

EW-7228APn





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The product you have purchased and the setup screen may appear slightly different from those shown in this QIG. For more information about this product, please refer to the user manual on the CD-ROM. The software and specifications are subject to change without notice. Please visit our website <u>www.edimax.com</u> for updates. All brand and product names mentioned in this manual are trademarks and/or registered trademarks of their respective holders.

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I. Product Information

Thank you for purchasing the Edimax EW-7228APn wireless access point. This product provides wireless access to an existing wired Ethernet network, at speeds up to 150Mbps for 802.11n compatible wireless devices. Its quick and easy installation process ensures that anybody can set up a network environment and share an Internet connection in a matter of minutes.

I-1. Package Contents

Before you start using this router, please check if there is anything missing from the package, and contact your dealer to claim the missing item(s):

- Wireless Access Point
- CD containing setup wizard, multi language quick installation guide and user manual
- Power Adapter
- 3dBi Antenna
- Accessory Kit
- Quick installation guide

I-2. Description

Front panel:



Item	Color	Status	Description
PWR	Creation	On	Device is on
(Power)	Green	Off	Device is off
WLAN	Orange	Flashing	Data is being transmitted wirelessly
(Wireless LAN)		Off	Data is not being transmitted wirelessly
1 to 5	Green	On	Ethernet port is connected to a device

(LAN Ports 1 to 5)	Flashing	Data is being transmitted through the Ethernet cable
	Off	No connection

Back panel:



a. Antenna Connector

Connect the included 3dBi antenna here. It is a round connector (standard reverse SMA).

b. 10/100M LAN Ports

Connect wired computers or other network devices to these ports..

c. **5V DC**

Connect the included power adapter here.

d. WPS/Reset Button

Press this button and hold for 20 seconds to reset the access point to factory default settings. Press this button for less than 5 seconds to start WPS functions.

Product Label

The product label on the underside of the device displays the default IP address, username and password of the access point.



I-3. Safety Information

In order to ensure the safe operation of the travel router and its users, please read and act in accordance with the following safety instructions.

- 1. The travel router is designed for indoor use only; do not place the travel router outdoors.
- 2. Do not place the travel router in or near hot/humid places, such as a kitchen or bathroom.
- 3. Do not pull any connected cable with force; carefully disconnect it from the travel router.
- 4. Take care when moving and handling the travel router; accidental damage is not covered by the travel router's warranty.
- 5. The device contains small parts which are a danger to small children under 3 years old. Please keep the travel router out of reach of children.
- 6. Do not place the travel router on paper, cloth, or other flammable materials. The travel router will become hot during use.
- 7. There are no user-serviceable parts inside the travel router. If you experience problems with the travel router, please contact your dealer of purchase and ask for help.
- 8. The travel router is an electrical device and as such, if it becomes wet for any reason, do not attempt to touch it without switching the power supply off. Contact an experienced electrical technician for further help.
- 9. If you smell burning or see smoke coming from the travel router, then disconnect the travel router immediately, as far as it is safely possible to do so. Call your dealer of purchase for help.

I-4. System Requirements

- Computer (with Fast Ethernet adapter or wireless adapter) running Windows98/2000/XP/Vista/7, Mac OS.
- Web Browser for software configuration (Internet Explorer 7 or above, Google Chrome, Firefox, Safari)

II. Quick Installation

Your wireless access point can be up and running in a matter of minutes.

If you need to make more detailed configurations after setup, you can refer to **III. Browser Based Configuration Interface.**

- 1. Connect one end of an Ethernet cable to the Ethernet port on your computer. Connect the other end to an Ethernet port on the access point.
- 2. Plug the power adapter into the device's 5V power port, and plug the adapter into a wall socket. The PWR LED should light up.



Refer to the following instructions appropriate for your operating system.

II-1. Mac



MAC USERS: You may need to modify the IP address of your computer before you can setup the access point. For guidance on how to do this, please see <u>Appendix IV-1. Configuring your IP</u> <u>Address</u>.

For Mac users it is necessary to configure the access point manually, using the browser based configuration interface. Please open a web browser and enter the access point's default IP address "http://192.168.2.1" into the URL bar.



You will then be prompted to enter the device's username and password. The

default username is **admin** and the default password is **1234**.



From here, you will see the browser based configuration interface home screen.





Select "Basic Settings" from the menu on the left side of the screen.

"Basic Settings" allows you to set the mode of the access point and configure the settings accordingly.

Open the drop down menu labeled "Mode" and select from the 6 available modes:

	Basic Settings	
This page allows you to define E parameters are used for the wire	SSID, and Channel for the wireles less stations to connect to the Ac	s connection. These cess Point.
Mode	AP	•
Band	AP Station-Infrastructure	
MAIN ESSID	AP Bridge-Point to Point AP Bridge-Point to Multi-Point	
Channel Number	AP Bridge-WDS Universal Repeater	
Associated Clients	Show Active Clients	

The available modes are:

AP	Access point mode allows wireless clients to
	connect to this device and exchange data
	with devices connected to the wired
	network.
Station-Infrastructure	Also known as wireless client mode. Enables
	Ethernet-only devices such as smart TVs and
	game consoles to connect to a wireless
	network
AP Bridge-Point to	Establishes a wireless connection with
Point	another wireless access point using the
	same mode, and links any wired networks
	connected to these two wireless access
	points together. Only one access point can
	be connected in this mode.
AP Bridge-Point to	Establishes a wireless connection with other
Multi-Point	wireless access points using the same mode,
	and links any wired networks connected to
	these wireless access points together. Up to
	4 access points can be connected in this
	mode.
AP Bridge-WDS	This mode is similar to "AP Bridge to

	Multi-Point", but the device is not in
	bridge-dedicated mode, and will be able to
	accept wireless clients while the device is
	working as a wireless bridge.
Universal Repeater	The device will act as a wireless range
	extender that will help you to extend your
	Wi-Fi network. The device acts as a client
	and AP at the same time. It its client
	function to connect to a root AP, and uses
	its AP function to service wireless clients
	within its coverage.

Please refer to the appropriate chapter of the user manual for your desired operating mode:

- III-2-1. AP Mode
- III-2-2. Station Infrastructure Mode
- III-2-3. AP Bridge-Point to Point Mode
- III-2-4. AP Bridge-Point to Multi-Point Mode
- III-2-5. AP Bridge-WDS
- III-2-6. Universal Repeater Mode

II-2. Windows

1. Windows users can run the setup wizard on the included CD. Insert the Edimax CD into your computer's CD drive. When the AutoPlay screen appears, select "Run Autorun.exe."





Note: If a popup window appears asking "Do you want to allow the following program to make changes to this computer", please click "Yes" to continue.

2. Click on "Setup Utility" in the main menu, then select "English" to continue.





3. The setup wizard will search for the access point. When it has successfully found the device, click "Next" to continue.



4. The setup wizard will prompt you for a password. Enter the default password, **<u>1234</u>**.



5. The setup wizard will then show the access point's IP information. The default IP is 192.168.2.1. Click "Next" to continue.



Note: Please do not select "Automatically assign an IP address from your network" unless you are performing more advanced setup. For first-time installation, please use the default IP address.



6. Select which mode you wish to use and click "Next".



II-3. Access Point Mode

- 1. Select Access Point Mode and click "Next".
- 2. You will be prompted to set the SSID of this access point. The SSID will be the name of the access point when you connect to it wirelessly. The default SSID is **Edimax AP**. This page also offers the option to change the password used to access the device's browser based configuration interface. For first time setup, please simply click "Next" without changing anything.

		Wirele	ss Access F	Point	-45-	\odot
Choose an Identificat	ion Name for yo	our AP/Bridge				
	Identification	Name (SSID) :	Edimax AP			
	If you wish to enter the nev	customize the I v username and	login information password in the	for your following	Access Po columns.	int, please
	🗌 Set Passw	/ord				
		Usernar Usernar New Passwo Re-Enter Passwo	me : admin ord : ord :			\frown
					Bac	

You will now be prompted to set up a wireless encryption password. You
have the option of using no security encryption, or selecting the WEP or
WPA pre-shared key encryption schemes. For security reasons, it is
recommended that you use an encryption method.



	Wireless Access Point
Wireless Security Set	ttings
	Wireless security protects your wireless network from outside intruders and hackers. It is recommended that you use wireless security on your network.
	Encryption : WEP
	Key length : 64-bit 🔽
	Key Format : ASCII (5 characters) 💌
198	Default Tx Key : 1 💌
	Encrytion Key 1 :
1	Encrytion Key 2 :
	Encrytion Key 3 :
	Encrytion Key 4 :
	Back Next
	Wireless Access Point
Wireless Security Setti	ings
	Mireless security protects your wireless network from outside intruders and hackers. It is recommended that you use wireless security on your network
	Encryption : WPA pre-shared key 💌
	Unicast Cipher Suite : 💿 WPA(TKIP) 💿 WPA2(AES) 💿 WPA2 Mixed
	Pre-Shared Key Format : Passphrase
1	Pre-Shared Key :
	Pre-Shared Key :
	Pre-Shared Key :
	Pre-Shared Key :
ww.edimax.com	Pre-Shared Key :

4. You will see a final confirmation screen, listing the settings you have selected. If everything is correct, click "Set" to continue.



5. The device will save your settings, then reboot. Please do not disconnect or turn off the device during this process.



6. After the device reboots, you will see a final congratulation screen. Click "Finish" to complete the setup.



II-4. AP Client Mode

- 1. Select AP Client Mode and click "Next".
- 2. You have the option to change the password used to access the device's browser based configuration interface. For first time setup, please simply click "Next" without changing anything.

	Wireless Access Point
Customize the login i	nformation
	If you wish to customize the login information for your Access Point, please enter the new username and password in the following columns.
	Username : admin New Password : Re-Enter Password :
www.edimax.com	Back Next

3. The device will search for nearby wireless networks to connect to. If you cannot find the access point you wish to connect to, click "Scan" to refresh the list of wireless networks. Select the wireless network you wish to connect to and click "Next" to continue.



 If the wireless network you selected requires a network security key, enter it here. If you do not know the network security key then please refer to <u>IV-2. Appendix How to Find Your Network Security Key</u>. Click "Next" to continue when finished.



5. You will see a final confirmation screen, listing the settings you have selected. If everything is correct, click "Set" to continue.



6. The device will save your settings, then reboot. Please do not disconnect or turn off the device during this process.



7. After the device reboots, you will see a final congratulation screen. Click "Finish" to complete the setup.



II-5. Repeater Mode (Wi-Fi Extender)

- 1. Select Repeater Mode and click "Next".
- 2. You will be prompted to set the SSID of this device. The SSID will be the name of the device when you connect to it wirelessly. The default SSID is Edimax AP, you are option to change it to the same SSID as your current wireless network. This page also offers the option to change the password used to access the device's browser based configuration interface.

	₩ireless Access Point
Choose an Identifica	tion Name for your AP/Bridge
	Identification Name (SSID) : Edimax AP
	If you wish to customize the login information for your Access Point, please enter the new username and password in the following columns.
	Set Password
0	Username : admin New Password : Re-Enter Password :
www.edimax.com	Back Next

3. The device will search for nearby wireless networks to connect to. If you cannot find the access point you wish to connect to, click "Scan" to refresh the list of wireless networks. Select the wireless network you wish to connect to, and click "Next" to continue.





Note: Note the channel number used by the wireless router or access point you select. If the router or AP uses "Auto" for its channel selection, then this repeater will disconnect from the router or AP as soon as it switches channels. For best results, check the wireless settings for your router

and set the channel to a fixed number, such as 1, 6, or 11.

 If the wireless network you selected requires a network security key, enter it here. If you do not know the network security key then please refer to <u>IV-2. Appendix How to Find Your Network Security Key</u>. Click "Next" to continue when finished.



Note: If the network you select shows that it uses WPA-PSK/WPA2-PSK encryption, then please use WPA2 AES here. Please do not use WPA2 mixed mode.

4. You will see a final confirmation screen, listing the settings you have selected. If everything is correct, click "Set" to continue.



5. The device will save your settings, then reboot. Please do not disconnect or turn off the device during this process.



6. After the device reboots, you will see a final congratulation screen. Click "Finish" to complete the setup.



II-6. Hardware Installation

After configuring your device, you can install it in its final location.

Access Point Mode

Connect one port of the device to your router or xDSL modem. You can now connect a computer or other network device to the access point wirelessly by locating and connecting to its SSID. Or you can connect a computer/device to the access point using an Ethernet cable.



AP Client Mode

Connect one port of the access point to the network device you wish to connect to the Internet wirelessly, e.g. a games console or smart TV. Your network device should now be connected to your existing wireless network.



Repeater Mode

Position the device in a location for optimal wireless extension; usually a central location in your house or roughly an equal distance between your router and the furthest wireless client. You can connect to the access point wirelessly by locating and connecting to its SSID.



III. Browser Based Configuration Interface

Once you have setup the access point in its desired operating mode as detailed in <u>II. Quick Setup</u>, you can further configure the settings of the access point anytime using the browser based configuration interface.



Note: You may need to modify the IP address of your PC or Macintosh before you can access the browser based configuration interface.

This is because the access point's default IP address 192.168.2.1 may not be in the same IP address subnet as your network. In this case, you need to modify the IP address of your PC or Macintosh to 192.168.2.10. For guidance on how to do this, please see <u>Appendix IV-1. Configuring your IP</u> <u>Address</u>.

To access the browser based configuration interface, please enter the access point's default IP address "http://192.168.2.1" into the URL bar of a web browser.





Note: For your reference, the access point's default IP address, username and password are all displayed on the product label on the underneath of the device, as shown below.

Model NO:EW-7228APn Operation is subject to the following two conditions. Power:SV DC, 1A (1)This device may not cause harmful interference, and (2)This device must accept any interference received, including interference that may cause undesined operation. AR46 IP:192.168.2.1 Image: Comparison of the comparison of t
admin/1234 FCC ID: NDD9562281018

You will then be prompted to enter the device's username and password. The default username is **admin** and the default password is **1234**.

Windows:

Connect to edia	nax5281c0 🛛 🛛 🛛
R	GR
Default: admin/12 User name:	34
Password:	Remember my password
	OK Cancel

Mac:

The server 192. password. The s	168.2.1:80 requires a username and server says: Default: admin/1234.
User Name:	
Password:	
	Cancel Log In

From here, you will see the browser based configuration interface home screen.

🗅 Access Point	×			
← → C 🗋 192.168	.2.1/index.asp			<u>ک</u> ک
•	English 🔹			
EDIMAX				
NETWORKING PEOPLE TOGETHER				
Hama		Sta	tus and Information	
• nome		You can use the information to m	ponitor the Access Point's MAC address, runtime code	
Basic Settings		and hardware version.		
WPS Setting		Sustem		
Advanced Settings		Uptime	0day:0h:13m:22s	
Security		Hardware Version	Rev. A	
		Runtime Code Version	1.09	
MAC Filtering		Wireless Configuration		
System Utility		Mode	AP	
Configuration Tool		ESSID	Edimax AP	
Upgrade		Channel Number	11	
	Security	Disable		
Reset		BSSID	00:e0:4c:81:96:c1	
		Associated Clients	0	
		LAN Configuration		
		IP Address	192.168.2.1	
		Subnet Mask	255.255.255.0	
		Default Gateway	0.0.0.0	
		MAC Address	00:e0:4c:81:96:c1	

III-1. Home

The Home page displays 10 categories in the left panel which you can select:



At the top of the screen towards the left side, there is a drop down menu to change the language of the browser based configuration interface.



The "Status and Information" screen is displayed in the main window. This shows basic system information about the access point for reference, such as firmware version, wireless mode and SSID, and the access point's IP and MAC address.

System	-
Uptime	0day:0h:13m:22s
Hardware Version	Rev. A
Runtime Code Version	1.09
Nireless Configuration	
Mode	AP
ESSID	Edimax AP
Channel Number	11
Security	Disable
BSSID	00:e0:4c:81:96:c1
Associated Clients	0
AN Configuration	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
MAC Address	00:e0:4c:81:96:c1

System	
Uptime	Displays the total time the access point has been operational since it was last powered on.
Hardware Version	Displays hardware version. This information is helpful if you experience problems with your access point and need technical support.
Runtime Code	Displays current firmware version. This
Version	information is useful when performing a firmware upgrade.
Wireless	
Configuration	
Mode	Displays the current operating mode of the access point.
ESSID	Displays current ESSID (the name used to identify the access point).
Channel Number	Displays current wireless channel number.

Security	Displays the current wireless security
	Jetting.
BSSID	Displays the current BSSID (a unique ID of
	the access point, which cannot be
	modified).
Associated Clients	Displays the number of connected wireless
	clients.
LAN Configuration	
IP Address	Displays the IP address of the access point.
Subnet Mask	Displays the subnet mask of the IP address.
Default Gateway	Displays the IP address of the default
	gateway.
MAC Address	Displays the MAC address of the Access
	Point.

III-2. Basic Settings



"Basic Settings" allows you to set the access point to any of several different modes and configure the settings accordingly.

Open the drop down menu labeled "Mode" and select from the 6 available modes:

Basic Settings		
This page allows you to define parameters are used for the wir	ESSID, and Channel for the wireless connection. These eless stations to connect to the Access Point.	
Mode	AP	
Band	AP Station-Infrastructure	
MAIN ESSID	AP Bridge-Point to Point AP Bridge-Point to Multi-Point	
Channel Number	AP Bridge-WDS	
Associated Clients	Show Active Clients	

The available modes are:

AP	Access point mode allows wireless clients to connect to this device and exchange data with devices connected to the wired network.
Station-Infrastructure	Also known as wireless client mode. Enables Ethernet-only devices such as smart TVs and

	game consoles to connect to a wireless network
AP Bridge-Point to Point	Establishes a wireless connection with another wireless access point using the same mode, and links any wired networks connected to these two wireless access points together. Only one access point can be connected in this mode.
AP Bridge-Point to Multi-Point	Establishes a wireless connection with other wireless access points using the same mode, and links any wired networks connected to these wireless access points together. Up to 4 access points can be connected in this mode.
AP Bridge-WDS	This mode is similar to "AP Bridge to Multi-Point", but the device is not in bridge-dedicated mode, and will be able to accept wireless clients while the device is working as a wireless bridge.
Universal Repeater	The device will act as a wireless range extender that will help you to extend your Wi-Fi network. The device acts as a client and AP at the same time. It its client function to connect to a root AP, and uses its AP function to service wireless clients within its coverage.

Please follow the appropriate chapter of the user manual for your desired operating mode:

- III-2-1. AP Mode
- III-2-2. Station Infrastructure Mode
- III-2-3. AP Bridge-Point to Point Mode
- III-2-4. AP Bridge-Point to Multi-Point Mode
- III-2-5. AP Bridge-WDS
- III-2-6. Universal Repeater Mode

III-2-1. AP Mode

In AP mode the device acts as a bridge between IEEE 802.11b/g/n wireless devices and a wired Ethernet network.

When you select AP Mode, the following appears:

Mode	AP
Band	2.4 GHz (B+G+N)
MAIN ESSID	Edimax AP
Channel Number	9 💌
Associated Clients	Show Active Clients

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny wireless clients using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only wireless clients using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this access point.
	If you select 2.4GHz (B+G), then only wireless clients using the 802.11b and 802.11g bands will be able to connect to this access point.
	If you want to allow 802.11b, 802.11g, and 802.11n clients to connect to this access point, select 2.4GHz (B+G+N).
MAIN ESSID	Please input the ESSID (the name used to identify this wireless access point) here. You can input up to 32 alphanumerical characters. Please note that the ESSID is case sensitive.
Channel	Please select a channel number you wish to
Number	use. If you know a certain channel number
	is being used by other wireless access points
	nearby, please refrain from using the same
	channel number
Associated	Click the "Show Active Clients" button and a

Clients	new window will appear, which contains information about all wireless clients
	the "Refresh" button in the popup window to keep the information up-to-date.

Click "APPLY" to save changes. The following message will appear:

Save settings	successfully!							
You may press CONTI	NUE button to continue co	nfiguring other settings	or press APPLY t	outton to resta	rt the system	to make the c	hanges take effec	:t.
CONTINUE	APPLY							

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-2-2. Station Infrastructure Mode

In Station-Infrastructure mode, the device acts as a wireless client and can be connected to Ethernet-only Internet devices, such as smart televisions or video game consoles. This gives these devices the capability to connect to the Internet wirelessly.

Mode	Station-Infrastructure
Band	2.4 GHz (B+G+N) 💌
MAIN ESSID	Edimax AP

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny access points using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only access points using the
-	

wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this device.	
If you select 2.4GHz (B+G), then only access points using the 802.11b and 802.11g bands will be able to connect to this device.	
If you want to allow 802.11b, 802.11g, and	
802.11n access points to connect to this	
Please input the ESSID (the name used to	
identify the wireless device) of the access	
point you want to connect to here. You can	
input up to 32 alphanumerical characters.	
Please note that the ESSID is case sensitive.	
When you use this device to give an	
Ethernet network device wireless capability,	
you have to associate it with a working	
access point. Click the "Select Site Survey"	
button and a "Wireless Site Survey Table"	
will appear. It will list all available access	
points nearby. Select one access point in the	
table for this device to connect to (please	
see below).	



Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

Wireless Site Survey

Wireless Site Survey

When you click the "Select Site Survey" button, a "Wireless Site Survey Table" will pop up. It will list all available access points nearby.

Select	SSID	BSSID	Band	Channel	Туре	Encryption	Signa
\bigcirc	Ken1	00:1d:73:22:42:9a	(B+G+N)	2	AP	WPA-PSK/WPA2-PSK	44
\odot	6478	00:1f:1f:c3:f8:58	(B+G+N)	11	AP	WPA2-PSK	44
\odot	6F-6400N	00:1f:1f:3a:36:34	(B+G+N)	6	AP	WPA2-PSK	36
\odot	Edimax	00:1f:1f:59:00:11	(B+G+N)	6	AP	no	36
\bigcirc	INNOBAND4000R1	00:64:78:01:01:10	(B+G+N)	1	AP	WPA-PSK/WPA2-PSK	32



Note: If the SSID of the access point you wish to connect to is not listed, try clicking the "Refresh" button.



Note: The access point you wish to connect to may have hidden its SSID, in which case it will not be listed. You will need to manually enter the SSID in the "MAIN SSID" field of the previous page.

III-2-3. AP Bridge-Point to Point Mode

In this mode, the access point connects to another wireless access point in the same mode, and all connected Ethernet clients of both devices will be connected together. This allows two physically isolated networks to communicate with each other.



Note: When you set the device to this mode, it will not accept regular wireless clients any more.

Mode	AP Bridge-Point to Point
Band	2.4 GHz (B+G+N) 💌
Channel Number	9 🗸
MAC address 1	0000000000
Set Security	Set Security

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny access points using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only access points using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this device.
	If you select 2.4GHz (B+G), then only access points using the 802.11b and 802.11g bands will be able to connect to this device.
	If you want to allow 802.11b, 802.11g, and 802.11n access points to connect to this device, select 2.4GHz (B+G+N).
Channel	Please select the channel number you wish
Number	to use. The channel number must be same
	as the other wireless access point you wish
	to connect to.
MAC address 1	Please input the MAC address of the
	wireless access point you wish to connect
	to.
Set Security	Click this button to select an encryption
	mode for this wireless link. A popup window
	with security options will appear.

ave settings successfully!	
u may press CONTINUE button to continue configuring other settings or press APPLY button to restart the system to m	ake the changes take effect.
CONTINUE	

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-2-4. AP Bridge-Point to Multi-Point Mode

In this mode, this access point will connect to up to four other wireless access points also using the same mode, and all connected Ethernet clients of all access points will be connected together. This allows several physically isolated networks to communicate with each other.



Note: When you set the device to this mode, it will not accept regular wireless clients any more.

Mode	AP Bridge-Point to Multi-Point
Band	2.4 GHz (B+G+N)
Channel Number	9 🗸
MAC address 1	0000000000
MAC address 2	0000000000
MAC address 3	0000000000
MAC address 4	0000000000
Set Security	Set Security

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny access points using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or

	2.4GHz (G), only access points using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this device.
	If you select 2.4GHz (B+G), then only access points using the 802.11b and 802.11g bands will be able to connect to this device.
	If you want to allow 802.11b, 802.11g, and 802.11n access points to connect to this device, select 2.4GHz (B+G+N).
Channel Number	Please select a channel number you wish to use. The channel number must be same as the other wireless access points you wish to connect to.
MAC address 1-4	Please input the MAC addresses of the wireless access points you wish to connect to.
Set Security	Click this button to select an encryption mode for this wireless link. A popup window with security options will appear.



Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-2-5. AP Bridge-WDS

In this mode, this access point will connect to up to four other wireless access

points also using the same mode, and all connected Ethernet clients of all access points will be connected together. This allows several physically isolated networks to communicate with each other.



Note: When you set the device to this mode, it will still be able to accept regular wireless clients.

Mode	AP Bridge-WDS
Band	2.4 GHz (B+G+N)
MAIN ESSID	Edimax AP
Channel Number	9 💌
Associated Clients	Show Active Clients
MAC address 1	0000000000
MAC address 2	0000000000
MAC address 3	0000000000
MAC address 4	0000000000
Set Security	Set Security

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny devices using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only devices using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this device.
	If you select 2.4GHz (B+G), then only devices using the 802.11b and 802.11g bands will be able to connect to this device.
	If you want to allow 802.11b, 802.11g, and 802.11n devices to connect to this device, select 2.4GHz (B+G+N).

MAIN ESSID	Please input the ESSID (the name used to identify this wireless access point) here. You can input up to 32 alphanumerical characters. Please note that the ESSID is case sensitive.
Channel	Please select a channel number you wish to
Number	use. The channel number must be same as
	the other wireless access points you wish to
	connect to.
Associated	Click the "Show Active Clients" button and a
Clients	new window will appear, which contains
	information about all wireless clients
	connected to this access point. You can click
	the "Refresh" button in the popup window
	to keep the information up-to-date.
MAC address	Please input the MAC addresses of the
1-4	wireless access point you wish to connect
	to.
Set Security	Click this button to select an encryption
	mode for this wireless link. A popup window
	with security options will appear.



Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-2-6. Universal Repeater Mode

In this mode, this device acts as a wireless extender, performing both the functions of a client and an access point. It can extend the Wi-Fi coverage of an access point and eliminate dead spots.



Note: In repeater mode, this device will demodulate the received signal, check the noise level, then modulate and amplify the signal again. The output power of this mode is the same as that of WDS and normal AP mode.

Band	Please select the wireless band you wish to use. By selecting different band settings, you'll be able to allow or deny devices using certain bands.
	If you select 2.4GHz (B), 2.4GHz (N), or 2.4GHz (G), only devices using the wireless band you select (802.11b, 802.11n, or 802.11g) will be able to connect to this device.
	If you select 2.4GHz (B+G), then only devices using the 802.11b and 802.11g bands will be able to connect to this device.
	If you want to allow 802.11b, 802.11g, and 802.11n devices to connect to this device, select 2.4GHz (B+G+N).
MAIN SSID	Please input the ESSID (the name used to identify this wireless access point) here. You can input up to 32 alphanumerical characters. Please note that the ESSID is case sensitive.

Channel Number	Please select a channel number you wish to use. The channel number must be same as the other wireless access points you wish to connect to.
Associated Clients	Click the "Show Active Clients" button and a new window will appear, which contains information about all wireless clients connected to this access point. You can click the "Refresh" button in the popup window to keep the information up-to-date.
Root AP SSID	In Universal Repeater mode, this device will act as a station and connect to a root AP. Enter the SSID of the root AP here, or click the "Select Site Survey" button to choose a root AP.
Select Site Survey	Click the "Select Site Survey" button, and a "Wireless Site Survey Table" will pop up. It will list all available access points nearby. Select one access point in the table for this device to connect to (please see below).

Wireless Site Survey

When you click the "Select Site Survey" button, a "Wireless Site Survey Table" will pop up. It will list all available access points nearby.

Wireless Site Survey							
This page provides tool to scan the wireless network. If any Access Point or IBSS is found, you could choose to connect it manually when client mode is enabled.							
Select	SSID	BSSID	Band	Channel	Туре	Encryption	Signal
\odot	Ken1	00:1d:73:22:42:9a	(B+G+N)	2	AP	WPA-PSK/WPA2-PSK	44
\odot	6478	00:1f:1f:c3:f8:58	(B+G+N)	11	AP	WPA2-PSK	44
\odot	6F-6400N	00:1f:1f:3a:36:34	(B+G+N)	6	AP	WPA2-PSK	36
\odot	Edimax	00:1f:1f:59:00:11	(B+G+N)	6	AP	no	36
\odot	INNOBAND4000R1	00:64:78:01:01:10	(B+G+N)	1	AP	WPA-PSK/WPA2-PSK	32
Refresh Done Close							



Note: If the SSID of the access point you wish to connect to is not listed, try clicking the "Refresh" button.



Note: The access point you wish to connect to may have hidden its SSID, in which case it will not be listed. You will need to manually enter the SSID in

III-3. WPS Setting



Wi-Fi Protected Setup (WPS) is a simple and convenient way to build a connection between the travel router and wireless network clients. This function eliminates the need to select an encryption mode and enter an encryption passphrase each time you want to set up a connection. You can build a connection simply by pressing a button on both the travel router and the wireless client.

This router supports two types of WPS: **Push-Button Configuration (PBC)** and **PIN code**.

To use **PBC** you will need to activate WPS by pushing the Reset/WPS button, or by clicking "Start PBC" in the "WPS" screen; and to activate WPS in the wireless client by pushing a WPS button.

To use **PIN code**, you will need to enter the PIN code of the wireless client you wish to connect to, and then activate WPS in the wireless client.

WPS(Wi-F	Fi Protected Setup) Settings
his page allows you to change elp your wireless client automa I Enable WPS	the setting for WPS(Wi-Fi Protected Setup).WPS can atically connect to the Access Point.
Wi-Fi Protected Setup Info	rmation
WPS Status	Configured
Self PinCode	24206747
SSID	Edimax AP
Authentication Mode	Disable
Passphrase Key	
Device Configure	
Config Mode	Registrar 💌
Configure via Push Button	Start PBC
Configure via Client PinCode	Start PIN

Enable WPS	Check this box to enable or disable WPS.		
Wi-Fi Protected			
Setup			
Information			
WPS Status	Displays WPS status. If data encryption		
	settings for this access point have never		
	been set, "unConfigured" will be shown		
	here. If data encryption settings have been		
	set, "Configured" will be shown here.		
Self PIN Code	This is the WPS PIN code of this access		
	point. This code is used when you need to		
	build a wireless connection by WPS with		
	other WPS-enabled wireless devices.		
SSID	Displays the SSID (ESSID) of this access		
	point.		
Authentication	The wireless security authentication mode		
Mode	of this access point will be shown here. If		
	you don't enable the security functions of		
	the access point before WPS is activated,		
	the access point will automatically set the		
	security to WPA (AES) and generate a		
	passphrase key for WPS connection.		
Passphrase Key	Shows the WPA passphrase here, though all		
	characters will be replaced by asterisks for		
	security reasons. If encryption is not set on		
	this access point, this field will be blank.		
Device			
Configuration			
Config Mode	There are "Registrar" and "Enrollee" modes		
_	for the WPS connection. When "Registrar"		
	is enabled, the wireless clients will follow		
	the access point's wireless settings for WPS		
	connections. When "Enrollee" mode is		
	enabled, the access point will follow the		
	wireless settings of wireless client for WPS		
	connections.		
Configure via	Click "Start PBC" to start Push-Button style		
Push Button	WPS setup. This access point will wait for		
	WPS requests from wireless clients for 2		
	minutes. The "WLAN" LED on the access		
	point will stay on for 2 minutes while this		
	access point waits for incoming WPS		
	requests.		
Input Client PIN	Please input the PIN code of the wireless		

Code	client you wish to connect, and click the
	"Start PIN" button. The "WLAN" LED on the
	access point will stay on while this access
	point waits for incoming WPS requests.



Note: When using PBC-type WPS setup, you must press the hardware or software WPS button on the wireless client within 120 seconds. If you do not do so in time, you will need to activate WPS on the access point again.

III-4. Advanced Setting



In "Advanced Setting" you can configure the advanced features of the access point. Please do not modify these settings unless you know what effect the changes will have on your access point; advanced settings are for experienced users only.

Note: Changing these settings can adversely affect the performance of your access point.



Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Broadband router.

Fragment Threshold	2346	(256-2346)	
RTS Threshold	2347	(0-2347)	
Beacon Interval	100	(20- 1024 ms)	
DTIM Period	3	(1-10)	
Data Rate	Auto 💌		
N Data Rate	Auto 💌		
Transmit Rate			
Channel Width	Auto 20/40	MHZ 🔘 20 MHZ	
Preamble Type	Short Pream	nble 🔘 Long Preamble	
Broadcast ESSID	Enable O Disable		
WMM	© Enable		
CTS Protect			
TX Power	100 % 💌		

Fragment	Set the Fragment threshold of the wireless
Threshold	radio. Please do not modify the default
	value if you don't know what this does, the
	default value is 2346
RTS Threshold	Set the RTS threshold of the wireless radio.
	Please do not modify the default value if
	you don't know what this does, the default
	value is 2347
Beacon Interval	Set the beacon interval of the wireless
	radio. Please do not modify the default
	value if you don't know what this does, the
	default value is 100
DTIM Period	Set the DTIM period of wireless radio.
	Please do not modify default value if you
	don't know what it is, the default value is 3
Data Rate	Set the wireless data transfer rate. Since
	most wireless devices will negotiate with
	each other and pick a proper data transfer
	rate automatically, it's not necessary to
	change this value unless you know what
	will happen after modification.

N Data Rate	Set the data rate of 802.11n clients,		
	available options are MCS 0 to MCS 7. It's		
	safe to set this option to "Auto" and it's no		
	necessary to change this value unless you		
	know what will happen after modification.		
Channel Width	Select wireless channel width (bandwidth		
	used by wireless signals from the travel		
	router). It's suggested you select "Auto		
	20/40MHz". Do not change to "20 MHz"		
	unless you know what effect that will have.		
Preamble Type	Set the wireless radio preamble type. Please		
	do not modify the default value if you		
	don't know what this does, the default		
	value is "Short Preamble".		
Broadcast ESSID	Decide if the device will broadcast its own		
	ESSID. You can hide the ESSID of your access		
	point (set the option to "Disable"), so only		
	people who know the ESSID of your access		
	point can connect to it.		
CTS Protect	Enabling this setting will reduce the chance		
	of radio signal collisions between 802.11b		
	and 802.11g wireless access points. It's		
	recommended to set this option to "Auto".		
TX Power	You can set the output power of the		
	wireless radio. Unless you're using the		
	access point in a very large space, you may		
	not require 100% output power. This will		
	enhance security (malicious/unknown		
	users in distant areas will not be able to		
	reach your access point).		
WMM	WMM (Wi-Fi Multimedia) technology can		
	improve the performance of certain		
	network applications, such as audio/video		
	streaming, network telephony (VoIP), and		
	others. When you enable WMM, the access		
	point will define the priority of different		
	kinds of data, to give higher priority to		
	applications which require instant		
	responses. This improves the performance		
	ot such network applications.		



Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-5. Security



The access point provides a variety of wireless security options (wireless data encryption). When data is encrypted, information transmitted wirelessly cannot be read by anyone who does not know the encryption key.

Note: It is very important to set up wireless security. Without security enabled, hackers or intruders may gain access to your local network and cause damage to your computers and servers.

Note: There are several things you can do to improve wireless security.

- Use complicated, hard-to-guess phrases as your security password. Use a random combination of letters, numbers and symbols.
- **2.** Use WPA whenever possible. It's more secure than WEP.
- 3. Change your security password regularly.

Open the drop down menu labeled encryption and select the type of encryption you would like to use.

	Security		
This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.			
Encryption	Disable 💌		
Enable 802.1x Authentica	Disable WEP WPA pre-shared key WPA RADIUS		

III-5-1. Disable

When you select "Disable", wireless encryption for the network is disabled. This means anyone who knows the device's SSID can connect to it, and is not recommended.

Enable 802.1x	Check this box to enable 802.1x user
Authentication	authentication. See III-5-2. 802.1x
	Authentication.

Click "APPLY" to save changes. The following message will appear:

Save settings successfully!		
You may press CONTINUE button to continue configuring other settings or press	APPLY button to restart the s	ystem to make the changes take effect.
CONTINUE		

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-5-2. Enable 802.1x Authentication

If you select "Disable" or "WEP" as your encryption type, you can enable 802.1x authentication based on a RADIUS user authentication server. Check the "Enable 802.1x Authentication" box to activate it.

Enable 802.1x Authentic	ation
RADIUS Server IP Address :	
RADIUS Server Port :	1812
RADIUS Server Password :	
	APPLY Cancel

Enable 802.1x	Enable or disable the use of 802.1x user
Authentication	authentication.
RADIUS Server	Enter the IP address of the RADIUS
IP Address	authentication server here.
RADIUS Server	Enter the port number of the RADIUS
Port	authentication server here. Default value is
	1812.
RADIUS Server	Enter the password of the RADIUS
Password	authentication server here.

Save settings successfully!				
You may press CONTINUE button to continue configuring other settings or pres	ss APPLY button t	to restart the sys	tem to make the	changes take effect.
CONTINUE APPLY				

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-5-3. WEP

WEP (Wired Equivalent Privacy) is a simple encryption type. For a higher level of security, please consider using WPA encryption if possible.



Note: Most wireless devices support WPA encryption, though some legacy wireless devices only support WEP encryption. WEP only supports up to 54Mbps transmission data rate.

Encryption	WEP
Key Length	64-bit 💌
Key Format	Hex (10 characters)
Default Tx Key	Key 1 💌
Encryption Key 1	****
Encryption Key 2	****
Encryption Key 3	****
Encryption Key 4	****
Enable 802.1x Authent	ication

Key Length	There are two types of WEP key length: 64-bit and 128-bit. Using "128-bit" is safer than "64-bit", but will reduce some data transfer performance.
Key Format	There are two types of key format: ASCII and Hex. When you select a key format, the number of characters of the key will be displayed. For example, if you select a "64-bit" key length, and "Hex" as the key format, you'll see the message "Hex (10 characters)" to the right, which means the length of the WEP key is 10 characters.
Default Tx Key	You can set up to four sets of WEP keys, and you can decide which key is used the default. If you don't know which one you should use, select "Key 1".
Encryption Key 1 to 4	Input WEP key characters here, the number of characters must be the same as the number displayed in the "Key Format" field. If you select the "ASCII" key format, you can use any alphanumerical characters (0-9, a-z, and A-Z). If you select "Hex" as the key format, you can use the characters 0-9, a-f, and A-F. You must enter at least one encryption key here, and if you entered multiple WEP keys, they should not be same as each other.

Enable 802.1x	Check this box to enable 802.1x user
Authentication	authentication. See III-5-2. Enable 802.1x
	Authentication.

Save setting	js successf	ully!								
You may press CO	NTINUE button to	continue configuri	ng other setting	s or press AP	PLY button	to restart th	e system t	o make the	e changes t	ake effect.
CONTINUE	APPLY									

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-5-4. WPA Pre-Shared Key

WPA pre-shared key is the recommended and most secure encryption type.

	Encryption	WPA pre-shared key 💌
	WPA Unicast Cipher Suite	● WPA(TKIP) ○ WPA2(AES) ○ WPA2 Mixed
ſ		
	Pre-shared Key Format	Passphrase

WPA Unicast	Available options are: WPA (TKIP), WPA2		
Cipher Suite	(AES), and WPA2 Mixed. AES is safer than		
	TKIP, but not all wireless client support it.		
	Please make sure your wireless client		
	supports the cipher you selected.		
	We recommend WPA2(AES). If your		
	wireless device does not support AES, then		
	wireless device does not support AES, then		
	wireless device does not support AES, then select WPA2 Mixed.		
Pre-shared Key	wireless device does not support AES, then select WPA2 Mixed. Please select the format of the pre-shared		
Pre-shared Key Format	wireless device does not support AES, then select WPA2 Mixed. Please select the format of the pre-shared key here, available options are "Passphrase"		
Pre-shared Key Format	wireless device does not support AES, then select WPA2 Mixed. Please select the format of the pre-shared key here, available options are "Passphrase" (8 to 63 alphanumerical characters) and		

Root AP Security	Please enter the key according to the key
Кеу	format you selected above. For security
	reasons, it's best to use a complex,
	hard-to-guess key.



Note: TKIP only supports up to 54Mbps transmission data rate.

Click "APPLY" to save changes. The following message will appear:

Save settings	successfully!
You may press CON	FINUE button to continue configuring other settings or press APPLY button to restart the system to make the changes take effect.
CONTINUE	APPLY

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-5-5. WPA Radius

WPA RADIUS is a combination of WPA encryption and RADIUS user authentication. If you have a RADIUS authentication server, you can check the identity of every wireless client by using a user database.

Encryption	WPA RADIUS
WPA Unicast Cipher Suite	◉ WPA(TKIP) ◎ WPA2(AES) ◎ WPA2 Mixed
RADIUS Server IP address	
RADIUS Server Port	1812
RADIUS Server Password	

WPA Unicast	Available options are: WPA (TKIP), WPA2
Cipher Suite	(AES), and WPA2 Mixed. AES is safer than
	TKIP, but not every wireless client supports
	it. Please make sure your wireless client
	supports the cipher you selected.
RADIUS Server	Enter the IP address of the RADIUS

IP address	authentication server here.
RADIUS Server	Enter the port number of the RADIUS
Port	authentication server here. Default value is
	1812.
RADIUS Server	Enter the password of the RADIUS
Password	authentication server here.

Save settings successfu	Illy!				
You may press CONTINUE button to c	ontinue configuring other setti	ngs or press APPLY b	outton to restart the	e system to make	the changes take effect.
CONTINUE					

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-6. MAC Filtering

The MAC filtering feature allows you to define a list of wireless devices permitted to connect to this access point. Devices are identified by their unique MAC address. When devices not on the list of MAC addresses attempt to connect to this access point, they will be denied.

NO.	MAC Addres		Commen	t	Select
	Delete Selected	Delete All	Reset		ć
Enable V	Vireless Access Control				ر ک
ew	MAC Address:	Com	ment:	Add	Clear

1. MAC Address Filtering Table

This table displays MAC addresses which have been added to the list of

permitted devices.

Select	Check this box to select MAC address(es) for deletion.
Delete Selected	Click this button to delete selected MAC address(es).
Delete All	Delete all MAC addresses in the table.
Reset	Uncheck all selected MAC address entries.

2. Add new entries to the MAC Filtering Table here.

Enable Wireless	Check this box to enable MAC address
Access Control	filtering. If unchecked, no MAC restrictions
	will be enforced, and any wireless client
	with proper encryption settings will be able
	to connect to this wireless access point.
MAC address	Input a MAC address allowed using this
	wireless access point here. Do not add any
	colons (:) or hyphens (-) only enter 0 to 9
	and a to f here, such as "112233445566" or
	"aabbccddeeff".
Comment	You can input an optional comment unique
	to this MAC address for reference, e.g.
	"ROOM 2A Computer". You can enter up to
	16 alphanumerical characters.
Add	After entering the MAC address and
	(optional) comment, click this button to add
	the MAC address entry to the list.
Clear	Remove all characters in the "MAC address"
	and "Comments" fields.

Click "APPLY" to save changes. The following message will appear:

ave settings successfully!	
a may press CONTINUE button to continue configuring other settings or press APPLY button to restart the system to make the changes take effect	:t.
CONTINUE APPLY	

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-7. System Utility



In "System Utility" you can configure basic system and administrative parameters.

On the main screen on the right there are 3 categories you can configure, **Password Settings, Management IP and DHCP Server.**

III-7-1. Password Settings

You can change the password used to login to the browser-based configuration interface here. It is advised to do so for security purposes.

Password Settings	
Current Password	
New Password	
Re-Enter Password	

Current	Enter your current password. The default
Password	password is 1234 .
New Password	Enter your desired new password here. You
	can use any combination of letters, numbers
	and symbols up to 20 characters.
Re-Enter	Confirm your new password.
Password	

Click "APPLY" to save changes. The following message will appear:

Save settings successfully!	
You may press CONTINUE button to continue configuring other settings or press APPLY button	n to restart the system to make the changes take effect.
CONTINUE APPLY	

Click "CONTINUE" to save the changes but not apply them yet. This allows you

to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-7-2. Management IP

You can modify the IP address of the access point, enabling it to become a part of your local area network. To do so, input the IP address, subnet mask and gateway address into the corresponding fields.

IP Address	Specify an IP address here. This IP address will be assigned to your access point, and will replace the default IP address 192.168.2.1.
Subnet Mask	Input the subnet mask of the new IP address.
Gateway Address	Input the network's gateway IP address.
DHCP Server	Select "Enabled" if you wish to use the DHCP function of the access point, as detailed below.

Typically, your ISP will provide you with such information as IP address, subnet mask and gateway address.



Note: Please write down and remember the new IP address you assigned to the access point. If you forget this IP address you may not be able to connect to the browser-based configuration interface in the future.



Note: To reset the IP address back to its default value of 192.168.2.1, press and hold the **WPS/Reset** button on the access point for 10 seconds. Be aware that doing so restores **all** settings and passwords back to factory defaults.

Click "APPLY" to save changes. The following message will appear:

Save settings successfully!	
You may press CONTINUE button to continue configuring other settings or press APPLY button to restart the system to ma	ike the changes take effect.
CONTINUE	

Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-7-3. DHCP Server

The access point can be configured to act as a DHCP server for your network. By default DHCP is disabled.



Note: This option will be unavailable unless you enable this function by selecting "Enabled" from the drop down menu labeled "DHCP Server", under the heading "Management IP" as detailed above

Enter the appropriate information as shown below.

DHCP Server	
Default Gateway IP	0.0.0.0
Domain Name Server IP	0.0.0.0
Start IP :	192.168.2.100
End IP	192.168.2.200
Domain Name	
Lease Time	Forever -

Default Gateway	Specify the IP address of the default
IP	gateway of your network here.
Domain Name	Input the IP address of the domain name
Server IP	server (DNS).
Start IP	Input the start address of the IP range.
End IP	Input the end address of the IP range.
Domain Name	Input the domain name for your network
	(optional).
Lease Time	Choose a lease time (the duration that
	every computer can keep a specific IP
	address) of every IP address assigned by the
	access point.



Click "CONTINUE" to save the changes but not apply them yet. This allows you to make further changes in the browser-based management interface, before applying them all at once.

Click "APPLY" to restart the device and implement any changes. The device will restart itself.

III-8. Configuration Tool



The access point's configuration tool enables you to back up the current settings, restore the settings to a previously backed up version or reset the access point back to its original factory settings.

	Configuration Tool
Jse the "Backup" tool to save th 'config.bin". You can then use t Access Point. Alternatively, you	he Access Point's current configurations to a file named he "Restore" tool to restore the saved configuration to the a can use the "Restore to Factory Default" tool to force the
Access Point to perform Syster	n Reset and restore the original factory settings.
Access Point to perform Syster Backup Settings :	Save
Access Point to perform Syster Backup Settings : Restore Settings	n Reset and restore the original factory settings. Save 選擇檔案 Upload

Backup Settings	Click "Save" to save the current settings on
	your computer as a .bin file. The default
	filename is config.bin.
Restore Settings	Click the browse button to locate a
	previously saved configuration file and then
	click "Upload" to upload the file and replace
	your current settings.
Restore to	Click "Reset" to restore settings to the
Factory Defaults	factory default. A pop-up window will
	appear and ask you to confirm and enter
	your log in details. Enter your username and
	password and click "Ok". See below for
	more information.



Note: Restoring settings to the factory default will restore **all** settings, configurations and passwords back to the factory default.



Note: You can also reset the device to the factory default by pressing and holding the

Reset/WPS button for 10 seconds, until the Power LED ($^{\textcircled{O}}$) goes out. The **Reset/WPS** button is located on the front panel of the device.

III-9. Upgrade



The access point's upgrade feature allows you to update the system firmware to a more recent version. You can download the latest firmware from the Edimax website.

Selecting "Upgrade" from the menu on the left side will bring you to the following screen.

Note: Do not turn off or disconnect the access point during a firmware upgrade, as this could damage the device.

Note: It is recommended that you use a wired Ethernet connection to upload the firmware file.



WEB Upgrade
This tool allows you to upgrade the Access Point's system firmware. It is recommended that upgrading the firmware from wired stations. Enter the path and name of the upgrade file and then click the APPLY button below. You will be prompted to confirm the upgrade.
選擇檔案
Apply Cancel

Click on the browse button to open a window and locate the downloaded firmware file. Confirm your selection and click "APPLY". A firmware upgrade may take several minutes. The following message will appear:



Please wait for the upgrade to complete. When it is complete, you will see the following message.

Upgrade Accomplished.
You should be able to reconnect to the router by refreshing the web page now. If not, please restart the router by reconnecting the power line manually.

Refresh your browser to return to the "Status and Information" homepage of the browser based configuration device.



If the access point malfunctions or is not responding, then it is recommended that you reset the device. This feature is useful if the location of the access point is not convenient.

Note: If the access point is still not responding after a reset, then switch off the device by disconnecting the power supply and wait for 10 seconds before reconnecting the power.





To reset the access point, click "Reset" in the menu on the left side of the browser based configuration

interface and the following screen will be displayed.

Reset
In the event that the system stops responding correctly or stops functioning, you can perform a Reset. Your settings will not be changed. To perform the reset, click on the APPLY button below. You will be asked to confirm your decision. The Reset will be complete when the LED Power light stops blinking.
Apply Cancel

Please click "Apply" to reset the device. A pop up window will ask you to confirm, as shown below.

Windows:	
	The page at 192.168.2.1 says:
	Do you really want to reset the Access Point ??
	OK Cancel
Mac:	
	The page at 192.168.2.1 says:
	Do you really want to reset the Access Point ??
	Cancel

Click "OK" to continue, or "Cancel" to abort. You will see a warning that it may take a while for the access point to reset.



Note: Do not turn off the Access point during the reset process.

Windows:

Mac:



Please click "OK" to start the reset process. You will see the following screen while the system resets, the timer will count down from 30 seconds.

System Restarting! Pleas	se wait for a while !
OK(27)	

When the timer reaches zero and the reset is complete, please click "OK". You will return to the "Reset" page of the browser based configuration interface.

IV. APPENDIX

IV-1. Configuring your IP address

Before you use this access point, you may need to **modify the IP address of your PC or Macintosh**. The procedure for doing so varies across different operating systems; please follow the appropriate guide:

- IV-1-1. Windows XP
- IV-1-2. Windows Vista
- IV-1-3. Windows 7
- IV-1-4. Mac OS

This is since the access point's default IP address 192.168.2.1 may not be in the same IP address subnet of your network; meaning you are unable to access the browser based configuration interface. In order to access the browser based configuration interface, your computer's IP must be **192.168.2.x** where **x** is a number in the range 1-254, meaning the access point's default IP address is in the same IP address subnet of your network. So if it isn't already, then you need to **modify the IP address of your computer to 192.168.2.10.**

After you access the browser based configuration interface, you can change the IP address of the access point as shown in <u>III-7-2</u>. <u>Management IP</u>, to one that is within the same IP address subnet of your network; meaning you will not have to modify the IP address of your computer again in future when you wish to access the browser based configuration interface.

IV-1-1. Windows XP

 Click the "Start" button, located in the lower-left corner of your computer, and then click "Control Panel". Double-click the "Network and Internet Connections" icon, followed by "Network Connections" and then double-click "Local Area Connection".

The "Local Area Connection Status" window will appear, click "Properties".

🗕 Local Area Connection Properties 🛛 🔹 💽
General Authentication Advanced
Connect using:
AMD PCNET Family PCI Ethernet Ad
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
Trainternet Protocol (TCP/IP)
Install Uninstall Properties
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected Notify me when this connection has limited or no connectivity
OK Cancel

2. Select "Use the following IP address", and input the following values:

IP address: 192.168.2.10 Subnet Mask: 255.255.255.0

Click 'OK' when finished.

Internet Protocol Version 4 (TCP/IPv4)	Properties ? X	
General		
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.		
Obtain an IP address automatically		
 Use the following IP address: IP address: 	192.168.2.10	
Subnet mask:	255.255.255.0	
Default gateway:		
Obtain DNS server address automatically		
Ouse the following DNS server add	dresses:	
Preferred DNS server:		
Alternate DNS server:	· · ·	
Validate settings upon exit	Advanced	
	OK Cancel	

IV-1-2. Windows Vista

1. Click the "Start" button, located in the lower-left corner of your computer, and then click "Control Panel". Click "View Network Status and Tasks" and then click "Manage Network Connections". Right-click "Local Area Network", and select "Properties". The "Local Area Connection Properties" window will appear, select "Internet Protocol Version 4 (TCP / IPv4)", and click "Properties".

Intel(R) PRO/1	000 MT Network Connection	
		Configure
This connection uses	the following items:	
☑ ⊖ QoS Packet ☑ ⊖ File and Print ☑ → Internet Prot ☑ → Internet Prot ☑ → Unik-Layer T	Scheduler ter Sharing for Microsoft Netw ocol Version 6 (TCP/IPv6) ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/	orks O Driver
Image: Constant state	Scheduler ter Sharing for Microsoft Netw ocol Version 6 (TCP/IPv6) ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/ opology Discovery Responde Uninstall	orks O Driver r Properties
 ☑ ⊕ GoS Packet ☑ ⊕ File and Prin ☑ ← Internet Prot ☑ ← Unik-Layer T ☑ ← Link-Layer T Install 	Scheduler ter Sharing for Microsoft Netw ocol Version & (TCP/IPv6) ocol Version 4 (TCP/IPv4) opology Discovery Mapper I/ opology Discovery Responde	orks O Driver r Properties

2. Select "Use the following IP address", and input the following values:

IP address: 192.168.2.10 Subnet Mask: 255.255.255.0

Click 'OK' when finished.

General					
You can get IP settir this capability. Other for the appropriate I	ngs assigned aut rwise, you need IP settings.	omatically if y to ask your n	our networ etwork adr	rk supports ninistrator	5
🕕 Obtain an IP at	ldress automatic	ally			
Ose the following	ng IP address: –				
IP address:		192 . 168	3.2.1	10	
Subnet mask:		255 . 255	5.255.	0	
Default gateway	•••••		• • • • • •		• • • •
Obtain DNS ser	ver address aut	omatically			
O Use the followin	ng DNS server a	ddresses:			
Preferred DNS ser	rver:				
Alternate DNS ser	ver:	•	· ·		
🔲 Validate settin	gs upon exit		A	dvanced	

IV-1-3. Windows 7

1. Click the "Start" button, located in the lower-left corner of your computer, and then click "Control Panel".



1. Under "Network and Internet" click "View network status and tasks".

Control Panel >	▼ 4 Search Control Panel
Adjust your computer's settings	View by: Category 💌
System and Security Review your computer's status Back up your computer Find and fix problems Network and Internet View network status and tasks Choose homegroup and sharing options	User Accounts and Family Safety Add or remove user accounts Set up parental controls for any user Appearance and Personalization Change the theme Change desktop background Adjust screen resolution
View devices and printers Add a device	Change keyboards or other input methods Change display language
Programs Uninstall a program	Ease of Access Let Windows suggest settings Optimize visual display

2. Click "Local Area Connection".
View your basic network information and set up connections



3. Click "Properties".

🔋 Local Area Connec	ction Status	— ×
General	rsnip	
Connection		
IPv4 Connectivity	y:	No Internet access
IPv6 Connectivity	y:	No network access
Media State:		Enabled
Duration:		02:08:52
Speed:		100.0 Mbps
Details		
Activity		
	Sent —	Received —
Bytes:	951,332	4,398,184
Properties	\varTheta 😚 Disable	Diagnose
		Close

4. Select "Internet Protocol Version 4 (TCP/IPv6) and then click "Properties".

Local Area Connection Properties	x	
Networking		
Connect using:		
Broadcom 440x 10/100 Integrated Controller		
Configure. This connection uses the following items:		
Client for Microsoft Networks Client for Microsoft Networks Client for Microsoft Networks File and Printer Sharing for Microsoft Ne	· · · · · · · · · · · · · · · · · · ·	• • •
Install Uninstall Properties Description TCP/IP version 6. The latest version of the internet protocol that provides communication across diverse interconnected networks.		
ОК Саг	ncel	

5. Select "Use the following IP address", and input the following values:

IP address: 192.168.2.10 Subnet Mask: 255.255.255.0

Click 'OK' when finished.

	Internet Protocol Version 4 (TCP)	IPv4) Properties	
	General		
	You can get IP settings assigned this capability. Otherwise, you n for the appropriate IP settings.	automatically if your network supports need to ask your network administrator	
	Obtain an IP address autor	natically	
-	 Ouse the following IP address 	ss:	
	IP address:	192.168.2.10	
	Subnet mask:	255 . 255 . 255 . 0	
	Default gateway:	· · · ·	
••	Obtain DNS server address	s automatically	
	Ose the following DNS served and the served an	er addresses:	
	Preferred DNS server:	· · ·	
	Alternate DNS server:	· · ·	
	Validate settings upon exi	t Advanced	
		OK Cancel	



Note: Please ensure that your access point is switched on and connected to your Macintosh via Ethernet cable before you begin.

1. Have your Macintosh computer operate as usual, and click on "System Preferences".



2. In System Preferences, click on "Network".



3. Here you will see all of your network connections. Network Preferences will now display an Ethernet adapter, as shown below. The status of "Ethernet" should be "Connected".



4. Click on "Ethernet" in the left panel and then click the drop down arrow for the menu labeled "Configure IPv4" in the right panel. From the drop down menu, select "Manually".

nas the IP
ddress
vanced) (

5. In the panel on the right side, enter IP address 192.168.2.10 and subnet mask 255.255.255.0. Click on "Apply".

00		Network	
Show All]		Q
	Location:	Automatic	*
 Ethernet Connected FireWire Not Connected Wi-Fi Off Bluetooth PAN No IP Address 	*** ** **	Status: Configure IPv4: IP Address: Subrit Mask: Router.	Connected Ethernet is currently active and has the IP address 169.254.41.103. Manually ‡ 102.160.2.10 255.255.255.0
+ - &	o prevent further	DNS Server: Search Domains: changes.	Advanced ?

6. In the left sidebar, "Ethernet" should now display "Connected" as shown below. In the right panel, you should see the IP address 192.168.2.10 and subnet mask 255.255.255.0.

00	Network	
▲ ► Show All		٩
L	ocation: Automatic	\$
• Ethernet Connected •••••••••••••••••••••••••••••••	Status:	Connected Ethernet is currently active and has the IP
Not Connected		
Off S	Configure IPv4:	Manually \$
Bluetooth PAN No IP Address	IP Address:	192.168.2.10
	Subnet Mask:	255.255.255.0
	Router:	
	DNS Server:	
	Search Domains:	
+ - **		Advanced ?
Click the lock to preve	nt further changes.	Assist me Revert Apply

IV-2. How to Find your Network Security Key

To find your network security key, please follow the instructions appropriate for your operating system.



Note: If you are using Windows XP or earlier, please contact your ISP or router manufacturer to find your network security key.

IV-2-1. Windows 7 & Windows Vista

1. Open "Control Panel" and click on "Network and Internet" in the top menu.



2. Click on "View network status and tasks" which is under the heading "Network and Sharing Center".



3. Click on "Manage wireless networks" in the left menu.



4. You should see the profile of your Wi-Fi network in the list. Right click on your Wi-Fi network and then click on "Properties".

Add	Remove	Move down	Adapter properties	Profile types		
Networ	Networks you can view, modify, and reorder (2)					
	HomeNet	work	Security: WPA2-Pe	ersonal		
	ļ	Propert	ies			
•		Remove	network			
-	_	Rename		_		
		Move d	own			

5. Click on the "Security" tab, and then check the box labeled "Show characters". This will show your network security key. Click the "Cancel" button to close the window.

1	HomeNetwork Wireless	Network Properties
	Connection Security	
	Security type:	WPA2-Personal
	Encryption type:	AES 🔻
	Network security <u>k</u> ey	1234567890
	(Show characters

IV-2-2. Mac

1. Open a new Finder window, and select "Applications" from the menu on the left side. Open the folder labeled "Utilities" and then open the application "Keychain Access".



2. Select "Passwords" from the sub-menu labeled "Category" on the left side, as shown below. Then search the list in the main panel for the SSID of your network. In this example, the SSID is "EdimaxWireless" – though your SSID will be unique to your network.

00		Keychain Access		
Click to lock the	ogin keychain.		Q	
Keychains login System System Roots	EdimaxWireless Kind: AirPort network Account: AirPort Where: com.apple.ne Modified: Today, T4	k password twork.wlan.ssid.EdimaxWireless ∓5:45		
	Name	A Kind	Date Modified	Keychain
	Apple ID Authentication	application password	2012/7/17 上午10:16:29	login
	A Apple Persistent State Encrypti	on application password	2012/7/16 下午5:15:20	login
	A EDIMAX 6475	AirPort network password	2012/7/17 上午11:08:03	login
Category	A Edimax5fb78a	AirPort network password	2012/8/27 上午10:24:59	login
All Items	A EdimaxWireless	AirPort network password	Today, 下午5:45	login
Paceworde	A for game Concision	application password	2012/7/17 上午10:16:23	login
Passworus	🕂 Matt	AirPort network password	Today, 下午5:28	login
	A PP-6574-Demo	AirPort network password	2012/7/17 下午2:21:30	login
My Certificates				
🖗 Keys				
📴 Certificates				
ก	the Conv	9 itoms		

3. Double click the SSID of your network and you will see the following window.

● ○ ○	EdimaxWireless
	Attributes Access Control
Name:	EdimaxWireless
Kind:	AirPort network password
Account:	AirPort
Where:	com.apple.network.wlan.ssid.EdimaxWireless
Comments:	
Show password:	<u><u></u></u>
	Save Changes

4. Check the box labeled "Show password" and you will be asked to enter your administrative password, which you use to log into your Mac. Enter your password and click "Allow".

	Keychain Acc confidential i "EdimaxWire To allow this, er Password:	ess wants to use your nformation stored in ess" in your keychain. Iter the "login" keychain password.
?	Always All Account: Where: Comments:	ow Deny Allow AirPort com.apple.network.wlan.ssid.EdimaxWireless
	Show password:	Save Changes

Your network security password will now be displayed in the field next to the box labeled "Show password". In the example below, the network security password is "edimax1234". Please make a note of your network security password.

00	EdimaxWireless
	Attributes Access Control
Name:	EdimaxWireless
Kind:	AirPort network password
Account:	AirPort
Where:	com.apple.network.wlan.ssid.EdimaxWireless
Comments:	
Show password:	edimax1234
	Save Changes

IV-3. Troubleshooting

If you are experiencing problems with your travel router, please refer to this troubleshooting guide before contacting your dealer of purchase for help.

Scenario	Solution
My access point can't locate a wireless access point/wireless device when using the "Site Survey" function.	 a. Click "Rescan" several more times and see if the wireless access point/device appears. b. Adjust the position of the access point, or move closer to a known wireless access point. c. If the SSID of the access point you wish to connect to is hidden (nothing displayed in the "SSID" field in the "Site Survey" function), then you need to input the SSID manually. Ensure that you input the correct SSID.
My access point can't establish a connection with a particular wireless access point.	 a. Click "Connect" several more times and see if you can establish a connection. b. Ensure that you input the correct passphrase/security key if connecting to an access point with encryption. c. It is possible that the access point you wish to connect to only allows network cards with specific MAC address's to establish connections. Request that the owner/administrator of the access point add your MAC address to the list.
I can't log onto the browser-based configuration interface: the access point is not responding.	 a. Make sure access point is powered on. Check the LED on the front panel. If the LED is out, then check the USB connection. b. Use your wireless device connects to this travel router wirelessly. c. Make sure you are using the correct IP address. d. If you are using a MAC or IP address

	filter, try to connect the access point
	to another computer.
	e. Set your computer to obtain an IP
	address automatically (DHCP), and
	see if your computer can obtain an IP
	address.
	f. If you are experiencing problems after
	a firmware upgrade, please contact
	your dealer of purchase for help.
I can't locate the	a. Check if "Broadcast ESSID" (in the
access point with	"Wireless Advanced" section of the
my wireless client.	browser-based configuration
	interface) is "Enabled" or "Disabled". If
	"Disabled" you need to input the
	ESSID into your wireless client
	manually.
	b. Try moving closer to the access point
File transfers are	a. Try to move closer to where the
slow or frequently	wireless access point is located.
interrupted.	b. Try again later. Your local network
	may be experiencing technical
	difficulties or very high usage.
	c. Change channel number.
I can't log onto the	a. Password is case-sensitive. Make sure
browser-based	the "Caps Lock" light is not
configuration	illuminated.
interface: incorrect	b. If you do not know your password,
password.	restore the device to factory settings.
The access point is	a. It is normal for the access point to
extremely hot.	heat up during frequent use. If you
	can safely place your hand on the
	access point, the temperature of the
	device is at a normal level.
	b. If you smell burning or see smoke
	coming from access point or A/C
	power adapter, then disconnect the
	access point and A/C power adapter
	immediately, as far as it is safely
	possible to do so. Call your dealer of
	purchase for help.

IV-4. Glossary

Default Gateway (Access point): Every non-access point IP device needs to configure a default gateway's IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it out towards the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as www.Broadbandaccess point.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "Broadbandaccess point.com" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that after there is no traffic to the Internet for a pre-configured amount of time, the connection will automatically be disconnected.

IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, that identifies a single, unique Internet computer host in an IP network. Example: 192.168.2.1. It consists of 2 portions: the IP network address, and the host identifier.

When both are represented side by side in their binary forms, all bits in the IP address

that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form, <u>11011001.10110000.1001</u>0000.00000111, and if its network mask is, 11111111.11111111111110000.00000000 It means the device's network address is <u>11011001.10110000.1001</u>0000.00000000, and its host ID is, 00000000.00000000000000000111. This is a convenient and efficient method for access points to route IP packets to their destination.

ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet access point located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as a house or an office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. The MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that corresponds to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all of the computers on your home network to use one IP address. Using the broadband access point's NAT capability, you can access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	ТСР	23
FTP	ТСР	21
SMTP	ТСР	25
POP3	ТСР	110

H.323	ТСР	1720
SNMP	UCP	161
SNMP Trap	UDP	162
НТТР	ТСР	80
РРТР	ТСР	1723
PC Anywhere	ТСР	5631
PC Anywhere	UDP	5632

PPPoE: Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Access point: A access point is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocol. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a

graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.

IV-5. Technical Support

Support documentation is available on the enclosed CD and on our global websites.

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