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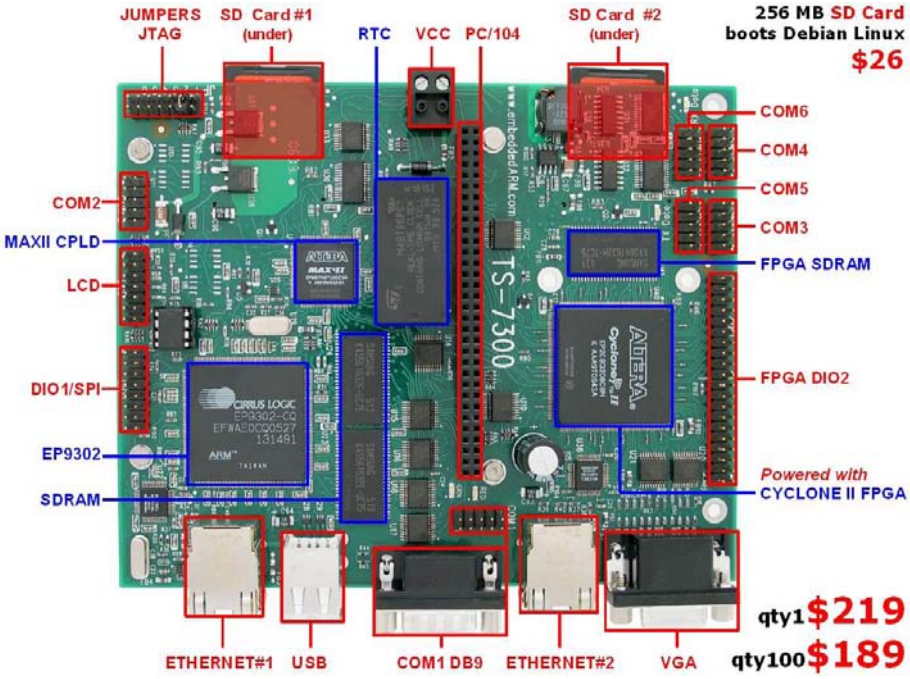
TS-7300 DATASHEET

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**.



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.



Technologic SYSTEMS

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

www.embeddedARM.com
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