

# PM12-TL PM12-TC

Rev. A+

System Board User's Manual  
Carte Mère Manuel Pour Utilisateur  
System-Platine Benutzerhandbuch  
Manual del Usuario de Placas Base  
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## Caution

To avoid damage to the system:

- Use the correct AC input voltage range.

To reduce the risk of electric shock:

- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to the battery manufacturer's instructions.

Joystick or MIDI port:

- Do not use any joystick or MIDI device that requires more than 10A current at 5V DC. There is a risk of fire for devices that exceed this limit.

## **FCC and DOC Statement on Class B**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

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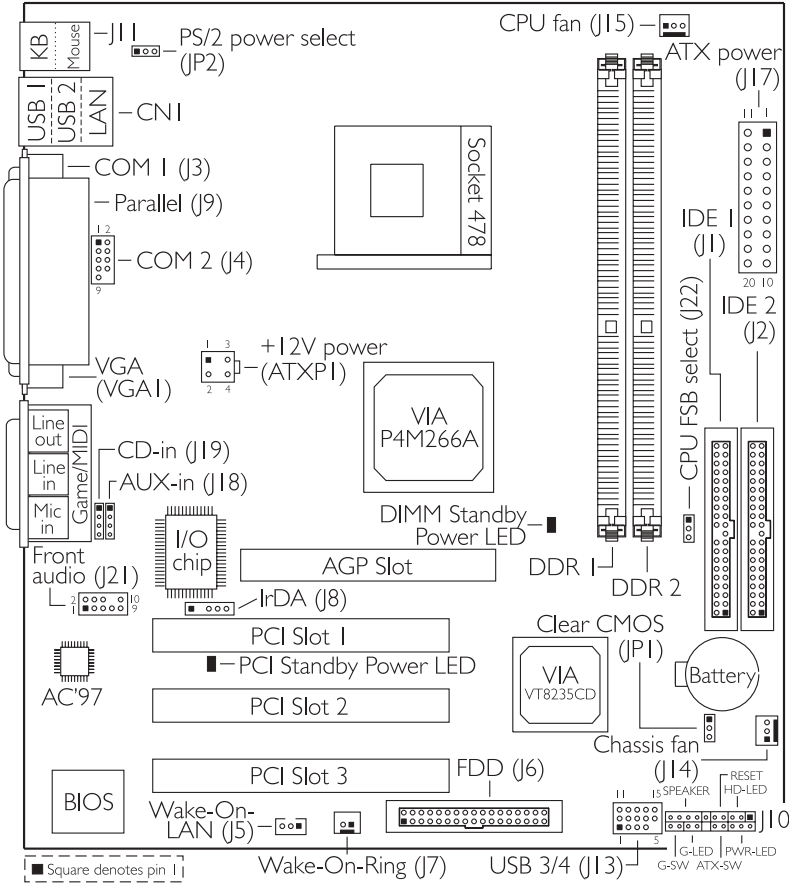


Note:

*The user's manual in the provided CD contains detailed information about the system board. If, in some cases, some information doesn't match those shown in this manual, this manual should always be regarded as the most updated version.*

# Chapter 1 - Quick Setup Guide

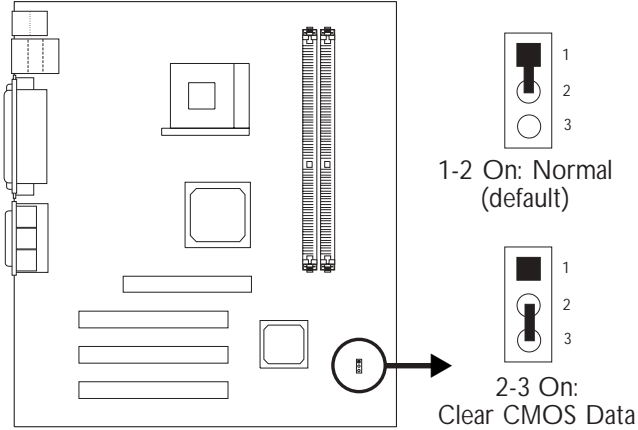
## 1.1 System Board Layout



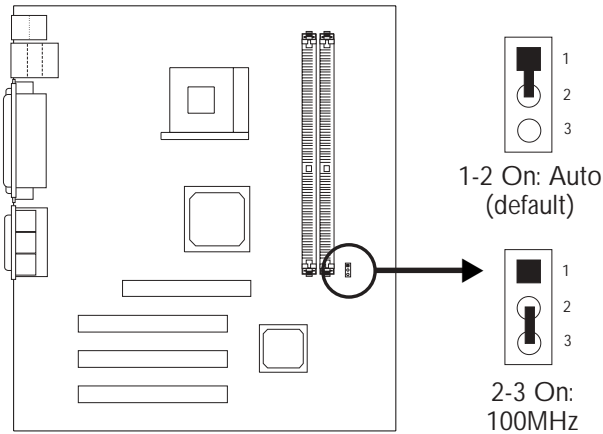
This user's manual is for the PM12-TC and PM12-TL system boards. The only difference between these boards is the PM12-TL system board supports onboard LAN. The illustrations on the following pages are based on the system board that supports onboard LAN.

## 1.2 Jumpers

### 1.2.1 Clear CMOS Data - JP1

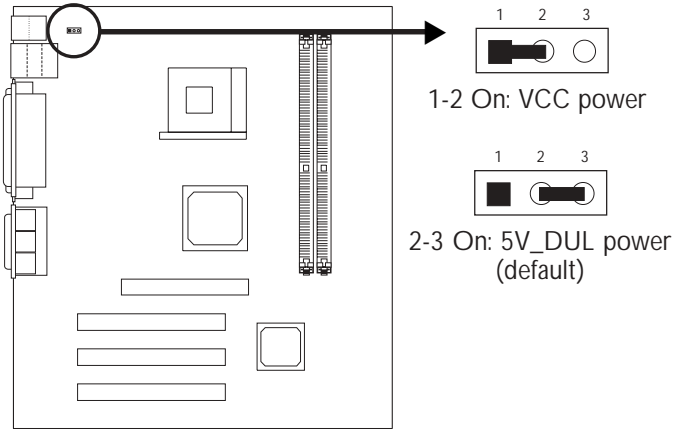


### 1.2.2 CPU Front Side Bus Select - J22



Overclocking may result in the processor's or system's instability and is not guaranteed to provide better system performance.

### 1.2.3 PS/2 Power Select - JP2



If you wish to use the Wake-On-PS/2 Keyboard function, make sure this jumper is set to "2-3 On". "PS2KB Wakeup Select" ("IRQ/Event Activity Detect" field) in the Power Management submenu of the BIOS must be set accordingly.

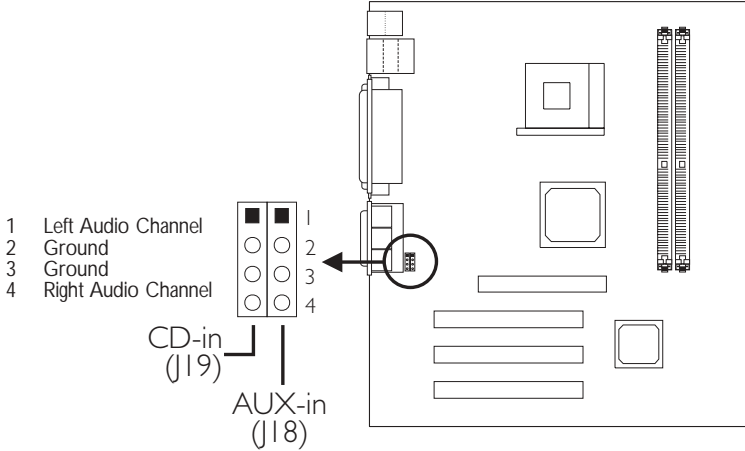
## 1.3 Rear Panel I/O Ports



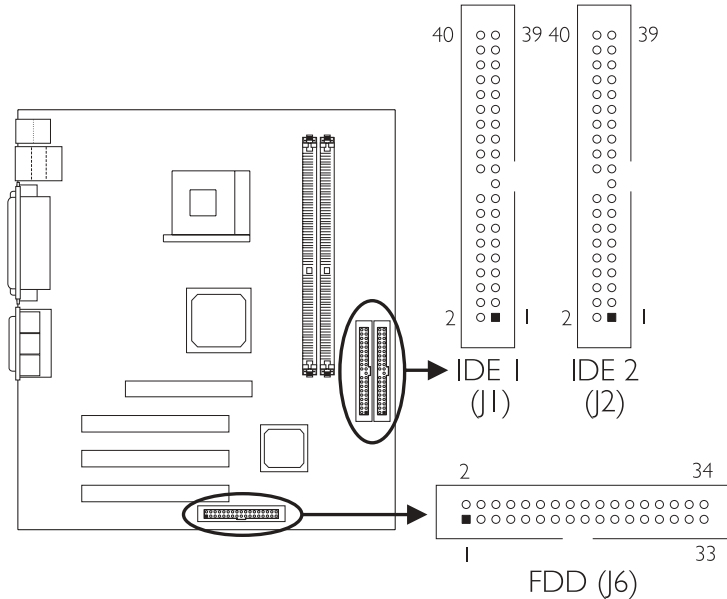
RJ45 LAN port - PM12-TL only.

### 1.4 I/O Connectors

#### 1.4.1 Internal Audio Connectors

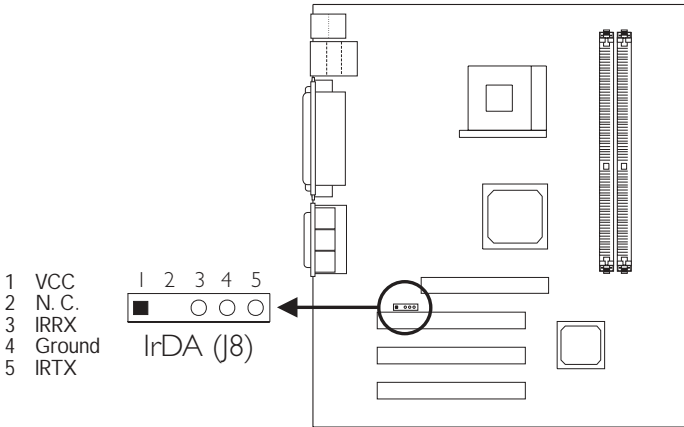


#### 1.4.2 Floppy and IDE Drive Connectors



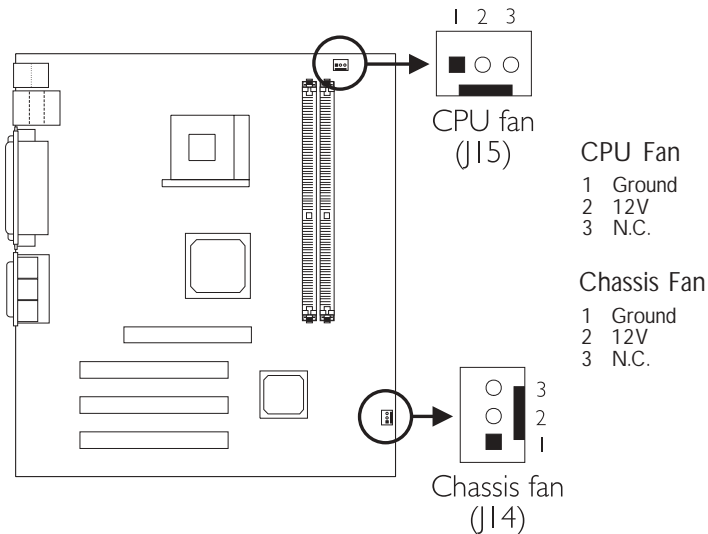


### 1.4.3 IrDA Connector

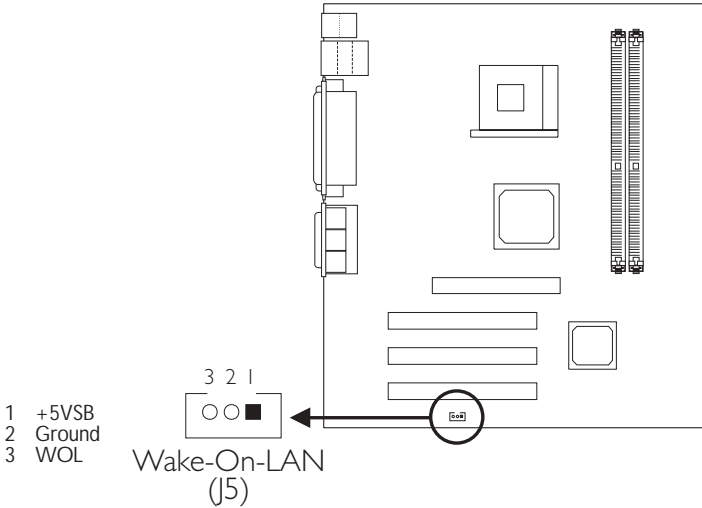


The sequence of the pin functions on some IrDA cable may be reversed from the pin function defined on the mainboard. Make sure to connect the cable to the IrDA connector according to their pin functions.

### 1.4.4 Fan Connectors

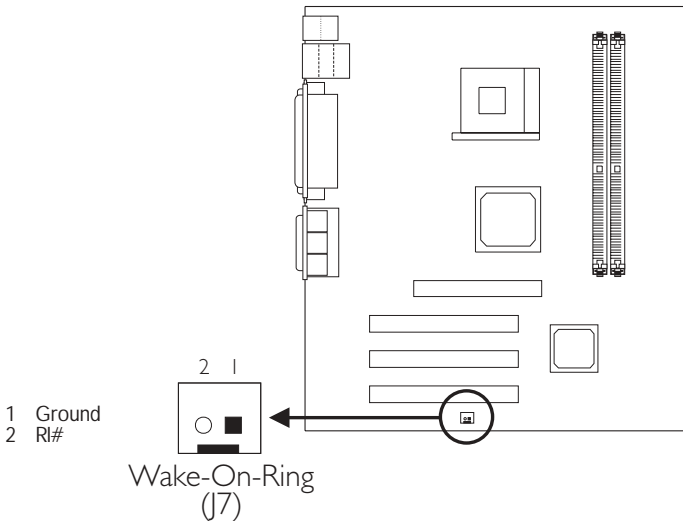


## 1.4.5 Wake-On-LAN Connector



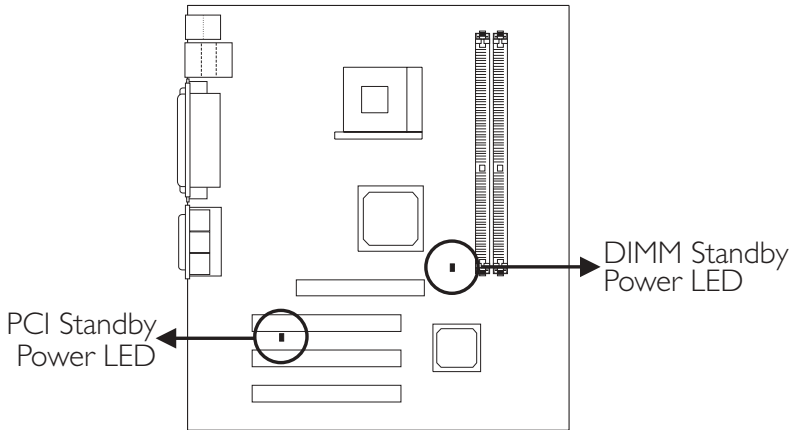
The 5VSB power source of your power supply must support  $\geq 720\text{mA}$ .

## 1.4.6 Wake-On-Ring Connector



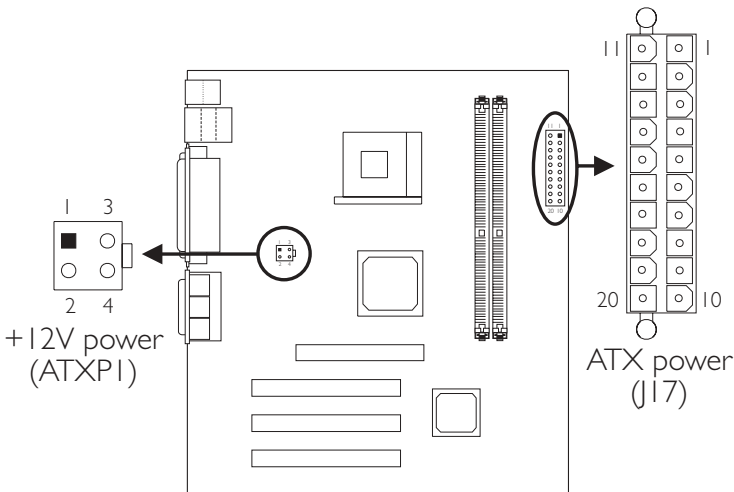
If you are using a modem add-in card, the 5VSB power source of your power supply must support  $\geq 720\text{mA}$ .

### 1.4.7 LEDs



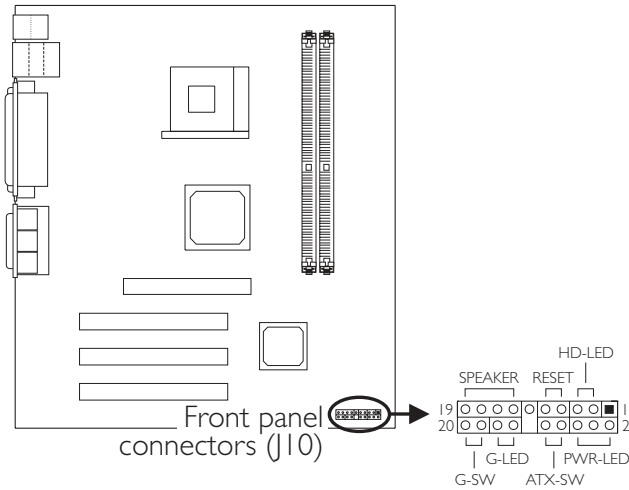
Lighted LEDs serve as a reminder that you must power-off the system then turn off the power supply's switch or unplug the power cord prior to installing any memory modules or add-in cards.

### 1.4.8 Power Connectors



The system board requires a minimum of 300W electric current.

## 1.4.9 Front Panel Connectors



	Pin	Pin Assignment
HD-LED (Primary/Secondary IDE LED)	3 5	HDD LED Power HDD
G-LED (Green LED)	14 16	Green LED Power Ground
ATX-SW (ATX power switch)	8 10	PWRBT+ PWRBT-
G-SW (Green switch)	18 20	Ground SMI
RESET (Reset switch)	7 9	Ground H/W Reset
SPEAKER (Speaker connector)	13 15 17 19	Speaker Data N. C. Ground Speaker Power
PWR-LED (Power/Standby LED)	2 4 6	LED Power (+) LED Power (+) LED Power (-) or Standby Signal

**Note:**

*If your system did not boot-up and the Power/Standby LED did not light after it was powered-on, it may indicate that the CPU or memory module was not installed properly. Please make sure they are properly inserted into their corresponding socket.*

## Chapter 2 - English

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### 2.1 Features and Specifications

#### Processor

- Intel® Pentium® 4 processor (478-pin)
  - 533MHz system data bus
  - 400MHz system data bus
- Intel® Celeron® processor (478-pin)
  - 400MHz system data bus

#### Chipset

- VIA® P4M266A/VT8235CD

#### System Memory

- Two 184-pin DDR DIMM sockets
- Supports up to 2GB using PC1600 (DDR200) or PC2100 (DDR266) unbuffered DDR SDRAM DIMM, 2.5V type
- Uses x8/x16 512MB technology

#### BIOS

- Award BIOS, Windows® 98/2000/ME/XP Plug and Play compatible
- Supports SCSI sequential boot-up
- Flash EPROM for easy BIOS upgrades
- Supports DMI 2.0 function
- 2Mbit flash memory

#### Energy Efficient Design

- ACPI STR (Suspend to RAM) function
- Wake-On-PS/2 Keyboard/Mouse
- Wake-On-USB Keyboard/Mouse
- Wake-On-Ring (external or internal modem)
- Wake-On-LAN
- RTC timer to power-on the system
- AC power failure recovery

### Onboard Graphics Features

- Full featured Accelerated Graphics Port (AGP) controller
  - AGP specification v2.0 compliant
  - Graphics Address Relocation Table (GART)
- High resolution CRT RGB interface
  - 250MHz RAMDAC on chip with Gamma correction
  - Horizontal/vertical sync outputs compliant with Monitor Power Management protocols
- Integrated Savage8 2D/3D graphics controller and video accelerator
  - Optimized Shared Memory Architecture (SMA)
  - 8/16/32MB frame buffer using system memory
  - Single cycle 128-bit 3D architecture
  - 8M triangles/second setup engine
  - 140M pixels/second tri-linear fill rate
  - Next generation 128-bit 2D graphics engine
  - High quality DVD video playback
  - 2D/3D resolutions up to 1920x1440
- 3D rendering features
  - MPEG-2 video textures
- 2D hardware acceleration features
- Motion video architecture
- Full software support

### Onboard Audio Features

- Supports Microsoft® DirectSound / DirectSound 3D
- AC'97 supported with full duplex, independent sample rate converter for audio recording and playback

### Onboard LAN Features (PM12-TL only)

- Integrated LAN controller
- Integrated IEEE 802.3, 10BASE-T and 100BASE-TX compatible PHY
- 32-bit PCI master interface
- Integrated power management functions
- Full duplex support at both 10 and 100 Mbps
- Supports IEEE 802.3u auto-negotiation
- Supports wire for management

### PCI Bus Master IDE Controller

- Two PCI IDE interfaces support up to four IDE devices
- Supports ATA/33, ATA/66, ATA/100 and ATA/133 hard drives
- UDMA Modes 3, 4, 5 and 6 Enhanced IDE (data transfer rate up to 133MB/sec.)
- Bus mastering reduces CPU utilization during disk transfer
- Supports ATAPI CD-ROM, LS-120 and ZIP

### Processor Socket

- Socket 478

### AGP (Accelerated Graphics Port)

- Supports AGP 4x up to 1066MB/sec. and AGP 2x up to 533MB/sec. bandwidth for 3D graphics applications

### Rear Panel I/O Ports (PC 99 color-coded connectors)

- Two USB 2.0/1.1 ports
- One RJ45 LAN port (PM12-TL only)
- One DB-9 serial port
- One DB-15 VGA port
- One DB-25 parallel port
- One mini-DIN-6 PS/2 mouse port
- One mini-DIN-6 PS/2 keyboard port
- One game/MIDI port
- Three audio jacks: line-out, line-in and mic-in

### I/O Connectors

- One connector for 2 additional external USB 2.0/1.1 ports
- One connector for 1 external serial port
- One connector for external line-out and mic-in jacks
- Two internal audio connectors (AUX-in and CD-in)
- One connector for IrDA interface
- Two IDE connectors
- One floppy drive interface supports up to two 2.88MB floppy drives
- Two ATX power supply connectors
- One Wake-On-LAN connector

- One Wake-On-Ring connector
- CPU fan and chassis fan connectors

#### Expansion Slots

- 1 AGP slot
- 3 PCI slots

## 2.2 Package Checklist

The mainboard package contains the following items:

- The mainboard
- A user's manual
- One IDE cable for ATA/33, ATA/66, ATA/100 or ATA/133 IDE drives
- One 34-pin floppy disk drive cable
- One "Mainboard Utility" CD

If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.



#### Note:

*The user's manual in the provided CD contains detailed information about the system board. If, in some cases, some information doesn't match those shown in this manual, this manual should always be regarded as the most updated version.*



## Chapter 3 - Français

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### 3.1 Caractéristiques et Spécifications

#### Processeur

- Processeur Intel® Pentium® 4 (478 broches)
  - 533MHz vitesse du bus
  - 400MHz vitesse du bus
- Processeur Intel® Celeron® (478 broches)
  - 400MHz vitesse du bus

#### Chipset

- VIA® P4M266A/VT8235CD

#### Mémoire Système

- 2 sockets DDR DIMM 184 broches
- Supporte jusqu'à 2Go de mémoire utilisant PC1600 (DDR200) ou PC2100 (DDR266) DDR SDRAM DIMM tampon, 2.5V
- Utilisation de technologie x8/x16 512MB

#### BIOS

- Compatible avec Award BIOS, Windows® 98/2000/ME/XP Plug and Play
- Supporte l'amorçage séquentiel SCSI
- EEPROM Flash pour une mise à niveau facile du BIOS
- Supporte la fonction DMI 2.0
- Mémoire Flash 2Mbit

#### Design à Haut Rendement Énergétique

- ACPI STR (Suspend to RAM) fonction
- Réveil-Sur-PS/2 Clavier/Souris (Wake-On-PS/2 Keyboard/Mouse)
- Eveil Clavier/Souris USB (Wake-On-USB Keyboard/Mouse)
- Eveil Sonnerie (Wake-On-Ring)
- Réveil Par Le Réseau (Wake-On-LAN)
- Minuterie RTC pour allumer le système
- Récupération après Défaillance d'Alimentation CA

### Caractéristiques Graphiques de la Carte

- Contrôleur "Accelerated Graphics Port" (AGP) avec toutes les caractéristiques
  - Spécification AGP conforme v2.0
  - Table de relocation des adresses graphiques (GART)
- Interface CRT RGB haute résolution
  - RAMDAC 250 MHz intégré avec correction Gamma
  - Sorties sync horizontal/vertical conforme aux protocoles d'économie d'énergie d'écran
- Contrôleur graphique et accélérateur vidéo Savage8 2D/3D intégrés
  - Architecture de mémoire partagée (SMA) optimisé
  - 8/16/32 Mo de Frame Buffer utilisant la mémoire du système
  - Architecture 3D de 128 bits à un seul cycle
  - Moteur d'installation 8M triangles/secondes
  - Taux de remplissage tri-linéaire 140M pixels/secondes
  - Moteur 2D 128 bits de génération future
  - Lecture de vidéo DVD de haute qualité.
  - Résolutions 2D/3D jusqu'à 1920x1440
- Caractéristiques de Rendering 3D
  - Textures vidéo MPEG-2
- Caractéristiques de l'accélération matérielle 2D
- Architecture d'animation vidéo
- Assistance logicielle complète

### Caractéristiques Audio sur Carte

- Supporte DirectSound de Microsoft® / DirectSound 3D de Microsoft®
- AC'97 supporté avec full duplex, convertisseur de vitesse d'échantillonnage indépendant pour enregistrement audio et lecture.

### Fonctionnalités Onboard LAN (PM12-TL seulement)

- Utilise le contrôleur Integrated LAN
- IEEE 802.3, 10BASE-T et 100BASE-TX intégrés compatibles PHY
- Interface maître PCI 32 bits
- Fonctions de gestion d'alimentation intégrées
- Support Full duplex à 10 et 100 Mbps

- Supporte l'auto négociation IEEE 802.3u
- Support câble pour la gestion

#### Contrôleur IDE de BUS Maître PCI

- Deux interfaces PCI IDE supportant jusqu'à quatre matériels IDE
- Supporte des disques durs ATA/33, ATA/66, ATA/100 et ATA/133
- IDE Améliorés Mode 3, 4, 5 et 6 UDMA (vitesse de transfert de données allant jusqu'à 133Mo/sec.)
- La gestion de Bus réduit l'utilisation du CPU pendant les transferts sur disque
- Supporte les CD-ROM ATAPI, LS-120 et ZIP

#### Socket Processeur

- Socket 478

#### AGP (Accelerated Graphics Port)

- Supporte 4x AGP avec une bande passante allant jusqu'à 1066Mo/sec et 2x AGP avec une bande passante allant jusqu'à 533Mo/sec pour les applications graphiques 3D

#### Le panneau des ports Entrée/Sortie en arrière (connecteurs PC 99 avec codes couleur)

- 2 ports USB 2.0/1.1
- 1 port RJ45 LAN (PM12-TL seulement)
- 1 port série DB-9
- 1 port VGA DB-15
- 1 port parallèle DB-25
- 1 port souris PS/2 mini-DIN-6
- 1 port clavier PS/2 mini-DIN-6
- 1 port game/MIDI
- 3 prises audio: ligne de sortie, ligne d'entrée et entrée micro

#### I/O Connecteurs

- 1 connecteur pour 2 ports USB 2.0/1.1 supplémentaires
- 1 connecteur pour 1 port série externe
- 1 connecteur pour des fiches de sortie ligne et d'entrée micro externes

- 2 connecteurs audio internes (CD-in et AUX-in)
- 1 connecteur pour interface IrDA
- 2 connecteurs IDE
- 1 connecteur de lecteur de disquettes supportant jusqu'à deux lecteurs de disquettes de 2.88Mo
- 2 connecteurs d'alimentation ATX
- 1 connecteur Wake-On-LAN
- 1 connecteur Wake-On-Ring
- Ventilateur de processeur et ventilateur de châssis

#### Logements d'Extension

- 1 slot AGP
- 3 slots PCI

## 3.2 Liste de Vérification de l'Emballage

L'emballage de la carte système contient les éléments suivants:

- La carte système
- Un manuel utilisateur
- Un câble IDE pour les lecteurs IDE ATA/33, ATA/66, ATA/100 ou ATA/133
- Un câble 34 broches pour lecteur de disquette
- Un CD "Mainboard Utility"

Si l'un de ces éléments n'était pas dans l'emballage ou s'il était endommagé, veuillez contacter votre revendeur ou votre représentant.



#### Note:

*Le manuel d'utilisateur dans le CD muni contient renseignement détaillé au sujet de carte de système. Si, en quelque cas, quelque renseignement n'appareille de ce que dit dans ce manuel, ce manuel doit toujours être considéré comme la plus nouvelle version.*

## Chapter 4 - Deutsch

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### 4.1 Leistungsmerkmale und Technische Daten

#### Prozessor

- Intel® Pentium® 4 Prozessor (478-polige)
  - 533MHz Systemdatenbus
  - 400MHz Systemdatenbus
- Intel® Celeron® Prozessor (478-polige)
  - 400MHz Systemdatenbus

#### Chipset

- VIA® P4M266A/VT8235CD

#### Systemspeicher

- 2 DDR-DIMM-Fassungen mit 184poligem Anschlußstecker.
- Unterstützt einen Speicher von bis zu 2GB anwendung des PC1600 (DDR200) oder PC2100 (DDR266) Pufferspeicher-DDR SDRAM DIMM, 2.5V
- Anwendung der Technik des x8/x16 512MB

#### BIOS

- Kompatibilität mit Award BIOS, Windows® 98/2000/ME/XP Plug and Play
- Unterstützung des sequentiellen SCSI-Ladens
- Flash EEPROM für ein einfaches Aktualisieren des BIOS
- Unterstützung der DMI-2.0-Funktion
- Flash-Speicher (2Mbit)

#### Energomisches Design

- ACPI STR (Suspend to RAM) funktion
- Wecken bei Betätigung der PS/2 Tastatur/Maus (Wake-On-PS/2 Keyboard/Mouse)
- Wecken bei USB-Tastatur/Maus (Wake-On-USB Keyboard/Mouse)
- Wecken bei Klingeln (Wake-On-Ring)
- Wecken des Systems durch das Netzwerk (Wake-On-LAN)

- RTC-Taktgeber zum Einschalten des Systems
- Wiederherstellung der Wechselstromversorgung nach einem Ausfall

#### Graphik Merkmale Onboard

- Voll unterstützter Accelerated Graphics Port (AGP) Controller
  - AGP Spezifikation v2.0 entsprechend
  - Graphics Address Relocation Table (GART)
- Hoch auflösende CRT RGB Schnittstelle
  - Auf dem Chip 250MHz RAMDAC mit Gamma Korrektur
  - Horizontal/vertikal synchronisierte Ausgabe passend zu Monitor Power Management protocols
- Integrierter Savage8 2D/3D Graphik Controller und Video Beschleuniger
  - Optimierte Shared Memory Architecture (SMA)
  - 8/16/32MB Pufferbelegung des Systemspeichers
  - 128-bit 3D Einzeltakt Architektur
  - 8M triangle/second Setup Maschine
  - 140M Pixels/second tri-linearer Zeilenaufbau
  - 128-bit 2D Graphik Maschine der nächsten Generation
  - Hochqualitäts DVD Video Wiedergabe
  - 2D/3D Auflösung bis zu 1920x1440
- 3D Übertragungsmerkmale
  - MPEG-2 Video Textur
- 2D Hardware Beschleunigungsmerkmale
- Bewegte Video Architektur
- Volle Software Unterstützung

#### Audiomerkmale auf Platine

- Unterstützung des Microsoft® DirectSound / DirectSound 3D
- AC'97 mit Unterstützung des Vollduplexbetriebs, unabhängigem Abstratenumwandler für die Aufnahme und Wiedergabe

#### Merkmale des LANs auf Platine (PM12-TL nur für)

- Benutzung des Integrated LAN
- Integrierter IEEE 802.3, 10BASE-T und 100BASE-TX kompatibler PHY
- 32-Bit-PCI-Master-Schnittstelle
- Integrierte Power-Management-Funktionen
- Vollduplex-Unterstützung bei 10 und 100 Mbps

- Unterstützung der IEEE-802.3u-Auto-Negotiation
- Unterstützung des Leiters für das Management

#### PCI-Bus-Master-IDE-Controller

- Unterstützung von bis zu vier IDE-Geräten durch zwei PCI-IDE-Schnittstellen.
- Unterstützung der Festplatten ATA/33, ATA/66, ATA/100 und ATA/133
- Erweitertes IDE des PIO-Modus 3, 4, 5 und 6 (Datenübertragungsgeschwindigkeit von bis zu 133MB/Sek.).
- Verminderte CPU-Benutzung während Diskettenübertragung dank dem Bus-Master.
- Unterstützung des ATAPI CD-ROMs, LS-120 und ZIP

#### Prozessor Socket

- Buchse 478

#### AGP (Accelerated Graphics Port)

- Für die 3D-Grafikanwendungen unterstützt die universelle AGP-Steckfassung einen AGP 4x mit einer Bandweite von bis zu 1066MB/Sek. sowie einen AGP 2x mit einer Bandweite von bis zu 533MB/Sek.

#### Ein-/Ausgabe-Porte an der Rückwand (PC 99 mit farbkodierten Steckverbindungen)

- 2 USB 2.0/1.1-Anschlüsse
- 1 RJ45 LAN port (PM12-TL nur für)
- 1 DB-9-Serielle-Anschluß
- 1 DB-15-VGA Port
- 1 DB-25-Parallelanschluß
- 1 Mini-DIN-6-Anschluß für eine PS/2-Maus
- 1 Mini-DIN-6-Anschluß für eine PS/2-Tastatur
- 1 game/MIDI Port
- 3 Audio-Anschlußbuchsen: Ausgangsleitung, Eingangsleitung und Mikrofon-Eingang

#### I/O Anschlußstecker

- 1 Anschlußfassung für 2 zusätzliche externe USB 2.0/1.1-Anschlüsse

- 1 Anschluß für eine externe Serielle Schnittstelle
- 1 Anschluß für externe line-out und mic-in Einrichtungen
- 2 interne Audioanschlüsse (AUX-in und CD-in)
- 1 Anschluß für die IrDA-Schnittstelle
- 2 IDE-Anschlüsse
- Unterstützung von bis zu zwei 2,88MB-Floppylaufwerken durch einen Floppylaufwerksanschluß
- 2 Anschlußstecker für das ATX-Netzgerät
- 1 Anschlußstecker für Wecken durch LAN
- 1 Anschlußstecker für Wecken durch Ring
- CPU und Gehäuse chlüsse

Erweiterungssteckfassungen

- 1 AGP-Einbauplätzen
- 3 PCI-Einbauplätzen

## 4.2 Verpackungsliste

In der Verpackung der Systemplatine sind folgende Artikel enthalten:

- Eine Systemplatine
- Ein Benutzerhandbuch
- Ein IDE-Kabel für ATA/33-IDE-Laufwerke, ATA/66-IDE-Laufwerke, ATA/100-IDE-Laufwerke oder ATA/133-IDE-Laufwerke
- Ein Floppylaufwerkskabel mit 34poligen Anschlußstecker
- Eine CD mit "Mainboard Utility"

Fehlt einer dieser Artikel oder weist einer dieser Artikel Beschädigungen auf, wenden Sie sich an Ihren Händler oder Vertreter.



Beachten Sie:

*Das Benutzerhandbuch in der angebotenen CD enthält detaillierte Informationen über die Hauptplatine. Wenn in manchen Fällen manche Informationen nicht denjenigen Informationen dargestellt in diesem Handbuch entsprechen, soll dieses Handbuch als die meist aktualisierte Ausgabe gelten.*



## Chapter 5 - Español

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### 5.1 Características y Especificaciones

#### Procesador

- Procesador Intel® Pentium® 4 (478-terminales)
  - 533MHz Canal de datos del sistema
  - 400MHz Canal de datos del sistema
- Procesador Intel® Celeron® (478-terminales)
  - 400MHz Canal de datos del sistema

#### Chipset

- VIA® P4M266A/VT8235CD

#### Memoria de Sistema

- 2 enchufes de 184-terminales DDR SDRAM DIMM
- Apoya un máximo de 2GB memoria de PC1600 (DDR200) o PC2100 (DDR266) DDR SDRAM DIMM de 2.5V sin buffer.
- Usando la tecnología de x8/x16 512MB

#### BIOS

- Award BIOS, Windows® 98/2000/ME/XP Enchufar y Usar compatible
- Soporta el inicio de secuencia de SCSI
- Parpadea EEPROM para fácil actualización de BIOS
- Soporta la función de DMI 2.0
- Memoria Instante (2Mbitios)

#### Diseño Energía Eficiente

- ACPI STR (Suspend to RAM) función
- PS/2 Teclado/Ratón de Wake-On (Wake-On-PS/2 Keyboard/Mouse)
- Teclado/Ratón de Wake-On-USB (Wake-On-USB Keyboard/Mouse)
- Wake-On-Ring (external modem)
- Wake-On-LAN
- Temporizador de RTC para encender el sistema
- Recuperación de Fracaso de Energía AC

### Características Gráficas Onboard

- Controlador Puerto Gráfico Acelerado (AGP) de Característica Completa
  - Sumiso v2.0 de especificación AGP
  - Tabla Relocación de Dirección Gráfica (GART)
- Interfaz RGB CRT de resolución alta
  - 250MHz RAMDAC en chip con corrección de Gama
  - Sumiso de salidas sinc Horizontal/Vertical con protocolos Administración Fuente de Monitor
- Controlador gráfico de Savage8 2D/3D intergrado con acelerador de video
  - Arquitectura de Memoria Compartido Optimizado (SMA)
  - Memoria de uso de sistema de buffer principal de 8/16/32MB
  - Arquitectura 3D de 128-bit de ciclo singular
  - Triángulo de 8M / Motor de configuración segundo
  - Pixeles de 140M / Campo lleno de tri-lineal segundo
  - Motor gráfico de 128-bit 2D de generación próxima
  - Playback de video DVD de calidad alta
  - 2D/3D resolución hasta encima de 1920x1440
- Característica de interpretación de 3D
  - Texturas de video MPEG-2
- Característica de aceleración hardware de 2D
- Arquitectura de video de moción
- Apoyo de software completo

### Características de Audio En Tablero

- Soporta DirectSound de Microsoft® / DirectSound 3D de Microsoft®
- AC'97 soportado con convertidor de tasa de muestra independiente, doble completo para la grabación y playback del audio

### Características de LAN Interno (PM12-TL sólo)

- Integrated LAN de controlador
- IEEE 802.3, 10BASE-T y 100BASE-TX integrado de PHY compatible
- Interfaz maestro de 32-bit PCI
- Funciones de administración de energía integrado

- Soporte dúplex completo en ambos 10 y 100 Mbps
- Soporta auto negociación de IEEE 802.3u
- Soporta alambre para la administración

#### Controlador de IDE Maestro de Bus PCI

- Dos interfaces de PCI IDE soporta hasta 4 dispositivos de IDE
- Soporta las unidades duras de ATA/33, ATA/66, ATA/100 y ATA/133
- UDMA Modo 3, 4, 5, y 6 Realzada IDE (tasa de transferencia de dato hasta 133MB/seg.)
- Controlación de Bus reduce la utilización de CPU durante la trasferencia de disco
- Soporta ATAPI CD-ROM, LS-120 y ZIP

#### Procesador Zócalo

- Zócalo 478

#### AGP (Accelerated Graphics Port)

- Soporta AGP 4x con 1066MB/sec. y AGP 2x con 533MB/sec. para las tearjetas 3D

#### Panel de reverso de conectores de entrada - salida (Conectores de PC 99 color-cifrado)

- 2 puertos de USB 2.0/1.1
- 1 puerto de RJ45 LAN (PM12-TL sólo)
- 1 puerto de serie DB-9
- 1 puerto VGA de DB-15
- 1 puerto paralelo de DB-25
- 1 puerto de ratón PS/2 mini-DIN-6
- 1 puerto de teclado PS/2 mini-DIN-6
- 1 puerto de juego/MIDI
- 3 enchufes de audio: línea de salida, línea de entrada y mic de entrada

#### I/O Conectores

- 1 conector para 2 puertos de USB 2.0/1.1 externo adicional
- 1 conector para un puerto de serial externa
- 1 conector para salida de sonido externa y jack de micrófono

- 2 conectores de audio interno (AUX-in y CD-in)
- 1 conector para interfaz de IrDA
- 2 conectores de IDE
- 1 conector de disquete soporta hasta dos disquetes de 2.88MB
- 2 conectores de fuente de alimentación de ATX
- 1 conector de Wake-On-LAN
- 1 conector de Wake-On-Ring
- Conectores de ventilador de CPU y chasis

#### Ranuras de Expansión

- 1 slot AGP
- 3 slots PCI

## 5.2 Lista de Chequeo del Paquete

El paquete del tablero de sistema contiene los siguientes artículos:

- El tablero de sistema
- Un manual de usuario
- Un cable de IDE para las unidades de ATA/33, ATA/66, ATA/100 o ATA/133 IDE
- Un cable de unidad de disquete de 34-terminales
- Un CD de "Mainboard Utility"

Si cualquiera de estos artículos están perdidos o dañados, favor de ponerse en contacto con su tratante o representantes de venta para la asistencia.



#### Nota:

*El uso explicativo contiene información detallada sobre la placa base en el CD preparativo. Si en algún caso, la información no es igual con el uso explicativo, necesita ver el uso explicativo, porque es más nuevo.*

## Глава 6 - Русский язык

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### 6.1 Характеристики и свойства

#### Процессор

- Процессор Intel® Pentium® 4 (478-pin)
  - 533МГц системная шина
  - 400МГц системная шина
- Процессор Intel® Celeron® (478-pin)
  - 400MHz системная шина

#### Чипсет

- VIA® P4M266A/VT8235CD

#### Память

- Два DIMM гнезда под 184-pin DDR SDRAM
- Поддержка до 2ГБ оперативной, 2.5V небуффер, PC1600 (DDR200) или PC2100 (DDR266) DDR SDRAM DIMM
- Использует технологию x8/x16 512MB

#### BIOS

- Award BIOS, Windows® 98/2000/ME/XP Plug and Play
- Поддерживает загрузку SCSI
- Flash EPROM для обновления BIOS
- Поддерживает функцию DMI 2.0

#### Энергомичный Дизайн

- ACPI STR (Suspend to RAM)
- Активизация На Движение Мыши (Wake-On-Keyboard/Mouse)
- Активизация На Нажатие Кнопки USB Клавиатуры (Wake-On-USB Keyboard/Mouse)
- Активизация На Входящий Звонок (Wake-On-Ring)
- Активизация На Сетевое Событие (Wake-On-LAN)
- RTC Таймер для Включения Системы
- Скачки Напряжения

### Встроенная графика

- Полный контроллер Accelerated Graphics Port (AGP)
  - AGP v2.0
  - Graphics Address Relocation Table (GART)
- Интерфейс высокого разрешения CRT RGB
  - 250МГц RAMDAC на чипе с Гамма коррекцией
  - Горизонтальная/вертикальная синхронизация, совместимая с протоколами Monitor Power Management
- Встроенный контроллер Savage8 2D/3D и видео-ускоритель
  - Оптимизированная Shared Memory Architecture (SMA)
  - Буфер фреймов на 8/16/32МВ системной памяти
  - Одно-циклическая 128-бит 3D архитектура
  - 8М треугольников в секунду
  - 140М пикселей в секунду при трехлинейном заполнении
  - 128-бит 2D графический движок следующего поколения
  - Высококачественное проигрывание DVD
  - 2D/3D разрешение до 1920x1440
- 3D прорисовка
  - MPEG-2 видео текстуры
- 2D аппаратное ускорение
- Архитектура Motion Video
- Программное обеспечение

### Встроенный Звук

- Поддерживает Microsoft® DirectSound / DirectSound 3D
- AC'97 поддерживается с полнодуплексным, независимым конвертором частоты для записи и проигрывания звука

### Встроенные сетевые функции (только PM12-TL)

- Встроенный сетевой контроллер
- Встроенный интерфейс IEEE 802.3, 10BASE-T и 100BASE-TX совместимый PHY

- 32-битный интерфейс мастер PCI
- Встроенные функции управления питанием
- Полнодуплексная поддержка на 10 и 100 Mbps
- Поддерживает IEEE 802.3u auto-negotiation
- Работа через шнур управления

### **Контроллер PCI IDE Мастер Шины**

- Поддерживает жесткие диски ATA/33, ATA/66, ATA/100 и ATA/133
- UDMA Mode 3, 4, 5 и 6 Расширенный IDE (скорость передачи данных до 133МБ/сек.)
- Мастеринг шины снижает нагрузку на центральный процессор
- Поддерживает ATAPI CD-ROM, LS-120 и ZIP

### **Чипсет Socket**

- Socket 478

### **AGP (Accelerated Graphics Port)**

- Универсальный AGP слот поддерживает AGP 4x со скоростью передачи данных 1066МБ/сек и AGP 2x с 533МБ/сек в 3D графических приложениях

### **Порты Ввода/Вывода (I/O) задней панели (цветовая гамма разъемов PC 99)**

- 2 USB 2.0/1.1 порта
- 1 RJ45 LAN порт (только PM12-TL)
- 1 NS16C550A-совместимых DB-9 порта
- 1 DB-15 VGA порт
- 1 DB-25 параллельный порт
- 1 мини-DIN-6 PS/2 порт для мыши
- 1 мини-DIN-6 PS/2 порт для клавиатуры
- 1 игрового/MIDI порта
- 3 гнезда для звука: выход, вход и микрофон

### **Разъемы Ввода/Вывода**

- 1 разъем для 2-х дополнительных внешних USB 2.0/1.1 портов

- 1 разъем для внешнего DB-9 порта
- 1 разъем для внешнего линейного выхода и микрофона
- 2 внутренних звуковых разъема (CD-in и AUX-in)
- 1 разъем для интерфейса IrDA
- 2 IDE разъема
- 1 разъем для подключения двух дисководов до 2.88Мб
- 2 разъема питания ATX
- 1 Wake-On-LAN (Активизация на сетевое событие)
- 1 Wake-On-Ring (Активизация На Входящий Звонок)
- Разъемы для вентилятора процессора и системного блока

### Слоты

- 1 AGP слотов
- 3 PCI слотов

## 6.2 Комплектация

Комплектация поставки материнской платы:

- Материнская плата
- Руководство пользователя
- Один IDE шлейф для жестких дисков ATA/33, ATA/66, ATA/100 или ATA/133
- Один 34-pin шлейф для дисковода
- Один CD с "Mainboard Utility"

Если в комплекте из этого чего-то не хватает или что-то испорчено, пожалуйста, свяжитесь со своим дилером или продавцом.



### Замечание:

*В руководстве пользователя на предоставляемом CD диске содержится подробная информация о материнской плате. Иногда напечатанное руководство может не совпадать руководством на CD, так как последнее наиболее часто обновляется и является самым свежим.*