

# Mesh Network System BR-400AN Setup Guide

**silex** technology English **CE** WA 104890XD

Thank you very much for purchasing the Mesh Network System BR-400AN. This Setup Guide describes how to install and configure BR-400AN. Before you start installation, please read the **Notes on Installation** below carefully.

## Package Contents

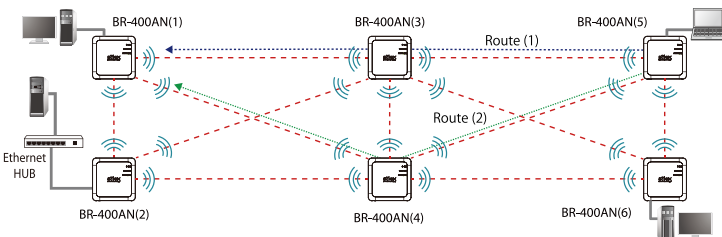
- BR-400AN
- AC adaptor
- Network cable
- Setup Guide (this document)
- Warranty booklet
- GPL license note
- Bracket Type VI (1 set)
- Bracket Type VI Installation Guide

## Notes on Installation

- Please do not use or store BR-400AN under the following conditions. It may cause malfunction.
  - Near heat or moisture-retaining materials or poorly ventilated places (e.g. carpet, bed, sponge, cardboard, styrofoam, inside a shelf or box)
  - Locations subject to vibration or shock
  - Shaky, uneven or tilted surfaces
  - Locations exposed to direct sunlight
  - Humid or dusty places
  - Wet places (kitchen, bathroom, etc.)
  - Near bottles or containers filled with liquid (e.g. flower pot, glass, cosmetic, chemical)
  - Near heat sources such as heater, stove, etc.
  - Locations subject to extreme changes in temperature
  - Near strong electromagnetic sources (magnet, radio, wireless device, etc.)
- Make sure that you have a secure scaffold when BR-400AN is installed or removed to/from a high place. There is a danger of falling.
- Do not place BR-400AN unit on top of the other BR-400AN unit and do not place anything on top of BR-400AN. Failure to do so may cause fire.

## About Mesh Network

In the Mesh network, several devices are connected with each other to configure a network without using Access Point. Also, devices communicate among each other regularly to select a best route for relay. For example, if a device (BR-400AN(3)) has malfunctioned when the route (1) is used, the rest of devices will continue communication by rebuilding the route (2).



## Before You Begin

### Downloading User's Manual

Download the user's manual from Silex Technology's homepage.

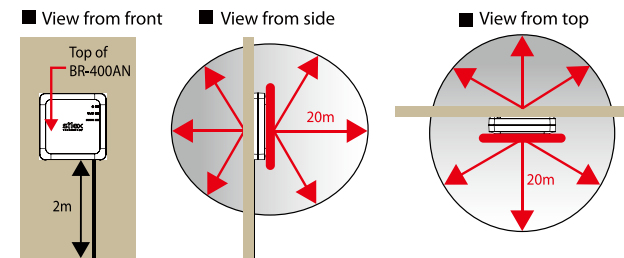
- 1 Access the URL below on your PC.  
**URL: <https://www.silextechnology.com/>**

- 2 Go to the support section, select the product and download the user's manual below.

User's Manual	BR-400AN User's Manual
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### Product Installation and Radio Distance

BR-400AN radiates radio waves. Make sure that the top surface of BR-400AN (the surface with Silex logo and LEDs) face a target device. For wireless communication, the distance is set to approximately 20m by default. Place the target device within that range. The height of installation position must be about 2m from the ground.



\* By changing the transmission power setting on BR-400AN, the wireless communication distance can be expanded / shortened.  
\* Actual wireless communication distance may vary depending on wireless signal status of your environment.

### Connecting BR-400AN with Firmware Version 2.0.0 or Lower

Execute one of the followings when BR-400AN is connected to an older version of BR-400AN (Ver.2.0.0 or lower) in the Mesh network.

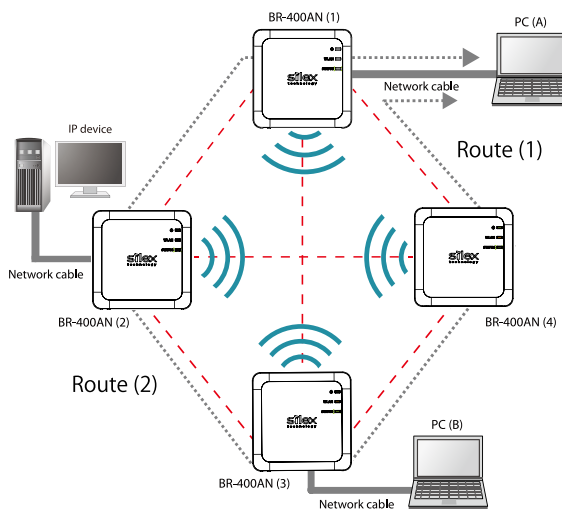
- Update the older version of BR-400AN to the latest version. Make sure that all BR-400AN units have the same setting for **Route Switching Mode** and **Transmission Control Function**, then.
- For all BR-400AN units with the firmware version 2.0.0 or later, select **Responsive Type** for **Route Switching Mode**.

## How to Install BR-400AN

Below is a sample configuration to use the Mesh network. By turning on multiple BR-400AN units within the distance they can communicate with each other, the Mesh network can be configured. Also, it is possible to add BR-400AN to your existing network. Remember that below configuration is a sample and it is not necessary to use the same configuration.

### To configure Mesh network using BR-400AN only

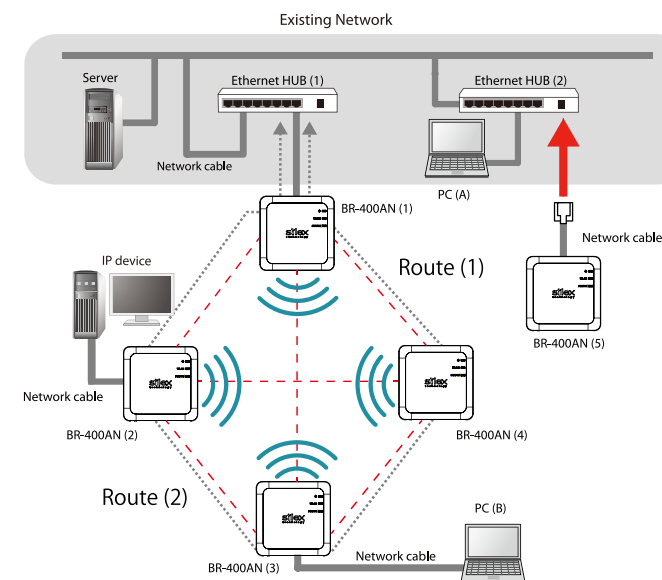
Following is a sample configuration image for the Mesh network using BR-400AN only, without using the existing network.



- The sample network above can be configured by default setting.
- If a valid IP address has already been configured to PC (A), PC (B) and IP device, you do not have to install a new DHCP server to configure the Mesh network.
- As long as a valid IP address is configured, PC (A), PC (B) and IP device can communicate with each other.
- As shown in above image, even if an error occurs to BR-400AN (4) and the route (1) becomes unavailable, the devices will continue to communicate through the route (2).

### To connect BR-400AN to your existing network

The following is a sample configuration image for the Mesh network when adding multiple BR-400AN units to your existing network.

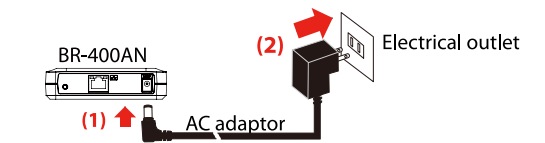


- The sample network above can be configured by default setting.
- If a valid IP address has already been configured to PC (A), PC (B) and IP device, you do not have to install a new DHCP server to configure the Mesh network.
- As long as a valid IP address is configured, PC (A), PC (B) and IP device can communicate with each other.
- As shown in above image, even if an error occurs to BR-400AN (4) and the route (1) becomes unavailable, the devices will continue to communicate through the route (2).
- For example, by connecting BR-400AN (5) to Ethernet HUB (2) as shown in above image, the Mesh network can be expanded. However, if two conditions below are met, the **Network Loop Avoidance** setting needs to be set to **ENABLE** on the BR-400AN units that are connected to the existing network via a wired LAN (BR-400AN (1) and BR-400AN (5) in above image) (by default, this setting is **DISABLE**).
- Two or more BR-400AN units are directly connected to the existing network using network cables.
- In the existing network, there is no Ethernet HUB on which RSTP function is turned on.

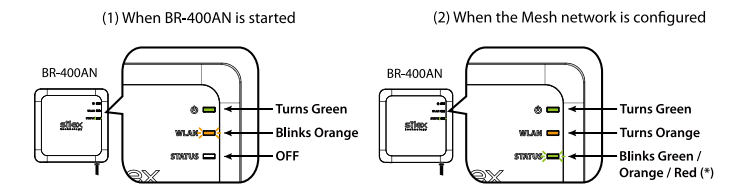
### How to Turn on BR-400AN

Below explains how to turn on BR-400AN and how the LED lights when BR-400AN is operating correctly.

- 1 Connect the AC adaptor to BR-400AN (1) and the AC plug to outlet (2).



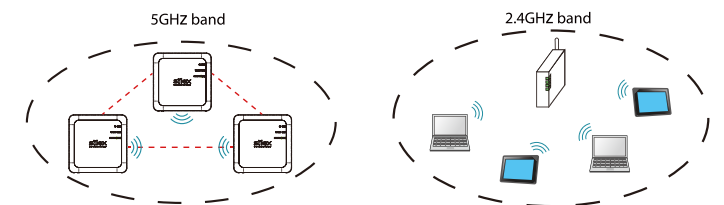
- 2 When BR-400AN is started, the LED turns on or blinks as shown at (1). When the Mesh network is configured, the LED turns on or blinks as shown at (2).



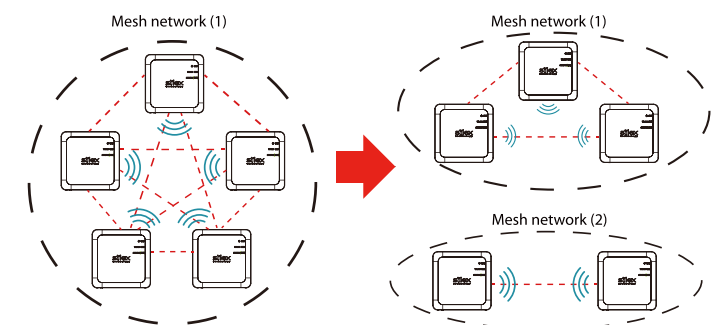
\* The color of LED will differ depending on the link quality. Refer to the user's manual for details.  
\* If the POWER LED and the STATUS LED blink red together, some BR-400AN units have a different setting for **Route Switching Mode** or **Transmission Control Function**.

By changing the setting on BR-400AN, advanced Mesh network can be configured.

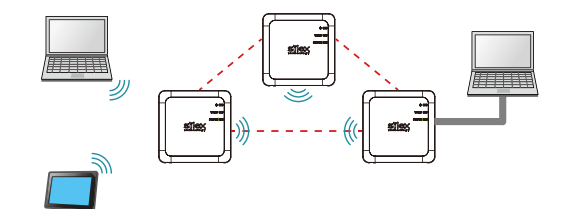
- The wireless frequency bandwidth or channel can be changed.



- Multiple Mesh networks can be established.



- BR-400AN can be used as Access Point to connect PC or tablet device.



For details on how to change the setting on BR-400AN, see **How to Change Setting on BR-400AN** on back.

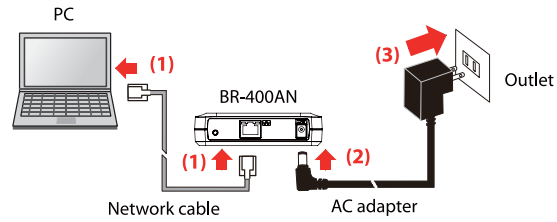
# How to Change Setting on BR-400AN

The following explains how to change the setting on BR-400AN.

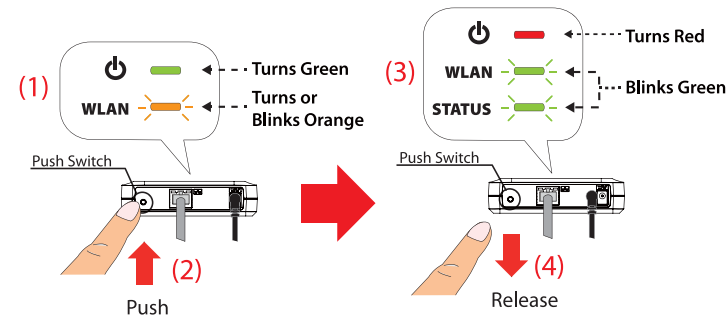
To change the setting on BR-400AN, a PC and network cable (the one that comes with BR-400AN) are required.

- 1 Connect a PC and BR-400AN using a network cable (the one that comes with BR-400AN) (1) and turn on BR-400AN (2) (3).

\* Please always use the AC adapter that comes with BR-400AN.



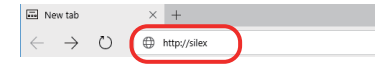
- 2 On top surface of BR-400AN, check that the LED at the  $\text{\textcircled{P}}$  mark (hereinafter, the "POWER LED") turns green and check the WLAN LED turns or blinks orange (1). Push and hold the push switch on the front surface (2). When the POWER LED turns red and the WLAN LED and the STATUS LED start to blink green together (3), release the push switch (4) (it may take 20 sec until both LEDs start to blink). BR-400AN will start to run in a configuration mode and configuration will become available on the PC that has been connected to BR-400AN using the network cable.



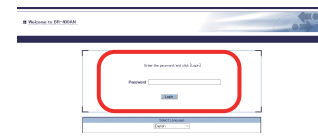
- 3 Start a Web browser (Edge, Internet Explorer, Google Chrome, etc.) on the PC. When the login password configuration page appears, enter the password to configure for BR-400AN and click **Submit**.



\* The login password configuration page is displayed only when BR-400AN is configured for the first time.  
\* If the Web configuration interface is not displayed, enter "http://silex" in the address bar of the Web browser and press the Enter key.



- 4 The login page of BR-400AN is displayed. Enter the login password and click **Login**.

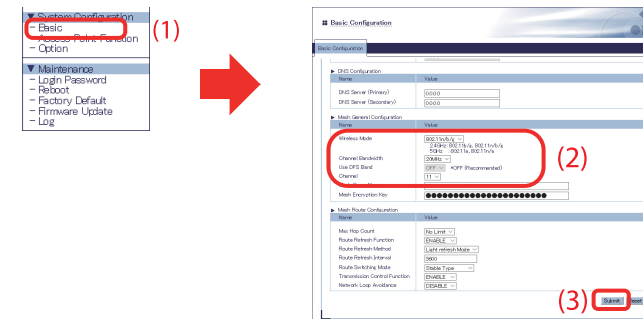


- 5 Select the setting from the menu and enter the necessary settings.



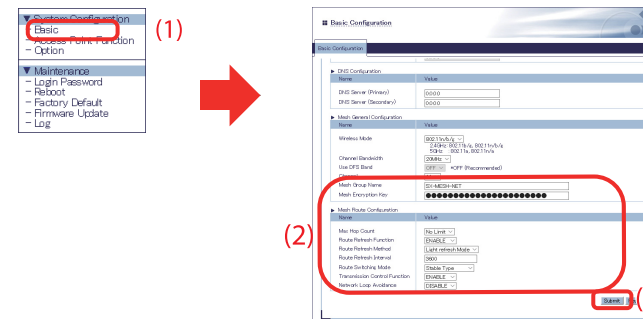
## To change wireless frequency bandwidth or channel

Click **Basic** from the menu (1) and configure each setting at **Wireless Mode, Channel Bandwidth, Use DFS Bandwidth and Channel** in the **Basic Configuration** page (2). When finished entering the setting, click **Submit** (3).



## To establish multiple Mesh networks

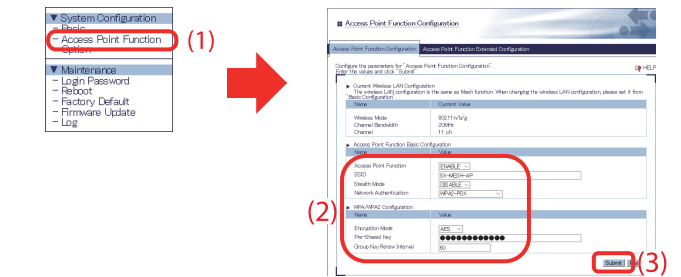
Click **Basic** from the menu (1) and configure each setting at **Mesh Group Name, Mesh Encryption Key and Mesh Route Configuration** in the **Basic Configuration** page (2). When finished entering the setting, click **Submit** (3).



\* The wireless setting (**Wireless Mode, Channel Bandwidth, Channel**) or **Mesh Group Name** and **Mesh Encryption Key** must be the same for all devices on the Mesh network. If these settings are different on each product, the Mesh network cannot be established.

## To connect a PC or tablet device wirelessly

Click **Access Point Function** from the menu (1). In the **Access Point Function Configuration** page, configure each setting (2). When finished entering the setting, click **Submit** (3).

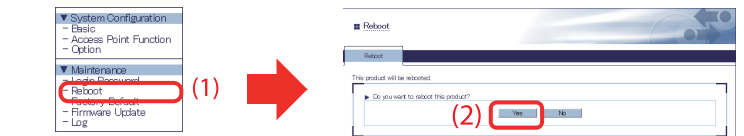


\* For details on each setting, refer to the Help on Web configuration interface or BR-400AN User's Manual that you have downloaded.

- 6 The message below is displayed. To continue to change the setting, repeat the process at 5.



- 7 When the configuration is finished, restart BR-400AN. Click **Reboot** from the menu (1) and click **Yes** at the **Reboot** page (2).

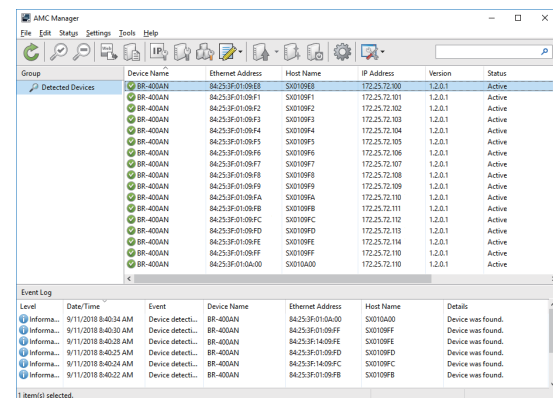


The configuration change will take effect after BR-400AN is restarted.

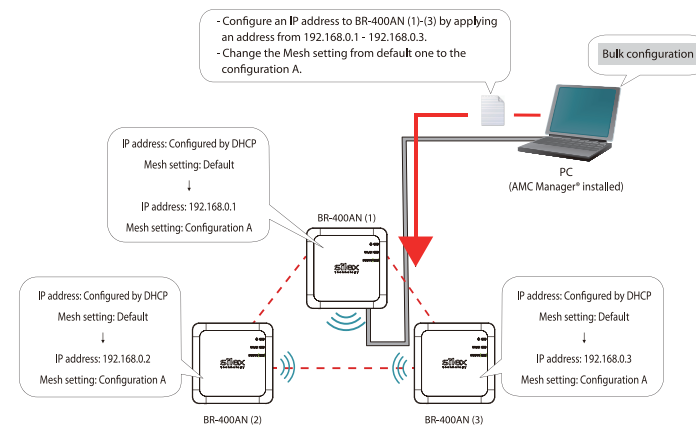
# Optional Utilities

## AMC Manager®

AMC Manager® is the integrated management software that can remotely monitor the device status and change the configuration using IP network.



AMC Manager® collects information of BR-400AN units over the Mesh network and shows them as a list. Also, it is possible to configure IP address or write the same setting to several units at once.

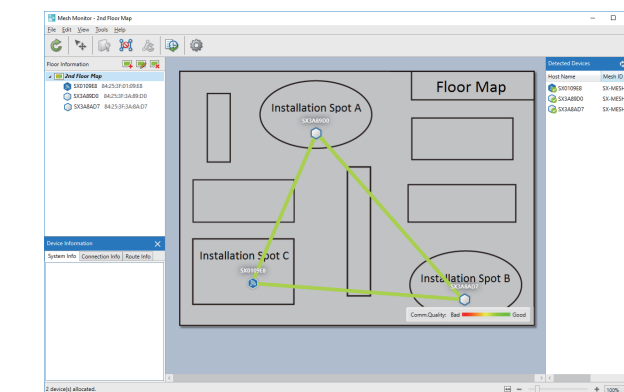


There are a free version and a non-free version for AMC Manager®. When a non-free version is used, more devices can be managed and configured at once and the plug-in utilities such as Mesh Monitor, etc. can be used.

Function	AMC Manager® Free (Free version)	AMC Manager® (Non-free version)
Number of controllable devices	Up to 10 devices	Up to 10,000 devices
Number of devices that can be controlled at a time	Up to 10 devices	Up to 10,000 devices
Number of groups that can be created	Up to 2 devices	Up to 100 devices
Number of devices that can be registered per group	Up to 10 devices	Up to 1,000 devices
Plug-in utility such as Mesh Monitor	Unavailable	Available

## Mesh Monitor

Mesh Monitor is a non-free plug-in utility of AMC Manager®. Mesh Monitor can visualize the route setting and operating status to support the Mesh network management.



It is also possible to configure a part of BR-400AN's functions on Mesh Monitor (e.g. enabling/disabling Access Point function).

\* Mesh Monitor is not included in AMC Manager®. To use Mesh Monitor, the license needs to be purchased separately. If you are interested in purchasing the license, please contact us. For the contact information, please visit our homepage and see the support section.

# Customer Support

**USA : silex technology america, Inc.**  
E-mail : support@silexamerica.com  
URL : <https://www.silextechnology.com/>  
Phone : +1-657-218-5199

**Europe : silex technology europe GmbH**  
E-mail : support@silexeurope.com  
URL : <https://www.silextechnology.com/>  
Phone : +49-2154-88967-0

- (De) Die deutsche Version der Konfigurationsanleitung können Sie von unserer Website herunterladen.
- (Fr) Il est possible de télécharger la version française de ce guide d'installation depuis notre page d'accueil.
- (It) La versione italiana della guida all'installazione è scaricabile dalla nostra homepage.
- (Es) Puede descargar la versión en español de la guía de configuración desde nuestra página principal.
- (Pt) A versão em português do guia de instalação pode ser baixada de nossa página inicial.

**URL : <https://www.silextechnology.com/>**