
**IT-586GXm +
SYSTEM BOARD
REFERENCE MANUAL
(VERSION 1.0)**

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REFERENCE MANUAL**

PMM+86001-00

CONTENTS(目录)

PART1: INTRODUCTION(主板介绍).....	1
1.1 System Overview(系统综述).....	1
1.2 Features(特性).....	2
1.3 PCI AUTO-Configuration Capability(PCI自动配置性能).....	5
1.4. ISA Plug & Play Capability(ISA即插即用功能).....	5
PART2: HARDWARE CONFIGURATION.....	6
(硬件配置)	
2.1 System Memory(系统内存).....	6
2.2 CPU Jumper Setting (CPU跳线设置).....	7
2.3 Connectors(接头).....	9
APPENDIX A.....	21

CHAPTER 1 INTRODUCTION(主板介绍)

1.1 System overview(系统综述)

The 586GXm+ system board is mini-baby AT-sized, fully PC/AT compatible. It is designed with Cyrix 586GXm processor with MMX technology and CX5530 Core logic to enable a new class of full-function desktop system. The On-board Cyrix 586GXm processor is an integrated advanced 64-bit x86 compatible processor which offering superior performance. The integration includes a high-performance 2D graphics connector, an integrated PCI interface and a unified memory subsystem. Enhancements to the SMM architecture enable Cyrix's Virtual System Architecture(VSA) for Virtual VGA and Virtual Audio. The CX5530 provides the hardware necessary to support the virtual Audio subsystem as part of the Cyrix Virtual System Architecture(VSA). The GXm processor provides VGA compatibility through a mixture of hardware and software, at provides Y-U-V formatted data from MPEG video stream to the CX5530. The CX5530 performs color space conversion(Y-U-V to R-B-G), and arbitrary X&Y scaling.

586GXm+ 系统板是完全兼容 PC/AT 的小型 AT-尺寸的主板,它是采用 Cyrix 的 586GXm(带 MMX 技术)处理器和 CX5530 芯片来设计的,是一种全新的台式系统,主板上集成的 Cyrix 586GXm CPU 是一种和 X86 完全兼容的 64 位高性能处理器,此集成器包括一个高性能的图形接口、一个 PCI 总线接口和一个统一的内存子系统。增强的 SMM 构架允许 Cyrix 的虚拟系统构架 (VSA)提供虚拟的 VGA 和音频。CX5530 提供了硬体支援 VSA 的虚拟音频子系统,此 GXm 处理器混合了硬件和软件提供 VGA 功能,亦从 CX5530 MPGE 信号队列中提供 Y-U-V 数据格式和 CX5530 颜色

转换(Y-U-V 到 R-B-G)。

The 586GXm+ processor core is a proven design that offers leading edge CPU performance. It has integer and floating point execution Units that are based on sixth-generation technology.

Cyrix 586GXm + 是 64 位的第六代处理器,它包括 6 级执行管线,每条管线又分为指令预取、指令解码、地址转换、运算和结果写回等部分,而且又集成了基于第六代技术的浮点运算单元。

1.2 Features(特性)

The 586GXm+ system board supports(or includes) the following features:

586GXm+ 主板支持以下功能:

- On-board Cyrix 586Gxm PR200、PR233 、PR266、PR300 process with MMX support.
- 集成了 Cyrix 586GXm PR200, PR233 , PR266, PR300, 支持 MMX 的 CPU

- Virtual VGA
 - Support full VGA and VESA mode
 - Up to 1280x1024 256 color and 1024x768 16bit color
- 虚拟 VGA
 - 提供所有 VGA 和 VESA 显示模式
 - 支持 1280X1024 256 种颜色以及 1024X768 64K 种颜色

- MPEG - Assist
 - Y-U-V to R-B-G conversion hardware
 - Hardware MPEG function support

- MPGE 加速
 - Y-U-V 到 R-B-G 的硬件转换
 - 硬件 MPEG 功能支持

- Virtual Audio
 - Support Line-in、Speaker、Microphone Jack.
 - Support software writer for Sound Blaster(II、Pro、16)
 - Support AC97
- 虚拟音频
 - 支持 Line-IN、扬声器、麦克风接头
 - 支持 Sound Blaster(II、Pro、16)
 - 支持 AC97 规范

- Integrated DRAM controller
 - 64-bit wide memory bus
 - SDRAM bus operating frequency range of 66 to 100MHz
 - Support for:
 - two 168-pin unbuffered DIMMs 8MB to 256MB main
- memory
 - 集成了内存控制器
 - 64 位带宽的内存通道
 - 同步 SDRAM 工作频率从 66MHz 到 100MHz
 - 支持两条 168 脚非缓冲 DIMM 条从 8MB 到 256MB

- Built-in fast PCI Master/Slave controller
 - Support up to 4 IDE devices
 - Support Ultra DMA33
 - Support PIO Mode 4 and DMA Mode 2
 - Four 32-bit prefetch buffers and Four 32-bit write buffers.
 - PCI BUS Master Burst read and writes
- 集成了快速 PCI IDE 控制器
 - 支持 4 个 IDE 设备

- 支持 Ultra DMA33

3

- 支持模式 4、DMA 模式 2 的标准
- 支持 4 个 32 位予取缓冲和 4 个 32 位写缓冲
- PCI 总线的爆发式读写

■ Universal Serial Bus

- Two independent USB interface

■ USB 接口

- 支持两个 USB 接口

■ Power Management

- ACPI 1.0 compatible

■ 电源管理

- 符合 ACPI 1.0 规范

■ PCI BUS interface

- PCI Version 2.1 compatible
- PCI interface operating up to 33Mhz

■ PCI 总线接口

- 符合 PCI 总线 2.1 标准
- 最高工作频率达 33Mhz

■ Super Multi-I/O, Provides two high-speed UART compatible serial ports and one parallel port with ECP and EPP capabilities. Two floppy drives of either 5.25" or 3.5" (1.2MB、 1.44MB or 2.88MB) are also supported on board.

■ 支持超级 I/O 部分,提供 2 个高速串口,一个 ECP/EPP/SPP 的并口,一个软驱接口直接连两个软盘驱动器。

■ Two 32 bit PCI slots,Two 16-bit expansion slots.

■ 2 个 32 位的 PCI 槽, 2 个 16 位的 ISA 槽。

- Real time clock with 256Byte CMOS SRAM.
- 实时时钟

1.3 PCI AUTO-Configuration Capability(PCI 自动配置性能)

The PCI auto-configuration utility operates in conjunction with the system Setup utility to allow the insertion and removal of PCI cards to the system without user intervention. When the system is turned on after adding a PCI add-in card , the BIOS automatically configures interrupts, DMA channels, I/O space, and other parameters. The user does not have to configure jumpers or worry about potential resource conflicts. PCI cards use the same interrupt resources as ISA cards, the user must specify the interrupt used by ISA add-in cards in the Setup utility . The PCI Auto-Configuration function complies with the PCI BIOS specification.

PCI 自动配置功能可以在关电后插上或挪开 PCI 卡而用户无须担心。插上 PCI 卡、加电, BIOS 完全自动给它配置中断、DMA、通道、I/O 地址及其它参数,用户无须跳线也不要担心资源冲突。

1.4 ISA Plug & Play Capability(ISA 即插即用功能)

The BIOS incorporates ISA Plug and Play capabilities conforming to the Plug-n-Play specification. This will allow auto-configuration of Plug and Play ISA cards, and resource management for legacy ISA

cards, when used in conjunction with the ICU, ISA Configuration Utility.

BIOS 结合 ISA 即插即用功能,完全依照即插即用的规范,可以

5

自动配置即插即用 ISA 卡,亦可用 ICU、ISA 配置方法,对传统的 ISA 卡进行资源管理。

CHAPTER 2 (硬件配置) HARDWARE CONFIGURATION

This chapter explains how to configure the system main board's hardware. After you have installed the main board, you can make jumper setting and cable connections. Please refer to system board layout in Appendix A for location.

本部分主要说明怎样进行硬件配置。配置 IT-586GXm+ 系统非常简单,只需设置几个跳线,连接一些接口等。附录 A 描述了系统板简图。

2.1 System Memory(系统内存)

The 586GXm + supports a 64-bit memory array from 8MB to 256MB of main memory. Only SDRAM supported.

586GXm+ 系统板支持 64 位带宽内存构架,容量为 8MB-256MB。配置内存只支持同步内存条。

The 586GXm+ board provides two 168-pin DIMM sockets for memory expansion. The installed SDRAMs type can be 8MB, 16MB,32MB,64MB,128MB, Single sided or double sided SDRAM modules is also supported for each bank. Minimum

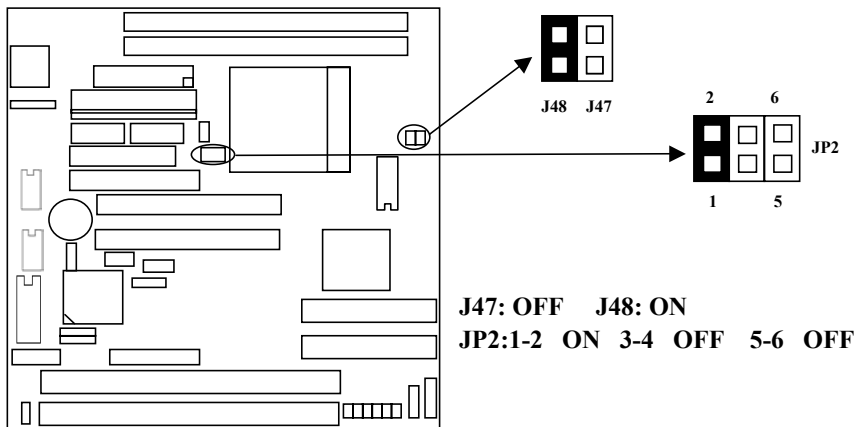
memory size is 8MB and maximum memory size is 256MB.

586GXm+ 有 2 个内存槽，可以安装 8MB、16 MB、32 MB、64 MB、128 MB 的内存，支持单面和双面的内存条,最小

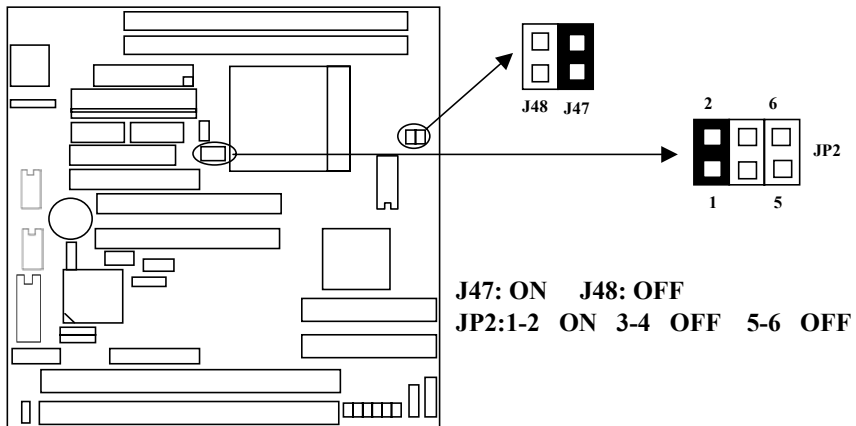
支持8MB,最大可支持256MB。

2.2 CPU Jumper Setting (CPU 跳线设置)

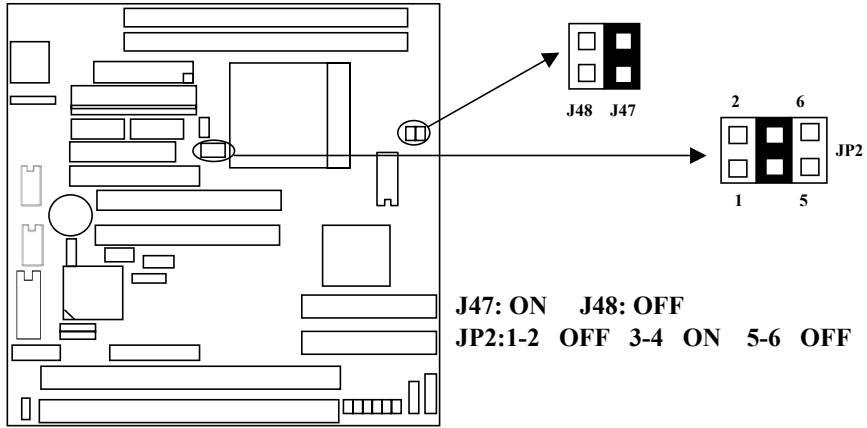
(a) GXm-180 Jump setting (GXm-180跳线设置)



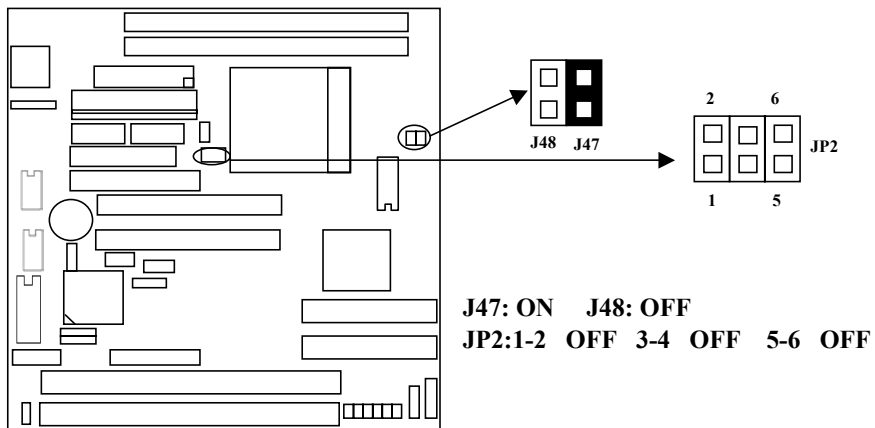
(b) GXm-200 Jump setting (GXm-200跳线设置)



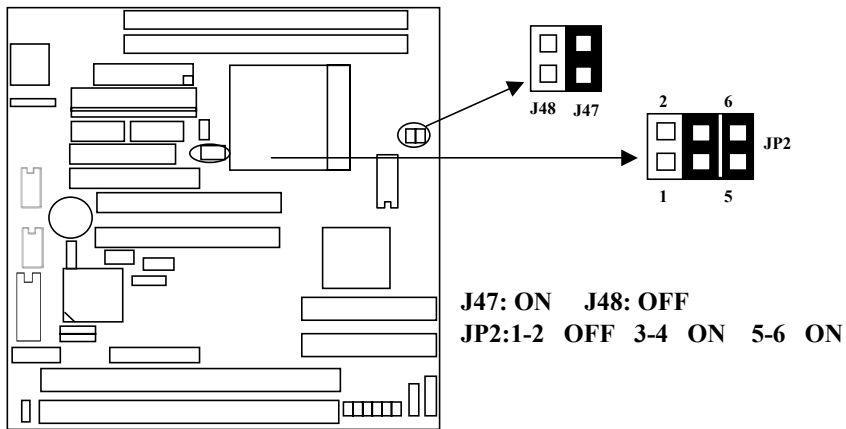
(c) GXm-233 Jump setting (GXm-233跳线设置)



(d) GXm-266 Jump setting (GXm-266跳线设置)



(e) GXm-300 Jump setting (GXm-300跳线设置)

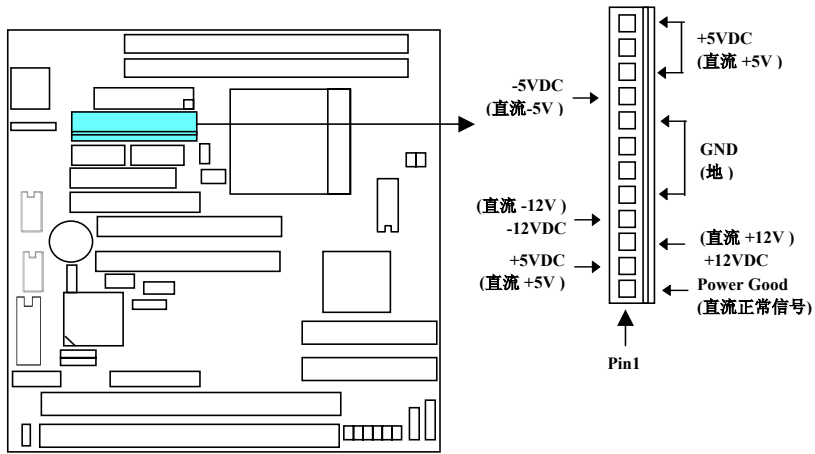


2.3 Connectors (接头)

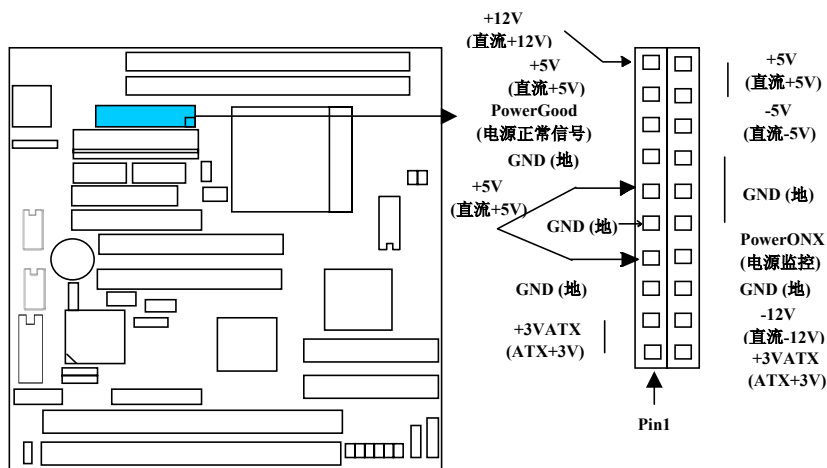
The following is a list of connectors on board as well as description

一个接头是两或多个脚的插针，能通过电缆连到系统的电源、扬声器等。以下详细列表介绍每个接头。

(A) PWR1: Power Connector (电源接头)

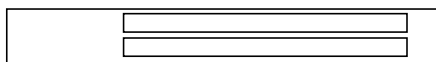


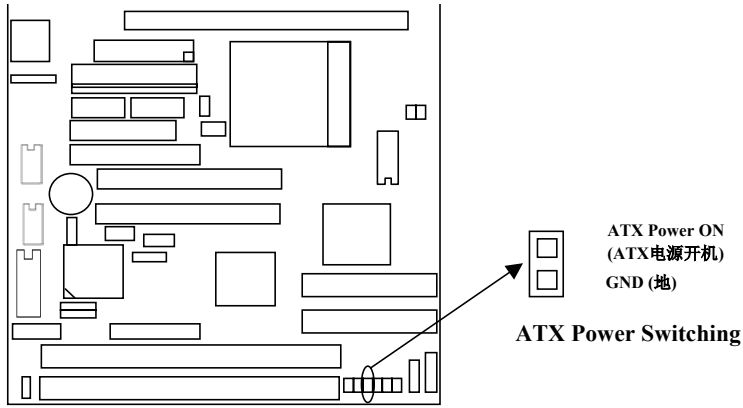
(B) ATX: ATX Port Connector (ATX电源接头)



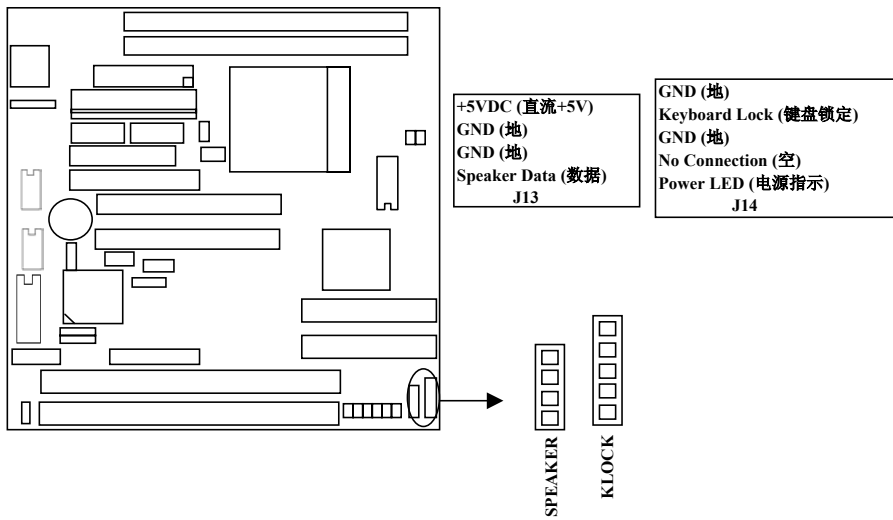
10

(C) PWR_SW: ATX Power Switching (ATX电源开关)

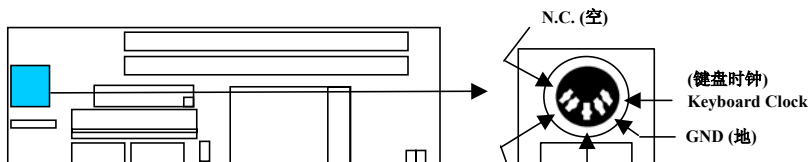


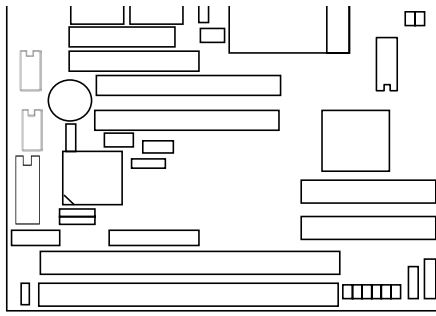


(D) SPEAKER / KLOCK: Speaker and Front Panel Key Lock / Power LED Connector (扬声器和面板键盘锁定与电源指示灯)

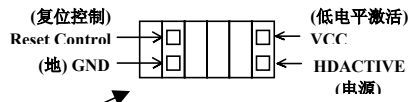
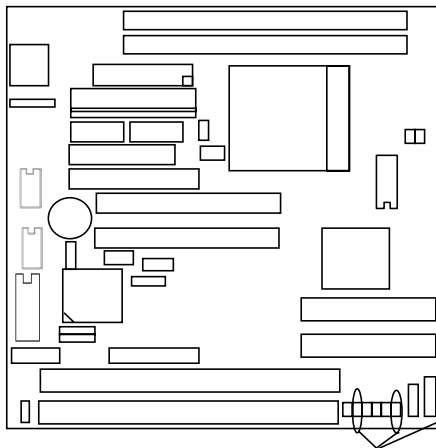


(E) J7: Keyboard Connector (键盘接头)



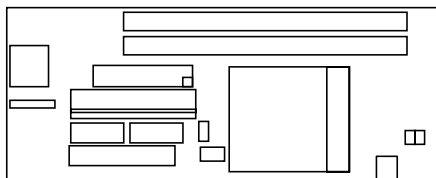


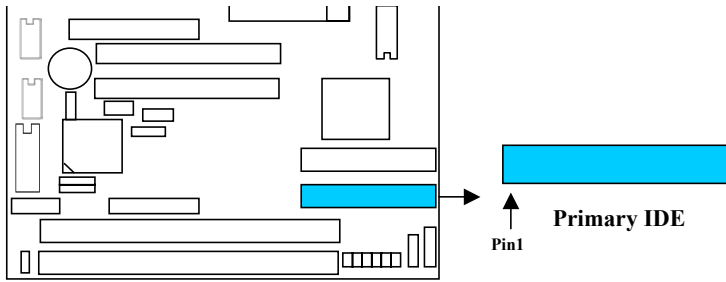
(F) RESET / HDDLED: Reset Swith and IDE Hard Disk LED Connector (复位开关和硬盘指示灯接头)



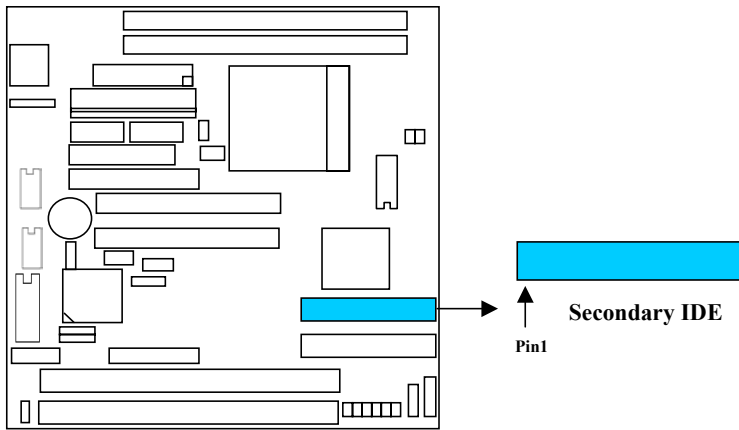
12

(G) IDE1: PCI-BUS Primary Enhanced IDE Interface (IDE1第一个PCI总线增强IDE接口)

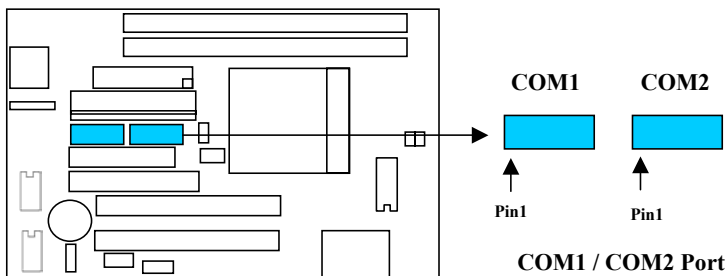


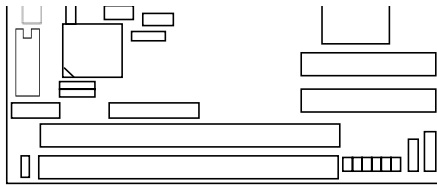


(H) IDE2: PCI-BUS Secondary Enhanced IDE Interface
(IDE2第二个PCI总线增强IDE接口)



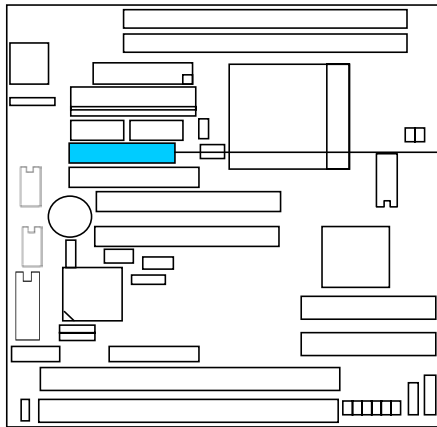
(I) COM1/COM2: Primary /Secondary Serial Port
Connector (COM第一个/第二个串行接口)





COM1 / COM2 Port

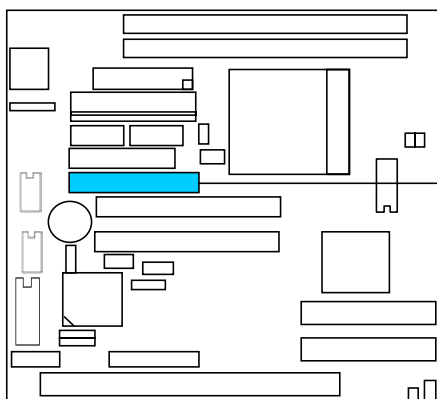
(J) PRINT: Printer Port Connector (打印机接头)



Pin1

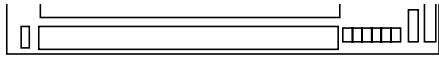
Printer (LPT) Port

(K) FLOPPY: Floppy Disk Driver Connector (软盘驱动器接口)

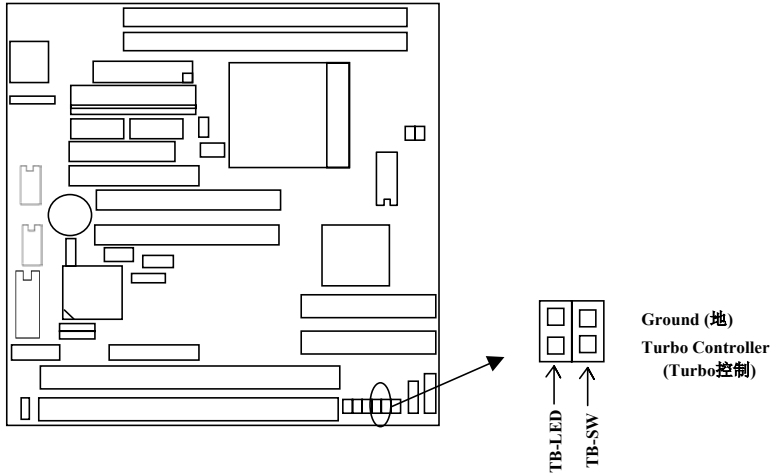


Pin1

Floppy Disk Driver Connector

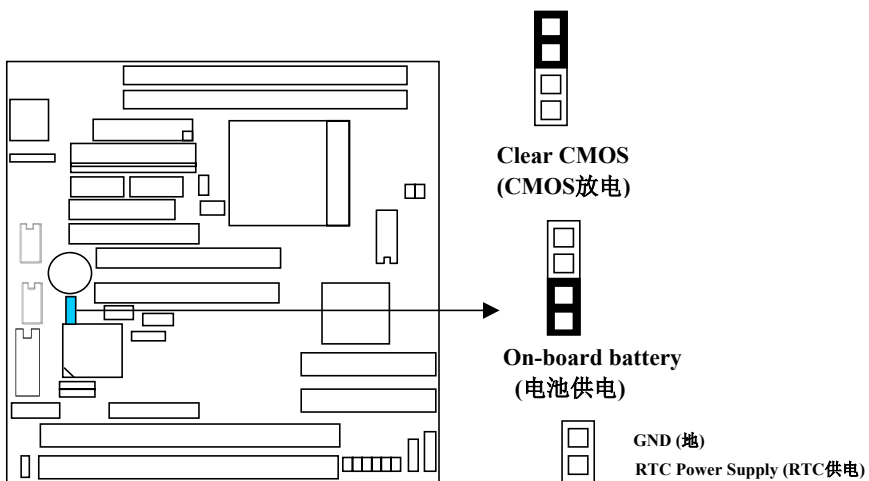


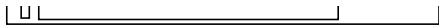
(L) TB-LED/TB-SW: Turbo Switch and Turbo LED Interface
(Turbo 开关和Turbo 指示灯)



15

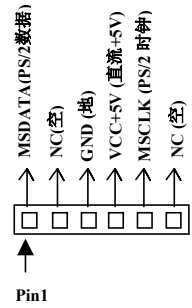
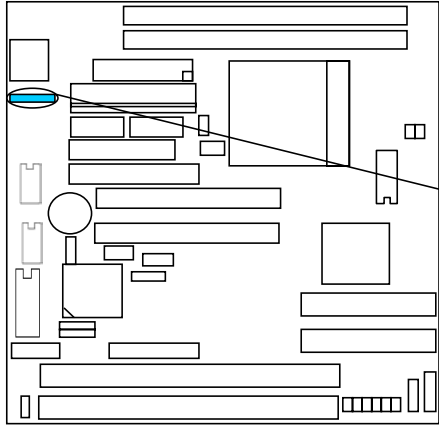
(M) J2: Power Supply For CMOS (COMS电源供应)





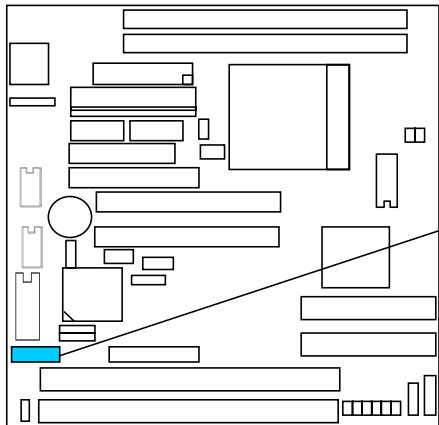
RTC Power Supply (RTC供电)
On-board battery(电池)
RTC Power Supply (RTC供电)

(N) PS/ 2: PS/ 2 Mouse Connector (鼠标插头)



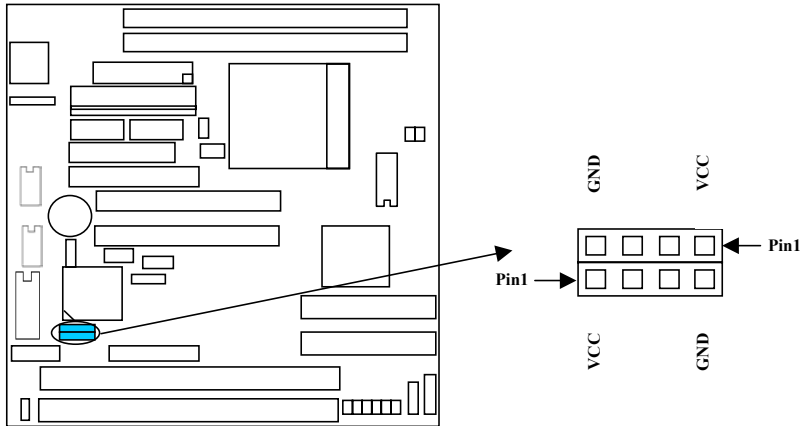
PS / 2 Mouse Connector

(O) GAME : Game Port Connector (游戏接头)



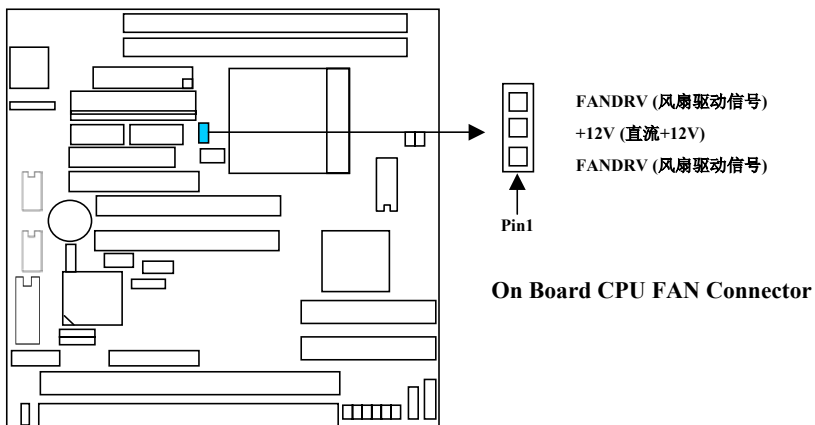
Game Port

(P) USB: Primary / Secondary USB Port Connector (USB1 / USB2接头)

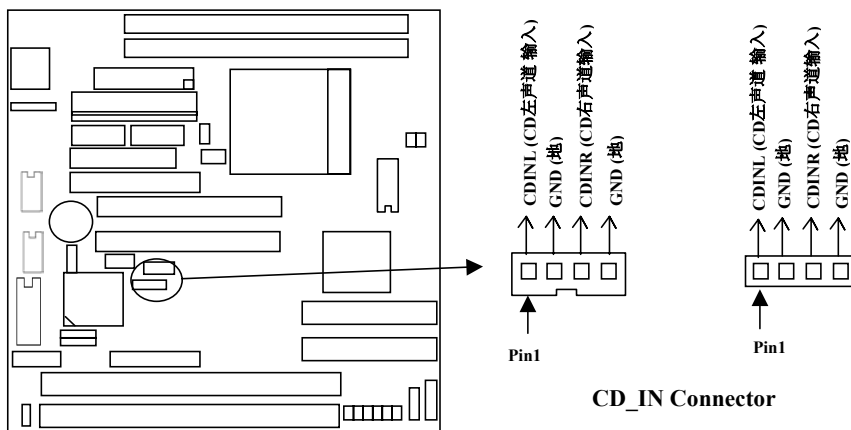


17

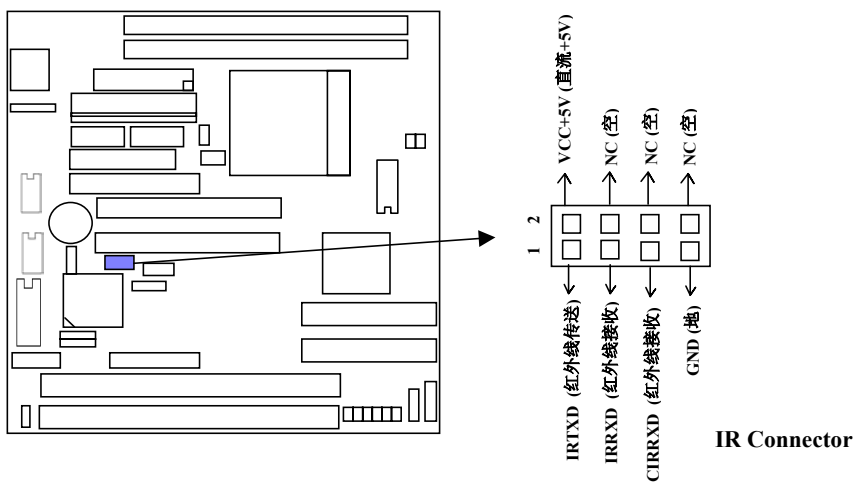
(Q) FAN : On Board CPU FAN Connector (CPU风扇电源接头)



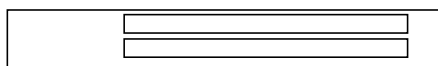
(R) CD_IN: CD_IN Port Connector (CD_IN接头)

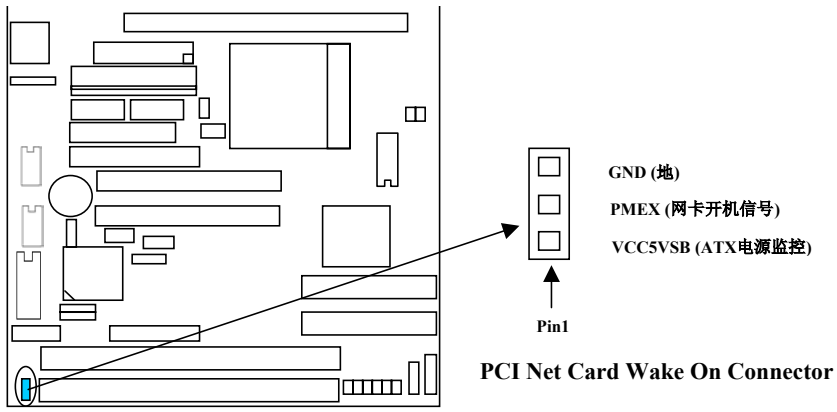


(S) J5 : IR Connector (红外传输接头)

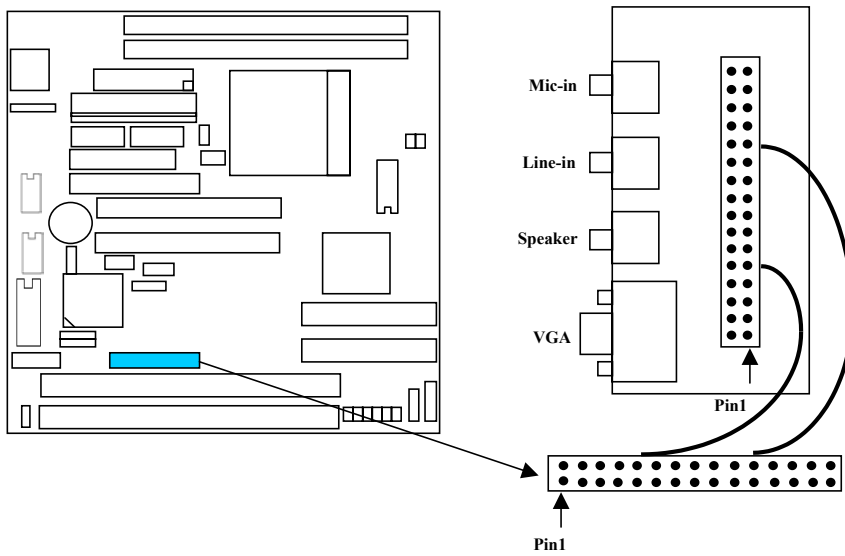


(T) JP3: PCI Net Card Wake On Connector (PCI网卡开机接头)
(Some PCI Lan Card Support)





(U) VGA / AUDIO: VGA Port Connector (VGA接口)



APPENDIX A

586GXm+ SYSTEM BOARD LAYOUT

