

1.0.9

# **BLUETOOTH ACCESS POINT WITH BROADBAND ROUTER**

---

User's Manual

# REGULATORY STATEMENTS

## FEDERAL COMMUNICATIONS COMMISSION

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## NOTE

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 radiated 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 or more 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 and its antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

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## Introduction

Congratulations on your purchase of the Bluetooth access point with broadband router. This Bluetooth access point with broadband router provides the ideal solution for connecting your wireless network to a high-speed broadband Internet connection or a 10/100 Fast Ethernet backbone. Configurable as a DHCP server for your existing network, the access point with broadband router acts as the only externally recognized Internet gateway on your local area network (LAN) and serves as an Internet NAT firewall to unwanted outside intruders.

This cutting-edge Bluetooth access point with broadband router eliminates the need to buy an additional hub or switch and extends the range of your wireless network. Now your entire wireless network can enjoy blazing broadband internet connections supported by a robust switched backbone. With the dual-function speed and power of the Bluetooth access point with broadband router, your network will take off at speeds faster than you ever imagined.

Devices of all types, from phones and handhelds to printers and even home electronics, such as TVs and stereos, are perfectly suited for PANs. They are spontaneous, or “ad hoc”. Unlike the other types of wireless networks, PANs need NO infrastructure to giving an entirely new meaning to the term “universal remote”. PANs offer a myriad of possibilities for connecting to the internet, communicating with other Bluetooth devices, and collaborating peer-to-peer networking. Additionally it is easy to configure and operate for even non-technical users. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product please read this manual carefully to fully utilize all the available features.



# Features & Specifications

## Features

- Bluetooth v1.1 compliance
- Fast Internet and LAN Access, complies with IEEE802.3u 10/100 Ethernet standard
- Supports Personal Area Networking (PAN) Profile and LAN Access Profile
- Provides both Routing and Bridging operation modes
- Protocol supported TCP/IP, NAT, PPPoE, PPP, HTTP, DHCP, ARP
- Bluetooth wireless access within a radius of 328 Feet (100 Meters)
- Allow up to 7 simultaneous Bluetooth devices connections
- Web-based configuration utility
- Flash memory allows future firmware upgrade

## Specifications

### Interface:

- Wireless interface complies with Bluetooth Core Specification V1.1
- One 10/100 Fast Ethernet RJ45 LAN port, complies with IEEE802.3u standard

### Functions:

- Bluetooth:
  - Main chip : CSR BlueCore 02
  - Bluetooth 2.4GHz~2.4835GHz license-free ISM Band frequency hopping
  - Class 1 Bluetooth radio
  - Sensitivity : < -84dbm at 0.1% Bit Error Rate (BER)
  - Supports Personal Area Networking (PAN) profile and LAN Access Profile
  - Data Rate : Downstream maximum 723 kbps
  - Operating ranges up to 328 feet (100 meters)
  - Connect up to 7 devices in a Piconet
  - Security : encrypted link, authentication
- LAN port:
  - Complies with IEEE802.3u 100Base-TX standard
  - Connects to an ADSL modem or Cable modem for Internet access, or connects to a LAN Hub/ Switch/ Router for LAN access
  - Cable requirement:
    - 10Base-T : CAT3 / CAT5 UTP up to 100M/328ft

- 100Base-TX: CAT5 UTP up to 100M/328ft
- Routing/Bridging Functions:
  - Two operation modes: Routing mode(default) and Bridging mode
  - Routing mode provides three functions : Fixed-IP 、 PPPoE 、 DHCP
  - Bridging mode provides Bluetooth PAN-to-Ethernet bridging
  - Web-based configuration utility
  - Supports recovery function of default settings

## **Mechanical**

- 94 x 62 x 21mm (L x W x H)

## **Certification**

- FCC part 15 class B, CE (CISPR22) class B

## **Environmental Operating Ranges**

- Operating temperature: 0 ~50° C, Humidity 10 ~ 90%
- Storage temperature: -20 ~90° C, Humidity 10 ~ 90%

## **Power Consumption**

- Typical: 320 mA/6V
- Maximum: 350 mA/6V
- Idle: 220 mA/6V

## **LED Indication**

- Power
- Link/ACT(LAN)
- Speed (100Mbps)
- Air (Bluetooth Activity, TX/RX)

# 2

## Install the Router

### 2.1. Panel Layout

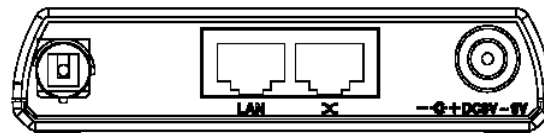


#### 2.1.1. Rear Panel

##### Rear Panel

The LAN port is the segment connected to your xDSL or Cable modem and is linked to the Internet.

The LAN port section consists of 2 ports, **X** and **LAN** (**only one port can be used at one time**).



Depending on your Modem's port type (regular or uplink), the table shows you what WAN port to use with which cable.

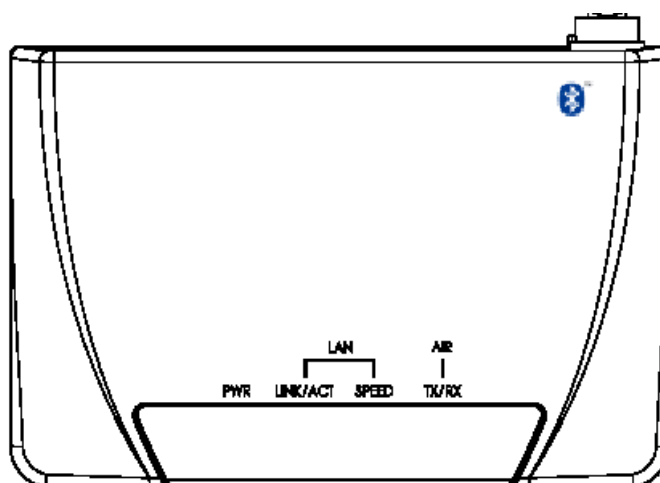
Port	Straight Through Cable	Crossover Cable
------	------------------------	-----------------

X	Modem port is a regular port	Modem port is an Uplink port
LAN	Modem port is an Uplink port	Modem port is a regular port

Power inlet. This is where you connect the included power adapter. Please note that the included power adapter is DC 6V/1A.

**Using wrong type of power adapter may damage to this product.**

### 2.1.2. Front Panel



### 2.1.3. LED indicators

**PWR LED indicators:** Green. This LED indicates that the Router's power is on.

**LAN indicators:** Green. This LED indicates that the Router's WAN Interface has been enabled.

**AIR LED indicator:** Green. This LED indicates Bluetooth wireless activity.

## 2.2. Installation Requirements

### Hardware requirements

This product can be positioned at any convenient place in your office or house. No special wiring or cooling requirements are needed. However, you should comply with the following guidelines for optimal installation:

- Place this product on a flat horizontal plane.
- Keep this product away from any heating devices.
- Do not place this product in a dusty or wet environment.
- The recommended operational specifications of this product are:  
Voltage/Current AC 100V ~ 230V  
Temperature: 5°C ~ 55°C  
Humidity: 10 % ~ 90 %



In addition, remember to turn off the power, remove the power cord from the outlet, and keep your hands dry when you install this product.

### **Software requirements**

- One Windows 98 SE, Millennium, 2000, or XP PC equipped with TCP/IP Protocol, Internet Explorer 4.0 or Netscape Navigator 4.7 with Java VM included for web-based configuration, a CD-ROM Drive and an Ethernet Adapter with a UTP CAT 5 Network Cable
- Cable or DSL Modem with Ethernet Connection and Internet Access
- For Windows XP users, it is necessary to download JRE from Sun Microsystems (<http://www.sun.com>) or run windows update.
- Bluetooth application software must be compliant with PAN/BNEP Specification version 1.0.

# 3

## Configuring the PC

### 1. Overview

These instructions will help you configure each of your computers to communicate with the Bluetooth PAN Router. To do this, you will need to configure your PC's network settings to obtain an IP (or TCP/IP) address automatically. Computers use IP addresses to communicate with each other across a network or the Internet. You will need to know which operating system your computer is running, such as Windows 98, 2000, or XP. You can find out by clicking the **Start** button and then selecting the **Settings** option (If your **Start** menu does not have a **Settings** option, you're running Windows XP. You can select the **Control Panel** directly from the **Start** Menu). Then, click **Control Panel** and double-click the **System** icon. Click the **Cancel** button when done. Once you know which Windows operating system you are running, follow the directions below for your computer's operating system. If your PC is not configured with the TCP/IP protocol, you will need to do this for each computer you are connecting to the Router.

The only Bluetooth PAN profile in PC side provided is from IVT Inc. and Widcomm, so you need to follow the instructions of **IVT BlueSoleil** or **BTW** and **BTWCE** product to setup the *BT Network Adapter* for later configuration.

The next few pages will tell you, step by step, how to configure your TCP/IP settings based on the type of Windows operating system you are using. Once you've configured your computers, continue to "Chapter 6: Configuring The Router."

### 2. Configuring Windows 95, 98, and Millennium PCs

1. Click the **Start** button, click **Settings** and open the **Control Panel**. From there, find the **BT Network Adapter** connection and double-click the icon to open the Network screen.
2. Select the **Configuration** tab and highlight the **TCP/IP line** for the applicable Ethernet adapter. If the word **TCP/IP** appears by itself, select that line. (Note: If there is no TCP/IP line listed, refer to your Ethernet adapter's documentation to install TCP/IP.) Then click the **Properties** button.
3. Click the **IP Address** tab and select **Obtain an IP address automatically**.

4. Click the tab and verify that the Installed Gateway field is blank. Click the **OK** button.
5. Click the **OK** button again. Windows may ask you for the original Windows installation disk or additional files. Supply them by pointing to the correct file location, e.g., D:\Win98 (This assumes that “D” is the letter of your CD-ROM drive).
6. If Windows asks you to restart your PC, click the **Yes** button. If Windows does not ask you to restart, restart your computer anyway.

Repeat steps 1 - 5 for each PC on your network.

### 3. Configuring Windows 2000 PCs

1. Click the **Start** button, click **Settings** and open the **Control Panel**. From there, double-click the **Network and Dial-up Connections** icon. This will display the Network screen.
2. Select the **Local Area Connection** icon for the applicable Bluetooth Network adapter (usually it is the second Local Area Connection listed instead of the default adapter after you installed the BT driver). Double-click **Local Area Connection** and click the **Properties** button.
3. When the **Local Area Connection Status** screen appears, click the **Properties** button.
4. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.
5. Select **Obtain an IP address automatically** and verify that **Obtain DNS server address automatically** is selected. Then, click the **OK** button and click the **OK** button on the subsequent screens to complete the PC's configuration.

Repeat steps 1-5 for each PC on your network.

### 4. Configuring Windows XP PCs

The following instructions assume you are running Windows XP's default interface. If you are using the Classic interface (where the icons and menus look like previous Windows versions), please follow the instructions for Windows 2000.

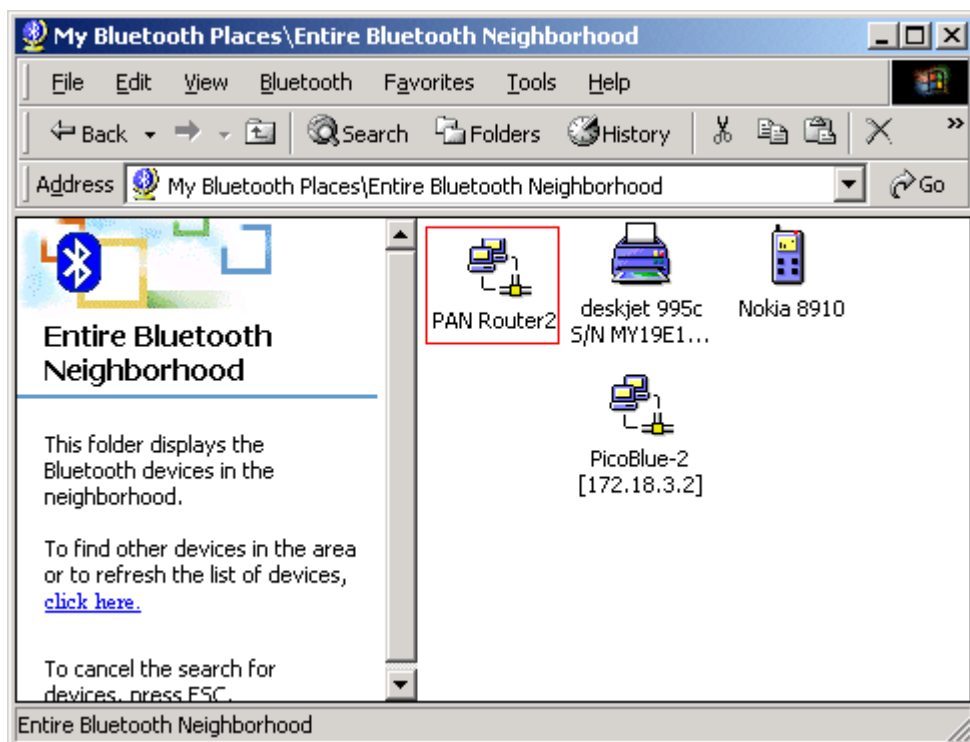
1. Click the **Start** button, open the **Control Panel**. Click the **Network and Internet Connections** icon. Then click the **Network Connections** icon to display the Network screen.
2. Select the **Local Area Connection** icon for the applicable Bluetooth Network adapter (usually it is the second Local Area Connection listed instead of the default adapter after you installed the BT driver). Double-click **Local Area Connection** and click the **Properties** button.
3. When the **Local Area Connection Status** screen appears, click the **Properties** button.
4. Select **Internet Protocol (TCP/IP)** and click the **Properties** button.

5. Select **Obtain an IP address automatically** and verify that **Obtain DNS server address automatically** is selected. Then, click the **OK** button and click the **OK** button on the subsequent screens to complete the PC's configuration.

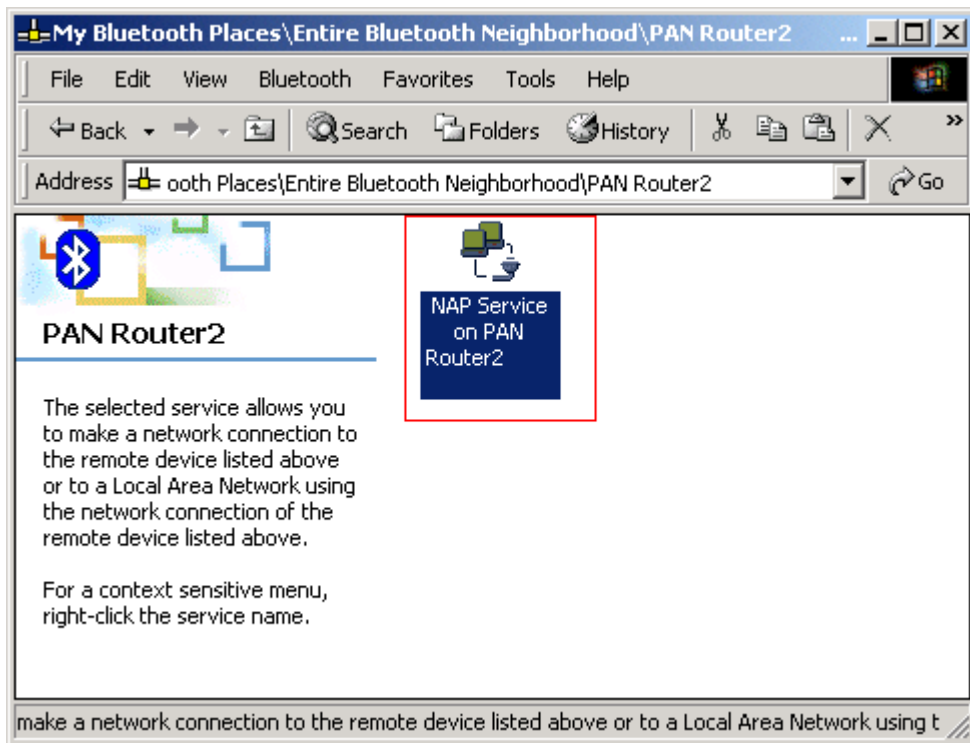
Repeat steps 1 - 5 for each PC on your network.

## 5. Configure Widcomm BTW

The Bluetooth Software makes it easy to join an existing personal network, hosted by another Bluetooth device (PocketPC, desktop, etc.). From the **My Bluetooth Places**, choose **Entire Bluetooth Neighborhood**, and select the Bluetooth device that you want to establish a PAN connection and double click the device icon.



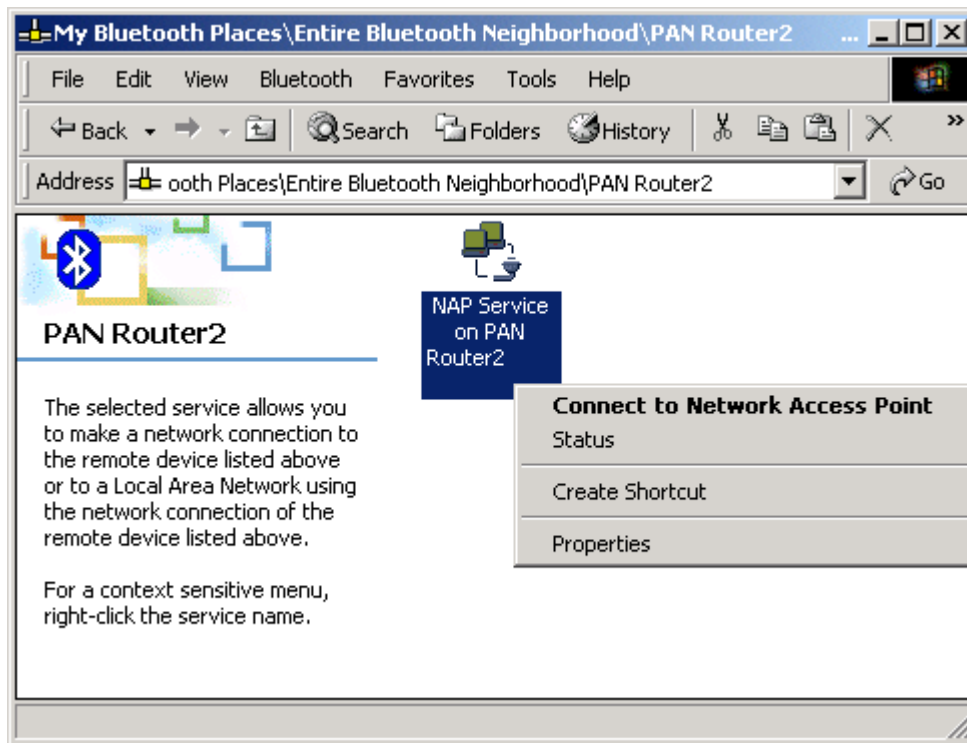
It will list out all the available services of this device. Select the NAP Service.



Right click the NAP Service and select "**Connect to Network Access Point**" and your PC will get an IP address from the Network Access Point.

At this moment, you might be prompted to enter the IP network settings. If this is the case, choose "**Obtain an IP address automatically**" from your Bluetooth Network TCP/IP setting.

After the host is selected, a connection will then be established between your PC and the host over the personal network.



## 6. Configure Widcomm BTWCE

### Hosting a Personal Area Network

To host a personal network, go to the Bluetooth Manager, choose **New > Connect > Join a personal network > Next**. The following screen will be shown:



Choose **Host a personal network** and tap **Next**. Then the following screen be shown, which allows you to "bring in" one or more guests, if desired. This step is optional, since

guests can join later on as long as the personal network is active (more details in the following section).



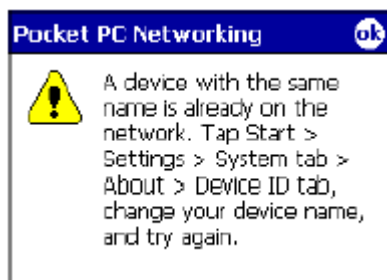
*Adding devices to a personal network.*

### Joining a Personal Area Network

BTW-CE makes it easy to join an existing personal network, hosted by another Bluetooth device (PocketPC, desktop, etc.). From the Bluetooth Manager, choose **New -> Connect -> Join a personal network -> Next**, but choose **Join a personal network** this time. The Bluetooth Browser will be shown for you to select the device that is hosting the personal network. After selecting the host, choose **Next**. A connection will then be established between your PocketPC and the host over the personal network.

At this moment, you might be prompted to enter IP network settings. If this is the case, choose "**Use server-assigned IP address**" and tap **OK**.

The following warning may also be shown. As instructed, change the name of your device and tap **OK**.

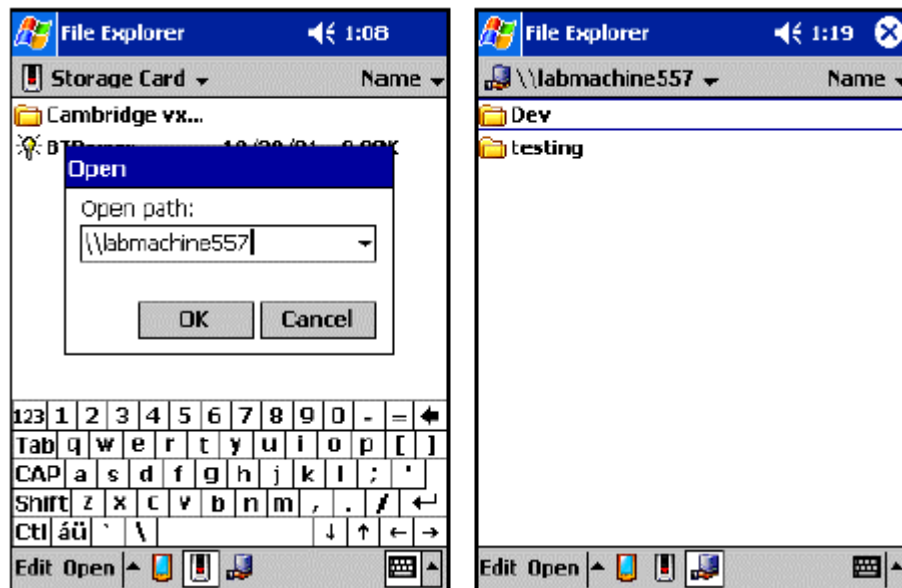


Since the network is established via Bluetooth, the network host's service availability, authorization and/or authentication security settings are in effect and may prevent you from joining the network.



PAN network settings.

After joining the personal network, you can use any application that requires an underlying network connection. For instance, you can view a remote folder via the File Explorer by choosing **Open** and entering a remote, accessible device path.

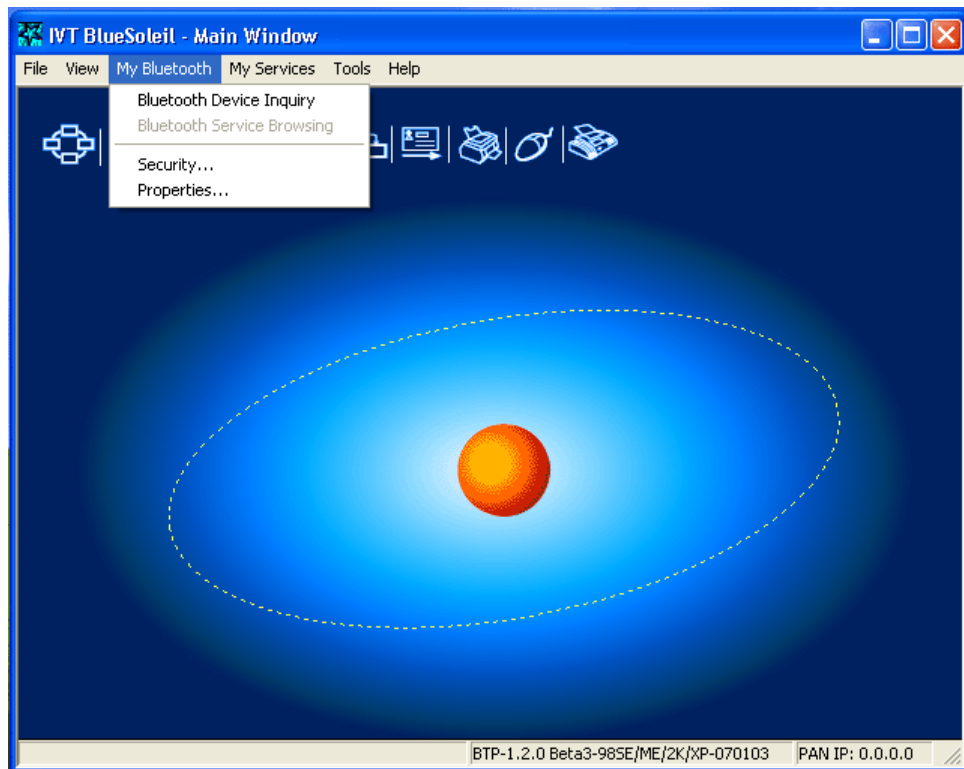


*Browsing files on a remote device (via the PocketPC File Explorer) after joining a personal network.*



## 7. Configure IVT BlueSoleil

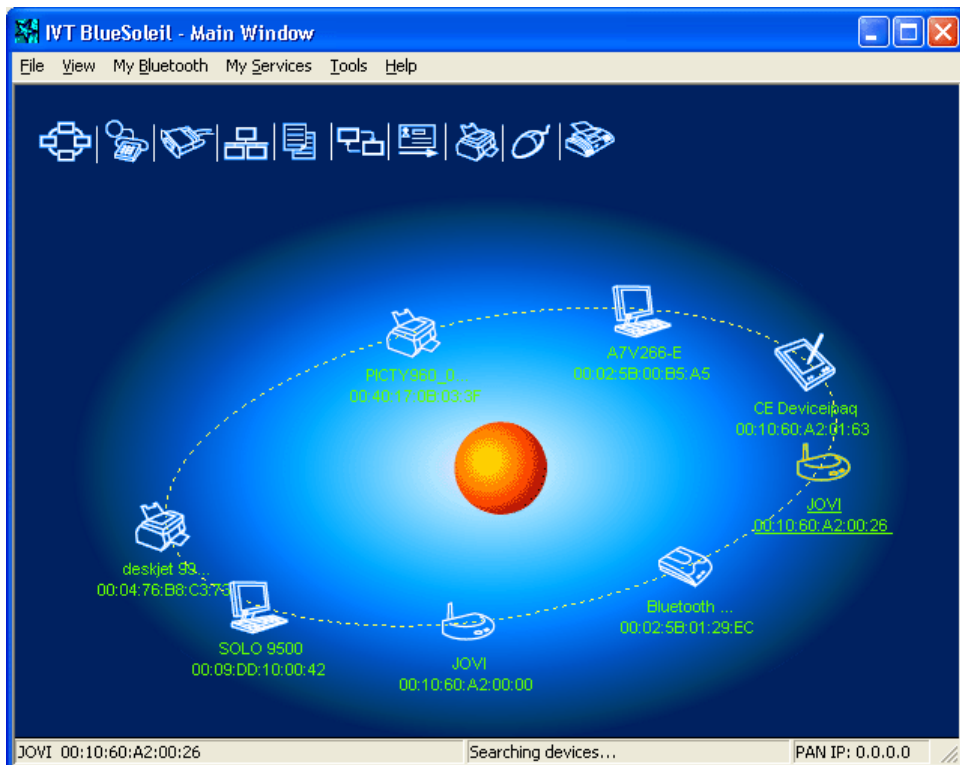
By now, the PCs (PAN Clients) can access LAN as if they are attached to LAN directly. Before you actually connect to the Bluetooth access point with broadband router, you have to change the security setting on IVT BlueSoleil product. Click on **My Bluetooth** -> **Security**, and panel will pop up. Select the **Low Security Level** option to cooperate the default no-security setting on Bluetooth PAN Router as shown in figure as blow.



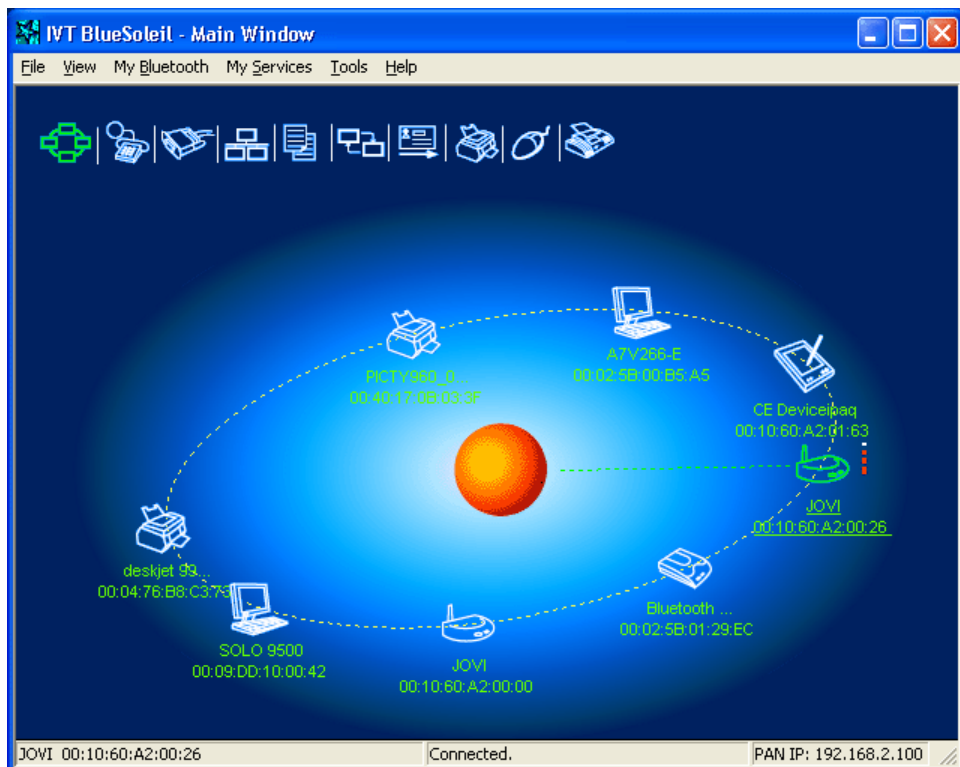


Now you can get access to PAN service in two steps:

1. In the BlueSoleil's Main Windows, click the *center ball*, and wait for a few seconds. After all device icons appear as shown in figure, click on the Bluetooth device name which indicates your Bluetooth access point with broadband router and point to PAN service icon.

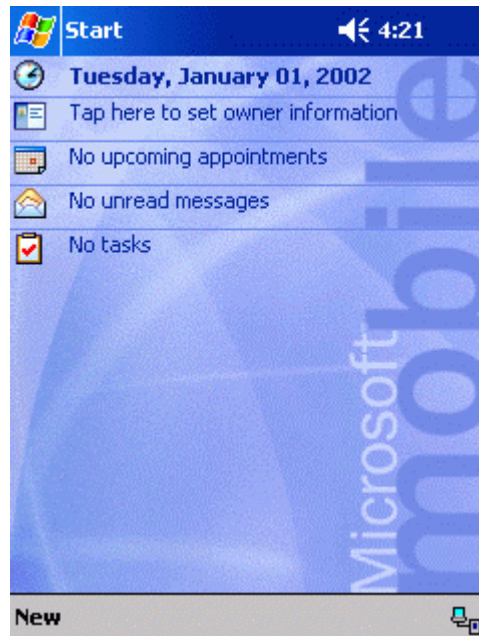


- Right click the **PAN Service** icon. Choose **Connect** then the color of the **PAN Service** icon will turn red, meaning that the connection is established successfully. By default, you will get the LAN IP 192.168.2.100 after the connection is complete.



## 8. Configure IVT BlueSoleil CE

1. Click "**Start**".



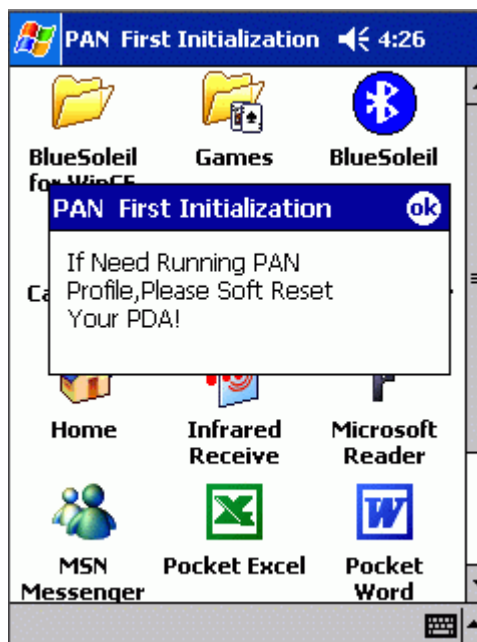
2. Select "**Programs**".



3. Click "**BlueSoleil**" icon.



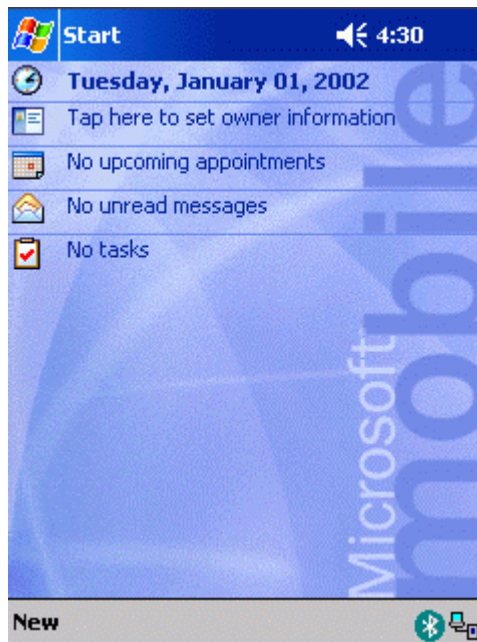
4. Then you get a message as below, asking you to Soft reset your PDA.



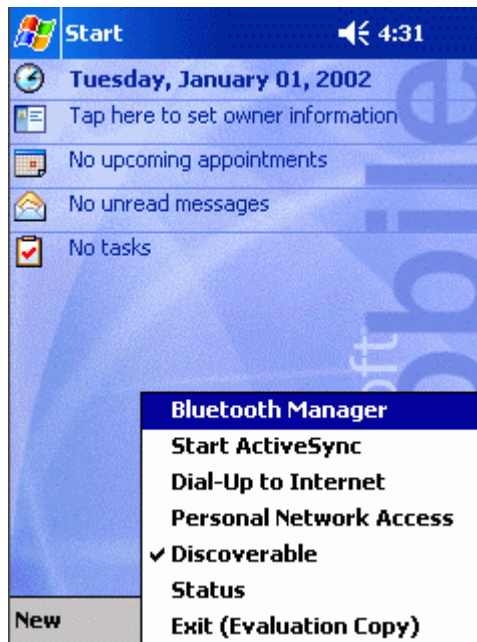
5. After reset your PDA you will find a "BlueSoleil" icon in list then click it.



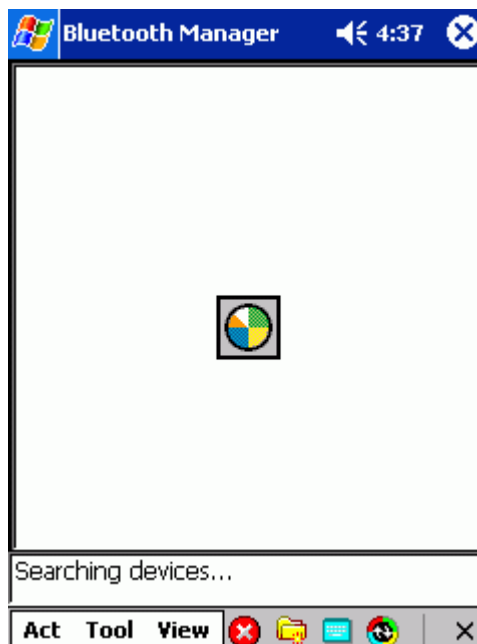
6. Then you will find this icon in status bar. Click on this icon.



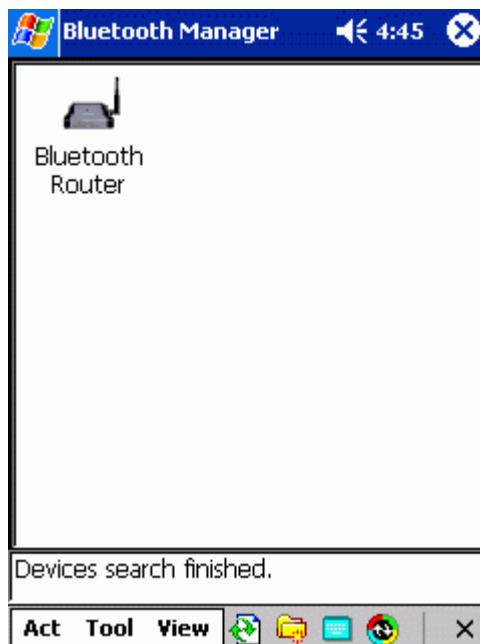
7. Select "**Bluetooth Manager**" item.



8. Now it automatically searches for devices.



9. After search is finished, then you'll see a "Bluetooth Router" icon. Click it.

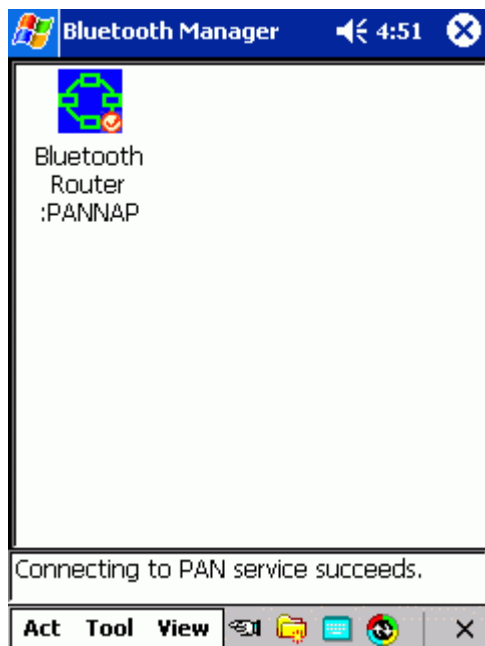


10. One service of "**Bluetooth Router**" will be discovered, click the light icon.



11. Connection to PAN service is successful.





# 4

## Configuring Router

### **Network Settings and Software Installation**

This chapter will show you how to configure the Bluetooth PAN to function in your network and gain access to the Internet through your Internet Service provider (ISP). Your ISP may require the use of a Host Name and Domain Name. Furthermore, you will need to set the WAN Configuration Type on the Router's Setup tab from the information given by your ISP. ***You will need this setup information from your ISP.*** If you do not have this information, please contact your ISP before proceeding. The instructions from your ISP tell you how to set up your PC for Internet access. Since you are now using this Bluetooth PAN to share Internet access among several computers, you will use this setup information for detailed configuration.

**\*Please plug the LAN cable into the PAN bridge and power it on.**

**\*Please make sure your Bluetooth client is connected to this access point, and your browser proxy setting is disabled.**

### **Start-up and Log in**

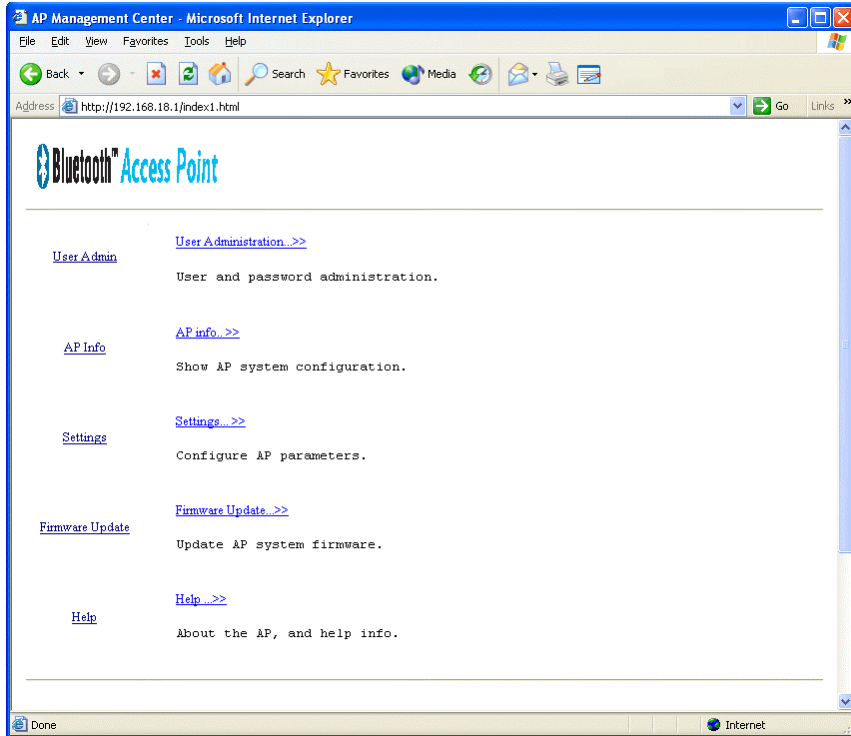
Activate your browser, and disable the proxy or add the IP address of this product into the exceptions. Then, type this product's IP address in the Location (for Netscape) or Address (for IE) field and press ENTER. For example: <http://192.168.18.1>. After the connection is established, you will see the web user interface of this product. There are two appearances of web user interface: for general users and for system administrator. Before you make any changes to the access information. Leave the Password field empty with "root" in the User field, and click the **Logon** button (you can configure the user/password later in the "Change Password Page").

Open your web browser, and enter **192.168.18.1** into the web browser's Address bar, then press the **Enter** key.

This product provides a Web based configuration scheme that is configurable by Netscape Communicator or Internet Explorer. This approach can be adopted in any MS Windows or Macintosh platform.

## Login and Index page

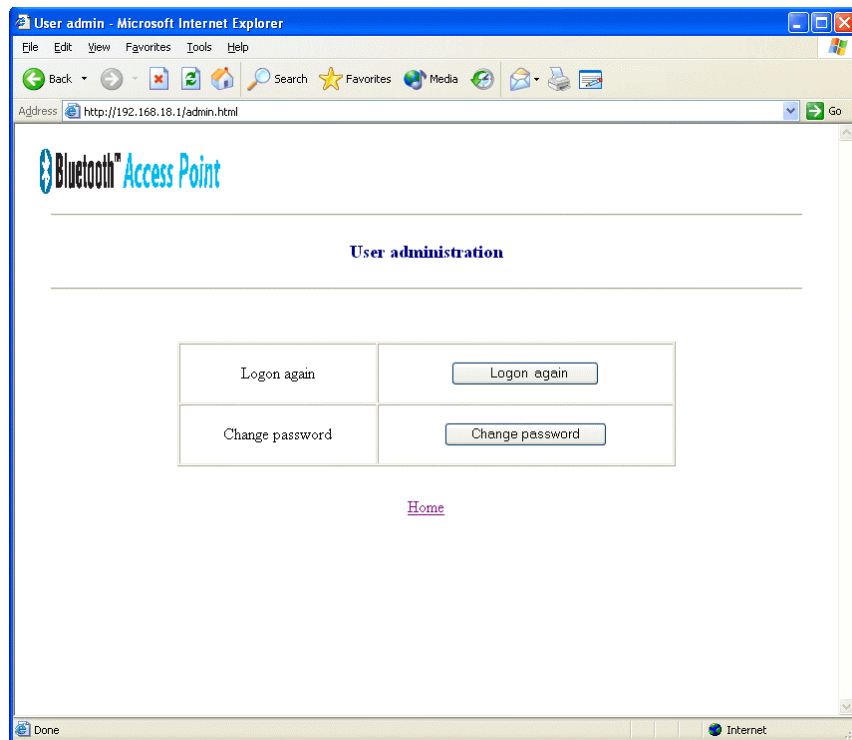
The **Login** page will appear. Before you make any changes to the access information, leave the Password field empty with “root” in the User field, and click the **Logon** button (you can configure the user/password later in the “**Change Passwod Page**”).



In the **Index** Page, there are five hyper links for diverse configurations.

If you'd like to logout of the web configuration (for security reasons), click the **Logout** button and the browser returns to the **Login** Page. In case you forget to leave the web configuration, the system will automatically cancel the logon process after 3-minutes. You will have to login again to finish uncompleted tasks.

### **1. User Admin**



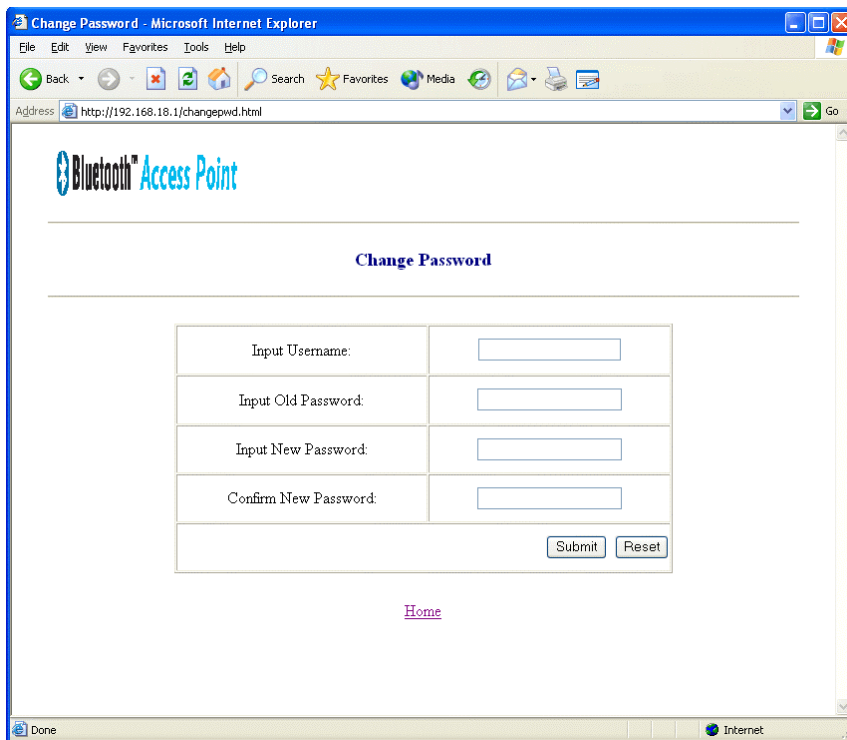
### 1.1. Logon again

1.2. **Change Password** is where you can modify the web authentication password.

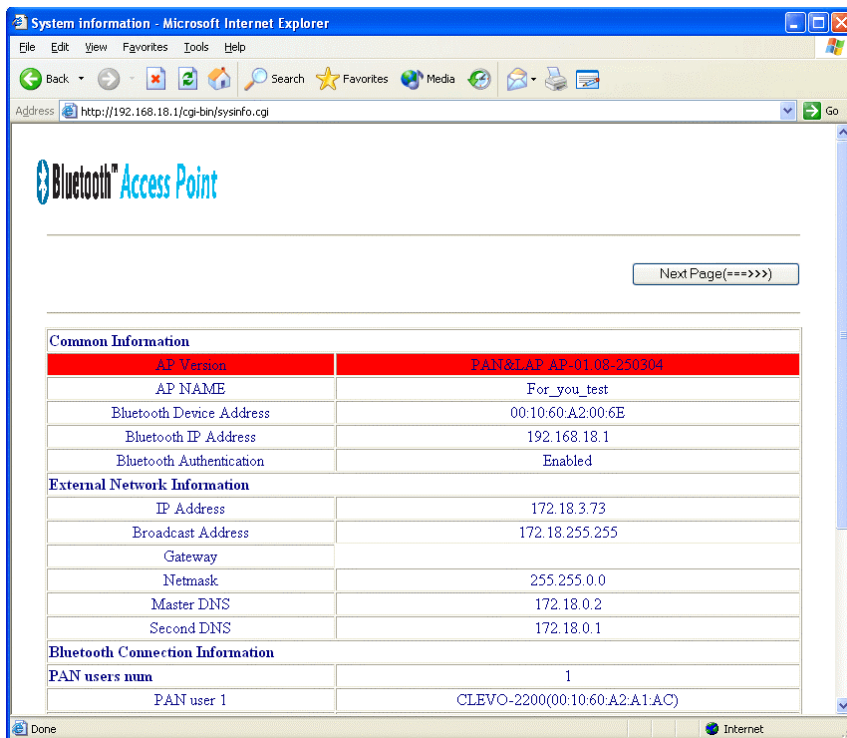
In order to access the web configuration and prevent others from changing the import information, we strongly recommend you to change the password.

1. In the **Index** Page, click the **User Admin** link. **Change Password**
2. According to the leftmost User List, you can add 4 users at most who are able to access the web configuration by selecting **Add** option. Enter **User** (up to **32** characters), and **Password** (up to **16** characters).
3. If you would like to delete a specific user, enter the **User**, select **Delete**, and click **Submit**.

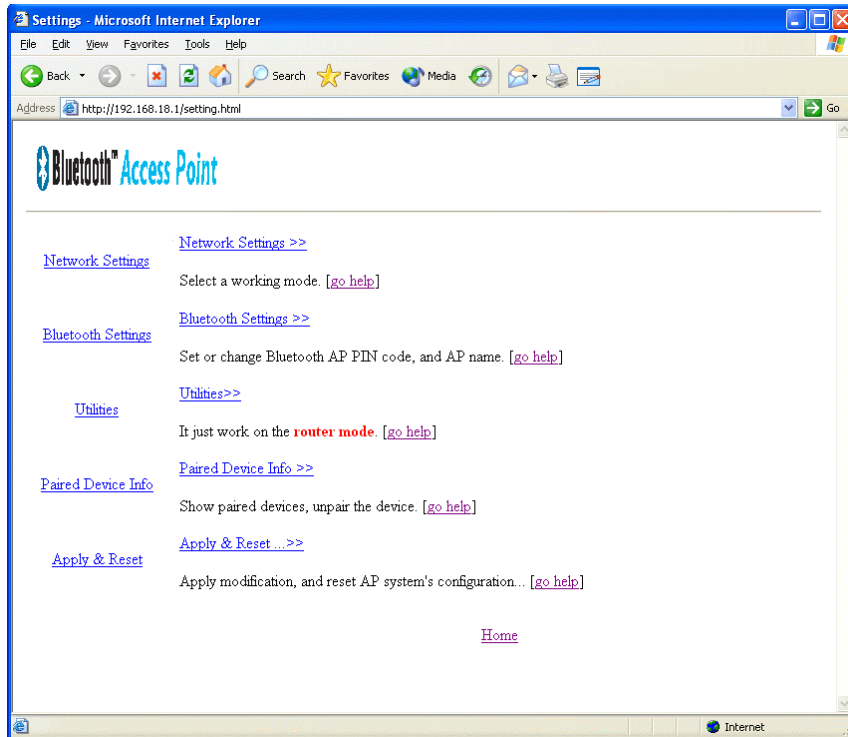
The system will indicate whether or not you entered the right settings for the page.



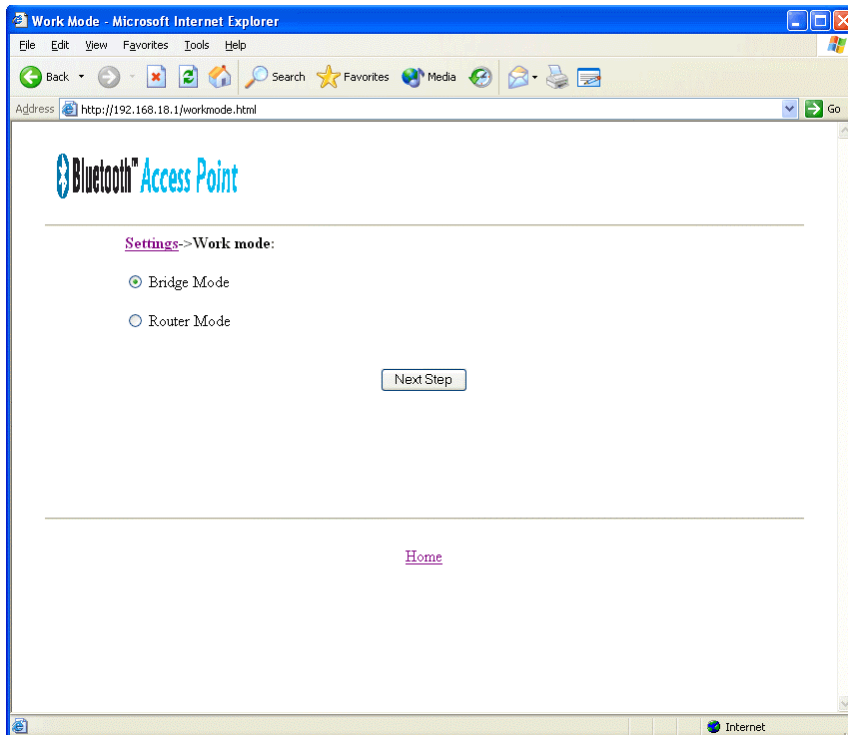
2. Common Information shows the real-time status for the Bluetooth wireless network.



### 3. Setting



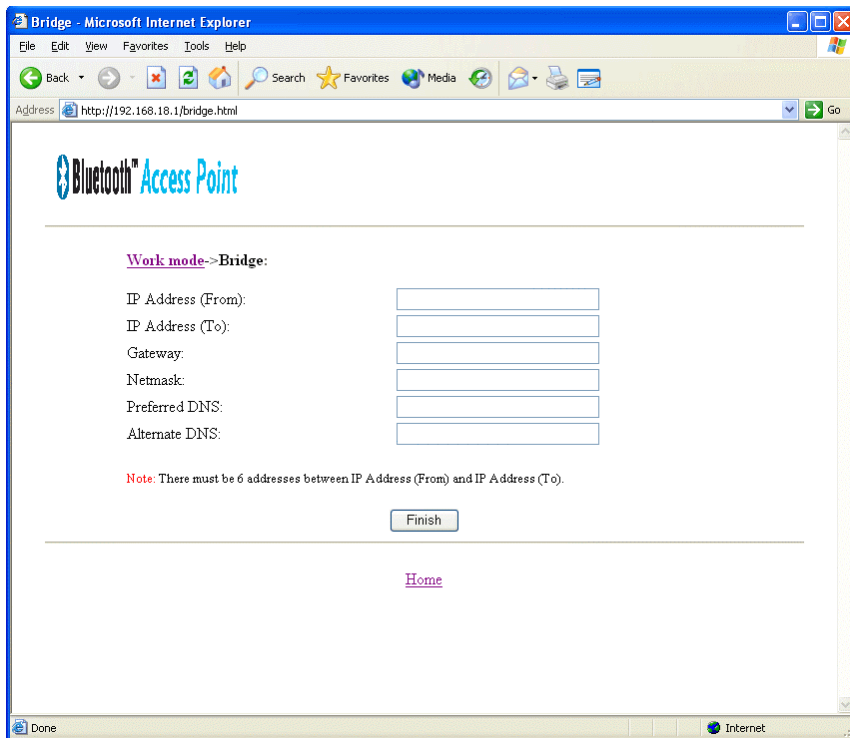
#### 3.1. Network Setting: There are two modes for network setting.



### 3.1.1. Bridge Mode

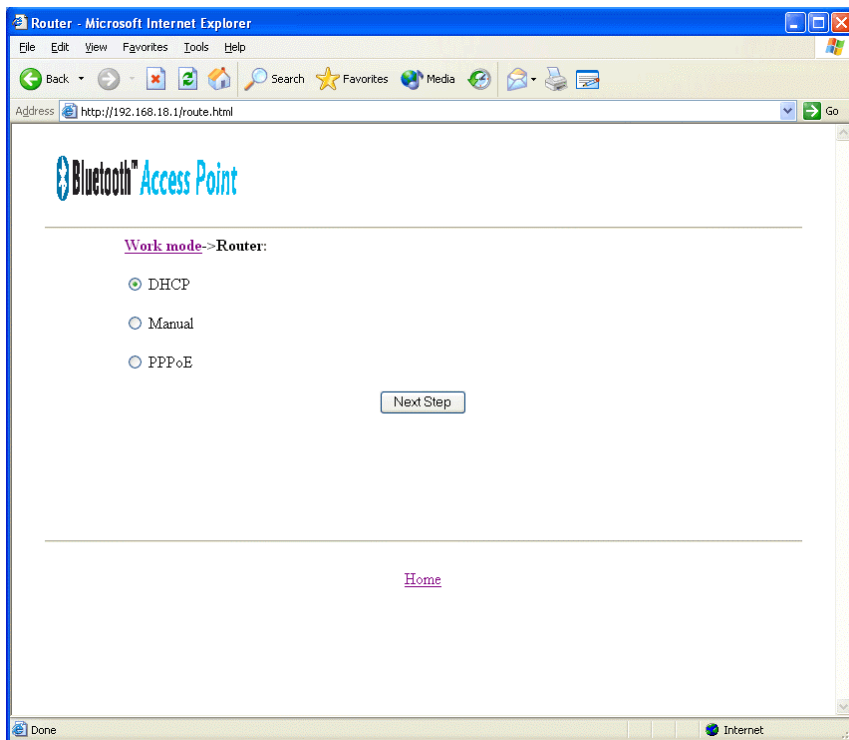
If you are connecting to a local network and the device performs simply a wireless AP (Access Point), you can select the **Bridge Mode** as shown in figure as blow, At this moment, the device becomes one of other existing LAN devices. All routing functions are disabled except the **Enable DHCP Client** option.

*Be sure to enable DHCP client, or the system can **NOT** work as you did not properly set the LAN IP for the Bluetooth PAN Router in Bridging Mode*

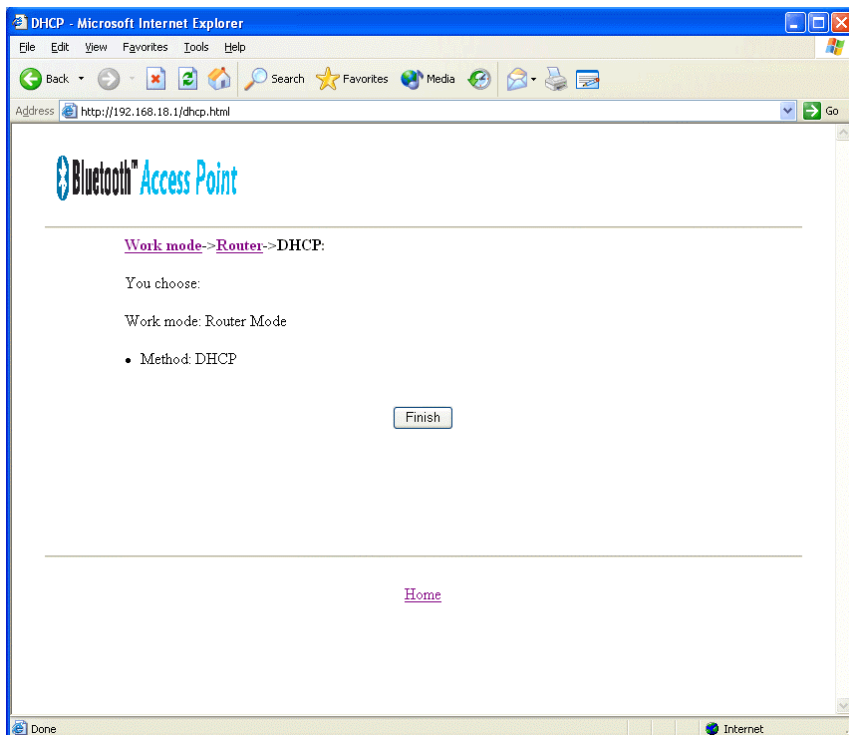


### 3.1.2. Router Mode

By default, the Bluetooth access point with broadband router is set to the Routing mode (PPPoE) that enables NAT (Net Address Translation Protocol) function and performs a wireless portal for a secure sub-network.

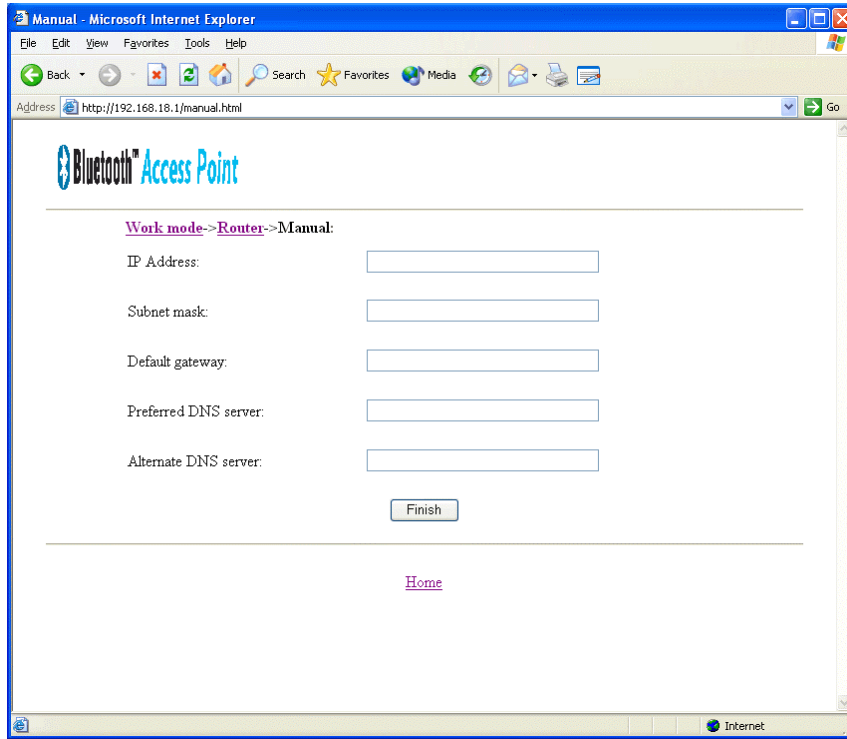


**3.1.2.1. DHCP Router:** The Access Point is configured to obtain an IP address automatically from a DHCP server.





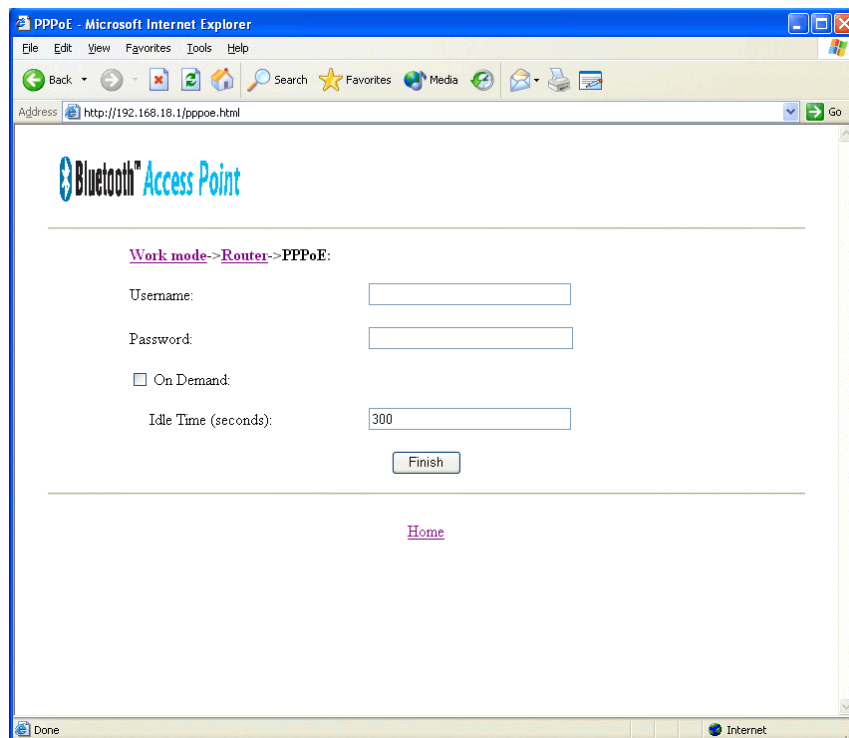
**3.1.2.2. Manual:** You can determine the IP address assigned to the Access Point.



### 3.1.2.3. PPPoE

1. When connecting through a PPPoE connection, be sure to have **Your PPPoE User Name, and Your PPPoE Password.**
  - (1) PPPoE Account and Password: the account and password your ISP assigned to you. If you don't want to change the password, keep it empty.
  - (2) PPPoE Service Name: optional. Input the service name if your ISP requires it.
  - (3) Maximum Idle Time: the time of no activity to disconnect your PPPoE session. Set it to 0 will disable this feature.
2. On the fourth block, enter the **Local IP** and **Subnet Mask**. This is the Router's IP Address and Subnet Mask as seen on the internal LAN. The default value is 192.168.18.1 for **IP Address** and 255.255.255.0 for **Subnet Mask**.
3. Enter the **Default Gateway** which is the same as **Local IP** in this device.
4. Click the **Apply** button to save the settings if you wish to configure other settings before restarting the system. The system will store all parameters and show the proper

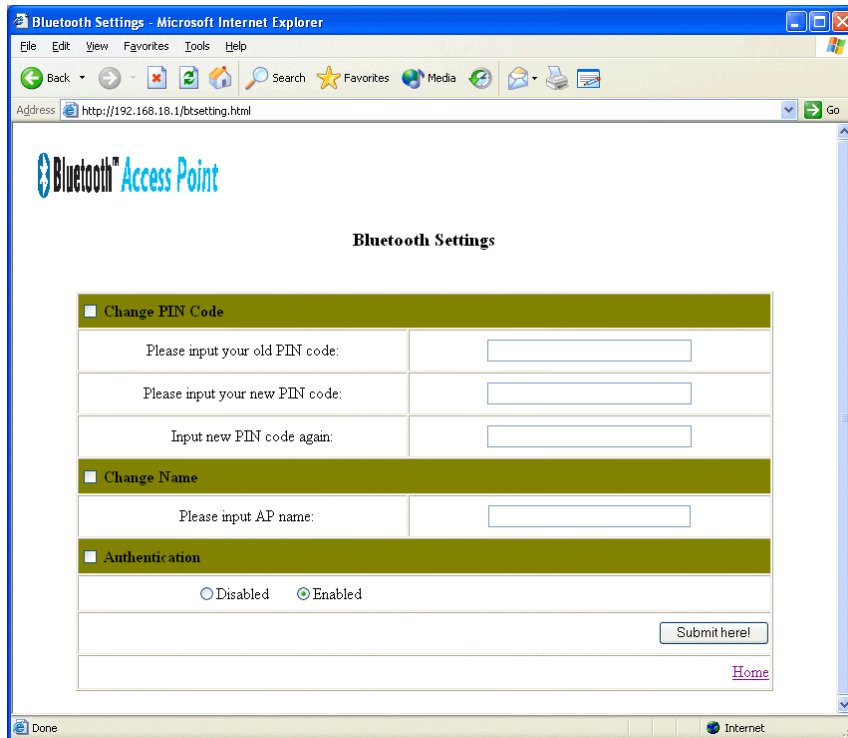
information to see whether it successfully writes into the registry memory. If you have finished all the settings, directly click the **Restart** button to re-boot the device.



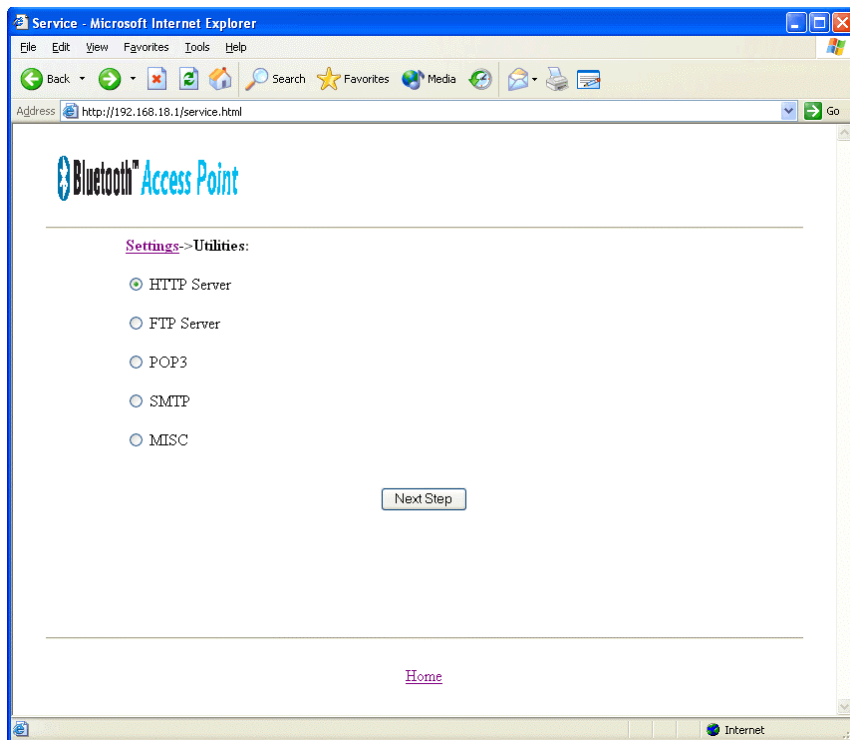
*Be sure to enable DHCP client, or the system can **NOT** work as you did not properly set the LAN IP for the Bluetooth PAN Router in Bridging Mode.*

### 3.2. Bluetooth Settings

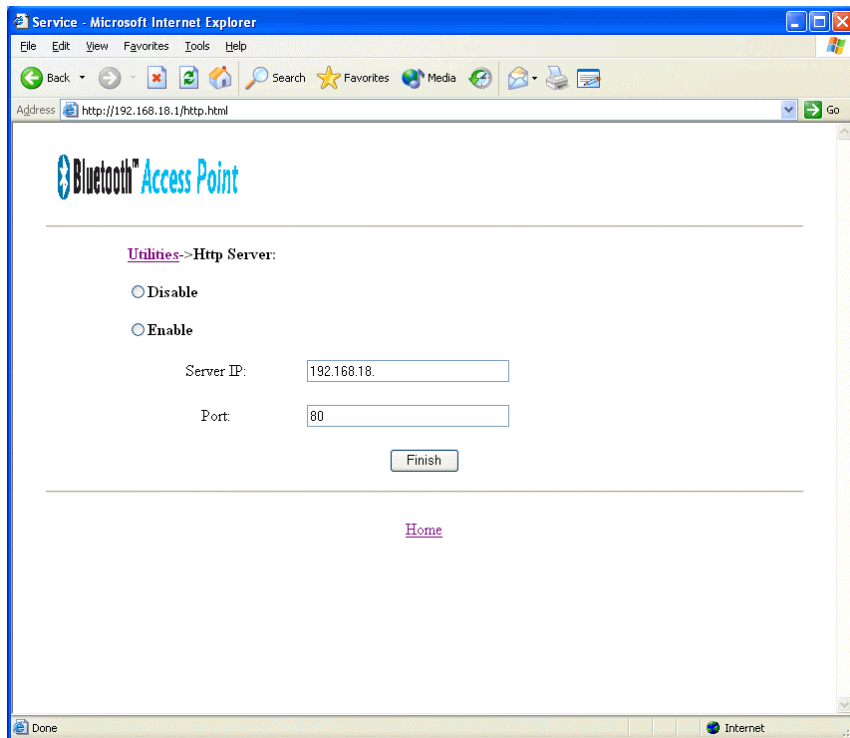
**Change PIN Code:** The default PIN code is “0000”. You can change your new PIN Code here.



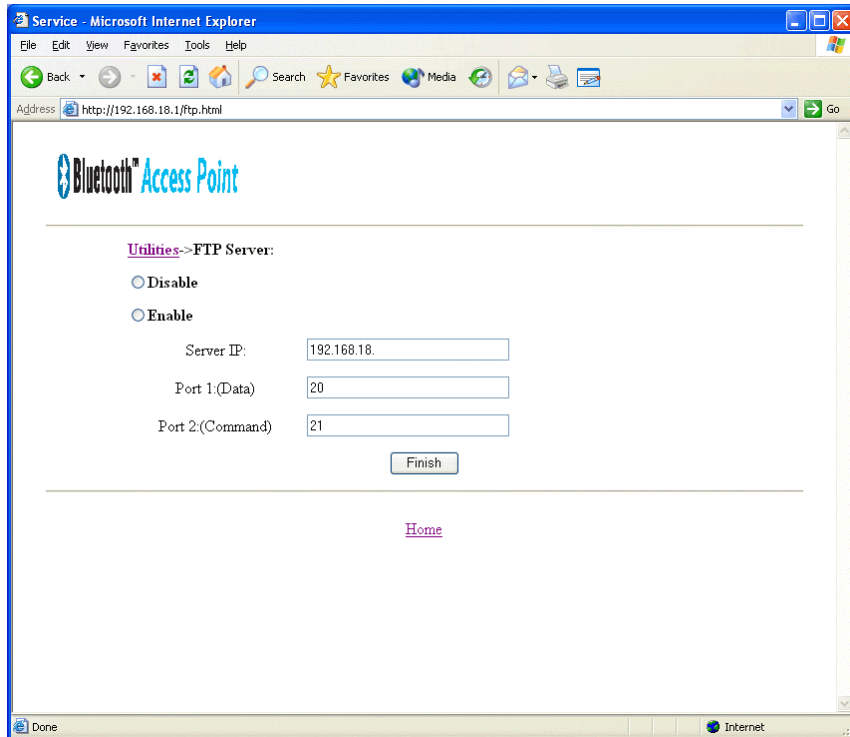
**3.3. Utilities** provides four virtual servers.



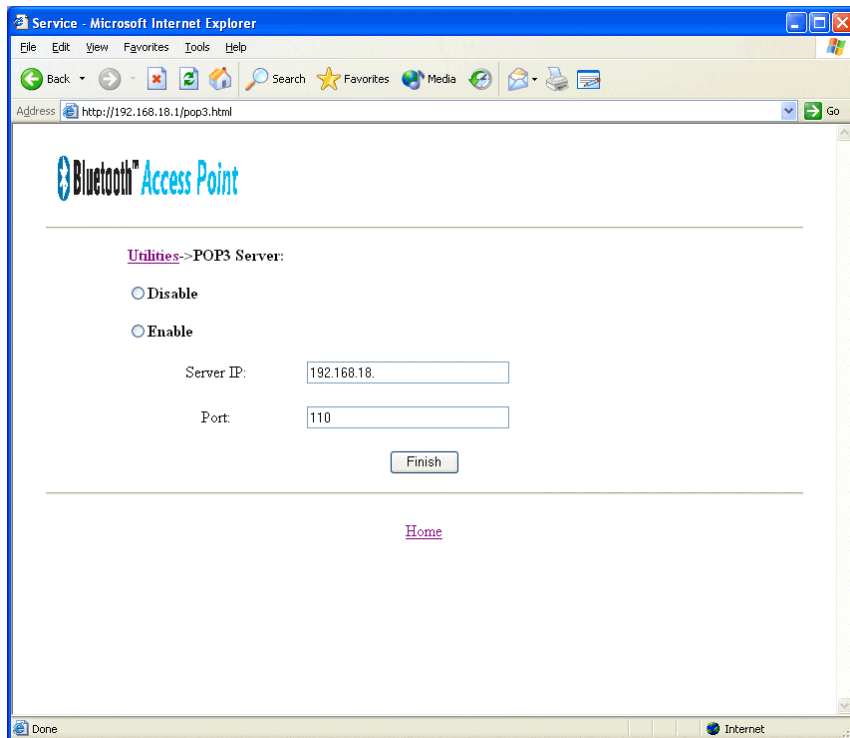
### 3.3.1. Http Server



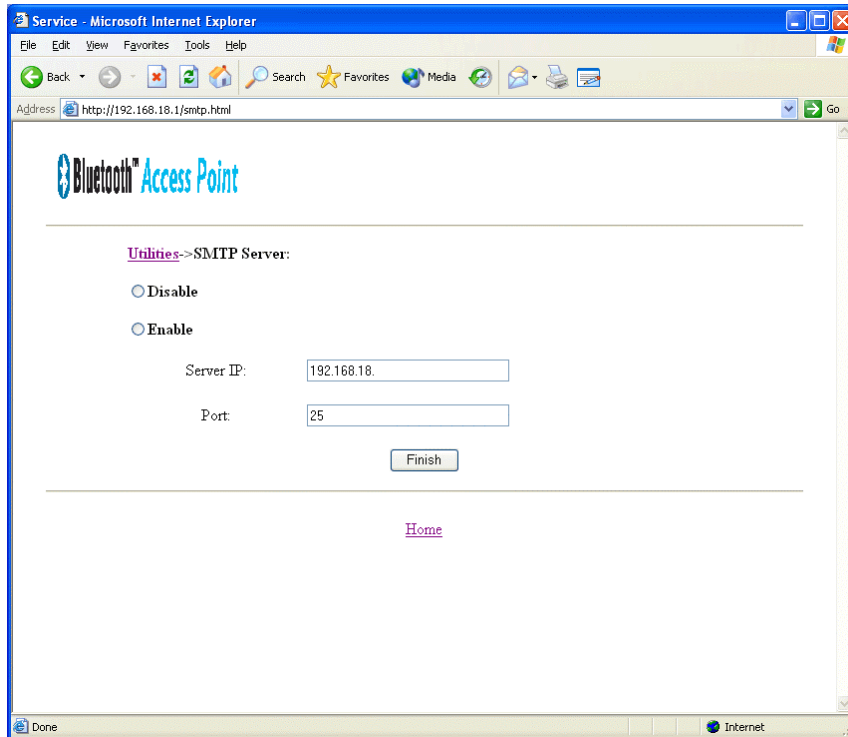
### 3.3.2. Ftp Server



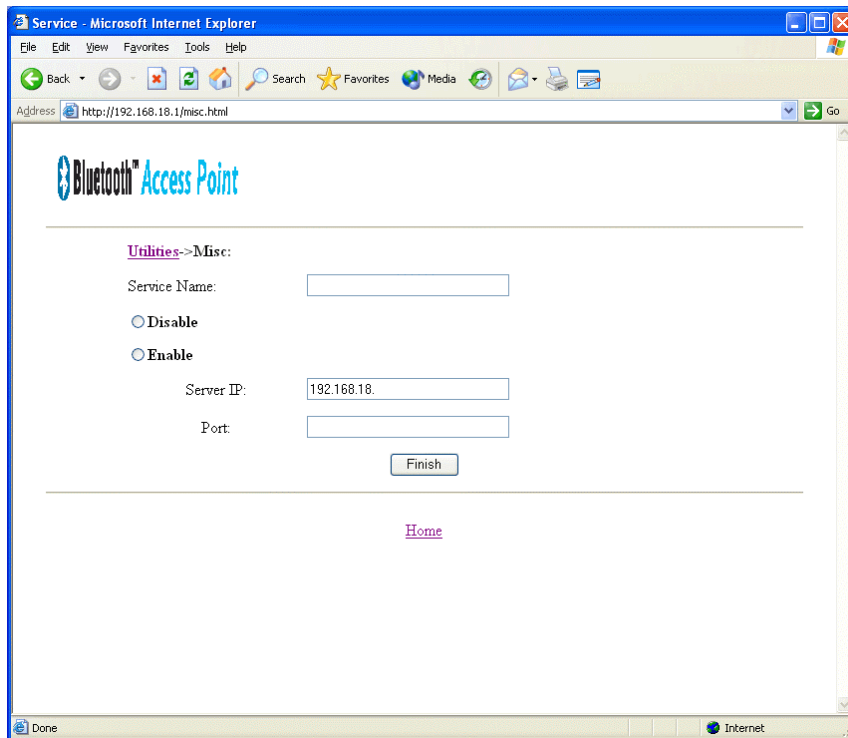
### 3.3.3. POP3 Server



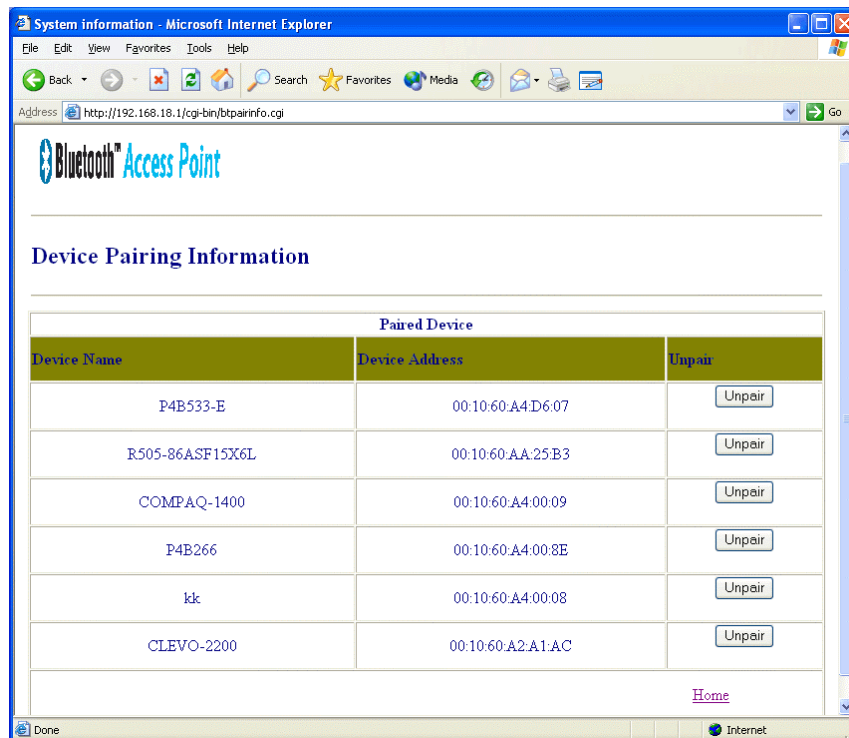
### 3.3.4. SMTP Server



### 3.3.5. Misc



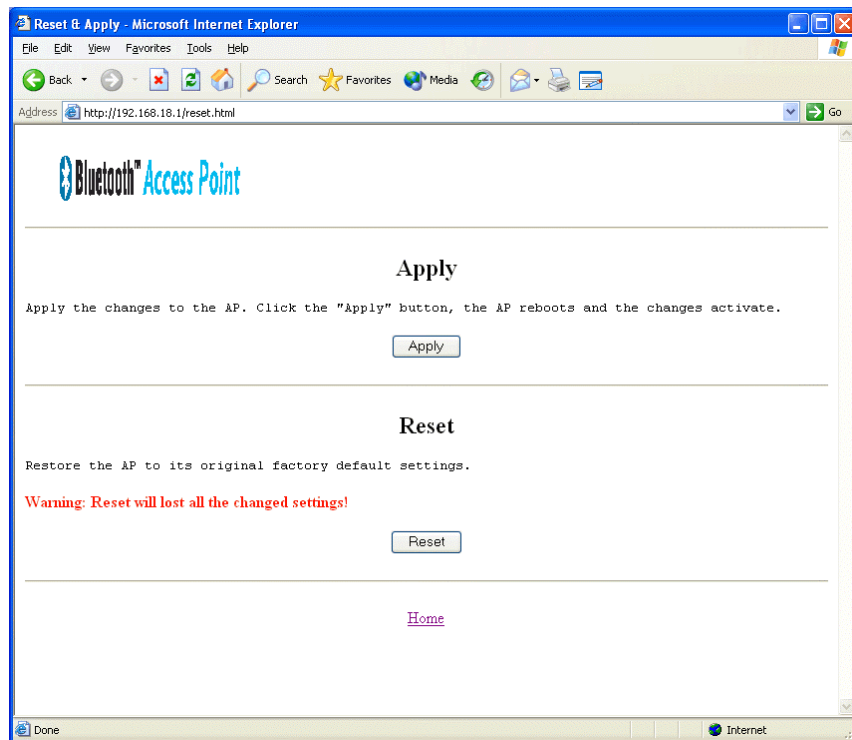
### 3.4. Paired Device Info: Show paired devices, unpair the device.



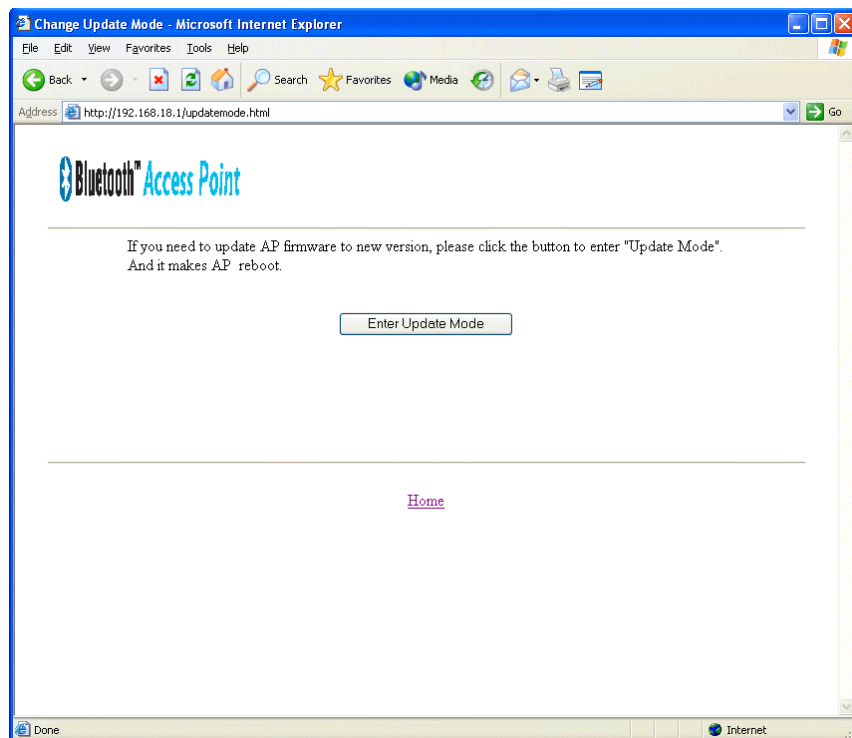
### 3.5. Apply & Reset: Apply modification, and reset AP system's configuration.

**Apply button:** If you change any setting, please click the “**Apply**” button. The AP reboots and the change activate.

**Reset button:** It will restore the AP to original factory default settings.

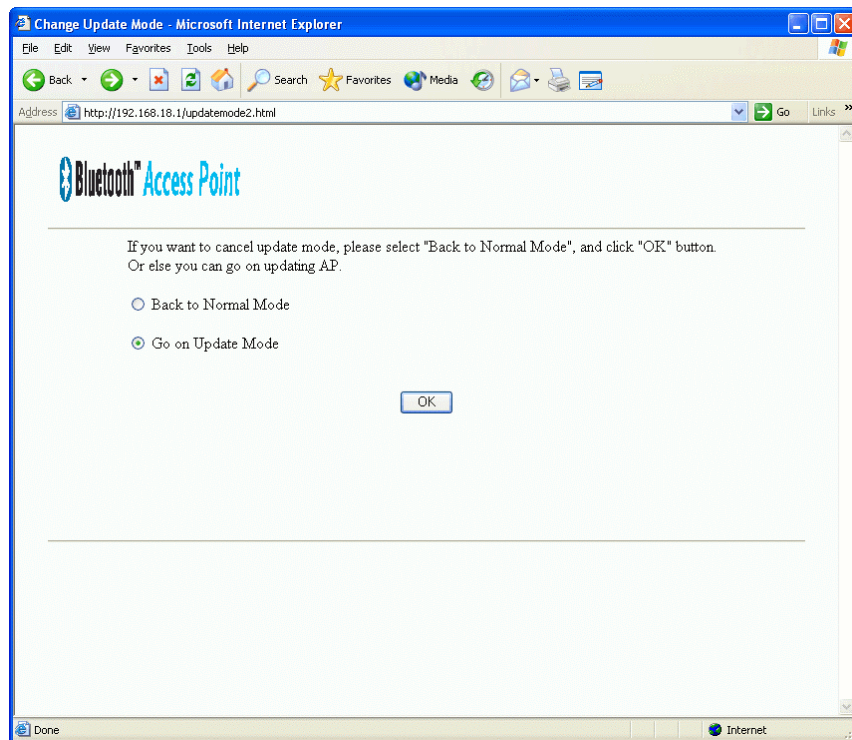


**4. Firmware Update:** If you need to update AP firmware to new version, please click the button to enter "Update Mode". And it makes AP reboot.

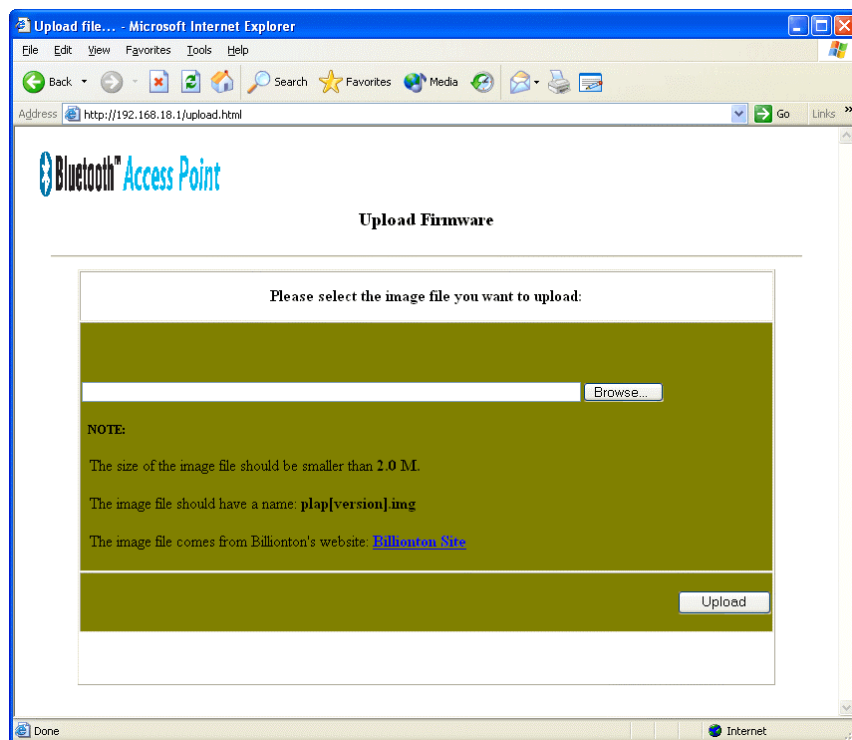


1. After AP reboots, the following page will appear.

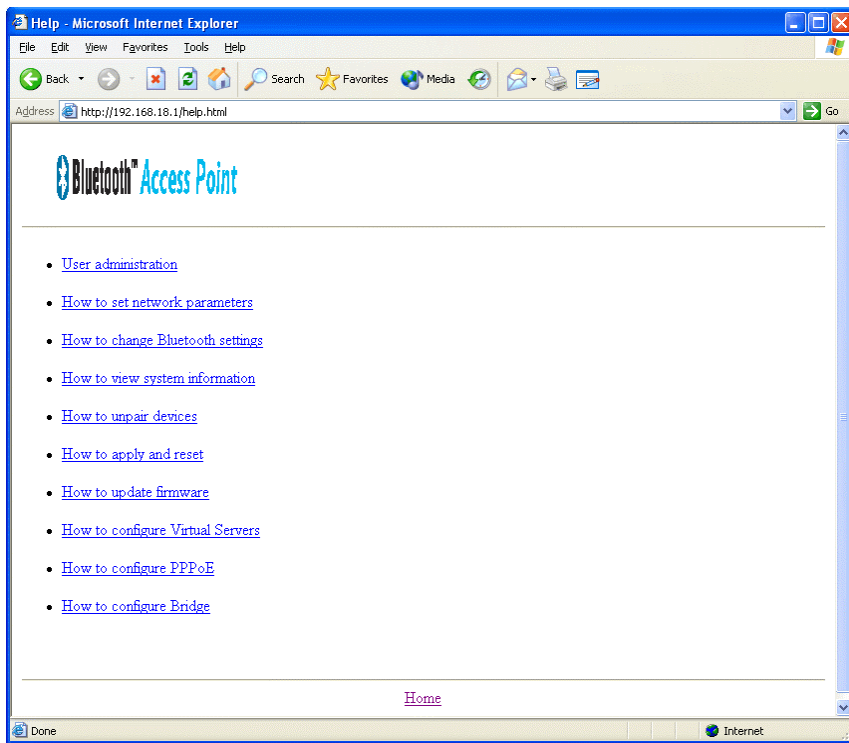




2. Browse the file's path



5. **Help:** provides custom support.



# 5

## Troubleshooting

**Q.1: So far, which versions of Bluetooth software are supported by this access point?**

**A.1:** So far, we know this access point can support

IVT BlueSoleil 1.08

IVT BlueSoleil for WinCE1.0

Widcomm BTW1.3.2.7

Widcomm BTW-CE1.3.1.46

**Q.2: I'm using Windows XP. Why can't I log in web management page?**

**A.2:** For Windows XP users, it is necessary to download JRE from Sun Microsystems (<http://www.sun.com>) or run windows update.

**Q.3: Why can't I connect to Bluetooth AP?**

**A.3:** Bluetooth AP are always displayed in My Bluetooth Places once they have been discovered, even if the remote device is out of range or not powered up. Verify that the remote member of the pair is within radio range and powered up, and then attempt the connection again.

**Q.4: Why can I connect to the access point, but not the internet?**

**A.4:** Connect to access point web manager page and check if the IP address you get from ISP server is correct or not, if the access point did not get correct IP from your ISP please plug the LAN cable into the PAN bridge and power it on. Try to get it again.