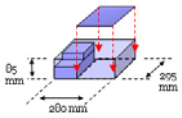
User Manual

C2D900+

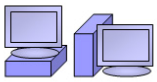
Smallest pBTX Desktop

C2D900+ is a high quality, highly scalable basis for your computing needs. You will find that the C2D900+ System has the following advantages



Ultimate small and quiet

C2D900+ is designed in the size that just enough for pBTX motherboard and LFX power supply unit; no space wasted inside the chassis. Proprietary thermal solution delivers best acoustic performance of 26dB handling office works.



Perfect on office desktops

With the carefully placed vent location, C2D900+ is able to be placed both vertically and horizontally on office desktops. It gives user the flexibility to arrange desktop space as desired. C2D900+ is also designed to hold legacy, heavy CRT monitors that are still commonly using today.

Solid Security and Easy Maintenance

C2D900+ is built with Kensington lock, pad lock, and Chassis intrusion that secure hardware. Latest Intel technology provides secure networking and administrating. Tool-less chassis allows easy maintenance with level 7 components assembling.

Note:
In order to install C2D900+ System efficiently, Please read this user's manual carefully before unpacking and setting up your computer
.

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Safety Instructions

- The computer has been tested for conformance to international safety regulations. Like any electronic device, however, the computer should be used with care. To protect yourself from possible injury and to minimize the risk of damage to the computer, read and follow all the safety instructions mentioned in this manual.
- A modem card will be bundled with the system and installed in the extension slot. Do not touch the modem card if you are using the system. This may cause an electrical shock.

WARNING: Do not attempt to service the computer yourself. Opening or removing covers might expose you to dangerous voltage points or other risk, have a qualified person repair it.

WARNING: Keep hair, loose clothing, fingers, and all parts of body away from openings, moving parts and fan.

WARNING: Do not operate the computer with the cover removed.

WARNING: Always disconnect all telephone lines & all power cords from the wall outlet before servicing or disassembling this product. To reduce the risk of personal injury from electrical shock or hot surfaces, disconnect the power cord from the wall outlet, and allow the internal system components to cool before touching.

WARNING: This equipment is designed for connection to a grounded (earthed) outlet. The grounded type plug is an important safety feature. To reduce the risk of electrical shock, damage to your equipment, or loss of data, do not disable this feature.

General Guidelines

- Read all of these instructions.
- Save these instructions for future use.
- Follow all warnings and instructions marked in the computer.
- Except as explained elsewhere in this manual, do not attempt to service the computer yourself. Opening or removing covers that are marked “Do Not Remove” might expose you to dangerous voltage points or other risks. Refer all servicing of marked components to a qualified personnel.

Installation Restrictions

1. Follow all warnings and instructions marked on the product.
2. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. Ensure that no liquid enters the system.
3. Do not use this product near water. For example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
4. Do not connect or disconnect cables during a thunderstorm.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to it.
6. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be remote risk of electric shock from lightning.
7. Do not use the telephone to report a gas leak in the vicinity of the leak.
8. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
9. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
10. Do not allow anything to rest on the power cord. Do not locate this product where persons will tread on the cord.
11. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
12. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could resulting a fire or electronic shocks. Never spill liquid of any kind on the product.

13. To reduce the risk of fire, use at least No. 26 AWG wire for the telecommunication line cord.
14. Always disconnect all telephone lines & all power cords from the wall outlet before servicing or disassembling this product. And, refer it for servicing to qualified service personal under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions, since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
    e. If the product has been dropped or cabinet has been damaged.
    f. If the product exhibits a distinct change in performance, indicating a need for service.

Electrical Restrictions

WARNING: This equipment is designed for connection to a grounded (earthed) outlet. The grounding type plug is an important safety feature. To reduce the risk of electrical shock, damage to your equipment, or loss of data, do not disable this feature.

Power Cord Set Requirements

The power cord set (appliance coupler, flexible cord, and wall plug) you received with the computer meets the requirements for use in the country where you purchased the equipment.

Power cord sets for use in other counties must meet the requirements of the country where you use the computer. For more information on power cord set requirement, contact your local authorized dealer, reseller, or service provider.

Laser Compliance Statement

The CD-ROM / DVD-ROM / CD-RW / DVD-RW drive in this computer is a laser product. The CD-ROM / DVD-ROM / CD-RW / DVD-RW drive's classification label (shown below) is location on the drive.

Class 1 laser product
Caution: Invisible laser radiation when open. Do not stare into beam.
Caution: Use to any controls or adjustments or procedures other than those specified herein may result in hazardous radiate exposure. To prevent exposure to laser emanations (Harmful to Human eyes), Do not attempt to disassemble this unit.

Battery (Lithium)

NOTE: The following caution statement is located in the service and operating manual or on the label adjacent to the battery.

1. English

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

2. French

IL Y A DANGER D'EXPLOSION S'IL Y A REMPLACEMENT INCORRECT DE LA BATTERIE. REMPLACER UNIQUEMENT AVEC UNE BATTERIE DU MÊME TYPE OU D'UN TYPE RECOMMANDÉ PAR LE CONSTRUCTEUR. METTER AU RÉBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.

3. German

VORSICHT ! Explisionsgefahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

4. Swedish

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruction.

5. Danish

Lithiumbatteri- Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kum ske med batteri af samme fabrikat og type. Lever det brugte batteri tilbage til leverandoren.

6. Norwegian

Ekspolsjonsafe ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabriknten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

7. Finnish

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainostaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käyteet paristo valmistajan ohjeiden mukaisesti.

FCC Information

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

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 the 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 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.

Television antenna connectors protection (for system TV tuner card)

External television antenna grounding

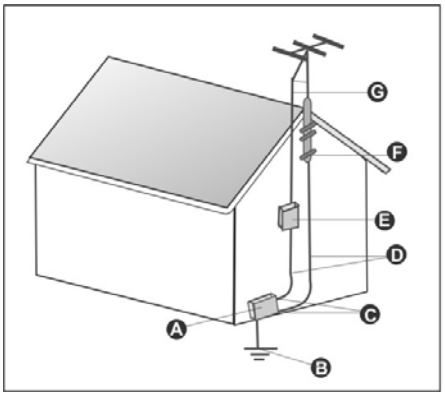
If an outside antenna or cable system is to be connected to the product, make sure that the antenna or cable system is electrically grounded to provide some provide some protection against voltage surges and static charges.

Article 810 of the National Electrical Code. ANSI/NFPSA 70, provide information with regard to proper grounding of the mask and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Lightning protection

For added protection of any product during a lightning storm or when it is left unattended or unused for long periods of time, unplug the product from the wall outlet and disconnect the antenna or cable system.

Må Kun tilkoples kabel-TV nett via galvanisk isolator.



	Grounding Component
A	Electric Service Equipment
B	Power Service Grounding Electrode System (NEC Art 250, Part H)
C	Ground Clamps
D	Grounding Conductors (NEC Section 810-21)
E	Antenna Discharge Unit (NEC Section 810-20)
F	Ground Clamp
G	Antenna lead-in wire

Antenna grounding

CATV Cable Safety
Make sure that your CATV system installer has connected the Coaxial

cable shield to the grounding system of the building, as close to the point of cable entry as practical.

TV Antenna

The TV antenna supplied with any TV Tuner module is intended for Indoor use only. Please do not use your TV Tuner module outdoors.

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Chapter1

Unpacking

Before unpacking the C2D900+ System, prepare a suitable workspace for your computer. Provide a steady, level and clean surface, near an electrical wall outlet. Also ensure that the computer has enough space around it to allow for airflow, especially at the rear of the computer near the fan. If the computer does not have enough ventilation, internal components can become overheated and may become damaged.

When opening the box of the computer, make sure not to damage the box, as you may need to keep it and all packing material for future shipping needs.

Unpacking the box, make sure the following components are included in the box and are in good condition. If you find that any of these components are missing or appear damaged, please contact the system dealer immediately.

Checklist:

- ☑ **C2D900+ System Unit**
- ☑ **AC Power Cord**
- ☑ **CPU Heat Sink**
- ☑ **HDD Cable**
- ☑ **This Assembly Guide**
- ☑ **CD-ROM Cable (Optional)**
- ☑ **Support Software Drivers**
- ☑ **Application Software (Optional)**
- ☑ **Main Board User's Manual**

Chapter2

System Overview

Front Panel

The features in the front panel are shown in Figure 2.1, and are described as following.

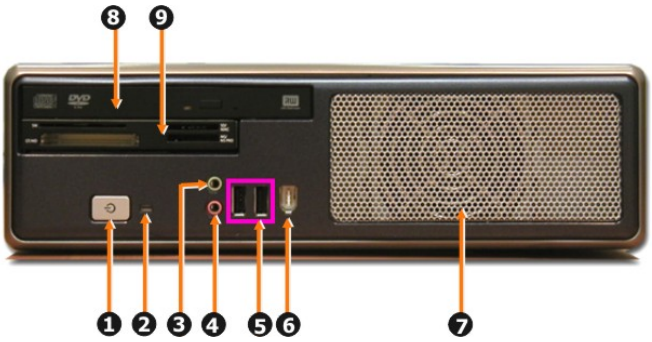


Figure 2.1

1. **Power switch:**
   Let's turn the C2D900+ System on or off. When power on, this LED embedded in Power switch will light blue. If the button is held down for one second, the unit will enter Suspend mode, and if held down for four seconds, unit power will switch off.

2. **HD LED:**
   When this LED lights yellow, it indicates that the hard disk is being accessed at the moment.

3. **Line Out jack (light green):**
   Connect audio devices such as headphones or speakers to this jack.

4. **Microphone jack (pink):**
   Plug the microphone into this jack for recording or voice-control functions.

5. **USB port x 2**
   Two USB devices can be connected via these ports; there are a further four on the rear of the computer – see below.

6. **IEEE1394 Connector**
   1394 devices can be connected via these ports.

7. **Air Inlet**
   This inlet allows air inside or outside chassis to be inhaled and exhaled for better air-flow.

8. **ODD device**:
   Insert DVD-ROM into this drive for enjoying multimedia data.

9. **8-in-1 Card Reader:**
   Allows users to access and read a variety of memory cards directly from front panel.

Rear Panel

The features in the rear panel are shown in Figure 2.2, and are described as following.

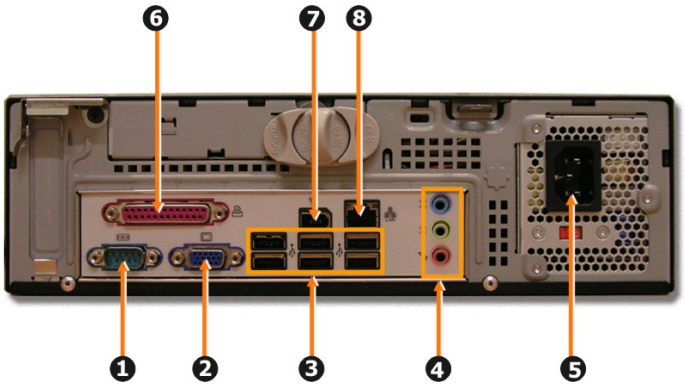


Figure 2.2

1. **COM1 port (turquoise):**
   Connect serial (RS232) devices such as a modem to this port.

2. **VGA port :**
   Connect VGA devices such as a display monitor to this port.

3. **USB port x 6**
   Connect USB peripheral devices to these ports to take advantage of the universal functionality and flexibility of Plug and Play technology. You can also connect USB-Keyboard or USB-Mouse.

4. **HD 2.1 Channel Audio**

Line In jack (blue):
Connect audio sources such as tape players to this jack for recording on your computer or playback through the Line Out device.
Line Out jack (green)
Connect audio devices such as headphones or speakers to this jack.
Microphone jack (pink):
Plug the microphone into this jack for recording or voice-control functions.

5. **Power socket:**
   Connect the power cord to this socket, ensuring that it is connected to a stable AC power source.

⚠ **CAUTION**:

Before you plug the AC power cord, you must first check the voltage toggle switch setting is appropriate for your geographical area.

6. **Parallel port (purple):**
   Parallel devices such as a printer or scanner can be connected to this port.

7. **IEEE1394 Connector**
   High-speed 1394 devices (such as hard disk or video camera) can be connected via this port.

8. **RJ45 LAN connector**
   For connecting with your LAN to access the network services or surf the Internet.

About Security Mechanism

For safety purpose, this unit features with specific design in providing you full protection of this machine.

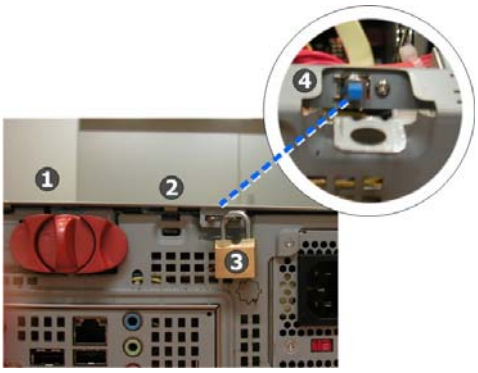


Figure 2.3

1. **Chassis Lock:**
   A hardware security mechanism, when you place the switch in lock position, the chassis cover cannot be opened.

2. **Kensington Lock:**
   A hardware security mechanism, which locks the chassis to prevent hardware from being stolen.

3. **Pad Lock:**
   A hardware security mechanism, which can lock up the chassis with lock to prevent being opened.

4. **Chassis intrusion:**
   A hardware security mechanism, once the chassis cover be opened, the Chassis intrusion will be touched and will automatically notice the BIOS system.

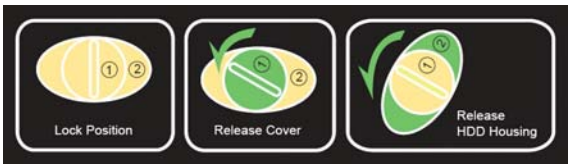
Chapter3

Assembling / Disassembling

Removing the Case Cover

⚠ **CAUTION**:

C2D900+ is design 100% tool less with a special disassemble knob.
Please reference to this lable to open the chassis.



i. Lay the unit flat face the rear panel of the unit.
ii. Switch the Chassis Lock to unlock cover position, as shown in Figure 3.1

Figure 3.1

Figure 3.2

iii. Pull the cover forward slightly then lift it upwards and outwards from the back of the unit to remove it as shown in Figure 3.2.

Perform the above steps in reverse order to replace the cover.

Removing of Hard Disk Rack

i. Before removing the whole hard disk rack from the main body, please disconnect the flat cable and power cord of the hard disk, as shown in Figure 4.1, and Figure 4.2.

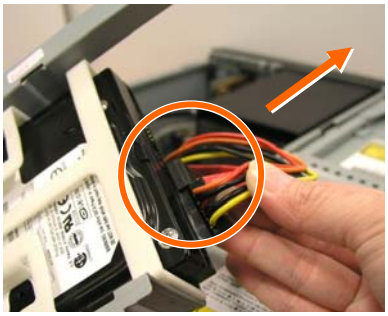


Figure 4.1

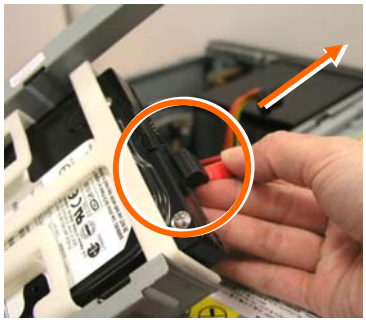


Figure 4.2

ii. Switch the Chassis Lock to HDD unlock position, as shown in Figure 4.3. and remove the hard disk rack by simply disengage metal tab that connects to main frame,

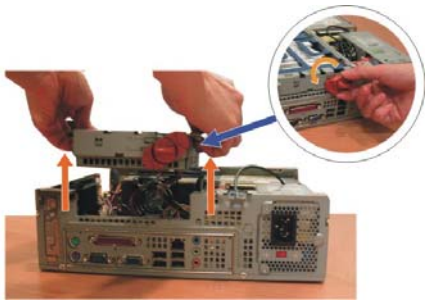


Figure 4.3

Removing of ODD & Card Reader Frame

i. Remove the front cover with disengaging metal tab that hook on bottom and move it forward to open it.

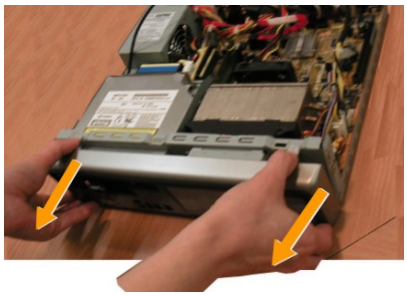


Figure 5.1

ii. Before removing ODD & Card Reader frame from the main body, you must first disconnect the card reader connector, SATA port and power connector, as shown in Figure 5.2

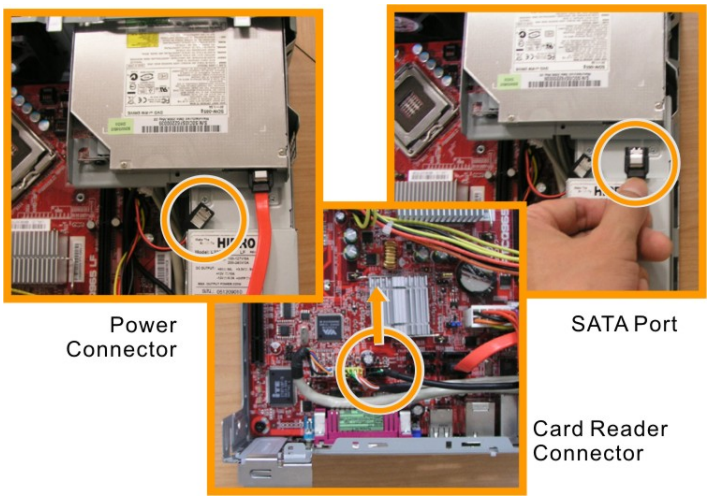


Figure 5.2

iii. Hold up the shield plate (as indicated by below drawing circle) and pull forward, you may totally opened the ODD & card reader rack, as shown in Figure 5.3.

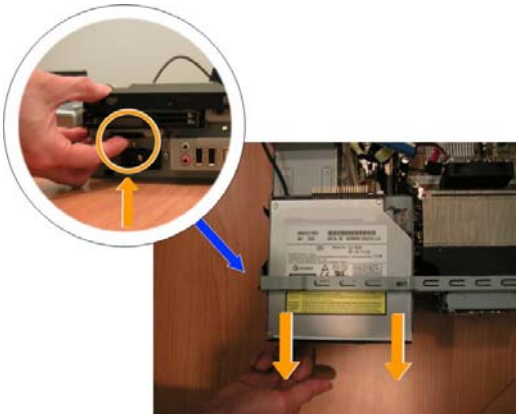


Figure 5.3

Removing the VGA Card

i. Lift up the VGA board shield plate from the main braket, as shown in Figure 6.1.

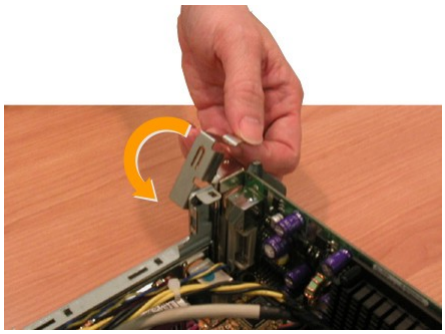


Figure 6.1

ii. Disengage metal tab that stepped with main bracket as indicated in step1, and slightly move the VGA board to right side as indicted in step 2 to unhook the board from staple.

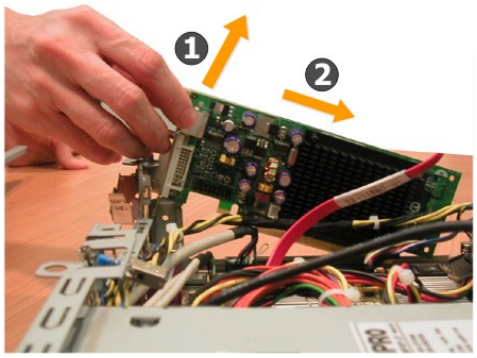


Figure 6.2

Perform the above steps in reverse order to install the VGA card.

Removing the Power Supplier

i. Pull up the switch to unlock the power supplier, as shown in Figure 7.1.

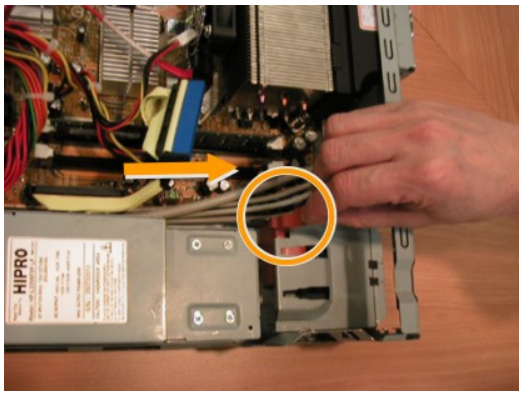


Figure 7.1

ii. Disengaged the power supplier from the main frame, as shown in Figure 7.2.

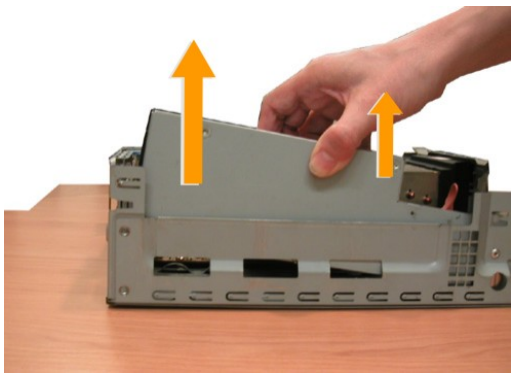


Figure 7.2

Installing/Uninstalling the Hard Disk Drive (Only for Office / Premium SKU)

i. Hook your hands inward onto the plastic holder (as indicated in below drawing step 1) and then lift it upward from the hard disk rack (as indicated in below drawing step 2), as shown in Figure 8.1.

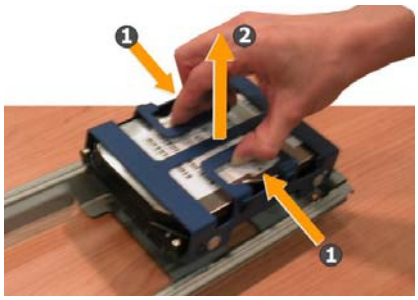


Figure 8.1

ii. Pull the plastic holder outward a bit for removing the hard disk, as shown in Figure 8.2.

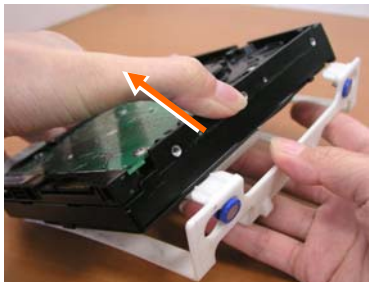


Figure 8.2

iii. Fix the hard disk rack in position by simply placing it back to main frame, as shown in Figure 8.3.

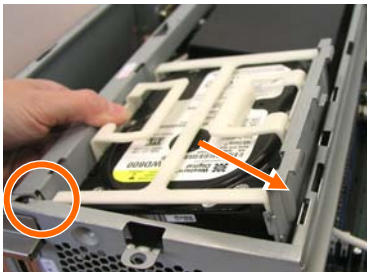


Figure 8.3

Installing/Removing the CPU

i. Remove the CPU heat sink before removing the CPU. To remove the CPU heat sink from the main body, you must first disconnect the Power connector, CPU front fan and rear fan connectors, as shown in Figure 9.1.

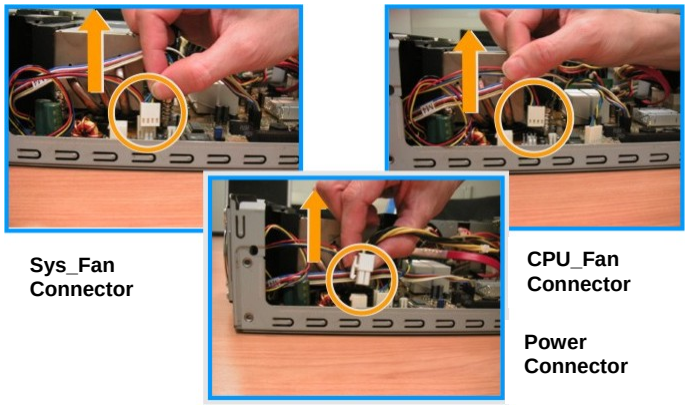


Figure 9.1

ii. Unscrew the heat sink from motherboard, as shown in Figure 9.2.

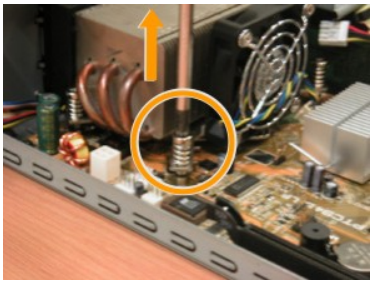


Figure 9.2

iii. Orient the CPU with the socket, place the CPU on socket, it should slide into place without the use of force.as shown in Figure 9.3.

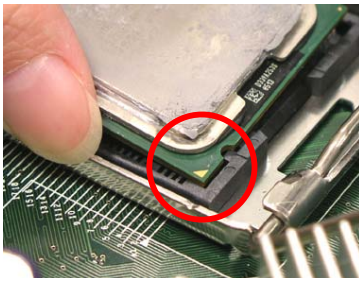


Figure 9.3

iv. Pull down the socket lever and click it into its latch at the side of the socket, as shown in Figure 9.4 above, to lock the CPU in position.

Figure 9.4

v. Place the heatsink back to motherboard, and screw each side of the heatsink, there are 4 holes in total, as shown in Figure 9.5 below.

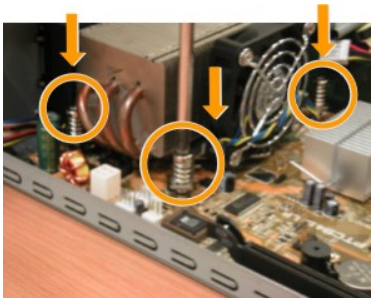


Figure 9.5

Installing Foot Stand

The footstand is intended for the C2D900+ to stand securely in the upright position. Please assemble it on the chassis, as shown in Figure 10.1 and Figure 10.2

Figure 10.1

Figure 10.2

The C2D900+ System with the foot stand which can keep the C2D900+ up and stable during use.

Figure 10.3

Appendix

System Specifications

Product Features

Drive bays	• Slim Super Multi x 1 • 3.5” standard HDD drive x 1 • Card Reader drive x 1

Front Panel	• Switches: Power Button
	• Creative Window:
	  ◆ USB port x 2
	  ◆ IEEE1394 port x 1
	  ◆ Line out jack x 1
	  ◆ Microphone jack x 1
	• LED Indicators:
	  ◆ Power-On/Off & Suspend activity indicator
	  ◆ HDD activity indicator

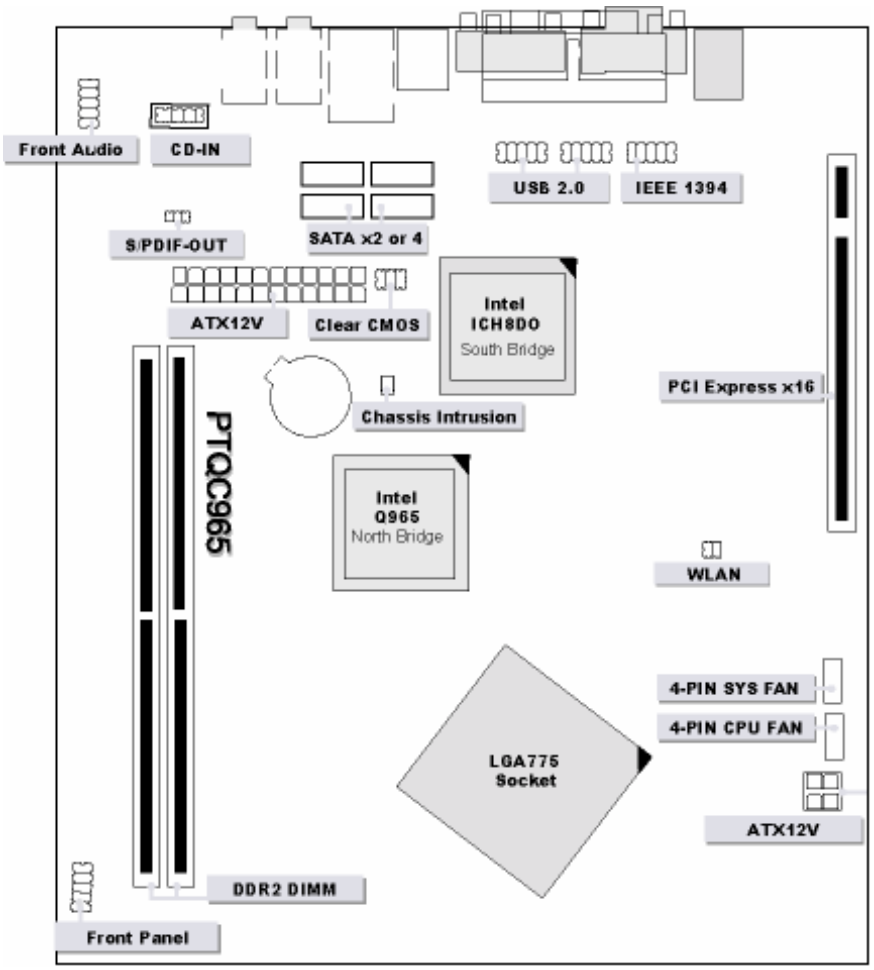
Back panel	• USB port x 6 • RJ45 LAN connector x 1 • D-Sub VGA port x 1 • Mic In, Line in, Line Out x 1 • Parallel port x 1 • Serial port x 1 • AC x 1
Expansion cards	• Rear: Low-profile PCIe16x slot x 1 • Internal: miniCard slot x 1 (optional)

Technical Specifications

Dimensions	• 320mm (D) x 290mm (H) x 85mm (W)
Power Supply F/F	• Standard LFX 220W with PFC
Slots & Sockets	• Socket 775 • DIMM Sockets x 2 • PCI Express X16 Slots x 1 • Power connector • Battery socket
BIOS Management	**System BIOS:** • Award BIOS **System BIOS compliance:** • ACPI 1.0b (S0, S1,S3, S4, S5) • APM 1.2 • PnP 1.0a • SMBIOS 2.3 • DMI 2.1 • WfM 2.0 • USB 2.0 • Serial IRQ support for PC Card • Chassis intrusion detection • TPM support • AMT support • VT support **Power Management:** • PCI PME support • Power failure recovery • USB Keyboard and mouse wake up • Remote on/off /Suspend to HDD • WOL/WOR **Manageability** • Hard disk fault prediction (S.M.A.R.T) • Remote control management

All contents in the specifications are subjected to change without notice.

Motherboard Placemenet and Specification



Project Name	PTC-Q965	
CPU	- Type	Socket 775 processor
	- Model	Smithfield (95W) / Conroe (65W)
	- Vendor	Intel
	- VRM	Mainstream FMB (65W)
		FMB 2006 Mainstream: FMB(06B)、65W Option: FMB(05B) 、130W
	- FSB	1066/800/533 MHz
Chipset	- Vendor	Intel
	- North Bridge	Intel Broadwater Q965
	- South Bridge	Intel ICH8DO
Memory	- Flash (SPI)	16Mb (for AMT2 and BIOS)
	- DIMM Socket	240pin DDR2 DIMM socket *2
	- ECC Support	N/A
	- Type	DDR2 533/667/800
	- Max Memory Support	1 GB for each channel / 2GB total (dual channel)
IDE	- Number	NO
S-ATA	- Number	4 ports / 2 ports
Graphics	- Interface	Embedded
IEEE 1394		VT6307S (or VT6307L)
Audio	- Controller	High Definition Audio 2.0 codec
	- Codec	Realtek ALC260 2 Channels
	- Onboard Amplifier	N/A
LAN	- Controller	Nineveh Gb LAN
	- AMT Support	Yes, support AMT2
I/O Chip	- Chip	ITE
Expansion	- AGP8X/PCI/ISA/CNR	1* PCIeX16
	- PCI/ CNR Shared	N/A
	- MiniCard (Mini PCIe)	1 (optional)
BIOS	- Vendor	Award legacy BIOS as default

Power Management	- Power Connector	ATX 24 pin+ 12V connector
	- Fan	4-pin CPU_FAN * 1, SYS_FAN*1
	- Energy Lake (QRT)	No
PCB	- Form Factor	Pico BTX
	- Layer	4 Layer
	- Size	Standard pBTX size
Rear I/O	- USB	USB *6
	- VGA/Serial/Parallel	1* VGA /1*Serial/1*Parallel
	- Audio/Gameport	N/A
	- LAN (RJ45)	RJ45
	- Modem (RJ11)	N/A
	- 1394	Yes
	- Diagnosis LED	LAN Activity, Follow SAMSYNC default
Front I/O	- Front USB Port (2x5)	2 ports/2 x Pin Header
	- Front Memory Stick	N/A
	- Front Audio(2x5)	Yes (Mic-in, Headphone) HD Audio
	- 1394	Yes
Internal I/O connector	- FDD (2x17)	No
	- HDD (2x20)	No
	- CD Audio Input (1x4)	1
	- USB (2x5)	2
	- IEEE1394 (2x5)	1
	- AUX IN (1x4)	N/A
	- Telephony (1x4)	N/A
	- SPDIF (1X3)	1
	- Onboard Audio	1
	- On Board Buzzer	Yes
	- TV-out/DFP	N/A
	- Chassis Intr (1x2)	1
	- IrDA	N/A
	- COM2 (2x5)	N/A
	- SCSI	No

	- Front Panel (2x5)	- HDD Activity LED
		- ON/OFF/Suspend LED on Front Panel
		- Single/Dual Color LEDs definition
	- PCIe Pin header	N/A
	- Jumpers	CLR_CMOS (1-2: Normal, 2-3: Clear CMOS)
	- LPC (2x7) for BIOS debug	1
	- ITP/XDP for CPU debug	1 (not stuff)
	- Energy Lake	No
Certification	- Logo	WHQL
		PC2001, Energy Star, USB (report ready)
	- EMI/ Safety	CE
	- PC99 color connectors	Yes
	- OS Supported	Windows XP, MCE, Vista
Others	- TPM	TPM 1.2