Chapter 1

Overview

The AP5T is a high-performance Pentium®-based system board that utilizes the PCI/ISA architecture and **Baby AT** form factor. It integrates the Intel **82430TX** PCIset, a Super I/O controller, and a PCI mode 4 enhanced IDE controller with bus master and **Ultra DMA/33** to enhance system performance. It has **256KB** or **512KB** pipelined-burst second-level **cache onboard** and support four single in-line memory module (SIMM) plus two Dual in-line memory module (DIMM) that allow to **mix EDO and SDRAM** memory and expansion up to a maximum of 256MB. For the memory and IDE performance, the Intel 430TX chipset is currently the **fastest Pentium chipset** in the market.

Another feature that AP5T intends to implement is the new power management features of **Advanced Configuration Power Interface (ACPI).** The most attractive feature of ACPI for desktop user is probably **OnNow**, an idea from Notebook. You don't have to go through the entire boot process, into Win95, and back to your original work. Since ACPI specification is not fully defined yet. AP5T implements **Suspend to Hard Drive** by BIOS, from user point of view, it is the same as OnNow. Note that you have to use VESA compatible VGA (AOpen S3 PCI PV70/PT70), Sound Blaster compatible sound card (AOpen AW35/MP56), Rockwell compatible Modem (AOpen F56/MP56) for Suspend to Hard Drive to work properly.

Note: *ACPI is a specification of PC97, it is not fully defined yet. Although AOpen will try the best to support ACPI (normally, through BIOS modifications), it is still possible AP5T can not fully comply ACPI specification.*

There are also more features start to be implemented from AP5T revision 3.xx.

Switching Power Regulator, Although Linear Regulator of AP5T revision 2 is good enough for AMD K6, AP5T revision 3.xx uses switching requlator to reserve the upgrade capability for new generation CPU.

Over-current Protection, AP5T revision 3.xx implements 3.3V (chipset, PBSRAM, SDRAM) 10A and CPU core voltage 15A over-current protection to prevent any accident short circuit and prevent system damage.

CPU Thermal Protection, When CPU temperature is higher than a predefined value, the CPU speed will automatically slow down and there will be warning from BIOS and also ADM (AOpen Desktop Manager, similar as Intel LDCM), if ADM is installed.

FCC DoC certificate

The AP5T has also passed **FCC DoC test**, this means you can use any kind of housing with very low EMI radiation.

1.1 Specifications

Form Factor	Baby AT
Board Size	220 mm x 280 mm
CPU	Intel Pentium Processor P54C, PP/MT (P55C), AMD K5/K6, Cyrix 6x86 and IDT C6.
System Memory	FPM (Fast Page Mode) or EDO (Extended Data Output) 72-pin SIMM x4, and SDRAM 168-pin x2 maximum 256MB.
Second-level Cache	256KB or 512KB pipelined-burst cache onboard
Chipset	Intel 82430TX PCIset
Expansion Slots	ISA x3 and PCI x4
Serial Port	Two serial ports UART 16C550 compatible
Parallel Port	One parallel port supports standard parallel port (SPP), enhanced parallel port (EPP) or extended capabilities port (ECP).
Floppy Interface	Floppy interface supports 3.5 inches drives with 720KB, 1.44MB or 2.88MB format or 5.25 inches drives with 360KB, 1.2MB format
IDE Interface	Dual-channel IDE interface support maximum 4 IDE hard disks or CDROM, mode 4 , bus master hard disk drives and Ultra DMA/33 mode hard drives are also supported.
USB Interface	Two USB ports supported by USB bracket, the BIOS also supports USB driver to simulate legacy keyboard.
PS/2 Mouse	PS/2 mouse supported by PS/2 mouse bracket.
Keyboard	Default AT compatible keyboard, mini-DIN PS/2 keyboard connector is optional.
RTC and Battery	RTC build in Intel PIIX4 chipset, Lithium (CR-2032) battery.
BIOS	AWARD Plug-and-Play Flash ROM BIOS
Suspend to Hard Drive	Supported by BIOS, save your work to hard disk and resume within a very short time. VESA compatible VGA and Sound Blaster compatible sound card required.
Switching Regulator	High efficient switching regulator for future CPU.
Over-current Protection	3.3V 10A and CPU core voltage 15A over-current protection to prevent any accident short circuit.
CPU Thermal Protection	Warning when CPU temperature is higher than the predefined value.