Technologic SYSTEMS

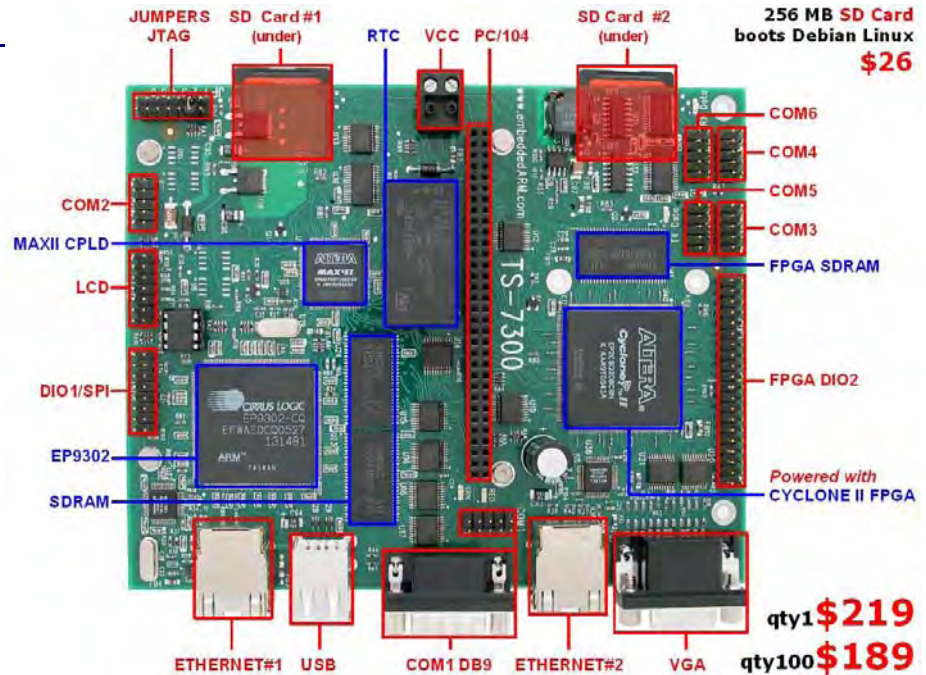# TS-7300 DATASHEET
High-Security Linux FPGA Computer

OVERVIEW

The **TS-7300** is a compact full-featured Single Board Computer (SBC) based upon the Cirrus **EP9302** ARM9 CPU, which provides a standard set of on-board peripherals. The EP9302 features an advanced **ARM920T 200 MHz** processor design with **MMU**. In addition, TS-7300 is powered with two **SD Card** flash sockets and the high performance **TS-VIDCORE** video interface with Linux **framebuffer**.

The TS-7300 is a multipurpose board designed for customers needing **extreme design security and reliability** in applications such as gaming machines, building security equipment and network **gateways or firewalls**.

JUMPERS JTAG · SD Card #1 (under) · RTC · VCC · PC/104 · SD Card #2 (under) · 256 MB SD Card boots Debian Linux $26 · COM6 · COM4 · COM5 · COM3 · FPGA SDRAM · FPGA DIO2 · Powered with CYCLONE II FPGA · COM2 · MAXII CPLD · LCD · DIO1/SPI · EP9302 · SDRAM · ETHERNET#1 · USB · COM1 DB9 · ETHERNET#2 · VGA · qty1 $219 · qty100 $189

LINUX FPGA

The inclusion of an Altera Cyclone II **FPGA,** with **over 8000** logic elements, provides many unique possibilities. The default **TS-BITSTREAM** provides the hardware logic for the 8 **serial ports**, 2nd 10/100 **ethernet** port, 2nd **SD Card** slot, VGA **video** and up to 35 **DIO** lines. In addition, the user is able to **reprogram** the FPGA **on-the-fly** through the ARM9 CPU running Debian Linux if an additional real-time soft co-processor, DSP, or specific logic is needed.

SD CARD SECURITY

The TS-7300 hardware is able to first **checksum** the boot SD flash Card in its entirety before executing a single instruction of code from it. One may also hardware **lock** and **password** protect the SD Card so that it is only bootable/readable on a specific board. SD Cards can also be made **read-only permanently** and irreversibly once your product is finalized.

SD CARD RELIABILITY

SD Card technology is already extremely reliable compared to hard drives, and with **2 hot-swappable** SD Cards sockets running Debian Linux, you have the option to use **RAID** on your flash devices to **protect** against individual flash write wearout failures.

FEATURES

- ⬈ runs **Debian Linux** Operating System for ARM
- ⬈ 200Mhz **ARM9** CPU with **MMU**
- ⬈ User-programmable Altera 2C8 **Cyclone II FPGA**
- ⬈ 2 **SD Card** flash sockets
- ⬈ 32 MB **SDRAM** (64 or 128 MB optional)
- ⬈ **TS-VIDCORE VGA** video (8MBRAM, up to 800x600)
- ⬈ 2 10/100 **Ethernet** ports
- ⬈ 2 **USB** 2.0 Compatible OHCI ports (12 Mbit/s Max)
- ⬈ 10 RS232 **serial ports** (more possible if TTL only)
- ⬈ 55 **DIO** ports (up to 35 **TS-XDIO** capable)
- ⬈ **PC/104** expansion bus
- ⬈ **Fanless -40°** to +70°C, **+85°C** w/ CPU@166Mhz
- ⬈ **1.8 watts** power at full-speed
- ⬈ **Fast boot** to Linux shell in **1.69 secs**
- ⬈ Optional Battery Backed Real Time Clock (**RTC**)
- ⬈ Optional Linux Supported USB **802.11g WiFi**
- ⬈ Visit TS-7300 webpage for further information

LINUX FOR ARM

TS-7300 makes use of the **Debian Linux** OS for ARM installed by default in a 256MB **SD Card** (sold seperately). It is a full featured **real-time** capable Linux system that enables **quick time to market** of end-users applications.

Debian RTAI

Technologic SYSTEMS

**16525 East Laser Drive
Fountain Hills, AZ 85268
TEL 1.480.837.5200
FAX 1.480.837.5300**

www.embeddedARM.com
support@embeddedARM.com

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.