SITECOM

homeplug

internet via the powerline

LN-550/551/552/553

User Manual

Table of Contents

1. Safety instructions

All safety and operating instructions should be read and understood before using the device, and should be kept for future reference.

- Never open the Homeplug adapter. There are no user-serviceable parts inside the Homeplug adapter.
- Do not try to service this product yourself! Contact qualified technicians each and every time your device needs maintenance. There is a risk of electric shock!
- Use the Homeplug adapter in a dry location only.
- Do not insert any objects into the openings of the Homeplug adapter.
- To disconnect the Homeplug adapter from the power supply grid, pull the power plug.
- Do not keep the Homeplug adapter in direct sunlight.
- Slots and openings on the case serve as ventilation. Never block or cover them.
- Never set up the Homeplug adapter near a heater or radiator.
- The Homeplug adapter should be located only where sufficient ventilation according to the instructions of the manufacturer can be ensured.
- Disconnect the Homeplug adapter from the power supply grid before cleaning. Use a moist towel to clean the device. Never use water, paint thinner, benzene, alcohol or other strong cleaning agents when cleaning the device, as these could damage the case.
- Never use the Homeplug adapter with a power supply that does not meet the specifications provided on the rating plate. If you do not know what type of power supply you have at home, contact your dealer or energy supplier.
- In the event of damage, disconnect the Homeplug adapter from the power supply grid and contact customer service. This applies, for example
  - If the power cable or plug is damaged
  - If liquid has been spilled on the Homeplug adapter or objects have fallen into the device.
  - If the Homeplug adapter has been exposed to rain or water.
  - If the Homeplug adapter does not work, even though the operating instructions have been followed properly.
  - If the Homeplug adapter's case is damaged.

2. Introduction

In this chapter, we will provide an overview of the Homeplug technology and introduce it briefly.

2.1 What exactly is Homeplug?

Homeplug is home and office networking using the electric wiring already installed in the building.

Cost factor and transmission quality

Homeplug is an economical and easy-to-use networking technology. You don't need to lay cables and you can connect to the home network at every power point.
The Homeplug standard modulates and demodulates additional frequencies on the power lines. Modulation and demodulation is a well-known and proven method of data transmission, which has been in use in other applications for a number of years. Now it is used to set up Internet and network accesses in the home or office. Depending on the damping factor, distances of at least 200 meters can be covered.
With a maximum data rate up to 500 Mbps and symmetrical upload and download speeds, Homeplug is comparable to traditional Ethernet network solutions.
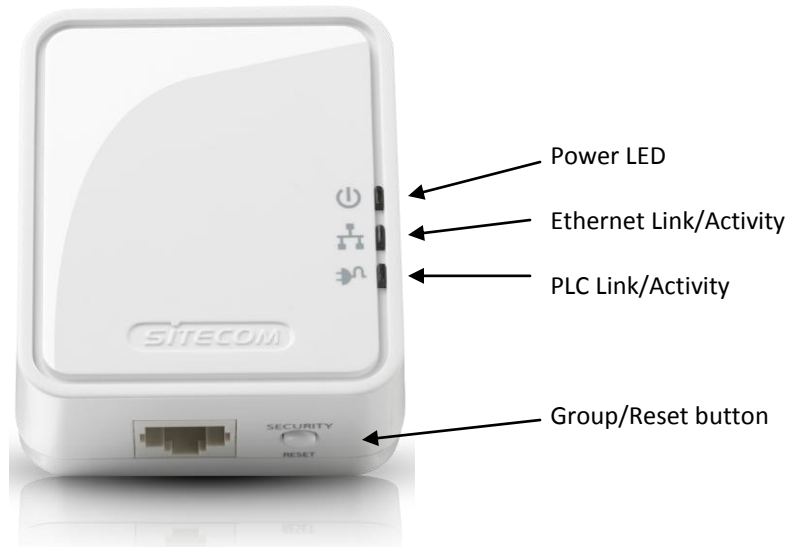
Data security and radiation

128-bit AES encryption is used, which guarantees secure data transfer within the network.

2.2 Package Contents

Open the package carefully, and make sure that none of the items listed below are missing. Do not discard the packing materials, in case of return; the unit must be shipped back in its original package.

- The Homeplug device(s)
- A CD containing manuals and utility.
- A quick installation guide.
- Two CAT 5e Ethernet cables.

3. Introduction of the hardware

Power LED
Ethernet Link/Activity
PLC Link/Activity
Group/Reset button

Power LED	ON: Power on and ready. BLINKING: 1. (blink at slower rate) means Standby mode, or 2. During **Group pairing procedure**, the device joining or being joined into same logical network will continue to blink for 2 minutes until the procedure is successful or is canceled). To enter or cancel the **Group pairing procedure**, just press the GROUP button 2~3 sec. OFF: Power off.
Ethernet Link/Activity LED	ON: Ethernet Link Detected. BLINKING: Ethernet traffic detected. OFF: No Ethernet Link detected.
PLC Link/Activity LED	ON: Power line Link detected but no power line traffic. OFF: Power line Link not detected (either other devices in same network are too far to communicate or it is alone in its logical network). Color: Green: PHY RATE > 40Mbps Orange: 20Mbps < PHY RATE < 40Mbps Red: PHY RATE < 20Mbps
GROUP/Reset Button	Press 10 seconds: clear the current network group name and randomly generate a new network group name. Press 2 to 3 seconds: this will enter Group pairing mode. In this mode the device will join into an existing logical network of other device or announce its network group name for other devices to join. This mode automatically ends after two minutes or when it is successful, manually stopped. Press this button 2 to 3 seconds will manually stop the Group pairing mode.

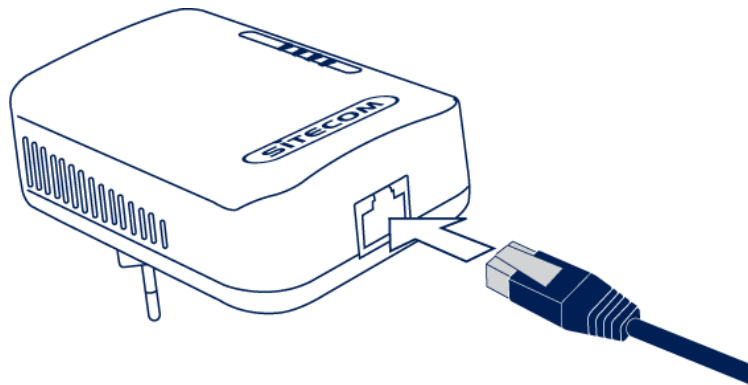|	Press the button when the device is powered on (not standby) to restore to Factory default settings (including PLC network group name).
	Every new PLC devices has the factory default network group name of HomePlugAV. During trouble shooting, power line network communication and network group assignment.

4. Install the hardware

Note: If you use this manual to add a single Homeplug to an already existing Homeplug network, please follow the steps as described in Appendix A.
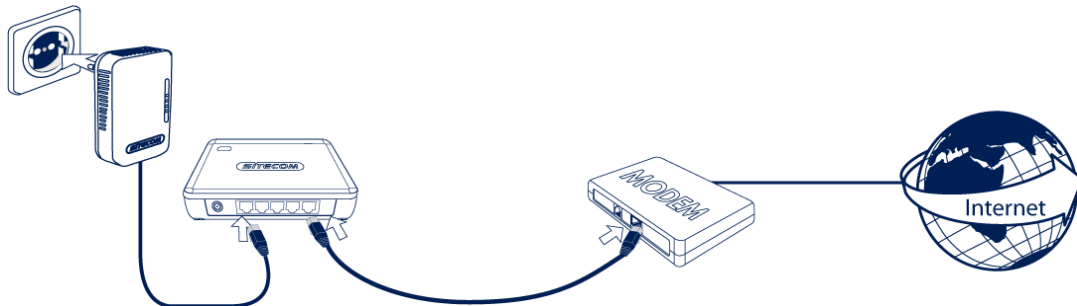
4.1 Install the first Homeplug

Start with the Homeplug which is labeled as '**1**'. You'll see this on the backside of the Homeplug.

Plug the Ethernet cable in the Ethernet port on the Homeplug.

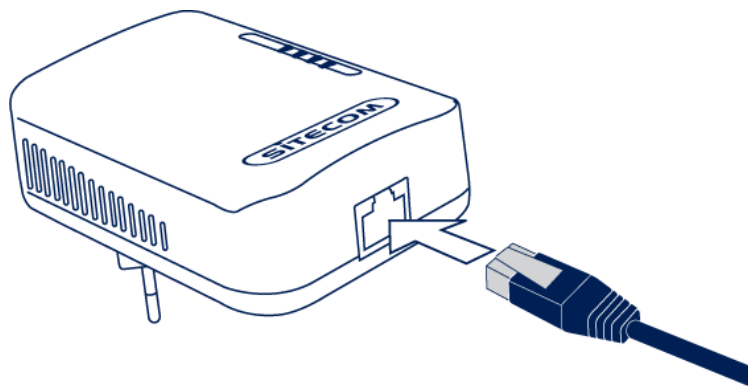Connect the Homeplug to your Internet router and plug it into the socket.
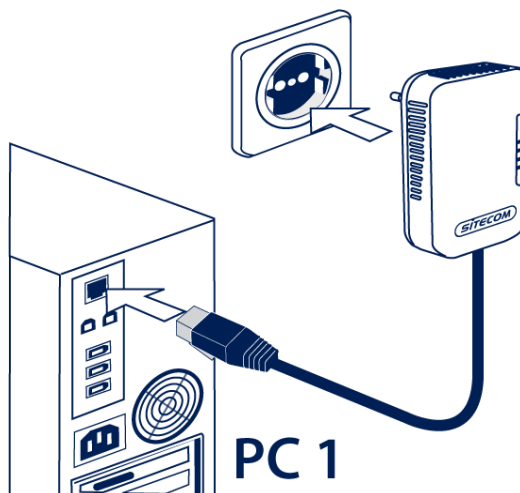
4.2 Install the second Homeplug

Take the Homeplug which is labeled as '**2**'. You'll see this on the backside of the Homeplug.
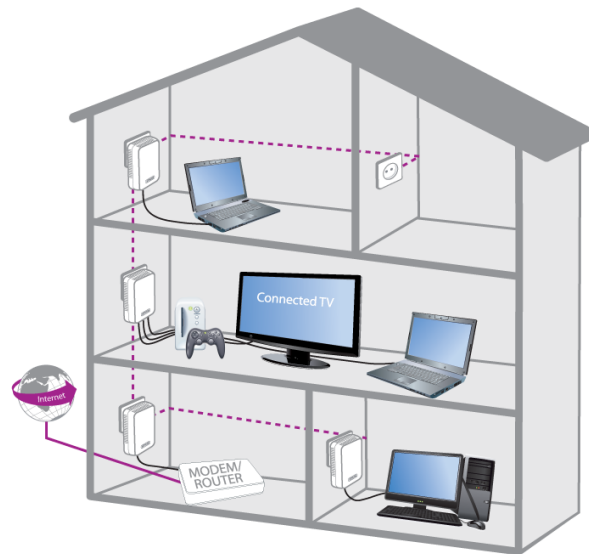

Plug the Ethernet cable in the Ethernet port on the Homeplug.

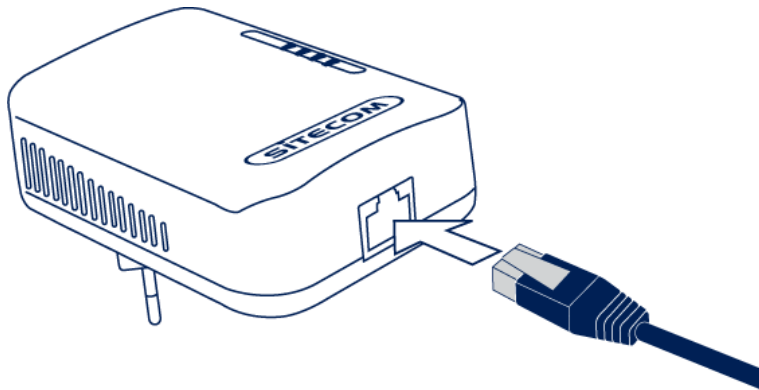Connect the Homeplug to your computer and plug it into the socket.

Your network is now fully functional. Follow the next steps to secure your network.
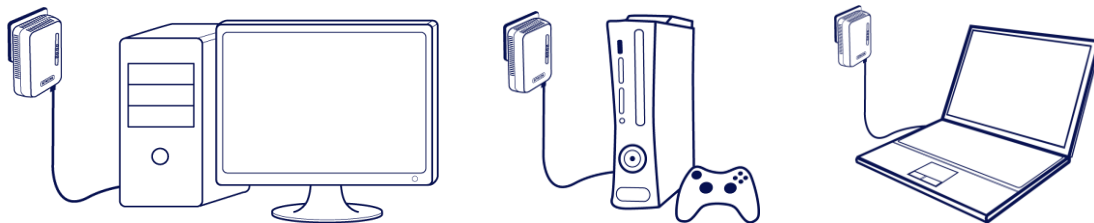
5. Add an extra Homeplug to an existing network

Install the Hardware

Plug the Ethernet cable in the Ethernet port.

Plug the cable into the device you want to connect to your network.

Your network is now fully functional. Follow the next steps to secure your network.

6. Setting security

This product is a Homeplug AV power line device. Each Homeplug has a Homeplug **network name**. Multiple Homeplug devices with the same network names can communicate with one another, and thus belonging to a same Homeplug network group. Devices with a different **network name** won't communicate.

Any 'Homeplug-AV' compliant Homeplug which comes new from the box, including this device, has a default network name of **HomeplugAV**. It can communicate with other brands of new Homeplug-AV compliant devices, thus these new devices are so called belonging to the **public network**. Pushing the GROUP button of the device will change its **network name**. This way, users can create one or multiple private Homeplug network groups using this button, without complicated setup software involved, thus protect their data which is being transmitted over the power line. Pressing the RESET button of a power-active Homeplug device will reset the network name back to its factory default (HomeplugAV).

By pushing the GROUP button for more than 10 seconds, a random network name (different from **HomeplugAV)** for the device will be generated. This device can then ask other devices to join its Homeplug network to form a private network group. Any other device, the Slave Homeplug for instance, which wants to join this device's (the Master) Homeplug network group can be added by the steps below: (NOTE: it is more convenient to bring devices, which are to be configured into the same logical network group, side by side during this procedure. After the network group is set, the devices can be deployed anywhere at home)

6.1 Create a private encrypted network

Step 1: Create a secure network.

First clear the public network and create a private network on HomePlug A by pressing the GROUP button for 10 seconds On release, all LED lights simultaneously turn off and on once. Do the same on HomePlug B. At this moment, the network names have changed to a random name and are ready to be joined together.

Step 2: Join the secure network.

Press the GROUP button of both HomePlugs for 2 to 3 sec (make sure the POWER LED starts blinking). It doesn't matter which device's button is pushed earlier than the other, but please push the second device's Group button within two minutes after pushing the first device's Group button. This way, HomePlug B joins the same encrypted network as HomePlug A.

Please note: If you want to connect with any of the below Sitecom Homeplugs, press the NMK button on these for 5~8 seconds to join a secure network.

- **LN-506/LN-516**
- **LN-507/LN-517**
- **LN-508/LN-518**
- **LN-509/LN-519**

6.2 Add an extra Homeplug

First, clear the original network group of the extra HomePlug by pressing its GROUP button for 10 seconds. On release, all LED lights simultaneously turn off and on once. At this moment, its network group name has been changed to a random name and is ready to be assigned another network name.

Next, press the GROUP button of the extra HomePlug and the GROUP button on a HomePlug that is already connected to the network for 2 to 3 sec (make sure the POWER LED starts blinking). It doesn't matter which device's button is pushed earlier than the other, but please push the second device's Group button within two minutes after pushing the first device's Group button. This way, the extra HomePlug joins the same encrypted network as the rest.

6.3 Remove a device from a network Group

If for example, device A and device B are in the same logical network group and you want to remove device A from this logical network group, just press the GROUP button of device A for 10 seconds. This makes device A unable to communicate with device B.

6.4 Make two public network devices private

If you want to make two new public devices (**network name** HomePlugAV) to become private, please carry out **Step 1** on both devices, then do **step 2** on these two devices. Finally, a private random **network name** is generated for these two devices.

6.5 Standby Mode

The standby mode enables the Homeplug to save power consumption. The Homeplug automatically enters standby if no Ethernet cable is connected, or the connected device enters standby, hibernation, or is powered-off for over two minutes. During standby, only the POWER LED blinks at a slow rate. To exit standby, just insert the Ethernet cable to the Homeplug, or wake up the connected device.

Note: Some computers support the Wake on LAN function that may cause the Homeplug not to enter the standby mode.

Appendix: Declaration of Conformity

Sitecom Europe BV

SITECOM

EC Declaration of Conformity

We
Sitecom Europe BV
Linatebaan 101
3045 AH Rotterdam
The Netherlands

Hereby declare under our sole responsibility that the Sitecom product:

Product number: LN-550 v1 001
Product description: Mini Homeplug 500 Mbps

To which this declaration relates is in conformity with the requirements of the following standards:

CE/LVD
·   EN 60950-1:   2006+A11 (2009)

CE/EMC
·   EN 55022   2006 +A1 (2007)
·   EN 55024   1998 +A1 (2001) +A2 (2003)
·   EN 61000-3-2   2006 +A1 (2009) +A2 (2009)
·   EN 61000-3-3   2008
-     EN 50412-2-1   2005

This certifies that the following designated Sitecom product:

Product description: Mini Homeplug 500 Mbps
Product No.: LN-550 v1 001

Complies with the requirements of the following directives and carries the CE marking accordingly:
EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

Sitecom Europe B.V.
Rotterdam, 14 December 2012

M. Bergwerff,

COO

Sitecom Europe BV

EC Declaration of Conformity

We
Sitecom Europe BV
Linatebaan 101
3045 AH Rotterdam
The Netherlands

Hereby declare under our sole responsibility that the Sitecom product:

Product number: LN-551 v1 001
Product description: Mini Homeplug 500 Mbps 2 pack

To which this declaration relates is in conformity with the requirements of the following standards:

CE/LVD
·   EN 60950-1:   2006+A11 (2009)

CE/EMC
·   EN 55022   2006 +A1 (2007)
·   EN 55024   1998 +A1 (2001) +A2 (2003)
·   EN 61000-3-2   2006 +A1 (2009) +A2 (2009)
·   EN 61000-3-3   2008
-    EN 50412-2-1   2005

This certifies that the following designated Sitecom product:

Product description: Mini Homeplug 500 Mbps 2 pack
Product No.: LN-551 v1 001

Complies with the requirements of the following directives and carries the CE marking accordingly:
EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

Sitecom Europe B.V.
Rotterdam, 14 December 2012

M. Bergwerff,

COO

Sitecom Europe BV

EC Declaration of Conformity

We
Sitecom Europe BV
Linatebaan 101
3045 AH Rotterdam
The Netherlands

Hereby declare under our sole responsibility that the Sitecom product:

Product number: LN-552 v1 001
Product description: Socket Homeplug 500 Mbps

To which this declaration relates is in conformity with the requirements of the following standards:

CE/LVD
·   EN 60950-1:   2006+A11 (2009)

CE/EMC
·   EN 55022   2006 +A1 (2007)
·   EN 55024   1998 +A1 (2001) +A2 (2003)
·   EN 61000-3-2   2006 +A1 (2009) +A2 (2009)
·   EN 61000-3-3   2008
-    EN 50412-2-1   2005

This certifies that the following designated Sitecom product:

Product description: Socket Homeplug 500 Mbps
Product No.: LN-552 v1 001

Complies with the requirements of the following directives and carries the CE marking accordingly:
EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

Sitecom Europe B.V.
Rotterdam, 14 December 2012

M. Bergwerff,

COO

Sitecom Europe BV

EC Declaration of Conformity

We
Sitecom Europe BV
Linatebaan 101
3045 AH Rotterdam
The Netherlands

Hereby declare under our sole responsibility that the Sitecom product:

Product number: LN-553 v1 001
Product description: Socket Homeplug 500 Mbps 2 pack

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CE/LVD
·   EN 60950-1:   2006+A11 (2009)

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Product description: Socket Homeplug 500 Mbps 2 pack
Product No.: LN-553 v1 001

Complies with the requirements of the following directives and carries the CE marking accordingly:
EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

Sitecom Europe B.V.
Rotterdam, 14 December 2012

M. Bergwerff,

COO

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Note: All the information contained in this manual was correct at the time of publication.
However, as our engineers are always updating and improving the product, your device may have a slightly different appearance or modified functionality than presented in this manual.