on the computer's case. Other features, different for each computer, add to the possibilities of user customization.

If you have a need for a compact embedded computer make sure to check out the Data Sheets for the **AuCPU**™ family which are available to you by contacting our sales office at sales@evdes.com and requesting the appropriate Data Sheet.

AuCPU™

The **AuCPU™** is a family of miniature AT-Compatible and MicroController based computers that will be sold through our **Gold-Micro™** division. We will be providing customization services to OEMs who require the incorporation of customer specific features into their own proprietary versions of each of these products. The OEM may order these computers in custom versions with custom interfaces and/or FPGA "soft circuitry".

We are developing the **AuCPU™** family to shorten the time normally required for our customers to advance their product concept into production. This is made possible through it's easily customizable design. If standard optional features do not meet the user's needs then three features allow for customization.

First, some versions will allow the user to customize the **AuCPU™** through use of PC/104 or PC/104-*Plus* expansion cards. A dedicated space on the front panel can be used to mount any I/O connectors. One standard PC/104 or PC/104-*Plus* card can be installed. (Two can be installed if the second (upper) card is of a special low-profile type. If customized I/O connectors need to be mounted on the front panel, **Gold-Micro™** can manufacture these customized versions.

Secondly, the user can order the **AuCPU™** with a PCMCIA or CardBus option to allow use of PCMCIA and/or CardBus cards. The cards can be either held captive inside the extruded enclosure or can be installed or removed through front panel access. One or two CardBus slots may be specified.

Thirdly, the user can develop or have developed for them a customized version of the **AuCPU™** with "soft-logic" which can be programmed into one or both of their FPGAs. **Evergreen Design Inc.** specializes in developing and documenting any customized versions of the **AuCPU™** to allow manufacture by **Gold-Micro™**.

The first eleven versions of the **AuCPU™** to be released will be in the MC or MicroController category. Some come with only a MicroController and others have a combination MicroController & FPGA. The FPGA is based on the Atmel FPSLIC. A variety of I/O options are available please obtain the **AuCPU™-MC** Data Sheet for further information. The following chart shows the versions available and the MicroController used in each version:

VERSION	MicroChip	Atmel FPSLIC	DESCRIPTION
AuCPU™-MC1x	PIC18F8620	-	64KB FLASH PROGRAM ROM
AuCPU™-MC2x	PIC18F8720	-	128KB FLASH PROGRAM ROM

VERSION	MicroChip	Atmel FPSLIC	DESCRIPTION
AuCPU™-MC3x	-	AT94K05AL	4 - 16KB EEROM PROGRAM RAM + 5K Gates FPGA
AuCPU™-MC4x	-	AT94K10AL	20 - 32KB EEROM PROGRAM RAM + 10K Gates FPGA
AuCPU™-MC5x	-	AT94K40AL	20 - 32KB EEROM PROGRAM RAM + 40K Gates FPGA
AuCPU™-MC6x	PIC18F8620	AT94K05AL	64KB FLASH PGM ROM + 4 - 16KB EEROM PGM RAM + 5K Gates FPGA
AuCPU™-MC7x	PIC18F8620	AT94K10AL	64KB FLASH PGM ROM + 20 - 32KB EEROM PGM RAM + 10K Gates FPGA
AuCPU™-MC8x	PIC18F8620	AT94K40AL	64KB FLASH PGM ROM + 20 - 32KB EEROM PGM RAM + 40K Gates FPGA
AuCPU™-MC9x	PIC18F8720	AT94K05AL	128KB FLASH PGM ROM + 4 - 16KB EEROM PGM RAM + 5K Gates FPGA
AuCPU™-MCAx	PIC18F8720	AT94K10AL	128KB FLASH PGM ROM + 20 - 32KB EEROM PGM RAM + 10K Gates FPGA
AuCPU™-MCBx	PIC18F8720	AT94K40AL	128KB FLASH PGM ROM + 20 - 32KB EEROM PGM RAM + 40K Gates FPGA

All of the versions in the *AuCPU™-MC* line can be user programmed using development tools available Off The Shelf from a variety of suppliers. The MicroChip devices can be programmed and debugged In-Circuit using MicroChip development tools. Programming and debugging of the Atmel FPSLIC requires the System Designer CoDevelopment Suite available from Atmel. Both family types can be programmed in a variety of software languages or assembly languages available Off The Shelf from a variety of suppliers.

The first version in the PC family, called the *AuCPU™ -PC1* will be powered by the National Semiconductor Geode SC-2200 which runs at speeds up to 300MHz while drawing less than 5 Watts. It is a Rugged-PC sized as small as 2" x 7.1" x 5.7" that includes all of the standard peripherals you would expect in a PC with AT compatibility. It can handle up to 512MB of SoDimm SDRAM Memory and comes with 10/100 Base-T LAN Interface, LCD or CRT Video, 4 Serial Ports, 2 USB Ports, PC/104-Plus socket, handles up to 4 IDE devices, AC97 Sound, PS/2 Keyboard, PS/2 Mouse and LPT interface.

The *AuCPU™* provides the Embedded Computing Marketplace a compact, rugged, reliable and feature-rich embedded computer. We encourage you to contact the sales department at *Gold-Micro™* to obtain preliminary data sheets. You can do this by contacting us at sales@evdes.com. When contacting us please provide your company name, full address information as well as a description of the application for which you envision use of the *AuCPU™*.
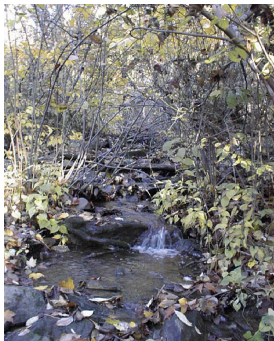
Gold-Micro^{TM}

Evergreen Design Inc. will be founding a number of divisions to manufacture and market products it has developed. The individual divisions will each have different names and will target their marketing efforts at specific market segments pertinent to their particular product.

Gold-Micro^{TM} is our first division. It was established in March of 2001 to provide for the manufacture, sale and support of it's two families of compact embedded computers the *AuCPU*^{TM}*-PC* and the *AuCPU*^{TM}*-MC* .

CONTACT INFORMATION

Our Corporate Headquarters is located in the midst of the world's most beautiful terrain, the Shenandoah Valley. Enjoy some of our regional pictures.

Evergreen Design Inc.
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Edinburg, VA   22824
Phone: (540) 984-4653
Fax: (540) 984-4652
Email: sales@evdes.com
www.evdes.com

VIEW MAP TO **Evergreen Design Inc.**

Our closest Commercial Airport, Washington-Dulles, is a two hour country ride to/from our corporate headquarters. Our closest private Airport, Winchester Regional Airport is only a short 30 minute ride to our corporate headquarters.

We can arrange shared-private limousine transportation to/from the Airport for you if you come to visit. We can also recommend a suitable bed and breakfast and a good fly fishing guide if you would desire such during your stay.