

FOR IMMEDIATE RELEASE

NEW PRODUCT ANNOUNCEMENT

Of interest to: Electronics, Embedded Computer, Design,
Motor control, Motion Control, Process Control, Robotics,
Sensors and Software Editors

TiniPod™

TINY CONTROLLER IS POWERFULLY FEATURED

Dallas, TX -- 26 January 2004 -- The new TiniPod™, a tiny 1.0" x 1.3" controller board, ships this month from New Micros, Inc. The TiniPod™ is a complete microcontroller system with a built in high-level-language and parallel processing operating system, IsoMax™.

Hardware features on this new processor include 16 General Purpose Digital I/O lines, 1 RS-232 serial channel, and CAN Bus. The GPIO lines share functions with a 4 wire SPI Interface, 6 General Purpose Timers, 6 Pulse Width Modulation (PWM) outputs.

The PWM outputs are hardware based and can be used to control 6 R/C Servos control, or grouped to control a 3-phase Brushless DC motors, 6 PMDC motors, or complementary drive for the H-bridge for 3 PMDC motors.

The multimode Timers can be used as 3 channels of Quadrature Decoders, or 3 channels Step and Direction counters. Individually they can also measure pulse width, time ultrasonic ranging pulses, or generate pulses, drive IR 40 KHz transmitters etc. They too can generate PWM outputs to drive another 6 R/C Servos.

Since the PWM and Timer modules are supported in set-and-forget hardware modules, the processor is free to perform higher level functions, such as acceleration-limited, velocity-profiled control of the moves of up to 12 RC Servos at the same time, and still have time left over for other tasks.

Similarly, using the Timer modules as Quadrature decoder inputs, the processor can implement PID and acceleration-limited, velocity-profiled control of the moves of 3 axes of motion control at the same time, and do other tasks such as communications via serial or CANBus.

The CANBus opens the possibility of distributed processing networks, particularly in automotive and industrial applications, so parallel hardware can be combined with parallel software.

The TiniPod™ can be programmed in a number of languages, C (third party), Small C (included), Forth or the resident IsoMax™ (included).

IsoMax™, is based on state machine programming concepts. Programming real time tasks amounts to describing virtual machines that will sense conditions, take actions, and move to new states. The machine construction is very English readable. Development is interactive through the RS-232 and will typically be done on a PC, laptop, PDA, or any serial device, even dynamically by another microprocessor. Programming in IsoMax™ means interactively creating new processor tasks, each being a state machine or thread, and then testing that code.

Virtually Parallel Machine Architecture (VPMA) is a new programming paradigm possible with IsoMax™. VPMA allows more than one of these machines to be installed into background process. All these installed machines run independently in a virtually parallel fashion. All the tasks are handled on the same level, each running like its own separate little machine. VPMA on the TiniPod™ can be compared to running dozens of stamp-like microcomputers in parallel.

When the programmer is satisfied with performance of a new machine, he installs it into a chain of machines. The machines installed in the machine chain become background features of the TiniPod™ until removed or replaced.

The IsoMax™ language is inherently "multitasking" without the overhead or complexity of a multitasking operating system. A useful single state machine can be written with as little as three lines of code. The interactive foreground remains always available for further interactive development, and interactive checking on the running machines.

The combination of IsoMax™ software, VPMA structure, and diverse hardware makes TiniPod™ very versatile. TiniPod™ is ideal for dedicated control of DC motors, BDCM, stepper motors, solenoids, and motion and control applications in general.

The TiniPod™ was made incredibly small, while still maintaining large enough connectors for easy human access.

All connectors have .1" spacing. The board is only 1.0" x 1.3" and plugs into a prototype area or socket just 0.2" x 1.2"

The TiniPod™ brings an amazing amount of computing and control function to a very small space at a very reasonable cost. A single unit is \$79 with linear regulators installed. Other regulator options are available.

About New Micros, Inc.

New Micros, Inc. of Dallas, TX, has designed and manufactured chips, Single Board Computers, peripherals, and custom electronics, for over 20 years. New Micros, Inc. products have been used in a wide range of projects: in space shots, such as ignition and separation control on the first Pegasus Rocket, the HF radio controller on the ARRIANE rocket, to deep ocean probes such as Alice, to robot arms and displays. In 1987 New Micros, Inc. became the first company ever to offer a stand-alone single chip computer with a High Level Language built inside. New Micros, Inc. continues this trend today with this development of high-level-language "intelligent" embedded controllers.

High-resolution digital photos are available.

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TiniPod™ picture 1:
http://www.newmicros.com/store/product_pictures/TiniPod01.jpg

TiniPod™ picture 2:
http://www.newmicros.com/store/product_pictures/TiniPod03.jpg

TiniPod™ manual (TBD): http://www.newmicros.com/store/product_manual/TiniPod.zip