

Tiny-C3

High Performance PC/104plus Computer



The Tiny-C3 is a highly integrated, low-power Pentium-class computer on a standard 3.6in x 3.8in PC/104+ footprint. The Tiny-C3 series is 100% compatible with MSDOS, Windows-NT/2000/CE/XP-Embedded, Linux and a wide range of RTOS including VxWorks and QNX.



In addition to standard peripheral controllers for disks, Keyboard, mouse and Serial ports, the Tiny-C3 features a fast 10/100MBit Ethernet Controller for efficient LAN communications. The integrated AGP 4x display controller supports a wide range of display resolutions and provides hardware assists for DVD and software MPEG playback to CRT and LVDS Flat Panels. The built-in TV encoder provides

Low power,
high performance
and
rugged design



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**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

composite PAL/NTSC and RS170 for driving a wide range of display devices. The Tiny-C3 is optionally available with integral Padlock™ Advanced Cryptography Engine especially suited to the implementation of secure embedded systems.



Applications

Industrial Automation
Portable Test Equipment
Medical Instrumentation
Mobile Entertainment Systems
Point-of-sale and Kiosk applications
Security, Transportation, Telematics
Embedded Internet/Intranet Appliance
Windows, Linux, QNX, VxWorks Support
Rugged Harsh Environment Applications

High Resolution

VGA,

Flat Panel LVDS

and

PAL/NTSC/RS170

Display

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Features

- IDE and USB ports
- 10/100Mbit Ethernet
- 100% PC-AT Compatible
- 256-512 MBytes SDRAM
- UK design and manufacture
- Single +5V low power operation
- PAL/NTSC/RS170 Video Output
- Via-C3 x86 Processors to 1.2GHz
- Full PC/104plus and PC/104 Expansion
- High Resolution CRT and TFT support

Extended
temperature
and
conformal coating
options
for tough
environments

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Complete Hardware Compatibility

The Tiny-C3 on-board Graphics Controller is 100% VGA compatible at both the BIOS and driver level. It is fully compatible with virtually all VGA application software. The Tiny-C3 provides hardware support for Direct-X and offers high-speed industrial and multimedia graphics for Windows and Linux.

Display Devices

The Tiny-C3 is capable of supporting three simultaneous display devices: a VGA analogue monitor, a TFT flat panel LVDS and a composite PAL/NTSC video. The Tiny-C3 Graphics Controller display enhancements dramatically improve CRT resolution. These enhancements include support of non-interlaced resolutions from 640 x 480 up to 1600 x 1200 with 32 bits of colour depth.

The digital flat panel (DFP) interface is designed to support industry standard TFT and DSTN panels directly with its built-in LVDS interface. Digital flat panels from all the major manufacturers are supported at display resolutions up to 1280 x 1024.

The composite PAL/NTSC-encoded output directly drives a TV monitor or RS170 display device. It supports resolutions up to 800 x 600 thus providing high-performance broadcast-quality VGA-to-TV display functionality.

Graphics Display System

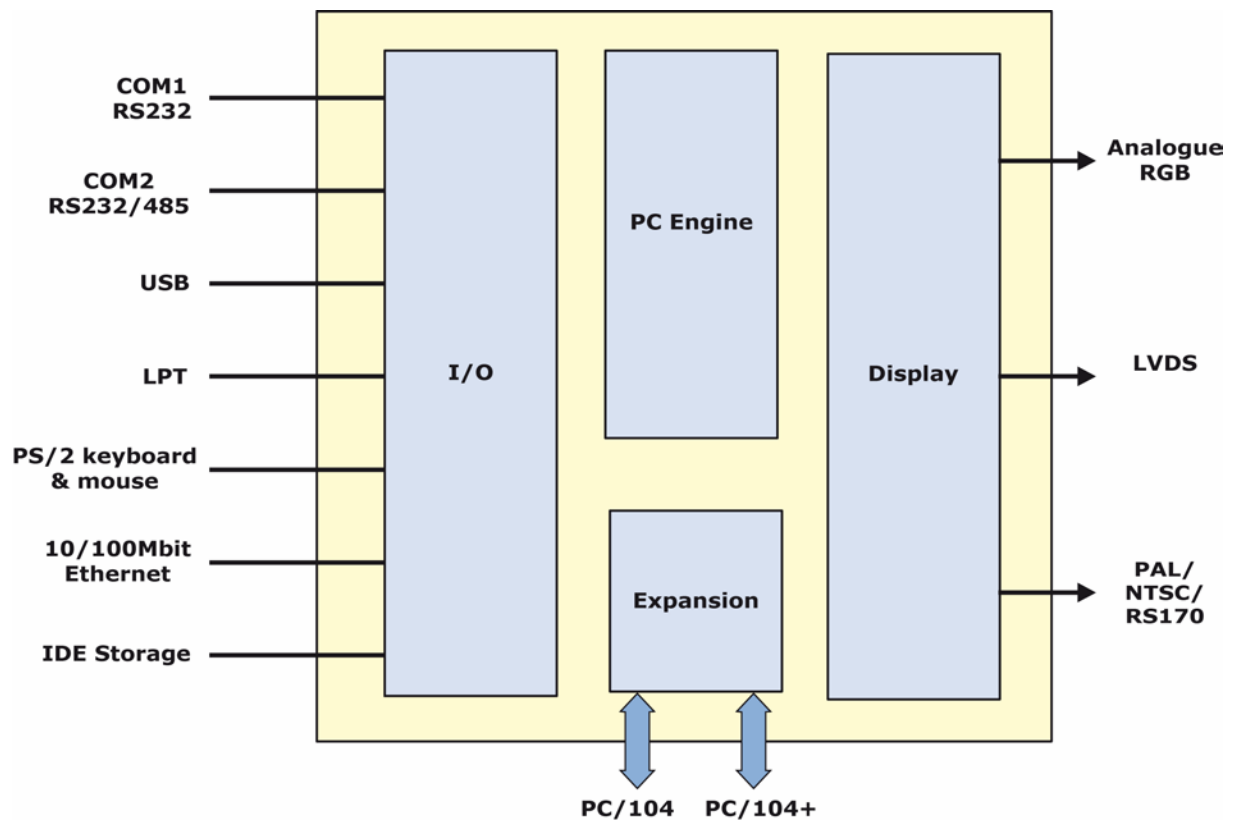
The Tiny-C3 Graphics Controller features:

- High-performance single-cycle GUI
- Highly-integrated RAMDAC™ and triple clock synthesizer
- Full-feature, high-performance 3D Graphics Engine
- High-speed internal AGP bus mastering data bus supporting MPEG2 playback and 3D
- Hardware implementation of motion compensation
- Dual video windows for video conferencing
- Direct-X and DirectVideo hardware support

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Operation Summary



Tiny-C3 Block Diagram

Processor

Via C3 Pentium-III class x86 CPU at up to 1.2GHz
Host Bus at 133MHz
64KBytes L1 cache, 64KBytes L2 cache
Advanced Cryptography Engine (option)
X86 instruction set

Memory

256 or 512MBytes SDRAM
512KBytes FlashROM (for BIOS)

Standard Peripherals

1 RS232 serial port with FIFO at 230.4Kbaud
1 RS232/422 serial port with FIFO at 230.4Kbaud
Supports Ultra DMA Hard Disk and CDROM drive
Supports Gbytes external CompactFlash (using T7Flash)
Supports PC Keyboard and PS2 Mouse

Extended Peripherals

High performance Savage4 AGP 4x Graphics Controller (CRT, TFT)
Up to 32Mbytes display buffer
CRT resolution up to 1600 x 1200 by 32 bits
Flat Panel resolution up to 1280 x 1024
LVDS Flat Panel Interface
Double-headed Display capability
Composite PAL/NTSC/RS170 output
Supports external CompactFlash (using T7Flash or CFlash2000)
10/100MBit PCI Ethernet Controller
One on-board USB 1.1 port
PCI bus-mastering USB Hub Controller
Fully compliant with UHCI standard
Software programmable watchdog timer

Power Management

ACPI compliant

Expansion

Standard PC/104 16-bit stackable bus (top stackable only)
Stackable embedded 32-bit PC/104plus PCI bus (top stackable only)
3.3V/5V PCI signalling

Physical

3.6in x 3.8in PC/104 format (2 board set)
Temperature 0 to 60°C
Rel. humidity 5% to 95% non-condensing (optional conformal coating)
Power consumption 27.5W (max) with 1.2GHz CPU+512MBytes DRAM
Single +5V DC regulated power supply
MTBF Greater than 125,000 Hours MIL-HDBK-217 at 25°C

Related Products

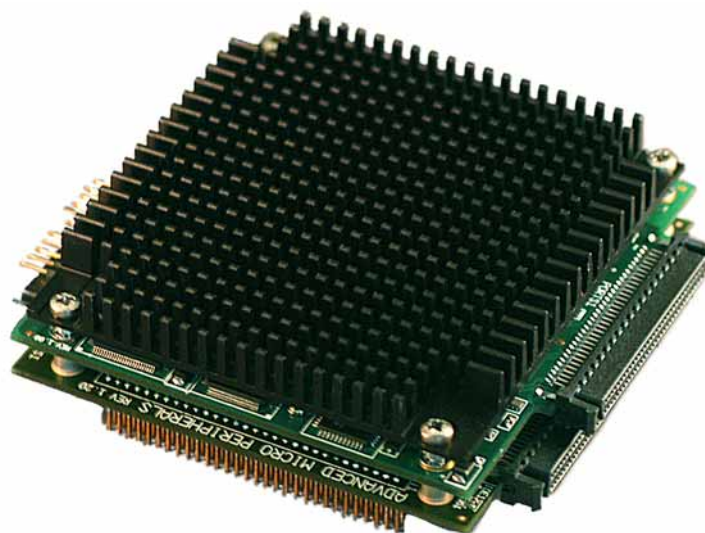
Cable-TC3	Cable set for attaching peripherals to the Tiny-C3
T7Flash-xxx	Case-mounted CompactFlash solid-state disk adaptor
CFlash2000	PC/104+ CompactFlash solid-state disk adaptor
LANswitch	5-port Ethernet Switch for PC/104+

Ordering Information

Tiny-C3-(CPU Speed)/(SDRAM size)-TV	
CPU Speed	532 for 532MHz, 665 for 665MHz, 1200 for 1200MHz
SDRAM size	256 for 256MBytes, 512 for 512Mbytes

Example

Tiny-C3-532/512-TV selects 532MHz CPU, 512MBytes SDRAM

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