

OVERVIEW

The **TS-7800** is a **RoHS** compliant Single Board Computer (SBC) based on a Marvell **500MHz ARM9** CPU with internal **PCI** bus and that provides a standard set of on-board peripherals such as **Gigabit Ethernet**, dual **SATA** and dual **High-Speed host/slave USB 2.0**.

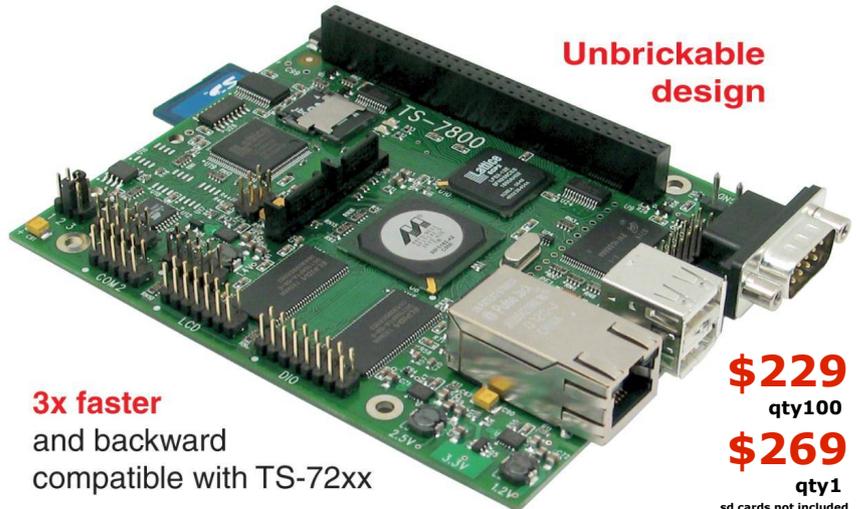
The TS-7800 also features a **12,000 LUT** on-board **Lattice FPGA** which is programmable via **Linux** software and provides extra peripherals such as **110 GPIO** lines and additional serial ports.

On the software side, the TS-7800 uses an in-house improved **Linux 2.6** Kernel that allows **0.69 second** bootup and provides driver support for all on-board hardware. In addition, the **512 MB on-board Flash** enables a full **Debian** distribution to be installed with a complete embedded development environment.

The TS-7800 is backward **compatible** with our TS-72xx computers, providing **3 times** more performance and higher-end features with identical footprint, thus allowing quick platform migration for customer applications.

FEATURES

- **500Mhz ARM9 CPU**
- **Internal PCI bus, PC/104 connector**
- **12,000 LUT programmable FPGA**
- **128MB DDR-RAM**
- **512MB NAND Flash, high-speed (17MB/s)**
- **2 SD socket (1 micro-SD, 1 full-size SD)**
- **2 SATA ports**
- **2 USB 2.0 480Mbps host ports**
- **Gigabit Ethernet, 10/100/1000 speeds**
- **5 10-bit ADC channels**
- **10 serial ports, 2 optional RS-485**
- **110 GPIO (86 arranged as a PC/104 bus)**
- **Sealed-battery backed RTC**
- **Matrix Keypad and Alphanumeric LCD interfaces**
- **Fanless: -20° to +70°C**
- **Optional on-board Temperature Sensor**
- **Low power 4W@5V**
- **Sleep mode uses 200 microamps**
- **Optional 8-30V input voltage range (default is 5V)**
- **Boots to a Linux shell-prompt in 0.69 second**
- **runs Kernel 2.6 and Debian Linux by default**



Unbrickable design

3x faster
and backward
compatible with TS-72xx

\$229
qty100

\$269
qty1
sd cards not included

FAST BOOTUP FIRMWARE

The TS-7800 bootstrap uses a unique and clever combination of FPGA hardware logic, specific boot-up firmware and Kernel tweaks which ensure fast boot time, security, high board recoverability and more:

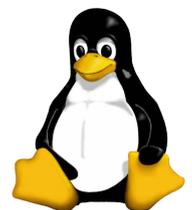
- **Linux-based bootloader** boots Linux 2.6 kernel to shell-prompt in **less than 1 second** after power-on from either SD card or on-board Flash
- Full Debian can be installed into on-board Flash from a USB flash dongle - no need for Busybox
- **Unbrickable** design ensures **100% recoverability** from SD card in case of on-board Flash erasure

12,000 LUT FPGA

- Connects to CPU via 50Mhz local **PCI bus**
- Default load uses **GPIO pins** as a **PC/104 bus**
- Enables fast board modification or feature improvement via **FPGA load customization**

LINUX 2.6 AND DEBIAN

The TS-7800 is shipped with **Linux Kernel 2.6** and the **Debian** distribution on on-board **Flash**, enabling a wide range of server services, desktop-like applications and developments tools to run on a **embedded real-time system**.



We have been in business over 20 years!

We've built our business on **excellent products, low prices and exceptional support**. We sell a wide variety of off-the-shelf PC/104 SBC's and peripherals, and offer custom configurations and designs with excellent pricing and turn around time.

Technologic Systems has never discontinued a product. You can count on long term availability when you include our SBC's and peripherals in your design.