

# **ASUS<sup>®</sup> Terminator**

**Barebone System**

Installation Guide



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## Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, 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 receiver.
- Connect the equipment to 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.

**WARNING!** The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

**This class B digital apparatus complies with Canadian ICES-003.**

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# System Package Contents

The following checklist enumerates the components included in the standard system package.

- 1) System Chassis
- 2) Motherboard
- 3) Switching Power Supply
- 4) 1.44MB Floppy Disk Drive
- 5) CD-ROM Drive (optional)
- 6) 56K PCI Modem Card (optional)
- 7) Support CD with Drivers and Utilities
- 8) Installation Guide

## **NOTE**

If you are assembling the system by yourself, make sure to prepare all the components before starting. It saves you a lot of time not having to hunt down components when you need them.

# Introduction

You are reading the ASUS Terminator Barebone System Installation Guide. This guide provides general information and installation instructions about the Terminator Barebone System.

“About This Guide” contains an introduction on the contents of this document that include target audience and chapter description.

# About This Guide

# Audience

This installation guide is intended for experienced users and integrators with hardware knowledge of personal computers.

## Contents Description

This installation guide contains the following parts:

### 1. Introduction: About This Guide

This part contains an introduction on the contents of this document that include target audience and chapter description.

### 2. Chapter 1: System Introduction

This chapter gives a general description of the ASUS Terminator barebone system. It includes introduction on the front and rear panel features, and the internal features.

### 3. Chapter 2: Basic Installation

This chapter tells how to install components into the barebone system through illustrated step-by-step instructions.

### 4. Chapter 3: Motherboard Information

This chapter gives information about the CUSC motherboard that comes with the ASUS Terminator Barebone System. This chapter includes the motherboard layout, jumper settings, and connector locations. It also includes information on the USB/audio board located on the front panel.



# Chapter 1

This chapter gives a general description of the ASUS Terminator barebone system. It includes introduction on the front and rear panel features, and the internal features.

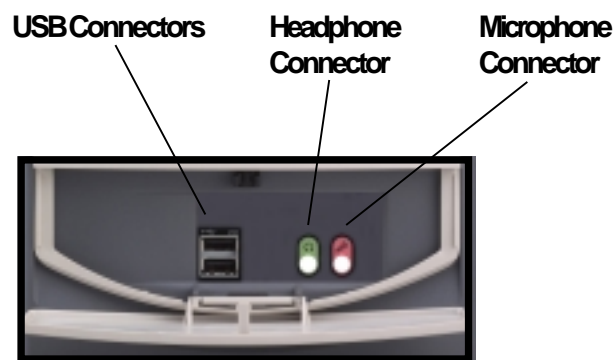
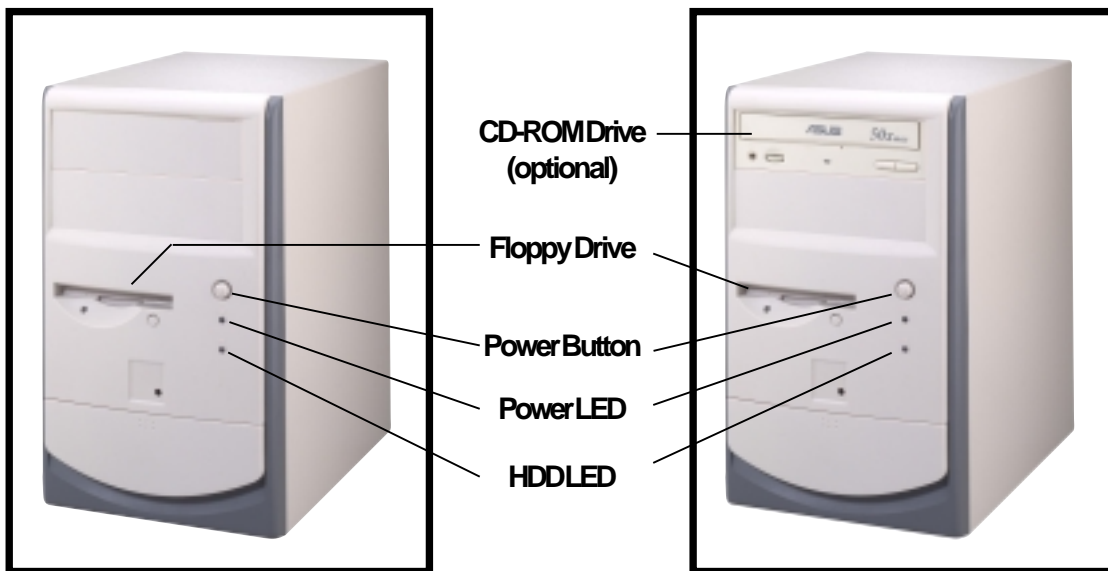
# System Introduction

# 1.1 Front Panel Features

The ASUS Terminator barebone system is composed of the ASUS CUSC motherboard, a power supply, and a floppy disk drive in the ASUS TriOptix form factor chassis.

The following figures show the front panel features.

**NOTE**  
The CD-ROM drive and modem card are optional items and may not come installed in some models.

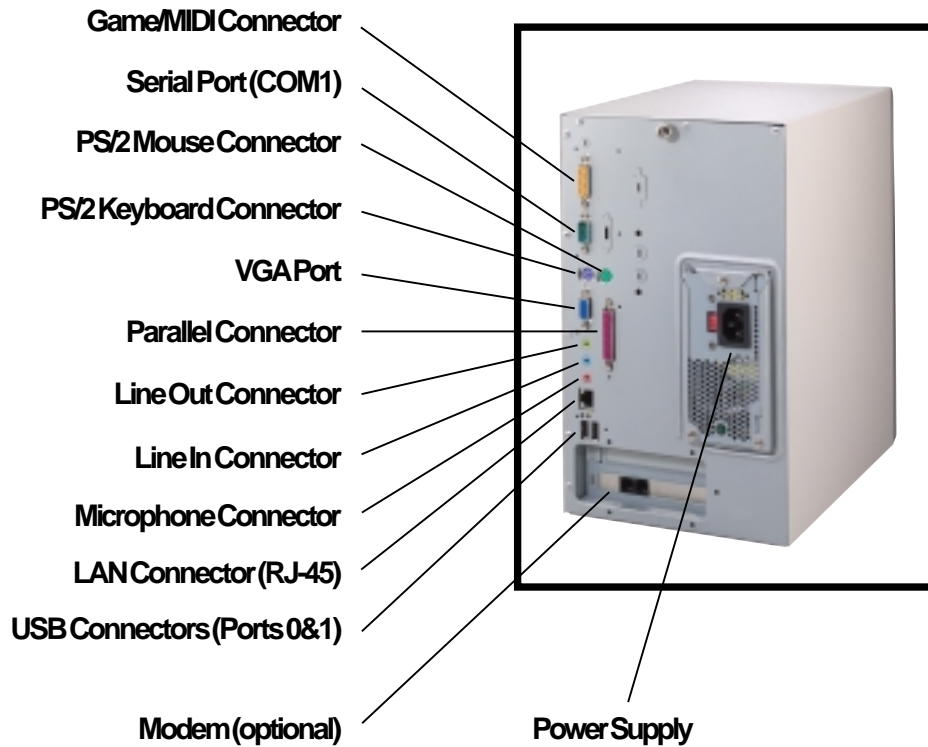


The lower part of the front panel is a door that covers accessible I/O features that include two USB connectors (Ports 2&3), a headphone connector, and a microphone connector. Push the dotted area of the door to open it and show the connectors as in the above figure.

## 1.2 Rear Panel Features

The rear panel of the ASUS Terminator barebone system includes the standard PC99 I/O connectors for external devices, power supply socket, and optional modem connectors.

The following figure shows the rear panel features.

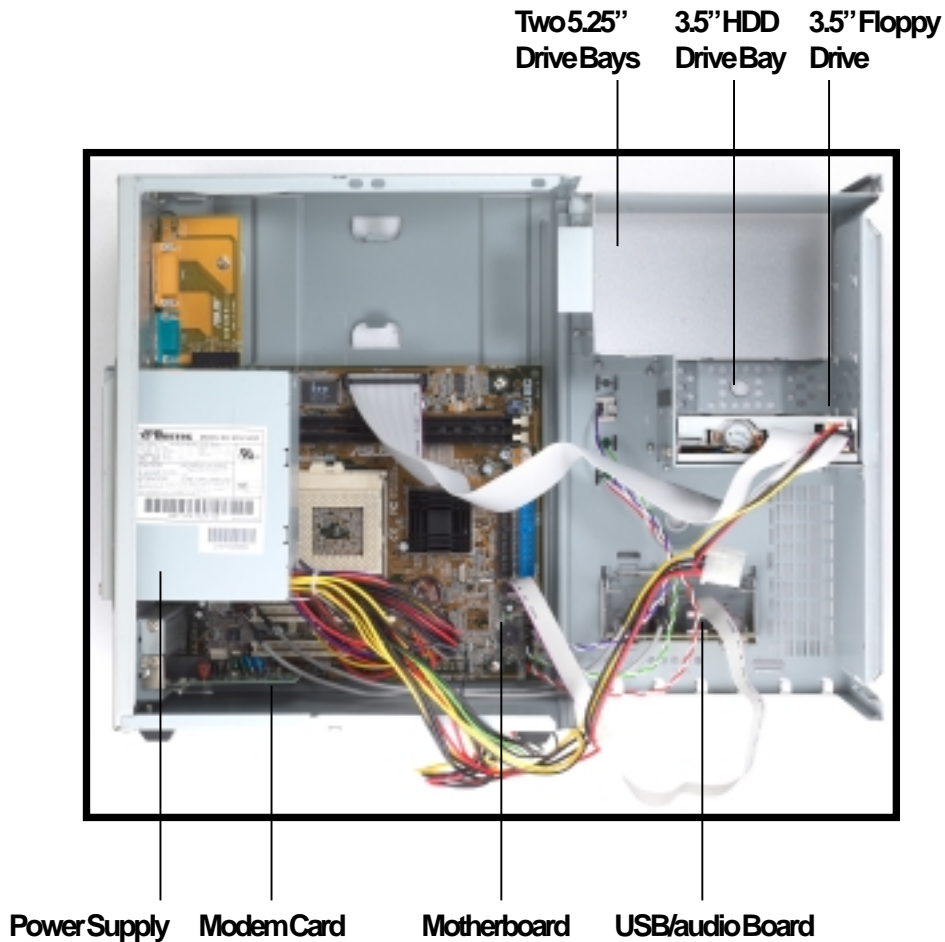


### NOTE

Refer to Chapter 2 “*Basic Installation*” for an illustration of the devices that you can connect to the rear panel connectors.

# 1.3 Internal Features

The figure below shows the internal view of the system when you remove the cover and flip out the drive frame. You will see here the standard components that come already installed in the system and the places where you can install the other required components to get the system running.



# Chapter 2

This chapter tells how to install components into the barebone system through illustrated step-by-step instructions.

# Basic Installation

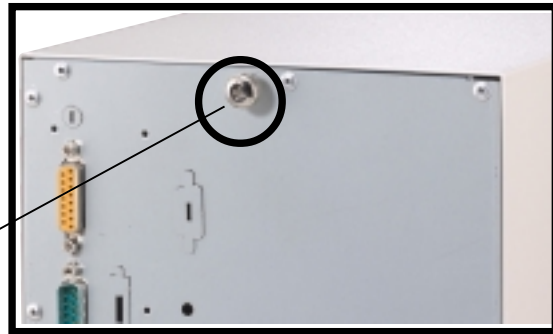
## 2.1 Remove the Cover

The chassis cover is secured by a thumbscrew located on the rear panel.

Follow these steps to remove the chassis cover.

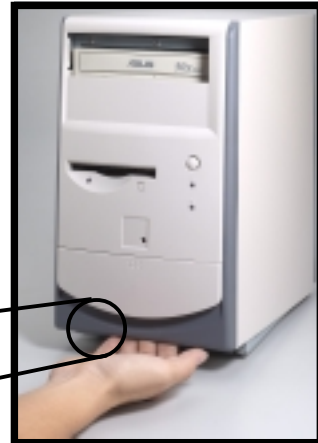
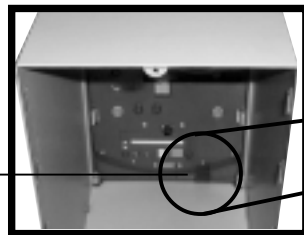
1. Turn the captive thumbscrew counter-clockwise to release the cover. You don't have to remove the thumbscrew from the chassis.

Thumbscrew



2. Place your hand underneath the front panel and push up the locking tab that secures the panel to the chassis.

Locking Tab



### TIP

Another way to release the cover is to push on the CD-ROM area with your thumbs while holding the upper part of the front panel. Then lift it up.

3. Pull up the front panel for about an inch after unlocking the tab.
4. While still holding the front panel, place your other hand on the top rear edge of the cover and carefully lift the cover from the chassis.

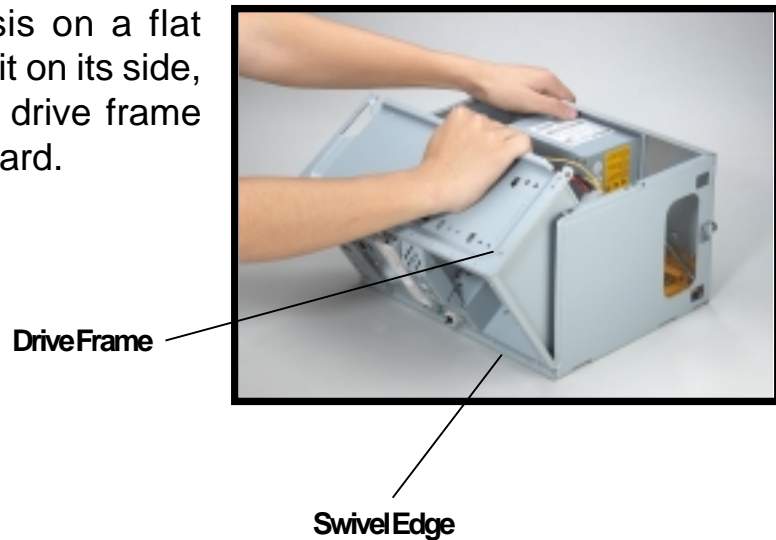


## 2.2 Detach the Drive Frame

After removing the chassis cover, detach the disk drive frame to access the components beneath it.

Follow these steps to detach the drive frame.

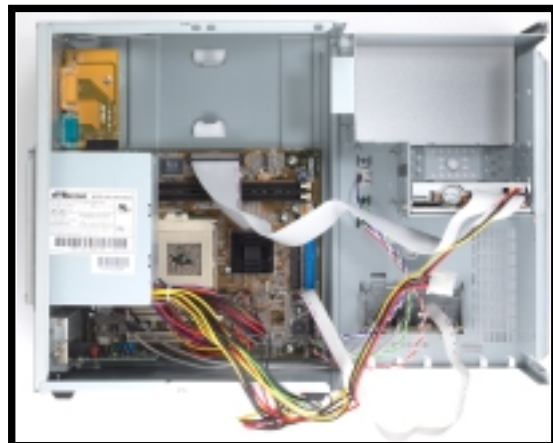
1. Place the chassis on a flat surface and turn it on its side, then unlatch the drive frame by pulling it outward.



### NOTE

The drive frame has a swivel (hinge-like) edge that is attached to the main chassis. It is not necessary to completely detach the drive frame from the chassis when installing components.

2. Carefully lay the drive frame alongside the main chassis frame.

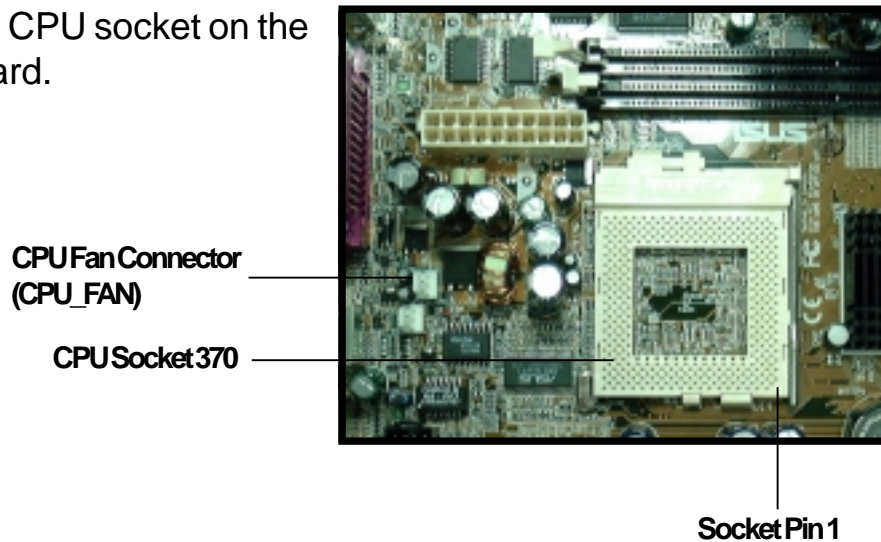


## 2.3 Install a CPU

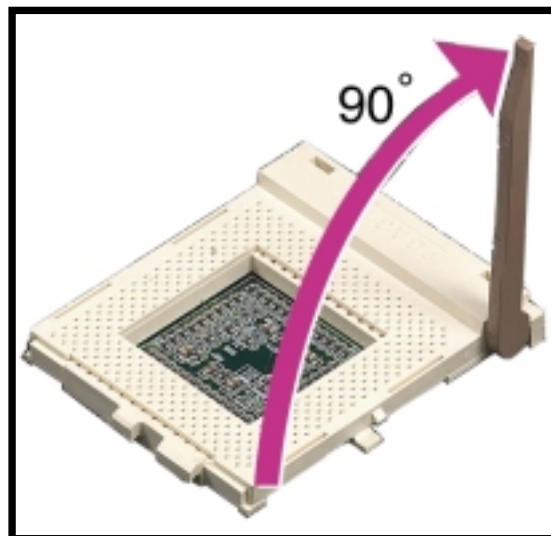
The ASUS CUSC motherboard that comes installed in the chassis has a Socket 370 that supports an Intel Pentium III/Celeron processor.

Follow these steps to install a CPU.

1. Locate the CPU socket on the motherboard.



2. Unlock the socket by pressing the lever sideways then lifting it up to a 90°-100° angle.

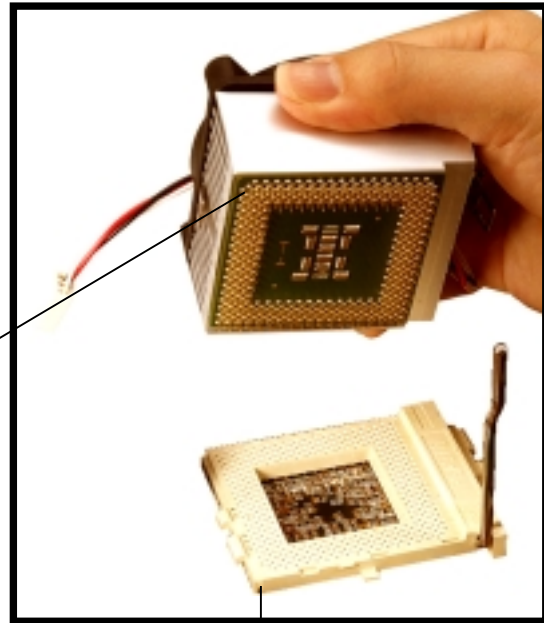




## 2.3 Install a CPU

3. Position the CPU above the socket such that its notched or marked corner matches the Socket Pin 1, while making sure that the CPU is parallel to the socket.

Notched Corner



Socket Pin 1

4. Carefully insert the CPU into the socket until it fits in place.

5. Push down the lever to secure the CPU. The lever clicks in place indicating that the socket is locked.

6. Connect the CPU fan cable to the 3-pin CPU\_FAN connector on the motherboard. Refer to the picture in step 1.



CPU Fan Cable

### **WARNING!**

The CPU fits only in one orientation. DO NOT force the CPU into the socket to prevent bending the pins and damaging the CPU. If the CPU does not fit completely, check its orientation or check for bent pins.

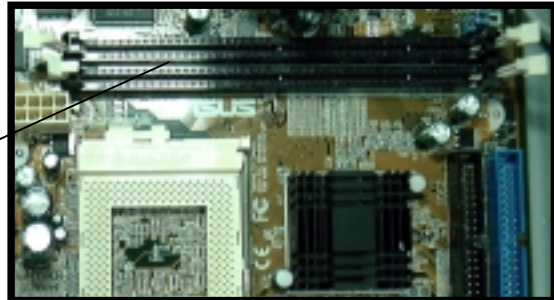
## 2.4 Install System Memory

The motherboard includes two 168-pin Dual Inline Memory Module (DIMM) sockets. The sockets support up to 1GB system memory using PC133-compliant Synchronous Dynamic Random Access Memory (SDRAM) DIMMs.

Follow these steps to install a DIMM.

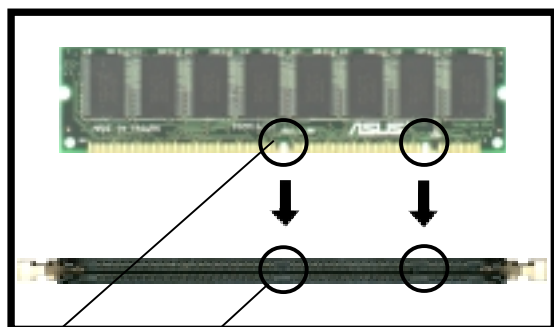
1. Locate the DIMM sockets on the motherboard.

DIMMSockets



2. Unlock a DIMM socket by pressing the retaining clips outward. Align a DIMM on the socket such that the notches on the DIMM match the breaks on the socket.

DIMMNotch



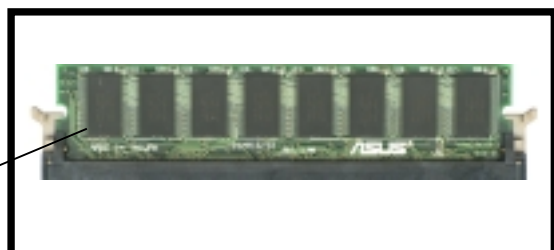
SocketBreak

### CAUTION!

DIMMs are keyed with notches so that they fit in only one direction. DO NOT force a DIMM into a socket to avoid damaging the DIMM.

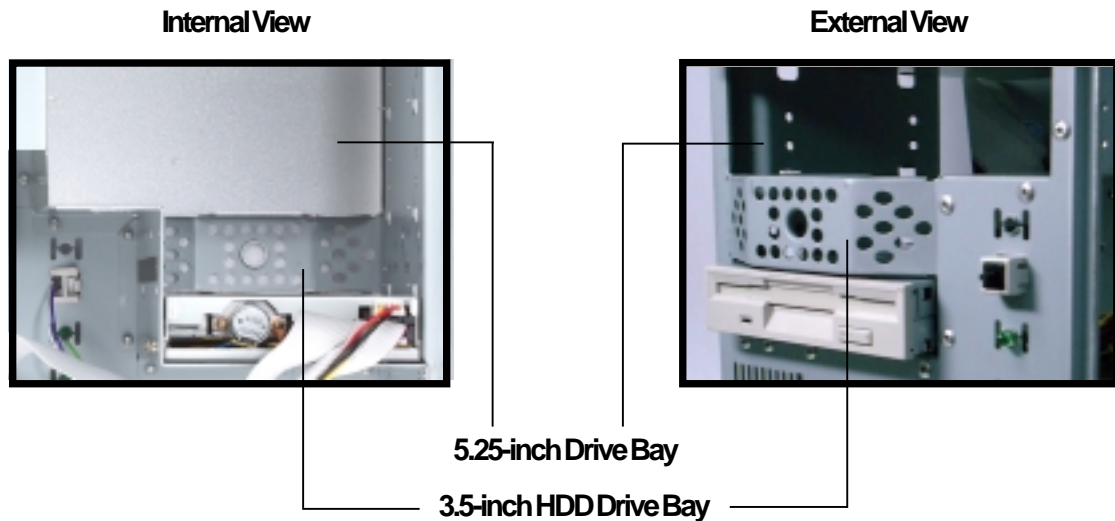
3. Firmly insert the DIMM in the socket until the retaining clips snap back in place and the DIMM is properly seated.

InstalledDIMM



## 2.5 Install a Hard Disk Drive

The chassis has one 3.5-inch hard disk drive (HDD) bay right under the 5.25-inch bay. The following figures show the internal and external views of the HDD bay location.



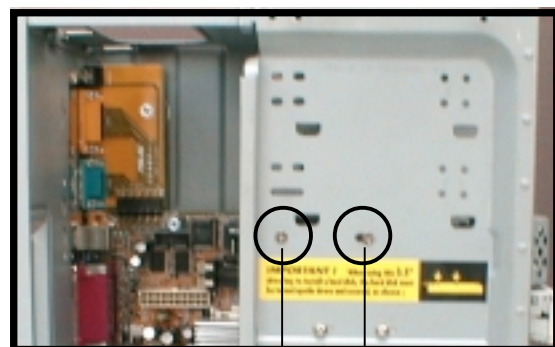
Follow these steps to install an IDE HDD.

1. Place the chassis upright.
2. With its component side up, carefully insert the HDD into the 3.5-inch bay.

HDD Component Side



3. Carefully push the HDD into the bay until its screw holes align with the holes on the bay.
4. Secure the HDD with two screws on each side of the bay.



HDD Screws

## 2.5 Install a Hard Disk Drive

5. Connect a power cable from the power supply to the power connector at the back of the HDD. Use the cable with the white connector labeled HDD.
6. Connect one end of the IDE hard disk ribbon cable to the IDE interface at the back of the HDD, matching the red stripe on the cable with Pin 1 on the IDE interface.

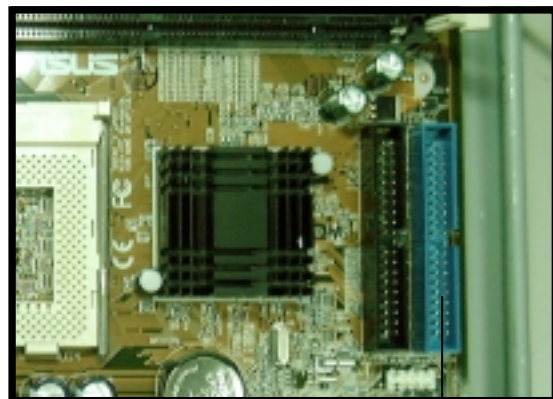


IDE Ribbon Cable

Red Stripe to Pin 1

Power Cable  
(HDD)

7. Connect the other end of the IDE ribbon cable to the primary IDE connector (blue connector labeled IDE1) on the motherboard.



Primary IDE Connector  
(IDE1)

## 2.6 Install a CD-ROM Drive

A CD-ROM drive is an optional item in the Terminator barebone system. Refer to the instructions in this section if you acquired a model without a CD-ROM.

Follow these steps to install a CD-ROM drive.

1. Place the chassis upright.
2. Insert the CD-ROM drive into the upper 5.25-inch bay.



5.25-inch Drive Bay

3. Carefully push the CD-ROM drive into the bay until its screw holes align with the holes on the bay as shown.
4. Secure the CD-ROM with two screws on each side of the bay.



CD-ROM Screws

## 2.6 Install a CD-ROM Drive

5. Connect a power cable from the power supply to the power connector at the back of the CD-ROM. Use the cable with the white connector labeled P6.
6. Connect one end of the IDE ribbon cable to the IDE interface at the back of the CD-ROM, matching the red stripe on the cable with Pin 1 on the IDE interface.
7. Connect one end of the CD-ROM audio cable to the 4-pin connector at the back of the CD-ROM.
8. Connect the other end of the IDE ribbon cable to the secondary IDE connector (black connector labeled IDE2) on the motherboard.



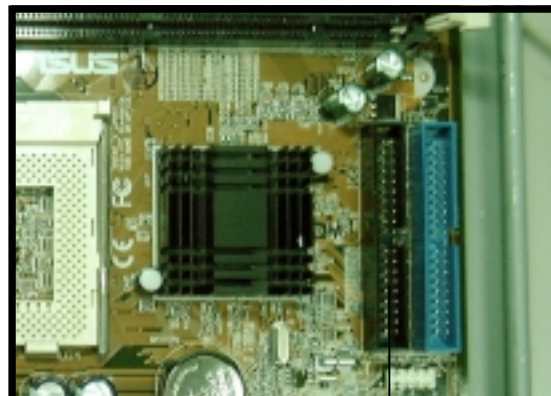
CD-ROM Audio Cable

IDE Ribbon Cable

Red Stripe to Pin 1

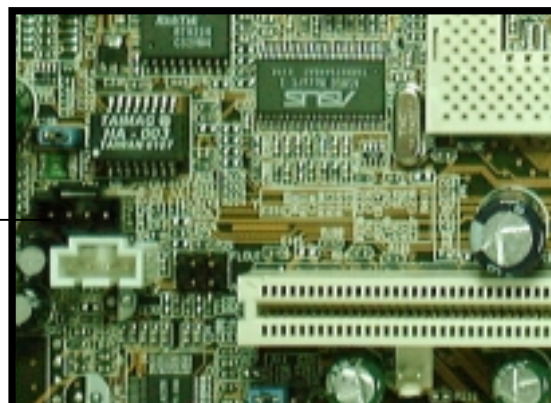
Power Cable (P6)

8. Connect the other end of the IDE ribbon cable to the secondary IDE connector (black connector labeled IDE2) on the motherboard.
9. Connect the other end of the audio cable to the black 4-pin connector labeled CD on the motherboard.



Secondary IDE Connector (IDE2)

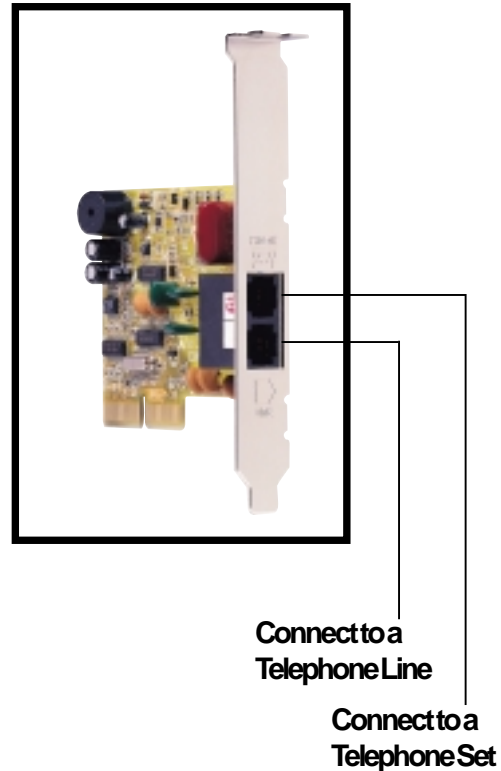
CD-ROM Connector (CD)



## 2.7 Install a Modem Riser Card

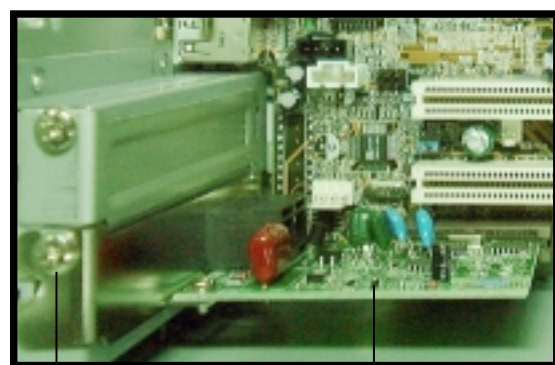
The motherboard includes an AMR slot that supports a modem riser card. The modem riser card is an optional item in the Terminator barebone system. Refer to the instructions in this section if you acquired a model without a modem riser card.

The figure on the right shows a modem riser card that you can install on the AMR slot.



Follow these steps to install a modem riser card.

1. Place the chassis on its side.
2. Remove the metal bracket cover opposite the AMR expansion slot.
3. Align the modem card golden fingers to the AMR slot and its metal bracket to the slot opening on the chassis.
4. Press the card firmly until the it is properly seated on the slot.
5. Secure the card to the chassis with a bracket screw.



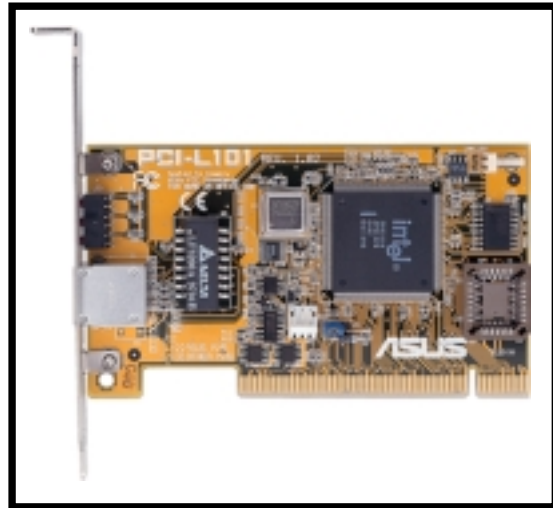
Bracket Screw

Modem Riser Card  
Installed on the AMR Slot

## 2.8 Install a PCI Expansion Card

The motherboard has two 32-bit PCI slots (one shared with AMR slot). If you wish to install a PCI card, refer to the instructions in this section.

The figure on the right shows a sample PCI network card that you can install on the PCI slot.



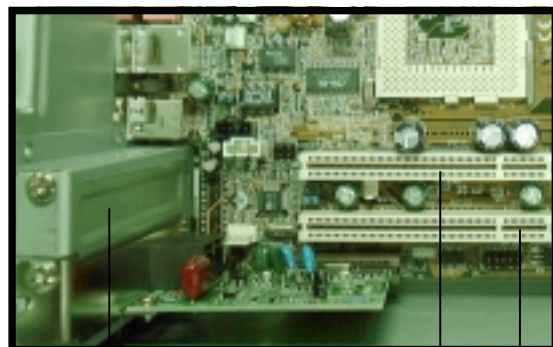
Follow these steps to install a PCI expansion card.

1. Place the chassis on its side.
2. Remove the metal bracket cover opposite the PCI slot marked PCI1.

### NOTE

If you have installed a modem riser card, PCI2 is not available.

3. Align the PCI card golden fingers to the PCI slot and its metal bracket to the slot opening on the chassis.
4. Press the card firmly until it is properly seated on the slot.
5. Secure the card to the chassis with a bracket screw.



Slot Opening  
for PCI

PCI Slot 1 (PCI1)

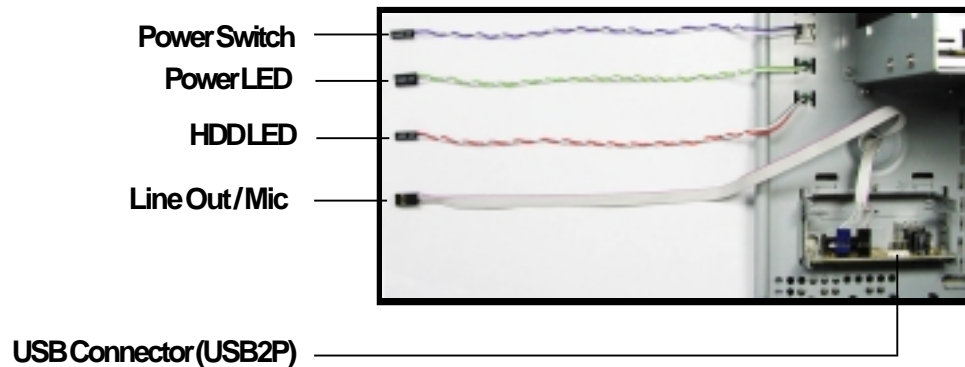
PCI Slot 2 (PCI2)



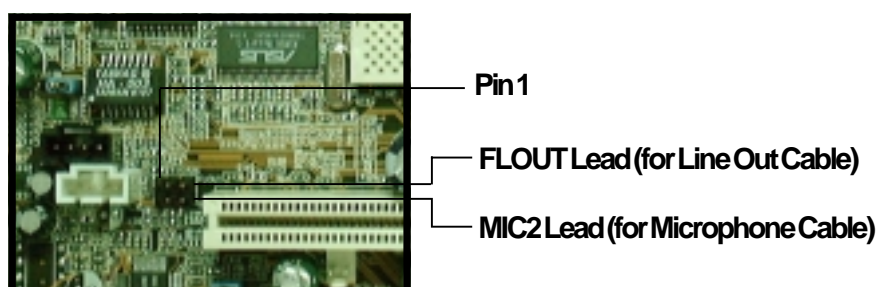
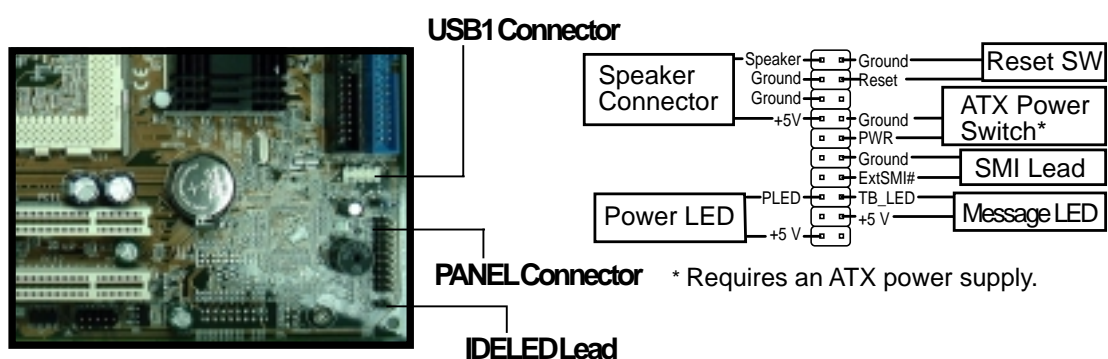
## 2.9 Re-connect Cables

You may have disconnected some cables when you were installing components. You must re-connect these cables before you replace the chassis cover.

The figures below show the front panel cables and their corresponding connectors on the motherboard.



1. Connect the power switch and power LED cables to their respective leads in the PANEL connector on the motherboard.
2. Connect the HDD LED cable to the 2-pin lead marked IDELED.
3. Connect the Line Out/Mic cable to the FLOUT/MIC2 connector on the motherboard, matching the red pin stripe with Pin 1.
4. Connect the USB2P cable to the USB1 connector on the motherboard, matching the red pin stripe with Pin 1.



## 2.10 Replace the Cover

After you have installed all the internal components and you have connected all the necessary cables, you are now ready to put the system back together.

Follow these steps to re-assemble the system.

1. With the chassis lying on its side, hook the swivel edge of the drive frame to the main chassis.
2. Sway the drive frame inward until it fits completely. The protruding tabs on both ends of the drive frame should snap perfectly to the chassis edge.



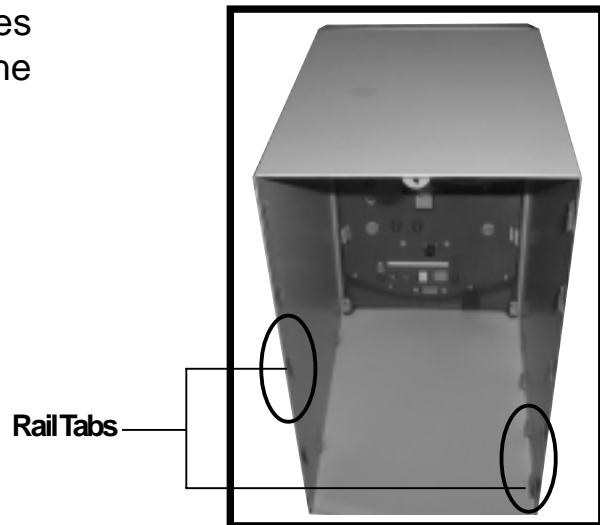
Protruding Tab

3. Turn the chassis upright.
4. Place the cover over the chassis leaving about two inches from the rear panel.



## 2.10 Replace the Cover

5. Fit the rail tabs on the sides and bottom of the cover to the edges of the chassis.



6. Push the cover towards the rear until it fits. The locking tab snaps into the hole on the chassis indicating that the cover is in place.



Locking Tab



Locking Tab Hole

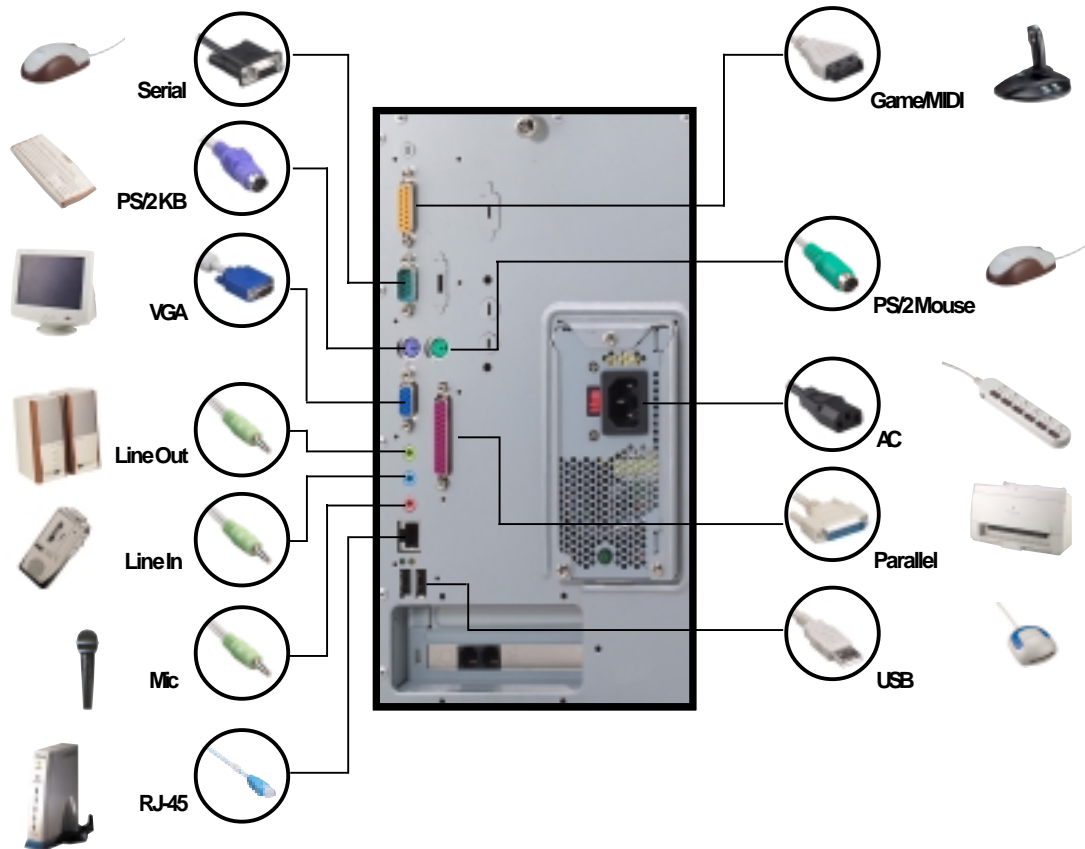
### IMPORTANT

Firmly push the cover to ensure that it is fully engaged to the chassis.

7. Lock the cover with the captive thumbscrew on the rear panel.

## 2.11 Connect External Devices

The figure below shows the specific connectors and devices that you can connect to the rear panel ports.



# Chapter 3

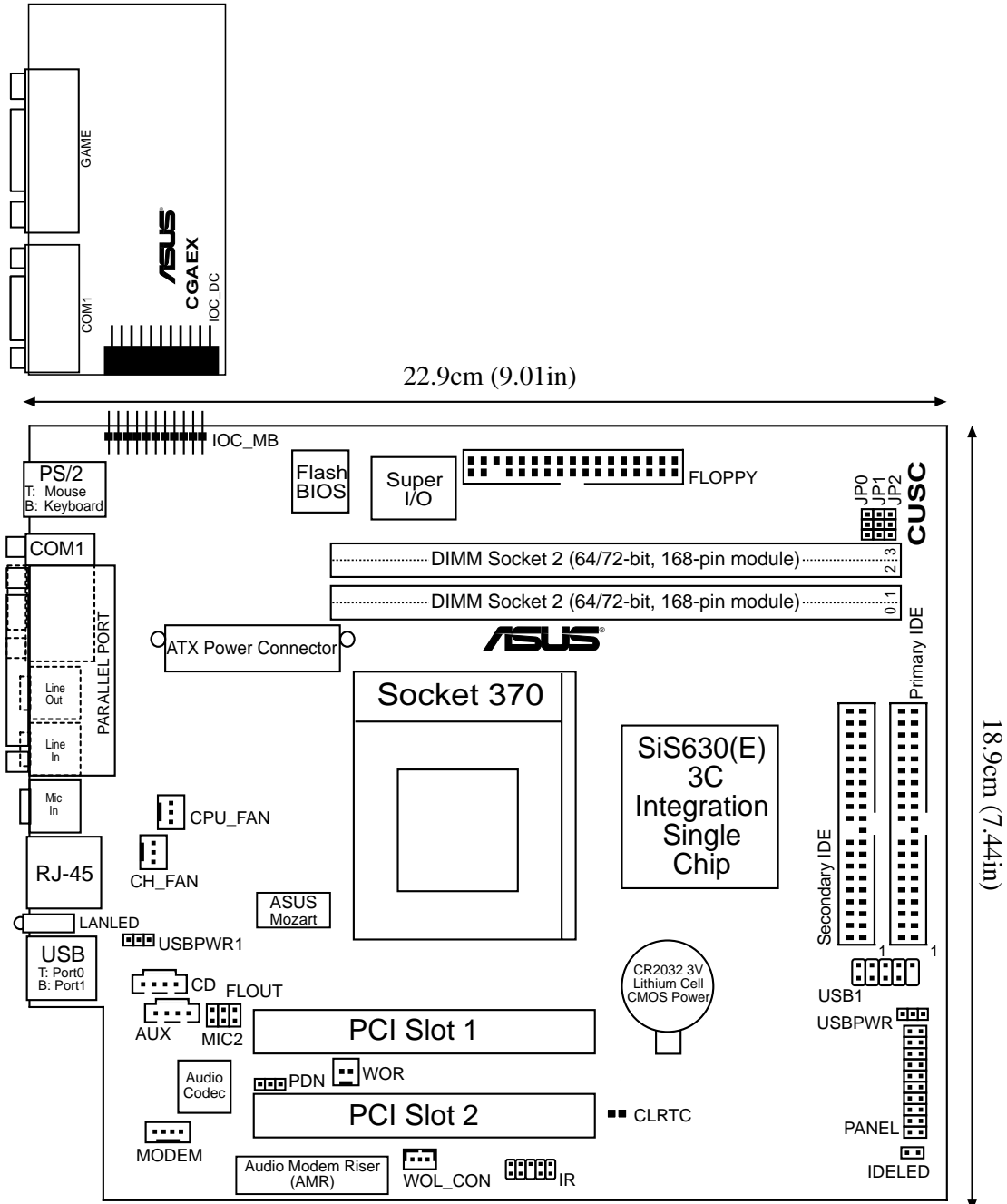
This chapter gives information about the CUSC motherboard that comes with the ASUS Terminator Barebone System. This chapter includes the motherboard layout, jumper settings, and connector locations. It also includes information on the USB/audio board located on the front panel.

In cases when changing motherboard settings require corresponding BIOS settings adjustments, enter BIOS Setup by pressing the Delete key <Del> during boot up (Power-On Self Test).

# M/B Information

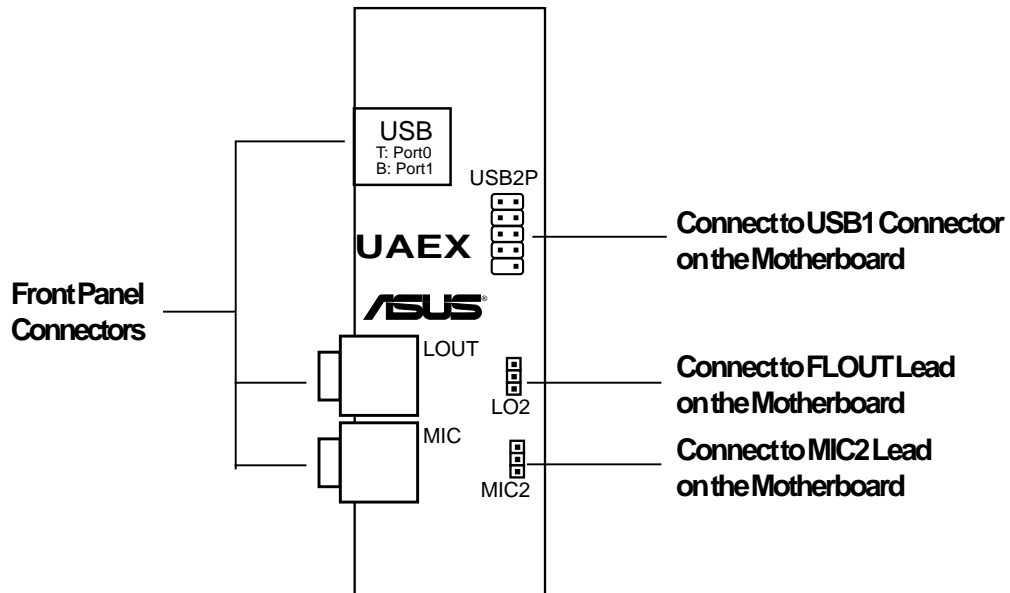
# 3.1 Motherboard Layout

Refer to the layout below to locate specific motherboard components. The motherboard has a side connector for a detachable extension module (CGAEX) that includes a serial port (COM1) and Game/MIDI port.



## 3.2 USB/Audio Board Layout

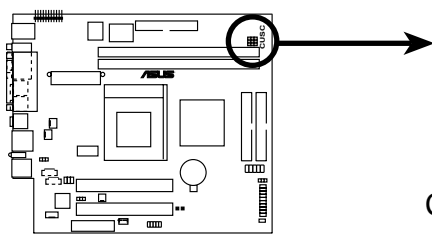
The USB/audio board is located on the front panel to support externally accessible connectors including two USB, headphone, and microphone connectors.



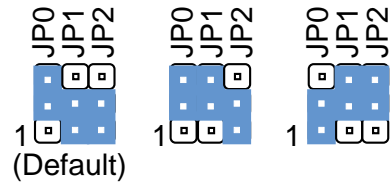
# 3.3 Jumper Settings

The following jumper settings are for your reference in case you accidentally pull out jumper caps. DO NOT change the jumper settings to ensure stable system operation.

1. **External Frequency Selection.** These jumper settings tell the clock generator what frequency to send to the CPU, DRAM, and PCI buses.

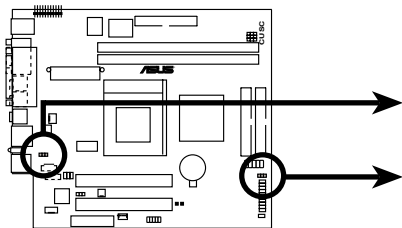


**CUSC External Clock (BUS) Frequency Selection**



CPU	66.6MHz	100.0MHz	133.3MHz
SDRAM	100.0MHz	133.3MHz	133.3MHz
PCI	33.3MHz	33.3MHz	33.3MHz

2. **USB Device Wake Up.** Set these jumpers to +5V to allow wake up from S1 sleep state (CPU stopped; RAM refreshed; system running in low power mode) using the connected USB devices. Set to +5VSB to allow wake up from S3 state (no power to CPU; RAM in slow refresh; power supply in reduced power mode).



**CUSC USB Device Wake Up**

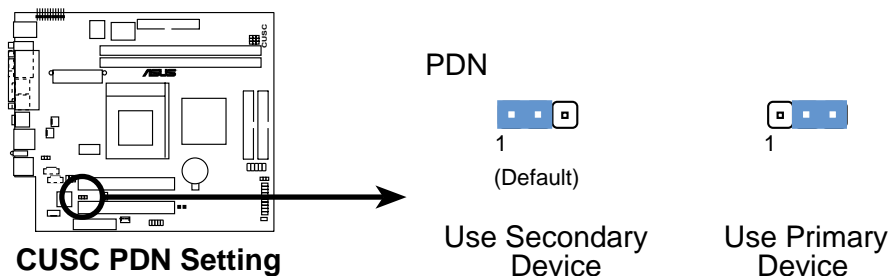
**USBPWR  
USBPWR1**





## 3.3 Jumper Settings

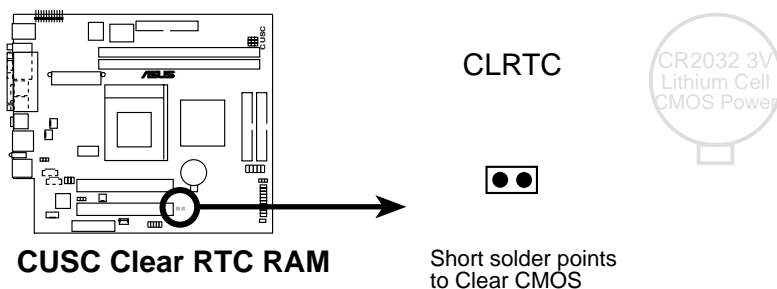
- 3. PDN Setting.** This jumper allows you to select the primary and secondary Audio Modem Riser (AMR) device. Set to 1-2 to use a secondary AMR device, or set to 2-3 to use a primary AMR device. Disable the onboard AC97 audio parameter in BIOS when you use a primary AMR.



- 4. Clear RTC RAM.** This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The RAM data in CMOS, that include system setup information such as system passwords, is powered by the onboard button cell battery.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Remove the battery.
3. Short the jumper.
4. Re-install the battery.
5. Plug the power cord and turn ON the computer.
6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.



# 3.4 Connectors

