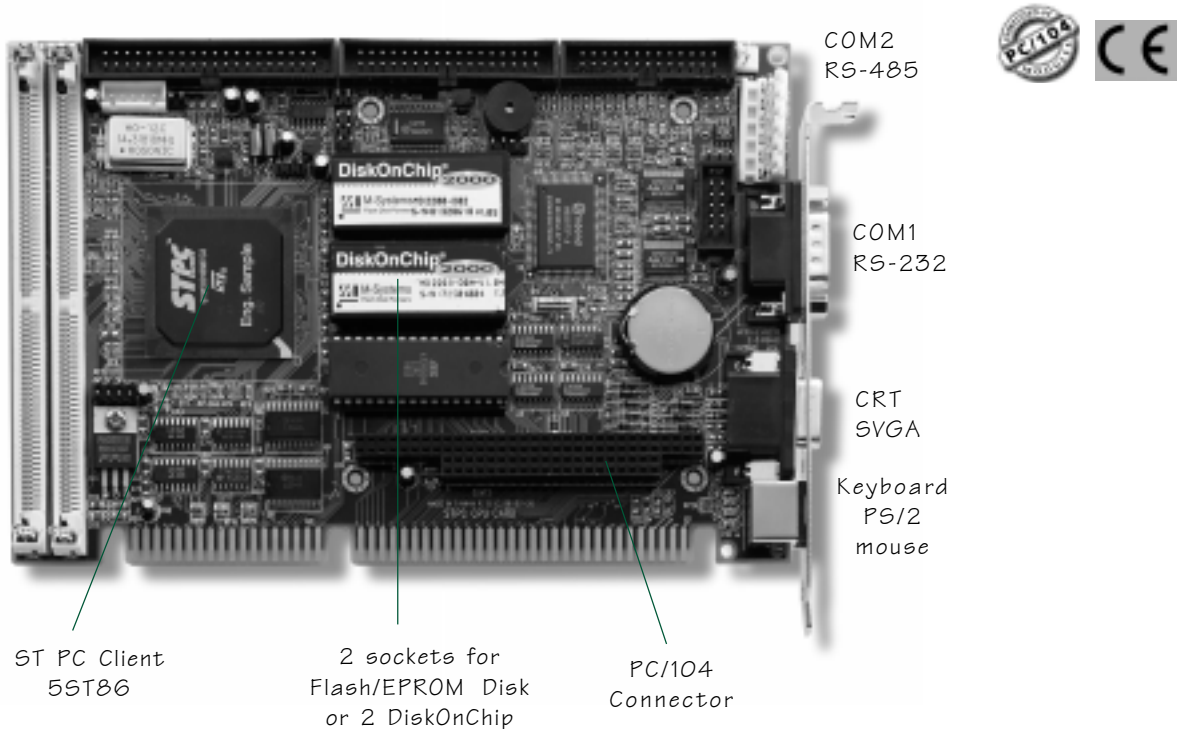


Embedded CPU Card with ST PC Client

with CRT SVGA Controller and Flash/ROM or 2 DiskOnChip Disk



Special Features

- Low power consumption by using embedded chipset ST PC Client, 5ST86 core chipset + CPU + VGA/Video
- CRT Display Controller
- FP or EDO DRAM 1~64 MB
- 2 Onboard Flash/EPROM Disks or DiskOnChip Flash disk
- Enhanced IDE and high speed Multi I/O supports RS-232/485 and a PS/2 mouse
- PC/104 connector

ST PC CLIENT : EMBEDDED PENTIUM PERFORMANCE

SGS-THOMSON Microelectronics developed the ST PC Client to be the first "Single Chip Multimedia Computer".

Next to a Pentium performance x86 core it offers an 64-bit DRAM-Controller, Standard Chipset functions (Interrupt-Controller, DMA-Controller, Counter / Timer), a PCI controller (Master / Slave) and ISA bus controller. The internal IDE controller allows direct connection of two harddisks. Besides the functions above the "ST PC Client" also includes a high speed 64-bit VGA controller with a 135 MHz RAMDAC that allows connection of a CRT monitor.

HIGH SPEED I/O

In addition, the PIA-647DV has one PS/2 mouse port, two serial ports (RS-232 x 1, RS-232/485 x 1), one bi-directional printer port that supports SPP, ECP and EPP modes.

FLASH/EPROM DISK OR DISKONCHIP

Two onboard sockets can accept up to 2 MB EPROM or 1 MB Flash memory. Both sockets can by jumper setting be assigned to hold a DiskOnChip of up to 72 MB.

WATCHDOG TIMER

The watchdog timer optionally monitors system operation. The watchdog timer is programmable by software. It can either generate an NMI or Reset or can be assigned to a user specified IRQ.

OEM/ODM : The ST PC Client is a typical product for custom design. Several functions of the chipset, such as external PCI bus and PAL/ NTSC Video subsystem are not supported by the example board on this page. Contact us to learn how to develop your on typical board.

Specifications

- **CPU + Chipset +VGA Controller** : SGS ST PC Client Fully static, 32-bit, 5 stage pipeline, x86 processor with FPU unit up to 133 MHz, 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** : AMI system BIOS
- **DRAM Memory**:
2 MB up to 64 MB of FP DRAM and EDO DRAM
2 sockets for 72-pin single or double sided SIMM modules
- **Bus Interface** : ISA and PC/104
- **Data Bus** : 16-bit
- **Bus Speeds** : ISA - 8,3 MHz, PC/104 - 8,3 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. Multi-word DMA mode for fast IDE
- **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 μ s to 512 seconds (in 30.5 μ s segments)
- **Keyboard and Mouse Connectors**:
Mini DIN connector for AT-keyboard and PS2 Mouse
Internal 5-pin header for AT-keyboard
Internal 5-pin header for PS/2-mouse

HIGH SPEED MULTI I/O

- **Chipset** : Winbond W83977F-A
- **Serial ports**:
one external high speed RS-232 port, one external 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.

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

ONBOARD FLASH/ROM DISK

- **Sockets** : 2 (DIP type)
- **Capacity** : 2 MB (EPROM), 1 MB (Flash)
- **Memory support** :
Flash : SST28SF040 or AT29C040A
EPROM : 27010, 27020, 27040 or 27080

FLASH DISK DISKONCHIP®

- **Package** : Single Chip FlashDisk in 32-pin DIP JEDEC
- **Capacity** : 1-72 MByte capacity
(future capacities: 144 MByte and up)
- **Data Reliability** : ECC/EDC error correction
- **Memory Window** : 8 KByte

ENVIRONMENTAL AND POWER

- **Power Requirements**: single voltage 5V @ 2A
- **Board Dimensions** : 185 (L) x 122 (W) mm.
- **Board Weight** : 220 g
- **Operating Temperature**: -10~+70 °C

Ordering

- ☐ **PIA-647DV**: Embedded CPU Card with ST PC Client including CRT SVGA Controller and 2 sockets for Flash/ROM or DiskOnChip Flash Disk