Introduction

TERN has always had a simple business model: we design compact, inexpensive, reliable single-board computers that integrate the embedded industry's most useful I/O and networking peripherals, along with easy-to-use software tools, so that you won't need to design them. TERN's single board computers employ modern CPUs (32-bit architecture with 16-bit external data bus) built on the time-proven x86 architecture, integrated with the embedded industry's most popular peripheral components, and utilize widely adopted modern software development tools. Best of all, the features we tout are powerful enough to meet your real-world application needs, not just fill up a marketing letter with vague names.

TERN's C/C++ programmable controllers are the complete solutions for your embedded application. With TERN controllers, established manufacturers can upgrade their existing products with the newest technologies, startup companies can quickly implement new designs, and just about anyone can easily implement a prototype for evaluation. TERN controllers are widely used in embedded systems that require superior performance, PC-compatibility, compactness, low power consumption, and high reliability at a low cost. TERN's industry-leading integrated hardware and software solutions combine comprehensive hardware features with tremendous ease of development.

It doesn't matter if you need only a few units for prototyping, research, or a few thousand units for your newest product… it doesn't matter if you're a software guru who's never touched a soldering iron, or a electrical guru who's never touched a keyboard… there are thousands of customers just like you who've already made their application work with TERN's solutions.

OEM and EOL

TERN has been providing products for OEM users since 1993. We recognize and appreciate the importance of having a reliable, consistently available design. In the rapidly changing embedded world, this can often be a challenge. Processors and technologies are declared obsolete with little warning. Many embedded users have probably been victims to this trend. A board design that's been in use for years is suddenly declared EOL, and the product development cycle has to be restarted from scratch... often with new engineering staff, development tools, and processor architectures. All of the previous development effort is wasted.

TERN is strongly committed to the goal of offering consistent, reliable embedded board designs that will be available for years and even decades. Many of our original customers have now been buying the same designs for 10+ years. No one can avoid change as the underlying technologies evolves, but our goal is to make this as transparent as possible for our customers. We take three steps:

1) we try to inventory, at our expense, single-source components if they're in danger of becoming declared EOL;

2) we work with third-party vendors to develop multiple replacement sources for any vulnerable components;

3) finally, we design replacement solutions that are drop-in compatible at the source, firmware, or hardware level.

TERN controllers are based on AMD, Innovasic, Intel, NEC, and RDC processors:

586-Engine/SC520/CPU basic features:

- 32-bit Am586, 133 MHz system clock   • Floating Point Unit (ANSI/IEEE 754)   • 16/32-bit data, 32 multifunctional I/Os
- 2 Asyn. and 1 Sync. serial ports   • Real-time clock, Supervisor, Watchdog   • 114-byte CMOS RAM, 7 timer/counters

i386EX Controllers/CPU basic features:

- 32-bit CPU, 33MHz system clock   • 8/16-bit data, 64MB memory space   • 24 multifunctional I/Os
- 2 Asyn. and 1 Sync. serial ports   • Supervisor, Watchdog timer   • 512-byte serial EE, 3 timer/counters

188/186 basic features:

- 16-bit CPU, 40/80 MHz system clock   • 32 multifunctional I/Os   • External interrupts, and DMA
- 2 async. serial I/O., 2 PWMs   • 512-byte EE, Supervisor, Watchdog   • 3 16-bit timer/counters

Where are TERN controllers used?

Every year, thousands of TERN controllers are installed and used in the United States and in more than 20 countries worldwide. Since 1993, thousands of satisfied customers have developed their products and complete their projects with TERN's reliable controllers, software, and excellent technical support.

TERN's customers range from large corporations and U.S. governmental agencies to small private firms and engineering consultants.

Organizations such as General Motors, Lockheed Martin, Hewlett Packard, Hughes Aircraft, IBM, NASA, and the U.S. Environmental Protection Agency use TERN controllers in their projects. Some recent applications of TERN controllers include portable instruments, radio remote control and data acquisition, factory automation, packaging machines, robot controls, cellular phone testing, and environment data recorders.