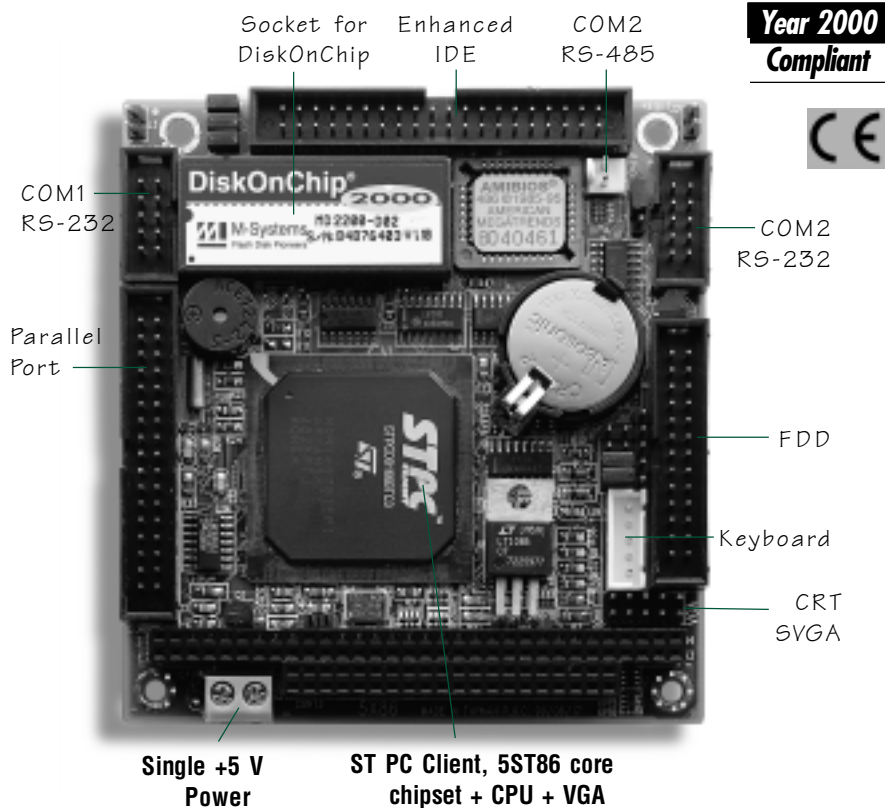


# PIA-3486

## Embedded CPU Card with ST PC Client with CRT SVGA Controller and DiskOnChip Socket



### Special Features

- Low power consumption by using embedded chipset ST PC Client, 5ST86 core chipset + CPU + VGA
- CRT Display Controller
- EDO DRAM 8 MB installed
- DiskOnChip socket
- Enhanced IDE and high speed Multi I/O supports RS-232/485 and a PS/2 mouse
- PC/104 connector
- Single voltage (+5V) operation
- AMI BIOS

The PIA-3486's ST PC Clients CPU is a 486 DX 66 MHz equivalent in an Pentium-like architecture with a 64 bits wide CPU local bus interface running at 66MHz. The ST PC Client incorporates an 64-bit graphic accelerator based on UMA-Technology (Unified Memory Architecture)

The modules SSD socket can accommodate a DiskOnChip®2000, a new generation of high performance single-chip Flash Disks of up to 288 MB.

The PIA-3486 is a core module for high performance control applications in demanding embedded applications. Because the module implements all key functions of a full PC/AT compatible system any standard PC compiler or debugger can be used, resulting in a significantly reduced software development cycle.

### ST PC Client

Super Integration  
and x86/PC compatibility.



#### What core is in the chip? Is it a Pentium?

It is a single pipeline, five stage x86 microprocessor with 8KB of write back cache. The STPC devices uses Pentium architecture in that the CPU local bus interface is 64 bits wide and runs at 66MHz and more. The design takes the best features of the Pentium-class chipset and the advantages of Unified Memory Architecture (UMA) and marries them with the space saving of a single-pipeline x86 processor.

#### What operating systems are available for the STPC?

Like any x86 compatible CPU, the STPC is compatible with all O.S. that run on x86 architecture. Today we have Windows 3.xx, QNX, DOS, ROM-DOS, VxWorks, Linux and many others running on the STPC devices.

#### How much is Heat dissipation and is there any guideline of using a cooling fan?

3.1W @ 66MHz, 3.3V.  
Cooling fan is required.

## Specifications

- **CPU + Chipset +VGA Controller** : SGS ST PC Client Fully static, 32-bit, 5 stage pipeline, 66 MHz x86 processor with FPU unit , 64-bit internal architecture equals Pentium performance, includes :
  - 64-bit graphical controller
  - 64-bit DRAM controller
  - 64-bit local bus interface at 66/75/120/133 MHz
  - 64-bit Windows Accelerator
  - PCI 2.1 compliant controller (internal)
  - ISA controller with selectable clock
  - Enhanced IDE, Scatter/gather and Multi-word DMA
- **BIOS** : Y2k compliant AMI system BIOS
- **DRAM Memory**: 8 MB EDO DRAM onboard
- **Bus Interface** : PC/104
- **Data Bus** : 16-bit
- **Bus Speeds** : PC/104 - 8 MHz (above values are defaults, bus speeds are programmable up to 16 MHz)
- **DMA Controllers** : 8237 x 2
- **DMA Channels** : 7
- **Interrupt Controllers** : 8259 x 2
- **Interrupt Levels** : 15
- **Enhanced IDE** : supports one port and up to two hard drives or Enhanced IDE devices of PIO mode 4. BIOS enabled/disabled
- **Watchdog Timer** : generates a system RESET or NMI when your application loses control over the system. Optionally the watchdog can trigger a user specified IRQ. The watchdog is configurable from 30.5 ms to 512 seconds (in 30.5 ms segments)
- **Keyboard and Mouse Connectors**:
  - Internal 5-pin header for AT-keyboard
  - Internal 5-pin header for PS/2-mouse

## HIGH SPEED MULTI I/O

- **Chipset** : ALi 5113 (jumper enable/disable)
- **Serial ports**: one high speed RS-232 port, one high speed RS-232/485 port (jumper selectable). Both with 16C550 UART and 16 byte FIFO. BIOS enabled/disabled
- **Floppy Disk Drive Interface**: supports up to two floppy drives, 5¼" (360 KB or 1.2 MB) and 3½" (720 KB, 1.44 MB). BIOS enabled/disabled
- **Bi-directional Parallel Port**: supports SPP, EPP and ECP mode. BIOS enabled/disabled

## INTERNAL PCI GRAPHICS CONTROLLER

- **Chipset** : included in ST PC Client, 64-bit
- **Memory** : 256 KB ~ 4 MB shared with system memory
- **Display** : CRT
- **Compatibility** : VGA hardware
- **OS Support** : DOS, Windows, Windows 95, Windows NT, Windows CE, QNX, OS/2

## FLASH DISK DISKONCHIP®

- **Package** : Single Chip FlashDisk in 32-pin DIP JEDEC
- **Capacity** : 1-144 MByte capacity
- **Data Reliability** : ECC/EDC error correction
- **Memory Window** : 8 KByte

## ENVIRONMENTAL AND POWER

- **Power Requirements**: single voltage +5 V @ 2 A with 8 MB EDO installed
- **Board Dimensions** : 90 (L) x 96 (W) mm.
- **Board Weight** : 110 g
- **Extended Operating Temperature**: 0~+55 °C

## Ordering

- ❑ **PIA-3486DV**: PC/104 Core Module with ST PC Client including CRT SVGA Controller and socket for DiskOnChip Flash Disk