TG589vac v2

Setup and User Guide

technicolor

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Document Information

Contents

About this Setup and User Guide

In this Setup and User Guide

The goal of this Setup and User Guide is to show you how to:

- Set up your TG589vac v2 and local network.
- Configure and use the features of your TG589vac v2.

Used Symbols

The *danger* symbol indicates that there may be a possibility of physical injury.

The *warning* symbol indicates that there may be a possibility of equipment damage.

The *caution* symbol indicates that there may be a possibility of service interruption.

The *note* symbol indicates that the text provides additional information about a topic.

Typographical Conventions

Following typographical convention is used throughout this manual:

- This sample text indicates a hyperlink to a website.

  Example: For more information, visit us at www.technicolor.com.

- This sample text indicates an internal link.

  Example: If you want to know more about this Setup and User Guide, see *"About this Setup and User Guide" on page 1*.

- *This sample text* indicates an important content-related word.

  Example: To enter the network, you *must* authenticate yourself.

- **This 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.

1 Getting started

Introduction

This chapter gives you a brief overview of the main features and components of your TG589vac v2. After this chapter we will start with the installation.

⚠️ Do not connect any cables, or power on your TG589vac v2 until instructed to do so in this Setup and User Guide.

Before you start

Carefully read the **Safety Instructions and Regulatory Notices** document included in your package before you continue with the installation of your TG589vac v2.

Topics

This chapter describes the following topics:

Topic	Page
1.1 Features at a glance	3
1.2 Product overview	4

1.1　Features at a glance

Introduction

This section provides a brief overview of the main features of your TG589vac v2.

Internet connection features

- *Broadband Internet access* via the integrated *VDSL2* modem.
- *Broadband Internet access* via the Gigabit WAN port.
- *(Fallback) mobile Internet access* via the optional mobile Internet dongle.
  For more information, see *"2.5 Set up a mobile fallback connection" on page 19*.

Local networking features

- *Wireless access* for your local network devices via the integrated IEEE 802.11ac 5 GHz and IEEE 802.11n 2.4 GHz wireless access points.
  For more information, see *"3 Wireless networking" on page 21*
- By enabling *band steering*, the TG589vac v2 will try to make optimal use of the less congested 5 GHz frequency band. Dual-band clients that are connected to the 2.4 GHz will automatically be steered to the 5 GHz provided that the 5 GHz signal quality is good enough. This ensures that the already congested 2.4 GHz band is only used when absolutely necessary. For more information, see *"3.5 Enable band steering to optimise your wireless connection" on page 31*.
- *Wired access via Ethernet cable* for your local network devices via the Ethernet interface.
  For more information, see *"2.3 Connecting your wired devices" on page 17*.
- An Integrated media server allowing you to share your media with media players and other network devices. For more information, see *"5.1 Content sharing" on page 59*.
- Turn your USB printer in a network printer thanks to the Printer Sharing feature. For more information, see *"5.2 Printer sharing" on page 63*.

Security features

- The *integrated firewall* helps you protect your network from attacks from the Internet.
  For more information see *"4.3.8 Firewall" on page 47*.
- The *site blocking* function allows you to block access to specific websites.
  For more information, see *"6.1 Site blocking" on page 67*.
- The *access control* allows you to create access schedules for *Internet* access.
  For more information, see *"6.2 Access control" on page 68*.

The TG589vac v2 web interface

The *TG589vac v2 web interface* allows you to configure your TG589vac v2 via your web browser.
For more information, see *"4 TG589vac v2 web interface" on page 34*.

1.2 Product overview

Overview

This section provides an overview of the different components of your TG589vac v2:

Topic	Page
1.2.1 Power	*5*
1.2.2 Local network connections	*6*
1.2.3 Broadband connections	*7*
1.2.4 Buttons	*8*
1.2.5 Status LEDs	*9*

1.2.1 **Power**

Overview
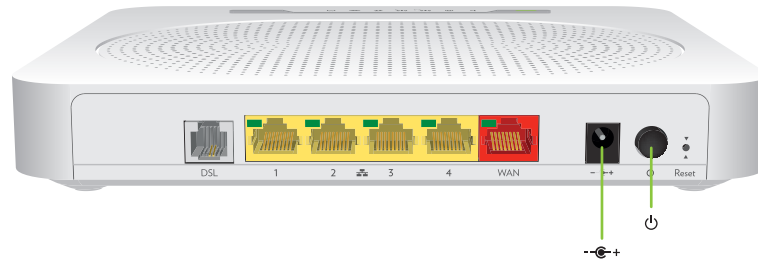
Power inlet

The power inlet $(-\!\!-\!\!\mathbb{C}\!\!-\!\!+)$ allows you to connect the power supply unit.

⚠️ Only use the power supply unit that is supplied with this product, is supplied by your service provider or local product dealer, or a replacement power supply unit provided by your service provider or local product dealer.

The use of other types of supplies is prohibited.

If you are not sure of the type of power supply needed, consult the product's user documentation or contact your service provider or local product dealer.

Power switch

The power switch $(\textcircled{I})$ allows you to power on/off your TG589vac v2.

1.2.2 Local network connections

Overview

Wireless access point

The built-in 2.4 GHz IEEE802.11n and 5 GHz IEEE802.11ac wireless access points provide wireless access to your wireless clients.

For more information, see *"3 Wireless networking" on page 21*.

Ethernet switch

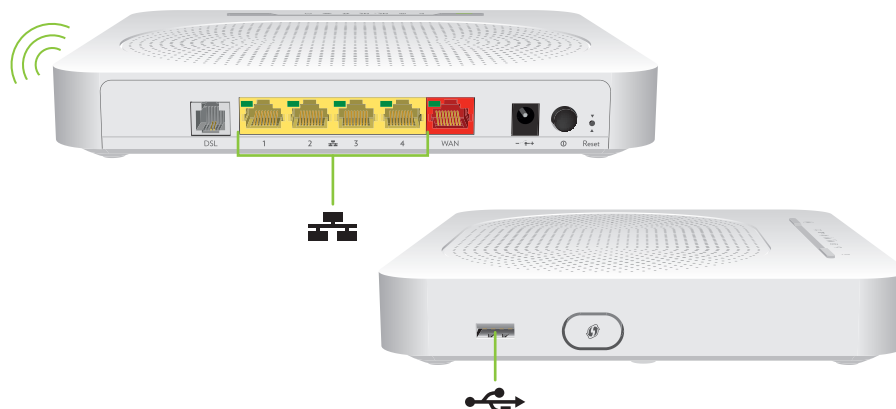The Ethernet switch (⊞) allows you to connect Ethernet devices (a computer, a smart TV, a Network-Attached Storage (NAS), a set-top box, etc.) to your local network. For more information, see *"2.3 Connecting your wired devices" on page 17*.

All Ethernet ports on your TG589vac v2 are Gigabit Ethernet ports. Each Ethernet port has a maximum speed of 1 Gbps (Gigabit per second).

Each Ethernet port has a LED to indicate link integrity (or activity).

LED Status	Description
Solid on	Device connected.
Blinking	Device connected and sending/receiving data.
Off	No device connected.

USB Port

The Hi-Speed USB (USB 2.0) port (⟊) can be used to:

- Connect a USB mass storage device to *share your content* (for example, music, movies,...).
  For more information, see *"5.1 Content sharing" on page 59*.

- Connect your USB printer and share it with other users on your network.
  For more information, see *"5.2 Printer sharing" on page 63*.

- Connect a mobile Internet dongle to set up a mobile Internet connection that can work as a backup for your main Internet connection. For more information, see *"2.5 Set up a mobile fallback connection" on page 19*.

1.2.3 Broadband connections

Overview
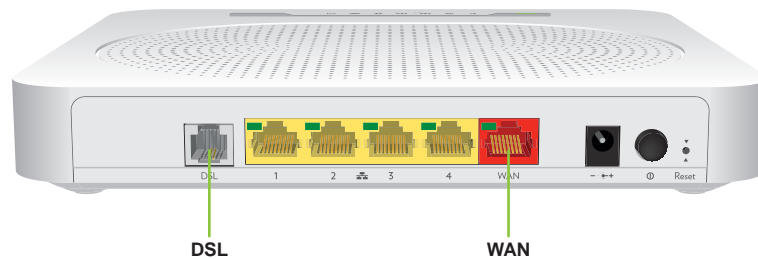
DSL port

This port allows you to connect your TG589vac v2 to your service provider's DSL network.

For more information, see *"2.1 Connecting your TG589vac v2 to your service provider's network" on page 13*.

WAN port

The Gigabit Ethernet WAN port allows you to use your TG589vac v2 as a local router.

For more information, see *"2.1 Connecting your TG589vac v2 to your service provider's network" on page 13*.

Mobile Internet dongle (optional)

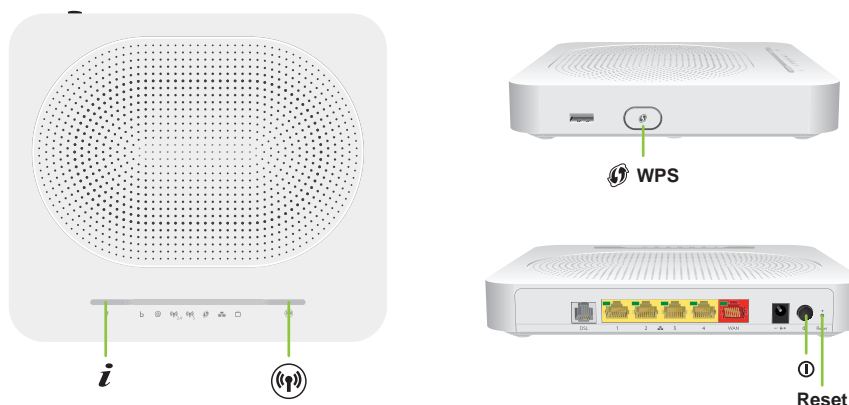If you purchased the optional mobile Internet dongle, and you have a mobile Internet subscription, you can set-up a mobile data connection that can serve as a fallback Internet connection.

For more information, see *"2.5 Set up a mobile fallback connection" on page 19*.

1.2.4 Buttons

Overview

Power button

The **Power** (⏻) button allows you turn your TG589vac v2 on or off.

Info button

The **Info** (*i*) button has two functions:

- The integrated LED indicates the overall status of the TG589vac v2 services.
- Pressing the **Info** button will temporarily enable the status LEDs when they are disabled.

For more information, see *"1.2.5 Status LEDs" on page 9*.

Wireless button

The **Wireless** ((((•)))) button allows you to manually disable the wireless interfaces of your TG589vac v2. You can do this when nobody is using the wireless network.

To turn the wireless interfaces on or off, briefly press the **Wireless** button.

> ℹ️ To know whether the access point is enabled or not, check the Wireless LEDs.
>
> For more information see *"Wireless LED" on page 10*.

WPS button

The **WPS** (⚡) button allows you to add new wireless clients to your network in an easy yet secure way without the need to enter any of your wireless settings manually.

For more information, see *"3.1 Connecting your wireless client via WPS" on page 22*.

Recessed Reset button

The recessed **Reset** button allows you to reset your TG589vac v2 to factory defaults.

For more information, see *"7.4 Reset to factory defaults" on page 76*.

1.2.5 Status LEDs
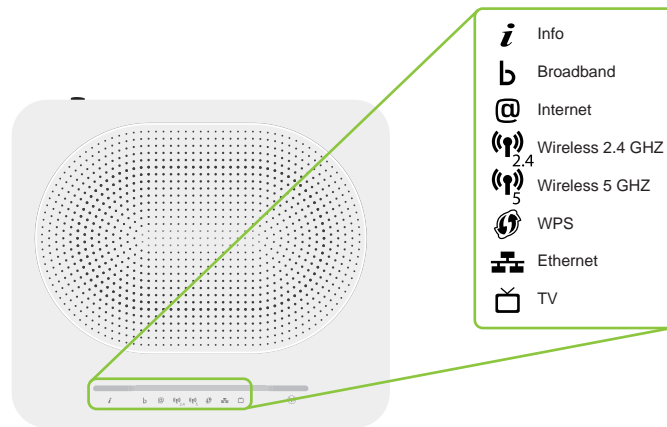
Introduction

On your TG589vac v2 you can find a number of status LEDs that indicates the state of your TG589vac v2.

i	Info
ᖯ	Broadband
@	Internet
((ᵢ))2.4	Wireless 2.4 GHZ
((ᵢ))5	Wireless 5 GHZ
WPS	WPS
Ethernet	Ethernet
TV	TV

Status LED

The **Status** LED provides information about the overall state of your TG589vac v2.

Colour	State	Description
Green	Solid on	All services are available. The wireless radio is *enabled*.
Blue	Solid on	All services are available. The wireless radio is *disabled*.
Red	Solid on	One or more services from your subscription are currently not available.
Orange	Solid on	Bootloader selftest.
	Blinking	Bootloader active (when upgrading the software of your TG589vac v2).
Off		Your TG589vac v2 is powered off.

⚠ The other status LEDs are only activated when one of the services is down.

When the **Status** (*i*) button is green or blue, you can press the info(*i*) button to temporarily activate the other LEDs.
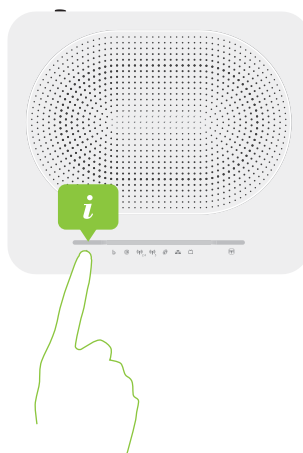
Broadband LED (if you are using the DSL gateway scenario)

Colour	State	Description
Green	Solid on	DSL line synchronised.
	Blinking	Trying to detect carrier signal or pending DSL line synchronisation.
Off		No DSL line connected. - or - Your TG589vac v2 powered off.

Broadband LED (if you are using the local router scenario)

Colour	State	Description
Green	Solid on	Connected to the WAN device.
Off		Not connected to the WAN device.

Internet LED

Colour	State	Description
Green	Solid on	Connected to the Internet, no activity.
	Blinking	Connected to the Internet, sending/receiving data.
Red	Blinking	Trying to connect to the Internet.
	Off	No Internet connection.

Wireless LED

Colour	State	Description
Green	Solid on	The wireless interface is enabled, no wireless activity.
	Blinking	The wireless interface is enabled, wireless activity.
Off		The wireless interface is disabled.

ℹ️ Both the 2.4 GHz and 5 GHz access point have a dedicated **Wireless** LED.

WPS LED

Colour	State	Description
Green	Solid On	Client successfully registered via WPS.
Orange	Blinking	WPS registration ongoing.
Red	Blinking	Error occurred.

For more information about WPS, see *"3.1 Connecting your wireless client via WPS" on page 22*.

Ethernet LED

Colour	State	Description
Green	Solid on	At least one active network device is connected to the Ethernet switch.
	Blinking	At least one Network device is connected to the Ethernet switch and sending/receiving data.
Off		No active Ethernet devices connected to the Ethernet switch.

ℹ️ This **Ethernet** LED provides an overall status of the Ethernet connections. Additiobally, each Ethernet port has its own LED to indicate link integrity (or activity). For more information, see *"Ethernet switch" on page 6*.

TV LED

Colour	State	Description
Green	Solid on	Your digital TV service is up.
	Blinking	Your digital TV service is up and there is activity.
Off		Your digital TV service is down or the digital TV service is not included in your subscription .

2 Setting up your TG589vac v2

> ⚠️ Always follow the specific instructions of the service provider if provided.

Setting up your main services

Proceed as follows:

1 Connect your TG589vac v2 to your service provider's network.
For more information, see *"2.1 Connecting your TG589vac v2 to your service provider's network" on page 13*.

2 Power on your TG589vac v2.
For more information, see *"2.2 Powering on your TG589vac v2" on page 16*.

3 Connect your network devices. To do this using:

- A wireless connection, see *"3 Wireless networking" on page 21*.

- A wired connection, see *"2.3 Connecting your wired devices" on page 17*.

> ⚠️ We recommended you to first connect one computer/tablet (if possible via a wired connection), then complete the rest of the procedure and as a final step connect the other (wired and/or wireless) devices.

4 Configure your TG589vac v2 using the built-in web interface.
For more information, see *"2.4 Configure your TG589vac v2 services" on page 18*.

Setting up additional services

When you subscribed you may have purchased additional services or items.

For more information on how to:

- Set up a mobile data fallback connection using a **mobile Internet dongle**, see *"2.5 Set up a mobile fallback connection" on page 19* for more information.

## 2.1 Connecting your TG589vac v2 to your service provider's network

Introduction

This section helps you to connect your TG589vac v2 to your service provider's network.

Choose your setup

To connect your TG589vac v2 to the Internet you can either:

- Connect your TG589vac v2 to your service provider's DSL network. In this setup your TG589vac v2 is used as a **DSL gateway**. Follow the instructions from *"2.1.1 DSL gateway setup" on page 14*.

MediaAccess Gateway
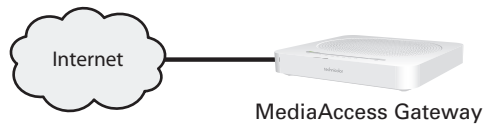
- Place your TG589vac v2 behind another Internet access device (for example, an Optical Network Terminal (ONT), a cable gateway, etc.). In this setup your TG589vac v2 is used as *local router*. Follow the instructions from *"2.1.2 Local router setup" on page 15*.

Internet Access Device   MediaAccess Gateway
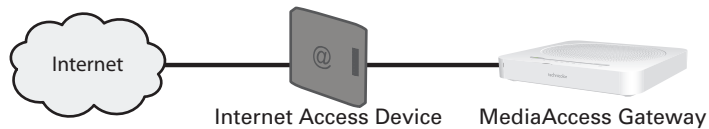
2.1.1 DSL gateway setup
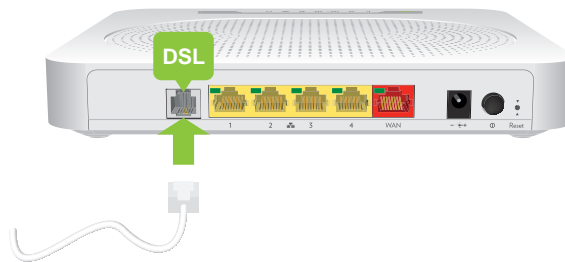
Connecting the cables

Proceed as follows:

1 Take the DSL cable.

> ⚠️ Only use the DSL cable provided in your package. Other DSL cables may not work optimally with the DSL subscription that you purchased.

2 Plug one end of the cable in the grey **DSL** port on the back of your TG589vac v2.

3 If your delivery:

- Does not include a DSL splitter, plug the other end of the DSL cable into your telephone wall socket.

- Includes a DSL splitter, plug the other end of the DSL cable into the **DSL/Modem** port of the DSL splitter. Plug the (**LINE**) cable of the DSL splitter into your telephone wall socket.

> ℹ️ A splitter/filter is a box that typically has the following connectors:
> - A **Line** input
> - A **Phone/PSTN** output
> - A **DSL/Modem** output (optional)

2.1.2 Local router setup

Procedure

Proceed as follows:

1 Take an Ethernet cable. If your package contains an Ethernet cable with red connectors, you must use that cable.

> ⚠ If you use another Ethernet cable than the one included in your package, make sure that the Ethernet cable is a fully wired CAT5E or CAT6 Ethernet cable.

2 Plug one end of the cable in the *red* WAN port on the back of your TG589vac v2.
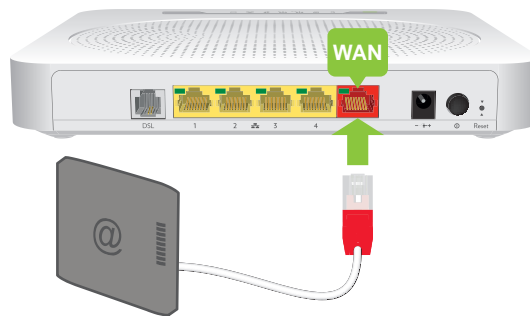
3 Plug the other end of the cable into the Ethernet port of your Internet access device (for example, an Optical Network Terminal (ONT) for Fiber).

> ⚠ The **WAN** port can only be used to connect your TG589vac v2 to an Internet access device. You cannot use it to connect other devices (for example, a computer) to the TG589vac v2.

2.2 Powering on your TG589vac v2

⚠️ Only use the power supply unit that is supplied with this product, is supplied by your service provider or local product dealer, or a replacement power supply unit provided by your service provider or local product dealer.
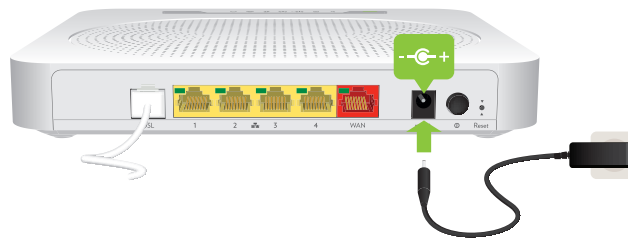
The use of other types of supplies is prohibited.

If you are not sure of the type of power supply needed, consult the product's user documentation or contact your service provider or local product dealer.
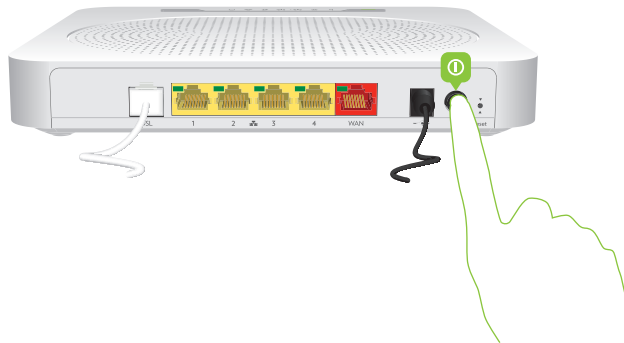
Procedure

Proceed as follows:

1 Plug the connector of the power supply unit into your TG589vac v2 power inlet port (–⦿+).

2 Plug the power supply unit into a nearby power outlet.

3 Press the power button to turn on your TG589vac v2.

4 The ⏻ LED turns on. Wait at least two minutes to allow your TG589vac v2 to complete the startup phase.

2.3 Connecting your wired devices

ℹ️ To connect wireless clients, see *"3 Wireless networking" on page 21*.

ℹ️ To connect a set-top box for digital TV, first look for instructions in the documentation included in your package. In some cases the set-top box will have to be connected to a dedicated Ethernet port (typically Ethernet port 4).

Requirements

- Both your network device (for example, a computer, a gaming console,...) and your TG589vac v2 must have a free Ethernet port.
- Your network device must be configured to obtain an IP address automatically. This should be the default setting.
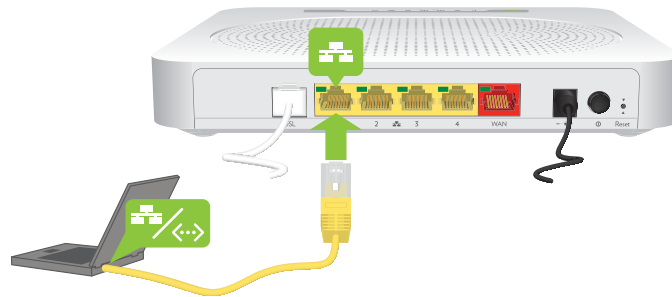
Ethernet cable

In your package, you may find one or more cables with yellow connectors. These are Ethernet cables that you can use to connect a local network device (a computer, an Ethernet printer, etc.).

Procedure

Proceed as follows:

1 Connect one end of the Ethernet cable to one of the *yellow* Ethernet ports of your TG589vac v2:

2 Connect the other end of the Ethernet cable to your network device.

⚠️ Your TG589vac v2 does not support Power over Ethernet (PoE). All network devices that are connected to the TG589vac v2 must be powered by their own power source.

3 Your device is now connected to your network.

2.4 Configure your TG589vac v2 services

Step 1:   Browse to the TG589vac v2 web interface

Proceed as follows:

1 Browse to http://192.168.1.1 (this is the default IP address of your TG589vac v2) on a computer or device that is currently connected to your TG589vac v2 (either wired or wirelessly).

2 The TG589vac v2 web interface appears. By default, you are logged in as guest. This means that some items may be hidden. To view all items, click **Sign In** and enter **admin** as user name and the **ACCESS KEY** printed on the product label of your TG589vac v2 as password.

Step 2:   Check you Internet connection

Under **Internet Access**, check the status of your Internet connection. If it is not connected, click **Internet Access**, enter the **Username** and **Password** for your Internet connection and then click **Save**.

Step 3:   Configure your wireless access point

1 Click **Wireless**. The **Wireless** page appears.

2 By default, the 2.4 GHz access point is selected in the menu on the left. Change the following settings under **Access Point**:

   a In the **SSID name** box, type the network name that you want to use for this access point (if you do not want to use the default one).

   b In the Security Mode list under Access Point, select the security mode that you want to use for this access point. We recommend to use **WPA+WPA2-PSK**.

   c In the **Wireless Password** box, type the wireless key that you want to use for this access point. The key must consist of 8 to 63 alphanumeric characters.

   > • Do not use WEP or None, since they are not secure.
   >
   > • WPS will be disabled if you select WEP.

   d Click **Save**.

3 In the menu on the left, click the 5 GHz access point, configure the 5 GHz wireless Access Point settings (as in step 2).

4 (Re)connect your wireless client(s) to the TG589vac v2 using the new wireless settings.

2.5 Set up a mobile fallback connection

Mobile fallback

Your TG589vac v2 allows you to use mobile Internet as fallback for your main Internet connection. This means that your TG589vac v2 will automatically switch to the mobile Internet connection when your main Internet connection is down.

> ! Depending on your subscription, downloading and uploading over the mobile Internet connection may results in additional charges.

Your TG589vac v2 will automatically switch back to the main Internet connection as soon as it becomes available again.

What do I need?

To set up mobile fallback connection, you need:

- A mobile Internet dongle

    > ! Only use the mobile Internet dongles provided by your service provider.

- A registered Security Identity Module (SIM) card.

Connect your mobile Internet dongle to the TG589vac v2

Proceed as follows:

1 Make sure that the SIM card is correctly inserted in your mobile Internet dongle.

2 Plug the mobile Internet dongle into an available USB port of your TG589vac v2.

3 Wait for two minutes to allow your TG589vac v2 to detect the mobile Internet dongle.

Configure the mobile Internet connection

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click the **Mobile 3G/4G** card header.
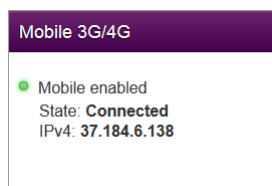
3 The **Mobile 3G/4G** page appears. Click the **Configuration** tab.

4 Under **Mobile Configuration**, update the following fields if necessary:

- **APN**:
  Enter the Access Point Name (APN) of your service provider.

- **Operator Mode**:
  We recommend you to use the default setting, **Automatic** (let the TG589vac v2 choose the best operator mode), unless your service provider instructed you to select another mode.

- **PIN**:
  The PIN code of your SIM card.

  ⚠ This information should be provided by your service provider.

5 Under **Network Authentication**, provide the user name and password provided by your service provider.

  ⚠ If your service provider did not provide a user name and password, then leave the **Username** and **Password** box empty. In this case authentication is not required.

6 Click **Save** and then click **Connect**.

7 The mobile connection is now up, but will not be used for Internet access unless your main Internet connection goes down. Your main connection is always the preferred connection to the Internet.
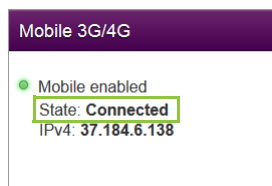
3 Wireless networking

Introduction

This section provides all information on how to use the wireless features of your TG589vac v2.

Wireless access point

Your TG589vac v2 has two wireless access points:

- The *5 GHz IEEE 802.11ac access point* offers superior transfer rates, is less sensitive to interference and allows you to connect IEEE802.11ac and IEEE802.11n wireless clients that can operate in the 5 GHz band.

- The *2.4 GHz IEEE 802.11n access point* allows you to connect IEEE802.11n wireless clients (and IEEE802.11b/g wireless clients). Use this access point for wireless clients that don't support 5 GHz.

Band steering

By enabling band steering, the TG589vac v2 will try to make optimal use of the less congested 5 GHz frequency band. Dual-band clients that are connected to the 2.4 GHz will automatically be steered to the 5 GHz provided that the 5 GHz signal quality is good enough. This ensures that the already congested 2.4 GHz band is only used when absolutely necessary.

If you want to enable band steering, see *"3.5 Enable band steering to optimise your wireless connection" on page 31*.

Configuring your wireless clients

For more information on how to make a wireless connection to your TG589vac v2, see:

-

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Secure your wireless connection!

By default, the wireless access points of your TG589vac v2 are not secured. This means that everyone who is within the range of your TG589vac v2 can access your network, with the possible consequences that:

- Your personal data on devices in your local network can be exposed and compromised.

- People may use your connection to access the Internet.

- Hackers may use your connection to commit crimes.

You can easily prevent this by securing your wireless access points. For more information, see *"3.3 Securing your wireless connection" on page 26*.

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3.1   Connecting your wireless client via WPS

WPS

Wi-Fi Protected Setup (WPS) allows you to add new wireless clients to your local network in a secure and easy way, without the need to enter any of your wireless settings (network name, wireless key, encryption type).

Both the 2.4 GHz and 5 GHz access points of your TG589vac v2 support WPS.

Requirements

- Your wireless client must support WPS. Consult the documentation of your wireless client for this.

    The following operating systems have native WPS support:
    - Windows supports WPS from Windows Vista Service Pack 1 onwards.
    - Android supports WPS from Android 4.0 (Ice Cream Sandwich) onwards.
    - BlackBerry supports WPS from BlackBerry 6 onwards.

- Your TG589vac v2 must use **WPA2 PSK** or **WPA+WPA 2 PSK** encryption or no encryption (default encryption).

    WPS cannot be used in combination with the following encryptions:
    - **WPA2** via a RADIUS
    - **WPA** via a RADIUS
    - **WEP**

- The WPS function must be enabled on your TG589vac v2. This is the default setting.

WPS Methods

The following WPS methods are supported by your TG589vac v2:

- *Push Button Configuration (PBC):*
You simply push the WPS button on both your wireless client and your TG589vac v2 to connect them to each other. See *"Connect your wireless client WPS PBC" on page 23*.

- *PIN code entry on the wireless client:*
You enter the PIN code of your TG589vac v2 on the configuration utility of your wireless client to connect them to each other. See *"Connect your wireless client using WPS PIN code entry on the wireless client" on page 23*.

- *PIN code entry on your TG589vac v2:*
You enter the WPS PIN code of your wireless client on the TG589vac v2 web interface to connect them to each other. For more information, see *"Connect your wireless client using WPS PIN code entry on your TG589vac v2" on page 24*.

Connect your wireless client WPS PBC

> ⚠ Make sure that you know how to start WPS on your wireless client before you start. Consult the documentation of your wireless client for more information.

Proceed as follows:

1 Shortly press the WPS button on your **TG589vac v2**:

2 The **WPS** LED starts blinking orange. This indicates that your TG589vac v2 is now searching for wireless clients that are in registration mode. You now have two minutes to start WPS on your wireless client.

3 Start **WPS** PBC on your wireless client.

4 Your TG589vac v2 provides its wireless settings to the wireless client.

5 At the end of the WPS process, the status of the **WPS** LED on your TG589vac v2 will change to either of the following:

- Solid green

   This indicates that you successfully registered and connected this wireless client. You are now connected to your TG589vac v2 wireless network.

- Blinking red

   This indicates that your TG589vac v2 could not find any wireless client in WPS pairing mode or that the exchange of the wireless settings and/or registration failed. For more information, see *"Cannot connect via WPS" on page 74*.

Connect your wireless client using WPS PIN code entry on the wireless client

Proceed as follows:

1 Check the label on your TG589vac v2 and note the following information:

- For each access point, a PIN code that is printed next to the WPS logo.

- The **Network Name**.

   These are the default values. If you already changed these settings, use the new settings instead.

2 Go to the WPS PIN code entry page of your wireless client. Consult the documentation of your wireless client for more information.

3 Enter the PIN code,

> ⚠ Do not include the hyphen when entering the PIN code. For example, if the PIN code is **1234-5678**, then enter **12345678**.

4 Your wireless client may prompt you to select your access point. If this is the case, your access point will be listed with its **Network Name**.

> ℹ You can find the default network name on the label on your TG589vac v2.

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Connect your wireless client using WPS PIN code entry on your TG589vac v2

Proceed as follows:

1 Locate and note the WPS PIN of your wireless client. For more information, consult the documentation of your wireless client.

2 Browse to the *TG589vac v2 web interface*.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

3 Click **Wireless**. The **Wireless** page appears.

4 On the left menu, select the access point to which you want to connect the wireless client to.

5 In the **WPS Device PIN code** box under **Access Point**, type the PIN code of your wireless client and click **Set PIN code**.

In case of problems

If you are having trouble connecting your wireless client via WPS, see *"Cannot connect via WPS" on page 74* for more instructions.

3.2 How to manually connect a wireless client

Procedure

To connect a wireless client to the wireless network, configure that wireless client with the wireless settings (network name and wireless key) of your access point.

If your TG589vac v2 is still using the default wireless settings, use the network name (SSID) and wireless key that is printed on the label on your TG589vac v2 (or product ID card if included).

> You can always find back the current wireless settings via the TG589vac v2 web interface. For more information, see *"Forgot your wireless key?" on page 74*

3.3 Securing your wireless connection

Introduction

We strongly recommend you to protect all wireless communication between any wireless client and your TG589vac v2 with a wireless key. This ensures that:

- Only clients that use the correct Network Name (SSID) and wireless key can connect to the access points of your TG589vac v2.

- All data passing through the wireless access points of your TG589vac v2 is secured by adequate encryption.

Configuration

To secure your wireless network with:

- WPA-PSK encryption, continue with *"3.3.1 Configuring WPA(2)-PSK encryption" on page 27*.
  The wireless connection is secured with a pre-shared key that has been defined by the user. Wireless clients must be configured with this key before they can connect to your TG589vac v2. Your TG589vac v2 supports the following WPA-PSK versions (ordered by descending security).

- WPA encryption (via RADIUS), continue with *"3.3.2 Configuring WPA-Enterprise encryption" on page 28*.
  This encryption is typically used for business networks. Wireless clients will authenticate to a specific Remote Authentication Dial In User Service (RADIUS) server. This RADIUS server then provides the wireless key that must be used to encrypt its data. The RADIUS server regularly updates this key at a specified interval.

3.3.1 Configuring WPA(2)-PSK encryption

Procedure

Proceed as follows:

1 Browse to the TG589vac v2.
  For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page appears.

3 On the left menu, select the access point that you want to configure.

4 In the **Security Mode** list under **Access Point**, select one of the following modes:

  ▪ **WPA2-PSK**
    This mode provides the highest security. Choose this version if you are sure that all your wireless clients support WPA2-PSK.

  ▪ **WPA-PSK + WPA2-PSK**
    Choose this option if not all of your wireless clients support WPA2-PSK, or if you are not sure. Wireless clients that support WPA2-PSK will use WPA2-PSK, the others will use WPA-PSK.

5 In the **Wireless Password** box, type a the key of your choice. The key must consist of 8 to 63 alphanumeric characters.

6 Click **Save**.

7 Reconnect your wireless client(s) to your TG589vac v2 using the new security settings.
  For more information, see *"3.1 Connecting your wireless client via WPS" on page 22* or *"3.2 How to manually connect a wireless client" on page 25*.

3.3.2 Configuring WPA-Enterprise encryption

Requirements

- A RADIUS server must be readily set up on your local network.

Procedure

Proceed as follows:

1 Browse to the *TG589vac v2 web interface*.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page appears.

3 On the left menu, select the access point that you want to configure.

4 In the **Security Mode** list under **Access Point**, select one of the following modes:

- **WPA2**

- **WPA+WPA2**

5 The following RADIUS settings are now available for configuration:

- **RADIUS Authentication Server's IP:** enter the IP address of your RADIUS server.

- **RADIUS Authentication Server's port:** enter the WPA RADIUS Port.

- **RADIUS Authentication Server's secret**: enter the WPA RADIUS Key.

6 Click **Save** to apply your changes.

7 Reconnect your wireless client(s) to your TG589vac v2.
For more information, see *"3.2 How to manually connect a wireless client" on page 25*.

3.4 Turning the wireless radio off/on at scheduled times

Wireless control

Wireless control is a feature that allows you to turn of the wireless radio at specific times.

For example, you can disable the wireless radio during the night reduce power consumption.

Warning

Wireless control causes wireless service interruptions. Make sure that all users are aware of the time schedules to avoid data loss.

Creating an wireless control rule for a device

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page appears.

3 Click the **Wireless Control** tab and then click **Add new rule**.

4 The wireless control settings appear.

5 Make sure that **Enabled** is selected.

6 In the **MAC address** box, type the MAC address of the device.

> You can also type in (a part of) the host name of the device. The TG589vac v2 will then display a list of devices with such a host name. If you then click one of the results, the TG589vac v2 will insert the corresponding MAC address.

7 Enter the **Start Time** and **Stop Time** as h:mm (for example: **8:10**, **23:59**).

8 Next to **Day of week**, select the days of the week on which you want this rule to be applied.

9 Click ⊕ at the top right of the settings.

Managing wireless control rules

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page appears.

3 Click the **Wireless Control** tab and then click:

- ▪ 🖉 to edit an existing rule.

- ▪ ⊗ to delete an existing rule.

3.5 Enable band steering to optimise your wireless connection

Band steering function

By enabling band steering, the TG589vac v2 will try to move as much clients as possible to the less congested 5 GHz frequency band. Dual-band clients that are connected to the 2.4 GHz will automatically be steered to the 5 GHz provided that the 5 GHz signal quality is good enough. This ensures that the already congested 2.4 GHz band is only used when absolutely necessary.

Impact on the 5 GHz access point settings

When enabling band steering, the TG589vac v2 will change the following settings on the 5 GHz access point to match those of the 2.4 GHz access point:

- The network name (SSID)
- The security mode and wireless password

This implies that you will have to re-connect all clients that were connected to the 5 GHz access point.

Changing the band steering thresholds

To decide whether a client connected on the 2.4 GHz band should move to the 5 GHz band the TG589vac v2 will execute the following checks.

1 Does the client have a 5 GHz interface?

2 Is the signal strength of the 2.4 GHz greater than the 2.4 GHz threshold (is the client close enough?).

3 Is the signal strength of the 5 GHz greater than the 5 GHz threshold.

If all these requirements are met, then the TG589vac v2 will move the device to the 5 GHz band.

> **i** If the TG589vac v2 loses the connection to a client that was steered to the 5 GHz band, it will automatically be reconnected on the 2.4 GHz band.

Enabling band steering

Proceed as follows:

1 Browse to the *TG589vac v2 web interface*.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page of the 2.4 GHz access point appears.

3 Under **Access Point**, click the **Band Steering Enabled** switch to put it in the `ON ⬤` position.

4 Click **Save**.

5 Band steering is now enabled. The 5 GHz access point now uses the same SSID, security mode and wireless password as the 2.4 GHz access point.

Customizing the thresholds

We recommend that you use the default threshold values (40% for the 2.4 GHz band steering and 80% for the 5 GHz band steering), but if you want to change them you can proceed as follows:

1 Browse to the *TG589vac v2 web interface*.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page of the 2.4 GHz access point appears.

3 Move the **2.4 GHz Band Steering** slider:

   - To the right to increase the threshold. The 2.4 GHz signal of the client must be stronger before the 5 GHz connection test is run.

   - To the left to decrease the threshold. The 2.4 GHz signal of the client must be less strong before the 5 GHz connection test is run.

4 Click **Save**.

5 On the left menu, click the 5 GHz access point.

6 Move the **5 GHz Band Steering** slider:

- To the right to increase the threshold. The 5 GHz signal of the client must be stronger before the client is switched to the 5 GHz frequency band.

- To the left to decrease the threshold. The 5 GHz signal of the client must be less strong before the client is switched to the 5 GHz frequency band.

7 Click **Save**.

3.6 Analysing your wireless performance

Introduction

The TG589vac v2 offers two types of tools to analyse your wireless performance:

- The *wireless analyzer* gives you an overview of the wireless access points that are present in the neighbourhood of the TG589vac v2 and what channels they are using.

- The *wireless client monitor* allows you to follow the signal strength of a connected wireless client in time and from the client's perspective.

Starting the wireless analyzer

> ⚠ When running the wireless analyzer on a wireless interface, all devices connected to that interface will be disconnected during the tests.

Proceed as follows:

1   Browse to the *TG589vac v2 web interface*.
    For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2   Click **Wireless**. The **Wireless** page appears.

3   On the left menu, click:

- **Analyzer 2.4 GHz** to view the access points on the 2.4 GHz band.

- **Analyzer 5 GHz** to view the access points on the 5 GHz band.

4   The TG589vac v2 displays an overview of the detected access points.

Monitoring a wireless client

Proceed as follows:

1   Browse to the *TG589vac v2 web interface*.
    For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2   Click **Wireless**. The **Wireless** page appears.

3   On the left menu, click **Client Monitoring**.

4   In the **Choose Device** list, select the wireless client that you want to monitor.

5   The **Device Details** appear.
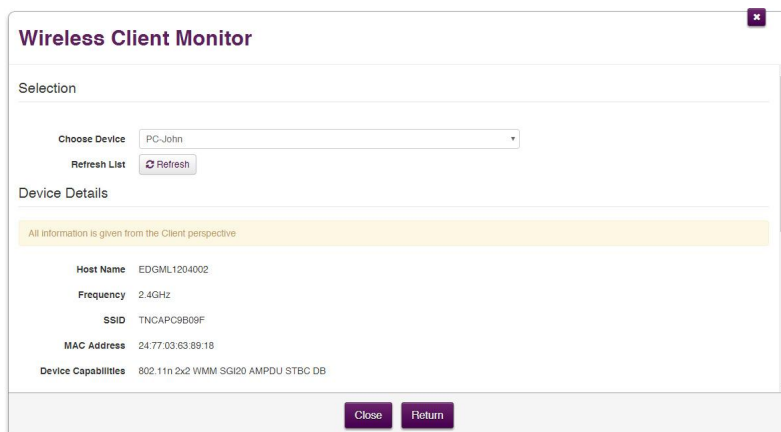
4 TG589vac v2 web interface

Introduction

The TG589vac v2 web interface allows you to configure your TG589vac v2 using your web browser.

Overview

This chapter contains the following topics:

4.1 Accessing the TG589vac v2 web interface

Introduction

You can access the TG589vac v2 web interface from the following locations:

- From your local network.
  For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

- From the Internet.
  Access from the Internet is disabled by default and can only be activated for a limited time. For more information, see *"4.1.2 Accessing your TG589vac v2 from the Internet (Remote Assistance)" on page 37*.

4.1.1 Accessing the TG589vac v2 web interface from your local network

Procedure

Proceed as follows:

1 Browse to http://192.168.1.1 on a computer or device that is currently connected to your TG589vac v2 (either wired or wirelessly).

> **192.168.1.1** is the default IP address of your TG589vac v2. If you have changed the IP address of your TG589vac v2, use this IP address instead.

2 The TG589vac v2 web interface appears. By default, you are logged in as guest. This means that some settings may be hidden. To view all settings, click **Sign In** and enter your user name (👤) and password (🔒).

> If you did not change the default credentials, the user name is **admin** and the password is the **ACCESS KEY** that is printed on the product label of your TG589vac v2.

3 If this is the first time that you sign in, the TG589vac v2 will offer you to change your password.

Change Password

- ○ Now
- ○ Remind me later
- ○ Do not remind me again

Close

Select one of the options and then click **Save**. If you choose to change the password, type your current password in the first box, type your new password twice and then click **Change Password**.

> Your new password must contain at least 12 characters including both upper and lower case letters, at least one number and at least one special character.
>
> Allowed special characters are **!**, **@**, **#**, **$**, **%**, **^**, **&**, *****, **?**, **_**, **~**, **−**, **(** and **)**.
>
> Choose a password that you can easily remember. If you forget your password the only option is to completely reset your TG589vac v2 (all your changes will be lost). For more information, see *"7.4 Reset to factory defaults" on page 76*.

4 All settings are now available.

4.1.2 Accessing your TG589vac v2 from the Internet (Remote Assistance)

Introduction

Remote assistance allows you to make your TG589vac v2 web interface temporarily accessible from the Internet.

Security

The following security measures are applied:

- When activating remote assistance, a dedicated user account will be created. Only users who use this dedicated user name and password can access the TG589vac v2 web interface.
- Only HTTP Secure (HTTPS) sessions are allowed.

Session duration

The remote session ends when one of the following conditions is met:

- Remote assistance is disabled via a local or remote session.
- Your TG589vac v2 is restarted.
- After 30 minutes of inactivity on the remote side.

How to enable remote assistance

Proceed as follows.

1. Open a web browser on a computer that is connected to your local network (and TG589vac v2).
2. Browse to the web interface of your TG589vac v2.
3. In the **Assistance** card, click the switch to put it in the ON position.
4. Your TG589vac v2 enables remote assistance and displays the connection details in the assistance card.
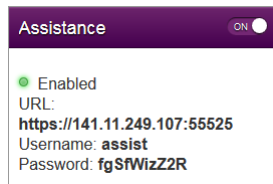
Pass the connection details to the person that will be accessing your TG589vac v2 from the Internet.

How to access your TG589vac v2 from the Internet

If you (or someone from the help desk) wants to access your TG589vac v2 from the Internet, proceed as follows:

1. Open a web browser and browse to the **URL** as displayed in the **Assistance** card.(for example, https://131.141.151.161:55174).

    ⚠ You must:
    - Use http**s**.
    - Include the colon followed by the port number at the end.

2. Your browser may prompt you that it does not recognize the security certificate. If so, indicate that you want to continue.
3. The **Sign** in page appears. Enter the user name and password as displayed in the **Assistance** card.

How to disable remote assistance

In the **Assistance** card, click the switch to put it in the OFF position.

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4.2 Account settings

After logging in on the web interface of the TG589vac v2, you can see the user name you used in the upper-right corner of the page.
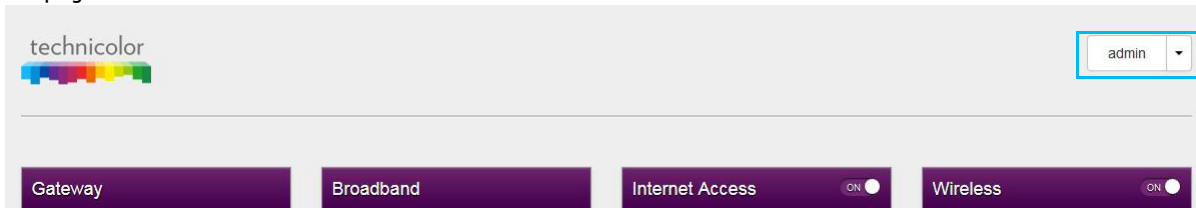
When you click the arrow next to your user name, the following options appear:

- **Change password**
  Click this option to change your password. The **Change Password** page appears.

Type your current password in the first box, type your new password and confirm it. Click **Change Password**.

⚠ Your new password must contain at least 12 characters including both upper and lower case letters, at least one number and at least one special character.

Allowed special characters are **!**, **@**, **#**, **$**, **%**, **^**, **&**, *****, **?**, **_**, **~**, **−**, **(** and **)**.

Choose a password that you can easily remember. If you forget your password the only option is to completely reset your TG589vac v2 (all your changes will be lost). For more information, see *"7.4 Reset to factory defaults" on page 76*.

- **Sign out**
  Click this option to close the session and sign out.

4.3 Cards

Overview

The home page contains the following cards:

Card	For more information, see...
Gateway	*"4.3.1 Gateway" on page 40*
Broadband	*"4.3.2 Broadband" on page 41*
Internet Access	*"4.3.3 Internet Access" on page 42*
Wireless	*"4.3.4 Wireless" on page 43*
Local Network	*"4.3.5 Local Network" on page 44*
Devices	*"4.3.6 Devices" on page 45*
WAN Services	*"4.3.7 WAN Services" on page 46*
Firewall	*"4.3.8 Firewall" on page 47*
Diagnostics	*"4.3.9 Diagnostics" on page 48*
Assistance	*"4.3.10 Assistance" on page 49*
Mobile	*"4.3.11 Mobile" on page 50*
Management	*"4.3.12 Management" on page 51*
Content Sharing	*"5.1 Content sharing" on page 59*
Printer Sharing	*"5.2 Printer sharing" on page 63*
Parental Controls	*"4.3.15 Parental Controls" on page 54*
IP Extras	*"4.3.16 IP Extras" on page 55*
Relay Setup	*"4.3.17 Relay Setup" on page 56*

Launch buttons

When pointing to a header of a card, the following icons buttons appear:

Button	Description
	Click to view additional information.
	Click to view or change the settings.

Toggle buttons

Some cards have an on/off switch in the header:

Button	Description
ON	The service is currently enabled. Clicking this button will disable the service.
OFF	The service is currently disabled. Clicking this button will enable the service.

4.3.1 Gateway

The Gateway card

The **Gateway** card displays the current version of the TG589vac v2 firmware.

The Gateway page

To open the Gateway page, click the **Gateway** card header:

The **Gateway** page allows you to:

- View basic information about your TG589vac v2.

- View or change the time settings used by your TG589vac v2.

- Restart your TG589vac v2.

- Reset your TG589vac v2 to factory defaults.
  For more information, see *"7.4 Reset to factory defaults" on page 76*.

- Export your current configuration.
  For more information, see *"4.4 Backing up/restoring your configuration" on page 57*.

- Import a previously saved configuration.
  For more information, see *"4.4 Backing up/restoring your configuration" on page 57*.

- Upgrade the firmware of your TG589vac v2 (if available).

4.3.2 Broadband

The Broadband card
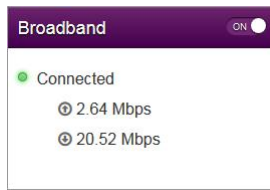
The **Broadband** card displays the current status of your broadband interface.

Broadband switch

In the **Broadband** card header, you can see whether your broadband interface is enabled or not. If the switch is set to:

- ON then the broadband interface is enabled. Clicking the switch will disable your broadband interface.
- OFF then the broadband interface is disabled. Clicking the switch will enable your broadband interface.

The Broadband page

To open the **Broadband** page, click the **Broadband** card header.

The **Broadband** page displays information about your broadband connection.

In the upper-right corner, you can click **show advanced** to:

- Configure the broadband type.
- View additional statistics.

4.3.3 Internet Access

The Internet Access card
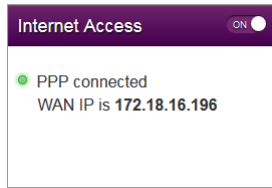
The **Internet Access** card displays:

- The current status of your Internet connection.
- The WAN IP address
  This is the IP address that your TG589vac v2 uses for its communication on the Internet.

Internet Access switch

In the **Internet Access** card header, you can see whether your broadband interface is enabled or not. If the switch is set to:

- ON then your main Internet connection is enabled. Clicking the switch will disable your main Internet connection.
- OFF then your main Internet connection is disabled. Clicking the switch will enable your main Internet connection.

Viewing additional settings

Click **Internet Access**. The **Internet Access** page appears and displays additional settings.

4.3.4 Wireless

The Wireless card
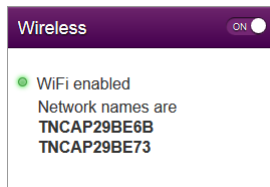
The **Wireless** card displays:
- The status of the wireless access points (enabled or disabled).
- The network name (SSID) of the 2.4 GHz and 5 GHz access point.

The Wireless page

Click the **Wireless** card header to open the **Wireless** page.

The **Wireless** page has the following tabs:
- The **Wireless** tab allows you to:
    - View or change the wireless interface settings.
    - View or change the access point settings
    - Analyse the access points in the neighbourhood of your TG589vac v2.
      For more information, see *"3.6 Analysing your wireless performance" on page 33*.
    - Monitor wireless clients that are connected to the TG589vac v2.
      For more information, see *"3.6 Analysing your wireless performance" on page 33*.
- The **Wireless Control** tab allows you create rules to turn of the wireless radio at specific times.
  For more information, see *"3.4 Turning the wireless radio off/on at scheduled times" on page 29*.

Configuration examples

In this Setup and User Guide you can find information on how to:
- Change the wireless security settings.
  For more information, see *"3.3 Securing your wireless connection" on page 26*.
- Configure and use WPS.
  For more information, see *"3.1 Connecting your wireless client via WPS" on page 22*.

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4.3.5 Local Network

The Local Network card
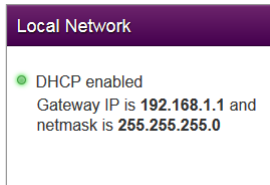
The **Local Network** card displays:

- The status of the DHCP server (enabled or disabled).
- The local IP address and netmask of your TG589vac v2.

The Local Network page

To open the **Local Network** page, click the **Local Network** card header.

On the **Local Network**, you can:

- View or change the IP address of your TG589vac v2.
- View or change the DHCP settings of your TG589vac v2.
- Add or remove static DHCP leases for devices.

To view advanced settings, click **show advanced** in the upper-right corner.

4.3.6 Devices

The Devices card

The **Devices** card displays the number of devices connected to:

- The Ethernet interface.
- Wireless interface.

Viewing additional settings

Click **Devices** card and click 🗲. The **Devices** page appears and allows you to:

- View a list of devices that are or recently were connected to your local network in the **Device List** tab.
- View the devices grouped by interface in the **Device Map** tab.

To view update the list, click **refresh data** in the upper-right corner.

4.3.7 WAN Services

The WAN Services card
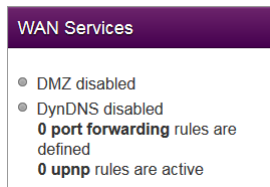
The **WAN Services** card displays:

- The DMZ status
  For more information, see *"6.3 DMZ" on page 69*.

- The number of port forwarding rules that are defined.
  Port forwarding allows you to forward incoming Internet traffic arriving on a specific port to a local device.

- The number of UPnP rules that are active.
  UPnP-enabled games and applications automatically create the necessary port forwarding rules to run services on that device.

Viewing additional settings

Click **WAN services**. The **WAN Services** page appears and allows you to:

- View or change port forwarding rules

- View active UPnP rules.

In the upper-right corner, you can click **show advanced** to:

- Configure a DMZ host.
  For more information, see *"6.3 DMZ" on page 69*.

- Enable or disable UPnP services

- Configure Dynamic DNS
  The dynamic DNS service allows you to assign a fixed DNS host name (for example mywebpage.dyndns.org) to a public IP address (this the IP address that your TG589vac v2 uses for communication on the Internet) even if it is using a dynamic IP address. As soon as the TG589vac v2 gets a new public IP address, the dynamic DNS server updates its entry to match the fixed DNS host name the new IP address.
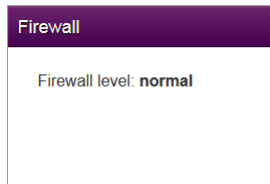
4.3.8 Firewall

Introduction

Your TG589vac v2 comes with an integrated firewall that helps you protect your network from attacks from the Internet. This firewall has a number of predefined levels to allow you to adjust the firewall to your needs.

The default mode is **normal**. In **normal** mode, the firewall will:

- Allow all outbound connections and will silently drop all unknown incoming connections.
- Protect your TG589vac v2 and local network against intrusions.

The Firewall card

The **Firewall** card displays current firewall level used.

Viewing additional settings

Click **Firewall**. The **Firewall** page appears and allows you to:

- Change the firewall level.
- Enable or disable response to Internet pings.

4.3.9 Diagnostics

The Diagnostics card
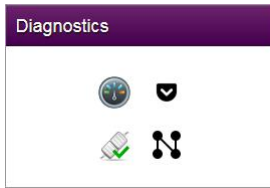
The **Diagnostics** card displays the following troubleshooting tools.

Tool		Function
Icon	Name	
	x DSL	View DSL connection statistics.
	Ping & Traceroute	Run ping and trace route test.
	Connection	Run connection checks.
	Network	View port state and network statistics.

Click on the icon to open the corresponding tool.

4.3.10 Assistance

Introduction

Remote assistance allows you to make your TG589vac v2 web interface temporarily accessible from the Internet.

For more information, see .

4.3.11 Mobile

Mobile fallback

Your TG589vac v2 allows you to use a mobile Internet connection (3G, LTE or 4G) as fallback connection for your main Internet access. This means that your TG589vac v2 offers you the possibility to automatically switch to the mobile Internet connection when your main Internet connection is down.

The Mobile card

Mobile 3G/4G

Mobile enabled
State: **Connected**
IPv4: **37.184.6.138**

The **Mobile** card displays:

- The status of your mobile connection.
- The public IP address of the TG589vac v2.

The Mobile page

To open the **Mobile** page, click **Mobile**.

The **Mobile** page allows you to:

- View information about the line and the mobile network status.
- Configure you mobile connection.

For more information, see *"Configure the mobile Internet connection" on page 19*.

4.3.12 Management

The Management card
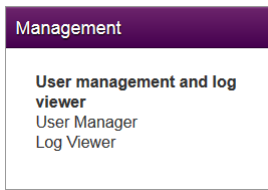
The Management page

To open the **Management** page, click **Management**.

The **Management** page allows you to:

- Manage the user accounts of the TG589vac v2 web interface.

- View event logs.

4.3.13 Content Sharing

Introduction

If you connect a USB storage device to the USB port of your TG589vac v2, you can share the content on your USB storage device(s) with other devices that are connected to your local network (mostly computers).

For more information, see *"5.1 Content sharing" on page 59*.

4.3.14 Printer Sharing
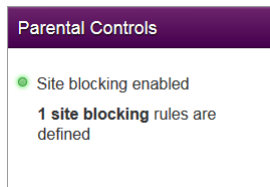
The Printer Sharing card

Printer Sharing

● Printer sharing enabled
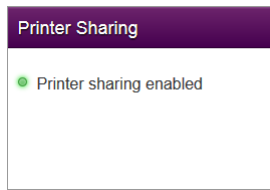
The Printer Sharing page

To open the **Printer Sharing** page, click **Printer Sharing**.

The **Printer Sharing** page allows you to:

- Enable or disable printer sharing.

- View a list of the connected printers.

4.3.15 Parental Controls

The Parental Controls card

The **Parental Controls** card displays:

- The status of the website blocking feature.

- The number of site blocking rules that are currently defined.

The Parental Controls page

To open the **Parental Controls** page, click **Parental Controls**.

The **Parental Controls** page allows you to configure:

- Site blocking. For more information, see *"6.1 Site blocking" on page 67*.

- Access control, see *"6.2 Access control" on page 68*.

4.3.16 IP Extras

The IP Extras card
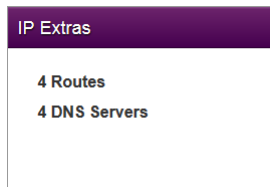
The **IP Extras** card displays:

- The number of IPv4 routes
- The number of DNS servers

The IP Extras page

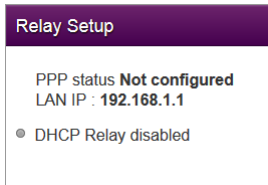To open the **IP Extras** page, click **IP Extras**.

The **IP Extras** page displays:

- The IPv4 routes
- The DNS servers

4.3.17 Relay Setup

⚠️ This function is intended for technicians and network administrators only.

The Relay Setup card

The DHCP relay card displays:

- The status of the PPP connection
- The LAN IP address of your TG589vac v2.
- The status of the DHCP relay function.

The DHCP Relay Setup page

To open the **DHCP Relay Setup** page, click **Relay Setup**.

The **DHCP Relay Setup** page, allows you to:

- Change the PPP user name and password
- Change the LAN IP address of your TG589vac v2
- Configure a DHCP relay agent.

4.4 Backing up/restoring your configuration

Introduction

Once you have configured your TG589vac v2 to your needs, it is recommended to back up the configuration of your TG589vac v2 for later use. This way you can always return to the latest working configuration of your TG589vac v2 in case of problems.

Backing up your configuration

Proceed as follows:

1 Browse to your *TG589vac v2 web interface*.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Gateway**. The **Gateway** page appears.

3 In the **Export Configuration** section, click **Export**.

4 The TG589vac v2 prompts you to save your backup file.

   ⚠ Do not change the file extension.

5 Save your file to a location of your choice.

   ⚠ Do not edit the backup files as this may result in corrupt files making them worthless as configuration backup.

Restoring your configuration

Proceed as follows:

1 Browse to your *TG589vac v2 web interface*.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Gateway**. The **Gateway** page appears.

3 In the **Import Configuration** section, click **Browse**, open your backup file and then click **Import**.

   ℹ Backup files usually have **.bin** as extension.

4 The TG589vac v2 restores the saved configuration.

5 The TG589vac v2 restarts.

5 Content and Printer Sharing

Topics

This chapter describes the following topics:

5.1 Content sharing

Introduction

If you connect a USB storage device to the USB port of your TG589vac v2, you can share the content on this USB storage device(s) with other devices that are connected to your local network (mostly computers and multimedia devices).

This is in fact a cheaper alternative for a Network-Attached Storage (NAS).

Features

- Your TG589vac v2 supports Hi-Speed USB (USB 2.0)
- The following file systems are supported:
  - NTFS
  - FAT32
  - FAT16
  - HFS+
  - EXT2/3/4
- You can connect up to five USB storage devices (via a USB hub).

Content Sharing Servers

Your TG589vac v2 offers two types of services to share your content. The following table gives a you a brief overview of the main functions:

	Samba server	DLNA server
Function	Store and access your data on your local network.	Make media files available for DLNA capable devices like Media players, set-top boxes from your local network.
Access	Read and write	*Read-only*
Accessible from	Local network	Local network
Type of content shared	*All files* from all partitions and disks that are connected.	Only the *media* files (music, movies and pictures) from all partitions and disks that are connected.

How to set up content sharing

Both the Samba and the DLNA server are *enabled by default*. The only thing that you need to do is to plug your USB storage device in (one of) the USB port(s) of your TG589vac v2.
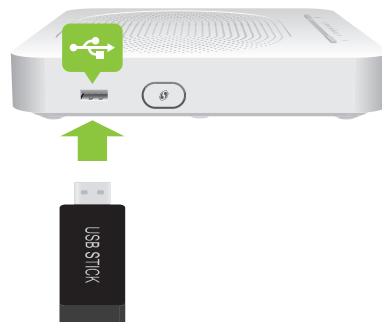
Customizing the content sharing settings

To change the default settings, proceed as follows:

1 Browse to the TG589vac v2 web interface.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Content Sharing**. The **Content Sharing** page appears. Under **General status**, you can change the following settings:

- **Samba name**:
Your TG589vac v2 will share the content to the Samba devices under this name.

- **Samba enabled:**
Allows you to enable or disable the Samba file sharing server.

- **DLNA enabled**:
Allows you to enable or disable the DLNA service.

- **DLNA name:**
Your TG589vac v2 will share the content with other DLNA devices under this name.

3 When you click **show advanced**, you will be able to configure the **Samba name** and **DLNA name**. On top of that you can also change the:

- **Samba workgroup**:
Enter the same workgroup as used by your computer(s).

- **Samba description**:
Add a short description for the TG589vac v2 shared content.

4 Click **Save**.

5 All users connected to your TG589vac v2 can now access the data stored on the storage device(s) that are connected to your TG589vac v2.

5.1.1 Accessing the Samba server

Introduction

The Samba server allows you to share the content on your USB storage device(s) with other devices that are connected to your local network (mostly computers).

These devices have read and write access to the shared content.
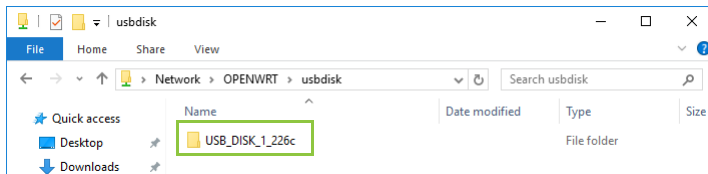
Accessing the Samba server on Windows

Proceed as follows:

1 Open (File) Explorer and then click **Network**.

2 The **Network** window appears. Double-click **Technicolor**.
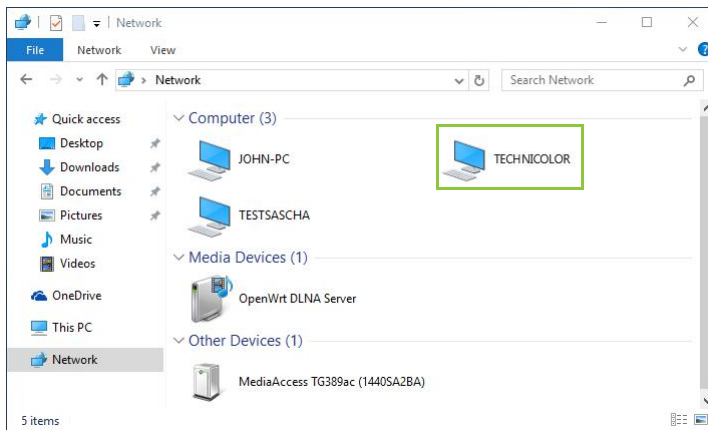
> ℹ️ You can also access the device by entering **\\192.168.1.1** in the address bar.

3 The storage devices that are attached to your TG589vac v2 are listed as folders.

4 If you plan to frequently use this folder, it might be useful to map this folder as a network drive. For more information, see the help of your operating system.

Accessing the Samba server on a Mac

Proceed as follows:

1 Open a **Finder** window. Under **SHARED** click **Technicolor** and then click **usbdisk**.
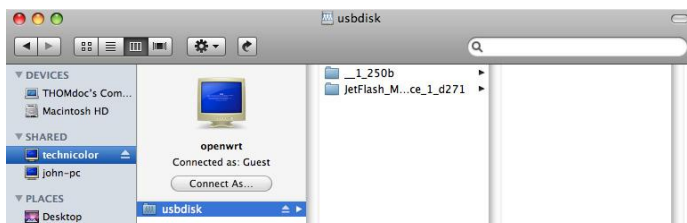
2 The storage devices that are attached to your TG589vac v2 are listed as folders.

5.1.2 Accessing the DLNA server

Introduction

The DLNA server lists all audio, video and picture files located on the connected USB storage device. All DLNA-certified renderers (for example, a DLNA-certified set-top box) that are connected to your network are able to view this list and stream or view items from this list.

On your DLNA renderer, the TG589vac v2 DLNA server will be listed under the name that you configured in *"How to set up content sharing" on page 59*.

Windows 10, Windows 8 and Windows 7

Windows 10, Windows 8 and Windows 7 have native support for DLNA. They automatically detect DLNA and make your media files available for playback on your Windows Media Player and Windows Media Center.

Proceed as follows:

1 Open (File) Explorer and then click **Network**.

2 The **Network** window appears:
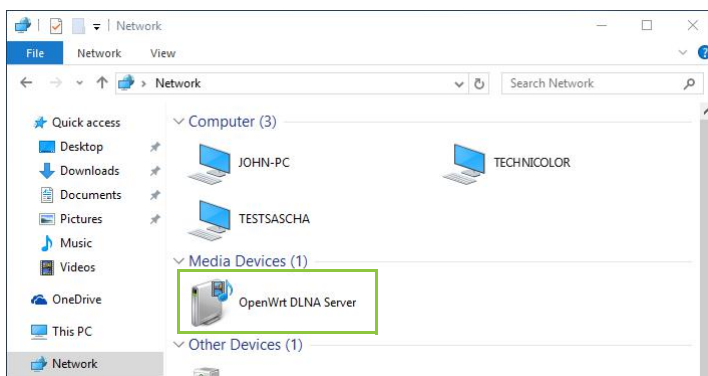
Under **Media Devices** you will find the DLNA media server (displayed as **OpenWrt DLNA Server**) of your TG589vac v2.

3 To access your media files

- On Windows 10, right-click **OpenWrt DLNA Server** and then click **Open Media Player**.

- Another Windows version, double-click **OpenWrt DLNA Server**.

4 **Windows Media Player** starts up.
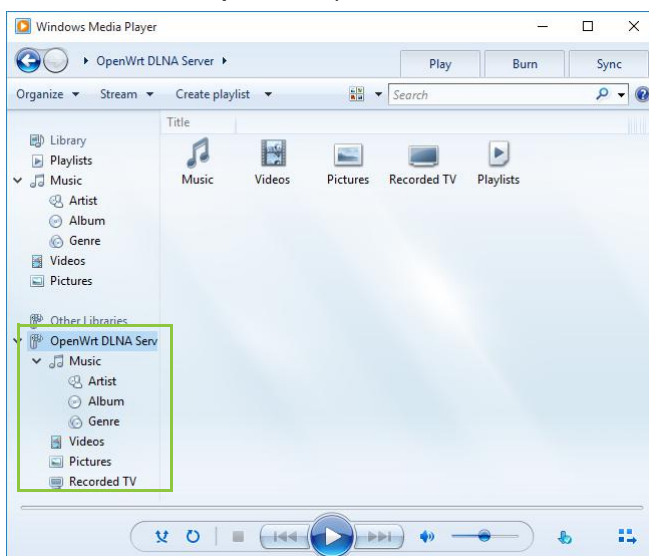
The DLNA media server of your TG589vac v2 is listed in the tree structure on the left on the left. This entry allows you to browse your media files.

5.2 Printer sharing

Introduction

A TG589vac v2 USB port allows you to share your USB printer in your local network. This way everyone in your network can use the same printer without having to buy an expensive network printer.

Requirements

The samba server must be enabled on the TG589vac v2 (this is the default setting).

For more information, see *"Customizing the content sharing settings" on page 60*.

Procedure

Proceed as follows:

1 Connect your USB printer to the TG589vac v2. For more information, *"5.2.1 Connect your USB printer to the TG589vac v2" on page 63*.

2 Configure the printer sharing service on your TG589vac v2.
For more information, see *"5.2.2 Enable the printer sharing service on your TG589vac v2" on page 64*.

3 Install the printer on your computer.
For more information, see *"5.2.3 Installing the printer on your computer" on page 65*.

5.2.1 Connect your USB printer to the TG589vac v2

Plug the USB cable of your printer in (one of) the USB port(s) of your TG589vac v2.
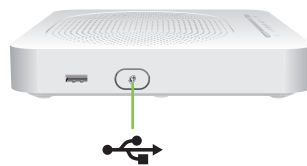
5.2.2 Enable the printer sharing service on your TG589vac v2

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Printer Sharing**. The **Printer Sharing** page appears. If needed, switch **Enabled** to ON and click **Save**.

Printer Sharing

Enabled ON

Printer Information

Port	Product Name	Manufacturer	Version
1-2	Deskjet F2400 series	HP	2.00

Cancel   Save

3 The TG589vac v2 prompts you that printer sharing was successfully enabled.

Printer Sharing

Changes saved successfully

Enabled ON

Printer Information

To connect: \\192.168.1.1\ or \\Technicolor\

Port	Product Name	Manufacturer	Version
1-2	Deskjet F2400 series	HP	2.00

Close

5.2.3 Installing the printer on your computer
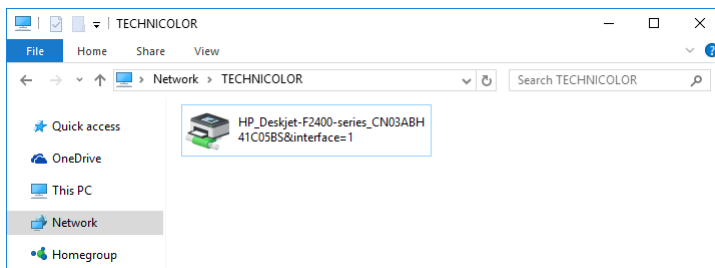
How to install a printer on Windows

Proceed as follows:

1 Make sure that your computer is connected to the TG589vac v2.

2 Open (File) Explorer and then click **Network**.

3 The **Network** window appears. Double-click **Technicolor**.
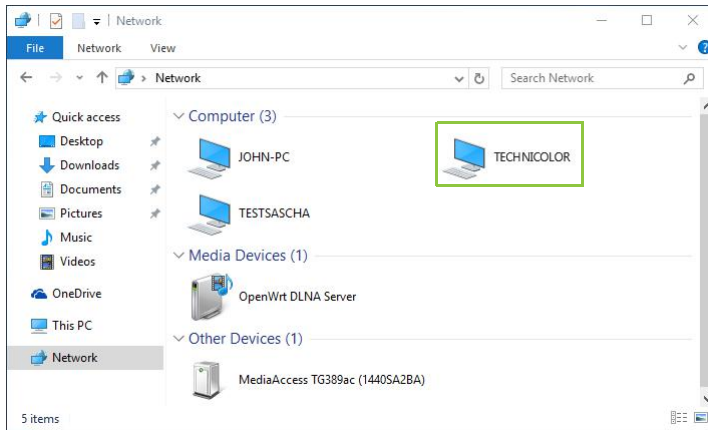
> ℹ️ You can also access the device by entering **\\192.168.1.1** in the address bar.

4 Your printer should now appear.

Double-click your printer.

5 Windows prompts you that it could not find a driver. Click **OK**.

6 Follow the instruction from Windows to select or install the correct driver.

6 Internet security

Overview

The TG589vac v2 offers various options to secure your network and network connection:

6.1 Site blocking

Introduction

The *site blocking* function allows you to block access to specific websites.

> ℹ️ To only block websites at specific times or days (e.g. no access to facebook.com after 22:00), use *Access Control* instead. For more information, see *"6.2 Access control" on page 68*.

Blocking sites

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Parental Controls**. The **Site Blocking** page appears.
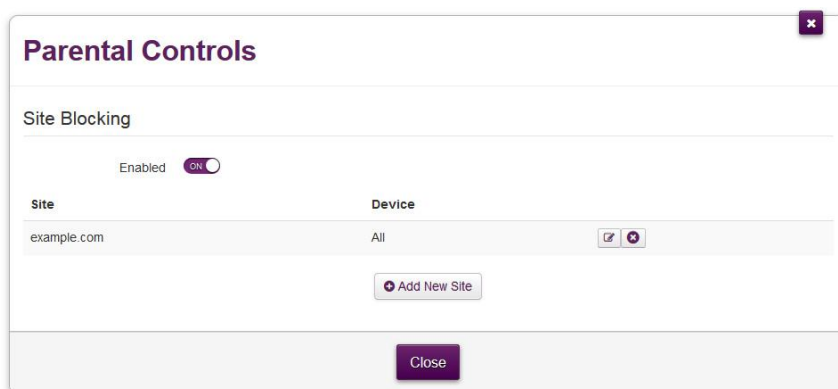
3 If needed, switch **Enabled** to ON and click **Save**.

4 For each site that you want to block, proceed as follows:

   a Click **Add New Site**. The TG589vac v2 adds a new row to the table.

   b Under **Site**, type the URL of the site (e.g. facebook.com).

   c Under **Device**, type either

      • The IP address of the device for which the exception is valid (for example, dad's computer).

         > ℹ️ You can also type in (a part of) the host name of the device. The TG589vac v2 will then display a list of devices with such a host name. If you then click one of the results, the TG589vac v2 will insert the corresponding IP address.

      • **All** (with captital A) if you want this exception to be valid for all devices.

   d Click ➕ (add). The site is now blocked.

5 Click **Close**.

6 Parental control is now active. When a user tries to access a blocked website, he will be redirected to a page that informs him that access to this website has been blocked.

6.2 Access control

Introduction

Access control allows you to create access schedules for *Internet* access.

By default, all devices that are connected to your local network have permanent access to the Internet without any restriction. Access control allows you to limit a device's access to the Internet to specific times and days.

Warning

Make sure that the persons using these devices are aware of the time schedule, to avoid the loss of data due to unexpected service interruption.

Creating an access control rule for a device

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Parental Controls**. The **Site Blocking** page appears. Click the **Access Control** tab.

3 The **Access Control** page appears. Click **Add new rule**.

4 The access control settings appear.

> Time of day access control
>
> | | |
> |---|---|
> | Enabled | ☑ |
> | MAC address | |
> | Mode | Allow ▾ |
> | Start Time | 00:00 |
> | Stop Time | 23:59 |
> | | The DUT will block/allow all the time if none of the days are selected |
> | Day of week | ☐ Mon. ☐ Tue. ☐ Wed. ☐ Thu. ☐ Fri. ☐ Sat. ☐ Sun. |
>
> ⊕ Add New Rule

5 Make sure that **Enabled** is selected.

6 In the **MAC address** box, type the MAC address of the device.

> ⓘ You can also type in (a part of) the host name of the device. The TG589vac v2 will then display a list of devices with such a host name. If you then click one of the results, the TG589vac v2 will insert the corresponding MAC address.

7 In the **Mode** list, click

   ▪ **Allow** if you want to specify at what time frames the device should have access the Internet.

   ▪ **Block** if you want to specify at what time frames the device should *not* have access the Internet.

8 Enter the **Start Time** and **Stop Time** as h:mm (for example: **8:10**, **23:59**).

9 Next to **Day of week**, select the days of the week on which you want this rule to be applied.

10 Click ⊕ at the top right of the settings.

Managing existing access control rules

By removing the access control rule, the device will regain permanent access to the Internet.

Proceed as follows:

1 Browse to the TG589vac v2 web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Parental Controls**. The **Site Blocking** page appears. Click the **Access Control** tab.

3 The **Access Control** page appears. Click:

   ▪ ☑ to edit an existing rule.

   ▪ ⊗ to delete an existing rule.

6.3 DMZ

Introduction

The TG589vac v2 allows you to configure one local device as a De-Militarized Zone (DMZ) host. This means that:

- None of the TG589vac v2 firewall rules will be applied to the DMZ host

- All traffic originating from the Internet will be forwarded to the DMZ host unless there is a specific port forwarding rule defined or automatically created for a specific type of traffic.

Use a static address for the DMZ host

Make sure that your DMZ host uses a static IP address (you choose a fixed IP address) instead of a dynamic IP address (the DHCP server assigns an IP address). If you use a dynamic IP address, the device might get a new IP address after some time and the port forwarding rule will no longer be applied to the device and another device may unexpectedly be acting as the DMZ host.

How to configure a device as DMZ host

1 Browse to the TG589vac v2 web interface.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **WAN Services**. The **WAN services** page appears.

3 In the upper-right corner, click **show advanced**. The **DMZ** section appears.

4 Switch **Enabled** to ⬤ON◯.

5 In the **Destination** box, type the IP address of the device that you want to use as the DMZ host.

6 Optionally, you can make exceptions on the DMZ by creating port mappings to direct specific traffic to other devices. To do this, click **Add new port mapping** under **Port forwarding table**.

7 Click **Save**. DMZ is now active.

7 Support

Introduction

This chapter suggests solutions for issues that you may encounter while installing, configuring or using your TG589vac v2.

If the suggestions do not resolve the problem, contact your service provider.

Topics

This chapter describes the following topics:

7.1   General TG589vac v2 troubleshooting

None of the LEDs light up (TG589vac v2 does not work)

Make sure that:

- The TG589vac v2 is plugged into a power socket outlet.

- You are using the correct power supply for your TG589vac v2 device.

  ℹ️ The power requirements for your TG589vac v2 are clearly indicated on the identification label of the TG589vac v2. Only use the power supply unit that is supplied with your TG589vac v2.

- The TG589vac v2 is turned on via the push button or rocker switch on the back panel.

The Broadband LED does not light up or is blinking

If your are using the TG589vac v2 as *DSL gateway*:

- Make sure that the DSL cable is correctly connected. For more information, see *"2.1 Connecting your TG589vac v2 to your service provider's network" on page 13*.

- Make sure that the DSL service is enabled on your telephone line. For more information, contact your Internet Service Provider.

- Check the **Broadband** settings on the web interface. Proceed as follows:

  a   Browse to the *TG589vac v2 web interface*.
  For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

  b   In the **Broadband** card header, make sure that the switch is in the ⏻ON position.

  c   Click **Broadband** and then click **show advanced**. Make sure that the correct DSL type (**ADSL2+** or **VDSL**) is selected.

  d   Click **Switch connection mode**.

  e   After a few minutes the **Status** should switch to **Connected**. If needed, click **refresh data** first.

If your are using the TG589vac v2 as *Local Router*:

- Make sure that the TG589vac v2 is correctly connected to your Internet access devices using the supplied Ethernet cable. For more information, see *"2.1.2 Local router setup" on page 15*.

- Make sure that Internet access device is correctly working.

- Check the **Broadband** settings on the web interface. Proceed as follows:

  a   Browse to the *TG589vac v2 web interface*.
  For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

  b   In the **Broadband** card header, make sure that the switch is in the ⏻ON position.

  c   Click **Broadband** and then click **show advanced**. Make sure that **Ethernet** is selected.

  d   Click **Switch connection mode**.

  e   After a few minutes the **Status** should switch to **Connected**. If needed, click **refresh data** first.

Internet LED is blinking red or off

If your are using the TG589vac v2 as *DSL gateway*, check the **Internet** settings on the web interface. Proceed as follows:

1   Browse to the *TG589vac v2 web interface*.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2   In the **Internet** card header, make sure that the switch is in the ⏻ON position.

3   Click **Internet** and then click **show advanced**. Make sure that **PPPoE routed mode** is selected.

4   Click **Switch connection mode**.

5   After a few minutes the **Status** should switch to **Connected**. If needed, click **refresh data** first.

If your are using the TG589vac v2 as *Local Router*, check the **Internet** settings on the web interface. Proceed as follows:

1   Browse to the *TG589vac v2 web interface*.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 In the **Internet** card header, make sure that the switch is in the ON◯ position.

3 Click **Internet** and then click **show advanced**. Make sure that **DHCP routed mode** is selected.

4 Click **Switch connection mode**.

5 After a few minutes the **Status** should switch to **Connected**. If needed, click **refresh data** first.

TG589vac v2 unreachable

If you cannot access your TG589vac v2 via your web browser, you might consider a hardware reset as described in *"7.4 Reset to factory defaults" on page 76*.

7.2 Ethernet connection troubleshooting

Ethernet LED does not light up

Make sure that:

- The Ethernet cable is correctly connected to the Ethernet port on your TG589vac v2 and your computer.

- You are using the correct cable type for your Ethernet equipment, which is at least UTP CAT5 with RJ-45 connectors.

7.3 Wireless connection troubleshooting

Cannot connect via WPS

If you have trouble connecting your wireless client via WPS, try one of the following:

- The WPS session only lasts 2 minutes, make sure to press the WPS button on both devices within this time slot.
- Wait until the WPS LEDs of the TG589vac v2 and other devices are off and then try again.
- Move the devices closer to each other.
- Make sure that the wireless interface and WPS are enabled on the TG589vac v2. Proceed as follows:

    a Browse to the *TG589vac v2 web interface*.
    For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

    b Click **Wireless**. The **Wireless** page appears.

    c On the left menu, select the access point to which you want to connect using WPS.

    d In the **Wireless** card header, make sure that the switch is ON.

    e In the upper-right corner, click **show advanced**.

    f Under **Access Point**, make sure that:

    - **Broadcast SSID** is switched to ON.
    - **WPS** is switched to ON.
    - **Security** mode is not **WEP**.

    g If you made changes, click **Save**.

If the problem persists, configure your wireless client manually. For more information, see *"3.2 How to manually connect a wireless client" on page 25*.

Forgot your wireless key?

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

1 Use a computer that is already connected to your network.

   i If none of your computers is connected to the wireless network, connect one with an Ethernet cable. For more information, see *"2.3 Connecting your wired devices" on page 17*.

2 Browse to the web interface.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

3 Click **Wireless**. The **Wireless** page appears.

4 On the left menu, select the access point that you want to view.

5 Under **Access Point**, you can find the network name (SSID) and wireless key (password).

The TG589vac v2 does not appear in your wireless client's access point list

- Make sure that the TG589vac v2 wireless interface is enabled.

  a Browse to the *TG589vac v2 web interface*.
  For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

  b In the **Wireless** card header, make sure that the switch is `ON`.

- If the signal is low or not available, try to reposition the TG589vac v2 for optimal performance.

- *Change the wireless channel*.

The TG589vac v2 access point no longer available

If you were able to connect in the past, but can't connect anymore:

- Make sure that the wireless client adapter is enabled (message like "radio on").

- Make sure that the wireless client is still using the correct wireless settings (network name (SSID), security settings).

Poor Wireless Connectivity or Range

Try the following:

- Check the signal strength, indicated by the wireless client manager. If the signal is low, try to reposition the TG589vac v2 for optimal performance.

- *Change the wireless channel*.

- Use WPA(2)-PSK as encryption.
  For more information, see *"3.3 Securing your wireless connection" on page 26*.

Change the wireless channel

Proceed as follows:

1 Browse to the *TG589vac v2 web interface*.
For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Wireless**. The **Wireless** page appears.

3 In the **Channel** list under **Interface**, click a channel other than displayed in **Current channel**.

4 Click **Save**.

7.4 Reset to factory defaults

Resetting your TG589vac v2

If at some point you can no longer connect to the TG589vac v2 or you want to make a fresh install, it may be useful to perform a reset to factory defaults.

> ⚠ A reset to factory default settings deletes all configuration changes you made. Therefore, after the reset a reconfiguration of your TG589vac v2 will be needed.
>
> Also your wireless clients will have to be re-associated, as described in *"3 Wireless networking" on page 21*.

Methods

You can choose between:

- *Resetting the TG589vac v2 via the web interface*
- *Reset the TG589vac v2 via the Reset button*

**Resetting the TG589vac v2 via the web interface**

Proceed as follows:

1 Browse to the *TG589vac v2 web interface*.
   For more information, see *"4.1.1 Accessing the TG589vac v2 web interface from your local network" on page 36*.

2 Click **Gateway**. The **Gateway** page appears.

3 Click **Reset**.

4 The TG589vac v2 restores the factory default configuration and restarts.

Reset the TG589vac v2 via the Reset button

Proceed as follows:

1 Make sure the TG589vac v2 is turned on.

2 Push the **Reset** button for at least 7 seconds and then release it.
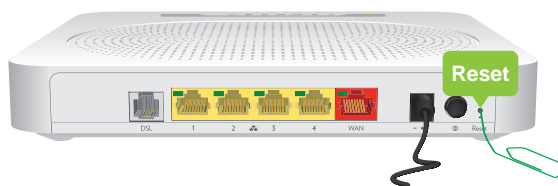
3 The TG589vac v2 restarts.

> ⚠ Your system administrator may have disabled the physical reset button of the TG589vac v2. In this case, a hardware reset to defaults is not possible.

Restore your settings

If you previously backed up your configuration, you can now restore this configuration on your TG589vac v2.

For more information, see *"4.4 Backing up/restoring your configuration" on page 57*.