# Table of Contents

Package Contents

The standard package of the system includes:

- WOR1000 System x 1
- PSE BOX x 1
- Arrester x 2
- RF Cable x 2
- Ethernet cable x 2
- Console cable x 1
- AC Power cable x1
- Accessories package x1
- CD-ROM x 1

Note: Using a power supply with a different voltage than the one included with the Outdoor Bridge will cause damage and void the warranty for this product.
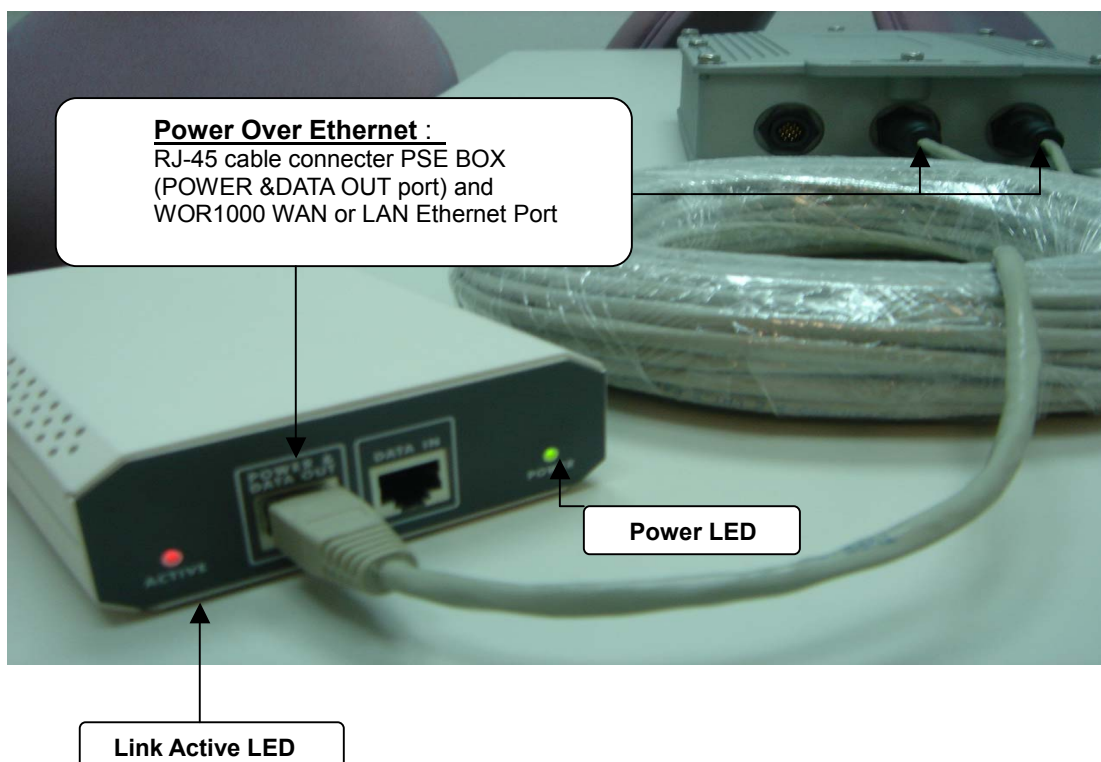
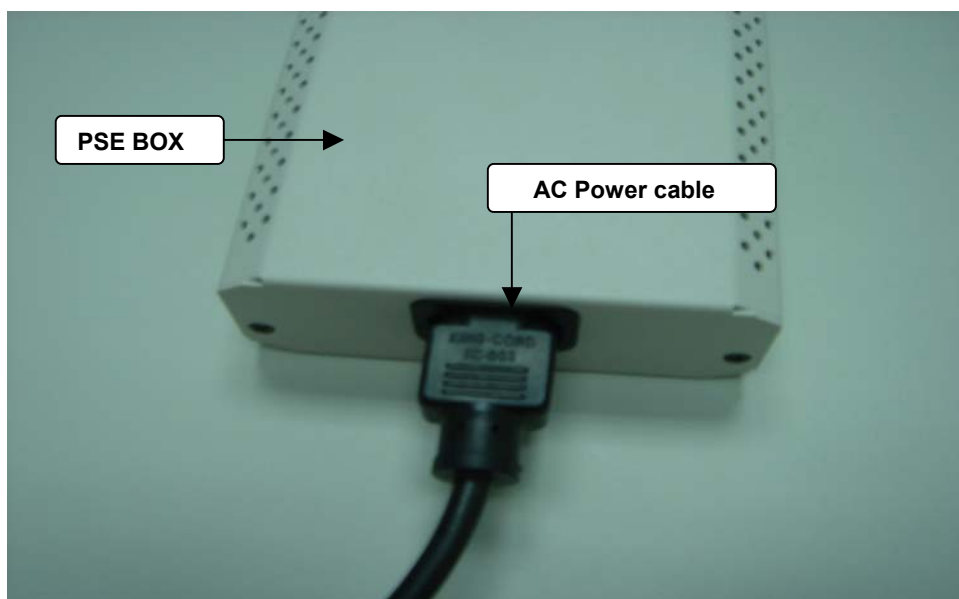# Ethernet & RS-232 Console Connecter :
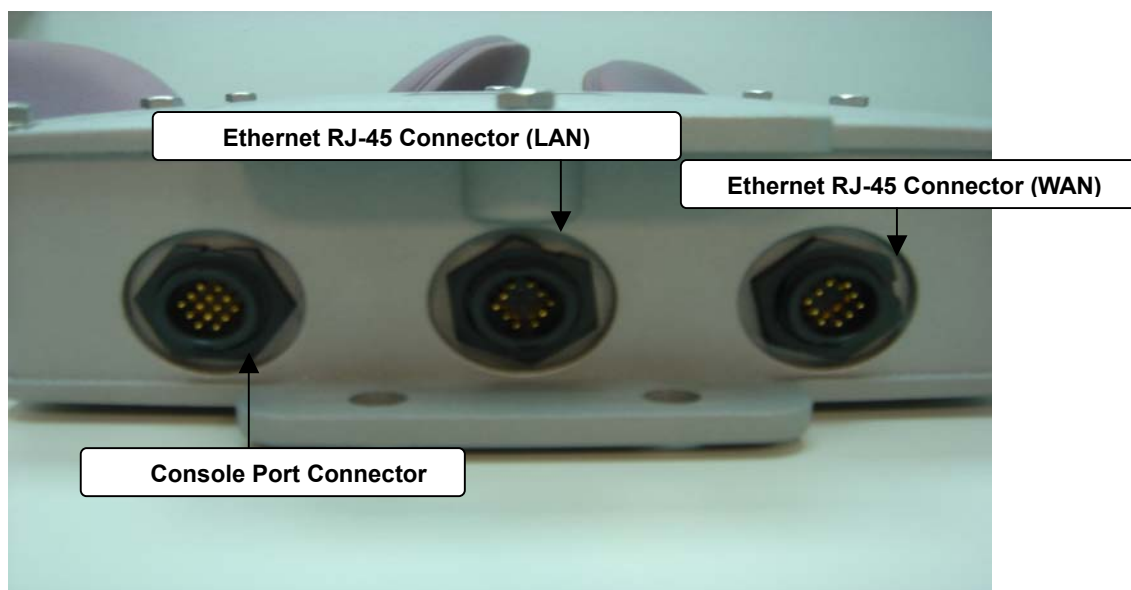
Console Port --- It is used for initial setup and configuration of the device

LAN Port --- It is used for connecting the enclosed PSE for Power Over Ethernet

WAN Port --- It used for connecting to ADSL for ISP

PSE BOX : for Power Over Ethernet (POE)

PSE BOX

AC Power cable

Power Over Ethernet :
RJ-45 cable connecter PSE BOX
(POWER &DATA OUT port) and
WOR1000 WAN or LAN Ethernet Port

Power LED

Link Active LED

Minimum System Requirements

Computers with Windows, Macintosh, or Linux-based operating systems with an installed Ethernet Adapter

Internet Explorer version 6.0 or Netscape Navigator version 7.0 and above

Introduction

The OUTDOOR BRIDGE covers a large operating distance, providing an 802.11b/g outdoor WLAN which enables users to access the Internet or an organization's network.

At up to five times the speed of previous wireless devices, you can work faster and more efficiently, increasing productivity. With the OUTDOOR BRIDGE, bandwidth-intensive applications like graphics or multimedia will benefit significantly because large files are able to move across the network quickly.

The OUTDOOR BRIDGE features a die-cast watertight housing and a built-in lightning protector to protect the access point from harsh environmental conditions, including extreme variance in temperature. It also includes Power over Ethernet (POE) and a unique outdoor remote-mounted design for easy installation. With two mounting kits, you have the option of either pole or wall mounting.

The OUTDOOR BRIDGE is suitable for manufacturing plants, industrial sites, military bases, universities, hotels, airports and golf courses.

The OUTDOOR BRIDGE has Dual Radio functionality for simultaneous AP and Bridge operations for backhaul applications.

Configurable in four different modes (access point, bridge, multi-point bridge, and wireless client), the OUTDOOR BRIDGE offers 128-bit encryption, WPA and 802.1X authentication when used with a RADIUS server, MAC address access control, and additional security features.
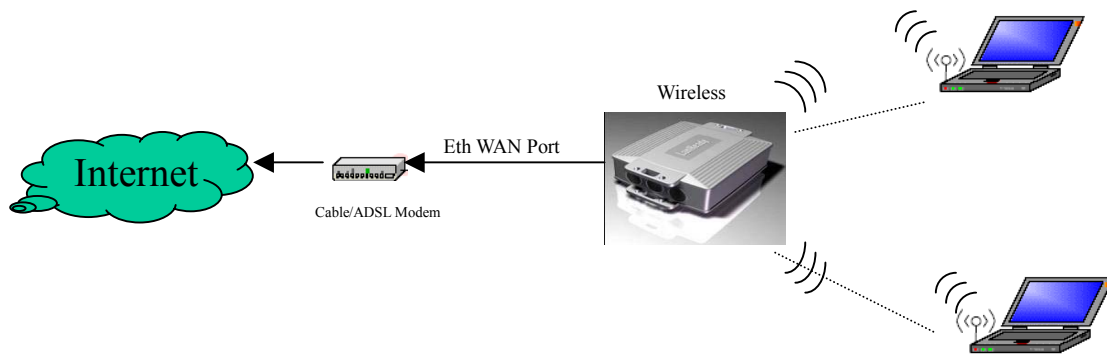
Features and Benefits

Features the benefit of **Robust Outdoor Housing -** Designed for harsh outdoor environments, with die-cast, watertight housing, built-in heater and
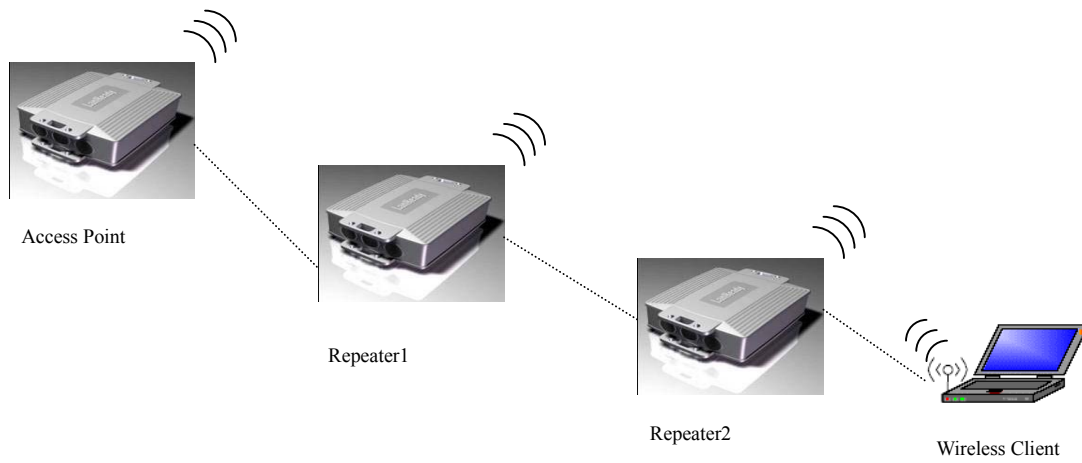
temperature sensor

High Performance **Dual Radio usage** for simultaneous operations of AP and Bridge for backhaul applications.   The dual radio can be configures for AP and Bridge ; AP and AP ; Bridge and Bridge for various applications

Features the benefits of **repeating up to 6 MAC ID** for each radio, therefore ability to repeat up to **12 MAC ID** with dual radio functionality for great coverage and benefits

4 Different Operation modes with WDS (Wireless Distribution System) – Capable of operating in one of four different operation modes to meet your wireless networking requirements: access point (AP), Point-to-Point (PtP) bridge,Point-to-multipoint (PtMP) bridge, Repeater.

Embedded DHCP Server automatically assigns IP addresses to wireless clients.

Connect networks in different buildings when used in conjunction with high-gain outdoor antennas.

Easy Installation with PoE.

Compatible with IEEE802.11g standards to provide a wireless data rate of up to 54Mbps.*

Backward compatible with the 802.11b standard to provide a wireless data rate of up to 11Mbps with 802.11b devices - that means you can migrate your system to the 802.11g standard on your own schedule without sacrificing connectivity.

Better security with WPA and 802.1X- The OUTDOOR BRIDGE can securely connect to wireless clients on the network using WPA (Wi-Fi Protected Access) providing a much higher level of security for your data and communications than has previously been available. In conjunction with a RADIUS server, 802.1X authentication verifies the identity of would-be clients.

Communicate between IEEE802.11b and IEEE802.11g bands - Optional configuration allows communication between bands.

Two mounting kits - Gives you the flexibility of either wall or pole outdoor mounting.
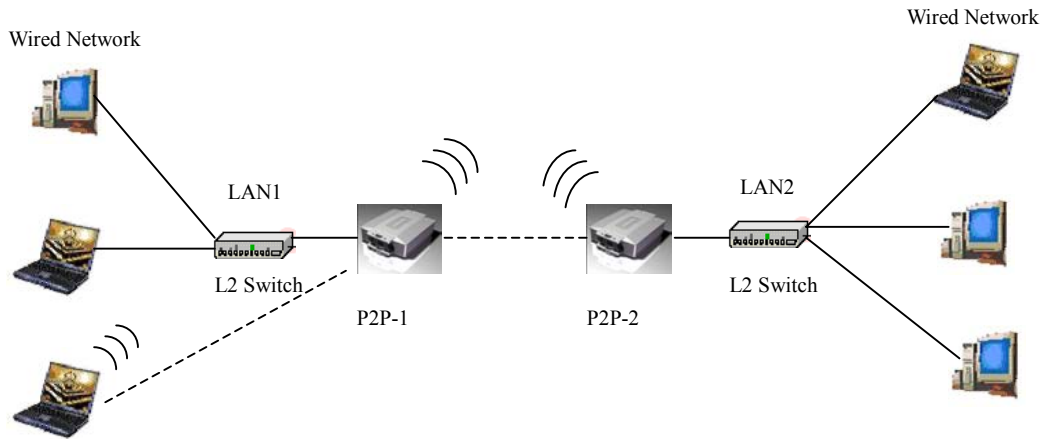
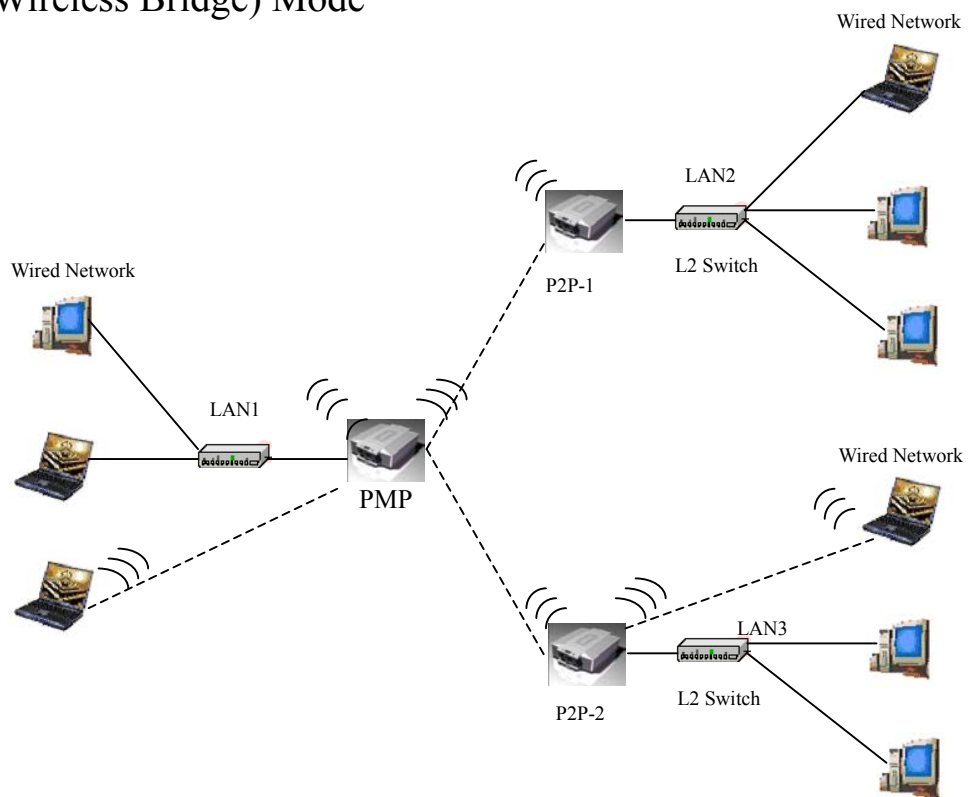# Four Operational Modes

AP Mode

Internet ← Cable/ADSL Modem ← Eth WAN Port → Wireless

Repeater Mode

Access Point

Repeater1

Repeater2

Wireless Client

Point to Point (P2P : Wireless Bridge) Mode

Wired Network

LAN1

L2 Switch

P2P-1

P2P-2

LAN2

L2 Switch

Wired Network

PMP (Wireless Bridge) Mode

Wired Network

LAN2

L2 Switch

P2P-1

Wired Network

LAN1

L2 Switch

PMP

Wired Network

P2P-2

LAN3

L2 Switch

Using the Configuration Menu

To configure the OUTDOOR BRIDGE, use a computer which is connected to the OUTDOOR BRIDGE with an Ethernet cable (see the Network Layout diagram).

First, disable the **Access the Internet using a proxy server** function. To disable this function, go to **Control Panel > Internet Options > Connections > LAN Settings** and uncheck the enable box.

Start your web browser program (Internet Explorer, Netscape Navigator) . Type the IP address and http port of the OUTDOOR BRIDGE in the address field
(http://192.168.2.254) and press **Enter**. Make sure that the IP addresses of the OUTDOOR BRIDGE and your computer are in the same subnet.
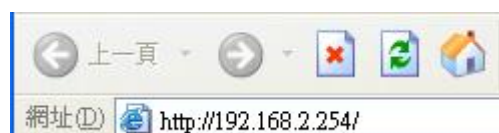
After the connection is established, you will see the user identification window as shown.
Note: If you have changed the default IP address assigned to the OUTDOOR BRIDGE, make sure to enter the correct IP address.
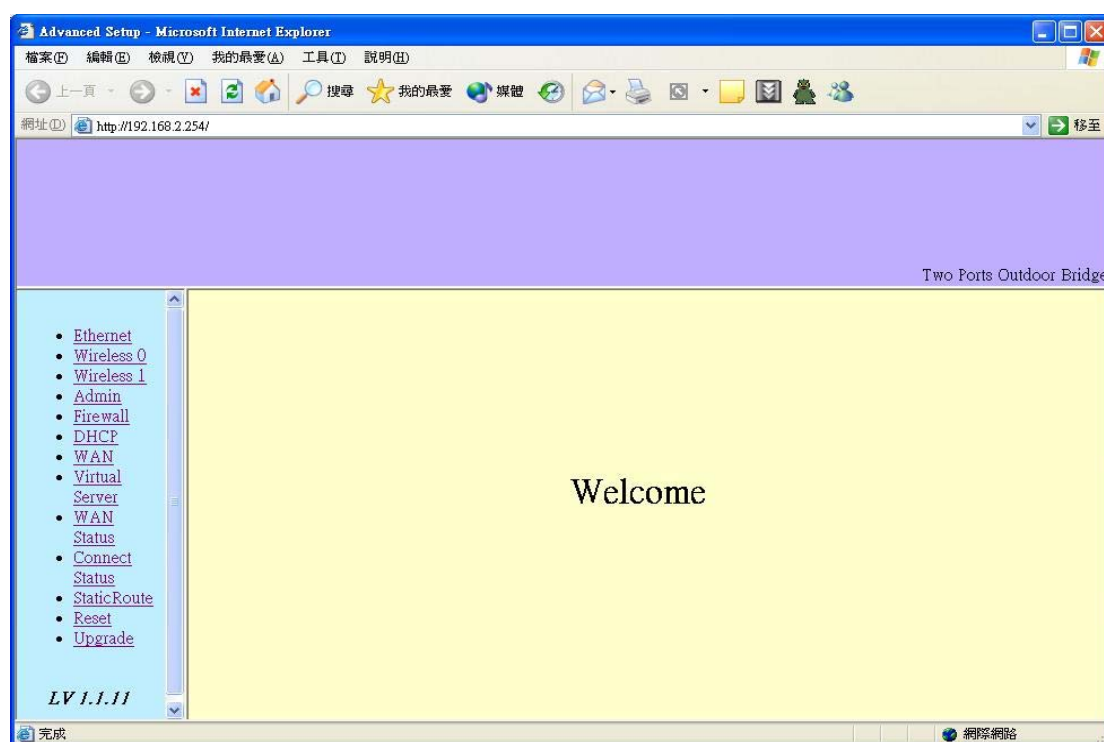
If you want to change setting, you will see the user identification window as
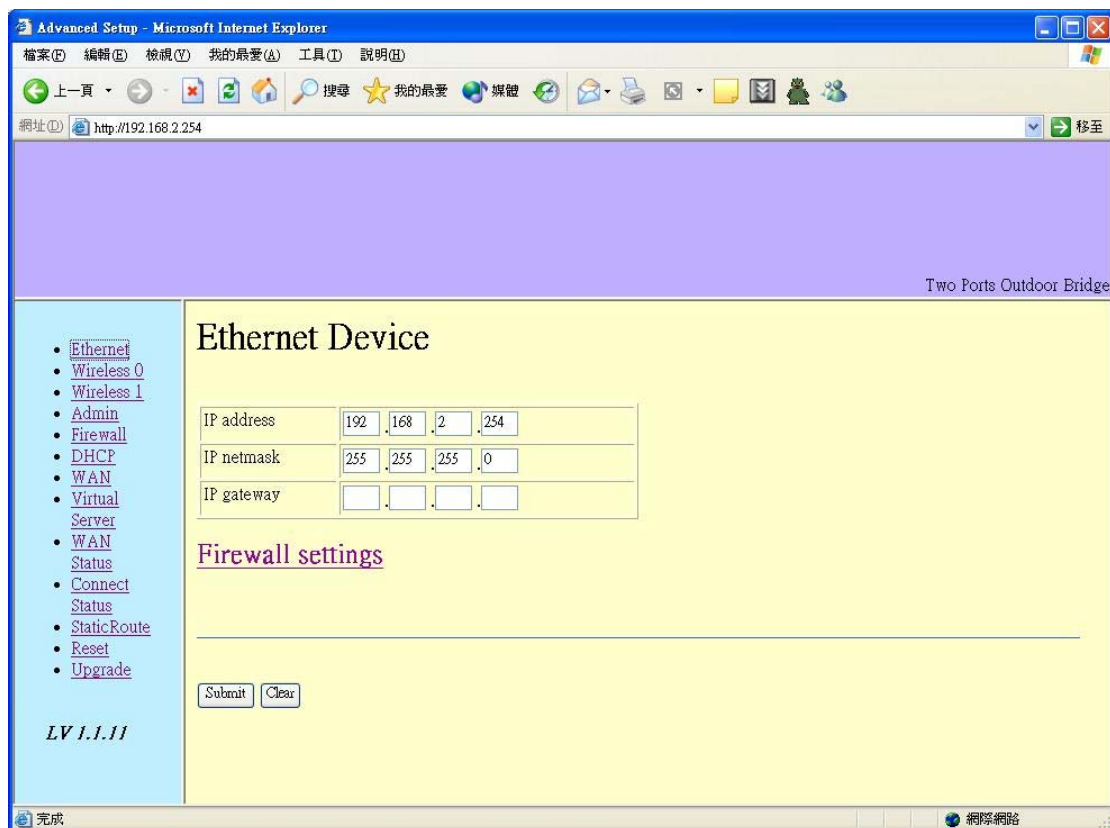
shown.

Type **admin** in the **User Name** field

Type **default** the **Password** field blank

Click **OK**

Note: If you have changed the password, make sure to enter the correct password.

Device IP Setting → Ethernet

LAN is short for Local Area Network. This is considered your internal network.
These are the IP settings of the LAN interface for the OUTDOOR BRIDGE.

These settings may be referred to as private settings. You may change the LAN IP address if needed.

IP address: The default IP address is 192.168.2.254. Assign a static IP address that is within the IP address range of your network.

IP netmask: Enter the subnet mask. All devices in the network must share the same subnet mask..

IP gateway: Enter the IP address of the gateway in your network.

(Note: If you change any item, click "submit" to store the value. Or click "clear" to restore previous value. To make settings working click **Submit**-> **Reset**-> **Restart**.)

AP Setting --> Wireless0 or Wireless1
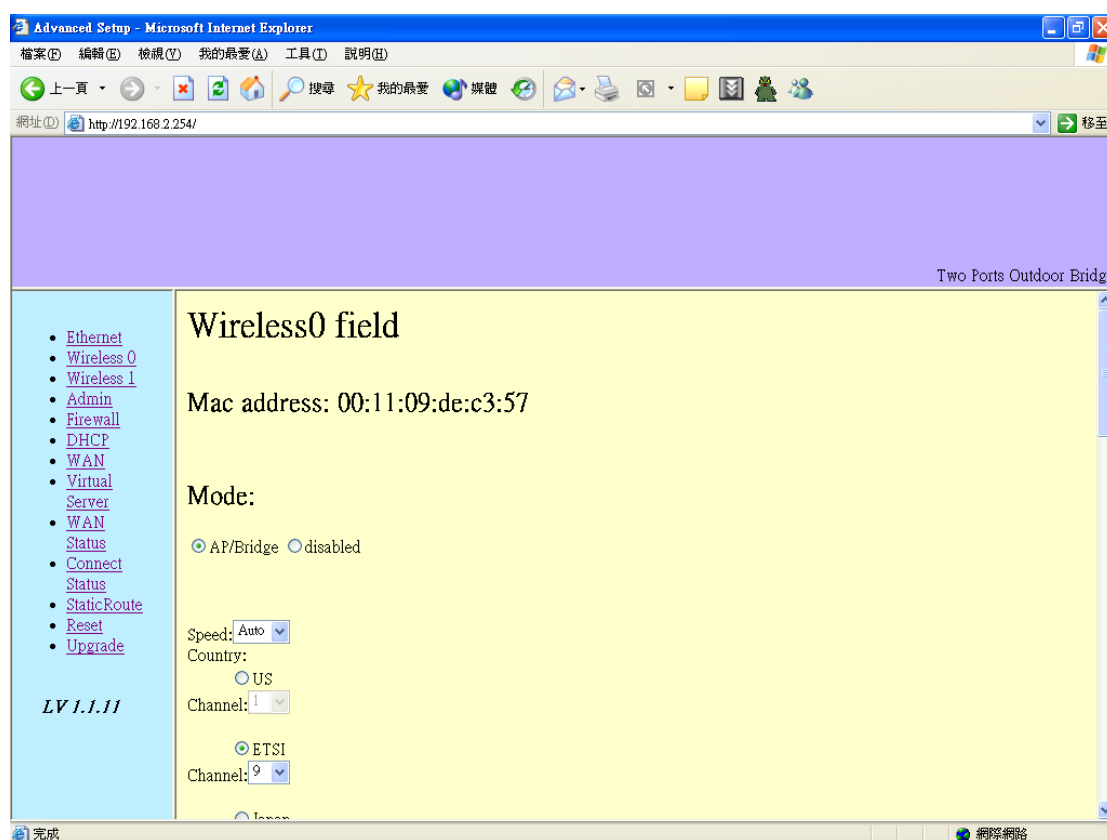
檔案(F)　編輯(E)　檢視(V)　我的最愛(A)　工具(T)　說明(H)

上一頁 ▼　搜尋　我的最愛　媒體

網址(D) http://192.168.2.254/　移至

Two Ports Outdoor Bridge

- Ethernet
- Wireless 0
- Wireless 1
- Admin
- Firewall
- DHCP
- WAN
- Virtual Server
- WAN Status
- Connect Status
- StaticRoute
- Reset
- Upgrade

LV 1.1.11

Channel: 9

○ Japan
Channel: 1

ESSID:
SSID01-A

Preamble: short　hidden SSID: n　Client Isolation: n

WDS:

WDS macs:

1.	:：:：:：:：:
2.	:：:：:：:：:
3.	:：:：:：:：:
4.	:：:：:：:：:
5.	:：:：:：:：:
6.	

完成　　　網際網路

| 5. | :：:：:：:： |
| 6. | :：:：:：:： |

WEP:

WEP mode:
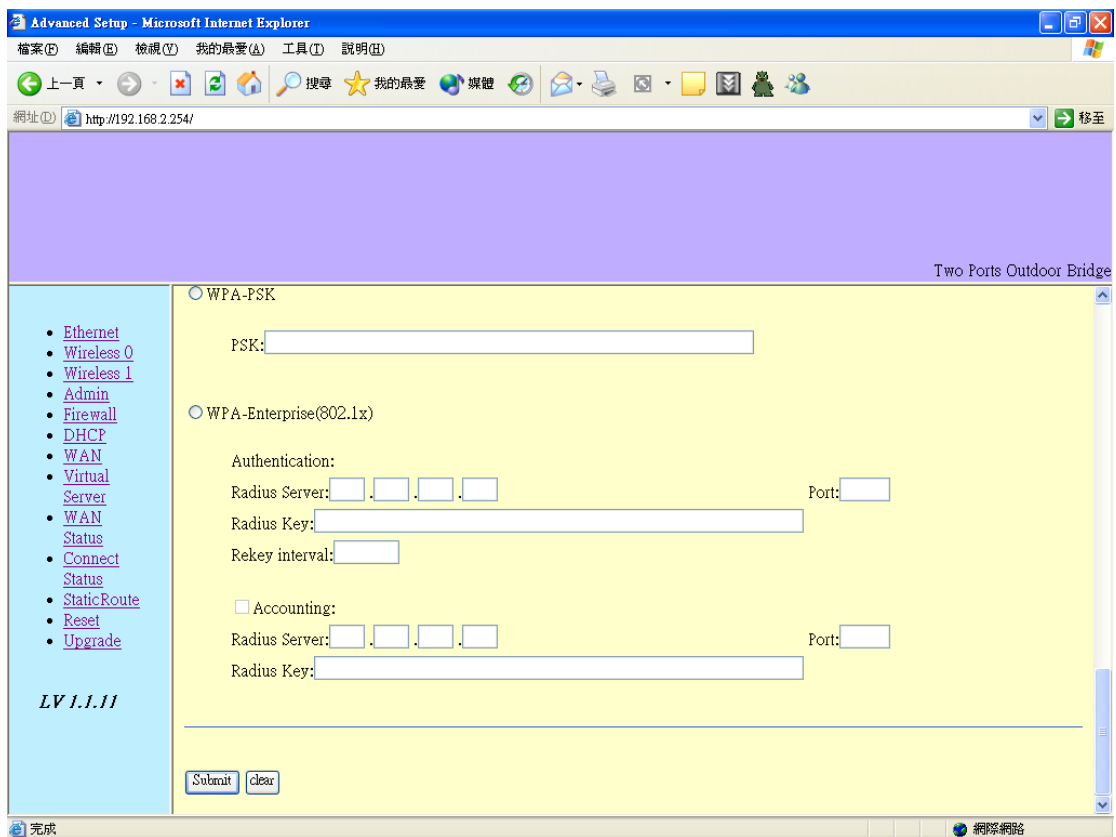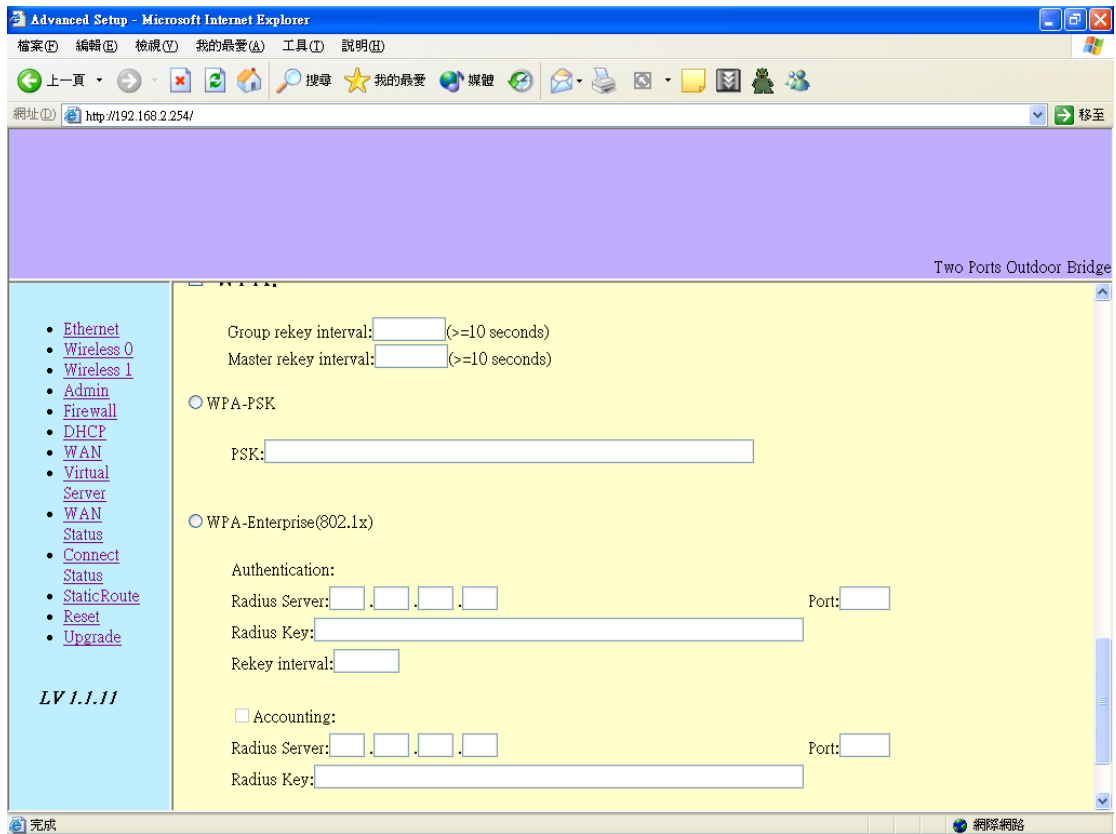64

WEP auth method: ☑ Open system ☐ Shared

Tx key　WEP password
⦿　1111111111
○
○
○

☐ WPA:

Group rekey interval:　(>=10 seconds)

完成　　　網際網路

Mode: AP/Bridge or Disable Wireless.　Select AP/Bridge if you want to set wireless in AP mode.

Speed: The speed are Auto, 1Mbps, 2Mbps, 5.5Mbps, 6Mbps, 9Mbps,11Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps.

ESSID: Service Set Identifier (SSID) is the name designated for a specific wireless local area network (WLAN). The SSID's factory default setting is **default**. The SSID can be easily changed to connect to an existing wireless network or to establish a new wireless network.

Preamble: Pull down select "**long**" or "**short**".

hidden SSID: Enable or Disable SSID broadcast. Pull down select "**y**" Disable SSID broadcast or "**n**" Enable SSID broadcast. Disable this feature broadcasts the SSID across the network.

Client Isolation: Pull down "**y**" isolation or "**n**" none isolation

Encryption

The OUTDOOR BRIDGE has the newest, strongest and most advanced security features available today. When used with other 802.11 WPA (Wi-Fi Protected Access) compatible products in a network with a RADIUS server, the security features include:

WPA & 802.1x represent the first line of defense against network intrusion. In the authentication process the RADIUS server verifies the identity of the client attempting to connect to the network. Unfamiliar clients will be denied access. **EAP**(Extensible Authentication Protocol) is available through the Windows XP Operating System. You will need to use the same type of EAP protocol on all the devices in your network when using the 802.1x feature.

WPA (Wi-Fi Protected Access) authorizes and identifies users based on a secret key that changes automatically at regular intervals. **WPA** uses **TKIP** (**Temporal Key Integrity Protocol**) to change the temporal key every 10,000 packets (a packet is a kind of message transmitted over a network.) This ensures much greater security than the standard WEP security. (By contrast, the previous WEP encryption implementations required the keys to be

changed manually.)

WPA-PSK allows home users that will not incorporate a RADIUS server in their network, access to WPA security. Utilizing the **Pre-Shared Key mode** of WPA, the OUTDOOR BRIDGE will obtain a new security key every time it connects to the 802.11 network. You only need to input your encryption information once in the configuration menu. No longer will you have to manually input a new WEP key frequently to ensure security. With the OUTDOOR BRIDGE and WPA-PSK, you will automatically receive a new key every time you connect, vastly increasing the safety of your communication.

Set Encryption to Open System

WEP auth method: Select **Open System** to communicate the key across the network.
WEP mode: Select **64, 128** bits.
Key Type: 64 bit support WEP password 10 bit HEX(Hexadecimal digits consist or the numbers 0-9 and the letters A-F) code. 128 bit support WEP password 26 bit HEX code.(**Note :**Currently version does not support ASIC code.)
Valid Key: Select one of the keys in the Key table to be the active key.
Key Table: Enter up to four encryption keys here.

Set Encryption to Shared Key

WEP auth method: Select **Shared Key** to communicate the key across the network.
WEP mode: Select **64, 128** bits.
Key Type: 64 bit support WEP password 10 bit HEX(Hexadecimal digits consist or the numbers 0-9 and the letters A-F) code. 128 bit support WEP password 26 bit HEX code.(**Note :**Currently version does not support ASIC code.)
Valid Key: Select one of the keys in the Key table to be the active key.
Key Table: Enter up to four encryption keys here.

Set Encryption to Open System/Shared Key

WEP auth method: Select **Open System** and **Shared Key** to communicate the key across the network.
WEP mode: Select **64, 128** bits.
Key Type: 64 bit support WEP password 10 bit HEX(Hexadecimal digits consist or the numbers 0-9 and the letters A-F) code. 128 bit support WEP password 26

bit HEX code.(**Note :**Currently version does not support ASIC code.)

Valid Key: Select one of the keys in the Key table to be the active key.

Key Table: Enter up to four encryption keys here

Set Encryption to WPA-PSK

Authentication: WEP auth method select **dis** then select **WPA** and check **WPA-PSK**

PSK: Enter a passphrase that will be shared by all devices using WPA-PSK on the network.

Set Encryption to WPA-Enterprise(802.1x)

Authentication: WEP auth method select **dis** then select **WPA** and **WPA-Enterprise(802.1x)**

RADIUS Server: Enter the IP address of the RADIUS server.

Authentic Port: 1812 is the port number dedicated to the authentication function of the RADIUS server.

Accounting: Enter the IP address of the RADIUS server and port number dedicated to RADIUS accounting. The RADIUS server uses accounting to keep track of user login sessions.

Radius Key: Enter the secret Key that is required of all devices to communicate with the RADIUS server.

(Note: If you change any item, click "submit" to store the value. Or click "clear" to restore previous value. To make settings working click **Submit**-> **Reset**-> **Restart**.)

PtP Mode Setting → Wireless0 or Wireless1

Point to Point (P2P : Wireless Bridge) Mode
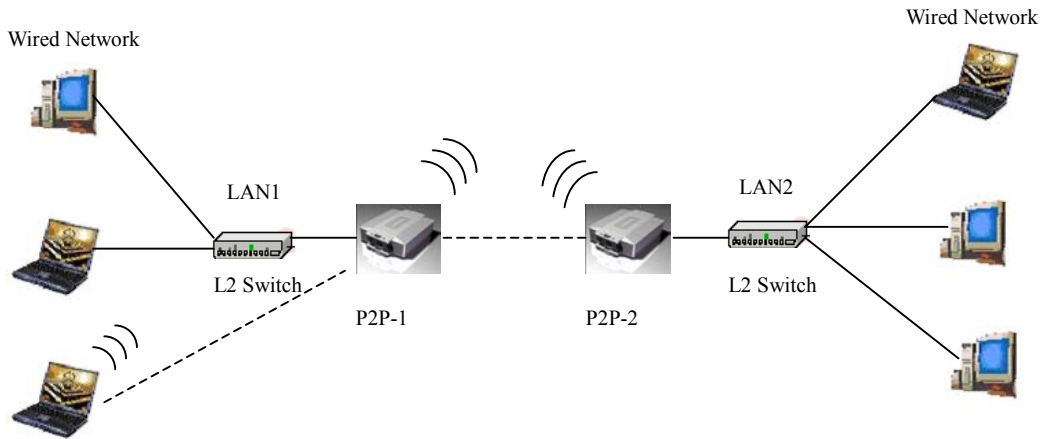
PtP mode setting is like AP mode setting, but encryption only WEP encryption method can select. When wireless0 or wireless1 in PtP mode will also do AP function, suggest disable SSID broadcast(Pull down select "**y**" in **hidden SSID** to disable SSID broadcast) and set WEP encryption.

e.g.

P2P-1 Wireless0 Mac: 00.01.02.03.04.05 Wireless1 Mac: 00.01.02.03.04.06
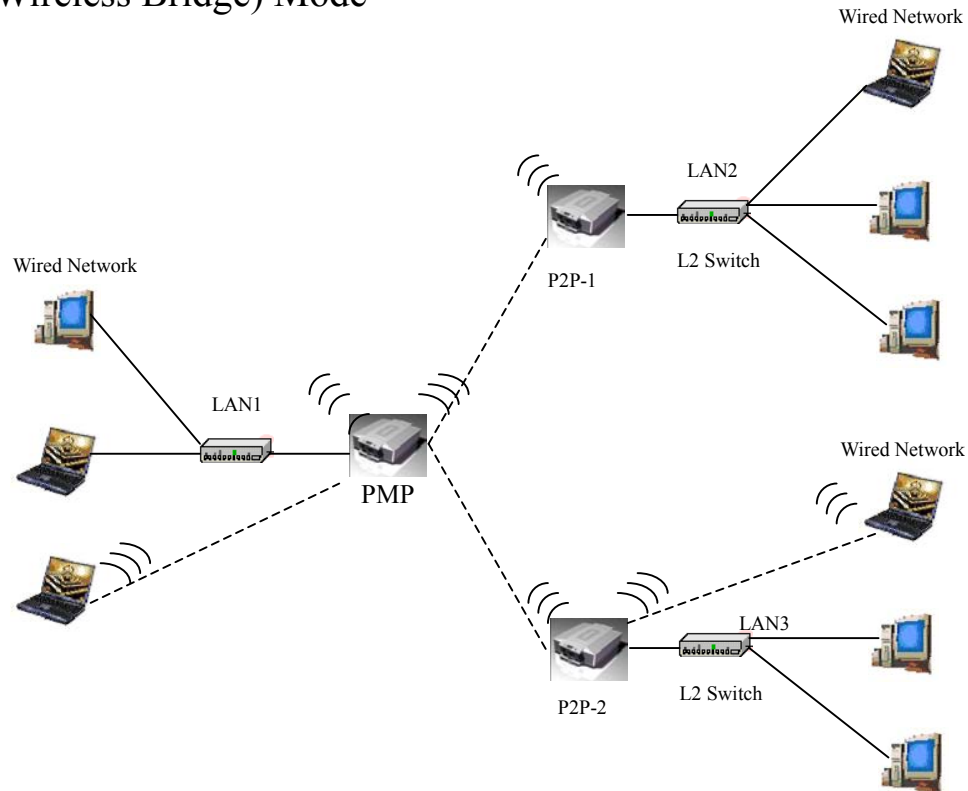
P2P-2 Wireless0 Mac: 00.01.02.03.04.07 Wireless1 Mac: 00.01.02.03.04.08

Set P2P-1 Wireless 1 in AP/Bridege Mode, and type P2P-2 Wireless1 Mac: 00.01.02.03.04.08 in WDS macs fields. Then set WEP encryption, and disable WPA encryption. Pull down select "**y**" in **hidden SSID** to disable SSID broadcast.

Set P2P-2 Wireless1 in AP/Bridege Mode, and type P2P-1 Wireless1 Mac: 00.01.02.03.04.06 in WDS macs fields. Then set channel the same as P2P-1 Wireless1.Set WEP encryption the same as P2P-1 Wireless1.Dsiable P2P-2 Wireless1 WPA encryption. Pull down select "**y**" in **hidden SSID** to disable SSID broadcast.

PtMP Mode Setting → Wireless0 or Wireless1

PMP (Wireless Bridge) Mode

PtMP mode setting is like AP mode setting, but encryption only WEP encryption method can select. When wireless0 or wireless1 in PtMP mode will also do AP function, suggest disable SSID broadcast(Pull down select "**y**" in **hidden SSID** to disable SSID broadcast) and set WEP encryption.

e.g PMP Wireless0 Mac: 00.01.02.03.04.05 Wireless1 Mac: 00.01.02.03.04.06
P2P-1 Wireless0 Mac: 00.01.02.03.04.07 Wireless1 Mac: 00.01.02.03.04.08
P2P-2 Wireless0 Mac: 00.01.02.03.04.09 Wireless1 Mac: 00.01.02.03.04.0A
Set PMP Wireless1 in AP/Bridege Mode, and type P2P-1 Wireless1 Mac:
00.01.02.03.04.08 and P2P-2 Wireless1 Mac: 00.01.02.03.04.0A in WDS macs fields.
Then set WEP encryption, and disable WPA encryption. Pull down select "**y**" in
hidden SSID to disable SSID broadcast.
Set P2P-1 Wireless1 in AP/Bridege Mode, and type PMP Wireless1 Mac:
00.01.02.03.04.06 in WDS macs fields. Then set channel the same as PMP
Wireless1.Set WEP encryption the same as PMP Wireless1.Dsiable P2P-1 Wireless1
WPA encryption. Pull down select "**y**" in **hidden SSID** to disable SSID broadcast.
Set P2P-2 Wireless1 in AP/Bridege Mode, and type PMP Wireless1 Mac:
00.01.02.03.04.06 in WDS macs fields. Then set channel the same as PMP
Wireless1.Set WEP encryption the same as PMP Wireless1.Dsiable P2P-2 Wireless1
WPA encryption. Pull down select "**y**" in **hidden SSID** to disable SSID broadcast.

Repeater Mode Setting → Wireless0 or Wireless1

Repeater Mode
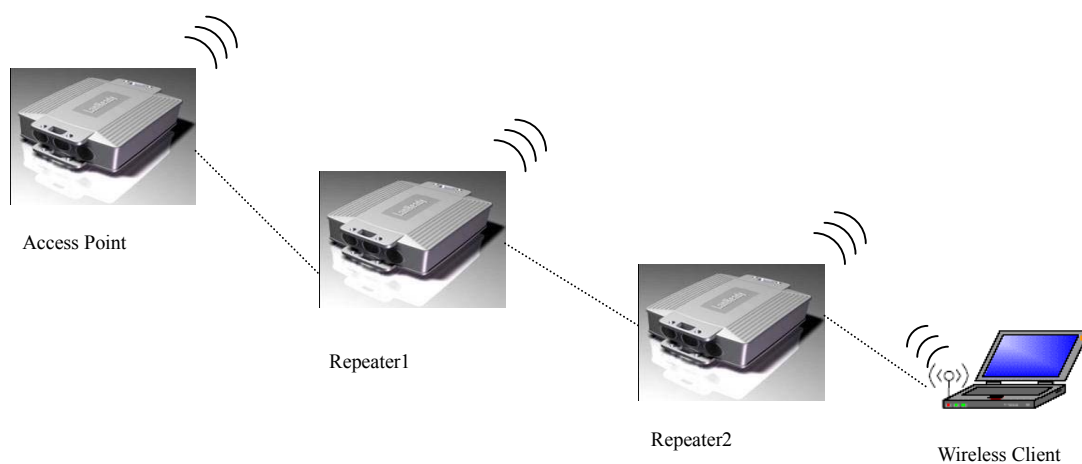
Repeater mode setting is like AP mode setting, but encryption only WEP encryption method can select.

e.g AP Wireless0 Mac: 00.01.02.03.04.05 Wireless1 Mac: 00.01.02.03.04.06
Repeater1 Wireless0 Mac: 00.01.02.03.04.07 Wireless1 Mac: 00.01.02.03.04.08
Repeater2 Wireless0 Mac: 00.01.02.03.04.09 Wireless1 Mac: 00.01.02.03.04.0A

Set AP Wireless1 in AP/Bridege Mode, and type Repeater1 Wireless0 Mac: 00.01.02.03.04.07 in WDS macs fields.Then set WEP encryption, and disable WPA encryption.

Set Repeater1 Wireless0 in AP/Bridege Mode, and type AP Wireless1 Mac: 00.01.02.03.04.06 in WDS macs fields. Then set channel the same as AP Wireless1.Set WEP encryption the same as AP Wireless1.Dsiable Repeater1 Wireless0 WPA encryption. Set Repeater1 Wireless1 in AP/Bridege Mode, and type Repeater2 Wireless0 Mac: 00.01.02.03.04.09 in WDS macs fields. Set WEP encryption the same as AP Wireless1.Dsiable Repeater1 Wireless1 WPA encryption.

Set Repeater2 Wireless0 in AP/Bridege Mode, and type Repeater1 Wireless1 Mac: 00.01.02.03.04.08 in WDS macs fields. Then set channel the same as Repeater1 Wireless1.Set WEP encryption the same as AP Wireless1.Dsiable Repeater2 Wireless0 WPA encryption.
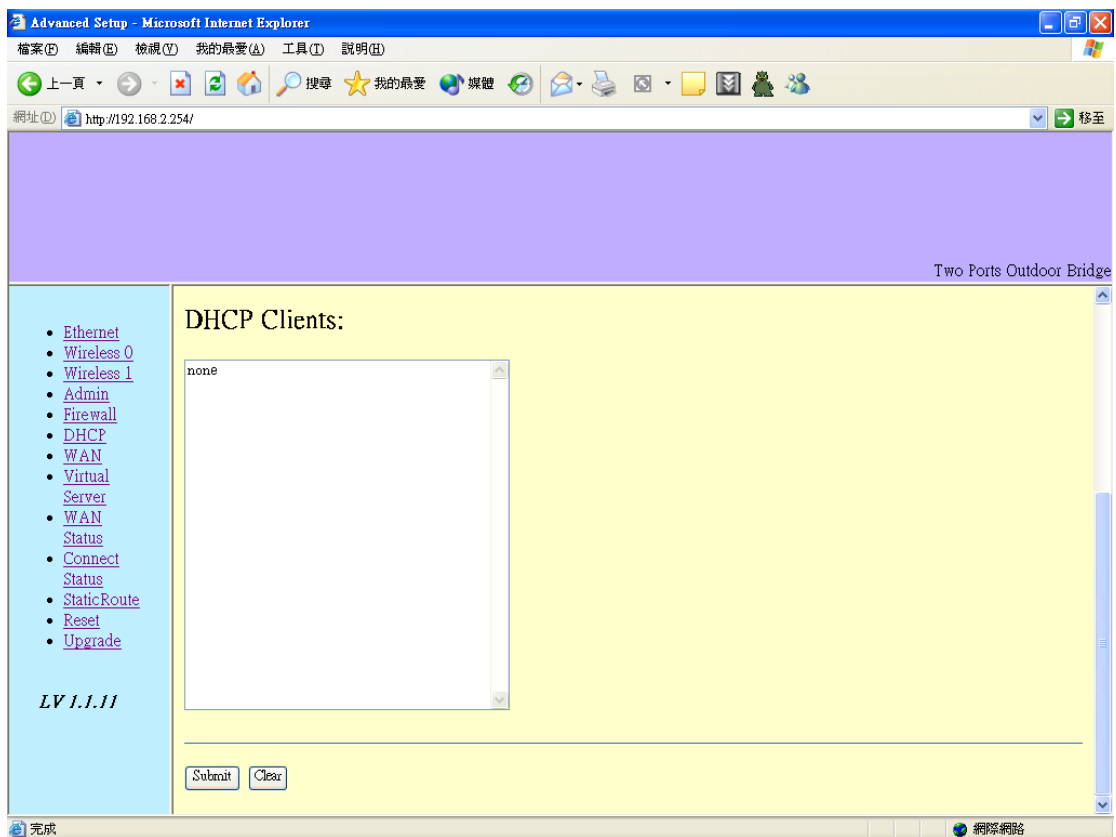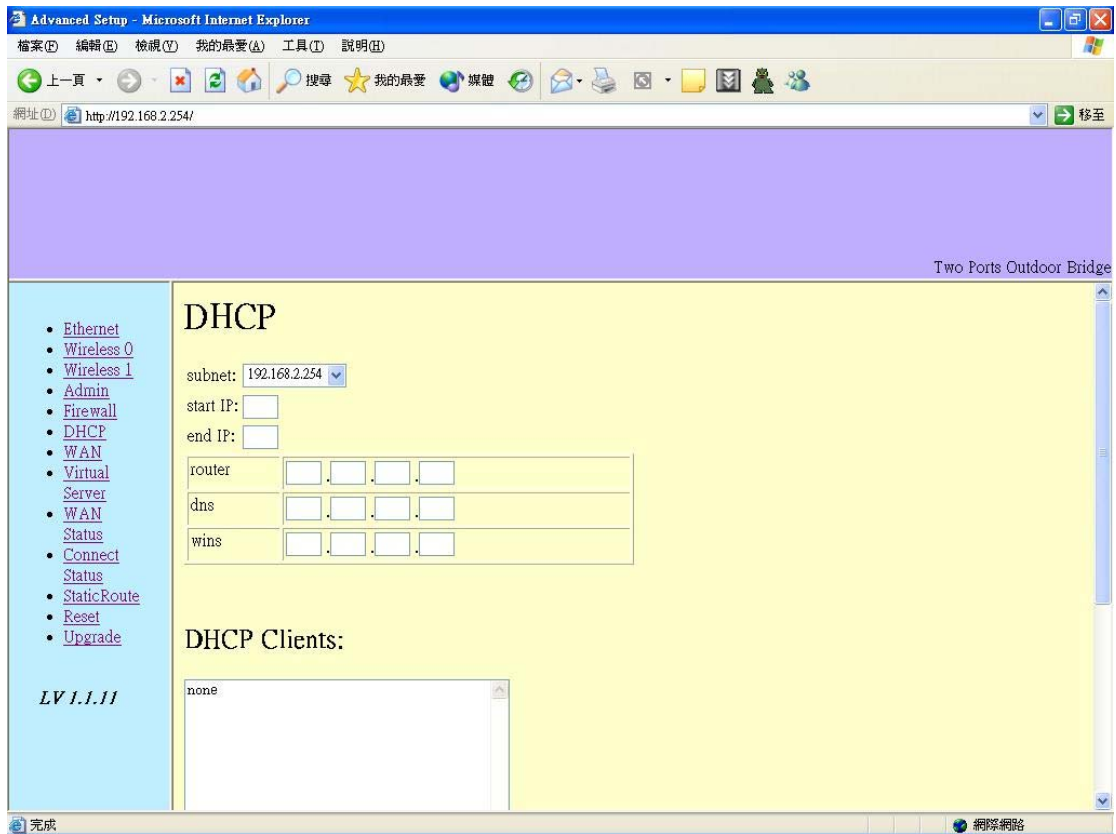
Dual Radio Setting For Simultaneous Operation

AP and Bridge

AP and AP

Bridge and Bridge

DHCP Server Setting → DHCP

DHCP Server Control: Dynamic Host Configuration Protocol assigns dynamic IP addresses to devices on the network. This protocol simplifies network management and allows new wireless devices to receive IP

addresses automatically without the need to manually assign new IP addresses.

Select Subnet on device IP(Such as 192.168.2.254) to allow the OUTDOOR BRIDGE to function as a DHCP server.

start IP: Input the first IP address available for assignment in your network.

end IP: Input the end IP address available for assignment in your network.

router: Input device IP

dns: Input your ISP DNS.

**wins:** Input wins server IP

DHCP Clients show the client IP and client MAC setting.

(e.g. If your device ip is 192.168.2.254, then start ip is 10 and end ip is 100. System will asign ip from 192.168.2.10 to 192.168.2.100 to client.)
(Note: If you change any item, click "submit" to store the value. Or click "clear" to restore previous value. To make settings working click **Submit**-> **Reset**-> **Restart**.)
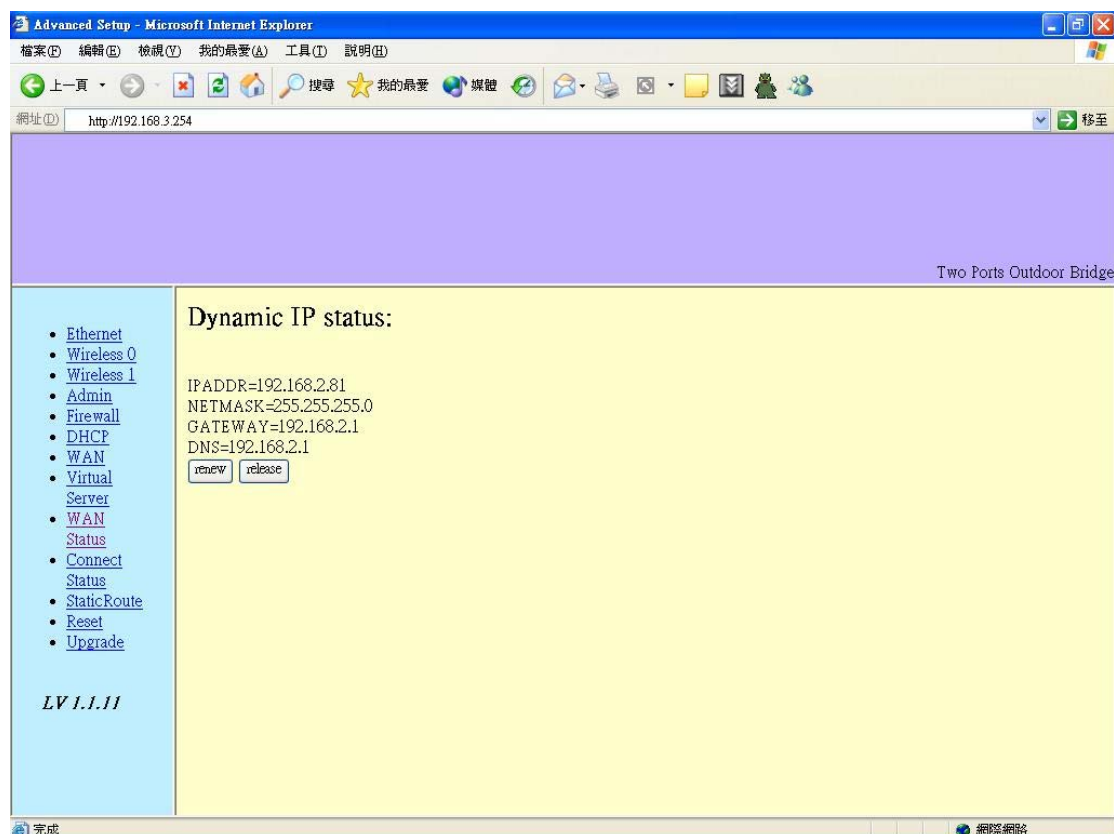
WAN Setting → WAN
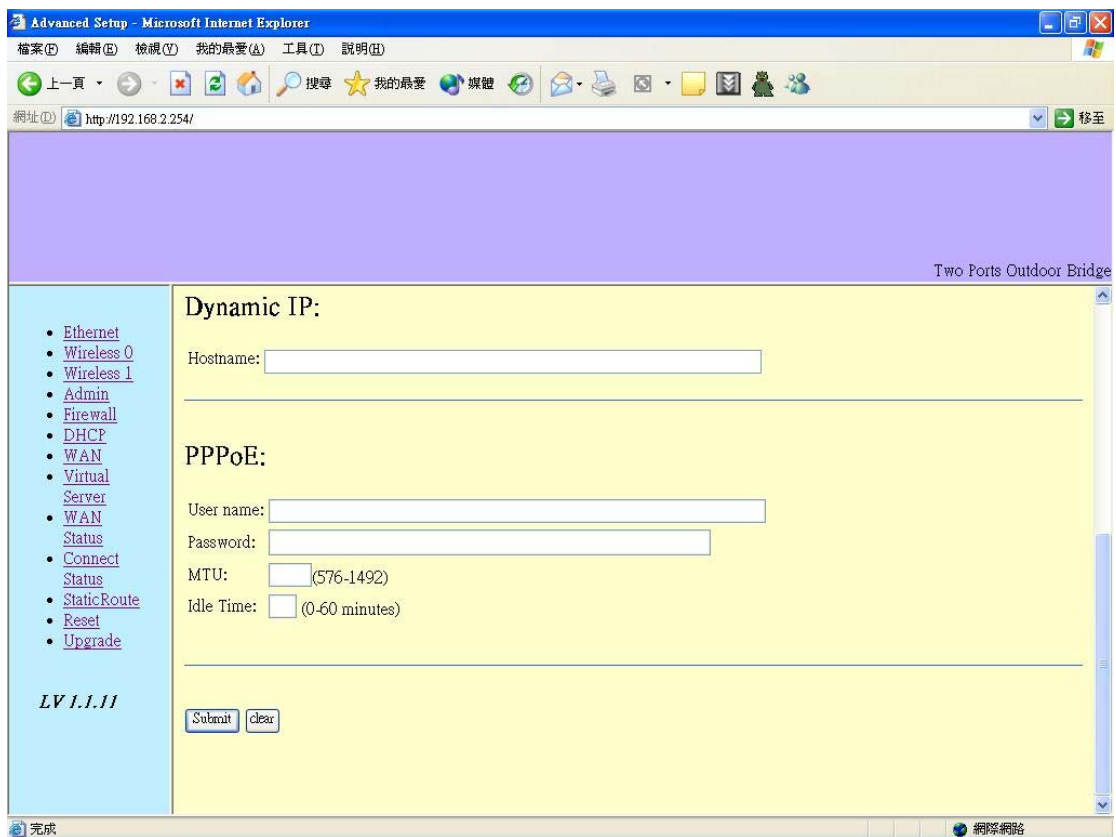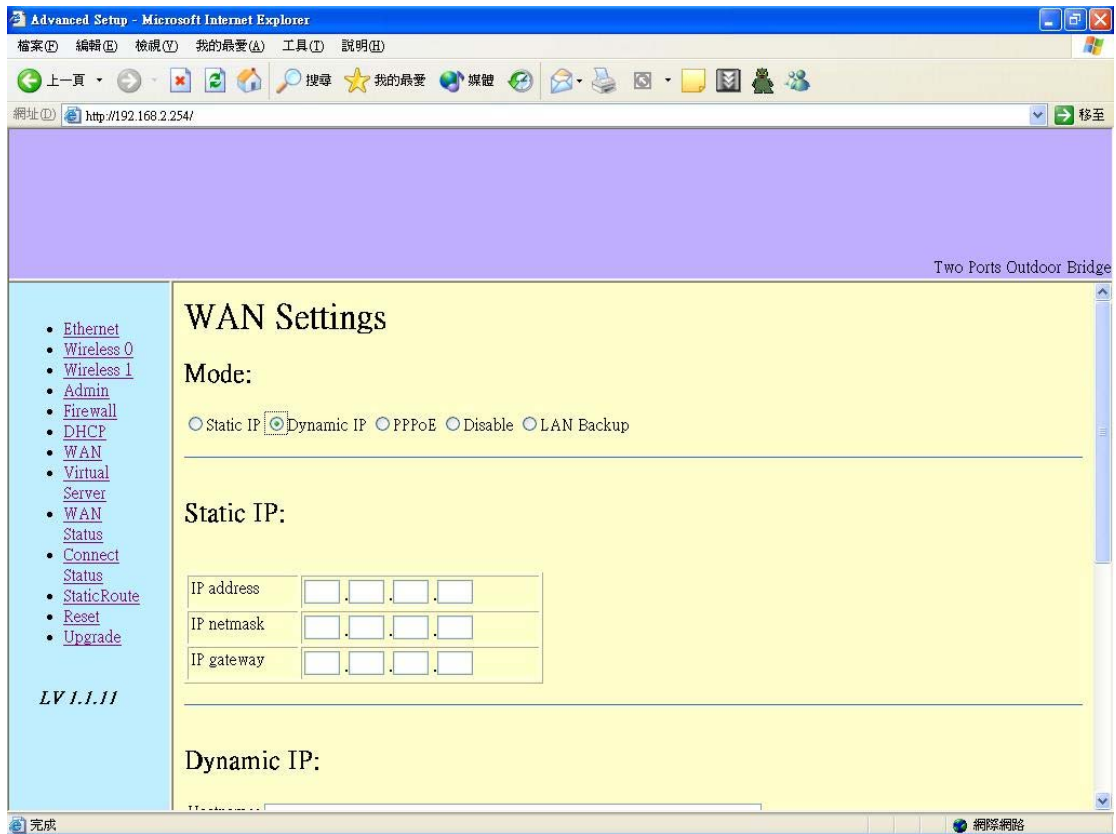
To select the connection type for WAN PORT, you can choose any of the following Mode:

• For static IP, please click **Static IP** and type IP address, IP netmask, IP gateway.

• For dynamic IP address, please click the **Dynamic IP** and type Hostname

• For xDSL and using PPPoE to connect to Internet, please click **PPPoE and type username and password.**

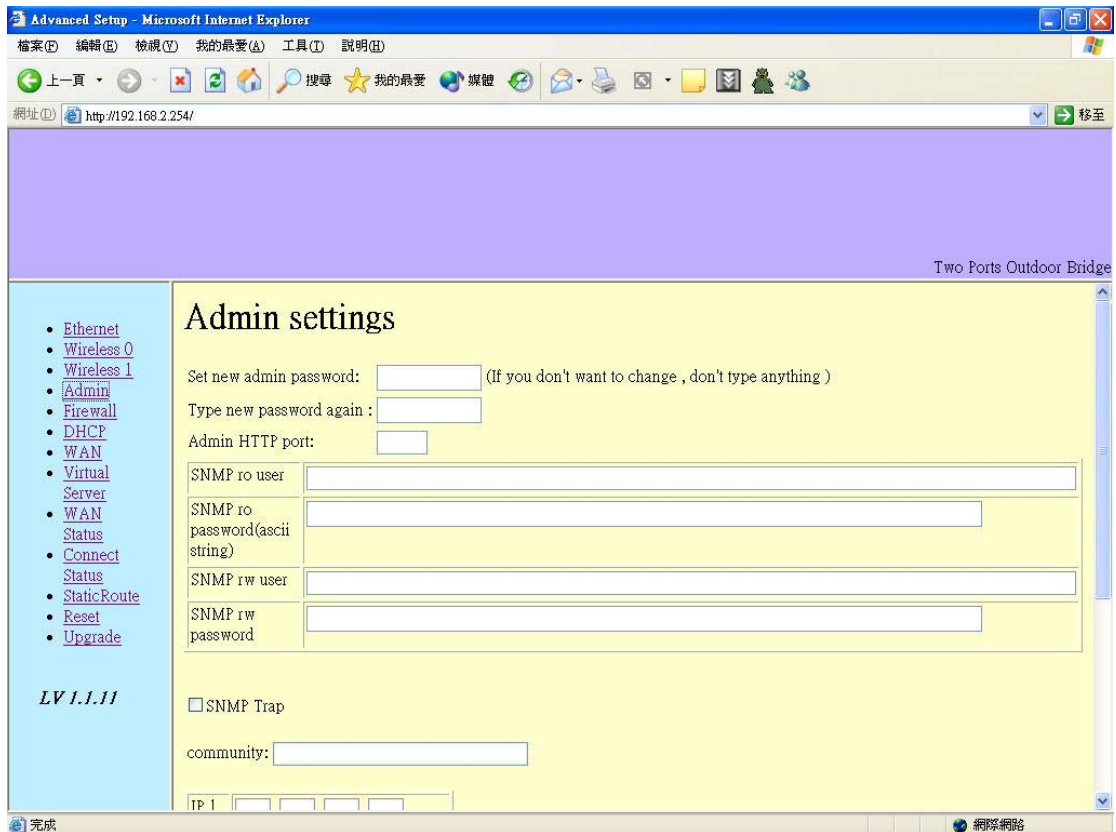• For Disable WAN Port, please click **Disable.**

(Note: If you change any item, click "submit" to store the value. Or click "clear" to restore previous value. To make settings working click **Submit**-> **Reset**-> **Restart**.)

WAN Status → WAN Status

When WAN setting is **Dynamic IP** or **PPPoE** click WAN Status will show current IP status.You can click **renew** or **release** to renew or release IP at **Dynamic IP** setting, and click **disconnect** or **connect** to disconnect or connect your ISP at **PPPoE** setting.

Admin setting → Admin

You can change login password (default password is "**default**"), SNMP user name and password, and SNMP Trap setting here.
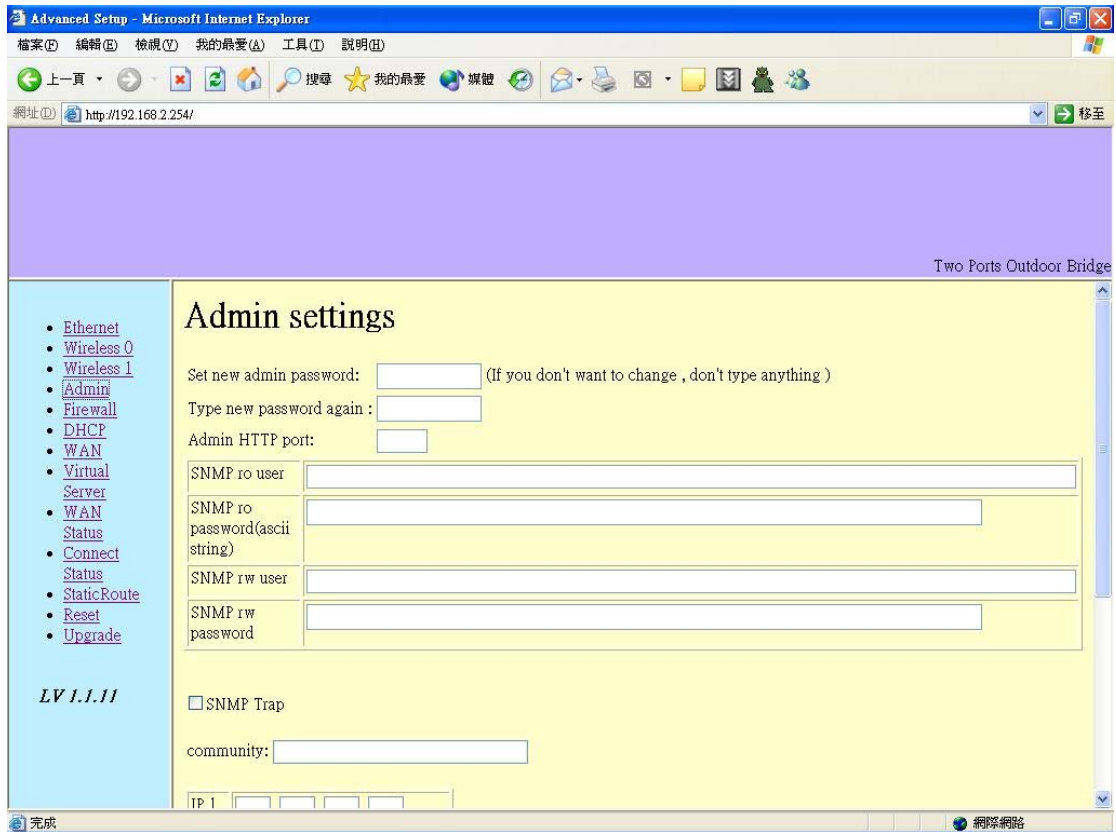
(Note: If you change any item, click "submit" to store the value. Or click "clear" to

restore previous value. To make settings working click **Submit**-> **Reset**->
Restart.)

Firewall setting → Firewall

In Firewall IP Rules fields you can define 20 IP rules to deny or pass networking which fit the rules.
In Firewall MAC Rules fields you can control 20 MACs which can pass connect to system or deny from system.

(Note: If you change any item, click "submit" to store the value. Or click "clear" to restore previous value. To make settings working click **Submit**-> **Reset**-> **Restart**.)

Virtual Server setting → Virtual Server
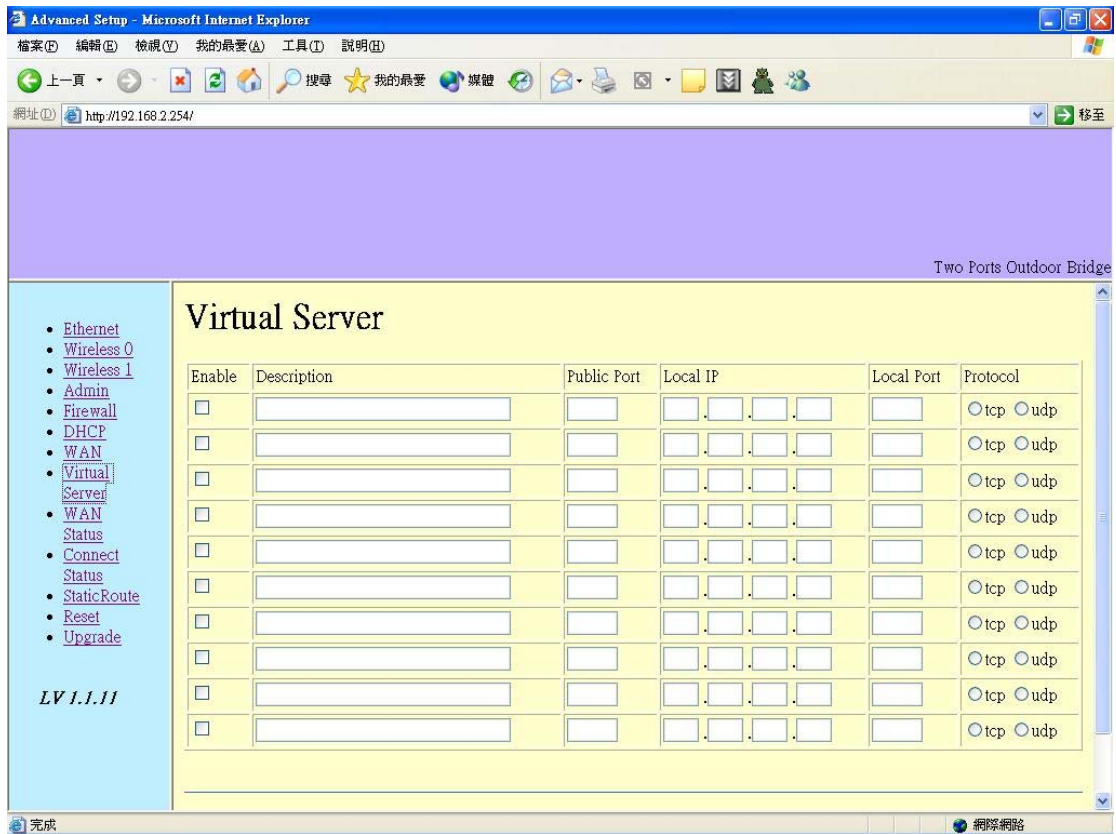
You can define 10 groups Virtual Server here.

e.g. If you build a Server at local PC(client) and WOR1000 is connect to internet have a real IP. Check Enable the rule in Virtual Server and type Description, then key-in local PC's IP in Local IP fields and port(use by the Server) in Local Port and select protocol (use by the Server). After finish those setting click **Submit**-> **Reset**-> **Restart** restart system to make settings work. The Server build at local PC will work in internet.

Connection Status
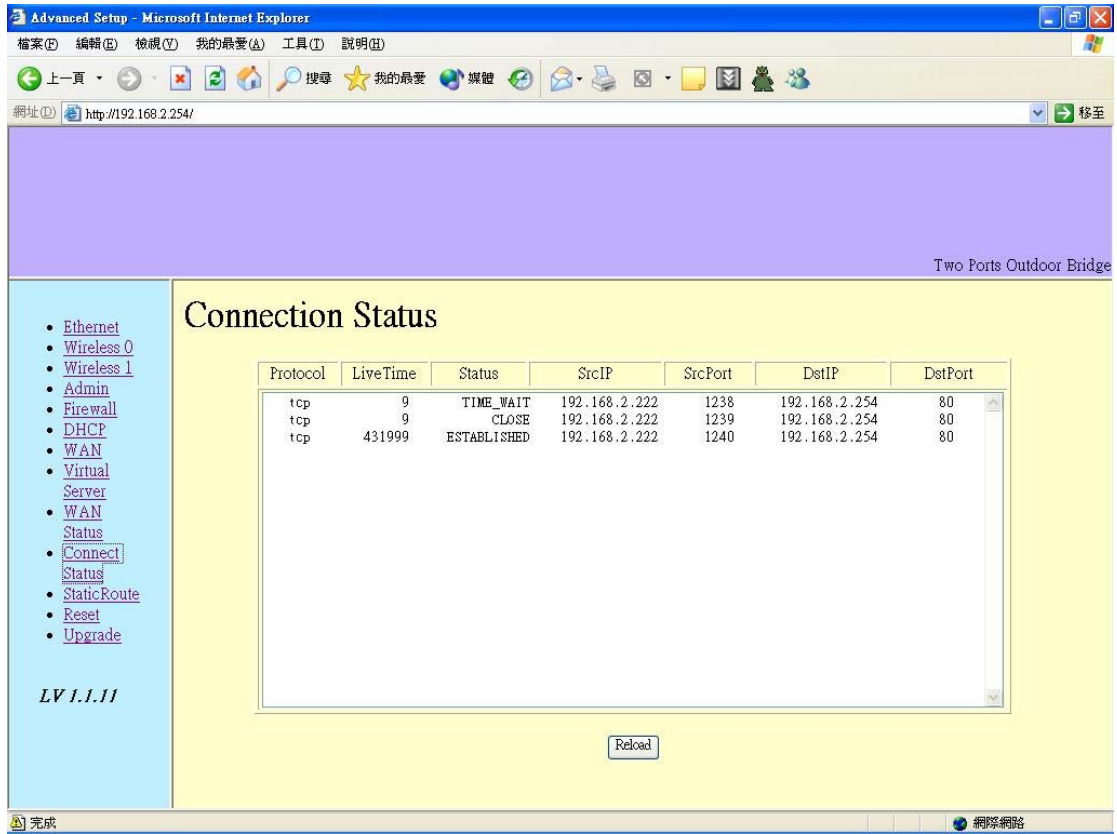
It will show WOR1000 connection status.

Firmware upgrade → Upgrade
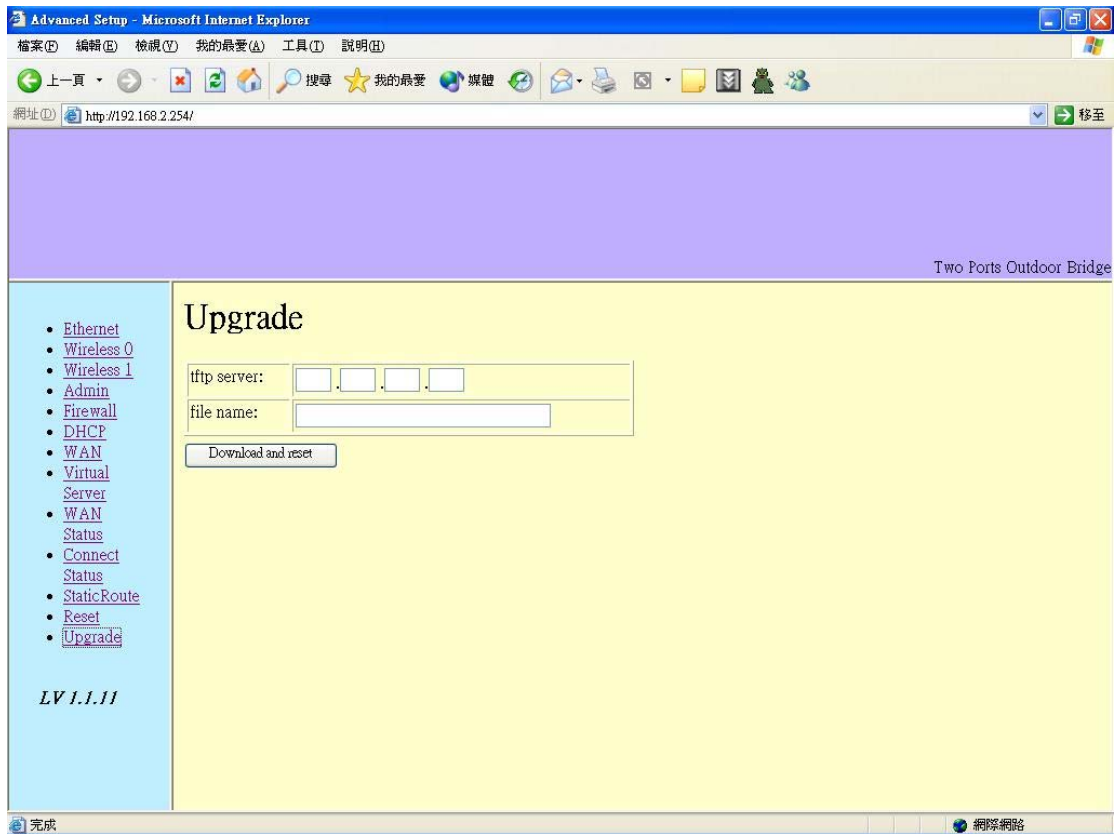
Step 1 : Set your PC IP (192.168.2.X), and close PC's firewall.

Step 2 : Open a TFTP server on your PC and put the firmware in the same direct.

Step 3 : Click on the Upgrade tab and then the main screen enter the PC IP address in the "tftp server :" field section 192.168.2.X , and the second option "file name" please key in the firmware file name. Then click **Download and reset**. It may take a up to 2 min for the upgrade to complete.

Reset System → Reset
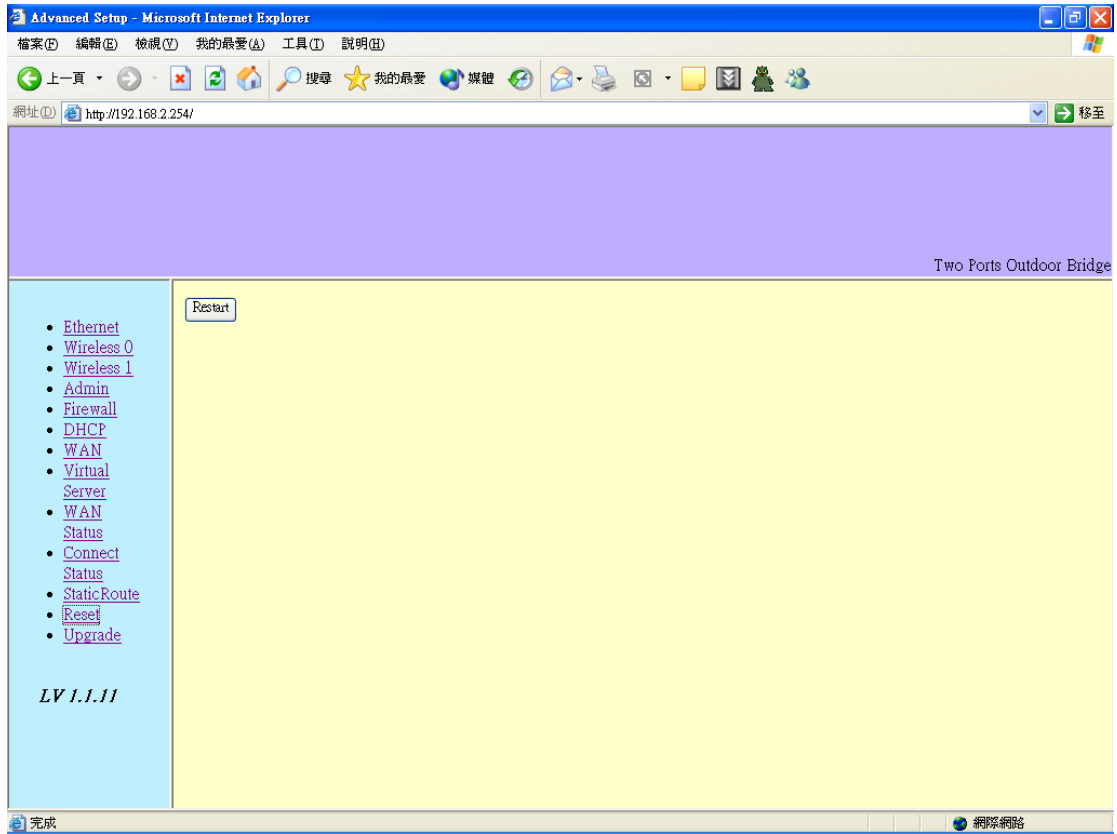
Click Reset → Restart will store settings and restart system.

Frequently Ask Question

Q-1: How do I upgrade the firmware on the WOR1000 ?

Follow the directions bellow to upgrade the firmware for WOR1000 from any operating system including Windows , Linux with a java-enabled web browser(Internet Explorer,Netscape, Mozilla, Firefox, Safari)

Please read before upgrade:
1. You don not have to upgrade incrementally. You can upgrade the newest version.
2. You cannot use the backup settings feature and apply it to the newer firmware.
3. **Do NOT upgrade firmware from a computer with a wireless connection.** Use a computer connect to the WOR1000 using an Ethernet cable. **You may damage the WOR1000 due to the loss with a wireless connection.**

Step 1 : Download the lastest firmware
Step 2 : Set your PC IP (192.168.2.X), and close PC's firewall.
Step 3 : Open a TFTP server on your PC and put the fireware in the same direct.
Step 4 : Open a web browser such as Internet Explorer and enter the IP address of the WOR1000 (192.168.2.254)
Step 5 : Enter your username(admin) and your password (default). Click web configuration for the device .
Step 6 : Click on the Upgrade tab and then the main screen will see "tftp server :" pls enter the PC IP address in the field section 192.168.2.X , and the second option "file name" pls key in the file name (downloaded in **Step 1)**.
Step 7 : Click Download and reset . It may take a up to 2 min for the upgrade to complete. The firmware is now upgraded .

Q-2: What can I do if I forgot the password ?

The following reset procedure will completely restore the default setting on the WOR1000.

Step 1: Use console port connect with WOR1000.
Step 2: Console port setting 115200,8,n,1,n
Step 3: type password command to change new password.

Q-3: What can I configure the WOR1000 to work with a DSL(PPPoE)

connection ?

Step 1 :Make sure you disable or uninstall any PPPoE software such as WinPoet, Boradjump, or from your computer or you will not be able to connect to the Internet. Please make sure that your modem is not also a router you do not know , please contact your ISP and change the modem to Bridge mode.

Step 2 : Let your modem connect to WOR1000 WAN Port. Then your PC(notebook) connect to WOR1000 LAN Port, Set IP such as 192.168.2.1 on your PC.

Step 3: Open your web browser(Internet Explorer, Netscape 192.168.2.254 into the address window. When the password dial enter the username **admin** and the password **default**.

Step 4: Click on the **WAN** tab on left-hand side of the screen. Select PPPoE if your modem need to dial up, or
select **Dynamic IP** if your ISP will assign IP address to you, or select **Static IP** when your ISP supplied you with a static IP address.

Step 5: When you select PPPoE enter the user name and password in the PPPoE section. And the **Idle Time** should be set to zero. Set **MTU** to 1492.

Note : If you experience problems accessing certain websites and/or email issues, please apply lower number such as 1472, 1452, etc. Contact your ISP for more information and the setting for your connection.

Step 6: When you select Static IP enter your IP address, netmask, and gateway in the Static IP section.

Step 7: Click **Submit.** Then click **Reset** tab on left-hand side of the screen.Then click **Restart** to restart WOR1000.

Step 8 : After WOR1000 restart click the **Wan Status** tab in the web configuration where you can view the WAN device. You should now see that the device show an IP address.

Q-4 : How do I reset WOR1000 to the factory default setting ?

There are 2 ways to reset WOR1000 to factory default setting, please follow steps below:

1. Reset WOR1000 to the factory default setting through telnet.

Step 1 : With the unit on, let your PC(notebook) connect to WOR1000 LAN Port, Set IP such as 192.168.2.1 on your PC.
Step 2 : Telnet to the WOR 1000. (dos command : "telnet 192.168.2.254" then key in the User Name "admin", Password   "default").
Step 3 : After login use command "default" to reset WOR1000 to the factory default setting.
Step 4 : After WOR1000 reboot finish, it will change all settings to factory default.

2. Reset WOR1000 to the factory default setting through WOR1000 Console Port

Step 1 : With the unit on , let your PC(notebook) connect to WOR1000 through Console Port.
Step2 : Console port setting 115200,8,n,1,n.
Step 3 : After prompt "pek>" type command "default" to reset WOR1000 to the factory default setting.
Step 4 : After WOR1000 reboot finish, it will change all settings to factory default.

Q-5 : How do I statically assign an IP address to my computer when use WOR1000 ?

This FQA will explain how to statically or manually enter your network settings for your being used behind a WOR1000.   Make sure you know the IP address of the WOR1000. Enter 192.168.2.254.

Windows 98/ME
Widows 2000
Windows XP
Macintosh

Windows 98 and ME

Step 1 : From the desktop , right-click on the Network Neighborhood icon (Win ME – Places) and select Properties.
Highlight TCP/IP and click the properties button. If you have more than 1

adapter, that a TCP/IP "Binding" for each adapter. Highlight TCP/IP > (your network adapter) are Properties.

Step 2 : Click Specify an IP address

Enter in an IP address that is on the same subnet as the LAN IP address on your WOR1000, the WOR1000 LAN IP address is 192.168.2.254. make your IP address 192.168.2.X where X is between 1 and 253 . Make sure that the number you choose is not in use on the network .

Step 3 : click on the Gateway tab .

Enter the LAN IP address of your WOR1000 (192.168.2.254). Click Add when finished.

Step 4 : Click on the DNS configuration tab.

Click Enable DNS. Type in a Host (can be any word). Under DNS server search order, address of your router (192.168.2.254). Click Add .

Step 5 : Click OK twice . When prompted to reboot your computer , click Yes.
After you reboot, the computer will now have a static, private IP address.

Windows 2000

Step 1 : Right-click on My Network Places and select Properties.

Step 2 : Right-click on the Local Area Connection which represents your network card.
Properties.

Highlight Internet Protocol (TCP/IP) and click Properties.
Click Use the following IP address and enter an IP address that is on the same subnet address on your WOR1000. Example : if the WOR1000 LAN IP address is 192.168.2.254, make 192.168.2.X where X is number between 1 and 253. Make sure that number you use on the network.
Set Default Gateway the same as the LAN IP address of your WOR1000 (192.168.2.254) .
Set Primary DNS the same as the LAN IP address of your

WOR1000(192.168.2.254)
Secondary DNS is not needed or enter a DNS server from your ISP
Click OK twice . You may be asked if you want to reboot your computer.
Click Yes.

Window XP

Step 1
Click on Start > Control Panel > Network and Internet Connections>
Network

Step 2 : See Step 2 for Windows 2000 .

Q-6 : How do I open ports on WOR1000?

To allow traffic from the internet to enter your local network, you will need to open
up WOR1000 will block the request.

Because our WOR1000 use NAT(Network Address Translation) , you can only open a
spec to one computer at a time . For example : If you have 2 web server on your
network, you port 80 to both computers. You will need to configure 1 of the web
servers to use port open port 80 to the first computer and then open port 81 to the
other computer.

Step 1: Open your web browser and enter the IP address of WOR1000(192.168.2.254)
username(admin) and you password(default)

Step 2 : Click on the **Virtual Server** on the left side.
Step 3: Check **Enabled** to activate entry
Step 4 : Enter description for your virtual server entry
Step 5: Next to enter **Public Port**. The public port is the port seen from the WAN
side.
Step 6: Next to enter **Local IP**. The IP address of the computer on your local network
to allow the incoming service to.
Step 7: Next to enter **Local Port**. The local port is the port on your local network to
allow the incoming service to.
Step 8: Then choose TCP, UDP.
Step 9 : Click **Submit** and then click **Reset** on the left side.
Step 10: Click **Restart** to restart WOR1000 to make it work.

Q-7 : How do I change the IP address on WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press Enter.

Step 2 : The default username is admin and the password (default) . Click OK.

Step 3 : click on the Ethernet tab on the left side.

Step4 : Next to IP Address enter the new IP address. Next to Subnet Mask enter the Mask for the IP address entered. Enter a IP Gateway if applicable .

Step 5 : Click Submit and then click Reset on the left side.

Step 6 : Click Restart to save the settings and it will restart WOR1000 to make settings work.

Q-8 : How do I find the Public (WAN) IP Address on WOR1000 ?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press Enter.

Step 2 : The default username is admin and the password (default) . Click OK.

Step 3 : Click on the Wan tab on the left side, and if your wan setting is Static IP you will find the Public (WAN) IP Address(WOR1000) at Static IP section.

Step 4 : In Step 3 if your wan settings is Dynamic IP or PPPoE click the Wan Status tab on the left side, then you will find the Public (WAN) IP Address on WOR1000.

Q-9 : How do I configure Static DHCP on my WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press Enter.

Step 2 : The default username is admin and the password (default) . Click OK.

Step 3 : click on the DHCP tab on the left side.

Step 4 : Next select subnet on WOR1000's IP(192.168.2.254).

Step 5 : Key in start IP and end IP. EX start IP "1" end IP "100" WOR1000 will asign IP (192.168.2.1) to (192.168.2.100) to his client.

Step 6 : Key in WOR1000 IP(192.168.2.254) in router field section.

Step 7 : Key in DNS IP(your ISP's DNS ex. 168.95.1.1)in DNS field section

Step 8 : Click Submit and then click Reset on the left side.

Step 9 : Click Restart to save the settings and it will restart WOR1000 to make settings work.

Q-10: How do I disable or turn off the firewall on my WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press $\boxed{\textbf{Enter}}$.

Step 2 : The default username is (**admin**) and the password (**default**) . Click OK.

Step 3 : click on the $\boxed{\textbf{Firewall}}$ tab on the left side.

Step4 : Delete any rules in IP Rules and Mac Rules fields .

Step 5 : Click $\boxed{\textbf{Submit}}$ and then click $\boxed{\textbf{Reset}}$ on the left side.

Step 6 : Click $\boxed{\textbf{Restart}}$ to save the settings and it will restart WOR1000 to make settings work.

Q-11: Where do I get the encryption key on my WOR1000 wireless device ?

A-You make up the key yourself. As a rule of thumb, always use Hex as your key type, are using a mixed environment with other manufacturer products .

To make a key , simple use number between 0 and 9 , and letters between A-F. For example, bit encryption key , you will enter 10 characters for your key. Enter A137F8AD89.

Q-12: Why can I change the channel on my WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press $\boxed{\textbf{Enter}}$.

Step 2 : The default username is (**admin**) and the password (**default**) . Click OK.

Step 3 : click on the $\boxed{\textbf{Wireless0}}$ or $\boxed{\textbf{Wireless1}}$ tab on the left side.

Step4 : Change channel you want to use.

Step 5 : Click $\boxed{\textbf{Submit}}$ and then click $\boxed{\textbf{Reset}}$ on the left side.

Step 6 : Click $\boxed{\textbf{Restart}}$ to save the settings and it will restart WOR1000 to make settings work.

Q-13 : How do I enable WEP encryption on WOR1000 ?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press $\boxed{\textbf{Enter}}$.

Step 2 : The default username is (**admin**) and the password (**default**) . Click OK.

Step 3 : click on the $\boxed{\textbf{Wireless0}}$ or $\boxed{\textbf{Wireless1}}$ tab on the left side.

Step 4 : At **WEP mode** select **64, 128** bits to enable WEP encryption.

Step 5 : Disable check **WPA**.

Step 6 : Click **Submit** and then click **Reset** on the left side.

Step 7 : Click **Restart** to save the settings and it will restart WOR1000 to make settings work.

Q-14: How do I enable WPA-PSK on WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press **Enter** .

Step 2 : The default username is (**admin)** and the password (**default**) . Click OK.

Step 3 : click on the **Wireless0** or **Wireless1** tab on the left side.

Step 4 : At **WEP mode** select **dis** to disable WEP encryption.

Step 5 : Check **WPA** and select WPA-PSK.

Step 6 : At PSK field keyin a passphrase that will be shared by all devices using WPA-PSK on the network.

Step 7 : Click **Submit** and then click **Reset** on the left side.

Step 8 : Click **Restart** to save the settings and it will restart WOR1000 to make settings work.

Q-15: How do I enable WPA(Radius) on WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press **Enter** .

Step 2 : The default username is (**admin)** and the password (**default**) . Click OK.

Step 3 : click on the **Wireless0** or **Wireless1** tab on the left side.

Step 4 : **WEP auth method** select **dis** then select **WPA** and

WPA-Enterprise(802.1x)

Step 5 : Enter the IP address of the RADIUS server at Radius Server field.

Step 6 : Enter the port which use by the RADIUS server.

Step 7 : Enter the secret Key that is required of all devices to communicate with the RADIUS server at Radius Key field.

Step 8 : Click **Submit** and then click **Reset** on the left side.

Step 9 : Click **Restart** to save the settings and it will restart WOR1000 to make settings work.

Q-16: How do I reset WOR1000 back to default settings included password?

Step 1: Use console port connect with WOR1000.

Step 2: Console port setting 115200,8,n,1,n

Step 3: type default command to back to default settings included password.

Q-17 : How Can I host a FTP server behind a my WOR1000?

Step 1: Open your web browser and type the IP address of the wireless router in the (default is 192.168.2.254). Press Enter .
Step 2 : The default username is (**admin)** and the password (**default**) . Click OK.
Step 3 : click on the Virtual Server tab on the left side.
Step 4 : Check enable.and keyin description like FTP Server, then keyin the port number use by FTP server(like 21).
Step 5 : Keyin Local PC IP in **Local IP** fields, then keyin the port number use by FTP server(like 21) in **Local Port** fields.
Step 6 : Select **tcp** protocol.
Step 7 : Click Submit and then click Reset on the left side.
Step 8 : Click Restart to save the settings and it will restart WOR1000 to make settings work.

Q-18 : Can I use my WOR1000 to share my Internet connection provided by AOL DSL now uses PPPoE for authentication bypassing the client software .

Step 1 :Make sure you disable or uninstall any PPPoE software such as WinPoet, Boradjump, or f**rom your computer or y**ou will not be able to connect to the Internet. Please make sure that your modem is not also a router you do not know , please contact your ISP and change the modem to Bridge mode.

Step 2 : Let your modem connect to WOR1000 WAN Port. Then your PC(notebook) connect to WOR1000 LAN Port, Set IP such as 192.168.2.1 on your pc.

Step 3: Open your web browser(Internet Explorer, Netscape 192.168.2.254 into the address window. When the password dial enter the username admin and the password default.

Step 4: Click on the WAN tab on left-hand side of the screen, then select PPPoE.

Step 5: Enter the user name and password in the PPPoE section. And the **Idle Time** should be set to zero. Set **MTU** to 1492.

Note : If you experience problems accessing certain websites and/or email issues, please apply lower number such as 1472, 1452, etc. Contact your ISP for more information and the setting for your connection .

Step 6: Click **Submit**. Then click **Reset** tab on left-hand side of the screen. Then click **Restart** to restart WOR1000.

Step 8 : After WOR1000 restart click the **Wan Status** tab in the web configuration where you can view the WAN device. You should now see that the device show an IP address.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.   These limits are designed to provide reasonable protection against harmful interference in a residential installation.   This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.   If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that
to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 1 meter between the radiator & your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Set up Procedure

Antenna Spec. (Point to Point) (Point to Multi)	Output power (dBm)	Antenna gain (dBi)	Frequency Range (GHz)	Antenna Type	Actual Gain w/specified cable & arrester (dBi)*
OA2410FO	22	10	2.4-2.5	Omni	-0.8
OA2414P	22	14	2.4-2.5	Patch	3.2

Patch Antenna

Omni Antenna

Arrester

Arrester

RF Cable

RF Cable

GND Line

DOR1000

GND Line

GND Line

GND Line

Ethernet Cable

Ethernet Cable

To GNG

POE-PSE

To GNG

To GNG