

# STEP

Rev2 with IrDA!

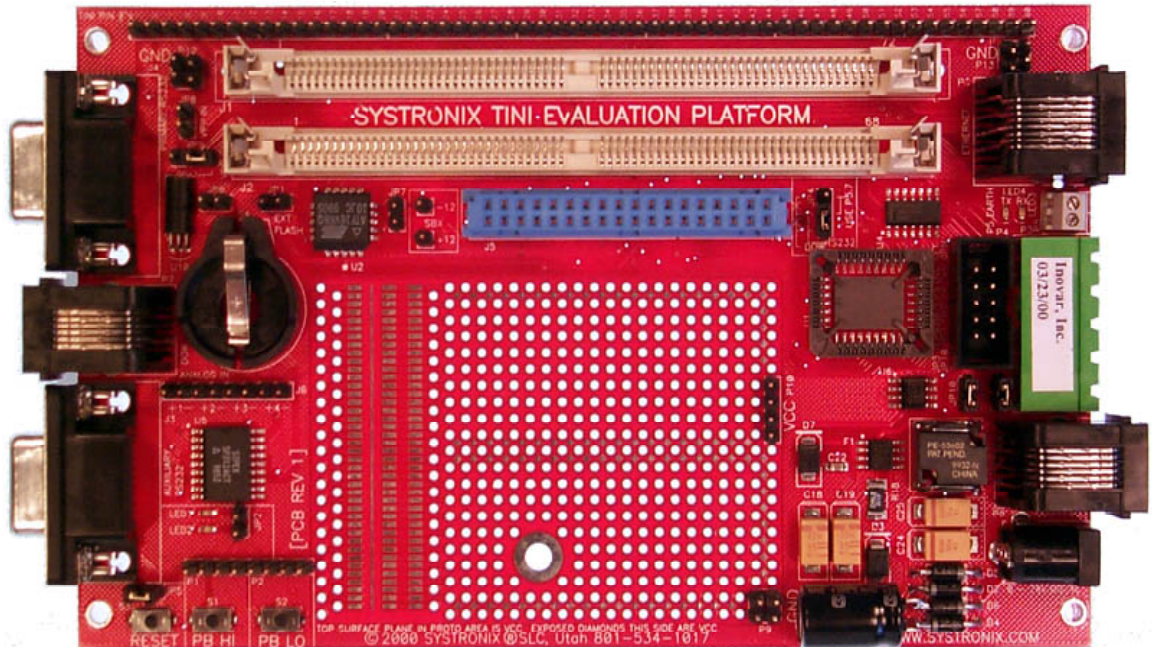
SYSTRONIX®

# SYSTRONIX TINI ENGINEERING PLATFORM

*STEP is the first tool to support hardware development and prototyping with the new Dallas TINI Java module.*

*Together, TINI and STEP make up a complete web server - http, servlets, ftp, telnet, and more!*

*Step Rev1 is shown. IrDA is available on Step Rev2, June 2000.*



Take a big STEP toward embedding the Internet with TINI Java.

CAN, RS232, 1-Wire, iButton, SBX, and a prototype area. **And now with IrDA option!**

Starting under \$100.

Imagine a complete Java Virtual Machine, TCP/IP stack, ethernet hardware, Control Area Network, iButton network, and dual RS232 all on a SIMM72 module 4" x 1.25" for \$50! That's TINI Java!

Add the STEP board and you have a complete micro-sized TCP/IP and Internet node. STEP adds a prototype area, power supply, CAN driver, SBX expansion, 1-wire network, and now InfraRed communications too! An open-source IrDA stack and Palm OS interface is under development.

It's all programmable in Java and small enough to hold in your hand - and embed in your next project.

- CAN 2.0B real-time control network
- Dual RS232 ports (STEP Rev1), One RS232 (Step Rev2)
- Pushbuttons (high & low levels) and two free LEDs.
- IrDA SIR at up to 115 kbaud.
- 8-24V AC/DC power input, with rugged, low-noise, high-efficiency switching regulator.
- All processor ports brought out to clearly-labelled headers.
- Prototyping area for SMT SOIC (wide and narrow), and through-hole DIP, SIP & ZIP, or more via SBX and aux SIMM.
- Optional keypads and LCDs (requires SBX or SIMM module with interface)
- Complete technical data and secure online ordering at: [www.systronix.com](http://www.systronix.com)

## The World's Smallest and Lowest Cost JVM Internet Node?

Been wishing for a complete internet node with JVM, networking, serial I/O, easy expansion and low installed cost? Your wish is granted with TINI Java and the STEP socket board.

### Multi-Tiered Networking

10 MBit Ethernet, CAN 2.0B, and 1-wire network make this an incredibly well-connected embedded Java engine. Imagine the possibilities! (All of these are supported with dedicated hardware, freeing the controller for other tasks).

### Java Virtual Machine

The Java VM on TINI conforms to Sun's Embedded Java platform, version 1.1 of the Java API. Embedded in TINI's flash memory are java.lang, java.net, java.io, and java.util. You can add other packaged of your choice in NVRAM. A command shell can also be installed in flash, or install your own application.

### Embedded Control with TCP/IP

STEP is ready to work in embedded control. TINI includes classes for bit and byte I/O operations, LCD support. Write your own native methods in 8051 assembly code. What could you do with CAN, 1-wire, RS-232, I2C, and more, all with TCP/IP?

### On-board I/O Devices (STEP+)

STEP Plus adds a DS1820 digital temperature sensor, a DS2450 4-channel 8- to 16-bit ADC, and an auxiliary SIMM connector.

### New - Serial InfraRed Support

STEP Rev2 adds wireless communication. The physical layer for IrDA SIR at up to 115.2 kbaud is on board STEP+.IR. An open source project is under way to develop an IrDA protocol stack for TINI, as well as Palm OS interface routines. Use your Palm OS PDA as a TINI user interface.

### I/O Expansion

The industry standard 8-bit SBX "mezzanine bus" interface is an easy way to plug on additional memory mapped I/O from dozens of vendors, or create your own with our SBX prototyping board. The auxiliary SIMM72 socket is intended for I/O devices. Several TINI I/O SIMMs are in development at Systronix.

### Java Development and Examples

Come to the TINI Tutorials area of our web site ([www.systronix.com](http://www.systronix.com)) for links to free Java tools and a step-by-step procedure for installing and using them.

### How do I order?

You can order STEP and STEP+ in our secure on-line store at [www.systronix.com](http://www.systronix.com). Our web site will always have the newest information on released products.

#### SBX1 LCD and Keypad Option (future product, target specs):

Plug on SBX1 for a basic user interface and digital I/O. SBX1 provides a 16-pin latching header for an LCD, a 4x5 keypad decoder, bidirectional I/O capable of sinking 150 mA, a piezo buzzer, and maybe a hardware UART. The digital I/O header is a standard Opto-22 type 25x2 for easy industrial I/O buffering.

#### Prices:

Visit [www.systronix.com](http://www.systronix.com) for current prices, starting at under \$100 (not including TINI module). Options include TINI module, power cubes, DIN rail mounting, cables and enclosures.

## TECHNICAL DETAILS

**Microcontroller** SIMM72 socket for TINI Java controller. Currently, TINI includes 512 KBytes of flash and 512 KBytes of NVRAM.

**Power** Unregulated 8-24 VDC or VAC input from a 5.5x2.5 mm jack or the CAN net. Efficient switching regulator is reverse-polarity, short-circuit and over-temperature protected. 5V @ 500 mA available for user. Recommended power source is the Systronix 12VDC 1A power cube.

**Serial I/O** Two RS232 serial I/O, serial0 available for your use (IrDA shares this). Serial1 is dedicated to the 1-wire network.

**CAN Network** OneCAN 2.0B channel, with twisted pair cable driver and optional DeviceNet screw terminals.

**LEDs and Switches** Two pushbuttons (low and high levels) and two LEDs are provided for experimentation.

**Clock & Calendar** Included in the TINI Java module.

**Expansion** 8-bit SBX connector with up to 16 decoded addresses and two interrupts. Dallas 1-wire/iButton port for low-cost remote sensing & control. I2C is supported by TINI Java. Auxiliary SIMM72 connector supports future TINI I/O modules. Several are under development at Systronix.

**Easy Programming** using any of several freely available JDKs. At Systronix, we recommend the JBuilder 3.5 Foundation from [www.inprise.com](http://www.inprise.com). Instructions and tutorials on line at [www.systronix.com](http://www.systronix.com) and other sites.

**Size** Standard 100x160 mm single Eurocard size, hundreds of enclosures available (some stocked by Systronix) including RF shielded, NEMA rated, etc.

**Environmental** Commercial temperature 0 to 70 deg C.

**Support & Warranty** Friendly technical support. One year warranty against defects (TINI module is warranted separately by Dallas Semiconductor).

### All systems include:

· on-line data sheets, tutorial, and all links to all required Java tools which are freely downloadable.

# SYSTRONIX®

555 South 300 East #21, Salt Lake City, Utah, USA 84111  
Tel:+1-801-534-1017 Fax:+1-801-534-1019 [www.systronix.com](http://www.systronix.com)

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