3 DIMM Sockets for Up To 768MB SDRAM
2 USB Ports
2 PCI Enhanced IDE Ports
Ultra 2 SCSI Connector
FDD Port
Parallel Port
LCD Panel Connector

C&T 69000 AGP CRT/LCD Panel Accelerator
Intel 82559 10/100 Base-T X Fast Ethernet Controller
Adaptec AIC-7890AB Ultra 2 SCSI Controller
Intel 440BX AGPset

VGA Connector
RJ-45 Ethernet Connector
COM2 Connector RS-232/422/485
COM1 Connector RS-232
Mini-Din PS/2 Keyboard + Mouse Connector

(AP686AF Shown)

Flash BIOS
RTC Battery
IrDA Header
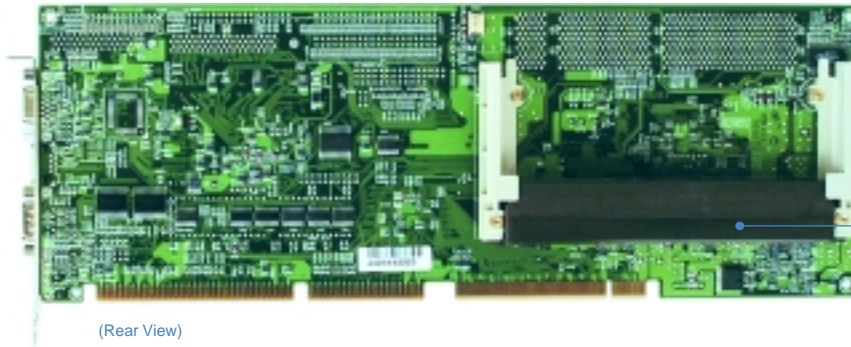Socket for M-Systems' DiskOnChip
5-Pin Keyboard Header

The AP686AF/BF/CF/DF series are full-size PICMG single board computers that feature the Intel 440BX chipset and support Intel Pentium II or Pentium III processors up to 600MHz and higher.

The deluxe **AP686DF** is perfect for telecommunication/telephony applications. The **AP686CF** adds on-board C&T 69000 AGP CRT/LCD panel accelerator with embedded 2MB SDRAM for applications that require video. The **AP686BF** also has the C&T 69000 accelerator and adds Intel 82559 10/100Base-TX Fast Ethernet controller for applications that demand network connectivity. The flagship **AP686AF** has all the features metioned and adds Adaptec AIC-7890 Ultra2 SCSI controller.

All AP686 series boards have the following standard features: Two PCI Enhanced IDE ports to connect up to four Ultra DMA-33 devices and one socket for DiskOnChip provides the option for diskless operation. A long list of I/O functions include two serial ports (one supports selectable RS-232/422/485), one multi-mode parallel port, two USB ports, one 4-bit digital I/O, and one IrDA interface. Watchdog Timer and Health Monitoring with CPU temperature alarm support completes this high performance and reliable series.

## ■ Specifications

- **CPU Support**
  Supports Slot 1 Intel Pentium II or Pentium III processors up to 600MHz and higher.

- **System Chipset**
  Intel 440BX AGPset. 100MHz FSB.

- **System Memory**
  Three 168-pin DIMM sockets support up to 768MB memory (ECC capable).

- **Solid State Disk**
  One 32-pin DIP socket supports M-Systems DiskOnChip 2000 up to 144MB.

- **VGA Controller**
  C&T 69000 AGP Flat Panel/CRT accelerator with integrated 2MB video memory, supports resolutions and color depth up to 1280x1024 x 8bpp (AP686AF/BF/CF only).

- **SCSI Controller**
  Adaptec AIC-7890AB Ultra-Wide SCSI controller with 68-pin connector (AP 686AF only).

- **Ethernet Controller**
  Intel SB82559 10/100Base-TX Ethernet Controller with RJ-45 connector (AP 686AF/BF only).

- **IDE Interface**
  Two Enhanced IDE port supports up to four IDE or Ultra DMA-33 devices.

- **FDD Interface**
  One FDD interface supporting up to two floppy drives.

- **Serial Port**
  Two 16550 serial ports on-board, one RS-232 and one RS-232/422/485.

- **Parallel Port**
  One multi-mode parallel with support for EPP, ECP and SPP.

- **Universal Serial Bus**
  Two on-board USB port headers.

- **Digital I/O**
  4-bit digital input / 4-bit digital output header.

- **IR Interface**
  On-board IRDA header support one IR Interface.

- **Keyboard**
  5-pin header keyboard connector.

- **PS/2 Keyboard + Mouse**
  On-board 6-pin Mini-Din PS/2 keyboard + mouse connector.

- **Watchdog Timer**
  7 hardware level time-out intervals (0.5/1/2/4/16/32/64 seconds).
  16 Software level time-out intervals (0/2/4/6/8/10/12/14/16/18/20/22/24/26/28/30 seconds).

- **Health Monitoring**
  On-board Winbond W83783S health monitoring with CPU temperature alarm.

- **BIOS**
  256K Award flash BIOS.

- **Bus Interface**
  ISA/PCI bus (PICMG).

- **RTC Battery**
  Dallas RTC Battery.

Slot 1 CPU Slot Supports Intel Pentium II / III Processors Up To 600MHz and Higher

(Rear View)

## ■ Ordering Information

- **AP686AF Features:**
  - Full-size PICMG Slot 1 Pentium II / III single board computer
  - Intel 440BX chipset with 3 168-pin DIMM support up to 768MB SDRAM
  - One SSD socket supports up to 144MB DiskOnChip 2000
  - On-board C&T 69000 **Flat Panel / CRT accelerator** with 2MB video RAM
  - On-board Adaptec AIC-7890AB **Ultra-Wide SCSI** controller
  - On-board Intel SB82559 **10/100Base-TX Ethernet** controller
  - Two Enhanced IDE ports with Ultra DMA/33 support & one floppy port
  - Two serial ports, one parallel port, two USB ports, one Digital I/O & one IrDA
  - Supports health monitoring with CPU temperature alarm

- **AP686BF Features:**
  - Full-size PICMG Slot 1 Pentium II / III single board computer
  - Intel 440BX chipset with 3 168-pin DIMM support up to 768MB SDRAM
  - One SSD socket supports up to 144MB DiskOnChip 2000
  - On-board C&T 69000 **Flat Panel / CRT accelerator** with 2MB video RAM
  - On-board Intel SB82559 **10/100Base-TX Ethernet** controller
  - Two Enhanced IDE ports with Ultra DMA/33 support & one floppy port
  - Two serial ports, one parallel port, two USB ports, one Digital I/O & one IrDA
  - Supports health monitoring with CPU temperature alarm

- **AP686CF Features:**
  - Full-size PICMG Slot 1 Pentium II / III single board computer
  - Intel 440BX chipset with 3 168-pin DIMM support up to 768MB SDRAM
  - One SSD socket supports up to 144MB DiskOnChip 2000
  - On-board C&T 69000 **Flat Panel / CRT accelerator** with 2MB video RAM
  - Two Enhanced IDE ports with Ultra DMA/33 support & one floppy port
  - Two serial ports, one parallel port, two USB ports, one Digital I/O & one IrDA
  - Supports health monitoring with CPU temperature alarm

- **AP686DF Features:**
  - Full-size PICMG Slot 1 Pentium II / III single board computer
  - Intel 440BX chipset with 3 168-pin DIMM support up to 768MB SDRAM
  - One SSD socket supports up to 144MB DiskOnChip 2000
  - Two Enhanced IDE ports with Ultra DMA/33 support & one floppy port
  - Two serial ports, one parallel port, two USB ports, one Digital I/O & one IrDA
  - Supports health monitoring with CPU temperature alarm

## ■ Physical Dimension / Operating Environment

- **Dimension / Weight**
  13.25" X 4.83" / 338mm X 122mm
  1.000 lb / 454 g (AP686AF)

- **Operating Conditions**
  Temperature: 32°F to 158°F / 0°C to 70°C
  Humidity: 10% to 90% RH
  Power: 8.18A at +5V and  0.24A at +12V