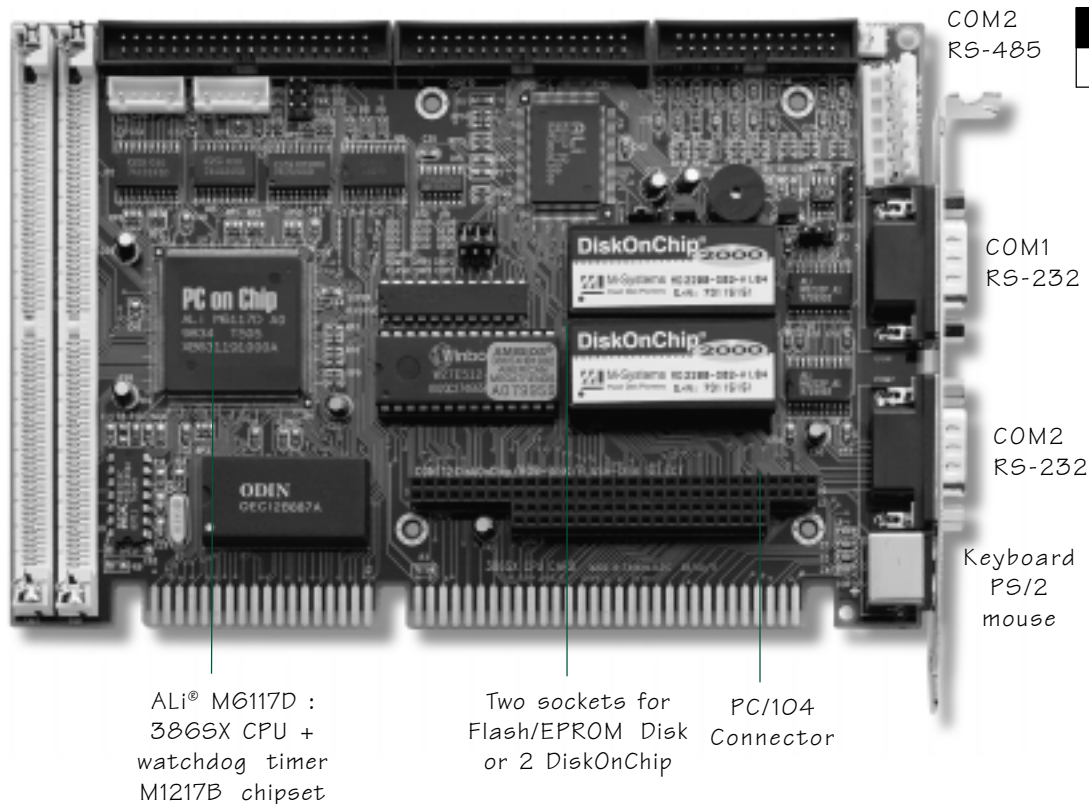


PIA-632

Highly Embedded 386SX-40 CPU Card

supports EDO Memory and Flash/ROM or 2 DiskOnChip Disks



ALI® M6117D :
386SX CPU +
watchdog timer
M1217B chipset

Two sockets for
Flash/EPROM Disk
or 2 DiskOnChip
PC/104
Connector

COM2
RS-485

**Year 2000
Compliant**



COM1
RS-232

COM2
RS-232

Keyboard
PS/2
mouse

Special Features

- **Low power consumption by using embedded chipset ALI M6117D => chipset + CPU + watchdog**
- **FP or EDO DRAM 1~64 MB two SIMM socket (bank 1 and bank 0),**
- **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**
- **AMI 386SX BIOS**
- **PC/104 connector**

The PIA-632EM is a highly integrated single board computer based on the ALI's M6117D microprocessor optimized for embedded designs.

ALI's M6117D combines an 386SX-40 compatible processor , a watchdog timer and ALI's M1217B on a single chip. Together with its PC/104 bus and onboard Flash/ROM or dual DiskOnChip disk the card easily qualifies for low power consumption, non-passive backplane SBC applications.

The card can accept both Fast Page DRAM and EDO system memory

ENHANCED IDE, HIGH SPEED I/O

In addition, the PIA-632EM 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, an enhanced IDE HDD interface that supports PIO mode 4, and a floppy disk controller.

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.

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.

PRICE/PERFORMANCE

With its industrial grade reliability, the PIA-632EM can operate continuously at temperatures up to 70°C. Its embedded features provide an ideal price/performance solution for commercial and industrial applications where stability and reliability are essential.

Specifications

- **CPU + Chipset** : Ali M6117D is an implementation of an INTEL compatible 386SX-40 CPU a watchdog timer and Ali's M1217B chipset
- **BIOS** : AMI system BIOS
- **Green Function** : power saving options supported in BIOS. DOZE / STANDBY / SUSPEND modes
- **DRAM Memory**: 1 MB up to 64MB of FPM or EDO DRAM, 2 sockets for 72-pin single side SIMM modules, two banks
- **Bus Interface** : ISA and PC/104
- **Data Bus** : 16-bit
- **Bus Speeds** : ISA - 8 MHz, 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 μ s to 512 seconds (in 30.5 μ s segments)
- **Real-time Clock** : Dallas DS-12887 or compatible with lithium battery backup for 10 years of data retention. CMOS data backup of BIOS setup and BIOS default.
- **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** : Ali 5113 (jumper enable/disable)
- **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.
BIOS enabled/disabled

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**:
+5 V @ 600 mA, \pm 12 V @ 20 mA
with 1 MB DRAM and 1 MB Flash disk installed
- **Board Dimensions** : 185 (L) x 122 (W) mm.
- **Board Weight** : 0.22 Kg
- **Operating Temperature**: -10~+70 °C

Ordering

- ☐ **PIA-632EM**: Highly Embedded 386SX-40 CPU Card with EDO support and 2 sockets for Flash/ROM or DiskOnChip