TEW-212APBO

Wi-Fi Inter-Building Router

Quick Installation Guide

CONTENTS

1. INTRODUCTION

This document is designed to provide information for the quick deployment of TEW-212APBO Inter-Building Router.

What you need to know

The audience should be familiar with:

- Basic TCP/IP networking technology

2.   HARDWARE REQUIREMENT LIST

When setting up the TEW-212APBO inter-building router, you will need the following:

- TEW-212APBO Inter-Building Router

- Mount kit

- TEW-212APBO Router CD with documentation

Additional Requirement

- A computer connected to the same network as the router.

- Straight-through CAT 5 Ethernet cable with RJ-45 connectors for connecting the router to the network and an inline power source (maximum 100 meter).

- The following information is needed from your network system administrator:

  - The wireless Service Set Identifier (SSID) for your radio network. This parameter is case-sensitive.
  - A unique IP address for the router (for example: 192.168.2.123), if it will not be connected to a network with a DHCP server.
  - A default gateway and subnet mask if the router is not on the same subnet as your PC.

- E110 Power over Ethernet (PoE) One Port Hub.

3.   CONNECT AND POWER UP THE ROUTER

Mounting the router

Step 1 Assemble the mount kit at the back of the case. Please refer to the attached figure in the mount kit tool bag for more details.

Step 2 Mount the router on a stout pole.

Step 3 Adjust the orientation of the antenna to get the maximum range (See Figure 3.1). (Note: In some units, the directional flat panel antenna is embedded within the enclosure; the best reception will be directly through the front panel).
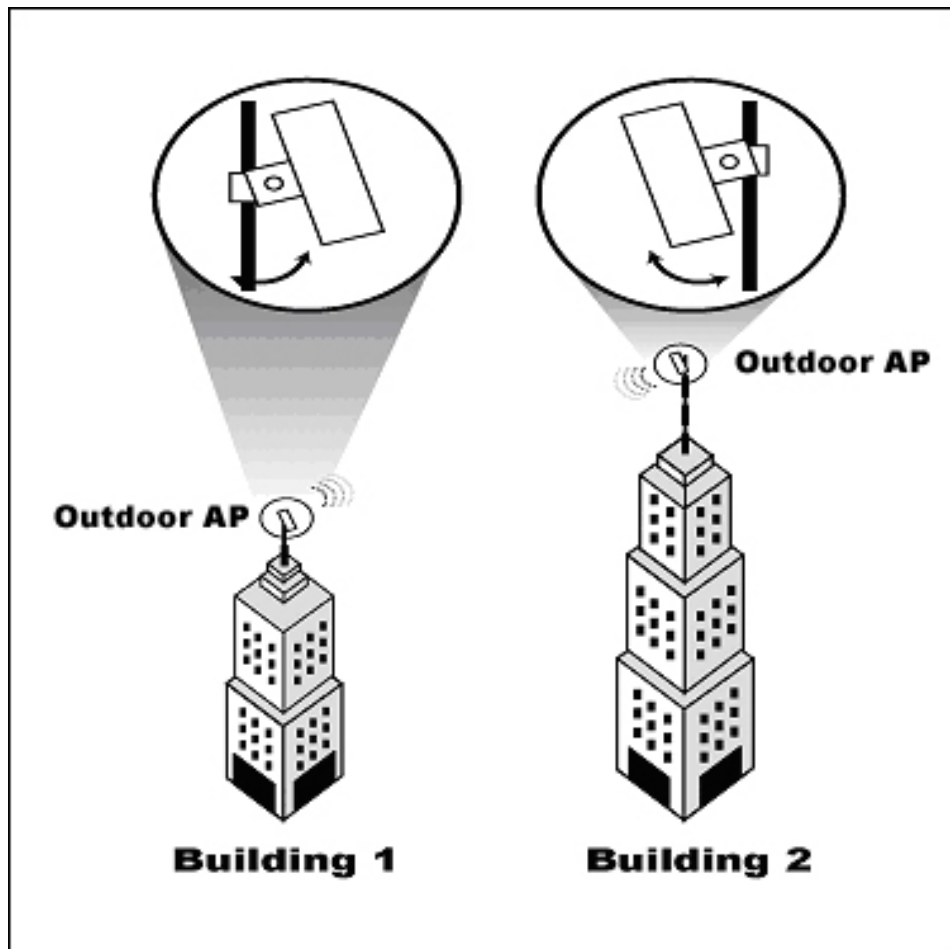

Figure 3.1: Adjusting TEW-212APBO for best reception

Step 4 Secure the unit in the position.

Connect to the power source and the local network

Step 1 Connect the Ethernet cable from the TEW-212APBO router to the port on the POE (Power over Ethernet) host (PH-110 Power LAN 1 port hub) labeled *P-LAN OUT*.

Step 2 Connect a straight-through Ethernet cable from the *LAN-IN* port of the POE host to a spare port on the hub or switch within the local network.

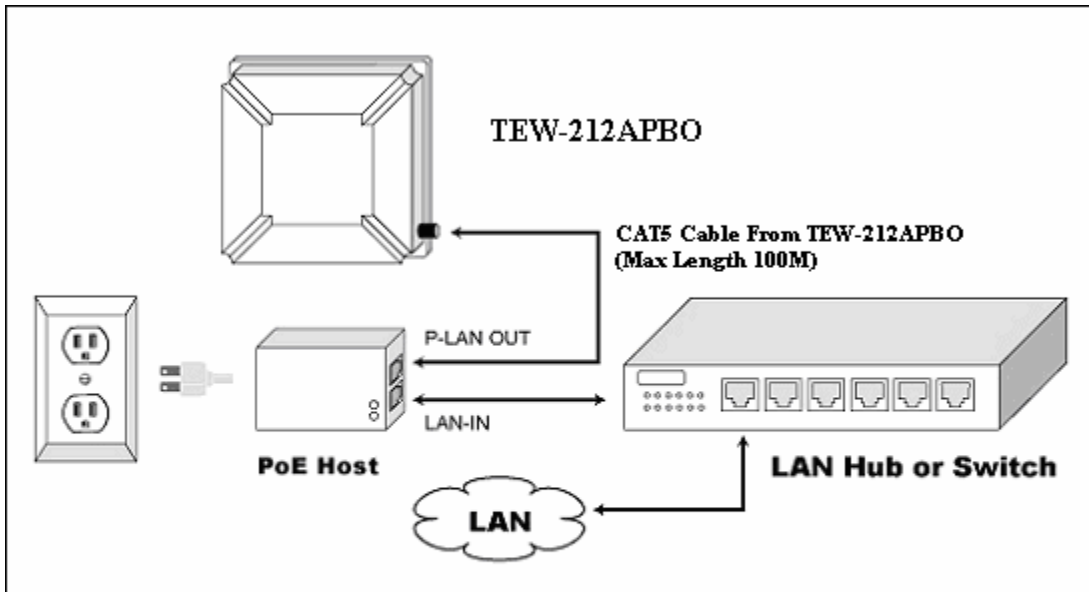The steps described above are summarized in the Figure 3.2.

Figure 3.2: Connecting TEW-212APBO to the power source and to the network

In the next section, we will discuss the procedure to setup a computer on the local network, so we can use it to configure the router.

4. CONFIGURING A SETUP COMPUTER ON THE LAN

To configure TEW-212APBO at first time, you should prepare one computer for the TEW-212APBO setup. The operating system of this computer can be Windows, Linux or MAC with standard browsers (e.g., Netscape Navigator or Microsoft Internet Explorer versions 4.0 or later).

Usually factory settings of TEW-212APBO are:

IP address:	192.168.2.2
Netmask:	255.255.255.0

This computer must be connected to the same LAN as TEW-212APBO, and network settings of this computer should contain the following parameters:

IP address:	A free IP address in the 192.168.2.0 / 24 network
Netmask:	255.255.255.0
Default Gateway:	None

For example, under Microsoft Windows XP, the TCP/IP network settings page would look like the following:
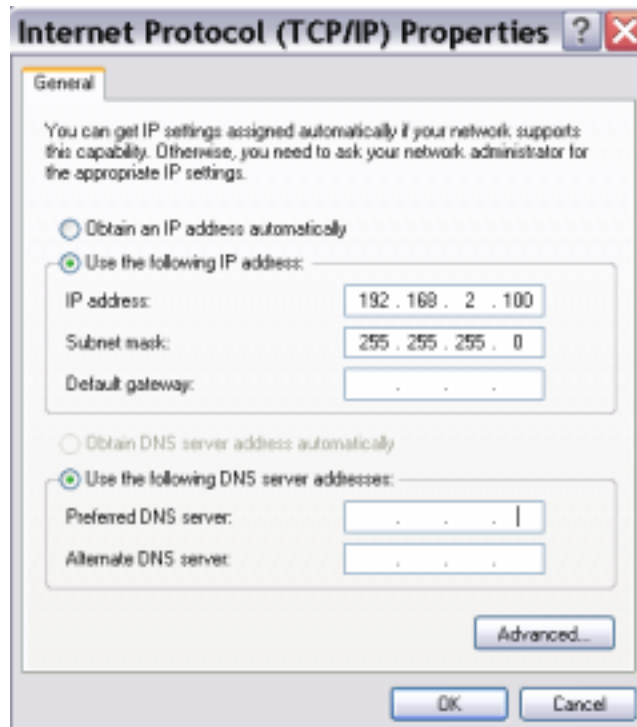
Sample MS Windows XP network settings

After setting these values on the LAN connected computer, the initial setup process, as described in the next section can be started.

5.   SETUP WIZARD

After a TEW-212APBO router is connected to your network, you can begin to manage the router through a standard web browser.

To use a browser to setup TEW-212APBO, follow these steps:

1. Launch a web browser on a computer connected to the network.
2. Enter the router's IP address in the browser address line and press Enter. The default IP address of TEW-212APBO router is 192.168.2.2, so to enter the secure setup website, please type in https://192.168.2.2 as the URL in the web browser. It may look like the following:

Address 🌐 https://192.168.2.2/   ☑ ➡ Go   Links

3. If local computer network settings were configured successfully, a login screen should appear:

TEW-212APBO web login screen

Enter the user name (factory default is "**root**") and the correct password (factory default is "**pass**") and click on the "*OK*" button to pass the security control screen.
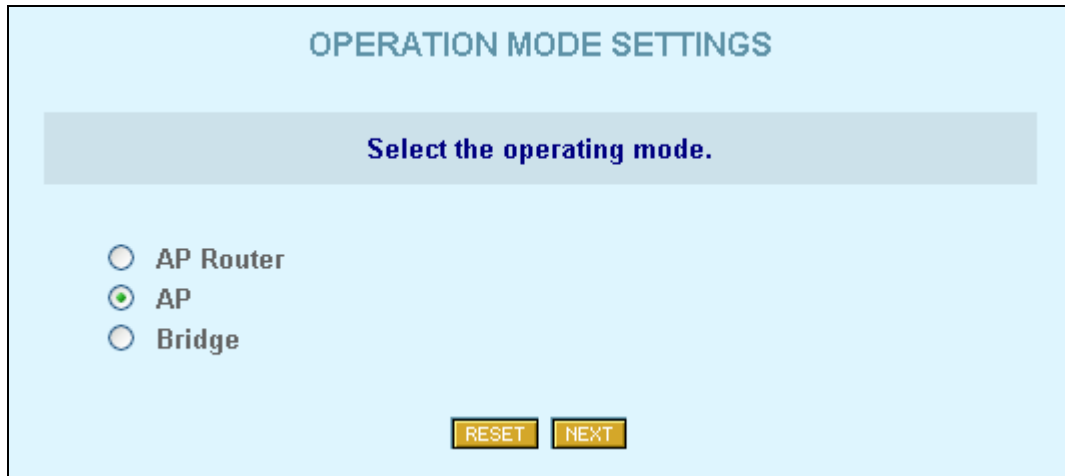
Then TEW-212APBO welcome screen should appear:

TEW-212APBO welcome screen

Click on the "**Setup Wizard**" button to begin TEW-212APBO configuration (described in the following section).

Device Mode Settings Page

The first page of TEW-212APBO configuration wizard is dedicated to the device operating mode selection. TEW-212APBO supports three different operating modes, AP (Access Point)-Router, AP and Bridge. Please refer to TEW-212APBO User's Guide, Section "3 Operating Modes" for details on the operation of each mode.

Device Mode Settings page

Select one of the three device modes and click on the "*Next*" button to continue the configuration wizard. If you would like to reset the fields to the previous values, please click on the "*Reset*" button.

General Settings page

After the device mode selection, the General Settings page should be shown. Various general device parameters can be set here. All the parameters in this page are optional, but it is highly recommended that the fields for **Host Name**, **Address**, and **Coordinates** are filled in accordingly. It will make easier identification of the routers. (For detailed explanations on the parameters, please see the TEW-212APBO User's Guide - Section "General Settings page").

General settings page

Click on "**Back**" button to return to the previous page, which is the Device Mode Settings page, or click on the "**Next**" button to continue configuring TEW-212APBO.

Network settings page

Depending on the operation mode selected for the router, there are two versions of the network settings page.

❖ **AP-Router Mode**
In the AP-Router mode, LAN (Local Area Network) and WAN (Wide Area Network – in TEW-212APBO it can be the enterprise network on the Internet) configuration is done using LAN Settings and WAN Settings tables shown as followed:
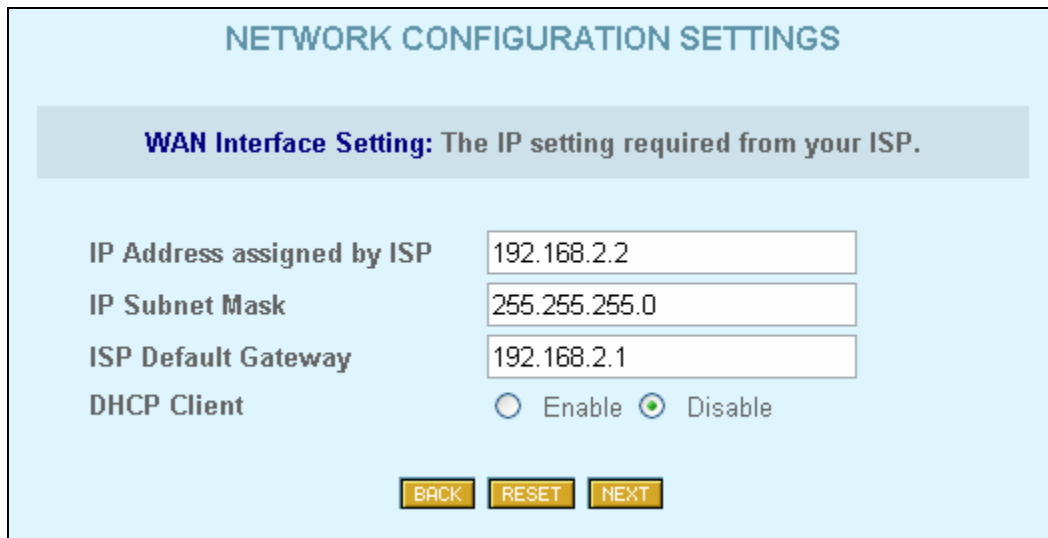
Network settings page -1 (AP-Router mode)

WAN settings must be set up according to the information provided by the ISP. There is no such restriction on LAN settings. WAN access can be disabled, to restrict LAN user access to this network.

The masquerade setting enables the NAT (Network Address Translation) feature of TEW-212APBO. When this option is enabled, TEW-212APBO "hides" the LAN addresses to the "external" IP networks connected through the WAN interface. Direct access to the services provided by servers on the local network can be provided by using the port forwarding feature.

➀ **Hint**: *Use private IP addresses for the local network, because if you use addresses, which already exist on the Internet, you will not be able to connect to WAN. It is recommended to use 192.168.2.x / 24 addresses class.*

❖ **AP / Bridge Mode**

In AP and Bridge modes, TEW-212APBO has no active LAN (Local Area Network) interface, so the "LAN Interface Settings" table is not displayed.

Network settings page 2 (AP or Bridge mode)

Wireless Device Settings page

The last page of the Setup Wizard is the Wireless Settings page:

Wireless Settings page

In this page, at least two essential pieces of information are required:
- **Access Point SSID** (Service Set Identifier) is a case-sensitive identification parameter for your radio network.
- **Default Channel for BSS** - It can be set up by selecting a fixed channel from the pull-down menu.

ⓘ **Hint**: *Use the site survey utility in System Tools to verify a fixed channel selection. This utility will help you view the unused channels, or to check signal strength of the other Access points on the selected channel. It is recommended that you should select an unused channel or one where the signal strength from the other APs is weak.*

For channel domain, owing to different regions regulation, each has relative channels rule. Please refer to the table below for the correct domain and region selection.

Domain	Regions	Operation Frequency/Channels
FCC	N. America	2.412~2.462 GHz (11 channels)
ETSI	Europe CE	2.412~2.472 GHz (13 channels)
Spain	Spain	2.457~2.462 GHz (2 channels)
France	France	2.457~2.472 GHz (4 channels)
MKK	Japan	2.473~2.484 GHz (1 channel)
MKK1	Japan	2.412~2.472 GHz (13 channels)

By enabling the L2 separation feature, the clients would be unable to communicate between themselves.

You may desire an additional measure of security on your wireless network, which can be achieved by using WEP (Wired Equivalent Privacy) encryption. TEW-212APBO offers 64/128 bit WEP securities on wireless transmissions. Encryption keys are represented by five (for 64 bit WEP) or thirteen (for 128 bit WEP) pairs of hexadecimal digits, separated by colons (e.g. A 64 bit WEP key may look like: 01:23:45:67:89). WEP encrypts each frame transmitted from the radio using one of the keys entered from this table.

Click on the "*Save settings*" button to save and finish configuring TEW-212APBO.

Redirection Service

After clicking on the "*Save settings*" button to end the configuration process, a waiting and redirection message should appear as shown below.

Changes were saved. Now rebooting. Please wait 15 sec..
Click here if nothing happens after specified time has elapsed.

Waiting and redirection message

It indicates the browser will be redirected to new site (new IP address). If the new site belongs to a different subnet (e.g., from 192.168.2.218 to 168.20.1.10), the redirection function will not work. The IP address of the locally connected computer should be changed to the same subnet as the new site (168.20.1.x) before re-clicking the redirection message above or re-entering the new IP address of TEW-212APBO into the URL field of a browser, the new site should re-connect.

If the new site belongs to the same subnet as the old site (i.e. in the same 192.168.2.x network), and the redirection function did not redirect to the IP address automatically, please re-click the redirection message or press the refresh button in the browser.

Your router should now be up and running. Consult the User's guide on the CD for a description of the router system management functions and the instructions to access the Help guide.

6. QUICK TEST (POST SETUP)

To ensure that the IP address of the router is setup correctly, a utility, "**FindAP**", is provided. It can be used to search for the live wireless access points on the network. To use the utility:

1. Put the TEW-212APBO CD into a CD drive.
2. Double click on the **FindAP.exe** file.

Now you should see the following screen, click **Scan** to search:
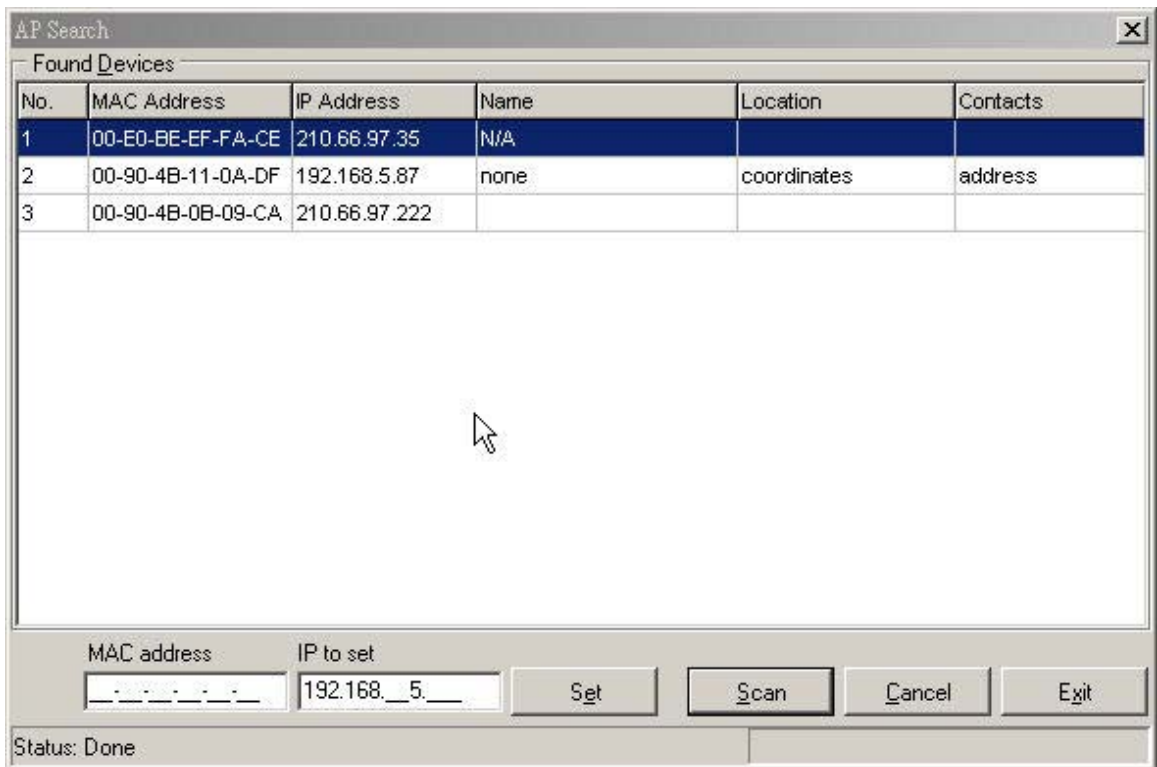
"FindAP" in action

The utility will search and display all TEW-212APBO devices on the network. If the router has been setup successfully, it should appear in the table with the configured IP address.