

Tilgin Home Gateway

HG1310, HG1330 & HG1520 series



Quick Guide

tilgin

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1. Introduction

The home gateway you have received enables services provided by your operator and can become the full service node in your home.

This Quick Guide contains start-up instructions for installing Tilgin Home Gateways HG1310, HG1330 and HG1520 series. When following the instructions to connect and start-up the home gateway it will automatically connect to your operator's network for enabling services offered by your operator. If provided, check the instructions from your operator for additional steps needed when connecting and powering up the device.

2. Delivered with the home gateway

Confirm that you have received the following:

Content in packages for HG1300 and HG1500 models

All models:	Qty
HG1310, HG1330 or HG1520 series gateway	1
Antenna	1
Quick Guide (this document)	1
EULA, EndUserLicenseTerms and Conditions	1
Drill guide for wall mounting the CPE	1

Content for specific models:

HG1310 & HG1520

AC/DC adapter 12VOUT 1200mA	1
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Spec. HG1311

Ethernet cable yellow straight UTP CAT5	1
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HG 1330

AC/DC adapter 12VOUT 1500mA	1
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Spec. HG1311

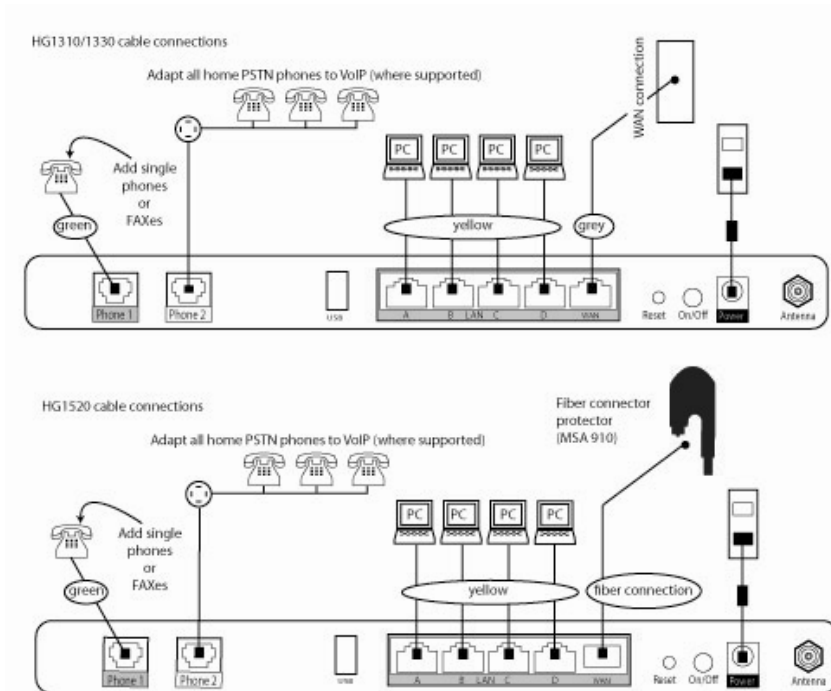
Ethernet cable yellow straight UTP CAT5	1
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Your equipment provider might also include additional cables or country-specific phone plugs.

3. Home Gateway Overview

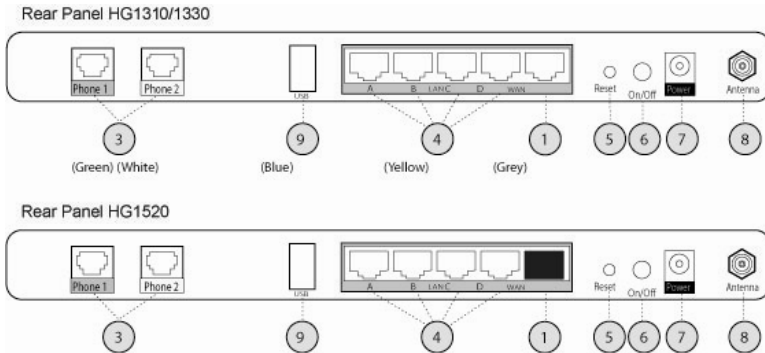
3.1. Home Gateway Cable Attachments

Each outlet and its connected cable is color coded.
See more instructions below



3.2. Home Gateway Interfaces

Rear Panel



Pos	Interface	Outlet & Cable Color Codes	Function
1	WAN	Grey	Connects to WAN (Internet) For HG1310/HG1330 model: Ethernet cable (RJ-45) For HG1520 model: optical fiber connector
3	Phone 1 Phone 2	Green (Phone 1) White (Phone 2)	Connects analogue phones or fax equipment
4	LAN Ports: A, B, C, D	Yellow	Connects Ethernet cables (RJ-45) to the home computers and other devices
5	Reset		Button for factory reset
6	On / Off		Button for turning the home gateway on or off
7	Power Input	Black	Connects the power adapter
8	Antenna		Antenna for wireless LAN
9	USB Host port	Blue	Connects USB Device

3.3. LEDs Front Panel

Front panel LEDs indicates the status of power and Gateway connections.

HG1310/1330



HG1520



LED	Signaling	Indication
Power	OFF	No power
	RED, Stable	Not ready, boot in progress
	RED, Slow Flash	Connection to operator failed
	RED, Rapid Flash	Upgrading or connecting
	GREEN, Stable	Normal operation
Internet	RED, Stable	No internet connection obtained
	GREEN, Stable	Connection to internet established
WLAN	OFF	Wireless function disabled
	GREEN, Stable	Wireless function enabled.
USB	OFF	Not connected
	GREEN, Stable	Connection established
Phone 1 & 2	OFF	No telephone services configured
	GREEN, Rapid Flash	One or more telephone services failed
	GREEN Short Flash	Message waiting
	GREEN, Stable	The telephone service is available
Link (HG1520)	OFF	Fiber not connected
	GREEN, Stable	Fiber connectivity
Ethernet Connectors (Rear)	OFF	No connection
	GREEN, Stable	Connection established
	GREEN, Rapid Flash	Traffic activity
	YELLOW, OFF	10M
	YELLOW, Stable	100M
WLAN button		Button for turning On/Off WLAN

4. Installing your Home Gateway

When the home gateway is connected, it will automatically be provisioned by your operator. However, the level of configuration can vary from a completely automatic configuration to full manual configuration, depending on what your operator offers.

Follow the specific configuration instructions you may have received from your operator.

The home gateway use Web GUI pages for local configuration with your computer.

Pages available in the Web GUI depend on your operator's offering.

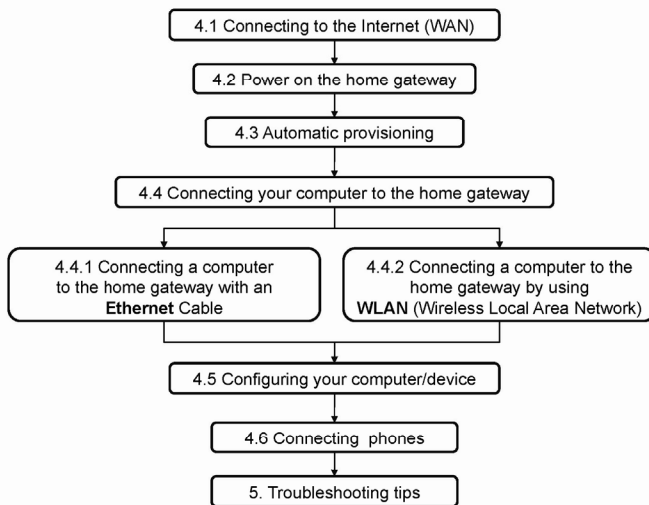
Home gateways and power supplies are electrical devices that can overheat without ventilation.

Place standing or wall mounted on a firm and flat surface and do not cover or crowd them with objects or clothing that prevents good ventilation.

IMPORTANT! Remove the protective plastic film from both top and bottom before installing the home gateway.

Home gateways must always be installed away from heat sources and direct sunlight.

The flowchart below describes the procedures to install your home gateway and is in detail explained in the following pages



4.1. Connecting to the Internet (WAN)

- a. Check your delivery against the content list. (See **2. Delivered with the Home Gateway**)
- b. Attach the home gateway antenna

Depending on type of home gateway supplied by your operator the home gateway can be connected to Internet in two alternative ways:

1. Ethernet connection (For the HG1310, HG1330 model)

Connect the Ethernet cable (yellow) into the WAN port on the home gateway and into your Ethernet Internet access port.

2. Fiber termination (For the HG1520 model)

- a) If there is no fiber termination unit installed connect the fiber directly in the home gateway WAN/FIB port.
- b) If a fiber termination unit is installed connect the fiber to the home gateway and to the fiber termination unit according to **Appendix 1 Mounting the HG1500 series**.

Note: the fiber connection protection cover should be pre-installed by a professional installer.

4.2. Power on the Home Gateway

1. If not already done connect the power cord to the AC/DC adapter
2. Connect the AC/DC Adapter power cord to the power connector [see # 7 on the **Home Gateway Interfaces** page] on the back side of the unit.
3. Plug the power cord into a power outlet.
4. Push the On/Off button on the rear side to On
5. Check that the power LED on the front panel is lit (red).
(See **the LEDs Front Panel** page)

4.3. Automatic Provisioning

When the home gateway is properly connected, an automatic configuration will begin.

The home gateway is pre-loaded with software but it will always download newer software and settings from your operator.

Just wait until the power LED is stable green, which normally takes a few minutes, but may take up to 30 minutes. If the LED still does not show stable green after 30 minutes, then reboot (push power On/Off-button). If problem persists, contact your operator.

For more information about the LED status, see **LEDs Front panel**.

4.4. Connecting a computer to your Home Gateway

There are two ways to connect a computer to your home gateway, either with the **Ethernet cable** or by using **WLAN** (Wireless Local Area Network). Other Ethernet devices or WLAN enabled clients may use same methods to connect.

Note: Some computers can have problems when connecting both Ethernet and WLAN simultaneously.

4.4.1. Connecting a computer by Ethernet cable

Connect the Ethernet port on your computer with an Ethernet cable to one of the LAN ports marked A – D.
(# 4 on the **Home Gateway Interfaces** page).

4.4.2. Connecting a computer by using WLAN

WiFi Protected Setup (WPS)

The Tilgin Home Gateway supports the WiFi Protected Setup (WPS) feature to make it easy to set up a secure wireless home network.

Two WPS methods are supported; **PIN** and **PBC** (Push Button Connect) methods.

If your wireless device/adaptor supplier does not support WPS setup, the WLAN connection with the home gateway can be setup manually (see **Manual Setup** below).

PIN method

PIN method, in which a PIN is read from a sticker on the new wireless device.

Enter the PIN code, provided by your wireless device/adaptor supplier, in the local Web GUI of the home gateway.

PBC method

PBC method, in which the user pushes a button, either an actual or virtual one, on both the home gateway and the new wireless device.

Press the WLAN button on the front of your wireless device/adaptor

or

Press the PCB button in the Web GUI

The WLAN light (on the front of the home gateway) will light green if WLAN is enabled. (See the **LEDs Front Panel** page).

Manual Setup

The WLAN settings are configured manually according to operator specific WLAN settings or by using the default WLAN settings of the home gateway.

Note: Your wireless device/adaptor usually has a connection guide or wizard that will guide you through configuration and connecting to the home gateway.

You should follow these instructions and take into account any WLAN security level settings provided by your operator when running the WLAN configuration.

If the instructions provided with the WLAN client fail, and/or your operator does not recommend specific WLAN settings, use the default WLAN port settings described below:

-Configuring WLAN Client for computer devices

The Wireless LAN configuration is dependent on your computer/operating system. For more detailed instructions refer to your computer operating systems Help.

-Default WLAN port settings

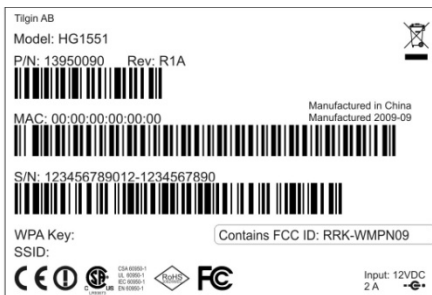
Check that the parameters for WLAN are set according to SSID and WPA key found on the casing label on the back of the home gateway.

SSID = Tilgin-<12 random characters>

Example: **Tilgin-1wa23sbg9skm**

Channel = Auto

Note: Your operator may instruct you to use a WPA key that they provide to you, or use the WPA key printed on the label on the backside of the home gateway.



Make sure your WLAN profile is saved, and make sure your computer network settings are configured properly.

4.5. Configuring your computer/device

Your computer must be configured properly to be able to connect to the Internet and the computers network card and network properties must be configured to obtain an IP address from the home gateway's built-in DHCP server.

This means that you must check that your computer network settings are set to TCP/IP protocol and that the IP address will be obtained automatically.

For detailed instructions how to set up your home network check instructions/Help for your operating system on your computer.

4.6. Connecting phones / equipment

You can connect your analogue phones/equipment to the home gateway.

The devices connected to the gateway are adapted for VoIP calls.

Mind that you might need a country specific phone plug and a special phone cable (both supplied by your operator) to connect multiple analogue devices.

If your services do not include telephony, contact your operator.

4.6.1. Connecting a single analogue phone/equipment

Connect the device to either Phone1 or Phone2 (port #3) with a normal RJ11 telephony cable.

4.6.2. Connecting multiple analogue phones/equipment

All of the phones in your household can be connected to the home gateway using a **country specific phone plug and a special Phone cable**.

Plug the special phone cable into one of the phone ports (#3) and then into the specific phone plug that should be connected on the main phone socket on the wall.

Each port can handle up to five devices in cascade. In this case, **DO NOT** connect any of the home gateway phone ports directly to the Phone Socket on the wall. They **MUST** be connected to the specific phone plug.

DO NOT use an ordinary phone cable for this purpose. It requires a special Phone cable and can be different from country to country.

This option must be supported in your country and by your operator.

5. Troubleshooting Tips

If the home gateway is not working as expected, please try out the following troubleshooting tips.

- Check that the power cord is attached in both ends.
- Check if the power LED is lit. If not switch the On/Off button to On.
- If the power LED does not light stable green within 30 minutes reboot (push power On/Off)
- If the power LED still doesn't lit stable green after reboot, contact your service operator.
- Check the cable connections.
- If the Internet indicator (front of the home gateway) does not lit green check the Ethernet cable is properly connected. Also check the Ethernet connector light on the rear panel lights.
- Verify that the LEDs lights according to the table in **LEDs front panel** page.
- Verify that you can hear a dial tone after hooking off the Telephone receiver. If not check that the Telephone line cord from the Telephone is connected to one of the phone ports.
- When there is slow, or no connection over WLAN, push the WLAN button (WLAN Off). Now press the WLAN button again (WLAN On). The Auto channel feature then searches for the best channel and select it.
- If your operator provides Web GUI access, status information is available via a computer login to the home gateway. Please see information provided by your operator.

If these actions still do not solve the problem, contact your operator or the vendor that supplied your home gateway.

6. Safety Information

Tilgin IPRG AB products are designed and tested to meet the international Safety of Information Technology Equipment standard. This standard provides general safety design requirements that reduce the risk of both personal injury and product injury, protecting against the following hazards:

- Electric shock (hazardous voltage levels)
- Fire (overload, temperature, material flammability)
- Energy (high energy circuits or potential burn hazards)
- Heat (accessible parts of the product at high temperatures)
- Radiation (noise, etc.)

7. Safety Recommendations

When using the product and to ensure general safety, you are instructed to follow these guidelines:

- Use only the power supply adapter that comes with the package. Replacement power supply adapters can be obtained from an authorized Tilgin distributor.
- Do not open or disassemble this product.
- Place on a firm and flat surface.
- Gateways and power supplies are electrical devices that can overheat without ventilation. Do not cover or crowd them with objects or clothing that prevents good ventilation.
- Do not expose the product to liquid or moisture.
- Do not expose the product to lit candles, cigarettes, open flames, etc.
- Do not drop, throw or try to bend the product.
- Do not allow children to play with the product, as it contains small parts that could be detached and create a choking hazard.
- Use only original Tilgin components and replacements parts. Failure to do so may result in performance loss, damage to the product, fire, electric shock or injury. It will also invalidate the warranty.
- Avoid using the unit during an electrical storm. There may be a remote risk of electric shock from lightning.
- Treat the product with care, keep it in a clean and dust free place. Use only a soft, damp cloth to clean the product.

All use of the product is subject to the Safety Recommendations above. Tilgin IPRG AB waives all and any liability for damages caused to i) the product or any other property or ii) yourself or any other individual as a consequence of using the product in ways that deviate from the safety recommendations set out above.

8. Power Supply

Do not use any other power supply than the one delivered by Tilgin. Using the wrong power supply could be hazardous to you or the product.

The power supply is approved by one or more of the following safety organizations:



9. Approvals and Conformity

Tilgin Home Gateways specified in this document are also subject to FCC approval.

Declaration of Conformity (United States only)



This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT

NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

10. Technical Specifications

Dimensions	282 x 174 x 36 mm
Weight	0.65 Kilograms
Operating voltage	See the supplied power adapter
Operating frequency	See the supplied power adapter
Temperature	Operating: 0° C to 40° C Non-operating: -20° C to 60° C
Humidity (relative, non-condensing)	Operating: 10% to 90%, Non-operating: 5% to 95%

11. Environmental Information

The equipment you purchased has required the extraction and use of natural resources for its production. It may contain substances that are hazardous to your health and to the environment. To avoid putting such substances into our environment and to reduce pressure on our natural resources, we ask that you reuse or recycle your end-life equipment by using an accredited electronics take-back system.

The symbols below indicate that this product should be reused or recycled and not simply discarded. Please locate and use an appropriate reuse and recycling site. If you need more information on collection, reuse and recycling systems, contact your local or regional waste administration. You may also contact your equipment Operator for more information on the environmental performances of these products.



12. Warranty

No warranty, express or implied, with respect to the product is extended directly to you from or on behalf of Tilgin IPRG AB. Limited warranties may be granted to you by the equipment Operator in its capacity as reseller of the product. Please contact your equipment Operator for information regarding warranties for the product.

13. Notice of Copyright and Patent Protection

This product incorporates technology which is copyrighted or patented or otherwise protected under intellectual property laws and treaties and proprietary to Tilgin IPRG AB or Tilgin's third party licensors. All use of the products is subject to the applicable End User License Terms and Conditions provided in conjunction with the product.

14. How to Wall-Mount the Home Gateway

Wall-mounting Instruction

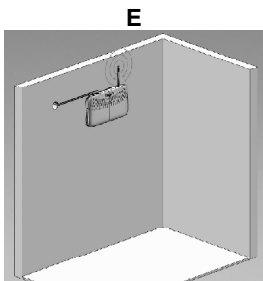
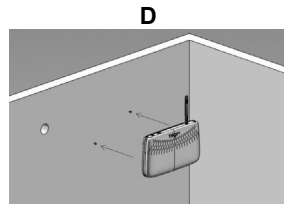
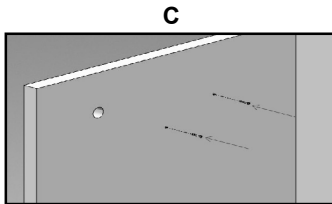
The device can be mounted on the wall.

To install: see below text and figure C - E

See 13650035 Drill Guide for wall mounting the HG1xxx appended in the gift box for drilling correctly spaced holes.

The template shows an outline view of the product with two indicated drill locations.

- A. Mark the drill locations
- B. Drill two holes.
- C. Screw appropriate screws to the wall where the device is to be placed.
- D. Let the bottom of the device face the wall and mount the device on the screws.
- E. Connect the cables to the rear panel.



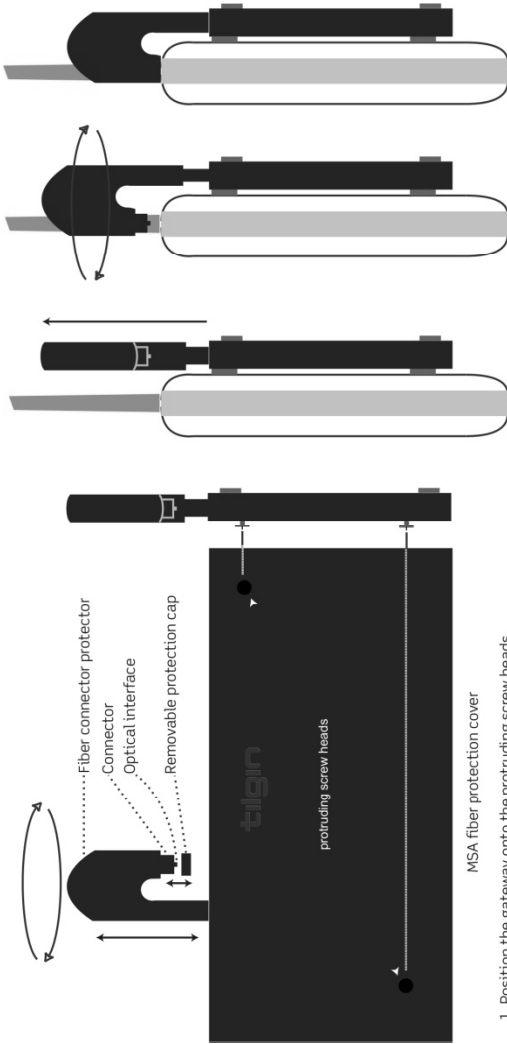
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For mounting the HG1520 series onto the MSA Fiber termination unit, see **Appendix 1**.

15. Used Acronyms

LAN	Local Area Network
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WPA	Wi-Fi Protected Access
WPS	Wi-Fi Protected Setup
PBC	Push Button Connect
GUI	Graphical User Interface
SSID	Service Set Identifier
DHCP	Dynamic Host Configuration Protocol
USB	Universal Serial Bus
USB memory	A type of Flash memory connecting to a USB port
LED	Light Emission Diode

Appendix 1 Mounting the HG1500 series



1. Position the gateway onto the protruding screw heads.
2. Lift the fiber connector protector upwards and remove the protection cap.
3. Turn the fiber connector protector 90 degrees towards you.
4. Push the fiber connector protector downwards carefully until the connector is inserted firmly into the WAN connection port on the HG-unit.

Mounting the HG 1500 series onto the MSA Fiber termination unit

IMPORTANT: The MSA fiber termination unit is expected to be pre-installed by professional optical fiber engineers before you mount the gateway onto it. The optical interface is extremely sensitive. Please use all caution when lowering the fiber connector protector into the WAN connection port. Do not touch the optical interface.

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