Chapter 1

Overview

MX58 Plus is an all-in-one Pentium®-based motherboard that features an **onboard video graphics accelerator and a 16-bit sound processor**. This motherboard utilizes the PCI/ISA architecture and ATX form factor and integrates the **SIS 5598** 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 **512KB** pipelined-burst second-level cache onboard and supports two single in-line memory module (SIMM) plus two Dual in-line memory module (DIMM) that allows to **mix EDO and SDRAM** memory and expansion up to a maximum of **256MB**.

In addition, MX58 Plus also implements many special features.

Full-range CPU core voltage This motherboard supports the CPU core voltage from 1.3V to 3.5V, that can be applied to various CPU type in future.

High Efficient Synchronous Switching Power Regulator Most of the current switching designs are asynchronous mode, which from the technical point of view, still consumes very high power as well as heat. This motherboard implements high efficient Synchronous switching design that the temperature of MOS FET is less than 36 degree C comparing with 57 degree Schottky diode of Asynchronous design.

RTC Wake Up Timer The Wake Up Timer is more like an alarm, which wakes up and power on your system at a pre-defined time for specific application. It can be set to wake up everyday or on specific date within a month. The date/time accurate is second.

Over Current Protection Circuit The Over Current Protection was very popular implemented on the Baby AT or ATX +5V/+12V switching power supply. It is very useful to prevent accidental short circuit when you install the mainboard, HDD, add-on cards into housing. But unfortunately, the new generation CPU and chipset use 3.3V/2.8V Voltage which has regulator to transfer 5V to 3.3V (Vcpuio, chipset, PBSRAM, SDRAM) and 2.8V (CPU Vcore), and makes 5V Over Current Protection useless. AOpen MX58 Plus

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supports 3.3V and 2.8V Over Current Protection, in conjunction with 5V/12V power supply provide the full line Over Current Protection.

FCC DoC certificate MX58 Plus has passed FCC DoC test. The radiation is very low, you can use any kind of housing.

Powerful utility software supported AOpen Bonus Pack bundled CD contains many useful utilities, such as ADM (Advanced Desktop Manager), AOchip, Hardware Monitor utility, Suspend to Hard Drive utility, and BIOS flash utility.

1.1 Specifications

Form Factor	ATX
Board Size	245 mm x 245 mm
CPU	Intel Pentium Processor P54C, PP/MT (P55C), AMD K5/ K6/K6-II, Cyrix 6x86/M2 and IDT C6.
System Memory	FPM (Fast Page Mode) or EDO (Extended Data Output) 72-pin SIMM x2, and SDRAM 168-pin x2 maximum 256MB.
Second-level Cache	512KB pipelined-burst cache onboard
Chipset	SIS 5598 PCIset
Expansion Slots	ISA x2 and PCI x3
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	Mini-Din PS/2 mouse connector onboard.
Keyboard	Mini-Din PS/2 keyboard connector onboard.
RTC and Battery	RTC build in chipset, Lithium (CR-2032) battery.
BIOS	AWARD Plug-and-Play, 2M bit Flash ROM BIOS. Multi-language versions supported.