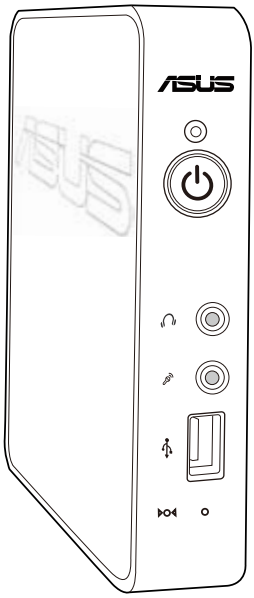
Z5 Zero Client

User Guide



E7022

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April 2012

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical Safety

- Before installing or removing signal cables, ensure that the power cables for the system unit and all attached devices are unplugged.
- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing any additional devices to or from the system, contact a qualified service technician or your dealer. Ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you service.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your dealer.

Operation Safety

- Servicing of this product or units is to be performed by trained service personnel only.
- Before operating the server, carefully read all the manuals included with the server package.
- Before using the server, make sure all cables are correctly connected and the power cables are not damaged. If any damage is detected, contact your dealer as soon as possible.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Place the server on a stable surface.

This product is equipped with a three-wire power cable and plug for the user's safety. Use the power cable with a properly grounded electrical outlet to avoid electrical shock.

REACH

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we published the chemical substances in our products at ASUS website at http://csr.asus.com/english/REACH.htm.

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to http://csr.asus.com/english/Takeback.htm for detailed recycling information in different regions.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

About this guide

Audience

This user guide is intended for system integrators, and experienced users with at least basic knowledge of configuring a server.

Contents

This guide contains the following parts:

1. **Chapter 1: Product Introduction**

   This chapter describes the general features of the Z5 Zero Client, including sections on front panel and rear panel specifications.

2. **Chapter 2: Hardware setup**

   This chapter lists the hardware setup procedures that you have to perform when installing the system components.

3. **Chapter 3: Driver information**

   This chapter provides instructions for installing the necessary drivers for different system components.

4. **Chapter 4: Client setup**

   This chapter tells how to setup and deploy your Z5 Zero Client. Detailed descriptions of the connections are also provided.

Conventions

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key. Example: <Enter> means that you must press the Enter or Return key.

References

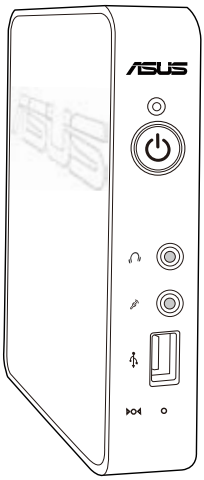
Refer to the following sources for additional information, and for product and software updates.

1. **ASUS websites**

   The ASUS websites worldwide provide updated information for all ASUS hardware and software products. Refer to the ASUS contact information.

Chapter 1

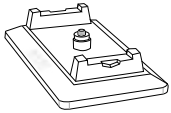
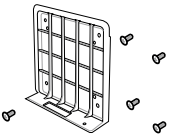
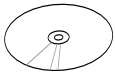
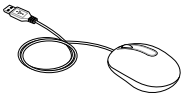
This chapter describes the general features of the Z5 Zero Client, including the front panel and rear panel specifications.



ASUS Z5 Zero Client

Product introduction

1.1 Package contents

		
Z5 Zero Client	**Stand**	**Power adapter and power plug**
		
VESA mount and screw pack	**User Manual**	**Support DVD**
		
Keyboard (optional)	**Mouse (optional)**	

- If the device or its components fail or malfunction during normal and proper use within the warranty period, please visit the ASUS Service Center for repair or replacement of the defective components.
- If any of the components is damaged or missing, contact your retailer.
- The accessories may vary in your country of purchase.

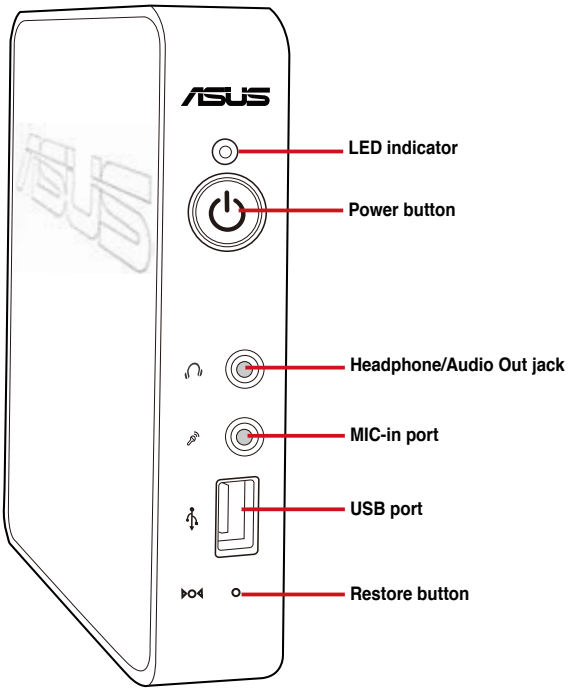
1.2 Z5 Zero client specifications summary

VGA	Supports up to 1920*1200 (HDMI) / 2048*1152 (VGA) DDR2 512 MB video memory
IO ports	1 x HDMI port 1 x VGA port 3 x USB 2.0 ports - 1 x USB 2.0 port at the front panel - 2 x USB 2.0 ports at the rear panel 1 x LAN (RJ-45) port 1 x MIC-in port 1 x Headphone port
Accessories	1 x VESA mount 1 x Power (AC) adapter 1 x Power plug 1 x stand
Dimension	Without stand: 140mm x 153mm x 28mm (width x height x depth) With stand: 140mm x 176.3mm x 70mm (width x height x depth)
Environment	Operating temperature: 0°C - 35°C Humidity: 20% - 85% RH (non-condensing) Non-operating temperature: -40°C - 60°C Non-operating humidity: 20% - 95% (non-condensing)
Server OS support	Windows® Multipoint Server 2011 **1. Use the same type of keyboard and mouse for the host server (i.e. both USB keyboard and mouse, both PS/2 keyboard and mouse). Do not use a USB keyboard with a PS/2 mouse or vice versa.** **2. When the host server is using a USB keyboard and mouse and if it is logged-in as a multipoint station, connect a USB audio device (e.g. speaker) for audio support.**

All specifications are subject to change without notice.

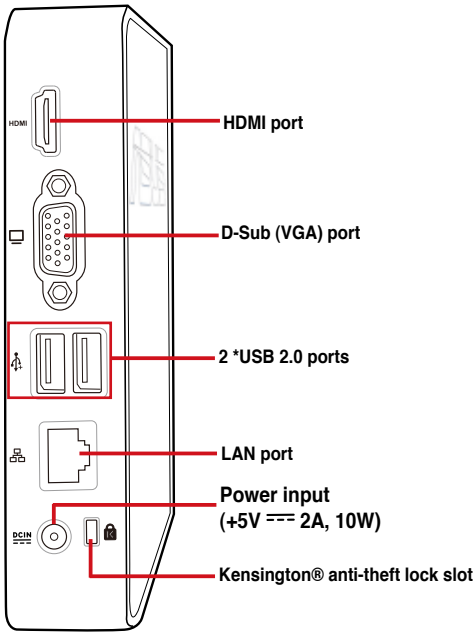
1.3 Knowing your Z5 Zero Client

1.3.1 Front panel



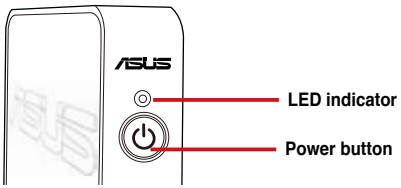
To restore the system to its default setting, insert a blunt object to press the restore button for five seconds, or until the Power LED turns to orange.

1.3.2 Rear panel



The USB ports support one USB keyboard, one USB mouse, and one 500mA USB device (2.5” USB HDD).The Z5 Zero Client’s USB ports do not support a USB hub.

1.3.3 LED indications

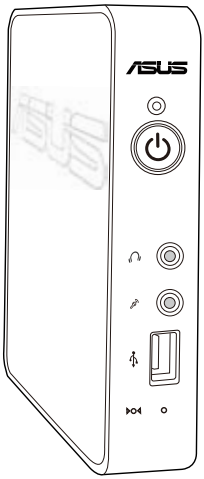


LED	Color	Display status	Description
Power button	Orange	ON	Initializing
	Blue	ON	Standby mode
	Alternating orange and blue	Blinking	Server identifying the client.
LED indicator	Green	Blinking	The client is searching the IP.
	Green	ON	The client is connected to the server.

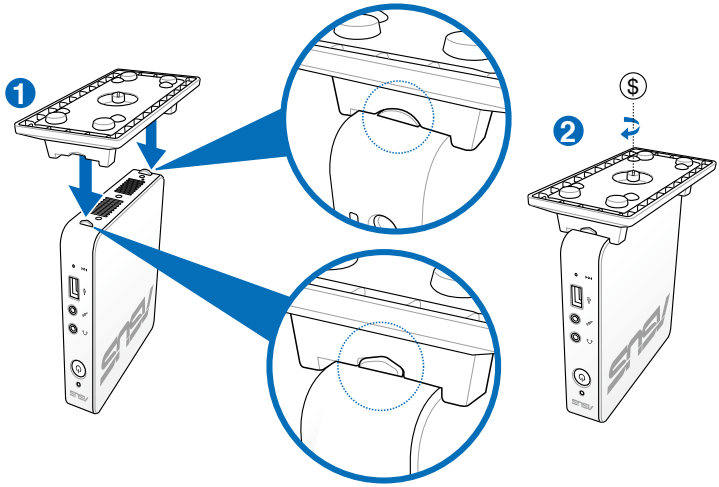
Chapter 2

Hardware setup

This chapter lists the hardware setup procedures that you have to perform when installing the system components.

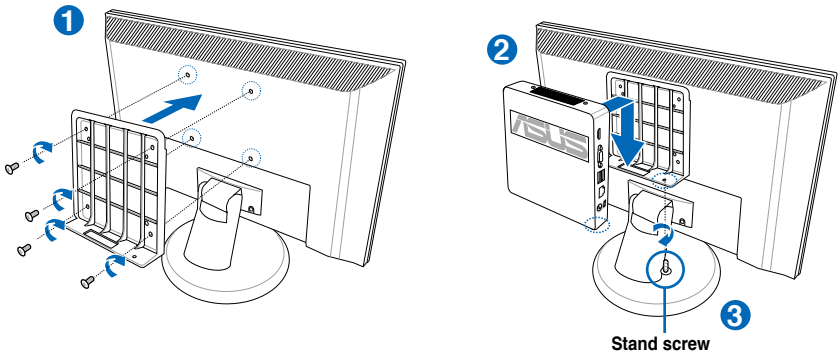


2.1 Installing the stand



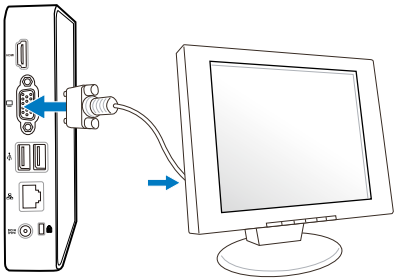
Each side of the device has different notch shapes that matches with the slot on the stand. Ensure that the side notches match correctly with the slots on the stand.

2.2 Installing the Z5 Zero Client to a monitor

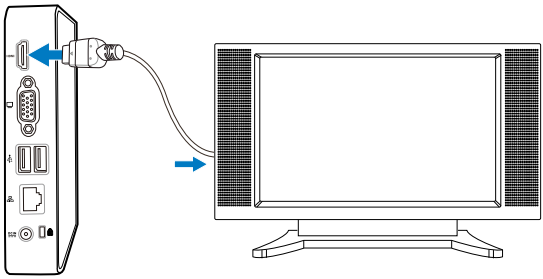


2.3 Connecting a display

2.3.1 Connecting an LCD monitor

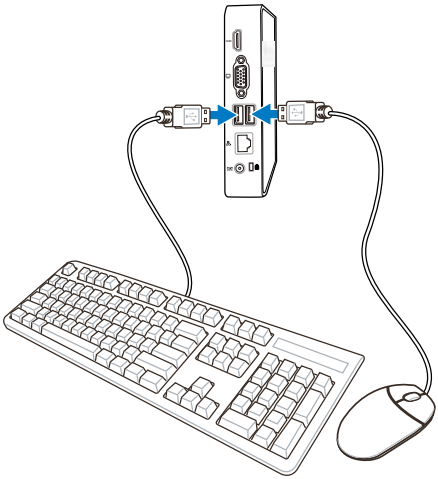


2.3.2 Connecting an HDMI monitor



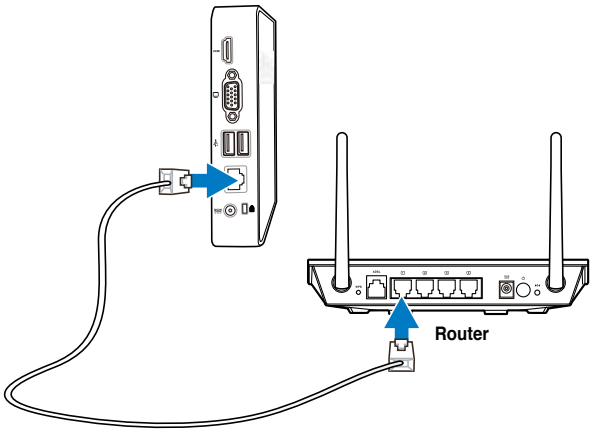
- This device supports EDID-supported monitors. Contact ASUS if your monitors are not EDID-supported.
- A dual-monitor setup is not supported. The VGA and HDMI ports cannot work at the same time.

2.4 Connecting USB devices

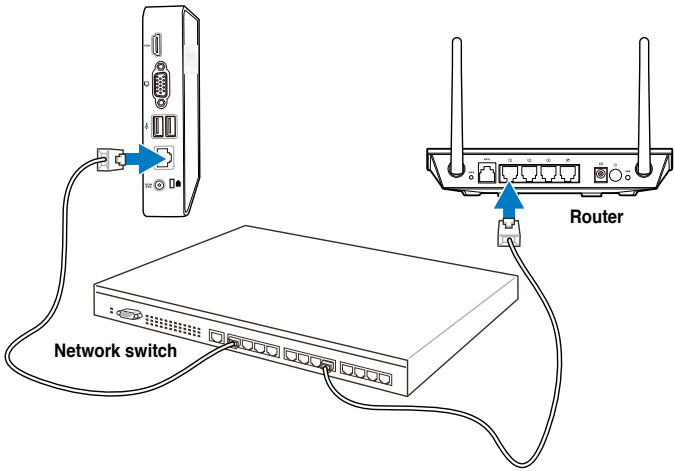


2.5 Connecting to a network device

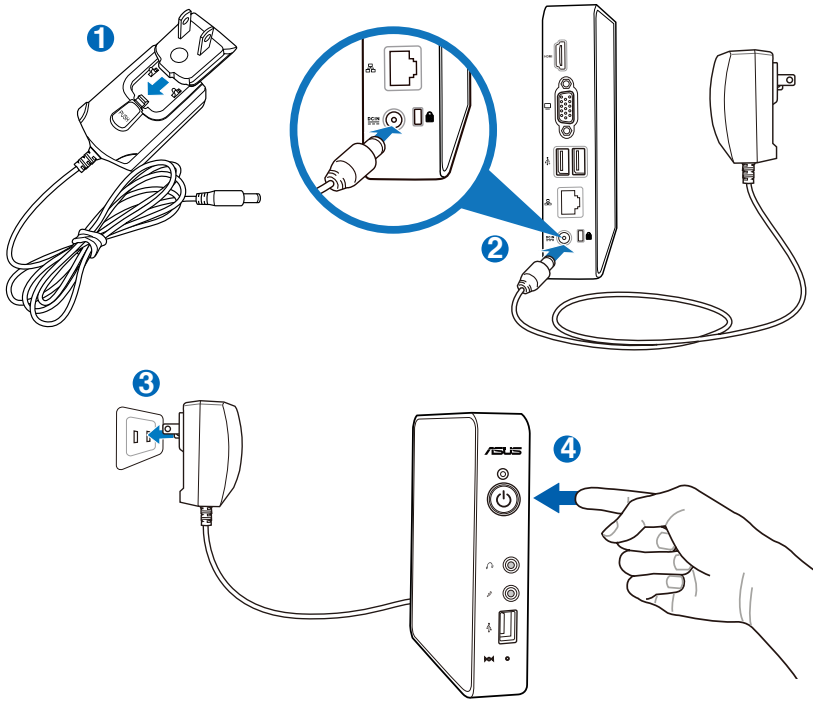
2.5.1 Connecting to a router



2.5.2 Connecting to a network switch



2.6 Turning on the system

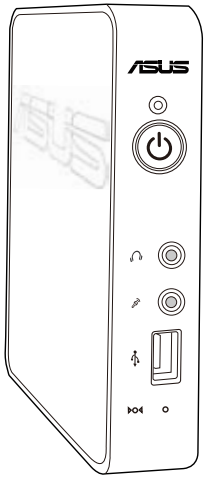


The bundled power plug that comes with your device may vary with country or region.

When your Z5 Zero Client is not in use, unplug the power adapter to save power.

Chapter 3

This chapter provides instructions for installing the necessary drivers for your Z5 Zero Client network.



Driver installation

3.1 Installing the drivers

- To install the LAN and VGA drivers of the Z5 Zero Client device, your host server must have the Windows® MultiPoint Server 2011 (WMS 2011) installed.
- The ViewSpan (VGA driver) is a VGA utility that allows you to automatically detect the monitor's recommended maximum resolution.
- The WMS Zero Client Manager (LAN driver) is a utility that allows you to setup and configure your Z5 Zero Client Manager to your server.

3.1.1 Using the ASUS InstAll Client support

To use the ASUS InstAll Client support:

1. Insert the **ASUS Z5 Zero Client Support CD** into the optical drive.
2. Click **ASUS InstAll** to proceed to the next stage.

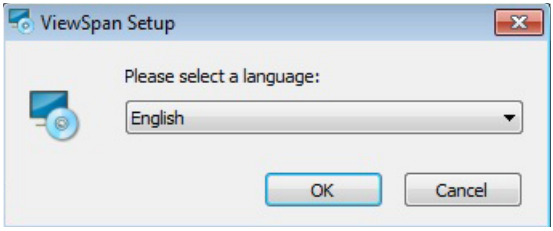
3. Select **LAN DRIVER (WMS Zero Client Manager)** and **VGA DRIVER (View Span)** and click **Go**.

3.1.2 Installing the drivers manually

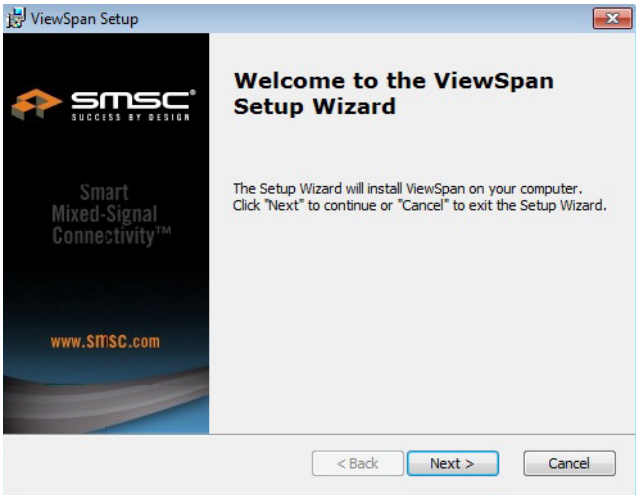
Installing the ViewSpan software (VGA driver)

To Install the ViewSpan software (VGA driver):

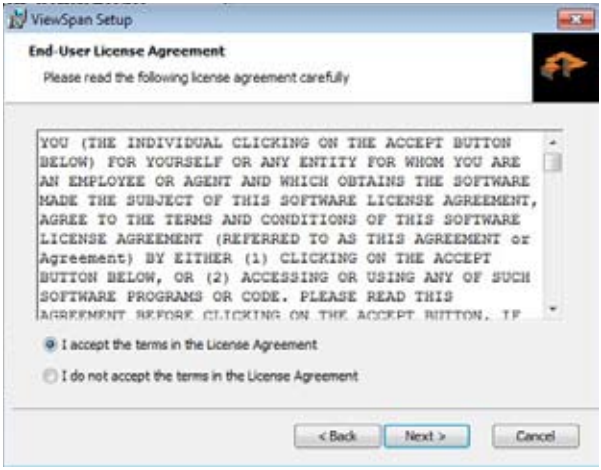
1. From the support CD, click **VGA Driver (ViewSpan)** and click **setup.exe**. Select a language and click **OK**.



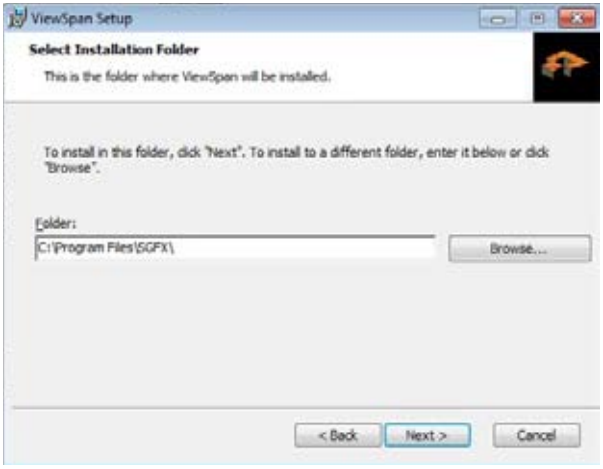
2. From the ViewSpan setup Wizard, click **Next**.



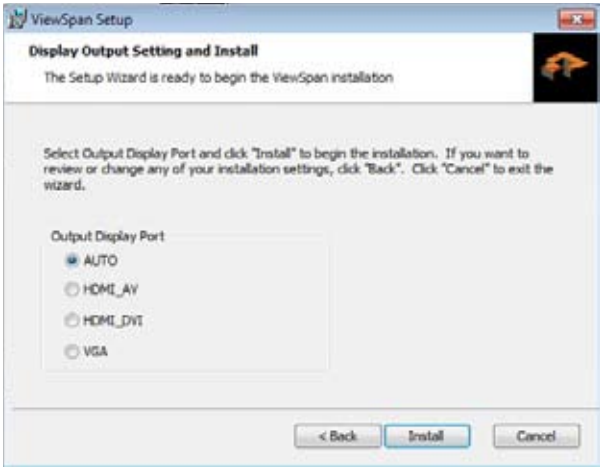
3. Select **I accept the terms in the License Agreement** and click **Next**.



4. Click **Next** to install in the default folder. Click **Browse** to install to a different folder.

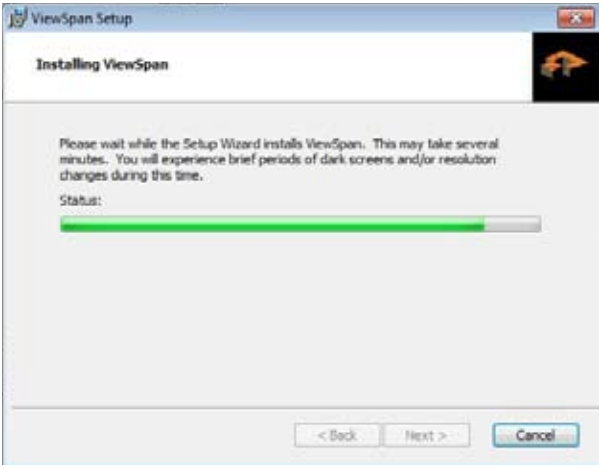


5. Select the **Output Display Port** and click **Install** to start the installation. Click **Back** to go back to the previous setup, or click **Cancel** to exit the installation.



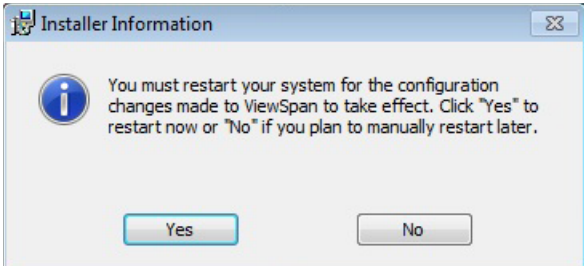
The **Auto** output display port is the default output configuration.

6. Wait while the Setup Wizard installs ViewSpan. Click **Cancel** to abort the installation.



7. When the ViewSpan installation is complete, click **Finish**.

8. Click **Yes** to reboot the system and for the ViewSpan configuration to take its effect. Click **No** to manually restart your system later.

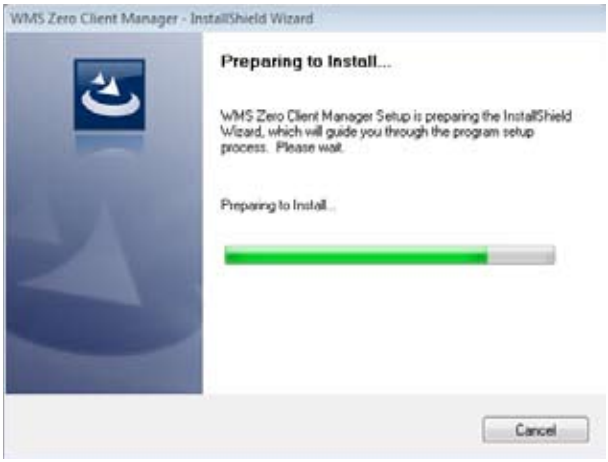


Reboot your system after the ViewSpan is successfully installed.

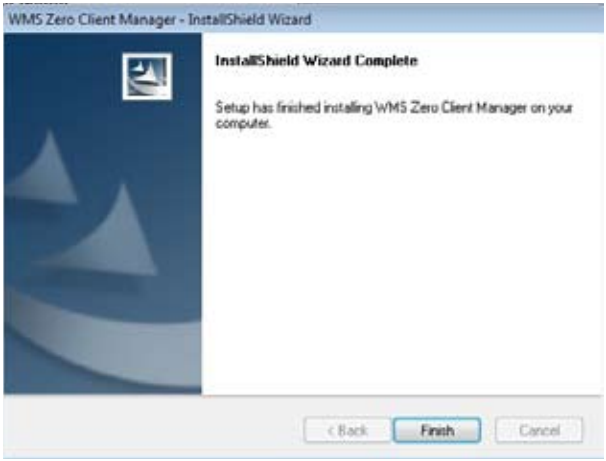
Installing the WMS Zero Client Manager software (LAN Driver)

To install the WMS Zero Client Manager software (LAN driver):

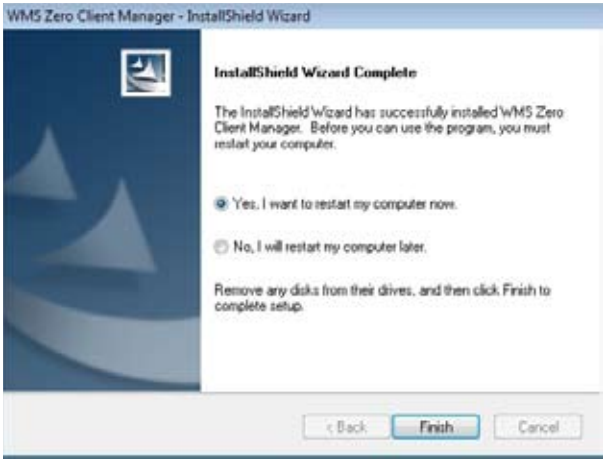
1. From the support CD, click **LAN DRIVER (WMS Zero Client Manager)** and click **setup.exe**. The Setup Wizard automatically installs the driver. Click **Cancel** if you wish to exit the installation.



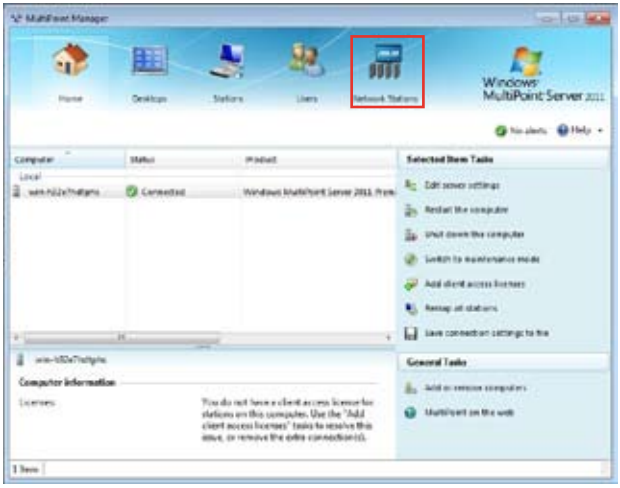
2. Click **Finish** to exit the Setup Wizard when the installation is complete.



3. Select **Yes, I want to restart my computer now** to reboot your system and for the WMS Zero Client Manager to take effect. Click **Finish** to restart your system. Otherwise, select **No, I will restart my computer later** to manually restart your computer.



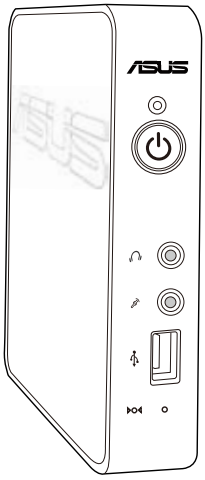
Reboot your system after the WMS Zero Client Manager is successfully installed.



After rebooting your system, check the WMS Zero Client Manager main menu if the tab is displayed.

Chapter 4

This chapter tells how to setup and deploy your Z5 Zero Client. Detailed descriptions of the connections are also provided.



ASUS Z5 Zero Client

Client-server setup

4.1 Managing your client-server setup

Today's computers are becoming more powerful that they deliver high quality graphic and video performance, yet still have excess power to share. Windows MultiPoint Server 2011 strengthens the computer's extra power and turns it into a server capable of powering multiple sessions. Because of technology advancements, the so-called "shared computing" or "virtual desktops" is now a possibility.

Your MultiPoint Server system must have a serve and one or more Z5 client stations. The server displays the startup process when the computer is turned on and is used for administration.

The monitor of the server must be connected directly to a video port of the computer that is running the MultiPoint Server. The standard stations' monitors are connected directly to the video ports of the Z5 Zero Client devices. The Z5 Zero Client device replaces all standard PC stations.

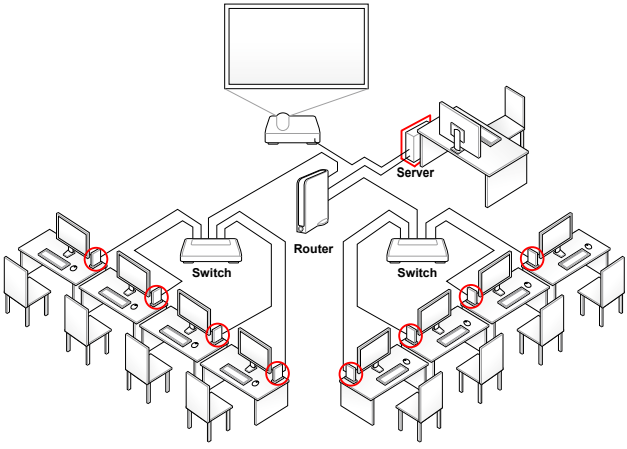
4.1.1 Installing the Windows® Multipoint server

If the Windows® Multipoint server is not installed in your computer, install it first before deploying the client-server service.

For more information, refer to the following websites:

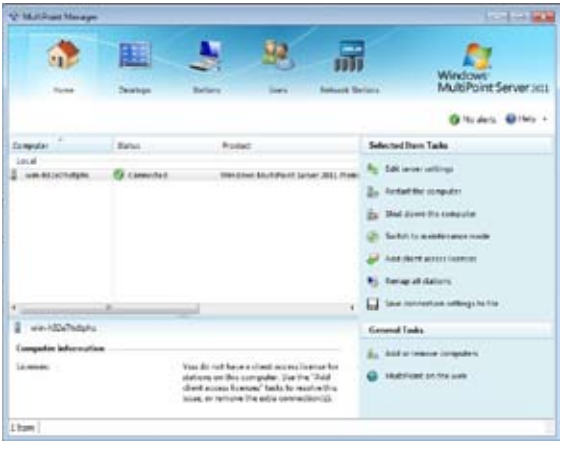
- Windows MultiPoint Server 2011 Server Planning Guide: http://www.microsoft.com/download/en/details.aspx?id=18482
- Windows MultiPoint Server 2011 Server Deployment Guide: http://www.microsoft.com/download/en/details.aspx?id=8290

4.1.2 Setting up your client-server system



To set up your client-server system:

1. After installing WMS 2011, connect the server to the local area network (LAN).
2. Log in to the WMS 2011 with your user name and password. Wait for the server to initiate the Windows® MultiPoint Manager (WMS Manager).



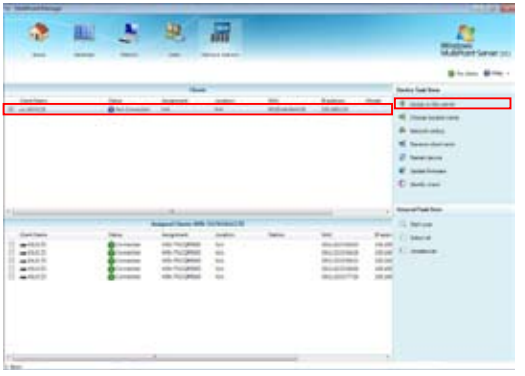
For details, refer to section **4.2.1 Logging in to the MultiPoint Manager**.

3. Connect the Z5 Zero Client device to a monitor, mouse, keyboard and switch or router. Turn on the Z5 Zero Client device and check the Connect LED's status.

If the LED indicator is blinking, the client is still searching for the IP address.

4. In WMS 2011 menu, click .

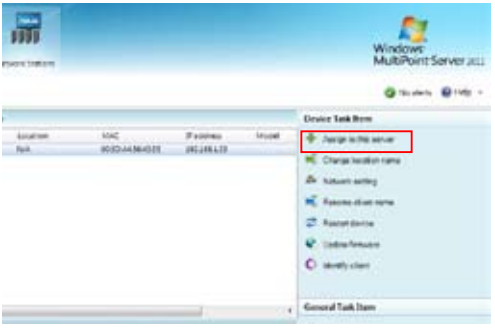
5. Check the client's list to confirm the clients found in the domain.



- If the client was assigned and used from a previous server, release the client from the previous server and assigned it to your new server.
- If the client is using the old firmware, the server automatically updates it with the latest firmware.

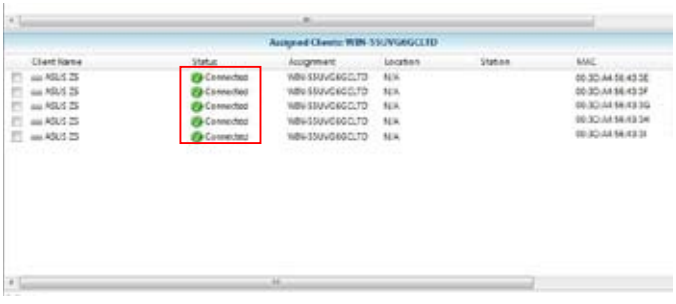
When the server is updating the client's firmware, the power button's LED blinks from orange to blue.

6. Select the Z5 client to add to your network from the Clients pane and click **Assign to this server**.



The selected Z5 client is added to **Assigned Clients** pane and the connect LED turns to green.

7. Create the account and password for each client's station.



8. Log in to the client's machine and start using the Z5 Zero client solution.

Ensure that the clients have the correct IP addresses.

4.2 Running the Windows® MultiPoint Server OS

4.2.1 Logging in to the MultiPoint Manager

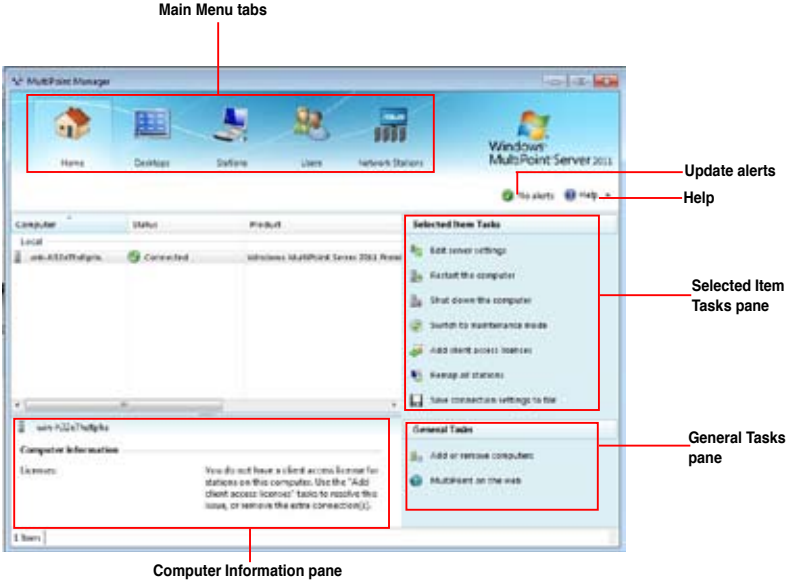
To log into the MultiPoint Manager:

1. From the WMS 2011 Log-in page, key in your administrator user name and password. Press **Enter** to launch the WMS 2011. Click **Cancel** to activate the screensaver mode.

The Windows® Multipoint Server 2011 splash appears.

2. Wait for a short time until the server automatically launches the **MultiPoint Manager** window.

4.2.2 Knowing the Windows® MultiPoint Manager user interface



Home

This menu allows you to perform the administrative tasks, such as managing the clients and the systems present in your stations.

1. Click .
2. Click **Edit server settings** to modify your server settings.
3. Click **Restart the computer** or **Shut down the computer** to restart or turn off your computer.

Restarting or shutting down your computer that is running the MultiPoint Manager will affect your clients' activities. Send a message to your clients to save their data before clicking **OK**.

4. Click **Switch to maintenance mode** to perform a software installation, update anti-virus applications or upgrade firmwares of your current applications.

- Switching to maintenance mode suspends all user stations.
- Switching back to normal mode will restart your computer and all stations associated with it to initiate the upgrades done.

5. Click **Add client access licenses** to add or remove client access licenses.

For more information on this step, visit http://go.microsoft.com.

6. Click **Remap all stations** to reset your stations. The user stations are suspended when remapping.
7. Click **Save connection settings to file** to save the connection settings for future use.
8. Click **Add or remove computers** to add or remove a client or clients in your network.
9. Click **MultiPoint on the web** to know more about the product information via the ASUS website.

You can view the information at http://www.asus.com/Server_Workstation/Client_Device/Z5/.

Desktops

This menu allows you to manage one or all of your users' activities in your network.

1. Click .
2. Select the station from the left panel of the MultiPoint Manager window.
3. Click **Enlarge thumbnail** to enlarge the selected station's desktop.
4. Click **Block this station** to block the clients from accessing the applications and the Internet.
5. Click **Limit web access on this station** to limit the client's web access only to those websites in the Allowed list.
6. Click **Launch application on this station** to launch an application to the client's station.
7. Click **Close applications on this station** to close an application or applications from your client's station.
8. Click **Project my station to selected stations** to create an image of your desktop to your clients.
9. Click **Set message for blocked users** to send a message to your client's blocked desktop.
10. Click **Show only active stations** to show the unblocked clients in your desktop.
11. Click **Log off all stations** to log off all your clients' station in a single click.

Stations

This menu allows you to identify, configure, and edit your stations' names.

1. Click .
2. Select the station from the left panel of the MultiPoint Manager window.
3. Click **Identify station** to know your client's identification.
4. Click **Rename station** to rename your client's identification.
5. Click **Configure auto-logon** to enable each station to log on automatically when the server is starting.

The Z5 Zero Client does not support the **Split Station** function.

Users

This menu allows you to add, modify or delete user accounts in your network.

1. Click .
2. Select the station from the left panel of the MultiPoint Manager window.
3. Click **Change full name** to add or edit your user's name.
4. Click **Change password** to update or change your user's password.
5. Click **Change level of access** to your user's access rights into administrator or standard.
6. Click **Delete user account** to remove users from your network.

Network Stations

This menu allows you to scan and identify your client's status in your network.

1. Click .
2. Check the station from the left and lower panel of the MultiPoint Manager window.
3. Click **Clear assignment** to clear and disconnect your clients' access from the server.
4. Click **Identify client** to view your client's name, IP address, and MAC address.

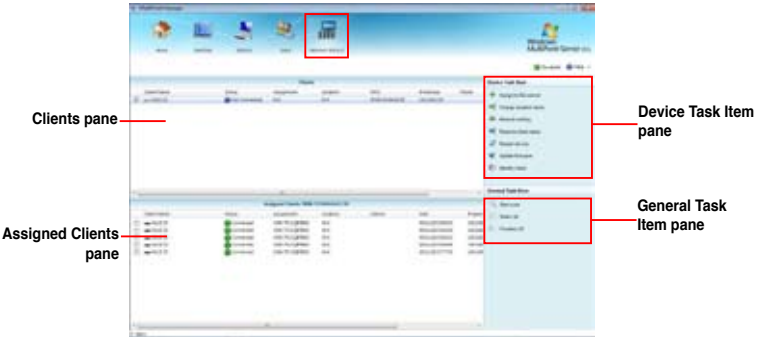
The power button's LED blinks when the server identifies the client.

5. Click **Start scan** to identify the status of your clients in the network.
   a. Click **Select all** to scan all clients.
   b. Click **Unselect all** to cancel scanning.

This menu refers to the network with assigned clients. For information regarding the functions of this menu to an unassigned clients, refer to section **4.3 Knowing your network stations**.

4.3 Knowing your network stations

This menu allows you to add, delete and edit the clients and their corresponding network settings.



Clients: Shows the list of unassigned clients detected by the server.

Assigned clients: Shows the list of assigned clients on the server.

Device Task Item: Shows the of tasks for the server to perform.

General Task Item: Shows the general functions of the server to perform to the clients.

Assigning a client

This function allows you to assign a new client to your server.

1. Tick the client's name in the **Clients** pane.
2. Click **Assign to this server** to assign and connect the selected client to the server

.

In assigning a client which is currently connected to another server, your server performs the **Clear Assignment** function to delete the settings of the previous server, and assigns the client to your server.

Changing the location name

This function allows you to change the location name of your client.

1. Tick the client's name in the **Clients** pane.
2. Click **Change location name** and enter the desired location name.
3. Click **Submit**.

Configuring the network setting

This function allows you to view and edit the client's identified DHCP setting.

1. Tick the client's name in the **Clients** pane.
2. Click **Network setting**.
3 Untick **DHCP** to edit the DHCP setting.
4. Click **Submit** to apply the changes. Click **Cancel** to maintain the current setting.

Renaming the client's name

This function allows you to assign a new name, or rename the client's name.

1. Tick the client's name in the **Clients** pane.
2. Click **Rename client name,** and enter the desired name for your client.
3. Click **Submit**.

Changing the location name

This function allows you to change the location name of your client.

1. Tick the client's name in the **Clients** pane.
2. Click **Change location name,** and enter a new or an existing location name.
3. Click **Submit**.

Restarting your client

This function allows you to restart your client's device.

1. Tick the client's name in the **Clients** pane.
2. Click **Restart device**.
3. Click **Yes** to restart. Click **No** to cancel.

Updating the firmware

This function allows you to automatically update the Z5 Client's firmware.

1. Tick the client's name in the **Clients** pane.
2. Click ... to browse and find the saved configuration file.
3. Click **Submit** to load the configuration file.

Identifying the client

This function allows you to view the client's name, IP address, and MAC address.

1. Tick the client's name in the **Clients** pane.
2. Click **Identify client**.

The power switch's LED blinks when the server identifies the client.

ASUS Z5 Zero client solution

Suggested configuration table

Applications		Maximum number of Z5 devices ESC500 (SKU #1)	ESC500 (SKU #2)	Notes
Office		12	14	For example: MS Word MS Excel MS Powerpoint * WMS 2011 only supports MS Office with Volume Licensing. ** Professional editing application (such as AutoCAD) is not supported.
Web-based applications	Search engines/ portals	10	12	web browser without video/ flash
	Video streams/ Flash	8	10	web browsers with video/ flash such as Youtube video/flash with maximum resolution of 480p
Multimedia		5	5	video/flash with maximum resolution of 720p

If the quantity of the clients exceeds 10 units, upgrade the server's OS to Windows MultiPoint Server 2011 Premium.

- Use the same type of keyboard and mouse for the server (i.e both USB keyboard and mouse, both PS/2 keyboard and mouse). Do not use a USB keyboard with a PS/2 mouse or vice versa.
- When the host server is using a USB keyboard and mouse and if it is logged-in as a multipoint station, connect a USB audio device (e.g. speaker) for audio support.

Suggested host server configuration table

Host server specifications	Host Server	
	ESC500 SKU #1	ESC SKU #2
Operating System	Windows® MultiPoint Server 2011 Standard/Premium versions	
Core Logic	Intel® C206 Chipset	
CPU	i5 - 2400 (3.1GHz, 6Mb cache, 4 cores)	i7 - 2600 (3.4GHz, 8Mb cache, 4 cores)
Memory	4GB DDR3, 1333MHz	8GB DDR3, 1333MHz
Storage	2 x 3.5” HDD/1 x 5.25” optical device	
Communications	2 x Intel 82574L GbE LAN	
Dimension	423mm x 190mm x 435mm (HxWxD)	
Net weight	10.8Kg (CPU, Memory and HDD excluded)	

All specifications are subject to change without prior notice. Visit the ASUS website for updated information.

ASUS contact information

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Web site	http://www.asus.com.tw

Technical Support

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Fax	+86-21-58668722 ext: 9101
Online Support	http://support.asus.com/techserv/techserv.aspx

Technical Support

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Online Support	http://support.asus.com/techserv/techserv.aspx

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Web site	http://www.asus.com.cn

Technical Support

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Online Support	http://support.asus.com/techserv/techserv.aspx

ASUS COMPUTER INTERNATIONAL (America)

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Fax	+1-510-608-4555
Web site	http://usa.asus.com

Technical Support

Support fax	+1-812-284-0883
General support	+1-812-282-2787
Online support	http://support.asus.com/techserv/techserv.aspx

ASUS COMPUTER GmbH (Germany and Austria)

Address	Harkort Str. 21-23, 40880 Ratingen, Germany
Fax	+49-2102-959911
Web site	http://www.asus.de
Online contact	http://www.asus.de/sales

Technical Support

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Online support	http://support.asus.com/techserv/techserv.aspx