Honeywell

Honeywell Process Solutions

T105 Honeywell Server Planning, Installation, and Service Guide

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Release Independent

Honeywell

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About This Document

This document contains planning, installation, and service information for the T105 Honeywell server. The instructions and service information contained in this guide addresses the server, and assumes that associated network communication equipment is pre-installed by the Honeywell factory or has manuals dedicated to its installation and service. This server is not a standard Dell model and you cannot order it independently from Dell.

Release Information

Document Name	Document ID	Release Number	Part No
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Revision Notes

The following table lists the details of revisions of this document.

Revision	Revision Date	Revision Notes
А	07/2010	-
В	08/02/2011	ECO P310057
С	05/02/2012	Updated for Experion R410

References

The following list identifies all documents that may be sources of reference for the material discussed in this publication.

Document Title
Experion PKS Users
Experion PKS Overview
Experion PKS Software Installation and Upgrade Guide
Server and Client Planning Guide

Document Title
Server and Client Configuration Guide (for Experion PKS)
Experion PKS Operators Guide
FTE Users
Fault Tolerant Ethernet Installation and Service Guide

Symbol Definitions

The following table lists those symbols used in this document to denote certain conditions.

Symbol	Definition	
6	ATTENTION: Identifies information that requires special consideration.	
\triangleright	TIP: Identifies advice or hints for the user, often in terms of performing a task.	
	REFERENCE -EXTERNAL: Identifies an additional source of information outside of the bookset.	
	REFERENCE - INTERNAL: Identifies an additional source of information within the bookset.	
CAUTION	Indicates a situation which, if not avoided, may result in equipment or work (data) on the system being damaged or lost, or may result in the inability to properly operate the process.	
<u> </u>	CAUTION : Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.	
	CAUTION symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.	

Symbol	Definition	
lack	WARNING : Indicates a potentially hazardous situation, which, if not avoided, could result in serious injury or death.	
	WARNING symbol on the equipment refers the user to the product manual for additional information. The symbol appears next to required information in the manual.	
*	WARNING, Risk of electrical shock: Potential shock hazard where HAZARDOUS LIVE voltages greater than 100v/270v, 50Hz/60Hz AC may be accessible.	
	ESD HAZARD: Danger of an electro-static discharge to which equipment may be sensitive. Observe precautions for handling electrostatic sensitive devices.	
=	Protective Earth (PE) terminal: Provided for connection of the protective earth (green or green/yellow) supply system conductor.	
4	Functional earth terminal: Used for non-safety purposes such as noise immunity improvement. NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national local electrical code requirements.	
<u></u>	Earth Ground: Functional earth connection. NOTE: This connection shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.	
<i>—</i>	Chassis Ground: Identifies a connection to the chassis or frame of the equipment shall be bonded to Protective Earth at the source of supply in accordance with national and local electrical code requirements.	

Symbol Definitions

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1.1 Overview

About T105 Honeywell server

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

Honeywell engineering has tested the T105 Honeywell Server with other Honeywell hardware and software and has qualified its use for specific configurations as identified in the Software Change Notice (SCN). This server is not a standard Dell model and cannot be ordered independently from Dell. The Technical Assistance Center (TAC) is trained to support Honeywell platforms. Use of any other server, including a similar Dell model, is considered a project special and its TAC support is limited according to the services policy.

This document covers instruction for Non-RAID server. This server does not fit in the cabinets, Icon console, Classic, or Z console. It can be used only as a deskside/desktop tower.

Software requirements

The server runs on the following operating systems.

- Windows Server 2003 SP2 for Experion R3xx and TPS 4xx releases.
- Windows Server 2008 non HyperV media, 32-bit for Experion R400.x releases
- Windows Server 2008R2 64-bit for Experion R410.x releases.

Refer to the latest SCN for software applications that are qualified for use on the T105 Honeywell server.

BIOS configuration

All server platforms must have the latest version of BIOS.

1.2 Server model description

This guide applies to the Honeywell server identified in the following table.

Table 1-1 T105 Honeywell server

Model number	Description	Part Number
MZ-PCSV02	T105 Honeywell Server	51154188-100



Figure 1-1 Honeywell server tower unit

Furniture options

You must place the T105 Honeywell server only in the tower configuration.

Electronics module

The T105 Honeywell server provides a Dell motherboard with single Dual Core AMD[®] Opteron[™] 1381 2.5 GHz processor with Non-RAID and 305W non-redundant power supply, with manual switching.

Storage and media devices

The peripheral electronics assemblies are based upon the Peripheral Component Interconnect (PCI-32), PCIE bus, and support USB 2.0. All mass storage devices are connected through on-board SATA ports. The standard mass storage configuration for this platform is made up of single 160GB 7.2K RPM SATA II hard drive. The standard DDR2 memory for this platform is 2GB (2 x 1GB) DDR2 800 MHz ECC memory. Memory devices must be from the same memory supplier. A USB keyboard with

touchpad and USB optical mouse included with the platform. A monitor needs to be ordered separately.

Honeywell logo

The T105 Honeywell server is supplied with a Honeywell logo with the part number 51153722-100.

Features

The following is a list of the common features of this platform.

- o Dell motherboard with single Dual Core AMD[®] Opteron™ 1381 2.5GHZ processors
- 4 x 512K L2 and 6M L3 Cache
- o Single embedded Gigabit NIC (Broadcom)
- o Integrated SATA controller
- o Four Expansion slots
 - Two PCI Express x8 slots
 - o One PCI Express x1 slots
 - o One PCI (32-bit/33MHZ, 5V)
- o Seven USB 2.0 Ports
- One video port
- One serial port
- o 2GB DDR2 800 MHz, Single Ranked DIMMS ECC (2 x 1GB)
- o DVD R/W SATA Drive
- o One 160GB 7.2K RPM SATA II hard drive
- Integrated video with 32MB of video memory
- o One 305W non-redundant power supply with manual switching
- o Lead Free RoHS Compliant

Additional components

The following is a list of options that can be configured in your server platform.

- o Intel Pro/1000 MT Dual port Server Adapter
- o Intel Pro/1000 PT Dual port TP Adapter
- o Intel Pro/1000 GT Desktop Adapter
- o Universal ControlNet

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 No
MZ-PCSV02	120V for Server(tower)	51305557-100
MZ-PCWS02	220V for Server(tower)	51107941-113

1.3 Server information

Honeywell documentation

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

Table 1-2 Honeywell publications

Publication	Contains information on
ADP01: Honeywell Peripheral Adapters	Using the OEP/IKB adapter with servers that do not have the ISA card.
RE02: Long-Haul Remote Systems Installation and Upgrade	Using Honeywell's long-haul remote (300 feet) option.
FE05: Fault Tolerant Ethernet Installation and Service Guide	Installing and using FTE on a TPS or Experion PKS node.

Dell documentation

Table 1-3 Dell publications

Publication	Contains information on	Is available with
Readme files	Last minute updates about technical changes to your server 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 cover of your server.
Dell System Information	Warranty	The server package.
Guide	Safety	For more information, refer to www.dell.com
Setup and Quick	How to set up the server.	The server package.
Reference Guide	How to care for the server.	For more information, refer to www.dell.com
	Troubleshooting	
	How to run the Dell Diagnostics.	
	How to open the server cover.	
	How to locate other documentation.	
Dell Precision™ T105 Server User's Guide	How to remove and replace parts.	Product Documentation CD
	Technical specifications.	For more information,
	How to configure system settings.	refer to <u>www.dell.com</u>
	How to troubleshoot and solve problems.	
The Dell Precision™ T105	Server configuration.	Product Documentation
Service Manual.	How to remove and replace parts.	CD For more information, refer to www.dell.com

1.4 FTE slot requirements

Slot No	Description	Option
4	PCIEx1	Free Slot
3	PCI	Dual Intel Pro 1000 MT Ethernet
2	PCIEx8	Free Slot
1	PCIEx8	Free Slot

1.5 ControlNet configuration

Slot No	Description	Option
4	PCIEx1	Free Slot
3	PCI	CNET
2	PCIEx8	Free Slot
1	PCIEx8	Dual Intel Pro 1000 PT/ET Ethernet

1.6 General Ethernet slot requirements

You must use the general Ethernet on the first/second on-board NICs. For more details on slot configuration, refer to Table 4-3.

Option 1 – Single NIC (One on-board NIC enabled)

Slot No	Description	Option
4	PCIEx1	Free Slot
3	PCI	Free Slot
2	PCIEx8	Free Slot
1	PCIEx8	Free Slot

Option 2 – Dual NICs (Two on-board NICs enabled)

Slot No	Description	Option
4	PCIEx1	Free Slot
3	PCI	Single NIC
2	PCIEx8	Free Slot
1	PCIEx8	Free Slot

Option 3 – 3 NICs (Single NIC with two On-board NICs)

Slot No	Description	Option
4	PCIEx1	Free Slot
3	PCI	Dual Intel Pro 1000 MT Ethernet
2	PCIEx8	Free Slot
1	PCIEx8	Free Slot

1.7 Honeywell server options

Device options

In addition to the standard configuration for the server, your platform can be configured with additional options based on the model number you order. The following table lists optional items for T150 Honeywell server.

Model No	Description
NE-NICS01	Intel Pro/1000 MT Dual port Server Adapter
NE-NICS02	Intel Pro/1000 PT Dual port PT Adapter
MZ-PCEB32	Intel Pro/1000 GT Desktop Adapter
TC-PCIC02	Universal ControlNet
MZ-PCEM09	2GB Memory Expansion (2x1GB DDR2 800 MHz ECC SDRAM)
NE-NICS03	Dual port NIC, PCIe,GB , ET Chipset

Note: You can use only one interface card from NE-NICS02 and NE-NICS03 at a time.

Memory configurations

The standard installed memory for T105 Honeywell Server is 2GB (2 x 1GB DDR2 800 MHz single ranked unbuffered ECC SDRAM). The system memory can be increased to a maximum of 4 GB. To increase to 4 GB you must install one MZ-PCEM09 (4 x 1GB). The memory devices must be from the same memory supplier.

Table 1-4 shows the placement of memory devices for the memory capacity options. The table is so organized that the DIMM sockets are in the same order as they are located on the motherboard.

Slot no **2 GB** 4 GB Memory Memory (standard) (optional) 1 1GB 1GB 2 1GB 1GB 3 1GB 4 1GB Total **2 GB 4 GB**

Table 1-4 Standard and optional memory configuration

1.8 Other options

Honeywell offers a cabinet mounted 8-port KVM switch/control console (model number TP-KVMCB1 for switch with PS/2 interface and model number TP-KVMCB2 for switch with USB interface) to provide a human interface (booting and maintenance activities) to cabinet mounted servers. Either option comes pre-installed from the Honeywell factory.

1.9 Specifications

Operating environment specifications for tower unit

Table 1-5 Operating environment specifications

Description	Tower (Cannot be racked)
Temperature	+10° to +35° C ((50° to 95° F)
Storage	-40° to +65°C (-40° to 149° F)
Relative Humidity	20% to 80% (non-condensing)
Relative Humidity Storage	5% to 95% (non-condensing)
Max Vibration	0.25 G's 0-Peak, 3-200 HZ for 15 minutes
Max Shock	One shock pulse in the positive z axis (one pulse on each side of the system) of 41 G for up to 2 ms
Altitude	-50 to 10,000 ft (16 to 3048 m)

Electronic assembly specifications

The following tables list electronic assembly specifications.

Table 1-6 Operating power requirements

Description	Requirement
DC POWER	N/A
AC Voltage	100-120V/200-240V 60/50Hz
AC Current	9.0A / 4.5A
AC Power	305 Watts

Table 1-7 Electronic assembly weight and dimensions

Description	Requirement
Height	413 mm
Width	187 mm
Depth	458 mm
Weight	13 Kg

Removable media specifications

The T105 Honeywell server platform can be configured with one removable media drive. This drive is SATA DVD-RW drive. The SATA DVD-RW drive is connected to SATA on Motherboard.

Table 1-8 Operating power requirements

Description	Requirements
DC 5 volt Power	13.0 Watts
DC 5 volt Power	N/A
DC Power(Other)	N/A
AC voltage N/A	
AC RMS Current N/A	
AC Power	N/A

Mouse

The USB mouse is the standard cursor control device and is included with the T105 Honeywell server platforms.

Keyboard

A USB PC keyboard with touchpad is included with the T105 Server.

Monitor

The T105 Honeywell Server supports industrial standard video formats (typically 1280X1024 at a refresh rate of 75 Hz or 1024x768 at a refresh rate of 75Hz). A multisync monitor or FPD is required for the T105 Honeywell Server operating system. The T105 Honeywell Server system can be only configured as a single screen option. In this configuration, the monitor is connected to the onboard-integrated video controller with a VGA compatible video controller output connector.



ATTENTION

Touch screen option is not available in the T105 Honeywell server platforms.

Single screen video output configuration

The T105 Honeywell server platform uses an integrated video controller with 32MB SDRAM.

Video cable

The video cable must support VESA DDC. If either a monitor or video cable that does not support DDC is connected, the display generator defaults to a resolution that precludes communication with the system software and stops startup. A quick check to determine if a cable is DDC compatible is to check if the pins 5, 9, and 12 of the HD 15 connector are wired. The supplied cable, part number 51196742-200 is DDC compatible.

System specifications

Table 1-9 System specifications

Microprocessor			
Microprocessor	Single Quad Core AMD® Opteron™ 1381 2.5 GHz		
L2 Cache	24x 512K		
L3 Cache	6M		
Chipset	Nvidia CK8-04 Pro		
External Peripherals			
Keyboard	105-key Windows 2000 compliant USB (equivalent or better)		
Mouse	Dell USB 2-Button Entry Mouse with Scroll (equivalent or		

	better)	
Expansion Slots		
Bus Type	o 2.5-Gb/sec PCIe x1, 3.3-V, 12-V (slot 4)	
	o 2.5-Gb/sec PCIe x8, 3.3-V, 12-V (slot 1)	
	o 2.5-Gb/sec PCIe x8, 3.3-V, 12-V (slot 2)	
	o 33MHz PCI 32-bit 3.3-V, half-length (slot 3)	
Drive Bays		
Internal	Two 3.5 cabled SATA or SAS	
External	One 3.5" floppy drive and Two 5.25" for DVD-ROM, CDRW/DVD combo	
Memory		
DIMM slots	Four	
DIMM capacities	1GB , 800MHz DDR2 ECC	
Standard SDRAM	2GB (2x 1GB) DDR2,800 MHz of ECC	
SDRAM Expandability	4GB (4x 1GB) DDR2,800 MHz of ECC	
Drives		
Hard Drive	One-160 GB SATA 3.5", 7200 RPM drive minimum	
DVD	16X DVD +/- RW Drive	
Video		
Video Type	Integrated	
Video Memory	32 MB	
Display	1600 X 1200 with 32 bit Color	
Network interface		
Network	Broadcom® NetXtreme Gigabit Ethernet	

Power supply unit			
Wattage	305Watts non-redundant manual switching		
Voltage	100-120V/200-240V, 9/4.5A, 50/60Hz		
Dissipation	1040 BTU/hr		
Backup battery	3-V CR2032 lithium ion coin cell		
Physical			
Form Factor/Configuration	Tower		
Width	16.25"		
Height	7.36"		
Depth	18"		
Weight	28.6 lbs		
Ports			
Serial	One 9-pin connectors, DTE, 16550-compatible		
LAN	One RJ45 NIC connector		
USB	7 USB 2.0 ports (2 on front, 5 on back)		



TIP

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

1.10 Industrial regulatory compliance

The compliance specifications in this section apply to cabinet installations.



WARNING

Honeywell does not claim Safety Compliance or Electromagnetic Compatibility (EMC) Compliance for system equipment configurations that are not described in this guide as standard system configurations. Any equipment configuration other than that described in this publication decertifies the Safety and EMC compliance of this product.

Electromagnetic Compatibility (EMC)

Table 1-10 EMC specifications

European Community:		
Emissions:	IEC 61326, 1997 (Industrial Locations, CISPR 11, Class A)	
Immunity:	IEC 61326, 1997 (Industrial Locations)	



ATTENTION

The following formula is a proximity guideline, for use of Portable Transceivers (walkie-talkies) in the frequency range of 80MHz to 1GHz.

D > 0.30• $\sqrt{\{P\}}$ (D must be greater than 0.30 multiplied by the square root of P)

D = Distance from equipment, in meters.

P = Power Output of the Portable Transceivers (walkie-talkies), in Watts.

Examples:

P = 10 Watts, D > 0.949 meters

P = 5 Watts, D > 0.671 meters

P = 1 Watt, D > 0.300 meters



ATTENTION

Electrical cables, which are routed external to the equipment, must be fully shielded cables (360 degree metallic shielding), to comply with the above EMC standards.

Safety compliance

Table 1-11 Safety compliance

Product Safety Compliance

CSA C22.2 No. 1010.1-92 (R1999) & 1010.1B-97 (R2001) Am. 2

IEC 61010-1, 2001, 2nd edition



ATTENTION

Within the above referenced standards is a "Normative Reference" section citing additional standards, which may apply as, suited and required for product compliance.

1.11 Light industrial regulatory compliance

The compliance specifications in this section apply to installations other than cabinets.



WARNING

Honeywell does not claim Safety Compliance or Electromagnetic Compatibility (EMC) Compliance for system equipment configurations that are not described in this guide as standard system configurations. Any equipment configuration other than that described in this publication decertifies the Safety and EMC compliance of this product.

Electromagnetic Compatibility (EMC)

Table 1-12 Electromagnetic compatibility specifications

European Community		
Emissions:	IEC 61326, 1997 (Basic Requirements, CISPR11, Class A)	
Immunity: IEC 61326, 1997 (Basic Requirements)		



ATTENTION

The following formula is a proximity guideline, for use of Portable Transceivers (walkie-talkies) in the frequency range of 80MHz to 1GHz.

D > \sqrt{P} (D must be greater than the square root of P) D = Distance from equipment, in meters.

European Community

P = Power Output of the Portable Transceivers (walkie-talkies), in Watts.

Examples:

P = 10 Watts, D > 3.162 meters P = 5 Watts, D > 2.236 meters P = 1 Watt, D > 1.000 meters



ATTENTION

Electrical cables, which are routed external to the equipment, must be fully shielded cables (360 degree metallic shielding), to comply with the above EMC standards.

Safety compliance

Table 1-13 Safety compliance

Product Safety Compliance

CSA C22.2 No. 1010.1-92 (R1999) & 1010.1B-97 (R2001) Am. 2

IEC 61010-1, 2001, 2nd edition



ATTENTION

Within the above referenced standards is a "Normative Reference" section citing additional standards, which may apply as, suited and required for product compliance.

2. Installation

2.1 Introduction

Overview

This section describes the procedures for installing and cabling the T105 Honeywell server.

Installation tasks

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

Table 2-1 Platform installation tasks

✓	Task	
	Understanding Power and grounding requirements Also refer to the Section 4, "System Grounding" in the TPN System Installation (SW20-600) guide.	
	Installing the server and connecting the cables	
	Turning on the server	

Before you begin

Ensure that you perform the following tasks.

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

2.2 Power and grounding requirements

Grounding for server based nodes

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

AC Power warning





WARNING

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



ATTENTION

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

Selecting the correct power setting

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

2.3 Honeywell Server back panel connections

The following figure shows the back panel of the server and identifies the connectors for all devices.

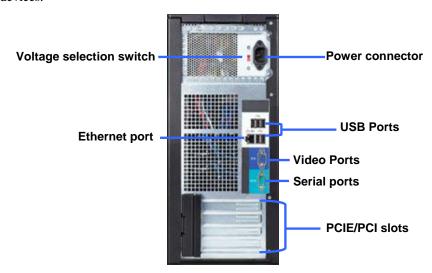


Figure 2-1 T105 Honeywell server back panel

2.4 Installing the server and connecting the cables

Perform the following steps to install the server as tower unit and connect the cables to the back panel of the server. Refer to Figure 2-1.

Step	Action	
1	Clear the place where your want to install the server.	
2	Place the server 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.	
B	ATTENTION The integrated parallel port is automatically disabled if the server detects an installed card containing a parallel port configured to the same address.	

Step	Action		
4	Connect a serial device, such as a handheld device, to the serial port. If necessary, the address for this port can be modified.		
5	。 If you have a standard USB keyboard, plug it into a USB port.		
	$_{\circ}$ If you have a PS/2 keyboard, plug it into the PS/2 purple keyboard port.		
6	If you have a standard USB mouse, plug it into a USB port.		
	$_{\circ}$ If you have a PS/2 mouse, plug it into the PS/2 green mouse port.		
7	Use the back USB ports for devices that typically remain connected, such as a printer, mouse, and keyboard connections.		
8	 Use the green lineout port to attach headphones and most speakers with integrated amplifiers. 		
	$_{\circ}$ On servers with a sound card, use the connector on the card.		
9	 Use the blue line-in port to attach a record/playback device such as a cassette player, CD player, or VCR. 		
	$_{\circ}$ $$ $$ On servers with a sound card, use the connector on the card.		
10	To attach your server 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 server. A click indicates that the network cable has been securely attached.		
R	ATTENTION		
	Do not plug a telephone cable into the network port.		
	On servers with an additional network connector card, use the connectors on the card and on the back of the server when setting up multiple network connections (such as a separate intra 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.		
11	Connect the AC power cord.		

Connect remaining cables and power

Perform the following steps to connect the remaining cables to the back panel of the server. Refer to Figure 2-1.

Step	Action		
1	 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, connect the FTE cables according to the instructions in the FTE (FE05) Installation and Service Guide. 		
2	Connect any USB devices or Hubs to the USB ports, including the USB IKI if you are using one.		

2. Installation2.4. Installing the server and connecting the cables			

3. Operation

3.1 Overview

Front view of server

The following figure shows the front view of the server.

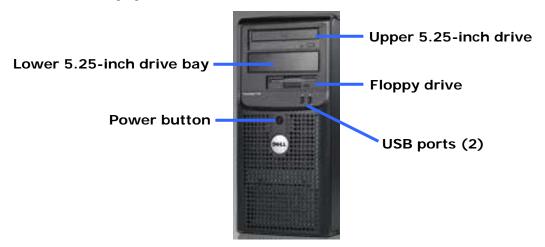


Figure 3-1 Front view of T105 Honeywell server

Additional references

The following table lists the Dell publications that contain operation and servicing information.

Table 3-1 Dell Publications for operation and servicing

Publication	Contains information on	Available
Information Update	Last minute updates about technical changes to your computer or advanced technical-reference material for experienced users or technicians.	The computer package.

Publication	Contains information on	Available
Dell™ PowerEdge™ T105 Product Information Guide	Warranty and safety.	The computer package.
		For more information, refer to www.dell.com
Dell™ PowerEdge™ T105 Systems Hardware Owner's Manual	Removing and replacing the parts.	Product Documentation CD
	Technical specifications.	
	Configuring the system.	For more information, refer to www.dell.com
	Troubleshooting	
Rack Installation Instructions — Sliding Rails	Installing the system in a server rack or cabinet.	The computer package.
		For more information, refer to www.dell.com
Windows Installation Instructions and	Initialization the Windows operating system.	The computer package.
Important Information		For more information, refer to www.dell.com

Turning on the server

Perform the following steps to turn on the server.

Step	Action	
1	Press the power button on the front panel of the T105 Honeywell server.	
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™ PowerEdge™ T105 Systems Hardware Owner's manual.

Set monitor resolution

When the server is initialized, the monitor configuration is established based on the following user input:

o FPD type monitors: 60 Hz

After initialization, if you are installing a monitor different from what was originally defined, you need to adjust the monitor settings for optimal performance.



TIP

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

Step	Action
1	Choose Start > Settings > Control Panel. The Control Panel window appears.
2	Double-click Display , and then select the Settings tab.
3	Under Screen resolution , drag the slider to the appropriate resolution.
4	Click Apply , and then click OK .

3.2 Network connections

Ethernet network

T105 Honeywell server must be connected to an Ethernet network. One Ethernet 10/100/1000 embedded Base T connections are standard on the server platform. Most TPS/Experion FTE systems use the on-board NICs.

- For FTE only configurations, you must use the Dual NIC card (NE-NICS01) to run FTE and disable onboard NIC.
- For configurations involving ControlNet and FTE, you must use NIC card NE-NICS02 for FTE and TPPCIC02 for ControlNet Interface.

Model no	Description
NE-NICS01	Intel PRO/1000 MT Dual Port Server Adapter
NE-NICS02	NIC Card PCle Dual Port STP Pro/1000 PT
TC-PCIC02	Universal ControlNet
MZ-PCEB32	Intel PRO/1000 GT Desktop Adapter

ControlNet network

A ControlNet Network is a single coax trunk cable broken up into segments interconnected by links. Node connections to the network is through a Tap and drop cable. Repeaters are used for linking the segments together and for changes in media from coax to fiber optic. All points on the network must have either an interface card or a Terminator. Terminators are comprised of Termination resistors used for marking the beginning and end of a trunk segment and TDLs (Tap Dummy Load) which terminate a drop cable when no node is present. The model number for the ControlNet Interface is TC-PCIC02.

Model No	Description
TC-PCIC02	Universal ControlNet (3.3 – 5 Volt)

4. Servicing

Servicing T105 Honeywell server 4.1

Before you begin

Ensure that you read the following instructions before servicing the server platform.



ESD HAZARD

Shut down the server.



SHOCK HAZARD

- To avoid electrical shock, ensure that you unplug the computer from the electrical outlet.
- Disconnect the power cords and cables from the back panel.



CAUTION

Before you begin any of the procedures in this section, follow the safety instructions in the Dell System Information Guide.



ATTENTION

- Remove the server from the cabinet or 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

Removing the side cover

Perform the following steps to remove the side cover.

Step	Action
1	Turn off the system and attached peripherals, and disconnect the system from the electrical outlet.
2	Lay the system on its side.
3	Open the system by sliding the cover release tab toward the rear of the system.
3	Lift the cover away from the system.

4.2 Servicing the hard disk drives and power supply

Overview

The T105 Honeywell server platform has two primary hard disk drive bays. It uses single 160GB SATA hard drive. There is no option to add additional hard drives.

Hard disk drive specifications

Table 1-1 Power requirements

Description	Requirement
DC 5 volt Power (typ)	10.75 Watts(Read/Write) 8.90 Watts (Idle) 2.00 Watts(Sleep/Standby)
DC 12 volt Power (typ)	10.75 Watts(Read/Write) 8.90 Watts (Idle) 2.00 Watts(Sleep/Standby)
Other DC POWER	N/A
AC Power	N/A

Table 1-2 Weight and dimensions

Description	Requirement
Height	26.1 mm
Width	101.6 mm
Depth	147 mm
Weight	0.6 kg

Refer to the Dell documentation for detailed instructions on swapping the power supply and hard disk drive.

References

The following table lists the specific Dell publications and relevant sections for troubleshooting and servicing the hard disk drives and power supplies.

Table 4-3 Dell publications for hard disk drives and power supplies

Publication	Contains information on
Dell™ PowerEdge™ T105	System overview
Systems Hardware Owner's Manual	Basic troubleshooting
	Indicators, codes, and messages
	Removing and installing parts
	Jumpers and connectors
	Using the system setup program
	Finding software solutions
	Running the system diagnostics
	Troubleshooting your system
	Installing system options
	Installing drives
	Getting help
	Jumpers, switches, and connectors
	I/O ports and connectors
	Abbreviations and acronyms

4.3 Servicing Honeywell options



CAUTION

Do not damage the EMI gasket fingers when removing/installing boards.



ESD HAZARD

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

Slot requirements for TPN node setup

The following table identifies the specific slots for the Honeywell options for a TPN node configuration.

Table 4-4 Slot requirements for TPN node configuration

Slot No	Slot Type	Description
4	PCIE x 1	Free Slot
3	PCI	Free Slot
2	PCIE x 8	Free Slot
1	PCIE x 8	Free Slot

Slot requirements for general Ethernet and FTE node setup

The following table identifies the specific slots for each of the Honeywell options for general Ethernet and FTE node configurations.

Table 4-5 Slot requirements for general Ethernet and FTE node configurations

Configuration	FTE Only	No FTE, but 1 Ethernet port	No FTE, but 2 Ethernet ports	No FTE, 3 Ethernet ports
PCI-X Intel Pro 100/1000 Dual NIC	Install	None	None	Install

Configuration	FTE Only	No FTE, but 1 Ethernet port	No FTE, but 2 Ethernet ports	No FTE, 3 Ethernet ports
Broadcom Single Onboard NIC	Disable (via BIOS settings)	Enable Single NIC (via BIOS settings)	Enable Single NIC (via BIOS settings)	Enable Single NIC (via BIOS settings)
PCI-X Single NIC Board	None	None	Install	None

4.4 Replacing the cards in expansion slots

Overview

This section describes the procedures for adding or replacing optional components in the server.

Before you begin



CAUTION

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



ESD HAZARD

Expansion cards are electro statically sensitive device. Use a grounding strap and grounded work surfaces and equipment when handling these components. Store and transport parts only in electro statically safe containers.

Perform the following steps to replace the card in the expansion slot.

Step	Action
1	Turn off the system and attached peripherals, and disconnect the system from the electrical outlet.
2	Remove the side cover.

Step	Action
3	On the inside of the chassis, press the release tab of the card retention door, and then pull down on the retention door's latch on the outside of the chassis to open the door.
5	Remove the filler bracket from the empty card-slot opening.
6	While wearing a grounded ESD wrist strap, grasp the card by its top corners, ease it out of its connector, and insert the new card in depending on the following configuration in the respective PCI (E) slots.
	o ControlNet configuration
	FTE configuration
	Ethernet configuration
7	Replace the cardholder and card retention arm making sure the tab locks into place.
8	Replace the side cover.
9	Connect cables to the back panel of the card.

4.5 Adding additional memory

The standard memory capacity is 2 GB. The system memory can be increased to 4 GB, MZ PCEM12. Memory devices must be from the same memory supplier. Refer to the Table 1-4 for the memory upgrade options as located on the motherboard.

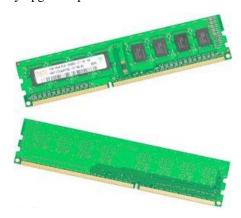


Figure 4-1 Memory cards



ATTENTION

When adding additional memory, you might get a warning message stating that memory is not optimal, due to the interleaf memory socket design. You can ignore this message.

Perform the following steps to upgrade the memory. Refer to also $Dell^{TM}$ $PowerEdge^{TM}$ T105 Systems Hardware Owner's Manual.



ESD HAZARD

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



CAUTION

The DIMMs are hot to the touch for some time after the system has been powered down. Allow time for the DIMMs to cool before handling them. Handle the DIMMs by the edges and avoid touching DIMM components.

Step	Action				
1	Turn off the system and attached peripherals, and disconnect the system from the electrical outlet.				
2	Remove the side cover.				
3	Press out the securing clip at each end of the memory module connector.				
4	Align the notch on the bottom of the memory module with the crossbar in the memory module connector.				
5	Applying even pressure to both ends of the module, insert the module into the connector and carefully press the module into place.				
6	Pull up on the securing clips to lock the module into place. If you insert the module correctly, the securing clips snap into the cutouts at each end of the module.				
7	When the memory module is properly seated in the connector, the securing clips on the memory module socket should align with the securing clips on the other connectors with memory modules installed.				
8	Close the system.				

9	Reconnect the system to the electrical outlet, and turn on the system and attached peripherals.
10	Press the Power On/Off button on the server, to turn on the power.

4.6 Verifying the BIOS settings

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

Enter the BIOS

Perform the following steps to access BIOS and view the settings.



ATTENTION

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

Step	Action			
1	Turn on the server.			
2	Press F2 to enter the BIOS Setup.			
3	Check if you are using the latest version of BIOS.			

BIOS settings for FTE

All Honeywell systems must have the Honeywell recommended BIOS version. Honeywell configures specific BIOS settings in the factory for each of the server platform configurations. The Table 4-5 list the specific BIOS settings for FTE and non-FTE configurations using a Broadcom dual NIC card for connectivity.

Exit the BIOS

Perform the following steps to exit from the BIOS settings.

Step	Action			
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 server.			

4.7 Spare parts

The following table lists the optimal Replaceable Units (ORUs) for the server.

Table 4-6 Spare parts for T105 Honeywell server

Item	Description	Part No.
1 GB Expansion RAM	1GB, 800MHZ, DDR2, ECCSDRAM, as 1 unit of 1GB DIMMs. Must be installed in pairs.	51154188-902

4. Servicing 4.7. Spare parts

5. Notices

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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

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.

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.

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.

5.3 Support and other contacts

For support, contact your local Honeywell Process Solutions Customer Contact Center (CCC).

North America

Country	Phone	Facsimile	Email
Canada and United States	800-822-7673	973-455-5000	askssc@honeywell.c om

Northern Europe

Country	Local Time	Phone	Facsimile	Email
	Business			
	Hours			

Denmark	07:00 – 18:00	80–252165	+45 6980 2349	hpscustomersupport@hon eywell.com
Finland	08:00 – 19:00	0800–9– 15938	+358 (0)9 2319 4396	hpscustomersupport@hon eywell.com
Ireland	06:00 – 17:00	1800939488	+353 (0)1 686 4905	hpscustomersupport@hon eywell.com
Netherlands	07:00 – 18:00	0800 020 3498	+31 (0)20 524 1609	hpscustomersupport@hon eywell.com
Norway	07:00 – 18:00	800–11478	47–852–287–16	hpscustomersupport@hon eywell.com
Sweden	07:00 – 18:00	0200883167	+46 (0)8 509 097 84	hpscustomersupport@hon eywell.com
United Kingdom	06:00 - 17:00	08002797226	+44 (0)20 3031 1064	hpscustomersupport@hon eywell.com

Southern Europe

Country	Local Time	Phone	Facsimile	Email
	Business			
	Hours			
Belgium	07:00 – 18:00	080048580	+32 (0)2 791 96 02	hpscustomersupport@hon eywell.com
France	07:00 – 18:00	0805100041	+33 (0)1 72 74 33 44	hpscustomersupport@hon eywell.com
Luxembourg	07:00 – 18:00	8002–8524	+352 24611292	hpscustomersupport@hon eywell.com
Spain	07:00 – 18:00	800099804	+34 91 791 56 25	hpscustomersupport@hon eywell.com
Portugal	06:00 – 17:00	800–8–55994	+34 91 791 56 25	hpscustomersupport@hon eywell.com

Eastern Europe

Country	Local Time	Phone	Facsimile	Email
	Business			
	Hours			
Bulgaria	08:00 - 19:00	700 20771	+359 (0)2 489 7384	hpscustomersupport@hon eywell.com
Croatia	07:00 – 18:00	0800 80 6392	+420 227 204 957	hpscustomersupport@hon eywell.com
Czech Republic	07:00 – 18:00	800 142 784	+420 227 204 957	hpscustomersupport@hon eywell.com
Hungary	07:00 – 18:00	06 800 20 699	+36 (06) 1 577 7371	hpscustomersupport@hon eywell.com
Poland	07:00 – 18:00	00 800 121 50 46	+48 22 485 35 10	hpscustomersupport@hon eywell.com
Romania	08:00 - 19:00	0 800 800 178	+40 (0)31 710 7590	hpscustomersupport@hon eywell.com
Russia Federation	09:00 - 20:00	8.10.80 02- 412 50 11	+7 495 796 98 94	hpscustomersupport@hon eywell.com
Slovakia	07:00 – 18:00	0800 002 340	+421 (0)2 3301 0376	hpscustomersupport@hon eywell.com

Central Europe

Country	Local Time	Phone	Facsimile	Email
	Business			
	Hours			
Austria	07:00 – 18:00	0800 006438	+43 (0)1 253 6722	hpscustomersupport@hon eywell.com
			4904	
Germany	07:00 – 18:00	0800 7239098	+49 (0)30 6908 8463	hpscustomersupport@hon eywell.com
Greece	08:00 - 19:00	00800 12	+30 21 1 268	hpscustomersupport@hon

		9493	6973	<u>eywell.com</u>
Israel	08:00 – 19:00	1 809 407 309	+972 (0)2 591 6148	hpscustomersupport@hon eywell.com
Italy	07:00 – 18:00	8000 35205	+39 06 96681356	hpscustomersupport@hon eywell.com
Switzerland	07:00 – 18:00	00 080 035	+41 (0)31 560 41 60	hpscustomersupport@hon eywell.com

Middle East and South Africa

Country	Local Time Business Hours	Phone	Email	
Bahrain	08:00 – 19:00	8008 1343	hpscustomersupport@honeywell.com	
Oman	08:00 – 19:00	8007 7595	hpscustomersupport@honeywell.c om	
Qatar	08:00 – 19:00	800 5460	hpscustomersupport@honeywell.com	
Saudi Arabia	08:00 – 19:00	800 844 5309	hpscustomersupport@honeywell.com	
South Africa	07:00 – 18:00	0800 983 634	hpscustomersupport@honeywell.com	
Turkey	08:00 – 19:00	00800 448823587	hpscustomersupport@honeywell.com	
United Arab Emirates	09:00 – 20:00	8000 444 0300	hpscustomersupport@honeywell.com	

Other regions

Region	Phone	Facsimile	Email
Pacific	1300-364-822 (toll free within Australia) +61-8-9362-9559 (outside Australia)	+61-8-9362-9564	GTAC@honeywell.com

India	+91-20-6603-2718 / 19	+91-20-6603-9800	Global-TAC-India@honeywell.com	
	1800-233-5051			
Korea	+82-80-782-2255 (toll free within Korea)	+82-2-792-9015	Global-TAC- Korea@honeywell.com	
People's Republic of China	+86-21-2219-6888		Global-TAC-	
	800-820-0237		China@honeywell.com	
	400-820-0386			
Singapore	+65-6823-2215	+65-6445-3033	GTAC-SEA@honeywell.com	
Japan		+81-3-6730-7228	Global- TACJapanJA25@honeywell.com	

World Wide Web

Honeywell Process Solutions support website:

http://www.honeywellprocess.com/support

Elsewhere

Contact your nearest Honeywell office.

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.

Honeywell