

# Hardware Reference Guide

## HP Compaq t5730/t5735 Thin Clients



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#### **Hardware Reference Guide**

Business PCs

Second Edition (December 2007)

First Edition (December 2007)

Document Part Number: 461460-002

## About This Book

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- ⚠ **WARNING!** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.
  - ⚠ **CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.
  - 📝 **NOTE:** Text set off in this manner provides important supplemental information.
-



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# 1 Product Features

## Standard Features

Thank you for purchasing an HP Compaq thin client. We hope you have years of use from our t5730 or t5735 thin clients. Our goal is to provide you with award-winning clients that are easy to deploy and manage with the power and reliability you expect.

HP has partnered with Altiris to manage HP Compaq thin clients. Altiris Deployment Solution is a leading-edge tool to help with quick deployment and for ongoing management of the thin clients in your organization. Each HP Compaq thin client is recognized by the Altiris Deployment Solution as a supported device. As a result, you need not track license compliancy for each device. For additional information about the Altiris Deployment Solution tool, refer to the *Altiris Deployment Solution* insert that shipped with the thin client and the *Deployment Solution User Guide* that is available at <http://www.altiris.com/documentation>.

The next sections describe the features of the thin client. For a complete list of the hardware and software installed on a specific model, visit <http://h18004.www1.hp.com/products/thinclients/index.html> and search for a specific thin client model.

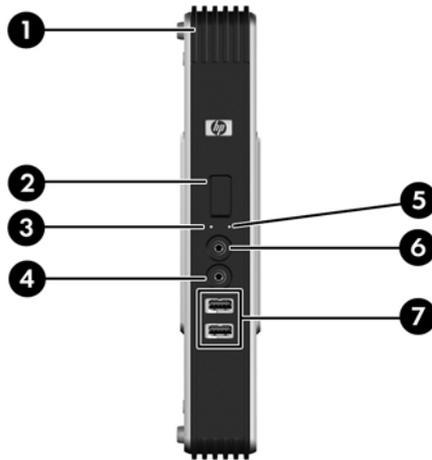
The following features are common to all HP thin clients:

- no moving parts
- no hard drives or diskette drives
- 5-minute setup time
- central deployment and management using Altiris Deployment Solution

Various options are available for your thin client. For more information about available options, visit the HP Web site at <http://h30143.www3.hp.com/configure2.cfm>.

# Front Panel Components

Figure 1-1 Front panel components

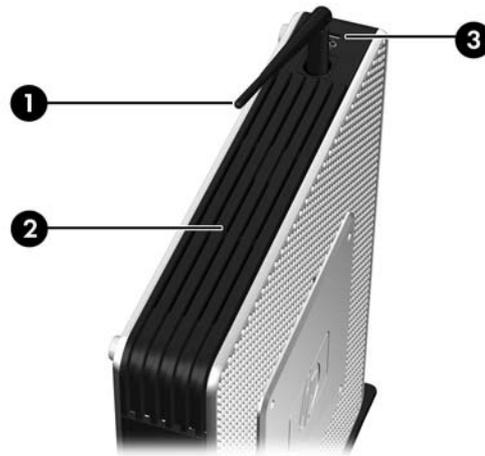


(1)	Secure USB compartment	(5)	Power LED
(2)	Power button	(6)	Line-out (headphone) audio connector
(3)	Flash activity LED	(7)	Universal serial bus (USB) connectors (2)
(4)	Line-in (microphone) connector		

\* For more information, refer to the model-specific QuickSpecs at [http://h18004.www1.hp.com/products/quickspecs/QuickSpecs\\_Archives/QuickSpecs\\_Archives.html](http://h18004.www1.hp.com/products/quickspecs/QuickSpecs_Archives/QuickSpecs_Archives.html).

# Top Components

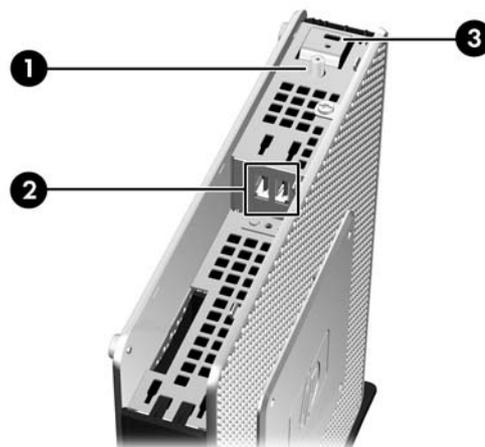
Figure 1-2 Top components, external view



- |     |                        |
|-----|------------------------|
| (1) | Wireless antenna*      |
| (2) | Secure USB compartment |
| (3) | Cable lock slot        |

\*Available on some models. Refer to the model-specific QuickSpecs at [www.hp.com](http://www.hp.com) for details.

Figure 1-3 Top components, internal view



- |     |                                  |
|-----|----------------------------------|
| (1) | Wireless antenna connector*      |
| (2) | Secure USB compartment ports (2) |
| (3) | Cable lock slot                  |

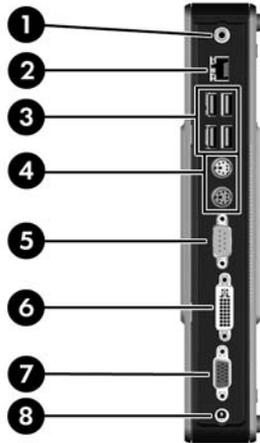
\*Available on some models. Refer to the model-specific QuickSpecs at [www.hp.com](http://www.hp.com) for details.

The wireless antenna allows you to send and receive wireless signals to communicate with wireless local area networks (WLAN).

The secure USB compartment allows you to use two USB devices in a secured location.

## Rear Panel Components

Figure 1-4 Rear panel components



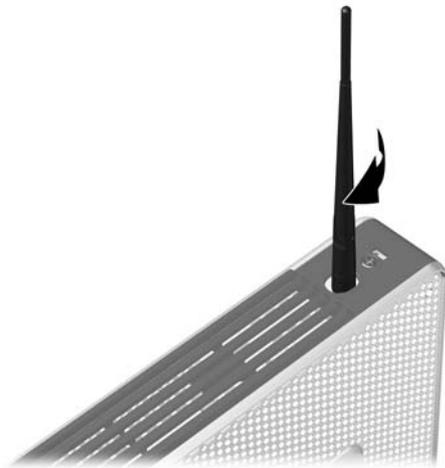
(1)	Line-out audio connector	(5)	Serial connector
(2)	Ethernet RJ-45 connector	(6)	DVI-D connector
(3)	Universal serial bus (USB) connectors (4)	(7)	VGA connector
(4)	PS/2 connectors (2)	(8)	Power connector

For more information, see the model-specific QuickSpecs at [http://h18004.www1.hp.com/products/quickspecs/QuickSpecs\\_Archives/QuickSpecs\\_Archives.html](http://h18004.www1.hp.com/products/quickspecs/QuickSpecs_Archives/QuickSpecs_Archives.html).

## Installing the Antenna (Wireless Models)

- ▲ Screw the antenna in place on top of the thin client.

Figure 1-5 Installing the antenna



△ **CAUTION:** To prevent damage to the antenna mounting, do not overtighten the antenna.

## Installing the Rubber Feet

To install the rubber feet:

1. Locate the holes in the corners of the left side of the thin client.
2. Remove the feet from their backing.
3. Align the feet with their holes and press them in securely.

Figure 1-6 Installing the rubber feet

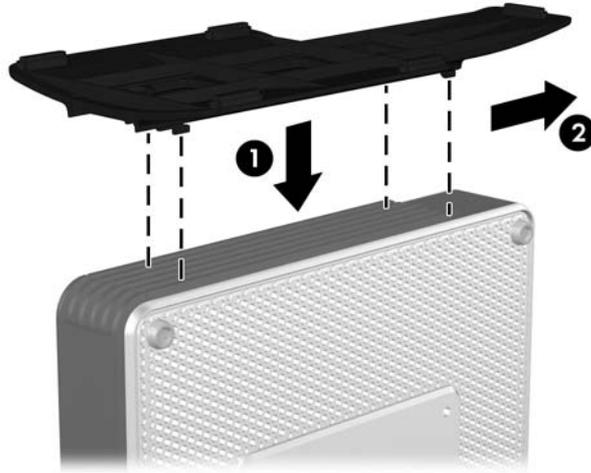


## Installing the Stand

To install the stand:

1. Turn unit upside down.
2. Locate the slots on the bottom of the unit into which the tabs on the stand fit.
3. Insert the tabs into the slots (1), and then slide the stand about 1.26 cm (1/2 inch) toward the back of the unit until it locks into place (2).

**Figure 1-7** Installing the stand

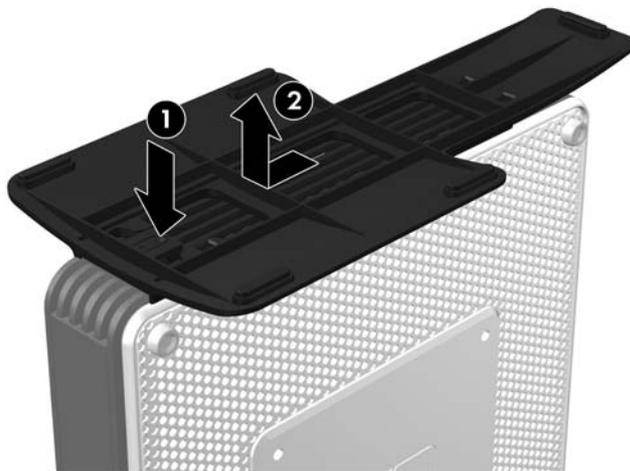


## Removing the Stand

To remove the stand:

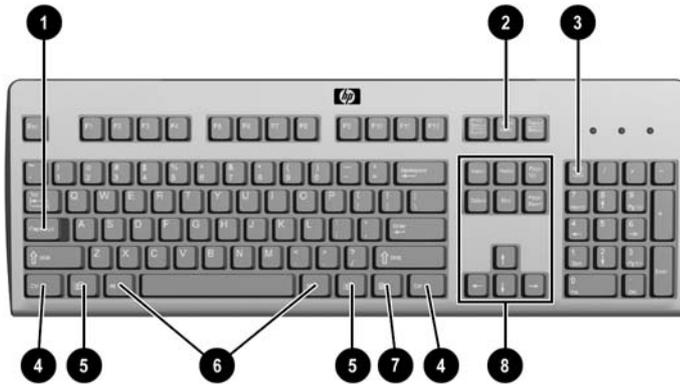
1. Turn unit upside down.
2. Press the tab (1), and then slide the stand about 1.26 cm (1/2 inch) toward the front of the unit and lift the stand off the unit (2).

**Figure 1-8** Removing the stand



# Using the Keyboard

Figure 1-9 Keyboard features



(1)	<a href="#">Caps Lock</a> key	Activates/deactivates the Caps Lock feature.
(2)	<a href="#">Scroll Lock</a> key	Activates/deactivates the Scroll Lock feature.
(3)	<a href="#">Num Lock</a> key	Activates/deactivates the Num Lock feature.
(4)	<a href="#">Ctrl</a> key	Use in combination with another key; its function depends on the application software you are using.
(5)	Windows Logo Key <sup>1</sup>	Opens the <b>Start</b> menu in Microsoft Windows. Use in combination with other keys to perform other functions. For more information, see <a href="#">Windows Logo Key on page 8</a> .
(6)	<a href="#">Alt</a> key	Use in combination with another key; its function depends on the application software you are using.
(7)	Application key <sup>1</sup>	Similar to the right mouse button, opens pop-up menus in a Microsoft Office application. May perform other functions in other software applications.
(8)	Editing keys	Includes the following: <a href="#">Insert</a> , <a href="#">Home</a> , <a href="#">Page Up</a> , <a href="#">Delete</a> , <a href="#">End</a> , and <a href="#">Page Down</a> .  Hold <a href="#">Ctrl</a> and <a href="#">Alt</a> while pressing <a href="#">Delete</a> to restart the thin client.

<sup>1</sup>Available in select geographic regions.

## Windows Logo Key

Use the Windows Logo Key in combination with other keys to perform certain functions available in Windows operating systems.

Windows Logo Key + <b>Tab</b>	Switch between open items.
Windows Logo Key + <b>e</b>	Open My Computer.
Windows Logo Key + <b>f</b>	Search for a file or folder.
Windows Logo Key + <b>Ctrl + f</b>	Search for computers.
Windows Logo Key + <b>m</b>	Minimize all windows.
Windows Logo Key + <b>Shift + m</b>	Undo minimize all.
Windows Logo Key + <b>Break</b>	Display the System Properties dialog box.
Windows Logo Key + <b>r</b>	Open the Run dialog box.

## Additional Function Keys

The following key combinations also work on HP Compaq t5730/t5735 thin clients:

<b>Alt + Esc</b>	Cycles through minimized applications.
<b>Alt + Tab</b>	Cycles through open applications.
<b>Alt + Shift + Tab</b>	Switches to the previous session.

## Special Mouse Functions

Most software applications support the use of a mouse. The functions assigned to each mouse button depend on the software applications you are using.

## Serial Number Location

Every thin client includes a unique serial number located as shown in the following illustration. Have this number available when contacting HP customer service for assistance.

**Figure 1-10** Serial number location



---

## 2 Hardware Changes

### General Hardware Installation Sequence

To ensure the proper installation thin client hardware components:

1. Back up any data, if necessary.
  2. If the thin client is powered on:
    - a. Turn the unit and any other attached devices off.
    - b. Disconnect the power cord from the wall outlet.
    - c. Disconnect any external devices or cables, such as an antenna or cable lock.
- 
- △ **WARNING!** To reduce the risk of personal injury from electrical shock and/or hot surfaces, be sure to disconnect the power cord from the wall outlet and allow the internal system components to cool before touching.
- WARNING!** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications or telephone connectors into the network interface controller (NIC) receptacles.
- △ **CAUTION:** Static electricity can damage the electronic components of the thin client or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. See [Electrostatic Discharge on page 31](#) for more information.
- 
3. Remove the secure USB compartment cover. See [Removing and Replacing the Secure USB Compartment Cover on page 12](#) for more information.
  4. Remove the side access panel and metal side cover. See [Removing and Replacing the Side Access Panel and Metal Side Cover on page 14](#) for more information.
  5. Remove any hardware that you will replace.
  6. Install or replace equipment. For removal and replacement procedures, see the following sections:
    - [Installing the USB Device on page 17](#)
    - [Installing the PCI Expansion Module and PCI Card on page 18](#)
    - [Removing and Replacing the Battery on page 17](#)
- 
-  **NOTE:** Option kits include more detailed installation instructions.
- 
7. Replace the side access panel and metal side cover. See [Removing and Replacing the Side Access Panel and Metal Side Cover on page 14](#).

8. Replace the secure USB compartment cover. See [Removing and Replacing the Secure USB Compartment Cover on page 12](#).
9. Reconnect any external devices and power cords.
10. Turn on the monitor, the thin client, and any devices you want to test.
11. Load any necessary drivers.  
 **NOTE:** You can download select hardware drivers from HP at <http://www.hp.com/country/us/eng/support.html>.
12. Reconfigure the thin client, if necessary.

# Removing and Replacing the Secure USB Compartment Cover

The secure USB compartment allows you to install two USB devices in a secure location inside the thin client. Along with providing a hidden location, the secure USB compartment can be locked by the optional security cable lock.

△ **CAUTION:** The ambient temperature inside of the secure USB compartment can reach up to 55° C (131° F) in worst case conditions. Make sure the specifications for any device you install in the compartment indicate the device can tolerate a 55° C (131° F) ambient environment.

📖 **NOTE:** In addition to following these instructions, follow the detailed instructions that accompany the accessory you are installing.

Before beginning the installation process, review [General Hardware Installation Sequence on page 10](#) for procedures you should follow before and after installing or replacing hardware.

## Removing the Secure USB Compartment Cover

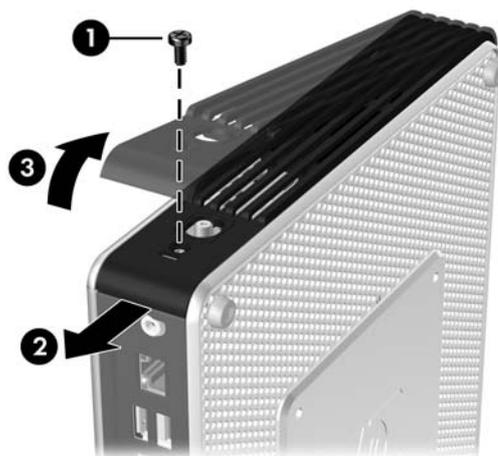
Use the following procedure to remove the secure USB compartment cover.

△ **WARNING!** Before removing the secure USB compartment cover, ensure that the thin client is turned off and the power cord is disconnected from the electrical outlet.

To remove the secure USB compartment cover:

1. Remove the antenna, if one is installed.
2. On rear of the thin client, remove the screw that secures the compartment cover to the unit (1).
3. On the front of the unit, push the compartment cover about 1.27 cm (1/2 inch) toward the back of the unit (2).
4. Remove the cover from the unit by first lifting the rear (screw side) of the cover, and then lifting the cover off the unit (3).

**Figure 2-1** Removing the secure USB compartment cover

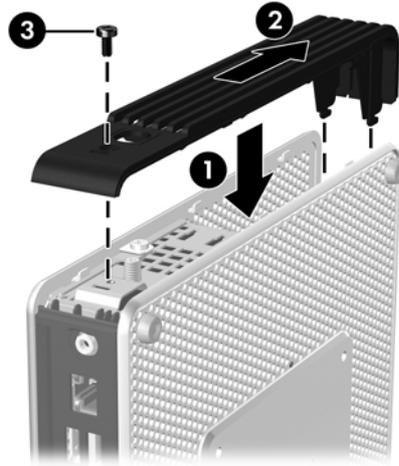


## Replacing the Secure USB Compartment Cover

To replace the secure compartment cover:

1. Place the cover on top of the unit so it is offset about 1.27 cm (1/2 inch) toward the rear of the unit, allowing the tabs on the cover to align and insert into the slots on the chassis (1).
2. Slide the cover toward the front of the unit until it locks in place and the cover is flush with the front panel of the chassis (2).
3. Replace the screw (3).

**Figure 2-2** Replacing the secure compartment cover



4. Replace the antenna, if you are using one.

# Removing and Replacing the Side Access Panel and Metal Side Cover

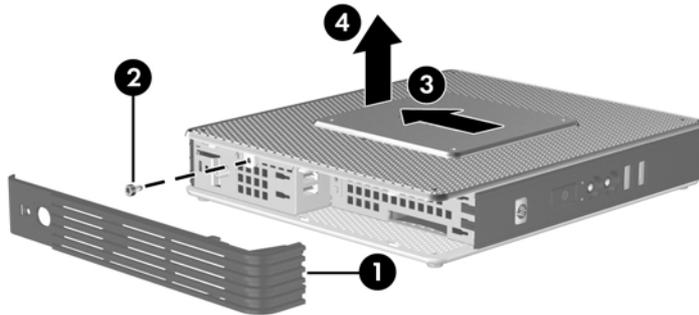
## Removing the Side Access Panel and Metal Side Cover

**⚠ WARNING!** Before removing the side access panel, ensure that the thin client is turned off and the power cord is disconnected from the electrical outlet.

To remove the access panel:

1. Remove the secure compartment cover (1). For more information, see [Removing the Secure USB Compartment Cover on page 12](#).
2. Remove the access panel screw in the secure USB compartment that secures the access panel to the chassis (2).
3. Slide the access panel about 6.35 mm (1/4 inch) toward the rear of the unit (3), and then lift the access panel up and off the unit (4).

**Figure 2-3** Removing the side access panel



To remove the metal side cover:

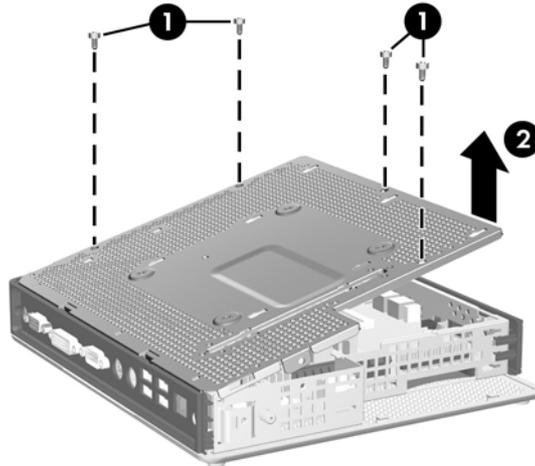
**✍ NOTE:** Do not remove the metal side cover when installing a PCI Expansion Module.

You must remove the metal side cover to access internal components such as the battery or the memory.

1. Remove the four screws that secure the metal side cover to the chassis (1).

2. Lift the metal side cover, front side first, off the unit (2).

**Figure 2-4** Removing the metal side cover

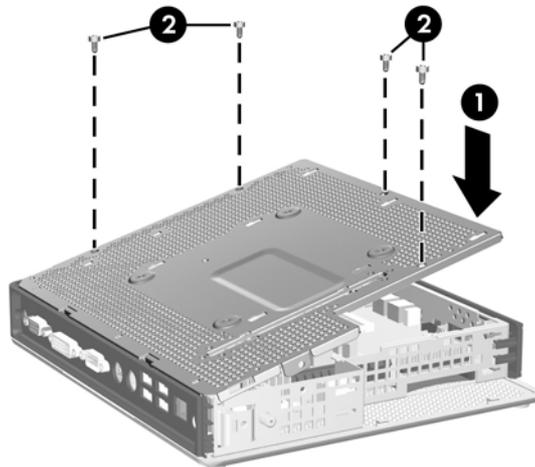


## Replacing the Metal Side Cover and Side Access Panel

To replace the metal side cover:

1. Place the metal side cover on the chassis, front side first, making sure to align the screw holes in the cover with the holes in the chassis (1).
2. Insert and tighten the four screws (2).

**Figure 2-5** Replacing the metal side cover

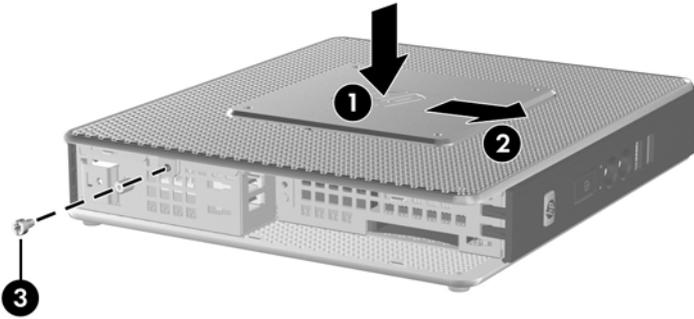


To replace the access panel:

1. Place the access panel on the side of the unit, offset about 6.35 mm (1/4 inch) toward the rear of the unit (1).
2. Slide the panel toward the front of the unit until it locks into place (2).

3. Replace the screw that secures the access panel to the chassis (3).

**Figure 2-6** Replacing the side access panel



## Installing Thin Client Options

Various options can be installed on the thin client:

- [Installing the USB Device on page 17](#)
- [Installing the PCI Expansion Module and PCI Card on page 18](#)
- [Removing and Replacing the Battery on page 17](#)

## Installing the USB Device

Before beginning the replacement process, review [General Hardware Installation Sequence on page 10](#) for procedures you should follow before and after installing or replacing hardware.

- ▲ Insert the USB device into the USB port in the secure USB compartment. See the following illustration for the location of the ports in the secure USB compartment.

**Figure 2-7** USB ports in the secure USB compartment



## Removing and Replacing the Battery

Before beginning the replacement process, review [General Hardware Installation Sequence on page 10](#) for procedures you should follow before and after installing or replacing hardware.

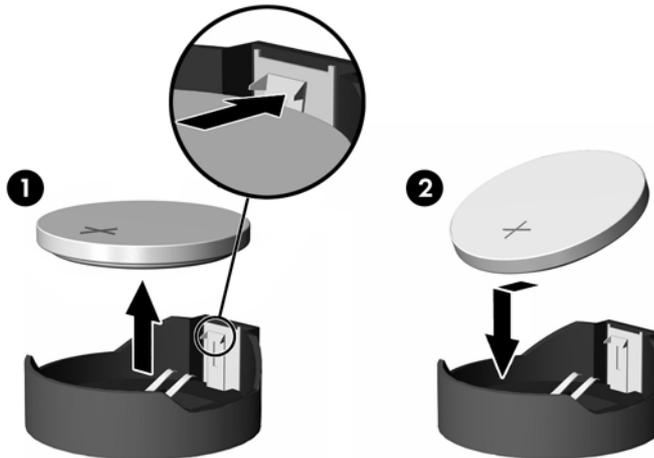
- ⚠ **WARNING!** Before removing the side access panel, ensure that the thin client is turned off and the power cord is disconnected from the electrical outlet.

To remove and replace the battery:

1. Locate the battery on the system board.

2. To release the battery from its holder, squeeze the metal clamp that extends above one edge of the battery. When the battery pops up, lift it out (1).

**Figure 2-8** Removing and replacing the internal battery



3. To insert the new battery, slide one edge of the replacement battery under the holder's lip with the positive side up. Push the other edge down until the clamp snaps over the other edge of the battery (2).

HP encourages customers to recycle used electronic hardware, HP original print cartridges, and rechargeable batteries. For more information about recycling programs, go to [www.hp.com/recycle](http://www.hp.com/recycle).



Batteries, battery packs, and accumulators should not be disposed of together with the general household waste. In order to forward them to recycling or proper disposal, please use the public collection system or return them to HP, an authorized HP partner, or their agents.



廢電池請回收

The Taiwan EPA requires dry battery manufacturing or importing firms, in accordance with Article 15 or the Waste Disposal Act, to indicate the recovery marks on the batteries used in sales, giveaways, or promotions. Contact a qualified Taiwanese recycler for proper battery disposal.

## Installing the PCI Expansion Module and PCI Card

Before beginning the replacement process, review [General Hardware Installation Sequence on page 10](#) for procedures you should follow before and after installing or replacing hardware.

- ⚠ **WARNING!** Before removing the side access panel, ensure that the thin client is turned off and the power cord is disconnected from the electrical outlet.

Follow the instructions included in the PCI Expansion Module option kit.

- ⚠ **CAUTION:** Be sure to use the thin client with the stand in the tower mode if the PCI Expansion Module and PCI Card are installed.

## External Drives

Various external USB drives are available as options for the t5730/t5735. For more information about these drives, visit <http://www.hp.com/products/thinclientsoftware>, or refer to the instructions that accompany the option.

For more information about available options, visit the HP Web site at <http://h30143.www3.hp.com/configure2.cfm>.

# A Specifications

**Table A-1 HP Compaq t5730/t5735 Thin Client**

<b>Dimensions</b>		
Width (front to back)	46 mm	1.811 in.
Height (top to bottom)	254.5 mm	10.02 in
Depth	215.18 mm	8.47 in.
<b>Approximate Weight</b>		
	1.3 kg	2.9 lb
<b>Temperature Range (fanless design)*</b>		
Operating**	10° to 40° C	50° to 104° F
(max. rate of change is 10° C per hour or 18° F per hour)		
Nonoperating	-30° to 60° C	-22° to 140° F
(max. rate of change is 20° C per hour or 36° F per hour)		
<p>*Specifications are at sea level with altitude derating of 1° C/ 300m (1.8° F/1000ft) to a maximum of 3Km (10,000ft), with no direct, sustained sunlight. Upper limit may be limited by the type and number of options installed.</p> <p>** The operating temperature range when the thin client is attached to a flat panel using the HP Quick Release is 50° to 95° F (10° to 35° C).</p>		
<b>Relative Humidity (non-condensing)</b>		
Operating	10–90%	10–90%
(max. wet bulb temperature is 28° C or 84.2° F)		
Nonoperating	5–95%	5–95%
(max. wet bulb temperature is 38.7° C or 101.6° F)		
<b>Maximum Altitude (unpressurized)</b>		
Operating	3048 m	10,000 ft
(max. allowed rate of change is 457m per minute or 1500 ft per minute)		
Nonoperating	9144 m	30,000 ft
(max. allowed rate of change is 457m per minute or 1500 ft per minute)		
<b>Power Supply</b>		
Operating Voltage Range	100–240 VAC	100–240 VAC

**Table A-1 HP Compaq t5730/t5735 Thin Client (continued)**

Rated Line Frequency	50–60 Hz	50–60 Hz
<b>Power Output</b> (maximum)	50 W	50 W
<b>Rated Output Current</b> (maximum)	4.16 A	4.16 A
<b>Output Voltage</b>	+12 V DC	+12 V DC

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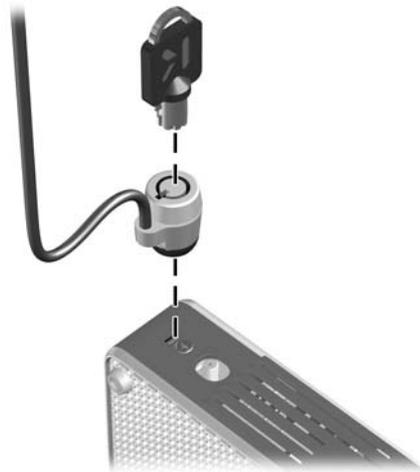
## B Security Provisions

### Securing the Thin Client

The HP Compaq t5730/t5735 thin client is designed to accept a security cable lock. This cable lock prevents unauthorized removal of the thin client, as well as locking the secure compartment. To order this option, visit the HP Web site at <http://h30143.www3.hp.com/configure2.cfm>.

1. Locate the cable lock slot on the back panel.
2. Insert the cable lock into the slot, and then use the key to lock it.

**Figure B-1** Securing the thin client



---

## C Mounting the Thin Client

### HP Quick Release

The HP Compaq t5730/t5735 thin client incorporates four mounting points on each side of the unit. These mounting points follow the VESA (Video Electronics Standards Association) standard, which provides industry-standard mounting interfaces for Flat Displays (FDs), such as flat panel monitors, flat displays, and flat TVs. The HP Quick Release connects to the VESA-standard mounting points, allowing you to mount the thin client in a variety of orientations.

 **NOTE:** When mounting to a thin client, use the 10 mm screws supplied with the Quick Release Kit.

**Figure C-1** HP Quick Release

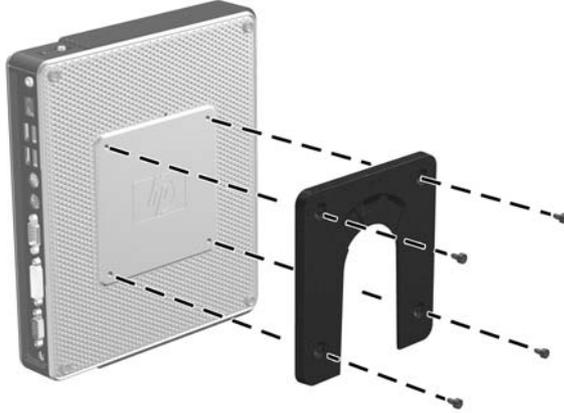


To order this option, visit the HP Web site at <http://h30143.www3.hp.com/configure2.cfm>.

To use the HP Quick Release with a VESA-configured thin client:

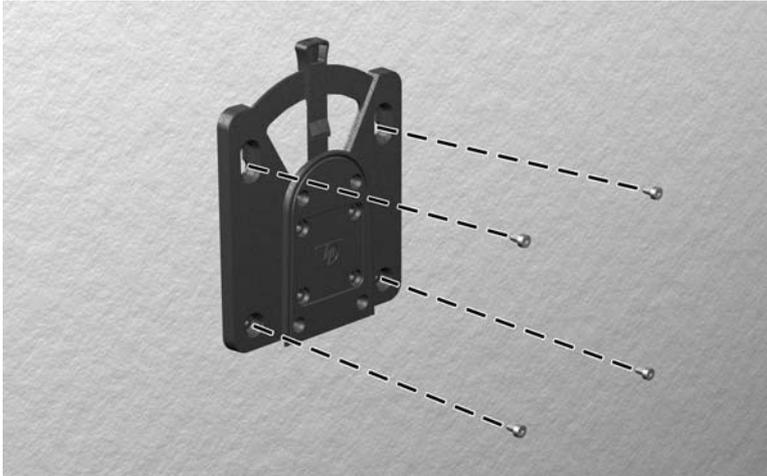
1. Using four 10 mm screws included in the mounting device kit, attach one side of the HP Quick Release to the thin client as shown in the following illustration.

**Figure C-2** Connecting the HP Quick Release to the thin client



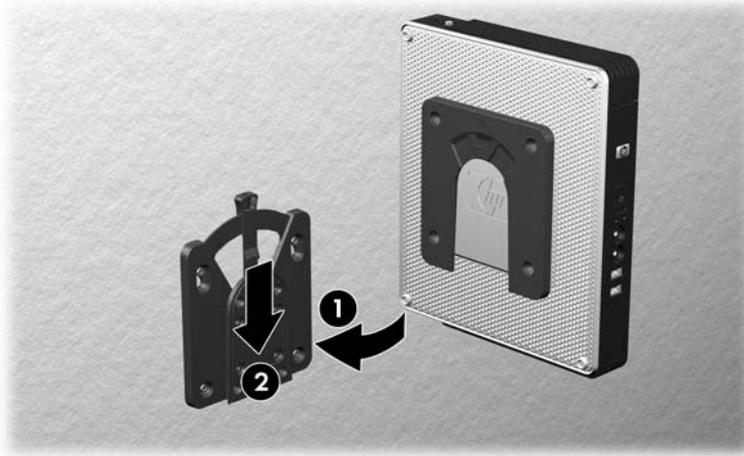
2. Using four screws included in the mounting device kit, attach the other side of the HP Quick Release to the device to which you will mount the thin client. Make sure the release lever points upward.

**Figure C-3** Connecting the HP Quick Release to another device



3. Slide the side of the mounting device attached to the thin client (1) over the other side of the mounting device (2) on the device on which you want to mount the thin client. An audible 'click' indicates a secure connection.

**Figure C-4** Connecting the thin client



**NOTE:** When attached, the HP Quick Release automatically locks in position. You only need to slide the lever to one side to remove the thin client.

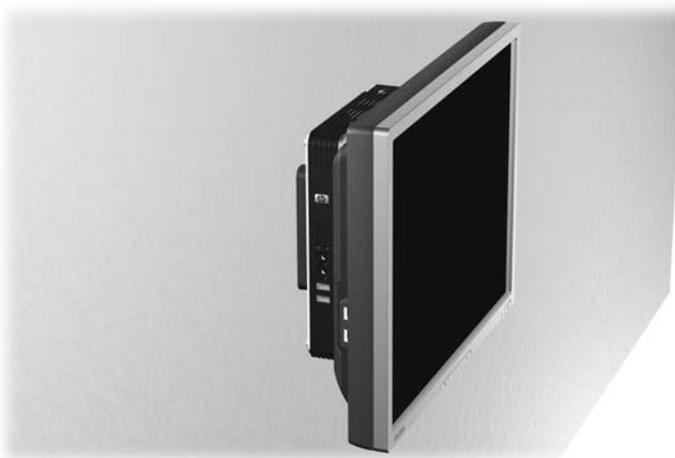
**CAUTION:** To ensure proper function of the HP Quick Release and a secure connection of all components, make sure both the release lever on one side of the mounting device and the rounded opening on the other side face upward.

## Supported Mounting Options

The following illustrations demonstrate some of the supported and not supported mounting options for the mounting bracket.

- You can mount a thin client between a flat panel monitor and the wall.

**Figure C-5** Thin client mounted with flat panel on wall



- You can mount the thin client on the back of a flat panel monitor stand.

**Figure C-6** Thin client mounted on back of monitor stand



- You can mount the thin client on a wall.

**Figure C-7** Thin client mounted on wall



- You can mount the thin client under a desk.

**Figure C-8** Thin client mounted under desk



## Non-supported Mounting Option

- △ **CAUTION:** Mounting a thin client in a non-supported manner could result in failure of the HP Quick Release and damage to the thin client and/or other equipment.

Do not mount the thin client on a flat panel monitor stand, between the panel and the stand.

**Figure C-9** Unsupported mounting position—thin client between stand and monitor



---

## D Thin Client Operation

### Routine Thin Client Care

Use the following information to properly care for your thin client:

- Never operate the thin client with the outside panel removed.
- Keep the thin client away from excessive moisture, direct sunlight, and extreme heat and cold. For information about the recommended temperature and humidity ranges for the thin client, see [Specifications on page 20](#).
- Keep liquids away from the thin client and keyboard.
- Turn off the thin client and wipe the exterior with a soft, damp cloth as needed. Using cleaning products may discolor or damage the finish.

### Supported Orientations

HP supports the following orientations for the thin client.

△ **CAUTION:** You must adhere to HP-supported orientations to ensure your thin clients function properly.

- You can place the thin client vertically using the supplied stand.

**Figure D-1** Vertical orientation



- You can lay the thin client horizontally on its rubber feet.

**Figure D-2** Horizontal orientation



- You can lay the thin client under a monitor stand with at least one inch of clearance.

**Figure D-3** Under monitor stand



## Non-supported Orientation

HP does not support the following orientation for the thin client.

- △ **CAUTION:** Non-supported placement of thin clients could result in operation failure and/or damage to the devices.

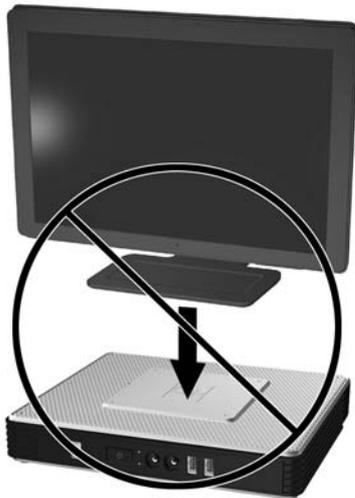
**CAUTION:** Thin clients require proper ventilation to maintain operating temperature. Do not block the vents.

Do not put thin clients in drawers or other sealed enclosures. Do not place a monitor or other object on top of the thin client. Thin clients require proper ventilation to maintain operating temperatures.

**Figure D-4** Do not put thin clients in drawers or other sealed enclosures



**Figure D-5** Do not place a monitor on the thin client



---

# E Electrostatic Discharge

A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

## Preventing Electrostatic Damage

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

## Grounding Methods

There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded Thin Client chassis. Wrist straps are flexible straps of 1 megohm +/- 10 percent resistance in the ground cords. To provide proper grounding, wear the strap snug against the skin.
- Use heelstraps, toestraps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, contact an HP authorized dealer, reseller, or service provider.

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 **NOTE:** For more information about static electricity, contact an HP authorized dealer, reseller, or service provider.

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# F Shipping Information

## Shipping Preparation

Follow these suggestions when preparing to ship the thin client:

1. Turn off the thin client and external devices.
2. Disconnect the power cord from the electrical outlet, then from the thin client.
3. Disconnect the system components and external devices from their power sources, then from the thin client.
4. Pack the system components and external devices in their original packing boxes or similar packaging with sufficient packing material to protect them.

---

 **NOTE:** For environmental nonoperating ranges, see [Specifications on page 20](#).

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## Important Service Repair Information

In all cases, remove and safeguard all external options before returning the thin client to HP for repair or exchange.

In countries that support customer mail-in repair by returning the same unit to the customer, HP makes every effort to return the repaired unit with the same internal memory and flash modules that were sent.

In countries that do not support customer mail-in repair by returning the same unit to the customer, all internal options should be removed and safeguarded in addition to the external options. The thin client should be restored to the **original configuration** before returning it to HP for repair.

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