

# T3500 Honeywell Planning, Installation and Service Guide

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# 1 Planning

## **Related topics**

“Introduction” on page 6

“Description” on page 7

“Memory configurations” on page 11

“Workstation information” on page 13

“System specifications” on page 14

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# 1.1 Introduction

## 1.1.1 About the Workstation

Platforms sold by Honeywell are engineered for the process control mission of Experion and TPS systems to provide consistent, robust performance. Through an extensive qualification process, Honeywell defines specific peripheral devices, slot locations, and BIOS settings for best performance and reliability, sometimes even adding cooling fans for longer service. Honeywell platforms are then built to Honeywell specifications by the computer manufacturer.

Honeywell engineering has tested the workstation with other Honeywell hardware and software and has qualified its use for specific configurations as identified in the Software Change Notice (SCN). This workstation is not a standard Dell model and cannot be ordered independently from Dell. The Technical Assistance Center (TAC) is trained on and fully supports Honeywell platforms. Use of any other workstation, including a similar Dell model, is considered a project special and its TAC support is limited according to the services policy.

This release of workstation is based on the Peripheral Component Interconnect (PCI) bus, PCI Express, and/or USB 1.1/2.0 protocols. All mass storage and removable media devices (except for the floppy drive) are connected through the SATA, SATA II 3.0, or USB. There is one SATA interconnection for the CDRW/DVDRW (±) drive. The dual channel unbuffered DDR3 SDRAM memory for this platform is 1GB, optionally expandable to 4GB. There are no cache memory options. The standard mass storage for this platform is 320 GB or larger SATA 7.2K RPM hard drive. The standard display option for this platform is one Nvidia Quadro NVS 295 dual display controller. The model numbers for this platform are structured to include the Dell USB QWERTY keyboard and mouse with the platform.

### 1.1.1.1 Software requirements

The workstation runs on the following operating system.

Microsoft Windows XP operating system Service Pack 2 or Microsoft Windows 7 Professional for Experion R400 release.

Refer to the latest Experion General Release Software Change Notice for software applications that are qualified for use on the workstation.

### 1.1.1.2 BIOS configuration

The workstation must have the BIOS version C52 or later.

## 1.2 Description

This user's guide applies to the Honeywell workstation identified in the following table.

Model number	Description	Part number
MZ-PCWS03	Dell Precision T3400 workstation	51154551-100
EP-COAWNX	Windows XP Certificate of Authentication	-
EP-COAWN7	Windows 7 Certificate of Authentication	-



### 1.2.1 Honeywell logo

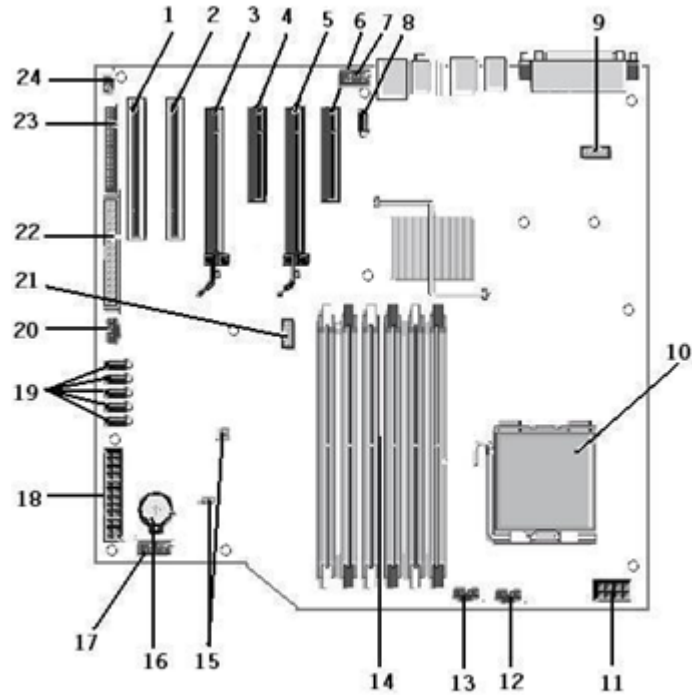
The workstation is supplied with one Honeywell logo having the part number 51153722-100.

### 1.2.2 Furniture options

You can place the Honeywell workstation vertically, as it only supports tower configuration.

### 1.2.3 System board

The following illustrates the system board components.



Following are the explanations for the items in the image.

1. PCI card slot 6
2. PCI card slot 5
3. PCIe x16 slot 4
4. PCIe x4 slot 3
5. PCIe x16 slot 2
6. PCIe x4 slot 1
7. Audio Front Panel (FP\_AUDIO)
8. Internal USB (USB\_1)
9. LPC\_DEBUG
10. Processor Connector
11. CPU Power Connector(POWER\_CPU)
12. Front Bezel Fan (FAN\_Front)
13. Front Cage Fan (FAN\_CCAG)
14. Memory Module (RAM) Connectors(DIMM\_1-6)
15. Jumpers (PSWD & RTCRTS)
16. Battery Socket (CMOS Battery)
17. Internal USB Socket (for Flexbay Card Reader)
18. Main Power Connector
19. SATA Connectors (SATA\_0-4)
20. HDD Fan (FAN\_HDD)
21. Serial Connector (SERIAL2)
22. FDD Connector
23. Front Panel Connector (FRONTPANEL)



## 24. Chassis Intrusion Connector (INTRUDER)

### 1.2.4 Features

Following are a list of the common features of this workstation.

- Single Quad-core Intel® 2.80 GHz minimum XEON® W3530 processor, 4.8GT/s QPI
- 8MB Shared L3 Cache
- One serial port
- One DB25 parallel port
- 11 USB 2.0 ports
  - Two in front
  - Six at the back
  - Three inside the workstation
- Two PS/2 ports
- PCI/PCIE slots
  - Two PCIE x16 Gen2 Graphics slot
  - Two PCIE x 8 wired as x4(half length)
  - Two PCI 32-bit/33 MHz PCI slot with support for 5 volts cards
- Integrated high definition digital audio controller
- Integrated Broadcom 5761 Gigabit Ethernet controller
- Dual port Ethernet controller (optional)
- 525 Watts power factor correcting power supply (auto-ranging)
- 1GB (1x1GB), 1333MHz DDR3 UDIMM ECC or 4GB (2x2GB), 1333MHz DDR3 UDIMM ECC.
- SATA CDRW/DVDRW(±) Dual layer drive with Sonic Record Now Software
- Serial ATA 320GB or 500GB advanced format drive hard drive or more
- nVIDIA Quadro NVS 295 dual video controller, 256MB video BIOS version 62.98.75.00.07 or higher
- Lead Free – RoHS compliant

### 1.2.5 Additional components

The following is a list of additional components which can be mounted in the workstation.

Model number	Description
NE-NICSS1	Single NIC card, PCIE, server
NE-NICS02	NIC card, PCIE dual port STP
NE-NICS03	NIC Card PCIE GB ET Chipset
320-7899	nVIDIA Quadro NVS 295 Dual Video Card (256 MB) – PCI Express
MZ-PCEM11	1GB Memory expansion (1 x 1GB)

### 1.2.6 Slot configuration

Dual video graphics is the default option provided with the Honeywell workstation. It includes both single and dual screen video capabilities. The following board configuration layout specifies the available system configurations. The Intel Pro 1000 PT PCIe based NIC Server adapter is supplied with Honeywell-configured workstation. In addition it supports optional PCIE based NIC Intel Pro 1000 ET Dual Port adapters. Use Slot-1 for optional NIC adapters.

**Experion systems**

The following table describes the slot configuration for single and dual configuration Experion systems.

Slot No	Slot type	Description
Slot-1	PCIex4	-
Slot-2	PCIex16	nVIDIA Quadro NVS 295
Slot-3	PCIex4	-
Slot-4	PCIex16	-
Slot-5	PCI	-
Slot-6	PCI	Empty or power adapter harness

**FTE systems**

The following table describes the slot configuration for single and dual configuration FTE systems.

Slot No	Slot type	Description
Slot-1	PCIex4	Dual Port Intel Pro 1000 PT/ET Ethernet
Slot-2	PCIex16	nVIDIA Quadro NVS 295 (256 MB)
Slot-3	PCIex4	-
Slot-4	PCIex16	-
Slot-5	PCI	-
Slot-6	PCI	Empty or power adapter harness

**1.2.7 Power cords**

The following table lists the Honeywell AC power cords installed in the factory applicable to cabinet, tower mount configuration.

Model number	Description	Part number
MZ-PCWS02	50Hz/240V and a Desktop (AC Power Cord, 220V)	51305557-100
MZ-PCWS02	60Hz/120V and a Desktop (CSA/CE/FCC LOGO)	51107941-113

## 1.3 Memory configurations

The standard memory installed in the Honeywell workstation is 1 GB (2x512MB). You can increase the memory size up to 4 GB. However, systems shipped from May 2012 onwards provide 4GB (2x2GB) UDIMM as a standard memory configuration. Before increasing the memory size, ensure that the memory devices are from the same memory supplier and is installed in matched pairs. The label outside the shipping container identifies the capacity of the memory installed. The following table provides the additional memory components. This number is used by Honeywell to indicate the supplier about the memory that must be added to the workstation.

Model number	Description
MZ-PCEM11	1GB Memory expansion (1 x 1GB)
MZ-PCEM14	2GB memory expansion (1 x 2GB) 1333MHz, DDR3, UDIMM ECC

### 1.3.1 Standard memory configuration

The following table describes the standard memory configuration of the workstation.

DIMM socket	Memory size
1	1GB
4	
2	
5	
3	
6	
<b>Total memory</b>	<b>1GB</b>

### 1.3.2 Standard memory configuration

The following table describes the standard memory configuration of the workstation using 2x2GB UDIMM.

DIMM socket	Memory size
1	2GB
4	-
2	2GB
5	-
3	-
6	-
<b>Total memory</b>	<b>4GB</b>

### 1.3.3 Optional memory configuration

The following table describes the optional memory configuration of the workstation for 2GB, 3GB, and 4GB.

DIMM socket	Memory size	Memory size	Memory size
1	1GB	1GB	1GB
4	-	-	1GB

DIMM socket	Memory size	Memory size	Memory size
2	1GB	1GB	1GB
5	-	-	-
3	-	1GB	1GB
6	-	-	-
Total memory	2GB	3GB	4GB

## 1.4 Workstation information

### 1.4.1 Honeywell documentation

The following table lists the Honeywell publications that may be useful when installing or operating your system.

Publication	Contains information about
<i>Fault Tolerant Ethernet Installation and Service Guide</i>	Installing and using FTE on a TPS or Experion PKS node.

### 1.4.2 Dell documentation

The following table lists the Dell publications that may be useful when installing or operating your system.

Publication	Contains information about	Is available with
Readme files	Last-minute updates about technical changes to your workstation or advanced technical reference material for experienced users or technicians.	The drivers and utilities CD.
System Information Label	System board connectors. Location of system board components.	The inner cover of your workstation.
Dell System Information Guide	Warranty and safety	Workstation package. For more information, refer to
Setup and Quick Reference Guide	Setting up the workstation Caring for the workstation Troubleshooting Running the Dell Diagnostics Removing the workstation cover Locating other documentation	Workstation package. For more information, refer to
Workstation User's guide	Removing and replacing parts Technical specifications Configuring the system Troubleshooting	Product Documentation CD. Workstation package. For more information, refer to
Workstation service manual	Configuring the workstation. Removing and replacing parts	Product Documentation CD. Workstation package. For more information, refer to

## 1.5 System specifications

### Microprocessor

Microprocessor	Specification
Tab -100	Single Quad-Core Intel Xeon Processor W3530, 2.80GHz with 4.8GTs QPI or higher.
Level Cache	8MB Shared cached or higher.
Chipset	Intel® X58.

### Expansion slots

Expansion slots	Specification
Bus type	2 PCIe x8 wired as x4 (half length). 2 PCIe x16 slot Gen2 graphics slots up to 225W. 2 PCI 32bit /33MHz 5V slot (half length).

### Memory

Memory	Specifications
DIMM slots	Six
DIMM capacities	1 GB, 2 GB or 4 GB (Both ECC and Non – ECC)
Standard SDRAM	1 GB (1x1GB), 1R 1333MHz, DDR3 UDIMM ECC or 4 GB (2x2GB), 1R 1333MHz, DDR3 UDIMM ECC
SDRAM expandability	Up to 24 GB DDR3 ECC ,Unbuffered

### Optical disk drive

Optical disk drive type	Specification
DVD	16X DVD±RW with Cyberlink Power DVD, Roxio Digital Creator Dell Edition

### Video

Video	Specifications
Video type	nVIDIA Quadro NVS 295 Dual Video – PCI Express™ Graphics Video BIOS version 62.98.75.00.07 or later
Video memory	256MB minimum
Maximum Display Resolution (4:3) supported in Standard Mode at 60 Hz.	2048x1536
Maximum Display Resolution Digital at 60Hz	2560x3200
Maximum DVI-D (single link) Display Resolution (through Display Port to DVI cable)	1920x1200

### Network interface

Network	Integrated Broadcom 5761 Gigabit Ethernet controller
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**Power supply unit**

Power supply unit	Specifications
Wattage	525 watts 85% Power Factor Correcting (PFC) power supply.
Voltage	115/230 VAC, 50/60 Hz, 6.0/3.0 A
Dissipation	1194 BTU/hr
Backup battery	3-V CR2032 lithium coin cell

**Environmental Temperature**

Environmental Temperature	Specifications
Operating	+10° to +35° C ((50° to 95° F)
Storage	-40° to +65°C (-40° to 149° F)
Relative humidity (maximum)	20% to 80% (non-condensing)

Maximum vibration (using a random-vibration spectrum that simulates user environment):

Vibration	Specifications
Operating	5 to 350 Hz at 0.0002 G <sup>2</sup> /Hz
Storage	5 to 500 Hz at 0.001 to 0.01 G <sup>2</sup> /Hz

Maximum shock (measured with hard drive in head-parked position and a 2-ms halfsine pulse):

Shock	Specifications
Operating	40 G +/- 5% with pulse duration of 2 msec +/- 10% (equivalent to 51 cm/sec [20 in/sec])
Storage	105 G +/- 5% with pulse duration of 2 msec +/- 10% (equivalent to 127 cm/sec [50 in/sec])

Altitude	Specifications
Operating	-15.2 to 3048 m (-50 to 10,000 ft)
Storage	-15.2 to 10,668 m (-50 to 35,000 ft)

**Physical**

Form factor	Specifications
Form Factor/Configuration	Mini-Tower
Height	44.8 cm (17.6 inches)
Width	17.2 cm (6.8 inches)
Depth	46.8 cm (18.4 inches)
Weight	17.3 kg (38.0 lb)

**Drive bays**

Drive bays	Specifications
Internal	Two 3.5 drive bays
External	One 3.5" Flex bay for floppy drive and (2) 5.25"

**External peripherals**

External peripherals	Specifications
Keyboard	USB Windows compliant (equivalent or better)
Mouse	USB Dell optical 2-button w/scroll (equivalent or better)

**Drives**

Drives	Specifications
Diskette drives	None
Hard Drive	One 320 GB SATA 7.2K RPM, with 16MB DataBurst Cache hard drive (minimum)  (Or) One 500GB advanced format drive SATA 7.2K RPM, with 16MB DataBurst Cache hard drive (minimum)

**Audio**

Audio type	Integrated High Definition audio
------------	----------------------------------

**Ports**

Ports	Specifications
Serial	One 9 pin connector
Parallel	One DB-25 pin connector (bi-directional)
PS/2 style keyboard	One 6 pin mini-DIN
PS/2 compatible mouse	One 6 pin mini-DIN
Stereo in/out	Stereo line-in and headphone line-out on back panel
Microphone	Microphone and headphone connector on front panel
USB	11 USB 2.0 ports (2 on front, 6 on back, 3 Internal)

**Tip**

Refer to the workstation user's guide for additional technical specifications and the vendor documentation for specifications on the peripheral devices.



## 2 Installing

### **Related topics**

“Introduction” on page 6

“Power and grounding requirements” on page 19

“Honeywell workstation back panel connections” on page 20

“Installing optional components” on page 21

“Installing the workstation and connecting the cables” on page 22

“Connecting adapters” on page 24

---

## 2.1 Introduction

### 2.1.1 Overview

This section contains procedures for installing and cabling the workstation in Honeywell consoles and cabinets.

### 2.1.2 Installation tasks

The specific tasks you need to perform vary depending upon the type of furniture in which you are installing the workstation. The following table lists the major platform installation tasks.

Task	For more information refer to...
Be aware of all power and grounding requirements for your furniture.	Specific site requirements Section “Power and grounding requirements”
Verify pinning for external media drives is correct	Section “Pinning media devices”
Install the workstation in the furniture	Section “Installing workstation in Icon Series console” Section “Installing workstation in Z and EZ Console” Section “Installing workstation in Cabinets”
Connect device cables	Section “Connecting cables”

### 2.1.3 Before you begin

Ensure that you perform the following tasks.

- Ensure that the cabinet is properly grounded
- Unpack the platform from the box and verify the parts
- Place the server on a secure surface near the cabinet to mount
- Ensure that you have the necessary cables ready

---

## 2.2 Power and grounding requirements

The ground connection is made through the third wire in the AC power cord.

### Grounding consoles and cabinets

The *TPN System Installation Manual, SW20-600*, provides information on grounding furniture, including the following:

- Ground Wiring Overview
- Grounding LCN Cabinets and Stations
- Cabinet Logic Ground
- Grounding LCN Cables



#### **WARNING**

The power supply circuit is connected to AC power. The power control switch on the front panel only enables the power supply circuit outputs.

---



#### **Attention**

It is strongly recommended that you connect the power cord to a clean power source with backup such as an Uninterruptible Power Source (UPS).

---

### 2.2.1 Grounding for workstation based nodes

The ground connection is made through the third wire in the AC power cord.

### 2.2.2 AC Power warning



#### **CAUTION**

The power supply circuit is connected to the AC power. The power control switch on the front panel only enables power supply outputs.

---



#### **Attention**

It is strongly recommended that the power cord is connected to a clean power source with backup such as an Uninterruptible Power Source (UPS).

---

### 2.2.3 Selecting the correct power setting

The workstation automatically senses the power supply and therefore there is no positioning switch to be set.

---

## 2.3 Honeywell workstation back panel connections

The following figure shows the rear view of the workstation and identifies the connectors for all devices.



---

## 2.4 Installing optional components

Honeywell provides a number of optional components that can be installed in your workstation. Each of the following options is packaged with installation instructions.

Component	Description
OEP/IKB adapter	Used for connecting an OEP or IKB that uses an ISA connection to the workstation's serial port. See Honeywell Peripheral Adapters Guide (ADP01).

## 2.5 Installing the workstation and connecting the cables

- 1 Clear the place where you want to install the workstation.
- 2 Place the workstation on the desk (desktop) or on the floor (desk side) leaving enough space behind it to connect the cables.
- 3 Connect a parallel device, such as a printer, to the parallel port. If you have a USB printer, plug it into a USB port.



### Attention

The integrated parallel port is automatically disabled if the workstation detects an installed card containing a parallel port configured to the same address.

- 4 Connect a parallel device, such as a printer, to the parallel port. If you have a USB printer, plug it into a USB port.



### Attention

The integrated parallel port is automatically disabled if the workstation detects an installed card containing a parallel port configured to the same address.

- 5 Connect a serial device, such as a handheld device, to the serial port. If necessary, the address for this port can be modified.
- 6 If you have a standard USB keyboard, plug it into a USB port.  
If you have a PS/2 keyboard, plug it into the PS/2 purple keyboard port.
- 7 If you have a standard USB mouse, plug it into a USB port.  
If you have a PS/2 mouse, plug it into the PS/2 green mouse port.
- 8 Use the back USB ports for devices that typically remain connected, such as a printer, mouse, and keyboard connections.
- 9 Use the green lineout port to attach headphones and most speakers with integrated amplifiers. On workstations with a sound card, use the connector on the card.
- 10 Use the blue line-in port to attach a record/playback device such as a cassette player, CD player, or VCR. On workstations with a sound card, use the connector on the card.
- 11 To attach your workstation to a network or broadband device, connect one end of a network cable to either a network jack or your network or broadband device. Connect the other end of the network cable to the network adapter port on your workstation. A click indicates that the network cable has been securely attached.



### Attention

- Do not plug a telephone cable into the network port.
- On workstations with an additional network connector card, use the connectors on the card and on the back of the workstation when setting up multiple network connections (such as a separate intranet and extranet).
- It is recommended that you use Category 5 wiring and connectors for your network. If you must use Category 3 wiring, force the network speed to 10 Mbps to ensure reliable operation.

- 12 Connect the AC power cord.

### 2.5.1 Connect remaining cables and power

Perform the following steps to connect the remaining cables to the back panel of the workstation.

#### Prerequisites

Refer to the image in section “Honeywell workstation back panel connections”.

- 1 If you have an IKB that uses the OEP/IKB adapter, connect the PS/2 keyboard cable from the OEP/IKB adapter to the keyboard PS/2 port.

- 2 If you are not using Fault Tolerant Ethernet (FTE), connect the Ethernet cable to the RJ-45 connector on the Network Interface Card.  
If you are using FTE, you must connect the FTE cables according to the instructions in the FTE (FE05) Installation and Service Guide.
- 3 Connect the USB devices or Hubs to the USB ports, if any, including the USB IKB if you are using one.

## 2.5.2 Connecting monitor cables

Dell Precision T3500 workstation is configured with a 256MB nVIDIA Quadro NVS 295 dual video controller on a PCIE slot 2. The lower DP port is set as the primary video and the upper DP port as the secondary video when setting dual video configurations.

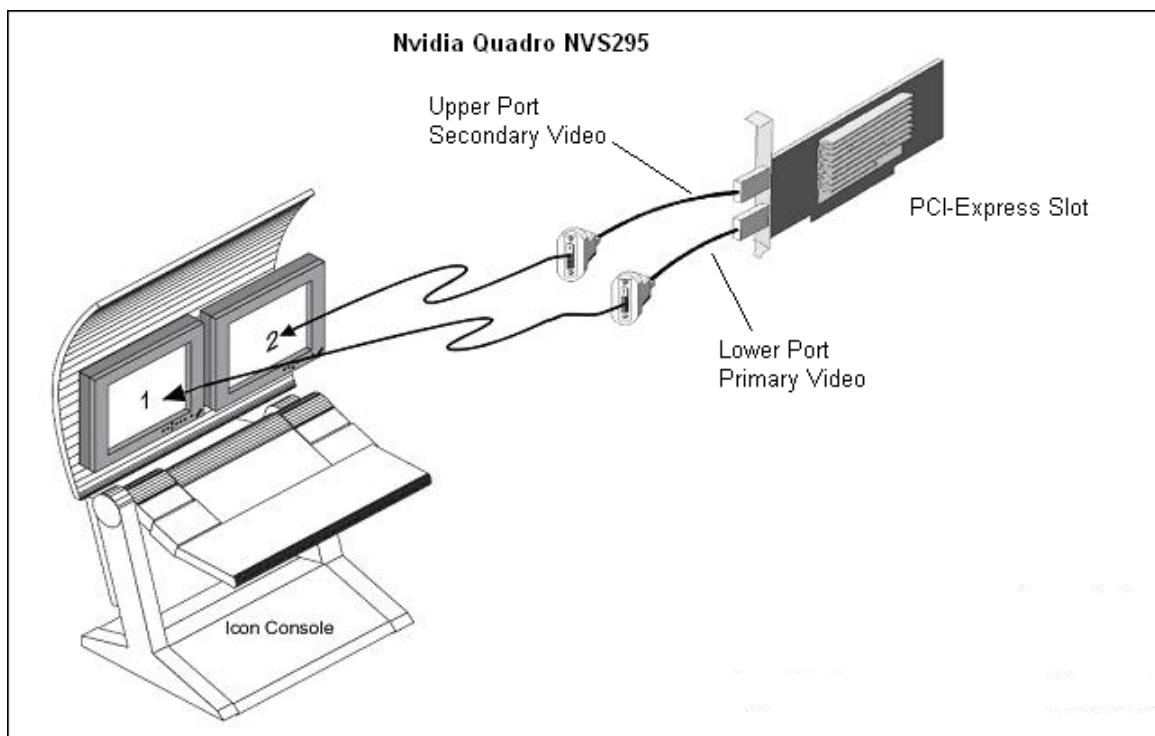
Perform the following procedure to connect the monitor cables to the back panel of the workstation.

### ! Attention

- The figure in the following procedure is an example to illustrate the dual video connection. Dell Precision T3500 workstation is not qualified to be used with Honeywell ICON Console.

- 1 The following are two types of monitor connection interface adapter are used with Dell Precision T3500 workstation.
  - For analog monitor: Use DP to VGA Dongle cable (51150648-100). This DP to VGA dongle cable converts the display port signal to VGA signal.
  - For Digital Monitor: Use the DP to DVI-D Dongle cable. This dongle cable converts the display port signal to DVI-D signal.

Connect the primary monitor in lower display port and secondary monitor in upper display port.



- 2 Secure any loose cables, and verify that all cables have proper strain relief.
- 3 Refer to “Configure monitors” on page 31 to configure the monitor.

## 2.6 Connecting adapters

### 2.6.1 OEP/IKB adapter configurations

Use the information and procedures in this section to connect the OEP/IKB adapter. The following block diagrams show the basic connections for the OEP/IKB adapter assembly used in different configurations.

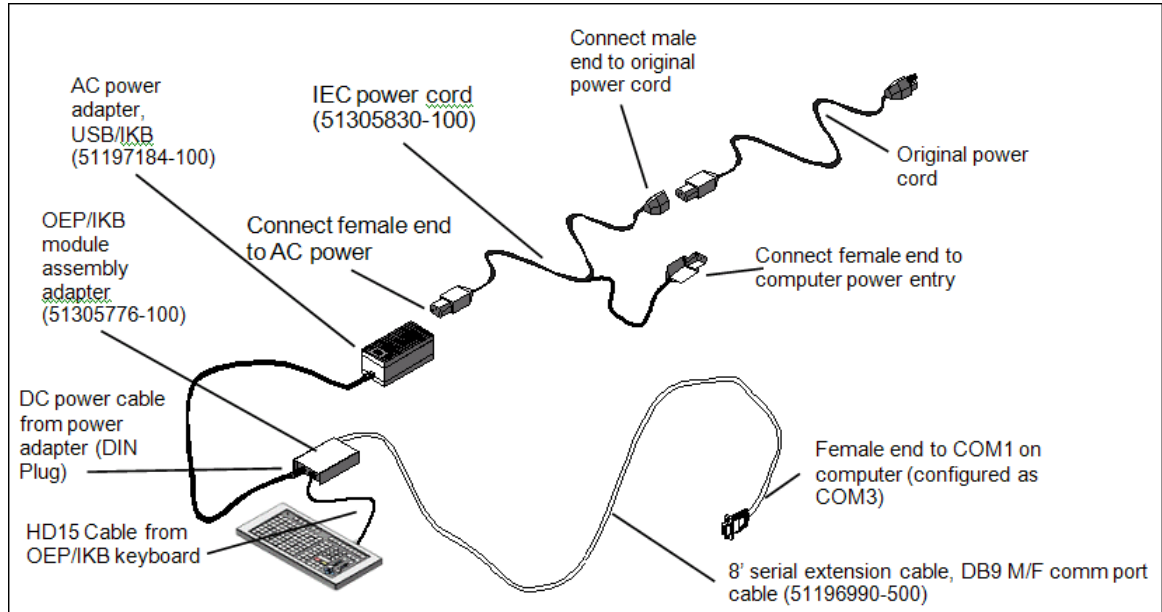


Figure 1: OEP/IKB adapter connections for OEP

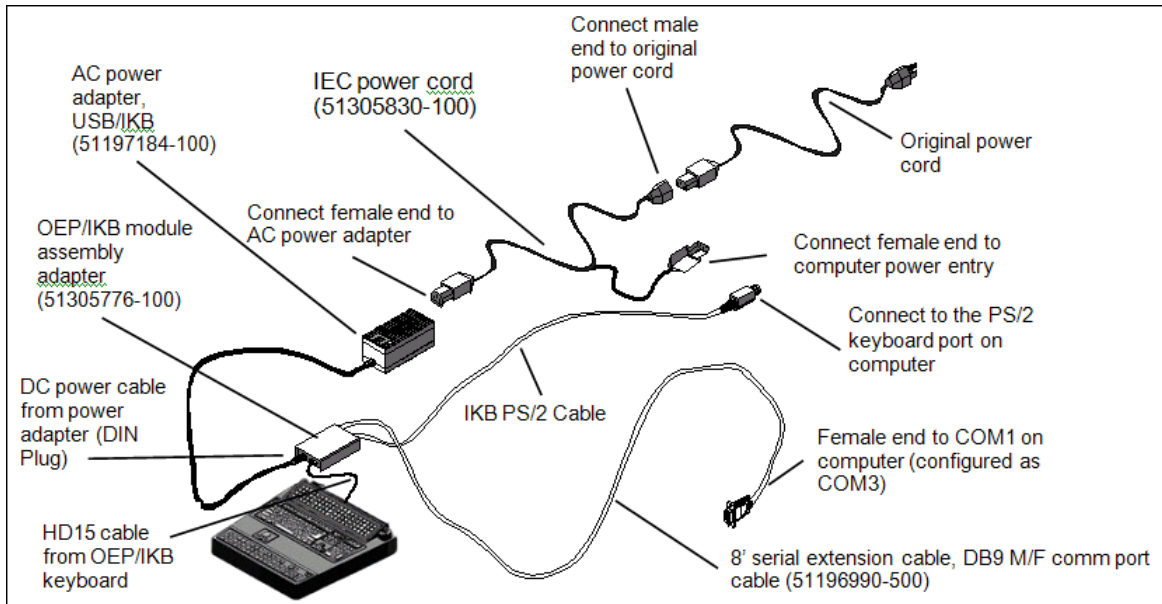


Figure 2: OEP/IKB adapter connections for IKB



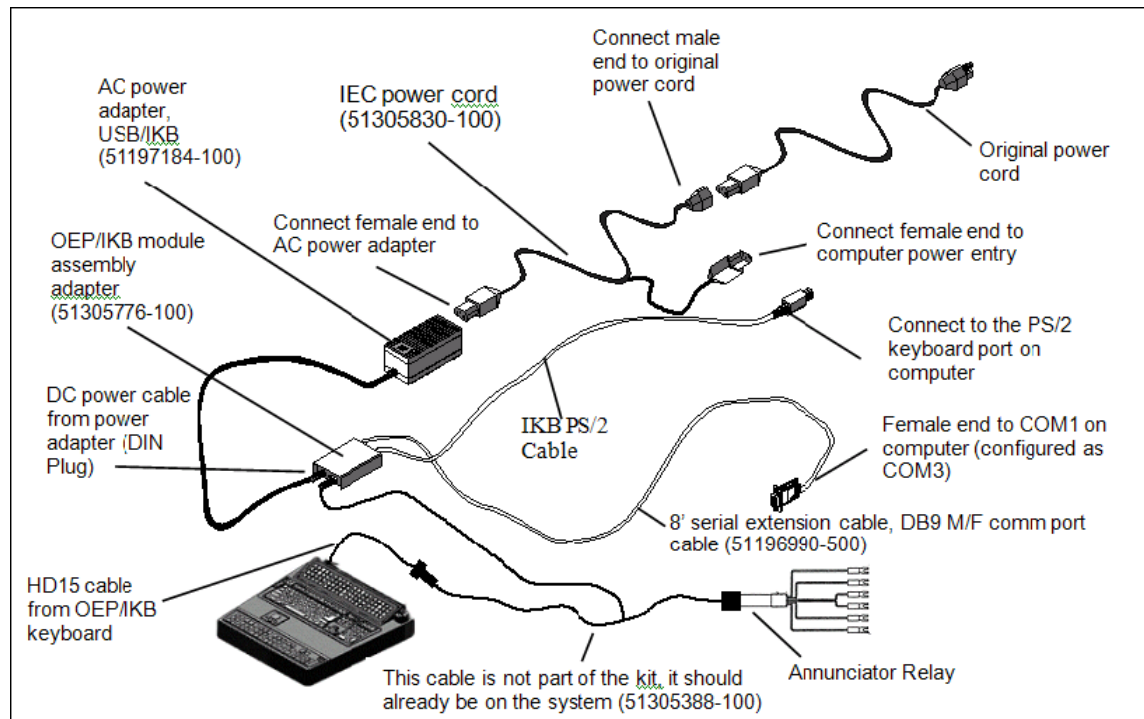
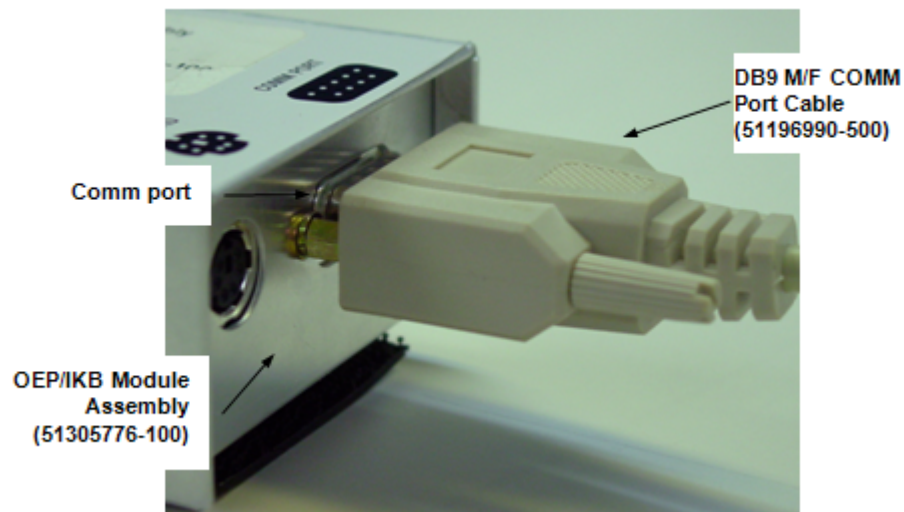


Figure 3: OEP/IKB adapter connections for IKB with Annunciator relay

## 2.6.2 Install OEP/IKB adapter

### To install OEP/IKB adapter

- 1 Locate a safe location for the OEP/IKB adapter box and secure it using the supplied Velcro.
- 2 Locate a safe location to place the OEP/IKB power adapter box and secure it using the supplied Velcro.
- 3 If the IKB has a trackball, connect it to the mouse PS/2 port on the workstation.
- 4 Locate and connect the male end of the DB9 M/F COM port cable (51196990-500) to the COM port on the OEP/IKB module assembly/adapter (51305776-100).



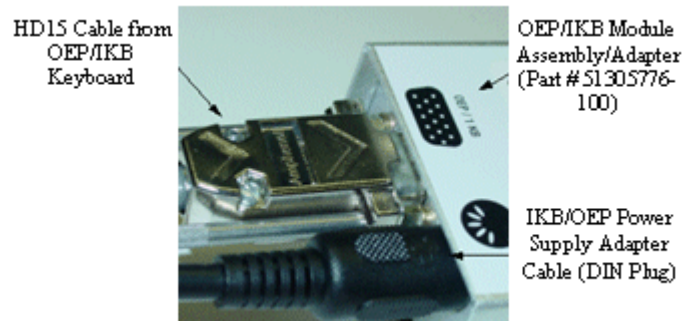
- 5 Secure the connection by tightening the thumbscrews located on the cable end.
- 6 Connect the female end of the DB9 M/F COM port cable (51196990-500) to COM 1 port located on the back panel of the workstation and tighten the thumbscrews.
- 7 Insert the round DIN plug of the supplied IKB PS/2 cable (51305381-500) into the PS/2 connector on the OEP/IKB module assembly (51305776-100).



- 8 Connect the free end of the IKB PS/2 cable (51305381-500) to the keyboard PS/2 port on the workstation.
- 9 Take the DC power cable from the IKB/OEP power supply adapter (51197184-100) and insert the round DIN plug into the power connector receptacle on the IKB/OEP module assembly/adaptor (51305776-100).

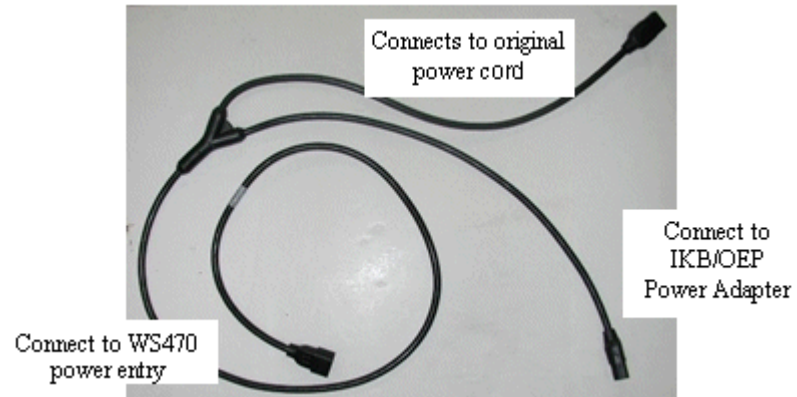


- 10 Connect the existing OEP/IKB Keyboard HD15 cable to the HD15 OEP/IKB receptacle located on the IKB/OEP assembly/adaptor (51305776-100). Secure cable to the assembly/adaptor by tightening the thumbscrews located on the end of the cable.



- 11 Perform the following to connect the IEC power cord (51305830-100):
  - a Connect one female end to the OEP/IKB power adapter (51197184-100).
  - b Connect the other female end to the power entry.

- c Connect the male end to the original workstation power cord.





# 3 Operation

## **Related topics**

“Starting the workstation” on page 30

“Configure monitors” on page 31

“Network connections” on page 32

---

## 3.1 Starting the workstation

This section describes the steps to be performed for turning on the workstation and setting the monitor resolution.

### 3.1.1 Turn on the workstation

#### To turn on the workstation

- 1 Press the power button on the front panel of the server/workstation.
- 2 Wait for the power light to become solid green.



#### Attention

If the power light does not become solid green, refer to the Troubleshooting section in the Dell™ Precision™ T3500 Systems Hardware Owner's manual.

---

### 3.1.2 Set monitor resolution

When the workstation is initialized, the monitor configuration is established based on the FPD type monitors with 60 Hz user input. After initialization, if you are installing a monitor different from what was originally defined, you must adjust the monitor settings for optimal performance.



#### Tip

Refer to the specific monitor user's guide for other recommended settings.

---

#### To set the monitor resolution

- 1 Choose **Start > Settings > Control Panel**.  
The **Control Panel** window appears.
- 2 Double-click **Display**.  
The **Display Properties** dialog box appears.
- 3 Click the **Settings** tab.
- 4 In **Screen resolution**, drag the slider to the appropriate resolution.
- 5 Click **Apply**, and then click **OK**.

---

## 3.2 Configure monitors

This section provides the steps to configure the dual video display connectors using the nVIDIA Quadro NVS 295 video card.

**Attention**

If you are not using all available channels on the installed video cards, you must configure your monitors such that the monitors are connected to the lowest and highest channels.

---

**To configure monitors**

- 1 Verify that the monitors are physically attached to at least the highest and lowest video channels.
- 2 Choose **Start > Settings > Control Panel**.  
The **Control Panel** window appears.
- 3 Double-click **Display**.  
The **Display Properties** dialog box appears.
- 4 Click the **Settings** tab.
- 5 Select the monitor that you want to enable.
- 6 Clear **Extend my windows desktop onto this monitor**.
- 7 Click **Apply**, and then click **OK**.

---

## 3.3 Network connections

Each Honeywell-configured platform must be connected to an LCN network and/or an ETHERNET network.

### 3.3.1 Ethernet network

ETHERNET 10/100/1000 Base T connection is the standard connection used on the Honeywell-configured platform. An on-board dual NIC must be used for FTE configuration. The on board Ethernet connection must be disabled in the system BIOS prior to installation of the Dual Intel PRO 100/1000 controller. A single NIC, model number is also available for the workstation option under Experion configurations mentioned in the following table.

Model number	Description
NE-NICSS1	Single NIC card, PCIE, server
NE-NICS02	NIC card, PCIE dual port STP
NE-NICS03	NIC Card PCIE GB ET Chipset



# 4 Servicing

## **Related topics**

“Accessing the components in the workstation” on page 34

“Adding/replacing cards in expansion slots” on page 36

“Verifying the BIOS settings” on page 43

“Spare parts” on page 47

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## 4.1 Accessing the components in the workstation

This section contains steps for removing the workstation from furniture and accessing the components within the workstation.

### 4.1.1 Before you begin

- Turn off the workstation.
- To avoid electrical shock, ensure that you unplug the computer from the electrical outlet.
- Disconnect the power cords and cables from the back panel.
- Before you begin any of the procedures in this section, refer to the safety instructions in the *Dell System Information Guide*.
- Remove the workstation from the tower unit and place on a secure surface.
- After removing the cover, ensure that you do not disconnect the cables from the system board.

#### Recommended tools

- Small flat-blade screwdriver
- Small Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program

### 4.1.2 Removing the side cover

#### To remove the side cover

- 1 Lay your computer on its side with the computer cover facing up.
- 2 Press the release latch, and pull the latch of the cover away from the computer.



- 3 With the cover release latch pulled away, pull the side cover away from the computer.



- 4 Slide the cover forward to remove it from the hinge slots, and then set the cover aside in a secure place.

## 4.2 Adding/replacing cards in expansion slots

### Prerequisites



#### CAUTION

Be careful not to damage the EMI gasket fingers when removing/installing boards.

Use a grounding strap and grounded work surfaces and equipment when handling any electrostatically sensitive components such as the video cards, NIC adapter cards, and SCSI controller cards. Store and transport parts only in electrostatically safe containers.

### 4.2.1 Replacing the video card

The video card is located in the PCIE slot 2 of the workstation. The following illustrates the nVIDIA Quadro NVS 295 video card.

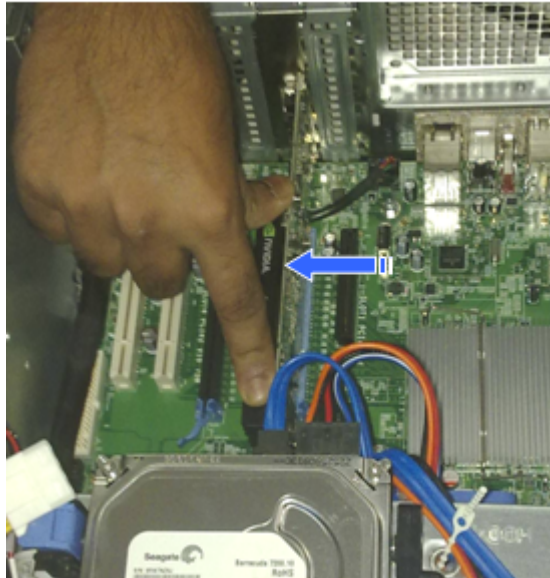


#### To replace the video card

- 1 Access the expansion slots. Refer to the steps in procedure “Accessing expansion slots”.
- 2 Remove the metal shield from PCIE slot 2 as illustrated.



- 3 Insert the new single/dual video card in the PCIE slot 2.



- 4 Replace the cardholder and card retention arm, making sure the tab locks into place.
- 5 Replace the side cover.
- 6 Connect cables to the back panel of the video card.

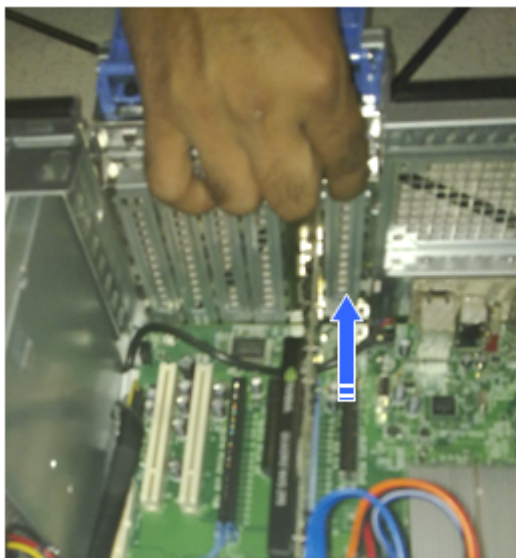
### 4.2.2 Replacing the dual NIC

The Dual Intel Pro 1000 PT/ET Ethernet card is located in the PCI slot 1 in the workstation.

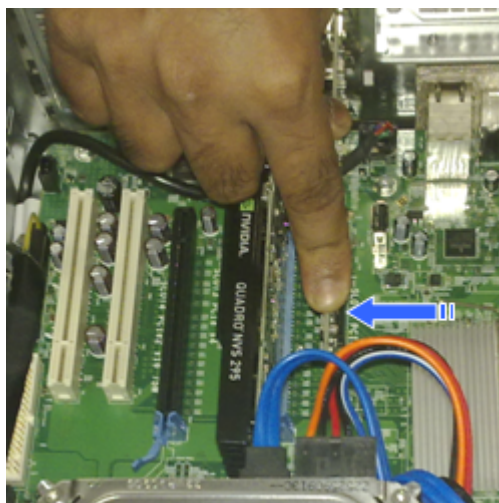


#### To replace dual NIC

- 1 Access the expansion slots. Refer to the steps in procedure “Accessing expansion slots”.
- 2 Remove the metal shield from slot 1.



- 3 Insert the new NIC card in PCI slot 1.



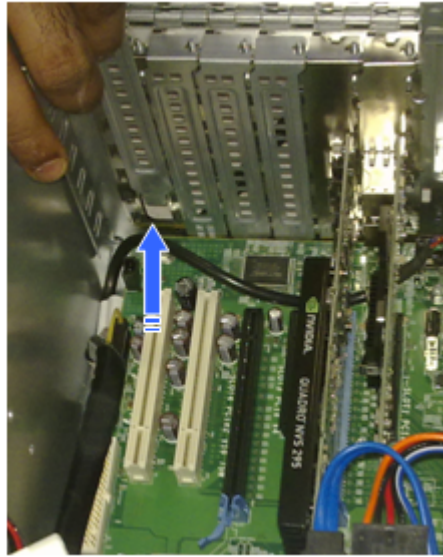
- 4 Replace the cardholder and card retention arm, making sure the tab locks into place.
- 5 Replace the side cover.
- 6 Connect cables to the back panel of the video card.

### 4.2.3 Replacing the power adapter card

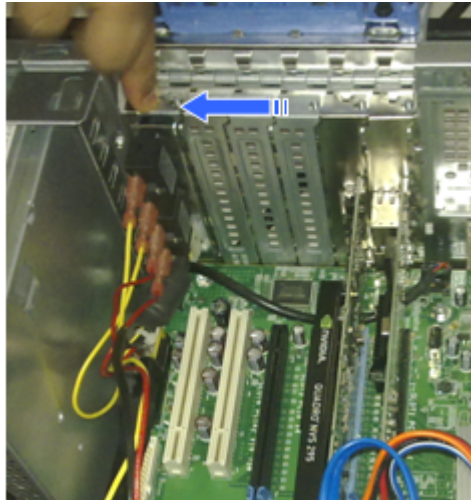
The power adapter card is located in the PCI slot 6 of the workstation.

#### To replace the power adapter card

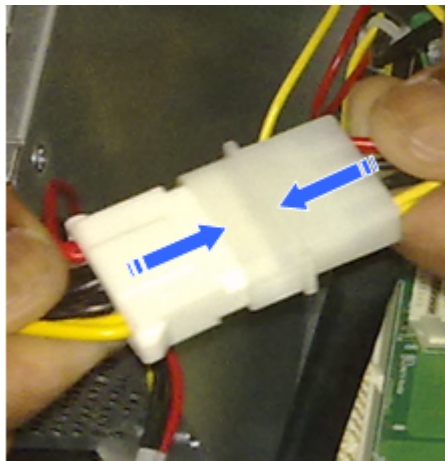
- 1 Access the expansion slots. Refer to the steps in procedure “Accessing expansion slots”.
- 2 Remove the metal shield from slot 6.



- 3 Insert the new power adapter card in PCI slot 6.



- 4 Connect the cable of power adapter card assembly to the Y power cable.



- 5 Replace the cardholder and card retention arm, making sure the tab locks into place.
- 6 Replace the side cover.



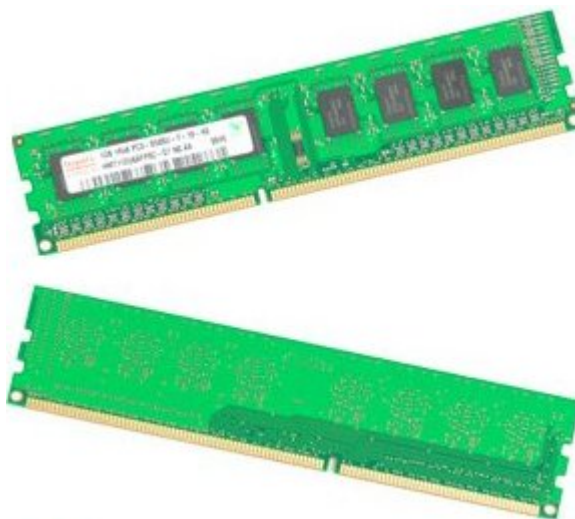
- 7 Connect cables to the back panel of the video card.

## 4.2.4 Adding additional memory



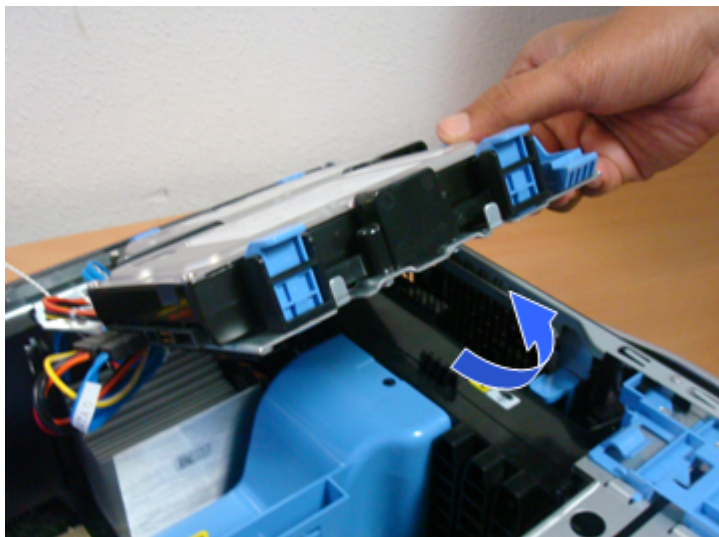
### CAUTION

Memory is electrostatically sensitive. Use a grounding strap and grounded work surfaces and equipment when handling these components. Store and transport parts only in electrostatically safe containers.



### To add additional memory

- 1 Remove the side cover. Refer to the section “Removing the side cover” on page 34.
- 2 Release the tab on the card retention arm and lift it up.

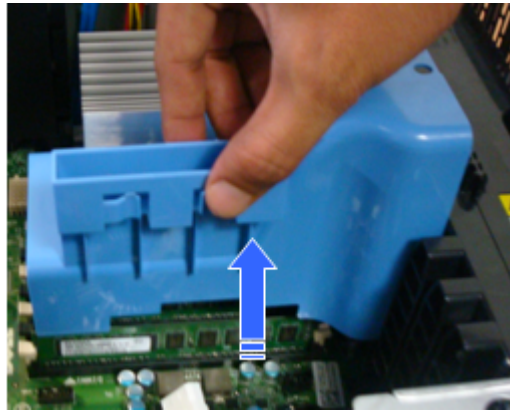


### Attention

The following figure is an example to illustrate how to remove the hard disk drive bay lock. Dell T3500 Honeywell workstation is not qualified to use dual hard disk drive.

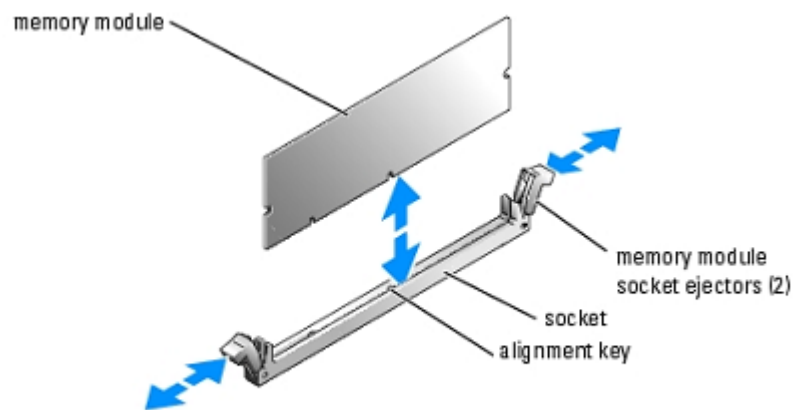
- 3 Remove the blue shroud as illustrated.



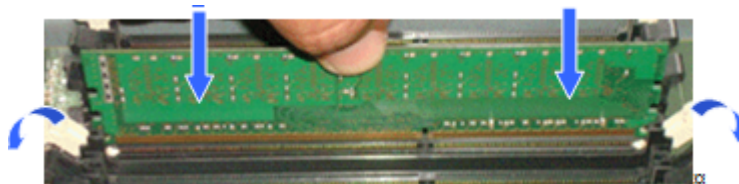
**CAUTION**

The DIMMs are hot to the touch for some time after the computer is turned down. Allow time for the DIMMs to cool before handling them. Handle the DIMMs by the edges and avoid touching DIMM components.

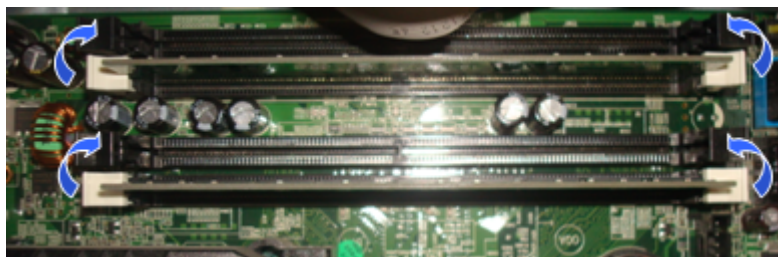
- 4 Refer to Memory configurations for DIMM socket configuration.
- 5 Wearing a grounded ESD wrist strap, press the ejectors on the memory module socket down and out to allow the memory module to be inserted into the socket.



- 6 Align the notch on the bottom of the memory module with the crossbar in the memory module connector.



- 7 Insert the module into the connector until the module snaps into position. If the memory module is inserted correctly, the securing clips snap into the cutouts at each end of the module.



**Attention**

The memory module socket has an alignment key that allows you to install the memory module in the socket only in one way.

- 8 Replace the side cover.
- 9 Connect your computer and devices to electrical outlets, and then turn them on.

## 4.3 Verifying the BIOS settings

Honeywell configures specific BIOS settings in the factory for each workstation configuration, and this setting must not be altered. You may verify the settings if required.

### 4.3.1 Enter the BIOS



#### Attention

DO NOT attempt this procedure unless you are familiar with BIOS.

#### To access the BIOS and view the settings

- 1 Turn on the workstation.
- 2 Press **F2** to enter the BIOS Setup.
- 3 Verify if you are using the latest version of BIOS.

### 4.3.2 BIOS settings for non-raid workstations with tab 100

This section lists the BIOS settings configured in the factory for the non-raid workstation. The settings appear only if the A11 BIOS version is installed.

#### System

System	Dell Precision Workstation T3500 Minitower
BIOS Version	C52
Service Tag	XXXXXX
Express Service Code	XXXXXXXXXXXX
Asset Tag	Honeywell
Manufacture date	MM/DD/YYYY
Owner date	MM/DD/YYYY

#### Processor information

Type	Intel® Xeon ® CPU W3530 @2.80GHz
Processor Speed	2.800GHz
QPI speed	4.800GT/s
Processor L2 Cache	1MB
Processor L3 Cache	8MB
Processor ID	106A5
Microcode Version	11
Multiple Core Capable	Yes(Quad)
Stepping	A
Microcode Version	00000A07/ 00000A0B*
Multiple Core Capable	Yes (Dual)
Hyper threading Capable	Yes
64-bit Technology	Yes (Intel EM64T)

**Memory information**

Installed Memory	1GB
Memory Speed	1066MHz
Number of active channels	1
Memory Technology	DDR3
DIMM 1	1GB
DIMM 2	Empty
DIMM3	Empty
DIMM 4	Empty
DIMM 5	Empty
DIMM 6	Empty

**PCI information**

Slot 1	Empty
Slot 2	VGA Compatible
Slot 3	Empty
Slot 4	Empty
Slot 5	Empty
Slot 6	Empty
Date	MM/DD/YY HH:MM:SS A/P
Time	XX/XX/XX XX: HH:SS AM/PM

**Boot sequence**

Onboard or USB CD-ROM Drive
Onboard or USB Floppy Drive
Onboard SATA Hard Disk Drive

**Drives**

Diskette Drive	USB
SATA-0	On
SATA-1	On
SATA Operation	RAID Autodetect /AHCI
Smart Reporting	Enable Smart reporting

**Onboard Devices**

Integrated NIC	Off
USB Controller	On
Parallel port	PS/2
Parallel Port address	378h
Serial Port 1	Auto
Rear Quad USB	Miscellaneous devices

Rear Dual USB	Miscellaneous devices
Audio	Miscellaneous devices

**Video**

Primary Video	Option 2
---------------	----------

**Performance**

Multiple CPU Core	On
Hardware prefetcher	On
Virtualization	Off
Limit CUID Value	Off
HDD Acoustic Mode	Bypass

**Security**

Admin password	Not set
Enter the Old Password	Not set
Enter the New Password	Not set
Confirm New Password	Not set
System password	Not set
Enter the Old Password	Not set
Enter the New Password	Not set
Confirm New Password	Not set
Password Changes	Enable Password changes
TPM Security	Off
CPU XD support	On
Comptace®	Deactivate
SATA-0 password	
Enter the Old Password	Not set
Enter the New Password	Not set
Confirm New Password	Not set

**Power Management**

AC Recovery	Off
Auto On Time	Off
XX: XX XX	Disable
HH: MM A/P	Disable
Low Power Mode	Off
Remote Wakeup	Off

**Maintenance**

Service Tag	XXXXXX
Asset Tag	Honeywell

ASF Mode	Disable
----------	---------

**Post Behavior**

Fast Boot	On
Numlock Key	On
Post Hotkeys	Enable F12 = Boot menu
Keyboard Errors	Enable Keyboard error detection

**4.3.3 Exit the BIOS****To quit from the BIOS settings**

- 1 Press the **ESC** key on the keyboard.  
A message appears asking you to save the settings.
- 2 Click **Save Changes and Exit**.
- 3 Press the **ENTER** key to restart the workstation.

---

## 4.4 Spare parts

Item	Description	Part number
Mouse	USB Optical Mouse	51154551-901
Keyboard	USB Keyboard	51154551-902
Expansion RAM	1GB, 1333MHz, DDR3, Unbuffered ECC, SDRAM	51154294-904
DVD±RW	ASSY,DVD+/- RW, 16,TSST,SATA,BLK	51154551-903
Processor	2.8GHz Intel Xeon Processor W3530, 4.8GTs QPI and 8MB Shared L3 cache	51154551-904
Video	NVIDIA Quadro NVS295 Dual Video Card - PEG Video BIOS version 62.98.75.00.07 or higher	51154290-907
Manuals	Electronic Documentation	51154551-905





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## 5.1 Documentation feedback

You can find the most up-to-date documents on the Honeywell Process Solutions support website at:

<http://www.honeywellprocess.com/support>

If you have comments about Honeywell Process Solutions documentation, send your feedback to:

[hpsdocs@honeywell.com](mailto:hpsdocs@honeywell.com)

Use this email address to provide feedback, or to report errors and omissions in the documentation. For immediate help with a technical problem, contact your local Honeywell Process Solutions Customer Contact Center (CCC) or Honeywell Technical Assistance Center (TAC) listed in the “Support and other contacts” section of this document.

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## 5.2 How to report a security vulnerability

For the purpose of submission, a security vulnerability is defined as a software defect or weakness that can be exploited to reduce the operational or security capabilities of the software.

Honeywell investigates all reports of security vulnerabilities affecting Honeywell products and services.

To report a potential security vulnerability against any Honeywell product, please follow the instructions at:

<https://honeywell.com/pages/vulnerabilityreporting.aspx>

Submit the requested information to Honeywell using one of the following methods:

- Send an email to [security@honeywell.com](mailto:security@honeywell.com).
- or
- Contact your local Honeywell Process Solutions Customer Contact Center (CCC) or Honeywell Technical Assistance Center (TAC) listed in the “Support and other contacts” section of this document.

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## 5.3 Support

For support, contact your local Honeywell Process Solutions Customer Contact Center (CCC). To find your local CCC visit the website, <https://www.honeywellprocess.com/en-US/contact-us/customer-support-contacts/Pages/default.aspx>.

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## 5.4 Training classes

Honeywell holds technical training classes on Experion PKS. These classes are taught by experts in the field of process control systems. For more information about these classes, contact your Honeywell representative, or see <http://www.automationcollege.com>.

