Appendix A

Frequently Asked Question

> **Note:** *FAQ may be updated without notice. If you cannot find the information that you need in this appendix, visit our WWW home page, (address: **http://www.aopen.com.tw**) and check the FAQ area and other new information.*

Q: How can I identify the mainboard BIOS version?

A: The AOpen mainboard BIOS version appears on the upper-left corner of the POST (Power-On Self Test) screen. Normally, it starts with R and is found in between the model name and the date. For example:

`AP53/AX53 R3.80 Oct.22.1996`

BIOS revision

Q: How can I identify the model name & revision of the mainboard from PCB?

A: The AOpen mainboard revision appears as REV:X.X on the PCB, usually it is under beneath of AOpen Logo & mainboard model name. For example, "AX6L REV:1.2" shall appear on the PCB as follows:

AOpen®

AX6L
REV:1.2

Frequently Asked Questions

Q: What is MMX?

A: MMX is the new single-line multiple-instruction technology of the new Intel Pentium PP/MT (P55C) and Pentium II CPU. The AMD K6 and Cyrix M2 will support MMX, too. The MMX instructions are specifically useful for multimedia applications (such as 3D video, 3D sound, video conference). The performance can be improved if applications use these instructions. All AOpen MBs have at least dual power onboard to support MMX. It is not necessary to have special chipset for MMX CPU.

Q: What is USB (Universal Serial Bus)?

A: USB is a new 4-pin serial peripheral bus that is capable of cascading low/medium speed peripherals (less than 10Mbit/s) such as keyboard, mouse, joystick, scanner, printer and modem/ISDN. With USB, the traditional complex cables from back panel of your PC can be eliminated.

You need the USB driver to support USB device(s). AOpen MBs are all USB ready, you may get latest BIOS from AOpen web site (http://www.aopen.com.tw). Our latest BIOS includes the keyboard driver (called Legacy mode), that simulates USB keyboard to act as AT or PS/2 keyboard and makes it possible to use USB keyboard if you don't have driver in your OS. For other USB devices, you may get the drivers from your device vendor or from OS (such as Win95). Be sure to turn off "USB Legacy Support" in BIOS "Chipset Setup" if you have another driver in your OS.

Q: What is FCC DoC (Declaration of Conformity)?

A: The DoC is new certification standard of FCC regulations. This new standard allows DIY component (such as mainboard) to apply DoC label separately without a shielding of housing. The rule to test mainboard for DoC is to remove housing and test it with regulation 47 CFR 15.31. The DoC test of mainboard is more difficult than traditional FCC test. If the mainboard passes DoC test, that means it has very low EMI radiation and you can use any kind of housing (even paper housing). Following is an example of DoC label.
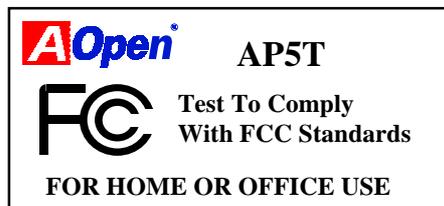
Q: What is Bus Master IDE (DMA mode)?

A: The traditional PIO (Programmable I/O) IDE requires the CPU to involve in all the activities of the IDE access including waiting for the mechanical events. To reduce the workload of the CPU, the bus master IDE device transfers data from/to memory without interrupting CPU, and releases CPU to operate concurrently while data is transferring between memory and IDE device. You need the bus master IDE driver and the bus master IDE HDD to support bus master IDE mode. Note that it is different with master/slave mode of the IDE device connection. For more details, refer to section 2.3 "Connectors".

Q: What is the Ultra DMA/33?

A: This is the new specification to improve IDE HDD data transfer rate. Unlike traditional PIO mode, which only uses the rising edge of IDE command signal to transfer data, the DMA/33 uses both rising edge and falling edge. Hence, the data transfer rate is double of the PIO mode 4 or DMA mode 2. (16.6MB/s x2 = 33MB/s).

The following table lists the transfer rate of IDE PIO and DMA modes. The IDE bus is 16-bit, which means every transfer is two bytes.

Mode	Clock per 33MHz PCI	Clock count	Cycle time	Data Transfer rate
PIO mode 0	30ns	20	600ns	(1/600ns) x 2byte = 3.3MB/s
PIO mode 1	30ns	13	383ns	(1/383ns) x 2byte = 5.2MB/s
PIO mode 2	30ns	8	240ns	(1/240ns) x 2byte = 8.3MB/s
PIO mode 3	30ns	6	180ns	(1/180ns) x 2byte = 11.1MB/s
PIO mode 4	30ns	4	120ns	(1/120ns) x 2byte = 16.6MB/s
DMA mode 0	30ns	16	480ns	(1/480ns) x 2byte = 4.16MB/s
DMA mode 1	30ns	5	150ns	(1/150ns) x 2byte = 13.3MB/s
DMA mode 2	30ns	4	120ns	(1/120ns) x 2byte = 16.6MB/s
DMA/33	30ns	4	120ns	(1/120ns) x 2byte x2 = 33MB/s

Q: What is ACPI (Advanced Configuration & Power Interface) and OnNow?

A: The ACPI is new power management specification of 1997 (PC97). It intends to save more power by taking full control of power management to operating system and not through BIOS. Because of this, the chipset or super I/O chip needs to provide standard register interface to OS (such as Win97) and provides the ability for OS to shutdown and resume power of different part of chip. The idea is a bit similar to the PnP register interface.

ACPI defines momentary soft power switch to control the power state transition. Most likely, it uses the ATX form factor with momentary soft power switch. The most attractive part of ACPI for desktop user is probably the "OnNow" feature, an idea from notebook. This feature allows you to immediately resume to your original work without the long time waiting from bootup, entering Win95 and running Winword. The AX5T with Intel TX chipset can support ACPI.

Q: What is ATX Soft Power On/Off and Momentary Switch?

A: The Soft Power On of the ATX specification means to provide a standby current for special circuit to wait for wakeup event when main power is off. For example, Infrared wakeup, modem wakeup, or voice wakeup. Currently, the most simple usage is to provide standby current for power switch circuit so that power switch can turn on/off the main power through soft power control pin. The ATX power specification does not mention anything about the power switch type. You can use toggle or momentary switch, note that ACPI specification requires momentary switch for power state control. All the AOpen ATX MBs support momentary switch.

Soft Power Off means to turn off system through software, Windows 95 Shutdown function can be used to verify if your mainboard supports soft power off.

Q: What is the AGP (Accelerated Graphic Port)?

A: AGP is a PCI-like bus interface targeted for high-performance 3D graphic. AGP supports only memory read/write operation and single-master single-slave one-to-one only. The AGP uses both rising and falling edge of the 66MHz clock and produces 66MHz x 4byte x 2 = 528MB/s data transfer rate.

Q: Does Pentium, Pentium Pro or Pentium II support Deturbo mode?

A: The Deturbo mode was originally designed to slow down CPU speed for old applications (especially old games). It uses programming loop to wait or delay special event. This programming method is considered very bad since the delay of loop highly depends on the CPU speed and the application fails at high-speed CPU. Almost all new applications (including games) use RTC or interrupt to wait event. There is no need for Deturbo mode now. The Turbo switch is now used as Suspend switch. However, some MBs still support Turbo/Deturbo function via keyboard. You can set the system to Deturbo by pressing <Ctrl> <Alt> <->. To back to Turbo mode, press <Ctrl> <Alt> <+>. Note that the Deturbo mode has been removed in new MBs since these require more code space in Flash ROM.

Q: Power Management Icon does not appear in the Windows 95 Control Panel even though the APM under BIOS Setup is enabled.

A-4

A: This problem occurs if you did not enable the APM function before you install Windows 95. If you have already installed Windows 95, re-install it after the BIOS APM function is enabled.

Q: Why does the system fail to go into suspend mode under Win95?

A: This problem may be caused by your CDROM settings. The CDROM Auto Insert Notification of Win95 is dafault enabled, the system will continue to monitor your CDROM, auto-execute application when a CD diskette is loaded, and prevents the system from entering into suspend mode. To resolve this, go into Control Panel è System è Device Manager è CDROM è Setting, and disable the "Auto Insert Notification" function.

Q: Which version of the Windows '95 that I am using?

A: You may determine the version of Windows '95 by following steps.

    1. Double click "System" in "Control Panel".
    2. Click "General".
    3. Look for "System" heading & refer to following,

4.00.950	Windows 95
4.00.950A	Windows 95 + Service Pack or OEM Service Release 1
4.00.950B	OEM Service Release 2 or OEM Service Release 2.1

If you are running OSR 2.1, you may tell it from by checking "USB Supplement to OSR2" in the list of installed program of Add/Remove program tool under Control Panel, and checking for version 4.03.1212 of the Ntkern.vxd file in the Windows\System\Vmm32 folder.

Q: What is LDCM (LAN Desktop Client Manager)?

A: This is a software of Intel. The major goal is to provide an easy way for corporate network administrator to monitor the status of all the clients (workstation). You need at least DMI BIOS for LDCM. AOpen BIOS is also DMI ready but unfortunately, Intel LDCM needs Intel network card and ATI VGA to work properly. It is obviously not suitable for home user to pay LDCM extra cost.

Frequently Asked Questions

Q: What is ADM (Advanced Desktop Manager)?

A: This is a desktop client and server management software developed by AOpen. It is similar as Intel LDCM with some improvement. ADM is not only for corporate network management, it can also be used as system status monitoring utility, for example, CPU fan, thermal and system voltage monitoring.

Features	ADM 2.1	LDCM 3.0
VGA card	No limitation	Only ATI
Network card	No limitation	Only Intel
Support DMI BIOS 2.0	Yes	Yes
Support Win95	Yes	Yes
Support Win NT	Yes	Yes
Real-Time CPU/Memory Utilization Monitoring	Yes	No
Multi-Machine Monitoring on One Screen	Yes	No
Remote Management Protocol	Standard SNMP protocol	Intel proprietary RAP protocol
Standard SNMP Trap	Yes (so that can work with standard software such as HP Open View)	No
Remote File Transfer	No	Yes