PATTON
Electronics Co.

NanoServ™
Thin System
Ultra-Thin System

User Manual

CE

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Owner's Record

The serial number of this product is located at the rear panel of your system. Refer to the model and serial number when you contact the factory for services.

IMPORTANT THERMAL NOTE ON SYSTEM USAGE:

This is a fanless system, so it must be properly mounted to allow for proper cooling. Be sure to use the metal stand to hold the system upright with blue LED on top, or to mount the system at least 1 or 2 inches away from the flat side surfaces of the system. This will help keep the system cool and within thermal operating limits.

Do not leave the system turned on and lying flat on its side. This blocks the air flow through the vents.

Patton suggests keeping the system cool by using the suspend or sleep features of the NanoServ™.

SAFETY WHEN WORKING WITH ELECTRICITY

WARNING
- **To prevent shock or fire hazard, do not expose your NanoServ™ to rain or moisture.**
- **Never install your NanoServ™ in wet locations.**
- **To avoid electrical shock, do not open the case. Contact the factory offices for qualified personnel servicing.**
- **Never touch un-insulated terminals or wire unless your power adaptor and display monitor are disconnected.**
- **When using the system, avoid using or installing the modem to the serial port during a storm or lightning.**
- **Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.**
- **USB cables are not supplied.**

WARNING
This device contains no user serviceable parts. The equipment shall be returned to Patton Electronics for repairs, or repaired by qualified service personnel.

WARNING
The external power adapter shall be a listed Limited Power Source. Ensure that the power cable used with this device meets all applicable standards for the country in which it is to be installed, and that it is connected to a wall outlet which has earth ground. The mains outlet that is utilized to power the devise shall be within 10 feet (3 meters) of the device, shall be easily accessible, and protected by a circuit breaker.

WARNING

Hazardous network voltages are present in WAN ports regardless of whether power to the unit is ON or OFF. To avoid electric shock, use caution when near WAN ports. When detaching the cables, detach the end away from the device first.

WARNING

Do not work on the system or connect or disconnect cables during periods of lightning activity.

In accordance with the requirements of council directive 2002/96/EC on Waste of Electrical and Electronic Equipment (WEEE), ensure that at end-of-life you separate this product from other waste and scrap and deliver to the WEEE collection system in your country for recycling.

WARNING

Do not attempt to open or to disassemble the chassis (case) of this product. See "Contacting Patton for assistance" on page 27.

Table of Contents

Unpacking Your NanoServ™ System

Congratulations! You have just acquired the world's smallest and most compact embedded system. Check to make sure that you have the following items:

Table 1. Packing list

Item	Description	Quantity
1	NanoServ™ system computer	x1
2	Max. 25-watts External Power Adaptor, Vin: 100~240VAC [a] 60/50Hz, 1.0A / Vout:: +5.0~5.25VDC @ 4A max. LPS	x1
3	Documentation CD for the NanoServ™	x1
4	Setup Guide	x1

    a. Note: The accessories are subject to change without immediate notice.

Check before use

① NanoServ™ System	② AC Power Adaptor
③ Documentation CD	④ Setup Guide
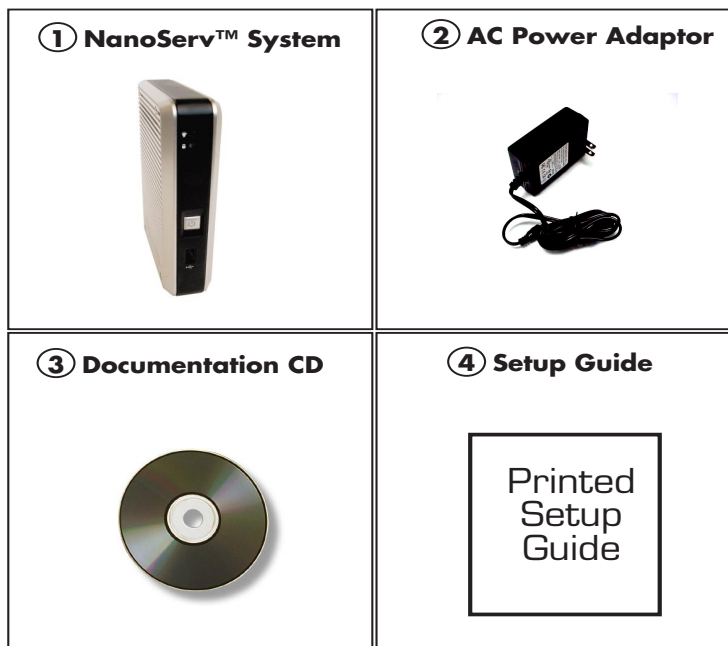
Note   The keyboard and mouse are not included in the system.

Chapter 1   General Information

Chapter contents

NanoServ™ System Overview

The NanoServ™ is a unique tiny embedded system for a wide range of applications, from industrial to office to home.

Figure 1. NanoServ™ System

Figure 2. NanoServ™ Ultra-Thin System

This portable device is handy for travelers and service technicians who work in or out of the office. For office desk workers, the NanoServ™ occupies very little space on the corner of a table.

The NanoServ™ can also serve as an Internet Appliance that offers state-of-art design for networking, computing, transaction and information transport applications.

The NanoServ™ is convenient for users in a variety of business, industrial, and embedded uses. The system offers multi-server features to function as firewall, mail-server, print server, and many other single task applications. It is suitable for a space-conscious environment, with dimensions of 17x124x38mm (Ultra-Thin System) (or 58mm - Thin System), equivalent to 4.32"x3.15"x0.96" (Ultra-Thin System) (or 1.47" - Thin System).

Chapter 2 NanoServ™ System Overview

Chapter contents

Ultra-Thin System Overview

Front panel

Power LED
The power LED lights up when the system is turned on.

HDD LED
The HDD LED flashes when the system is working. Please do not turn off the system when HDD starts running.

Power Switch
Depress the switch to turn on and turn off the system.

USB Port
The USB port is for a connection to external devices with a USB interface (keyboard, mouse, HDD, CD-ROM, Memory Stick, ect.)
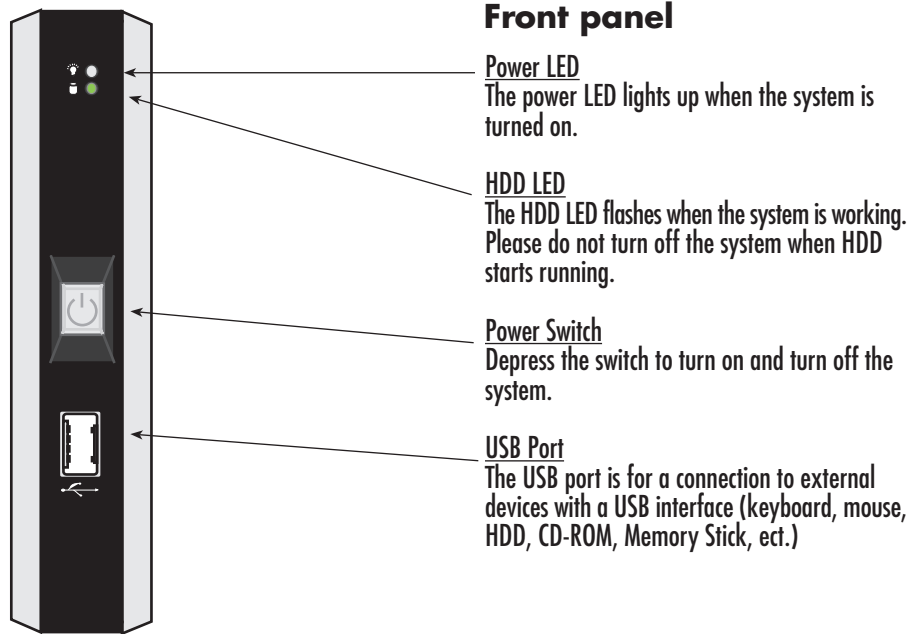
Figure 3. Ultra-Thin System - Front panel

Back panel

Audio Line-Out

Mic-In

VGA Port

RJ-45 10/100 Ethernet Jack

USB Port

PS/2 Mouse (6-pin)

PS/2 Keyboard & Mouse (6-pin)

DC Power Jack (3-pin)

Power supply switch
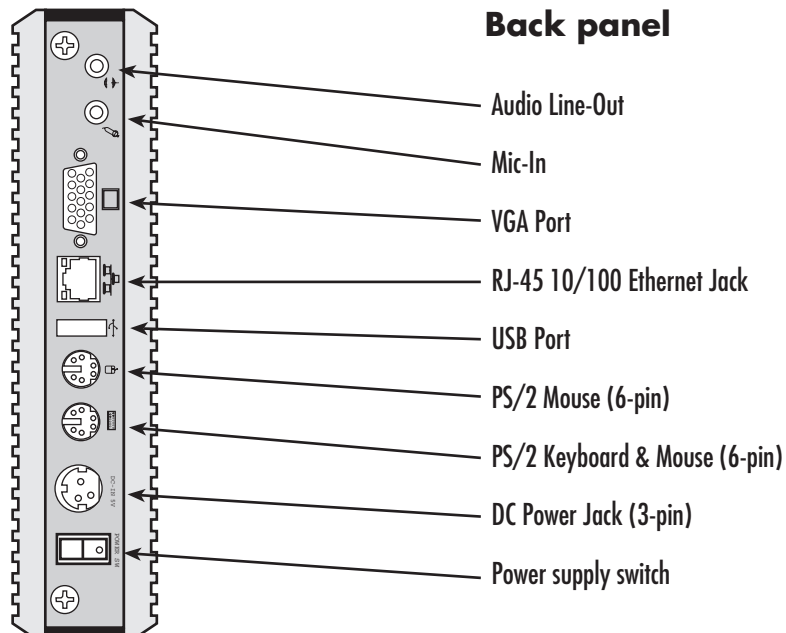
Figure 4. Ultra-Thin System - Back panel

Thin System Overview

Front panel

Power LED
The power LED lights up when the system is turned on.

HDD LED
The HDD LED flashes when the system is working. Please do not turn off the system when HDD starts running.

Power Switch
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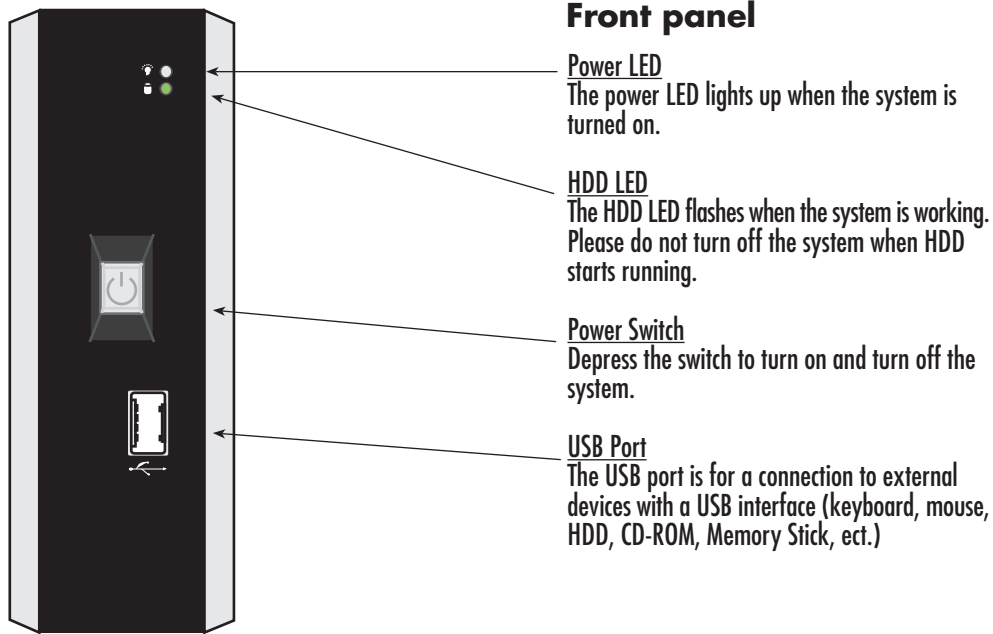
Figure 5. Thin System - Front panel

Back panel

Audio Line-Out

Mic-In

Serial Port **

VGA Port

RJ-45 10/100 Ethernet Jack

USB Port

PS/2 Mouse (6-pin)

Parallel Port **

PS/2 Keyboard & Mouse (6-pin)

DC Power Jack (3-pin)

Power supply switch

** This feature is only available for Model 6075.
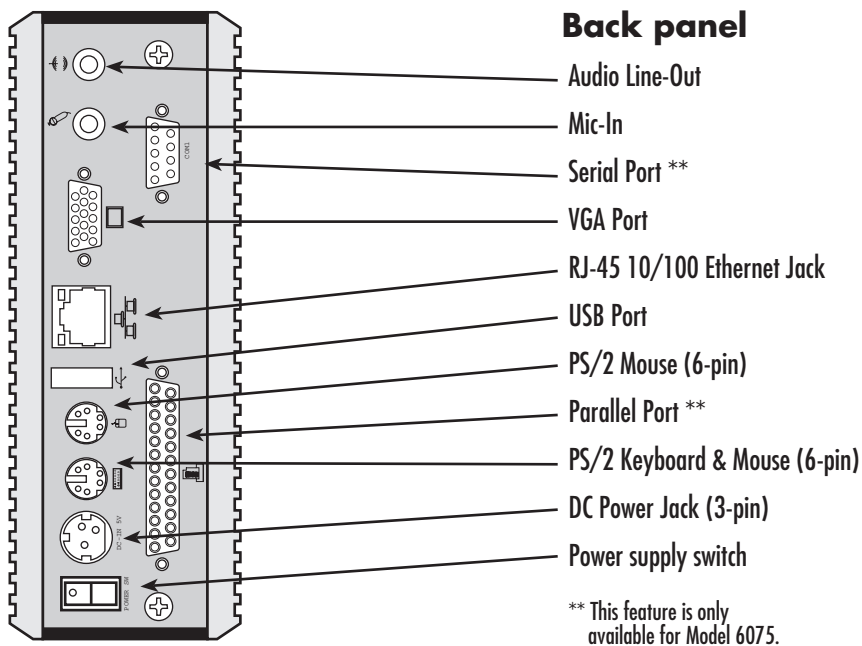
Figure 6. Thin System - Back panel

Thin System Overview   **12**

Chapter 3 **Peripherals**

Chapter contents

Introduction

This chapter shows how to connect various devices to the NanoServ™ System. Connect all the devices you will be using before turning on the power. The power adaptor should be connected last.

> **CAUTION**
>
> **The Interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability**

Connecting the monitor

Table 2. Connecting the monitor

VGA Connection

Depending on your preference, select a conventional CRT or LCD VGA monitor.

Connect the VGA cable of your monitor to the 15-pin D-Sub VGA port on the back of the system.See the diagram on the left.

Note: Monitor not included.
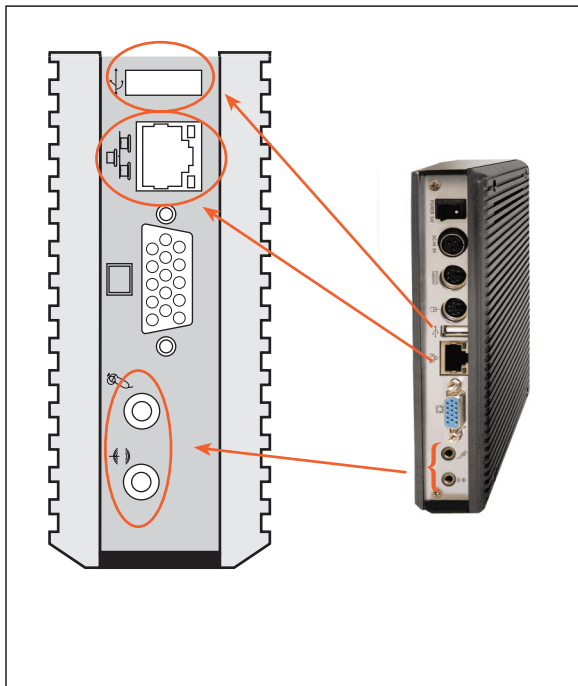
Connecting the USB

The system provides two USB ports (one in the front and one at the back of the case).

Table 3. Connecting the USB

Connecting the USB

A USB port is available on the front cabinet of the unit. Another port is available on the back of the unit.

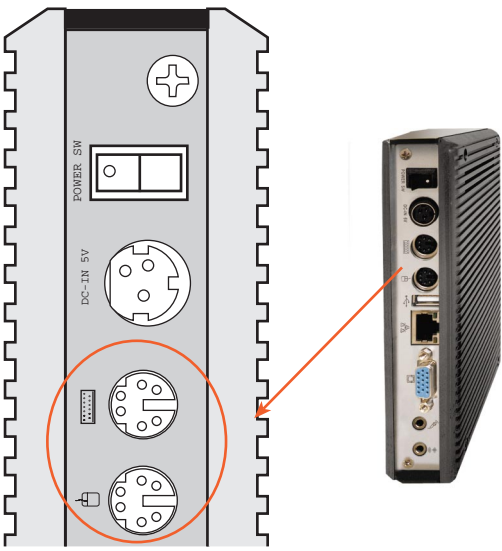# Connecting to the USB, Speaker/Earphone and Internet/Intranet

Table 4. Connecting the USB, Speaker/Earphone and Internet/Intranet

USB Port
The second USB port is available on the back of the unit for connecting USB devices.

Connecting to the Internet/Intranet
There is an available RJ-45 10/100 Ethernet jack for connection to the hub of your intranet; and via your server for internet service (see the diagram for the RJ-45 10/100 Ethernet jack on).

Speaker/Earphone
The NanoServ™ supports Input/Output connections for a speaker, earphone and MIC (microphone). Note that there is a third audio jack on the inside by the pin header. The extra small cable for this is optional.

Note: Speaker/Earphone/Microphone not included.

Connecting the keyboard and mouse

Table 5. Connecting the keyboard and mouse

Describing Mouse Actions		
Action		**Description**
Point	-	Slide and point your mouse to your desired position
Click	-	Press the left button once.
Double-click	-	Press the left button twice.
Right-click	-	Press the right button once. When selecting (most) programs, this action displays a shortcut menu.
Scroll wheel	-	Move your finger along the wheel of the mouse and scroll vertically to move the page upward and downward.
Describing the Keyboard		
		The keyboard usually comes in standard QWERTY; except that keyboards in different languages come with additional special characters.

Note; Keyboard and mouse not included.

Connecting the Printer Port

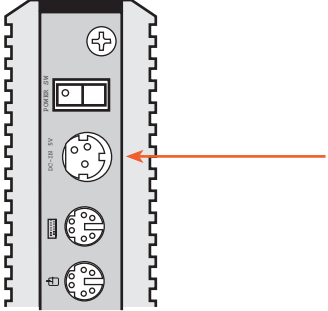Table 6. Connecting the printer port
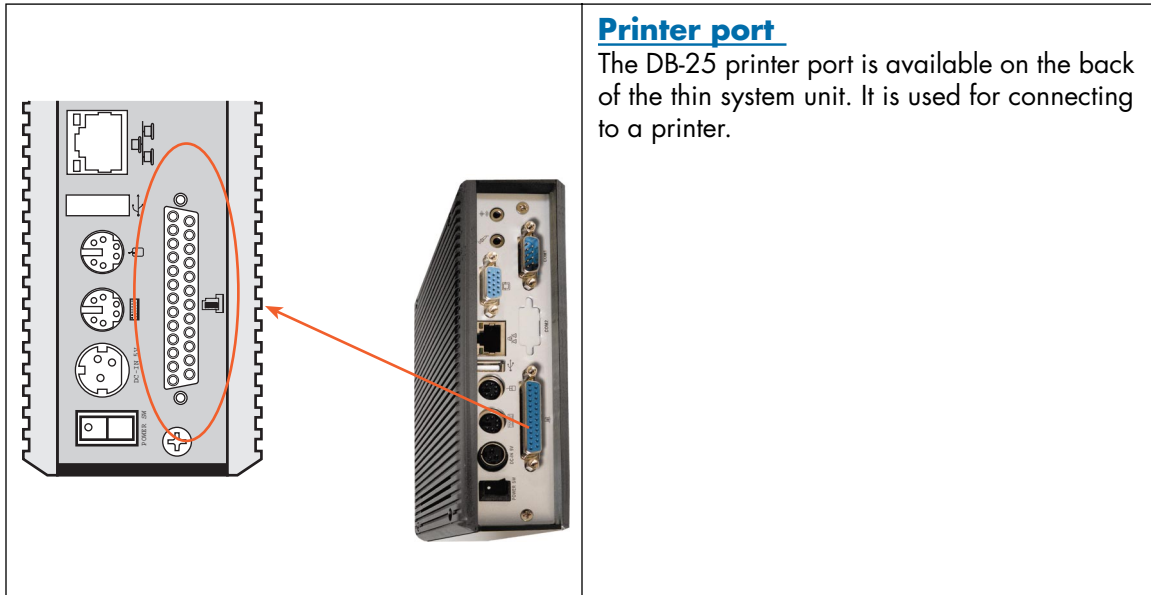
	Printer port The DB-25 printer port is available on the back of the thin system unit. It is used for connecting to a printer.

Connecting the power adaptor

There is a difference between the power switch on the rear panel and the system switch on the front panel. The system switch allows the NanoServ™ to suspend or sleep. The power switch supplies power to the NanoServ™.

Table 7. Connecting the power adaptor

Power Adaptor

To use your NanoServ™ immediately, use the supplied AC adapter as a power source. See the diagram on the left.

Connect the DC power jack of the power adaptor to the DC Input jack on the back of the system.

Turn on the power supply switch.

Turning On Your NanoServ™

Press the power button as indicated in the figure on the left; the system will start automatically.

Chapter 4   BIOS

Chapter contents

Reconfiguring the system

1. Note that the AMI BIOS is used in the system. To reconfigure the NanoServ™, depress or hit the **<Del>** key to enter your **BIOS setup main menu.**

2. Select a setup from the menu.

3. Press **<Esc>** to go back to the main menu.

4. Move your cursor to "**Save Settings and Exit**", and press "**Y**" to save the changes that you made. The system will restart automatically according to your new setup.
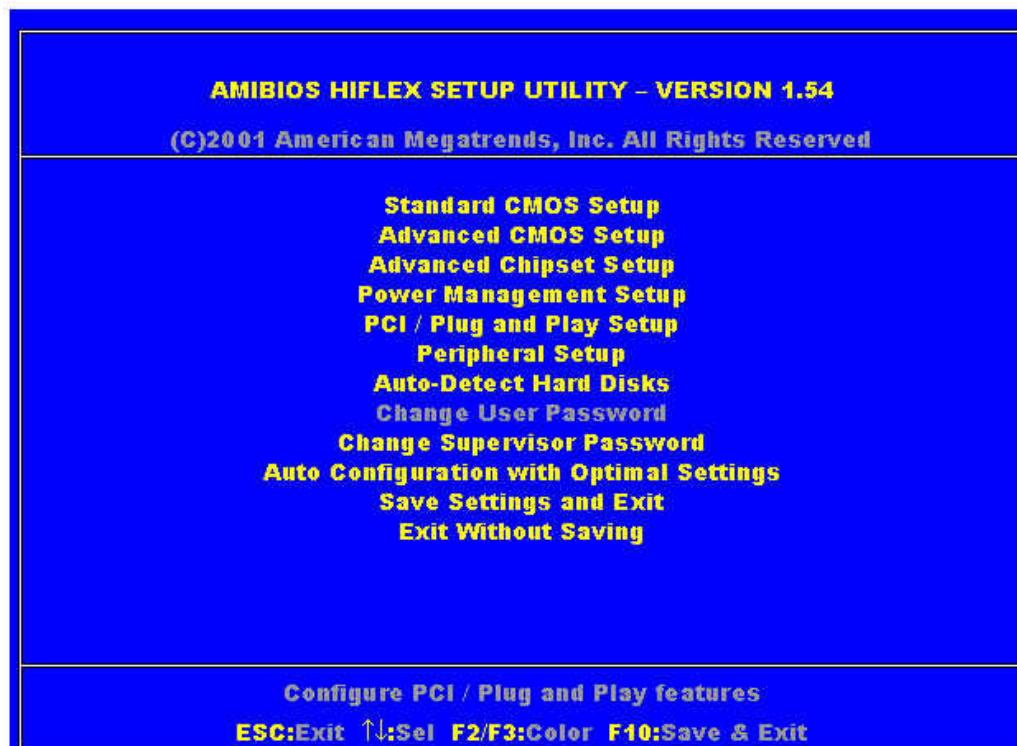

Figure 7. BIOS setup

Chapter 5   Taking Care Of Your NanoServ™

Chapter contents

Storing

- **Do not place your NanoServ™ in a location that is subject to:**

  - Heating sources, such as a stove, oven, heater, radiator or air duct

  - Direct contact from sunlight

  - Rain or moisure

  - Excessive dust accumulation

  - High humidity

  - Constant or occasional mechanical movement, vibration or shock

  - Strong magnets, magnetic fields or magnetically unshielded speakers

  - Ambient temperature of more than 95ºF (35ºC) or less than 32ºF (0ºC)

- **Do not place other electronic devices or electronic equipment near your NanoServ™.**
  The electromagnetic field of the NanoServ™ may cause interference subjecting the unit to malfunction.

  - Provide adequate air ventilation (circulation) to prevent internal buildup of heat. Do not place your NanoServ™ near the wall, behind the curtains or draperies, or in between two books that block its ventilation slots.

  - Leave a space of at least 8 inches (20cm) around the sides and the back panel of the NanoServ™.

- **Change of environmental temperature:** Problems may occur when there is a sudden change of environmental temperature. If the NanoServ™ is brought directly from a cold location to a warm one, moisture may condense inside the unit.   Allow time for the system to reach normal temperature before use.

- **Checking the surrounding appliance(s) before using your NanoServ™:** Because the NanoServ™ uses a high-frequency radio signal, it may interfere with radio or TV reception causing interference or poor signal display. When this happens, move the NanoServ™ to a suitable distance away from the set.

- **Do not drop the NanoServ™ from the working table or place heavy objects on top of the NanoServ™.**

Using cables for connection

- To avoid problems, use only the specified interface cables that match the system. The supplier will not be responsible for problems caused by improper connection with other devices or cables.

- Do not use cut or damaged cables to connect devices to the NanoServ™.

> **⚠ CAUTION**
> **The Interconnecting cables shall be acceptable for external use and shall be rated for the proper application with respect to voltage, current, anticipated temperature, flammability, and mechanical serviceability**

Cleaning your NanoServ™

- Clean the NanoServ™ with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution.

- Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your NanoServ™.

- When a solid object falls or a liquid spills onto the NanoServ™, turn off the unit immediately and unplug the 10/100 Ethernet and power cables. Contact a qualified person or your dealer to check the NanoServ™ before you use it again.

- Always disconnect the power cord from the power source before cleaning the NanoServ™.

Chapter 6   **Troubleshooting**

Chapter contents

Troubleshooting your system

This section describes the techniques of resolving some basic problems that you may encounter when using your NanoServ™. For more troubleshooting guidelines, see "Contacting Patton for assistance" on page 27.

A. The NanoServ™ does not start

- Make sure that the NanoServ™ is properly secured and plugged into a power source before it is turned on. Make sure the power indicator shows the power is on. See Chapter 2, "NanoServ™ System Overview" on page 10 for more information about the system power buttons and other connections.

- When the NanoServ™ is plugged into a power strip or the UPS (Uninterruptible Power Supply), make sure the power strip or UPS is turned on and working normally.

- Check if your VGA or LCD monitor is properly plugged into a power source and turned on. Make sure the brightness and contrast controls are adjusted correctly. See the manual that came with your monitor for details.

- If your power control button does not function, remove the AC adaptor. Wait for one minute, and then reattach the power connection before pressing the power button.

- Condensation may cause the NanoServ™ to malfunction for awhile. If this happens, do not use the NanoServ™ for at least one hour after the condensation has disappeared.

- When you have checked all the above guidelines and the NanoServ™ still does not work, remove the power adaptor from the NanoServ™, unplug the power cord, and plug it in again. Then, turn on the power. This double check is important because sometimes a cable is loose or not completely plugged in.

B. BIOS Error Message
- **BIOS error message appears when the NanoServ™ starts**

If the BIOS error message appears, press any key to resume or press **<DEL>** to enter the **BIOS setup main menu**.
Follow these steps:

1. Press **<DEL>**, and the **BIOS Setup main menu** will appear. Check if HDD is detected at "Pri Master". If it is not detected, use the "Sel" keys <↑↓> to choose "**AUTO**", then go back to the main menu by pressing **<ESC>**. Move your cursor down with the "Sel" keys <↑↓> , and choose "**Save Settings and Exit**", a message dialog appears as seen below, press **<Enter>**.

2. "Save current settings and exit (Y/N)? Y "

3. Go to "**Auto Configuration with Optimal Settings**" using the "Sel" keys <↑↓>, then press **<Enter>**. A message dialog appears as seen below, press " **Y** ", then press **<Enter>** to save and recover the factory setting.

4. "Load high default settings (Y/N)? N "

C. "Operating System Not Found"

- A message indicating that "Operating system not found" appears when the NanoServ™ starts (Windows won't start).

- Often this message says that an unformatted blank hard disk or blank IDE flash module is installed. In this case, there is no problem, just load your desired operating system on the disk or flash.

Enter your BIOS setup main menu by pressing the **<DEL>** key. (Be sure that your C: drive is enabled).

If Windows still does not start, follow these steps to initialize the BIOS:

    – 1. Turn off the NanoServ™.

    – 2. Remove any peripheral devices connected to the NanoServ™.

    – 3. Restart the NanoServ™.

    – 4. Press **<DEL>** to enter BIOS Setup main menu window.

    – 5. Follow the steps as written in item, "B. BIOS Error Message" on page 25.

• If you have just connected your NanoServ™ to a CDR or Floppy disk, remove these peripherals. Restart the NanoServ™ to confirm that the Windows operating system starts properly.

• If the NanoServ™ continues to display the message "Operating system not found," and Windows does not start, please verify that your system came with a disk or flash, and that it is formatted, and that it contains a valid operating system.

Chapter 7 Contacting Patton for assistance

Chapter contents

Introduction

This chapter contains the following information:

- "Contact information"—describes how to contact Patton technical support for assistance.
- "Warranty Service and Returned Merchandise Authorizations (RMAs)"—contains information about the warranty and obtaining a return merchandise authorization (RMA).

Contact information

Patton Electronics offers a wide array of free technical services. If you have questions about any of our other products we recommend you begin your search for answers by using our technical knowledge base. Here, we have gathered together many of the more commonly asked questions and compiled them into a searchable database to help you quickly solve your problems.

Patton support headquarters in the USA

- Online support: available at **www.patton.com**
- E-mail support: e-mail sent to **support@patton.com** will be answered within 1 business day
- Telephone support: standard telephone support is available five days a week—from **8:00 am** to **5:00 pm EST** (**1300** to **2200 UTC/GMT**)—by calling **+1 (301) 975-1007**
- Fax: **+1 (253) 663-5693**

Alternate Patton support for Europe, Middle East, and Africa (EMEA)

- Online support: available at **www.patton-inalp.com**
- E-mail support: e-mail sent to **support@patton-inalp.com** will be answered within 1 business day
- Telephone support: standard telephone support is available five days a week—from **8:00 am** to **5:00 pm CET** (**0900** to **1800 UTC/GMT**)—by calling **+41 (0)31 985 25 55**
- Fax: **+41 (0)31 985 25 26**

Warranty Service and Returned Merchandise Authorizations (RMAs)

Patton Electronics is an ISO-9001 certified manufacturer and our products are carefully tested before shipment. All of our products are backed by a comprehensive warranty program.

> **Note**   If you purchased your equipment from a Patton Electronics reseller, ask your reseller how you should proceed with warranty service. It is often more convenient for you to work with your local reseller to obtain a replacement. Patton services our products no matter how you acquired them.

Warranty coverage

Our products are under warranty to be free from defects, and we will, at our option, repair or replace the product should it fail within one year from the first date of shipment. Our warranty is limited to defects in workmanship or materials, and does not cover customer damage, lightning or power surge damage, abuse, or unauthorized modification.

Out-of-warranty service

Patton services what we sell, no matter how you acquired it, including malfunctioning products that are no longer under warranty. Our products have a flat fee for repairs. Units damaged by lightning or other catastrophes may require replacement.

Returns for credit

Customer satisfaction is important to us, therefore any product may be returned with authorization within 30 days from the shipment date for a full credit of the purchase price. If you have ordered the wrong equipment or you are dissatisfied in any way, please contact us to request an RMA number to accept your return. Patton is not responsible for equipment returned without a Return Authorization.

Return for credit policy

• Less than 30 days: No Charge. Your credit will be issued upon receipt and inspection of the equipment.

• 30 to 60 days: We will add a 20% restocking charge (crediting your account with 80% of the purchase price).

• Over 60 days: Products will be accepted for repairs only.

RMA numbers

RMA numbers are required for all product returns. You can obtain an RMA by doing one of the following:

• Completing a request on the RMA Request page in the *Support* section at **www.patton.com**

• By calling **+1 (301) 975-1007** and speaking to a Technical Support Engineer

• By sending an e-mail to **returns@patton.com**

All returned units must have the RMA number clearly visible on the outside of the shipping container. Please use the original packing material that the device came in or pack the unit securely to avoid damage during shipping.

Shipping instructions

The RMA number should be clearly visible on the address label. Our shipping address is as follows:

> **Patton Electronics Company**
> RMA#: xxxx
> 7622 Rickenbacker Dr.
> Gaithersburg, MD 20879-4773 USA

Patton will ship the equipment back to you in the same manner you ship it to us. Patton will pay the return shipping costs.

Appendix A **Factory Defaults**

Chapter contents

BIOS Defaults

> **Note**   Only items changed from the received bios are listed.

1. PCI / Plug and Play Setup

    1. "Plug and Play Aware O/S": Yes

    2. "PCI / Plug and Play Setup": 8MB

Fedora Core 5 Install Defaults

> **Note**   Fedora Core 5 is only pre-installed on NanoServ™ Model 6075.

1. Language: English

2. Keyboard: U.S. English

3. Partitioning:

– 1. Ext3 partition at /boot at 100MB (set as primary partition)

– 2. Swap partition at 1.5 times RAM (768MB min)

– 3. Ext3 partition at /var/log at 400MB

– 4. Ext3 partition at / using the rest of the drive space

4. Boot loader: GRUB (defaults)

5. Network Device: eth0 - DHCP (defaults)

6. Time zone: America/New_York

7. Root Password: superuser

8. Default Software Installation: No custom/specialized software

9. Run level: 5 with Gnome.

Appendix B **Specifications**

Chapter contents

Compliance

EMC

- FCC Part 15, Class A

- EN55022, Class A

- EN55024

Safety

- IEC/EN 60950-1

Radio and TV interference

This equipment generates and uses radio frequency energy, and if not installed and used properly—that is, in strict accordance with the manufacturer's instructions—may cause interference to radio and television reception. This equipment has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection from such interference in a commercial installation. However, there is no guarantee that interference will not occur in a particular installation. If the equipment causes interference to radio or television reception, which can be determined by disconnecting the cables, try to correct the interference by one or more of the following measures: moving the computing equipment away from the receiver, re-orienting the receiving antenna, and/or plugging the receiving equipment into a different AC outlet (such that the computing equipment and receiver are on different branches).

CE Declaration of Conformity

We certify that the apparatus identified in this document conforms to the requirements of Council Directive 1999/5/EC on the approximation of the laws of the member states relating to Radio and Telecommunication Terminal Equipment and the mutual recognition of their conformity.

The safety advice in the documentation accompanying this product shall be obeyed. The conformity to the above directive is indicated by the $C\epsilon$ sign on the device.

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System Specifications

Table 8. System Specifications for the NanoServ™

CPU VIA EDEN N Nano 800MHz	**Keyboard and Mouse** PS/2 Keyboard Port PS/2 Mouse Port
North/South Bridge VIA CLE266 + VT8235 Chipsets	**On-Board IDE** Bus Master Ultra DMA/66 operation. Can connect to 2 IDE devices.
Main Memory 256MB	
BIOS "Plug and Play" function, auto-search devices. Provide DMI for system management. Advanced ACPI configuration and power control interface. Intelligent control system.	**Peripheral** 1. Printer port x1 (support SPP/EPP/ECP module)[a] 2. USB2.0 ports x2 3. Serial port x1(This function is only available for the Thin System model). 4. Rear Audio (Mic-in, Line-in, Line-out)
VGA AGP Rev.2.0 Compliant Resolution to 1280x1024	**Dimension & Weight** NanoServ™ Ultra-Thin System: 170 x 124 x 38 mm / 780g ; 4.32 x 3.15 x 0.96" / 1.72 lbs NanoServ™ Thin System: 170 x 124 x 58 mm / 940g ; 4.32 x 3.15 x1.47" / 2.07 lbs
Audio AC97 CODEC, Fully Compliant with AC97v2.1	
10/100 Ethernet 10/100Base-Tx Ethernet Interface	**Operating System** Fedora Core 5 - Pre-loaded [b]Suitable for: Desktop Linux, Windows XP, Windows CE.NET Windows XP Embedded, Embedded Linux, other X86 OS

a. Only on the Thin System.
b. These operating systems have drivers for the components used on the NanoServ™ and will load and work with the NanoServ™ system.

Technical Specifications

Table 9. Technical specifications for the NanoServ™

Features	Description
CPU	Onboard VIA EDEN N Nano processor 800MHz
BIOS	AMI BIOS
System Chipset	VIA CLE266 / VT8235
I/O Chip	VT1211
System Memory	Onboard 256MB DDR266
Expansion	1xX-PCI connector (use with optional custom case)
I/O	
MIO	1x EIDE (Ultra DMA 133), 1xLPT and 1x RS-232[a], 1x PS/2 K/B, 1x PS/2 Mouse
USB	2x USB 2.0 Ports (one in front)
Display	
Chipset	Integrated VIA Uni Chrome 2D/3D Graphics with MPEG2 Accelerator
Display Memory	8 MB shared system memory
Resolution CRT	CRT mode : 1280 x 1024 @32 bpp (85Hz) LCD/Simultaneous mode: 1280 x 1024 @32 bpp (85Hz)
Audio	
AC97 2.2 (Codec)	VT1612
Audio Interface	Line out, Line in, Mic in (one by header pins)
Ethernet	
Chipset	VT6103 10/100 Base-T
Remote Boot ROM	Built-in boot ROM function
Mechanical	
Power Requirement+	5V-5.25 V @ 4A (with VIA Eden N 800 Mhz, 256MB DDR266 & Laptop HDD)
Operating Temperature	0 ~ 60℃ (32-140°F)
Operating Humidity	0-90% relative humidity, non-condensing
Size (W x H x D)	NanoServ™ Ultra-Thin System: 170 x 124 x 38 mm / 4.32 x 3.15 x 0.96" NanoServ™ Thin System: 170 x 124 x 58 mm / 4.32 x 3.15 x 1.47"
Weight:	1.72 lbs (Ultra-Thin System) / 2.07 lbs (Thin System)

a. Thin System only.

Note   System and technical specifications are subject to change without notice.

Model Numbers

Table 10. NanoServ™ Models

NanoServ™ 6070 Series		
Model 6073	Ultra-Thin System	Disk-less, fan-less
Model 6075	Thin System	Fan-less with 40GB hard disk

Appendix C **NanoServ™ System Connectors**

Chapter contents

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NanoServ™ System Connectors Summary

Table 11. Connectors Summary

Number	Description	Type of Connections	Pin Number
J1	10/100 Ethernet	RJ-45 jack	8-pin
J2	IDE Connector	Box Header, 22x2-2.0mm	44-pin
J3	VGA Connector	D-Sub Connector	15-pin
J4	USB1 (Front)	USB 90° Type1 Connector	8-pin
J5	USB (Back)	USB Type1 Connector	6-pin
J6, J7	PS/2 Keyboard & Mouse	Mini-Din Connector 6P	6-pin
J8	PRN (Printer)	Box Header, 13x2-2.0mm	25-pin
J9	COM1 /RS-232	Pin Header, 5x2-2.0mm	10-pin
J11, J13	Line-Out, MIC	Two contact switch	6-pin
J12, J19	Line-In, SB5V	Wafer Header 4-2.0mm	4-pin
J15	RST (Reset)	Header 2x1-2.0mm	2-pin
J17	DC5V Input	Mini-Din Connector 3P	3-pin
J18	X-PCI	Header 32x2-2.0mm	64-pin
SP1	Buzzer		2-pin

Rear Connectors Outline for the Ultra-Thin System
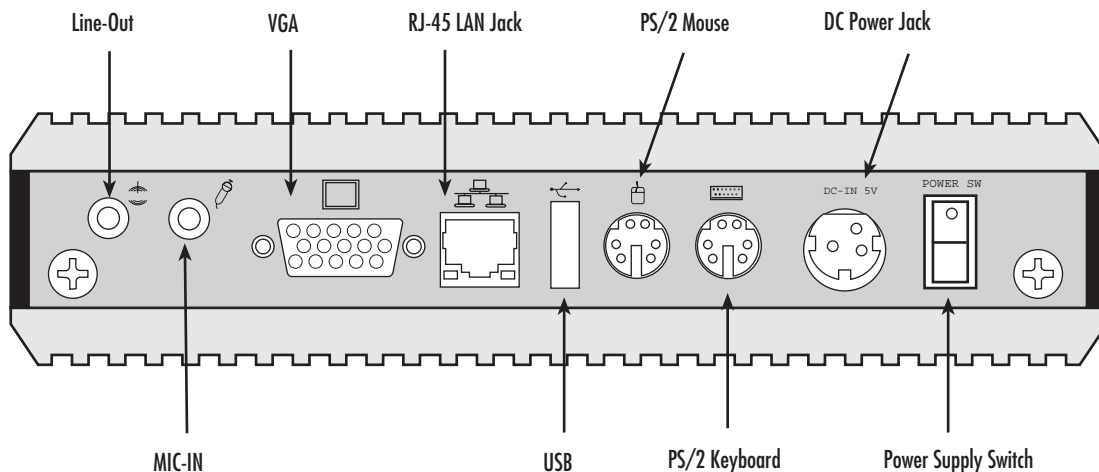
Figure 8. Ultra-Thin System rear connectors
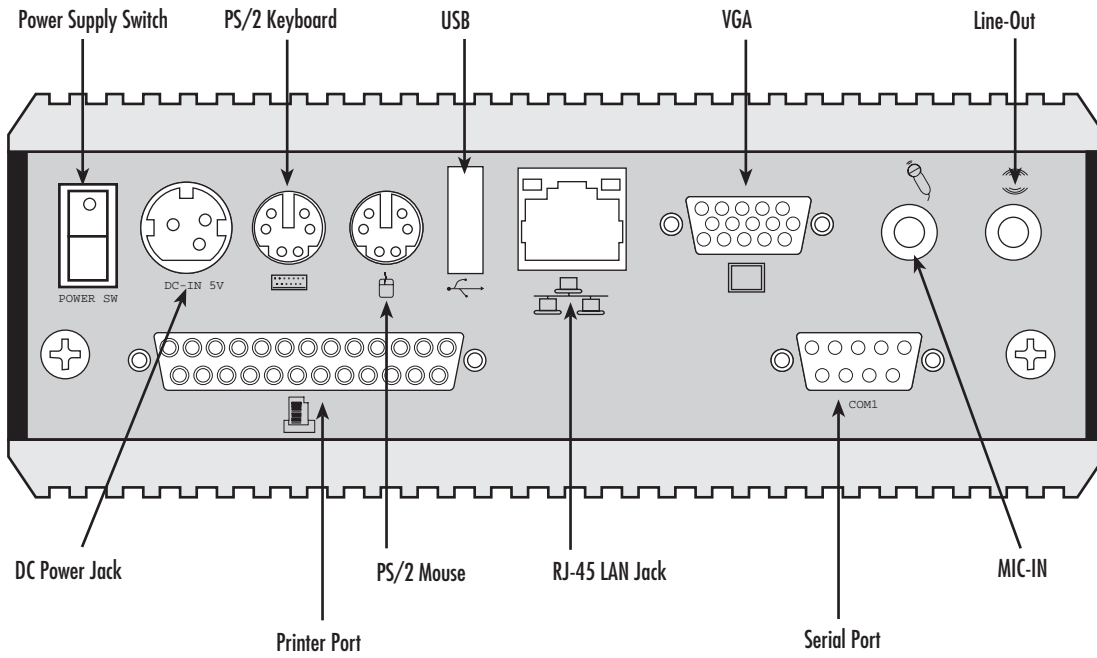
Rear Connectors Outline for the Thin System

Power Supply Switch   PS/2 Keyboard   USB   VGA   Line-Out

DC Power Jack   PS/2 Mouse   RJ-45 LAN Jack   MIC-IN

Printer Port   Serial Port

Figure 9. Thin System rear connectors

Pin Assignments

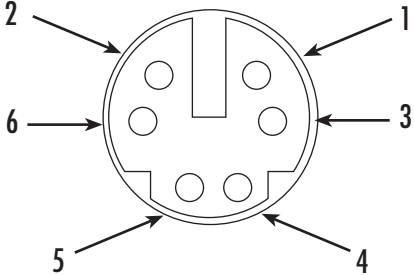Table 12. J6: KBD (PS/2 Keyboard & Mouse) - 6-pin Mini-Din Connector

Pin #	Signal Name
1	KBCLK
2	PMCLK
3	GND
4	KBDAT
5	PMDAT
6	SB5V
7	GND
8	GND
9	GND

Table 13. J7: Mouse(PS/2 Mouse) - 6-pin Mini-Din Connector
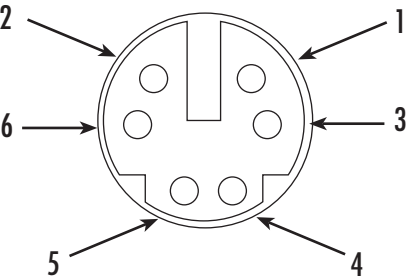
Pin #	Signal Name
1	PMCLK
2	NC
3	GND
4	PMDAT
5	NC
6	SB5V
7	GND
8	GND
9	GND

Table 14. RJ-45 jack (10/100 Ethernet) - 12-pin RJ45 Connector
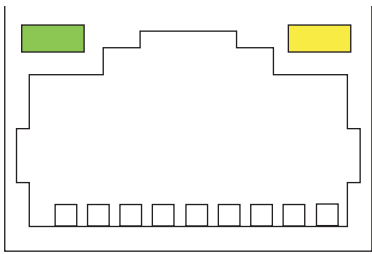
Pin #	Signal Name	Pin #	Signal Name
1	TX+	2	TX-
3	RX+	4	NC
5	NC	6	RX-
7	NC	8	NC
9	LED1	10	LED0
11	VCC	12	LED1

Table 15. J17: DC-IN (DC-IN 5V) - 3-pin MINI-DIN Lock Pin Socket
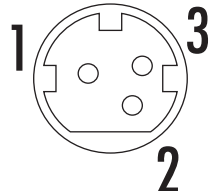
Pin #	Signal Name
1	J23-pin 1 & 2
2	SB5V
3	NC
4	GND

Table 16. J4: USB1 (USB1x90°) 4-pin USB Type 1 Connector (Vertical Type)
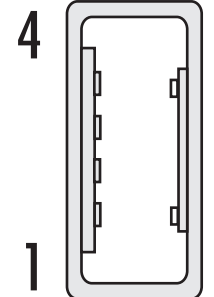
Pin #	Signal Name
1	VCC
2	USB0-
3	USBO+
4	GND
5	GGND
6	GGND
7	GGND
8	GGND

Table 17. J3:VGA - 15-pin D-Sub Connector
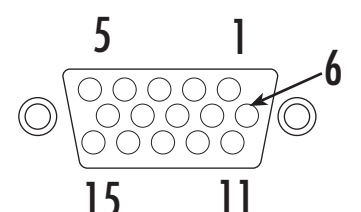
Pin #	Signal Name	Pin #	Signal Name	Pin #	Signal Name
1	MR	6	GND	11	NC
2	MG	7	GND	12	VCC
3	MB	8	GND	13	HYSYNC
4	NC	9	NC	14	VSYNC
5	GND	10	GND	15	VCC

Table 18. J11: MC_IN - 5-pin RCA Phone Jack

Pin #	Signal Name
1	GND
2	MIC1
3	Open Touch
4	Open Touch
5	VREFOUT

Table 19. J6: KBD (PS/2 Keyboard & Mouse) - 6-pin Mini-Din Connector
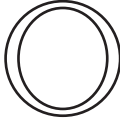
	Pin #	Signal Name
LINE-OUT	1	GND
	2	LOUTL
	3	Open Touch
	4	Open Touch
	5	VREFOUT

Table 20. J9: COM1 - 9pin D-Sub Connector
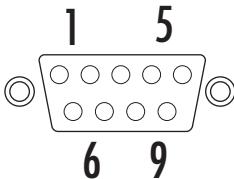
	Pin #	Signal Name	Pin #	Signal Name
1 5	1	DCD1	2	RXD1
	3	TXD1	4	DTR1
	5	GND	6	DSR1
	7	RTS1	8	CTS1
6 9	9	RI1	-	-

Table 21. J5:USB (USB2): For connection to external USB device - 4-pin USB Type 1 Connector (H)

	Pin #	Signal Name
1 4	1	VCC
	2	USB2-
	3	USB2+
	4	GND
	5	NC
	6	NC

Table 22. SW1: Reset - 2-pole Push button switch

	Action	Status
	Push	RESET
	No push	OFF
	-	-
	-	-

Table 23. LEDS: POWER ON/OFF & HDD R/W

	LED Color	State
	Green	Power On
	Red	HDD On
	Red Flashes	HDD R/W

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