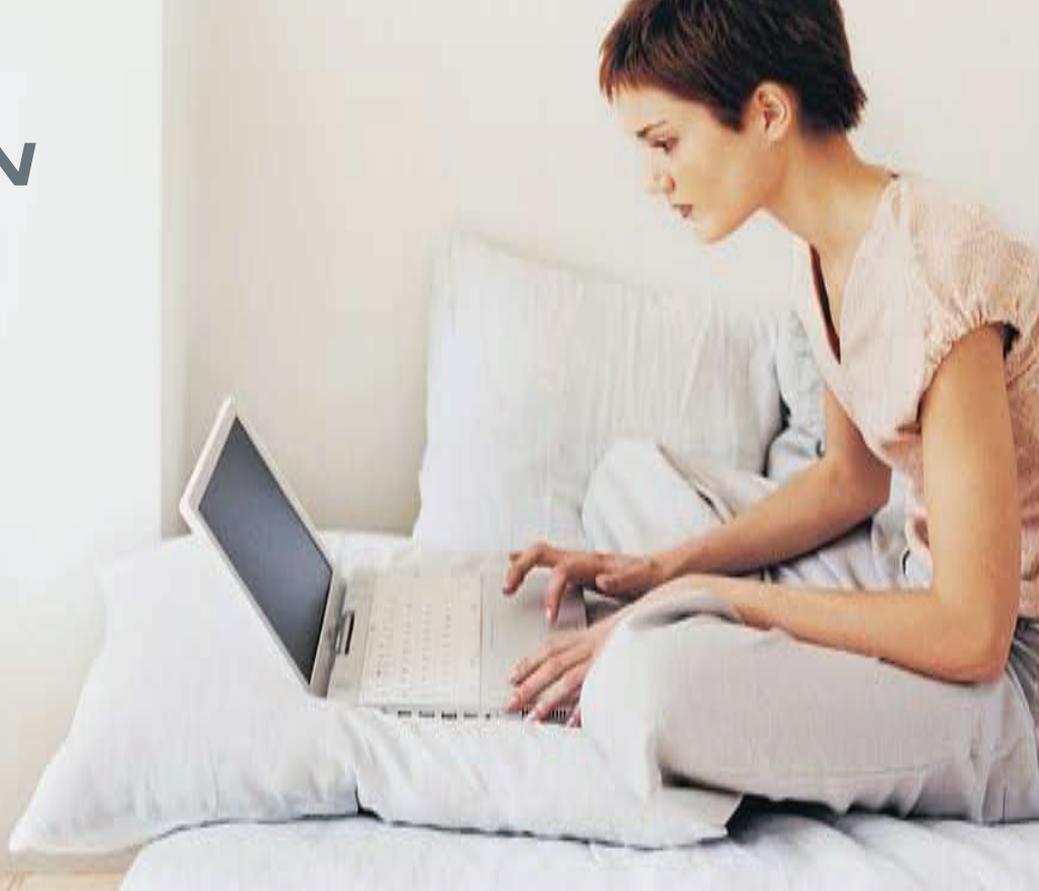




THOMSON



Thomson TG587n

Wireless Multi-User ADSL2+ Gateway



Setup and User's Guide

Thomson TG587n

Setup and User's Guide

DRAFT

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About this Setup and User's Guide

Used Symbols



A **note** provides additional information about a topic.



A **caution** warns you about potential problems or specific precautions that need to be taken.

Terminology

Generally, the Thomson TG587n will be referred to as Thomson Gateway in this Setup and User's Guide.

Typographical Conventions

Following typographical convention is used throughout this manual:

- **Sample text** indicates a hyperlink to a Web site.
Example: For more information, visit us at www.thomson-broadband.com.
- **Sample text** indicates an internal cross-reference.
Example: If you want to know more about guide, see "1 Introduction" on page 7".
- **Sample text** indicates an important content-related word.
Example: To enter the network, you **must** authenticate yourself.
- **Sample text** indicates a GUI element (commands on menus and buttons, dialog box elements, file names, paths and folders).
Example: On the **File** menu, click **Open** to open a file.

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1 Installation

Introduction

In a few minutes you will be able to access the Internet using your Thomson Gateway.

This Setup and User's Guide will show you how to set up your Thomson Gateway and how to connect your computer(s) to the Internet.

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1 Installation

1.1 Preliminary Steps

DSL service

The DSL service must be up and running on your telephone line.

If both conventional telephone and DSL service are simultaneously available from the same copper pair, you will need a central splitter or distributed filters for decoupling DSL and telephone signals.



Public telephone lines carry voltages that can cause electric shock. Only try to set up splitter/filters that have been designed to be installed by unqualified personnel. For further assistance, contact your Internet Service Provider.

Computer requirements

- To connect a computer via Ethernet, make sure the computer is equipped with an Ethernet Network Interface Card (NIC).
- For wireless networking, you will need a WiFi-certified wireless client adapter for each computer you want to connect wirelessly.

Internet connection details

You may need the following connection details from your Internet Service Provider (ISP):

- Your ISP's method for connecting to the Internet (for example PPPoE)
- The VPI/VCI (for example 8/35)
- Your user name and password to connect to the Internet for PPP connections
- Your IP settings in case of static configurations



Optionally your ISP may indicate the Service Profile to use during Setup.

You may have received this information when you subscribed to DSL at your Internet Service Provider (ISP). You will be prompted for this information at a given step in the installation procedure.

Voice over IP (VoIP) connection details

If you want to be able to make phone calls over the Internet, you will need following details for your VoIP connection:

- A user account at your VoIP Service Provider
- The server settings of your VoIP Service



These settings may be provided by your Internet Service Provider.

1.2 Placing your Thomson Gateway

Possibilities

You can mount the Thomson Gateway on a wall or simply place it on a desk.

Wall mount

Proceed as follows to mount the Thomson Gateway on a wall or other vertical surface:

- 1 Take the wall mount leaflet out of the box.
- 2 Stick the wall mount leaflet on the place where you want to mount your Thomson Gateway.
- 3 Drill two holes through the marked positions.
- 4 Fasten two screws in the wall holes. The screws should protrude five millimetres from the surface of the wall.
- 5 Attach your Thomson Gateway on the wall using the two mounting slots on the bottom.



If you install the Thomson Gateway onto plasterboard, use dowels to secure the screws. Otherwise the strain of the cables connected to the Thomson Gateway rear panel connectors could pull the Thomson Gateway from the wall.

1 Installation

1.3 Installing your Thomson Gateway

Installation methods

There are two ways to set up your Thomson Gateway:

- [Guided Installation](#)
- [Manual Installation](#)

Guided Installation

How it works

The Setup wizard included on the CD will guide you through all configuration aspects of your Thomson Gateway. This is the recommended way to install your Thomson Gateway.

Requirements

- Your computer must run one of the following operating systems:
 - ▶ Microsoft Windows Vista (x64)
 - ▶ Microsoft Windows XP Service Pack (SP) 2 or higher
 - ▶ Microsoft Windows XP x64 SP 1 or higher
 - ▶ Microsoft Windows 2000 SP4
 - ▶ Mac OS X 10.3 (Panther)
 - ▶ Mac OS X 10.4 (Tiger)
- You must have administrative rights on your computer

Getting started

Proceed with "[1.3.1 Guided Installation](#)" on page 7.

Manual Installation

How it works

The Setup and User's Guide will first help you to connect your computer to the Thomson Gateway. After this is done, you can configure your Thomson Gateway using your web browser.

Requirements

Javascript must be enabled on your web browser.

Getting started

Proceed with "[1.3.2 Manual Installation](#)" on page 9.

1.3.1 Guided Installation

Connecting devices: wait!

Do not plug in any cables or connect any devices until you are prompted to do so by the wizard.

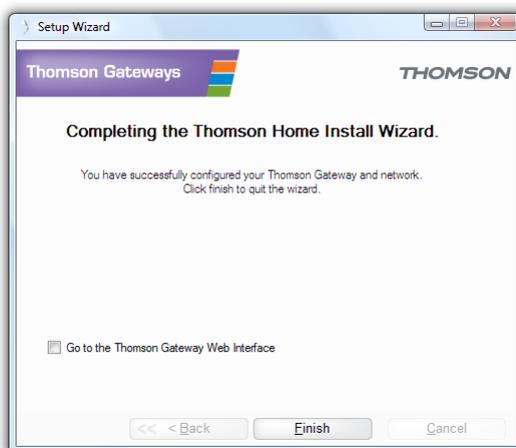
In case of problems

If you encounter problems during this installation please refer to "7.1 Setup wizard Troubleshooting" on page 52.

Starting the wizard

To start the wizard:

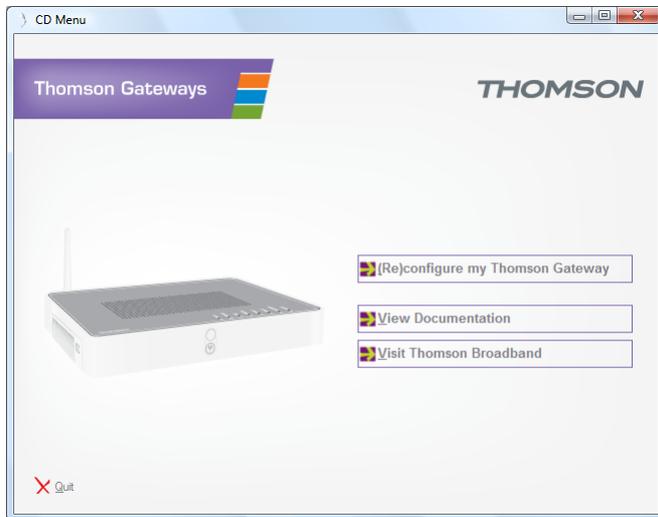
- 1 Insert the Setup CD into your computer's CD- or DVD-ROM drive.
- 2 If your computer runs:
 - ▶ Microsoft Windows: The CD should autostart.
 - ▶ Mac OS X: Double-click **Menu** in the window with the content of the CD.
- 3 Select the language of your choice and click **OK**.
- 4 The Setup wizard will now guide you through the installation.
- 5 At the end of the installation, following screen appears:



- 6 Select the [Go to the Thomson Gateway Web Interface](#) if you want to go to the Thomson Gateway Web Interface after closing the wizard. On the Thomson Gateway Web Interface, you can further configure your Thomson Gateway.
- 7 Click **Finish**.
- 8 The **CD menu** appears.

1 Installation

| CD menu



On the **CD Menu**, click:

- **(Re)configure my Thomson Gateway** to reconfigure your Thomson Gateway or add a new computer to your network.
- **View Documentation** to view the documentation that is available for your Thomson Gateway. This list will be automatically updated if you are connected to the Internet.
- **Visit Thomson Broadband** to visit the online support sections on www.thomson-broadband.com.



Actual available items may depend on the Setup CD delivered with your Thomson Gateway.

1.3.2 Manual Installation

Procedure

Proceed as follows:

- 1 Connect the cables
- 2 Configure the Thomson Gateway

Connect the cables

Proceed as follows:

- 1 Connect your computer to the Thomson Gateway as described in “3.1 Adding a Computer to your Network” on page 20.
- 2 Connect the Thomson Gateway to the DSL line.
- 3 Connect the power supply.
- 4 Turn on the Thomson Gateway.

Configure the Thomson Gateway

- 1 Open your web browser.
- 2 The Thomson Gateway informs you that you have not yet configured your Thomson Gateway.



Welcome...

Congratulations on purchasing this Thomson Gateway residential gateway.

You are currently not connected to the Internet, click on the task below to continue.

 [Set up my Thomson Gateway](#)

<http://www.google.com/ig?hl=en>

If this window does not appear browse to <http://dsldevice.lan> or to the IP address of your Thomson Gateway (by default: 192.168.1.254) and click **Thomson Gateway** on the menu on the left-hand side.

- 3 Click **Setup my Thomson Gateway**.
- 4 The **Easy Setup** wizard appears. This wizard will guide you through the configuration of your Thomson Gateway. Click **Next** and follow the instructions.

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2 Thomson Gateway Basics

In this chapter

Topic	Page
Thomson Gateway LED Behaviour	12
Thomson Gateway Web Interface	14
Backing Up/Restoring your Configuration	17

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2 Thomson Gateway Basics

2.1 Thomson Gateway LED Behaviour

Status LEDs

On the top panel of your Thomson Gateway, you can find a number of status LEDs, indicating the state of the device during normal operation.

The following table shows the meaning of the different LEDs.

Indicator			Description
Name	Colour	State	
Power	Green	Solid on	Power on, normal operation
	Red	Solid on	Power on, self-test failed, indicating device malfunction
	Orange	Solid on	Bootloader active (during upgrade)
	Off		Power off
Ethernet	Green	Blinking	Ethernet activity
		Solid on	Ethernet connection, no activity
	Off		No Ethernet connection
Wireless	Green	Blinking	Wireless activity, WPA(2) encryption
		Solid on	No wireless activity, WPA(2) encryption
	Amber	Blinking	Wireless activity, WEP encryption
		Solid on	No wireless activity, WEP encryption
	Red	Blinking	Wireless activity, no security
		Solid on	No wireless activity, no security
	Red/green	Toggling	Wireless client registration phase
	Off		WLAN disabled
Broadband	Green	Blinking	Pending DSL line synchronisation
		Solid on	DSL line synchronised
	Off		No DSL line
Internet	Green	Blinking	Internet activity
		Solid on	Internet connectivity, no activity
	Red	Solid on	Internet connection setup failed
	Off		No Internet connection

Ethernet LED

A LED may be provided per Ethernet port to indicate link integrity (or activity).

LED Status	Description
Off	No connection on this port
Solid on	Ethernet link up
Blinking	Data is flowing from/to this port

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2 Thomson Gateway Basics

2.2 Thomson Gateway Web Interface

Introduction

The Thomson Gateway Web Interface allows you to configure your Thomson Gateway using your web browser.

Requirements

Javascript must be enabled on your browser.

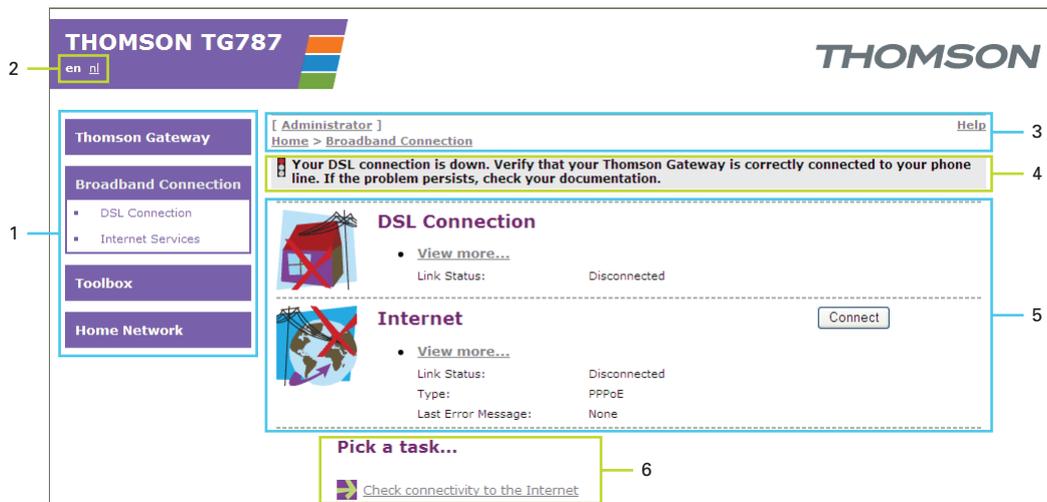
Accessing the Thomson Gateway Web Interface

Proceed as follows:

- 1 Open your web browser.
- 2 Browse to <http://dsldevice.lan> or to the IP address of your Thomson Gateway (by default: 192.168.1.254).
- 3 If you have protected your Thomson Gateway with a user name and password, the Thomson Gateway will prompt you to enter these. Enter your user name and password and click **OK**.
- 4 The Thomson Gateway Web Interface appears.

If your computer runs Windows Vista or Windows XP, you can also access the Thomson Gateway Web Interface using the Internet Gateway Device icon. For more information, see "4.1 Universal Plug and Play" on page 24.

Components



Label	Description
1	Menu
2	Language Bar
3	Navigation Bar
4	Notification Area
5	Content pane
6	Tasks

Menu

The menu is located on the left side of the page and consists of the following menu items:

- **Thomson Gateway:**
Provides basic information on the Thomson Gateway.
- **Broadband Connection:**
Allows you to view/configure your broadband connections.
- **Toolbox:**
Allows you to assign games or applications to a device and secure your Internet connection.
- **Home Network:**
Allows you to manage your local network.

Language Bar

The language bar is located in the top banner and allows you to change the language of the Thomson Gateway Web interface.



The language bar will only be shown if more than one language is available.

2 Thomson Gateway Basics

Navigation Bar

The navigation bar is located at the top of the page and allows you to:

- View the current user name.
Click this name to change your password or switch to another user.
- View the current position on the Thomson Gateway Web interface.
- Select change the display level of the page (for example: **Overview**, **Details** or **Configure**)
- Get context-related **Help** information.

Notification Area

The notification area is located under the Navigation Bar and is used to display:

- Error messages, indicated by a red traffic light.
- Warnings, indicated by an orange traffic light.
- Information, indicated by a green traffic light.



If none of these events occur, the notification area will not be shown.

Content pane

The content pane is located at the centre of the page and displays the information and configurable items of the selected topic.

Tasks

To allow a quick configuration of your Thomson Gateway, some pages may offer you a number of related tasks in the **Pick a task** list. These tasks will guide you to the page where you can perform the selected task.

2.3 Backing Up/Restoring your Configuration

Introduction

Once you have configured your Thomson Gateway to your needs, it may be a good idea to save your configuration for later use. This way you can always return to your working configuration in case of problems.

Backing up your configuration

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Thomson Gateway** menu, click **Configuration**.
- 3 In the **Pick a task** list, click **Save or Restore Configuration**.
- 4 Under **Backup current configuration**, click **Backup Configuration Now**.
- 5 The Thomson Gateway prompts you to save your file.
- 6 Save your file to a location of your choice.

Restoring your configuration

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Thomson Gateway** menu, click **Configuration**.
- 3 In the **Pick a task** list, click **Save or Restore Configuration**.
- 4 Under **Restore saved configuration**, click **Browse**.
- 5 Open your backup file.
- 6 The Thomson Gateway restores your configuration.

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3 Adding New Devices to your Network

In this chapter

	Topic	Page
I	Adding a Computer to your Network	20

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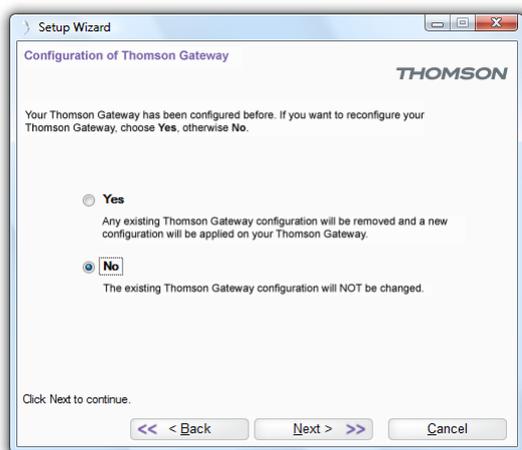
3 Adding New Devices to your Network

3.1 Adding a Computer to your Network

Guided Installation

If you configured your Thomson Gateway using the Guided Installation, use the same procedure on the computer that you want to add.

At a specific point in the installation, the Setup wizard will inform you that the Thomson Gateway has already been configured:



Select **No** and click **Next** to continue.

Manual Installation

You can also manually add a new computer to your local network:

- Connecting a computer using Wireless
- Connecting a computer using Ethernet

3.1.1 Connecting a computer using Wireless

Before you start

Before you can connect a computer to your wireless network you need to know which Network Name (SSID) and encryption your Thomson Gateway is using.

Where can I find the SSID?

If you did not change the SSID manually, your Thomson Gateway uses the SSID that is printed on the bottom panel label of your Thomson Gateway.

Where can I find the encryption?

You have not yet configured your Thomson Gateway

In this case, no encryption is used.

You have already configured your Thomson Gateway using the Guided Installation

If you choose to use the wireless settings proposed by the Setup wizard, you can find the encryption keys on the label on the bottom of your Thomson Gateway:

Forgot your wireless settings?

If you have changed the wireless settings manually and you can't remember your settings, try one of the following:

If one of your computers is already connected to your network:

- 1 Browse to the Thomson Gateway Web Interface on a computer that is already connected to your network.
- 2 On the **Home Network** menu, click **Wireless**.
- 3 In the upper-right corner, click **Details**.
- 4 The wireless Access Point page appears. Under:
 - ▶ **Configuration**, you can find the network name (SSID).
 - ▶ **Security**, you can find the encryption.

If none of your computers is connected to your network, connect a computer using a wired connection and follow the procedure above to find out what your wireless settings are.

Another option is to reset your Thomson Gateway and reconfigure it all over again. For more information, see "7.3 Reset to Factory Defaults" on page 56.

Procedure

Proceed as follows:

- 1 Configure your computer with the same wireless settings as your Thomson Gateway. For more information, consult the help of your wireless client.
- 2 If you enabled the access control list on the Thomson Gateway, you have to register your computer before you can connect to the network. Access control is disabled by default. For more information, see "5.2 Access Control" on page 39.

3 Adding New Devices to your Network

3.1.2 Connecting a computer using Ethernet

Requirements

- Your computer must have a free Ethernet port.
- Your computer must be configured to obtain an IP address automatically. This is the default setting.

Procedure

Proceed as follows:

- 1 Connect one end of the (yellow) Ethernet cable to (one of the) yellow Ethernet port(s) of your Thomson Gateway:



- 2 Connect the other end of the (yellow) Ethernet cable to your computer.
- 3 Your computer is now connected to your network. No additional configuration is needed.

4 Getting the Most Out of Your Thomson Gateway

In this chapter

In this chapter we will take a closer look at following features:

Topic	Page
Universal Plug and Play	24
Assigning a service (HTTP, FTP,...) to a computer	31
Dynamic DNS	33

Feature availability

Depending on the configuration offered by your Internet Service Provider (ISP), some features may not be available on your Thomson Gateway. For more information, contact your ISP.

4 Getting the Most Out of Your Thomson Gateway

4.1 Universal Plug and Play

Introduction

UPnP is designed to automate the installation and configuration of a (small) network as much as possible. This means that UPnP-capable devices can join and leave a network without any effort of a network administrator.

Supported Operating Systems

Following operating systems support UPnP:

- Windows Vista
- Windows XP



If your computer is running Windows XP, you first have to install the UPnP component. For more information, see "4.1.4 Installing UPnP on Windows XP" on page 29.

UPnP and the Thomson Gateway

With UPnP you can:

- Access the Thomson Gateway Web Interface without having to open the Thomson Gateway Web Interface. For more information, see [Accessing Your Thomson Gateway with UPnP](#).
- Connect/disconnect without having to open the Thomson Gateway Web Interface. For more information, see [Managing your Internet connection with UPnP](#).
- Automatic port configuration for UPnP-enabled games and applications. You do not have to create port to run services on a computer. If the application is UPnP-enabled, UPnP will create these entries automatically. For more information, see [Assigning a service \(HTTP, FTP,...\) to a computer](#).

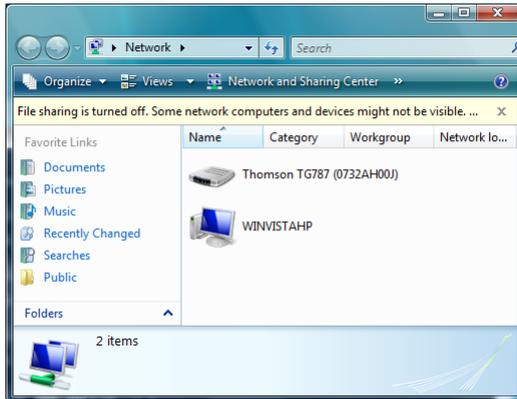
4 Getting the Most Out of Your Thomson Gateway

4.1.1 Accessing Your Thomson Gateway with UPnP

Windows Vista

If your computer runs Windows Vista:

- 1 On the Windows **Start** menu, click **Network**.
- 2 The **Network** window appears:

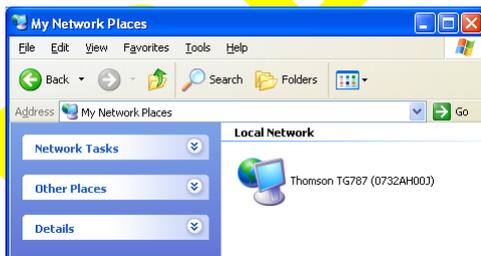


- 3 Right-click your Thomson Gateway (displayed as Thomson TGXXX) and click **View device web page**.
- 4 The Thomson Gateway Web Interface appears.

Windows XP

If your computer runs Windows XP:

- 1 Go to **My Network Places**.
- 2 The **My Network Places** window appears:



- 3 Double-click your Thomson Gateway (displayed as Thomson TGXXX).
- 4 The Thomson Gateway Web Interface appears.

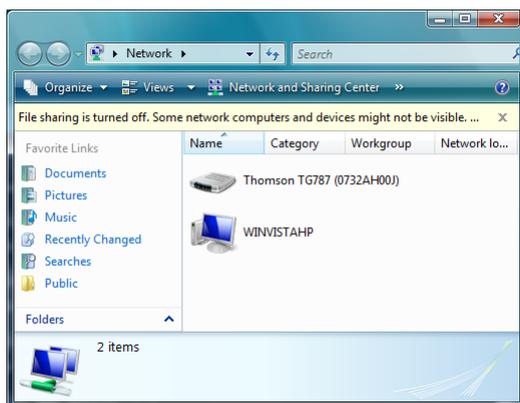
4 Getting the Most Out of Your Thomson Gateway

4.1.2 Managing your Internet connection with UPnP

Windows Vista

If your computer runs Windows Vista:

- 1 On the Windows **Start** menu, click **Network**.
- 2 The **Network** window appears:

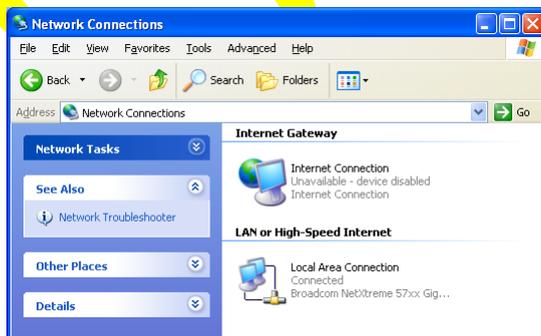


- 3 Right-click your Thomson Gateway (displayed as Thomson TGXXX).
- 4 If you are currently:
 - ▶ Connected to the Internet, click **Disable** to disconnect from the Internet.
 - ▶ Not connected to the Internet, click **Enable** to connect to the Internet.

Windows XP

Proceed as follows:

- 1 On the Windows **Start** menu, click **(Settings >) Control Panel**.
- 2 The **Control Panel** window appears. Click **(Network and Internet Connections) > Internet Connections**.
- 3 The **Network Connections** window appears;



- 4 If you right-click the **Internet Connection** icon, you can connect/disconnect your connection to the Internet.

4 Getting the Most Out of Your Thomson Gateway

Disabling this feature

To prevent that users can connect/disconnect you can enable Extended Security. For more information, see "4.1.3 Configuring UPnP on the Thomson Gateway" on page 28.

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4 Getting the Most Out of Your Thomson Gateway

4.1.3 Configuring UPnP on the Thomson Gateway

Introduction

On the Thomson Gateway Web Interface you can:

- Enable/Disable UPnP
- Extended Security

Enable/Disable UPnP

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Game & Application Sharing**.
- 3 Under **Universal Plug and Play**:
 - ▶ Select the **Use UPnP** check box, to enable UPnP.
 - ▶ Clear the **Use UPnP** check box, to disable UPnP.
- 4 Click **Apply**.

Extended Security

If Extended Security is enable only limited UPnP operation between the host and the Thomson Gateway is allowed. A local host is not allowed to connect/disconnect the Thomson Gateway Internet connection. You can then only connect/disconnect the Internet connection on the Thomson Gateway Web Interface.

Enabling Extended Security

Proceed as follows:

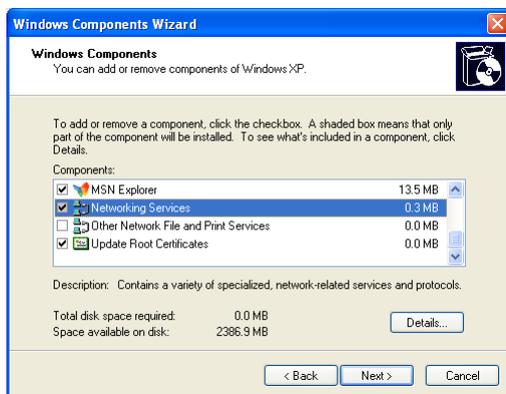
- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Game & Application Sharing**.
- 3 Under **Universal Plug and Play**, select **Use Extended Security**.
- 4 Click **Apply**.

4.1.4 Installing UPnP on Windows XP

Adding UPnP

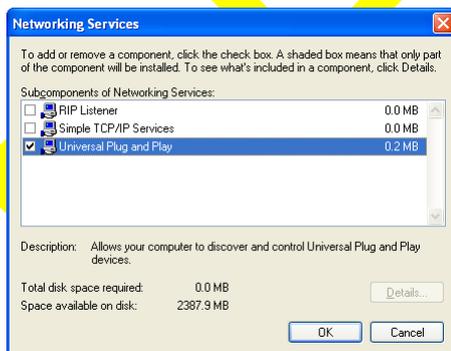
If you are running Microsoft Windows XP, it is recommended to add the UPnP component to your system. Proceed as follows:

- 1 In the **Start** menu, click **(Settings >) Control Panel**.
- 2 The **Control Panel** window appears.
Click **Add or Remove Programs**.
- 3 The **Add or Remove Programs** window appears.
Click **Add/Remove Windows Components**.
- 4 The **Windows Components Wizard** appears:



In the **Components** list, select **Networking Services** and click **Details**

- 5 The **Networking Services** window appears:



Select **Universal Plug and Play** or **UPnP User Interface** and click **OK**.

- 6 Click **Next** to start the installation and follow the instructions in the **Windows Components Wizard**.
- 7 At the end of the procedure the Wizard informs you that the installation was successful. Click **Finish** to quit.

4 Getting the Most Out of Your Thomson Gateway

Adding IGD Discovery and Control

Your Windows XP system is able to discover and control Internet Gateway Devices (IGD), like the Thomson Gateway on your local network. Therefore, it is recommended to add the IGD Discovery and Control client to your system.

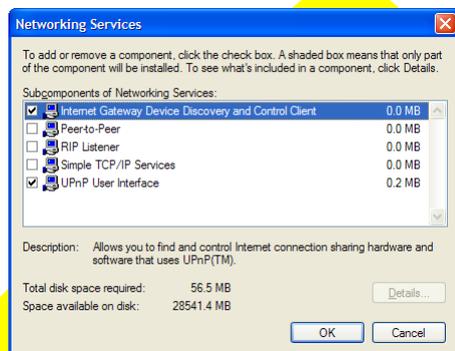
Proceed as follows:

- 1 On the Windows taskbar, click **Start**.
- 2 Select **(Settings >) Control Panel > Add or Remove Programs**.
- 3 In the **Add or Remove Programs** window, click **Add/Remove Windows Components**.
- 4 The **Windows Components Wizard** appears:



Select **Networking Services** in the **Components** list and click **Details**.

- 5 The **Networking Services** window appears:



Select **Internet Gateway Device Discovery and Control Client** and click **OK**.

- 6 Click **Next** to start the installation and follow the instructions in the **Windows Components Wizard**.
- 7 At the end of the procedure, the Wizard informs you that the installation was successful. Click **Finish** to quit.

4 Getting the Most Out of Your Thomson Gateway

4.2 Assigning a service (HTTP, FTP,...) to a computer

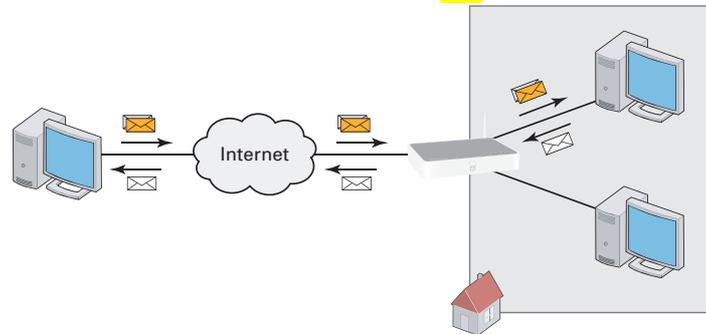
Introduction

The Thomson Gateway allows you to use one internet connection for multiple computers. This means that all your computers share one public IP address, as if only one computer is connected to the outside world.

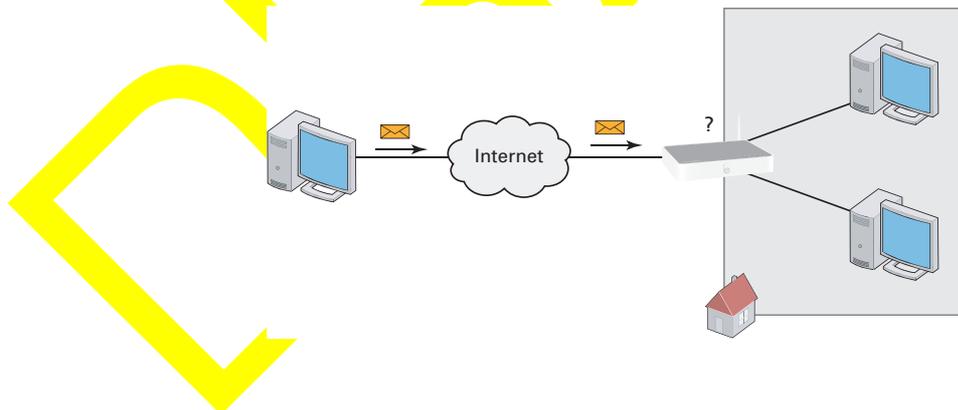
Problem

When the Thomson Gateway receives an incoming message, the Thomson Gateway has to decide to which computer he will have to send this message.

If the incoming message is a response to an outgoing message originating from one of your computers, the Thomson Gateway sends the incoming message to this computer.



If you are running a server or an application that acts as a server (for example a HTTP server, internet game), the initial message will come from the internet and the Thomson Gateway has to decide to which computer he should forward the incoming message.



Solution

To avoid this problem you can:

- Enable UPnP.
- Assign a game or application to a local networking device.

4 Getting the Most Out of Your Thomson Gateway

UPnP

UPnP is a technology that enables seamless operation of a wide range of games and messaging applications. Your computer will use UPnP to communicate to the Thomson Gateway which services are running on the computer.

For more information on UPnP, see “4.1 Universal Plug and Play” on page 24.

Assign a game or application to a local networking device

If you assign a game or application to a local networking device, you will basically tell the Thomson Gateway that if it receives requests for a specific game or application, it has to forward these messages to a specific computer.

Proceed as follows to do so:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Game & Application Sharing**.
- 3 In the **Pick a task** list, click **Assign a game or application to a local network device**.
- 4 In the **Game or application** list, click the service you want to run on the computer. For example, **HTTP Server (World Wide Web)**.



If the service is not available in the list, click **Create a new game or application** in the **Pick a task** list. For more information, click **Help** on the Thomson Gateway Web Interface.

- 5 In the **Device** list select the computer to which you want to assign the service. Your computer will be listed with its computer name.
- 6 All incoming request for the selected service will now be directed to the selected device. The Thomson Gateway will also configure the Thomson Gateway firewall to allow this service.

4.3 Dynamic DNS

Introduction

The Dynamic DNS service allows you to assign a dynamic DNS host name (for example john.dyndns.org) to a broadband connection even if it is using a dynamic IP address. As soon as the device gets a new IP address, the dynamic DNS server updates its entry to the new IP address.

What you need

Before we can configure Dynamic DNS, you first have to create an account at one of the following Dynamic DNS service providers:

- www.dyndns.org
- www.no-ip.com
- www.dtdns.com

Procedure

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Dynamic DNS**.
- 3 On the Navigation Bar, click **Configure**.
- 4 Select the **Enabled** check box.
- 5 If necessary, select the broadband connection to which you want to assign the Dynamic DNS host name in the Interface list.
- 6 Type the user name and password of your Dynamic DNS service account in the corresponding fields.
- 7 In the **Service** list, click the name of your Dynamic DNS service provider.
- 8 In the **Host** box, type the host name that you got from the Dynamic DNS service provider (for example mywebpage.dyndns.org).
- 9 Click **Apply**.

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5 Wireless Security

Methods

The Thomson Gateway offers you following tools to protect your wireless network from intruders:

- Encryption
- Access Control
- Disabling SSID Broadcast

As you will find out in the following sections, not all of these security measures are hard to crack. But all together it may discourage some hackers to break into you network.

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5 Wireless Security

5.1 Encryption

Introduction

By using encryption, communication between the wireless clients and your Thomson Gateway is protected by a passphrase. Only clients which use the correct network name (SSID) and passphrase can connect to your network.

Encryption methods

During the years a number of encryption types have been developed. The list below gives you an overview of the supported encryption types ordered by security level, you will find the highest level of security at the top of the list:

- **WPA-PSK Encryption:**
The wireless data is being encrypted with a user-defined key. Wireless clients must be configured with this key before they can connect to the Thomson Gateway.
- **WEP Encryption:**
The first encryption type used for wireless connections. Like WPA-PSK it uses a user-defined key, but WEP has been proven to have some security issues. We strongly recommend you to use WPA-PSK instead.

Configuring the wireless encryption

Proceed as follows:

- 1 Open the Thomson Gateway Web Interface.
- 2 On the left menu, click **Home Network**.
- 3 Under **Wireless**, click your access point.



Your access point will be listed in the following format: "WLAN:<Network Name> (<Actual Speed>)". For example, **WLAN: Thomson83C7C7 (54Mbps)**.

- 4 The **Wireless Access Point** page appears.
- 5 In the Navigation Bar, click **Configure**.
- 6 Under **Security**, you can change the **Encryption**. If you want to use:
 - ▶ WEP Encryption, continue with "5.1.1 Configuring WEP Encryption" on page 37.
 - ▶ WPA-PSK Encryption, continue with "5.1.2 Configuring WPA-PSK Encryption" on page 38.

5.1.1 Configuring WEP Encryption

Procedure

Continuing from “Configuring the wireless encryption”:

- 1 Select **Use WEP Encryption**
- 2 In the **WEP Key Length** list, click the desired key length (a higher key length offers higher security).
- 3 In the **Encryption key** box, type a Network key of your choice. If you are using:
 - ▶ A 64-bit key:
Type 10 hexadecimal characters (characters from 0 to 9 and from A to F) or 5 alphanumeric characters.
 - ▶ A 128-bit key:
Type 26 hexadecimal characters (characters from 0 to 9 and from A to F) or 13 alphanumeric characters.
- 4 Click **Apply**.
- 5 Configure your wireless client(s) with the same settings.

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5.1.2 Configuring WPA-PSK Encryption

Procedure

Continuing from “ Configuring the wireless encryption”:

- 1 Select **Use WPA-PSK Encryption**.
- 2 In the **WPA-PSK Encryption Key** box, type a pass phrase (also known as Pre-shared key) of your choice. The pass phrase must consist of 8 to 63 alphanumeric characters or 64 hexadecimal characters (characters from 0 to 9 and from A to F).
- 3 In the **WPA-PSK Version** list, click the WPA-version of your choice. Following options are available:
 - ▶ **WPA2:**
WPA2 is the most secure version, but not all wireless clients already support it. Before you select this version, make sure all of your wireless clients support it.
 - ▶ **WPA+WPA2:**
If not all of your wireless clients support WPA2 or you are not sure if they support WPA2, we recommend you to choose WPA+WPA2. Wireless clients that support WPA2 will use WPA2, the others will use WPA.
 - ▶ **WPA:**
If none of your wireless clients support WPA2 choose this option.
- 4 Click **Apply**.
- 5 Configure your wireless client(s) with the same settings.



To use WPA2 on Windows XP SP2 you first have to install Wi-Fi Protected Access 2 (WPA2)/ Wireless Provisioning Services Information Element (WPS IE) update. You can find this update on <http://support.microsoft.com/kb/917021>.

5.2 Access Control

What is access control?

Every network device carries a unique hexadecimal code (MAC address). Access control enables you to allow/deny access to wireless clients based on their MAC address.

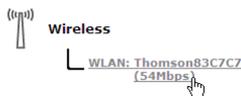
Drawbacks

- MAC authentication is linked to the user's hardware and not to his identity.
- You can easily change the MAC address of your wireless clients.

How can I configure this on the Thomson Gateway?

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the left menu, click **Home Network**.
- 3 Under **Wireless**, click your access point.



Your access point will be listed in the following format: "WLAN:<Network Name> (<Actual Speed>)". For example, **WLAN: Thomson83C7C7 (54Mbps)**.

- 4 The **Wireless Access Point** page appears.
- 5 In the Navigation Bar, click **Configure**.
- 6 Under **Security**, you can set the **Allow New Devices** property to:
 - ▶ New stations are allowed (automatically).
 - ▶ New stations are allowed (via registration)
 - ▶ New stations are not allowed.
- 7 Select the option of your choice and click **Apply**.

New stations are allowed (automatically)

Access control is disabled. All wireless client can connect if they use the correct SSID and encryption.

New stations are allowed (via registration)

Access Control is enabled. To add new wireless clients to the access control list, you have to search for new wireless devices using the:

- Registration button on the front panel of your Thomson Gateway.
- Search for wireless devices task on the Thomson Gateway Web Interface.

5 Wireless Security

New stations are not allowed

Access Control is enabled. You can only add your wireless devices to the access control list using the Search for wireless devices task on the Thomson Gateway Web Interface.

Search for wireless devices task

To add new wireless devices to the access control list:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Home Network** menu, click **Devices**.
- 3 In the **Pick a task** list, click **Search for wireless devices**.
- 4 The Thomson Gateway is now in registering mode and will add all devices that use the correct SSID and encryption to the access control list. During this phase the WLAN LED colour will switch between red and green.
- 5 Your new wireless clients should now be connected to the Thomson Gateway.

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Registering Clients via the Association Button

Proceed as follows to register new wireless network clients via the association button:

- 1 Push the Registration button on the Thomson Gateway front panel and hold it for at least two seconds.



- 2 The WLAN LED toggles between green and red.
- 3 The Thomson Gateway unlocks the Access Control List for one minute. Wireless clients configured with the correct wireless settings that try to connect to the Thomson Gateway will be added to the list of allowed devices.



Some wireless clients do not automatically join a wireless network. If that is the case, follow the instructions for the wireless client software to initiate the association.

- 4 Depending on your wireless client adapter, a wireless icon may become green or a message similar to the following may appear: "Successfully joined Wireless network Thomson123456".
- 5 After one minute, the Thomson Gateway locks the Access Control List again.



The registration procedure can be repeated as often as needed.

5.3 Disabling SSID Broadcast

What does this mean?

Access points broadcast their Network Name (SSID) to announce themselves to the wireless stations and other access points. Wireless clients will make a list of these access points and show them to the user. The user can then select his wireless client and try to connect to this access point.

By disabling the SSID broadcasting, your access point will no longer be available in those lists. Users will have to enter the Network Name manually if they want to connect to your wireless network.

Security

This was the first method to secure a WLAN, because you have to know the Network Name in order to access the wireless network. With the correct tools, hackers can still find out which SSID you are using. But you can see it as a first step in discouraging them to try and break in to your wireless network.

Procedure

To disable SSID broadcast, proceed as follows:

- 1 Open the Thomson Gateway Web Interface.
- 2 Under **Home Network**, click **Wireless**.
- 3 The Wireless Access Point page appears.
- 4 In the Navigation Bar, click **Configure**.
- 5 Under Security, clear the **Broadcast Network Name** check box.

6 Internet Security

Overview

The Thomson Gateway offers you various options to secure your network:

Topic	Page
Firewall	44
Web site Filtering	45

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6.1 Firewall

Changing the security level

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Firewall**.
- 3 The **Firewall** page appears. In the upper-right corner, click **Configure**.
- 4 A list with security settings with a brief description is displayed.
- 5 Select the security level of your choice and click **Apply**.

Creating a new security level

If you do not find a security level up to your need, you are able to create a new security level.



This feature is intended for *advanced users only*.

Proceed as follows:

- 1 In the **Toolbox** menu, click **Firewall**.
- 2 In the upper right corner, click **Configure**.
- 3 In the **Pick a task** list, click **Create a new Security Level**.
- 4 In the **Name** box, type a name for the new security level.
- 5 In the **Clone from existing Security Levels** list, click the security level you want to start from.
- 6 Click **Apply**.
- 7 You can now make the necessary changes to the security level.

6.2 Web site Filtering

Introduction

Web site filtering allows you to restrict access to specific web sites.

Strategies

There are two strategies you can follow:

- **Allow** access to **all** web sites and manually specify a number of web sites that may be accessed.
- or -
- **Deny** access to **all** web site and manually specify which web sites may not be accessed.

Procedure

Proceed as follows:

- 1 Enable Web site filtering and specify a default action.
- 2 Configure the exceptions.

Enable Web site filtering and specify a default action

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Web Site Filtering**.
- 3 On the Navigation Bar, click **Configure**.
- 4 Select the **Use Address Based Filter** check box.
- 5 In the **Action for Unknown Sites**, select the action you want to use by default.
- 6 Click **Apply**.

Configure the exceptions

You can now:

- Denying access to a specific Web site
- Allowing access to a specific Web site
- Redirecting a Web site
- Redirecting all Web sites

6.2.1 Denying access to a specific Web site

Use cases

Use this feature if:

- **Allow** is selected under **Action for Unknown Sites** and you want to make an exception for a specific site.
- **Block** is selected under **Action for Unknown Sites** and you want to make an exception on an allow rule. For example: you are allowing “provider.com” but you want to block access to “mail.provider.com”.

Procedure

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Toolbox** menu, click **Web Site Filtering**.
- 3 Select the **Use Address Based Filter** check box.
- 4 Type the URL of the Web site you want to block (for example “mail.provider.com”) in the **Web Site** box.
- 5 In the **Action** list, click:
 - ▶ **Block** if you want to block this Web site.
 - ▶ **Redirect** if you want to redirect to another page. Type the address of the redirect page in the **Redirect** box.
- 6 Click **Add**.

6.2.2 Allowing access to a specific Web site

Use cases

Use this feature if:

- **Block** is selected under **Action for Unknown Sites** and you want to make an exception for a specific site.
- **Allow** is selected under **Action for Unknown Sites** and you want to make an exception on a block/redirect rule. For example: you are blocking "bank.com" but you want to allow access to "netbanking.bank.com".

Procedure

Proceed as follows:

- 1 Type the URL of the Web site you want to allow (for example "netbanking.bank.com") in the **Web Site** box.
- 2 Click **Allow** in the **Action** list.
- 3 Click **Add**.

6.2.3 Redirecting a Web site

Procedure

Proceed as follows:

- 1 Type the URL of the Web site you want to redirect (for example “cracks.am”) in the **Web Site** box.
- 2 Click **Redirect** in the **Action** list.
- 3 Type the URL of the Web site you want to redirect to (for example “mycompany.com/internetpolicy.htm”) in the **Redirect** box.
- 4 Click **Add**.

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6.2.4 Redirecting all Web sites

Procedure

Proceed as follows:

- 1 Type "*" in the **Web Site** box.
- 2 Click **Redirect** in the **Action list**.
- 3 Type the URL of the Web site you want to redirect to (for example "mycompany.com/internetpolicy.htm") in the **Redirect** box.
- 4 Click **Add**.
- 5 Type the URL of the Web site you want to redirect to (for example "mycompany.com/internetpolicy.htm") in the **Web Site** box.
- 6 Click **Allow** in the **Action list**.
- 7 Click **Add**.

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7 Troubleshooting

Introduction

This chapter suggest solutions for problems you may encounter while installing or configuring your Thomson Gateway.

If the suggestions do not resolve the problem, look at the support pages on <http://www.thomson-broadband.com> or contact your service provider.

For Internet connection troubleshooting, refer to the provided Installation and Setup Guide.

Topics

In this chapter:

- General Thomson Gateway Troubleshooting
- Reset to Factory Defaults

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7 Troubleshooting

7.1 Setup wizard Troubleshooting

The Setup CD does not start automatically

If your computer runs:

- Microsoft Windows:
 - 1 Click the Windows **Start** button.
 - 2 Click **Run**.
 - 3 In the **Open** field, type the following path: **D:\Setup.exe**, where D stands for the drive letter of your CD- or DVD-ROM drive.
- Mac OS X:
 - 1 On your desktop, double-click the CD icon.
 - 2 Double-click **Menu**.

Your Thomson Gateway has not been found

If you see this error during setup, check whether:

- The Thomson Gateway is turned on and fully initialized.
- Your computer has a valid IP address, that is any address but 0.0.0.0.
- No dedicated firewall device or router is placed between your computer and the Thomson Gateway.
- No personal network security software (for example firewall software) is running on your computer.
- Your computer is correctly connected to the Thomson Gateway

7.2 General Thomson Gateway Troubleshooting

Thomson Gateway does not work

If none of the LEDs light up, make sure that:

- The Thomson Gateway is plugged into a power socket outlet.
- You are using the correct power supply for your Thomson Gateway device.



The power requirements for your Thomson Gateway are clearly indicated on the identification label on the bottom of the Thomson Gateway. Only use the power adaptor supplied with your Thomson Gateway.

- The Thomson Gateway is turned on via the push button or rocker switch on the back panel.

Thomson Gateway unreachable

If your Thomson Gateway cannot be reached due to misconfiguration, you might consider a hardware reset to factory defaults as described in “7.3 Reset to Factory Defaults” on page 56.

Poor Thomson Gateway performance

Make sure that the Thomson Gateway is installed and configured as instructed in “1 Installation” on page 3 or as instructed by the Service Provider.

| 7.2.1 **Wired** Connection Troubleshooting

LAN LED does not light up

Make sure that:

- The LAN cable is securely connected to the 10/100Base-T port.
- You are using the correct cable type for your Ethernet equipment, that is UTP CAT5 with RJ-45 connectors.

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7.2.2 Wireless Connection Troubleshooting

Not Able to Connect Wireless Clients

Check the following:

- If registration is enabled, you must press the 'Association' button to register the wireless client or search for wireless devices via the embedded web pages.
- Make sure the Thomson Gateway Association Control List is not locked. You can check this on the web pages. On the Wireless Access Point settings, make sure **New stations are not allowed** is NOT selected.

No Wireless Connectivity

Make sure that:

- Both the wireless client adapter and the Thomson Gateway are allowed to connect through wireless channels as defined for local regulatory domain.
- The wireless client is configured for the correct wireless settings (SSID, security settings).
- Check the signal strength, indicated by the wireless client manager. If the signal is low, try repositioning the Thomson Gateway or directing the Thomson Gateway's antenna(s) for optimal performance.
- Make sure that the wireless client adapter is enabled (message like "radio on").

Poor Wireless Connectivity or Range

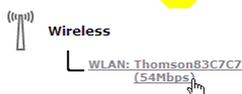
Try the following:

- Change the wireless channel.
- Make sure both the wireless client adapter and the Thomson Gateway are allowed to connect through wireless channels as defined for local regulatory domain.
- Check the location of the Thomson Gateway in the building.
- Check the signal strength, indicated by the wireless client manager. If the signal is low, try to place the Thomson Gateway or to direct the Thomson Gateway's antenna(s) for optimal performance.

Change the wireless channel

Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the left menu, click **Home Network**.
- 3 Under **Wireless**, click your access point.



Your access point will be listed in the following format: "WLAN:<Network Name> (<Actual Speed>)". For example, **WLAN: Thomson83C7C7 (54Mbps)**.

- 4 The **Wireless Access Point** page appears.
- 5 In the Navigation Bar, click **Configure**.
- 6 Under **Configuration**, select the channel of your choice in the **Channel Selection** list.
- 7 Click **Apply**.

7.3 Reset to Factory Defaults

Resetting your Thomson Gateway

If at some point you can no longer connect to the Thomson Gateway or you want to make a fresh install, it may be useful to perform a reset to factory defaults.

Warning

A reset to factory default settings deletes all configuration changes you made. Therefore, after the reset, a reconfiguration of your Thomson Gateway will be needed.

Also your WLAN clients will have to be re-associated, as described in “3.1.1 Connecting a computer using Wireless” on page 21.

Methods

You can choose between:

- Software Reset
- Hardware Reset

Software Reset

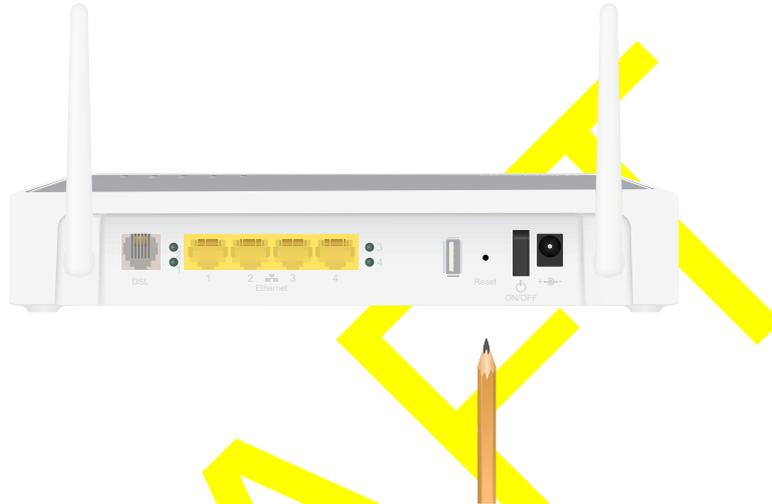
Proceed as follows:

- 1 Browse to the Thomson Gateway Web Interface.
- 2 On the **Thomson Gateway** menu, click **Configuration**.
- 3 In the **Pick a task list**, click **Reset my Thomson Gateway to default settings**.
- 4 The Thomson Gateway restores the initial configuration and restarts.
- 5 The Thomson Gateway returns to the Thomson Gateway home page (unless the IP address of your computer is not in the same subnet as the default IP address of the Thomson Gateway, being 192.168.1.254).

Hardware Reset

Proceed as follows:

- 1 Make sure the Thomson Gateway is turned on.
- 2 Use a pen or an unfolded paperclip to push the recessed **Reset** button on the back panel. Push it until the **Power LED** lights red - this will take about 7 seconds.



- 3 Release the **Reset** button.
- 4 The Thomson Gateway restarts.



Your system administrator may have disabled the physical reset button of the Thomson Gateway. In this case, a hardware reset to defaults is not possible.

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