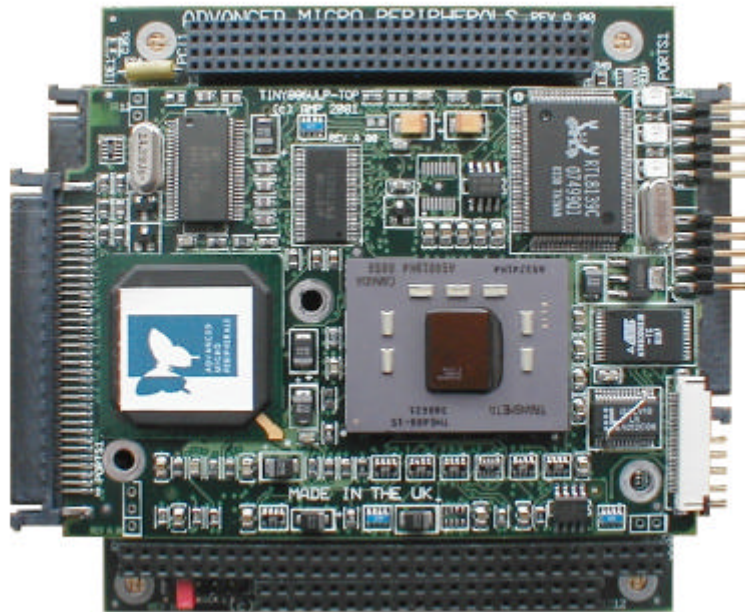


Tiny886ULP Ultra Low Power PC/104+ Crusoe Computer



General Description

AMPs **Tiny886ULP** is an ultra low power Pentium-III class computer on a standard 3.6inx3.8in PC/104 footprint. The Tiny886ULP series are 100% compatible with MSDOS, Linux, Windows95/98/NT/2000/CE and a wide range of RTOS such as QNX, VxWorks, pSOS, etc. The Tiny886ULP series feature ultra low power **Crusoe** processors which are x86 code compatible with computing performance similar to Pentium-III but much lower power consumption. In addition to standard peripheral controllers for disks, Keyboard and Mouse, and serial ports, the Tiny886ULP features **Fast Ethernet** Controller capable of operating at 10/100MBits/sec. The built-in FlashDisk option provides Hard Disk emulation using M-Systems Disk-on-Chip (DOC). The Tiny886ULP is ideal for **fanless operation** and provides unprecedented performance/power consumption ratio and reliability for embedded and wearable computer applications.

Features

- 100% PC-AT compatible
- Crusoe TM5x00 processors to 700MHz
- 64 - 512 MBytes SDRAM
- 16 - 64 MBytes DOC FlashDisk
- Up to 512MBytes CompactFlash (on IDE)
- 10/100MBit Ethernet
- CRT and Flat Panel Graphics Accelerator
- EIDE and USB ports
- Ultra Low Power ACPI compliant
- PC/104+ and PC/104 Expansion
- Available in Extended Temperature
- Standard 3.6in x 3.8in PC/104 form factor

Applications

- Medical Instrumentation
- Wearable Computer
- Battery-powered Equipment
- Portable Test Equipment
- Rugged Harsh Environment Applications
- Industrial Automation
- Thin Server/Client Applications
- Embedded Internet/Intranet Appliance
- Multi-node Internet Servers
- In-vehicle Entertainment Systems



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Processor	CPU + FPU	Crusoe TM5X00 series CPUs at up to 700MHz 128KBytes L1 Cache Up to 512KBytes L2 Cache x86 and MMX Instruction Set
Memory	SDRAM FlashROM EEPROM	64 -512MBytes SDRAM 512KBytes (for BIOS) 1MBytes (for Code Morphing Software) 1KBytes (for CMOS Backup and System Configuration)
Standard Peripherals	Serial Ports Disk/CD-ROM KeyB/Mouse	1 RS232 port with FIFO at 115.2KBaud 1 RS232/422 port with FIFO at 115.2KBaud Supports Ultra-DMA Hard Disk and CDRom drive Supports 1 floppy disk drive Supports PS2 Keyboard and PS2 Mouse
Extended Peripherals	FlashDisk Network USB Watchdog	Supports 16 to 64MBytes Disk-on-Chip FlashDisk Up to 512MBytes external CompactFlash disk 10/100MBit PCI Ethernet Controller 1 on-board USB port PCI bus-mastering USB Hub Controller Fully compliant with OpenHCI standard Software programmable watchdog timer
Enhanced Power Management		LongRun Power Management ACPI compliant Dynamic Clock Stop Power On Suspend
Expansion	PC/104 PC/104 Plus	Standard 16-bit stackable PC/104 bus 32-bit stackable embedded PCI bus 132MBytes/sec data bandwidth 4 spare REQ/GNT for 4 PCI Masters 3.3V and 5V tolerant PCI bus
Physical	Size Temperature Cooling Rel. Humidity Power MTBF	3.6in x 3.8in x 0.4in PC/104 format Top and Bottom stackable 0 to 60degC operating (-40 to 85degC option) -40 to 95degC storage Passive Heatsink - fanless operation 5% to 95% non-condensing (optional conformal coating) Less than 9W with 533MHz CPU + 256MBytes SDRAM Single +5V DC regulated power Greater than 150,000 Hours MIL-HDBK-217 at 25degC
Related Products	Cable-T8 T786Flash-xxx	Cable set for attaching peripherals to the Tiny886ULP CompactFlash solid-state disk Kit (up to 512MBytes size)



Tiny886ULP-X

Display Accelerator (Option)

Display Controller	CT69030 Dual HiQVideo Display Accelerator
Display Memory	Embedded SDRAM memory 4 MB embedded memory 83 MHz SDRAM operation Dual Independent Display Different or same display image CRT/TV and Flat Panel Independent display timing and resolution for CRT and Flat Panel
Display Resolutions	Single View Display Mode up to 1600x1200 64K colour @ 60 Hz Dual Independent Display Mode up to 1280x1024 256 colour @ 60 Hz
Colour Depth and shades	16.7 Million colours, 256 gray shades Reduced motion artifacts
Graphics Acceleration	64-bit Single Cycle BitBLT Engine System/Screen-to-Screen BitBLTs 256 3-Op Raster-Operations Color Expansion Instant Full Screen Page Flip Transparent, Source, Destination BitBLT
Hardware Cursors	Simultaneous Hardware Cursor and Pop-up Window Support 2 hardware cursors and 1 pop-up icon 64x64 pixels by 4 colours 128x128 pixels by 2 colours
Flat Panel Support	Wide range of TFT and STN digital Flat Panels Resolutions from 640x480 to 1280x1024
Software Compatibility	Microsoft PC 98 and PC 99 Compliant Accelerated Driver Support Windows 3.1/95/98/NT/2000, Linux, etc.
Ordering Information	Tiny886ULP[CPU Code]-[CPU Speed]/[SDRAM]-[LAN]-[VGA]

CPU Code	Types CPU	CacheSize	Speed options
4	TM5400	384KB	500, 533, 667MHz
6	TM5600	640KB	500, 533, 667MHz
8	TM5800	640KB	667, 800MHz

Examples:

Tiny886ULP4-533/256-L

means with 533MHz TM5400 CPU, 256MBytes SDRAM,
10/100MBit Ethernet LAN, no Graphics Accelerator

Tiny886ULP6-667/128-L-X

means with 667MHz TM5600 CPU, 128MBytes SDRAM,
10/100MBit Ethernet LAN, Graphics Accelerator

Tiny886ULP8-800/512-L-X

means with 800MHz TM5600 CPU, 512MBytes SDRAM,
10/100MBit Ethernet LAN, Graphics Accelerator