

# 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

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



## 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:

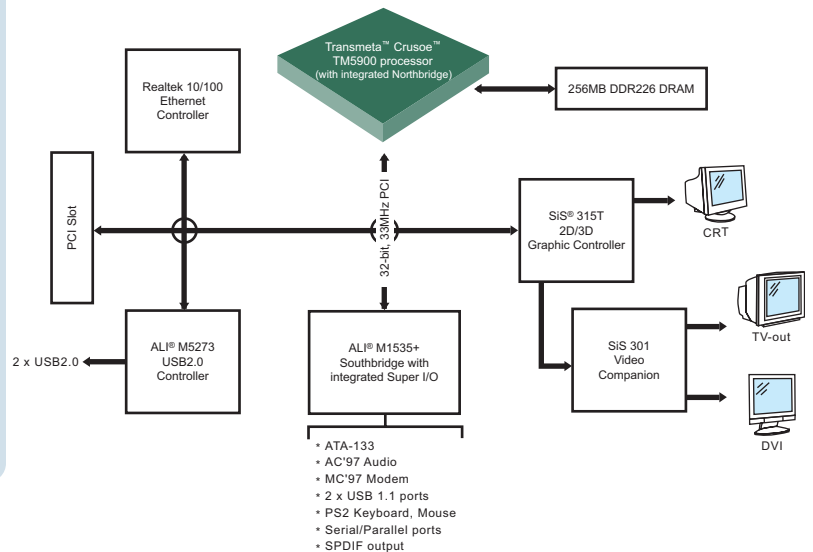
- User's Guide
- Device drivers
- Reference design files and Crusoe processor specification
- BIOS and microcode upgrade tools
- LongRun™ power management monitor and control application

## 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**  
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For more information, visit [www.transmeta.com](http://www.transmeta.com)



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QUALITY MANAGEMENT SYSTEM  
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