Crusoe™ PROCESSOR

Transmeta CORPORATION

Product Sheet

Transmeta™ Crusoe™ TM5900 System Development Kit

Standard Mini-ITX Form Factor Design

Product Overview

The Transmeta Crusoe TM5900 System Development Kit is an evaluation/reference platform designed around the new energy efficient Crusoe TM5900 microprocessor. The Crusoe model TM5900 processor uses a new small form factor package that is only 21mm x 21mm in size, making it perfect for compact mobile and embedded designs.

Efficeon TM5900 System Features & Benefits

- High performance, low power, fanless 1GHz Mini-ITX platform.
- Cost effective design with 4-layer PCB design.
- Kit comes with schematics, Gerber files, BOM, software drivers for Microsoft® Windows® XP, Windows Embedded XP and Windows CE.NET®, and Linux to enable a quick and easy evaluation with the tools needed to move quickly into production.
- Uses Transmeta's LongRun® Thermal and Power Management technologies to deliver the maximum performance with the minimum heat and power consumption.
- Phoenix Technologies BIOS on board.

Development Kit Specifications

Processors Supported	Transmeta Crusoe TM5900 1GHz processor
Chipset	Northbridge: Integrated into TM5900 processor Southbridge: ALI® M1535+
BIOS	Phoenix Technologies™ BIOS supporting ACPI, DMI and PnP
System Memory	1 x DIMM socket for DDR266 SDRAM memory modules
Bus Master ATA	ALI M1535+ built-in two ATA-100 ATA interface supporting up to 4 devices
On-board VGA	SiS® 315T 2D/3D VGA controller with 8MB VGA memory Optional SiS 301B video companion supporting CRT, TV-out and TMDS for TFT LCD panels
On-board Audio	ALI M1535+ built in audio controller AC97 Codec WM9708 Connectors for line-in, line-out and microphone
On-board Ethernet	Realtek 8139D single chip Ethernet controller 10/100 BaseT support, full duplex, Wake-On-Lane RJ-45 connector (rear side)
Expansion Slots	1 x PCI slot with separate PCI expansion card for 2 additional PCI slots
I/O Features	1 x Parallel port (EPP, ECP Port) 1 x Serial port (RS232)
USB	2 x USB 1.1/2.0 ports using ALI M5273 USB 2.0 controller Pin header for two additional USB 1.1 ports
IrDA	Pin header
Keyboard / Mouse	1 x PS/2 Mouse connector 1 x PS/2 Keyboard connector
Form Factor	Mini-ITX form factor motherboard 6.7-inch x 6.7-inch (170mm x 170mm)
Power Supply	Standard ATX

Transmeta Crusoe TM5900 System Development Kit

128-Bit VLIW Processor Core

The Crusoe TM5900 processor core architecture is relatively streamlined compared to conventional x86 processors. It is based on a very long instruction word (VLIW) 128-bit instruction set that can issue up to 4 instructions per clock cycle. Within this VLIW architecture, the control logic of the processor is reduced and software is used to control the scheduling of instructions. This allows for a straight forward hardware implementation with an in-order 7-stage integer pipeline and a 10-stage floating-point pipeline. By streamlining the processor hardware and reducing the control logic transistor count, the performance-to-power consumption ratio (energy efficiency) can be greatly improved over conventional x86 architectures.

System Development Kit Contents

The Transmeta Crusoe TM5900 System Development Kit comes with a full complement of accessories including:

- CD-ROM drive inverter and power cable adapter
- IDE and floppy drive cables
- USB connector and cables
- COM connector brackets and cables

A CD-ROM containing:

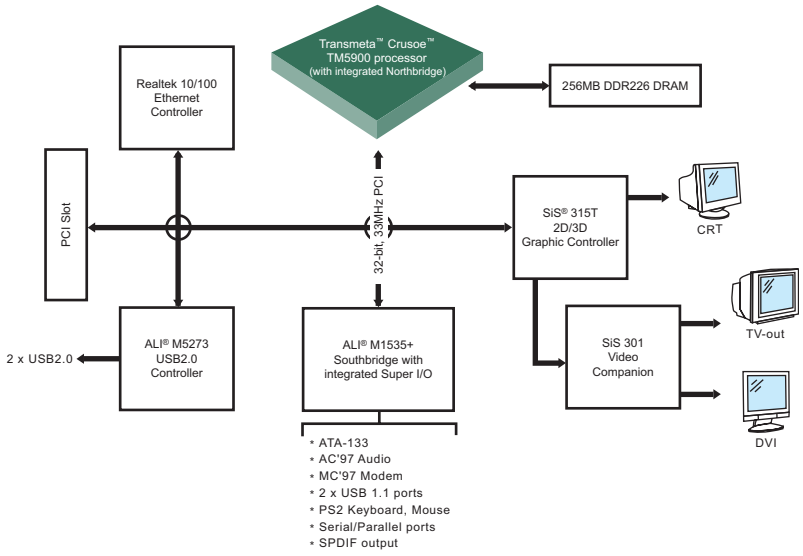
- User's Guide
- Device drivers
- Reference design files and Crusoe processor specification
- BIOS and microcode upgrade tools
- LongRun™ power management monitor and control application

Small Form Factor Features

The Transmeta Crusoe TM5900 System Development Kit implements all the functions of a versatile PC system, including onboard video/graphics, audio and Ethernet in a 17cm x 17cm form factor. System memory is provided with standard memory slot for DDR DIMM modules. Other advanced features include USB 1.1/2.0 ports, an IrDA interface, S-Video output and a digital S/PDIF audio output. The Phoenix Technologies BIOS used with the TM5900 Mini-ITX motherboard facilitates easy system configuration and peripheral setup.

Full x86 Compatibility

Transmeta Crusoe processors provide full x86-compatible software execution and seamless operation with all standard x86-compatible operating systems including Microsoft® Windows®, Microsoft CE.NET, Linux, and a variety of real time operating system (RTOS). Transmeta works closely with partners, customers and commercial laboratories to ensure validated interoperability and continued adherence to high quality and reliability standards.



Transmeta Crusoe TM5900 Development Kit
part number: 800922

For more information, visit **www.transmeta.com**

Crusoe™ PROCESSOR

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