
CHAPTER 2-A

Wireless LAN Setup

2-A.1 Introduction

Over recent years, the market for wireless communications has enjoyed tremendous growth. Wireless technology now reaches or is capable of reaching virtually every location on the face of the earth. Hundreds of millions of people exchange information every day using wireless communication products. No longer bound by the harnesses of wired networks, people will be able to access and share information on a global scale nearly anywhere they venture. Therefore, the DrayTek company endeavors to develop the wireless communication products, to provide great wireless access capability for users.

The Vigor router are equipped with a wireless LAN interface compliant with the IEEE 802.11g protocol supporting data rate of 54Mbps. The wireless LAN capability enables high mobility of several users so that they can simultaneously access all LAN facilities just like on a wired LAN as well as Internet and WAN access.

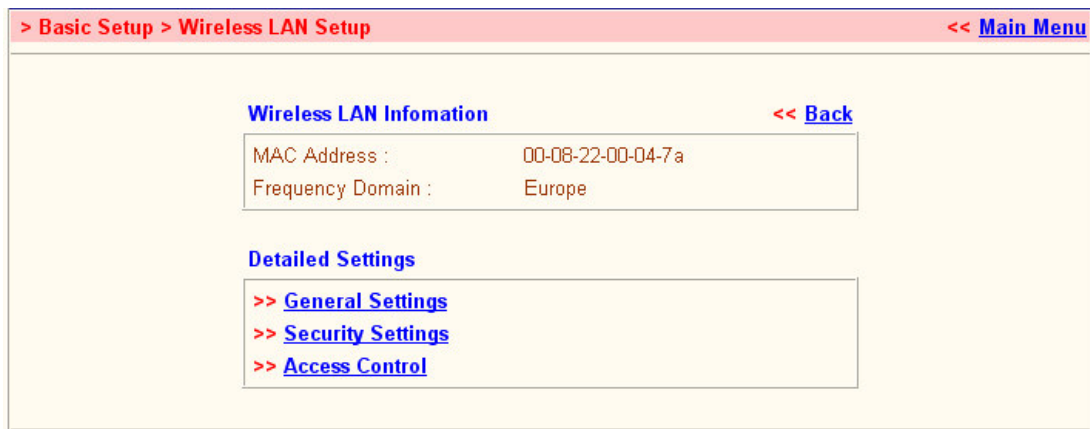
In this chapter, we explain the capabilities of the wireless LAN and its associated web configurations. Use the following setup links on the Setup Main Menu to configure the wireless LAN function.

Basic Setup > Wireless LAN Setup



2-A.2 Configuration

After clicking the “Wireless LAN Setup”, you will see the following web page.



This web page will show the wireless LAN information including *MAC address* and *Frequency domain* and provide the **Detailed Setting** for advanced setting. For example, in this figure, the *Frequency Domain* is set as Europe and the *MAC address* is set as 00-80-22-00-04-7a. The **Detailed Settings** consists of **General Settings**, **Security Settings**, and **Access Control**.

By clicking the **General Settings**, a new web page will appear so that you could configure the *SSID* and the *wireless channel*. Please refer to the following figure for more information.

Wireless LAN Setup

The screenshot shows a web-based configuration interface for a Wireless LAN. The breadcrumb trail at the top reads "> Basic Setup > Wireless LAN Setup > General Settings". A link "<< Main Menu" is in the top right. The main title is "General Setting (IEEE 802.11)" with a "<< Back" link. The settings are as follows:

- ☒ Enable Wireless LAN
- Mode : Mixed(11b+11g) [dropdown]
- Scheduler (1-15) [four empty input boxes]
- SSID : default [text box]
- Channel : Channel 6, 2437MHz [dropdown]
- ☐ Hide SSID

Below the settings, there are explanatory notes:

- SSID :** wireless LAN Service Set ID.
- Hide SSID :** the scanning tool can't read the SSID when sniffing radio.
- Channel :** Select the frequency channel of wireless LAN.

At the bottom are "Cancel" and "OK" buttons.

Enable Wireless LAN: Check it to enable the wireless access activity for the wireless device.

Mode: In Mixed (11b+11g) mode, the radio can support both IEEE802.11b and IEEE802.11g protocols simultaneously. In 11g-only mode, the radio only supports IEEE802.11g protocol. In 11b-only mode, the radio only supports IEEE802.11b protocol.

Scheduler: You can set the wireless device to work at some time interval only. Four time internals are available for you to choose. The default setting is always active without any time limitation. The schedule can be specified through **Advanced Setup > Call Schedule Setup**.

SSID: SSID stands for Service Set Identification. You should set the SSID to be one that the wireless card in your notebook/desktop allows the client hosts to access the network via the wireless LAN interface. By default, the SSID is

default.

Channel: Select an adequate wireless channel for Vigor router. The default channel is 6.

Hide SSID: This term is used to increase the security level. Check it to hide SSID information against the wireless clients that are sniffing radio. By default, this option is inactive.

2-A.3 Configuring the Security of Wireless LAN Interface

To improve the security and privacy of your wireless data packets, the WEP and WPA encryption feature can be employed, where WEP stands for Wireless Equivalent Privacy. The WEP facility that uses a set of four *default keys* encrypts each frame transmitted from the radio using only one of the given keys. Default keys are shared between the Vigor wireless router and WEP station in a service set. Once a station has obtained the default keys for its service set, it may communicate using WEP. WPA (Wi-Fi Protected Access) uses the Temporal Key Integrity Protocol (TKIP) for encryption and employs 802.1X authentication. It greatly enhances the over-the-air data protection and access control on existing Wi-Fi networks. It addresses the weaknesses of WEP. By clicking the **Security Settings**, a new web page will appear so that you could configure the settings of WEP and WPA.

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> Basic Setup > Wireless LAN Setup > Security Settings << [Main Menu](#)

Security Settings << [Back](#)

Mode :

Set up [RADIUS Server](#) if 802.1x is enabled.

WPA:

Encryption Mode: TKIP

Pre-Shared Key(PSK)

Type 8~63 ASCII character or 64 Hexadecimal digits leading by "0x", for example "cfs01a2..." or "0x655abcd....".

WEP:

Encryption Mode:

Use WEP Key

☒ Key 1 :

☐ Key 2 :

☐ Key 3 :

☐ Key 4 :

For 64 bit WEP key
Type 5 ASCII character or 10 Hexadecimal digits leading by "0x" for example "AR312" or "0x4142333132".

For 128 bit WEP key
Type 13 ASCII character or 26 Hexadecimal digits leading by "0x", for example "0123456789abc" or "0x30313233343536373839414243".

Mode: To improve the security and privacy of your wireless data packets, one of the following encryption features can be used.

-Disable: Turn off the encryption mechanism.

-WEP Only: Only allow the access from WEP clients and the encryption key is given from WEP Keys.

-WEP/802.1x Only: Only allow the access from WEP clients and the encryption key is given dynamically through 802.1x.

-WEP or WPA/PSK: Allow the access from WEP and WPA clients simultaneously

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and the encryption keys are given from WEP Keys and PSK respectively.

- WEP/802.1x or WPA/802.1x:** Allow the access from WEP and WPA clients simultaneously and the encryption keys are given dynamically through 802.1x.
- WPA/PSK Only:** Only allow the access from WPA clients and the encryption key is given from PSK.
- WPA/802.1x Only:** Only accept the access from WPA clients and the encryption key is given dynamically through 802.1x.

NOTE: You should also set RADIUS Server if **WEP/802.1x or WPA/802.1x**, **WEP/802.1x Only** or **WPA/802.1x Only** mode is selected.

WPA Encryption: The WPA encrypts each frame transmitted from the radio using the pre-shared key (PSK) entered from this panel or a key is given dynamically through 802.1x.

Pre-Shared Key (PSK): Either 8~63 ASCII characters or 64 Hexadecimal digits leading by 0x can be entered. For example, "0123456789ABCD...." or "0x321253abcde.....".

WEP Encryption:

- **Disable:** Turns off the WEP encryption mechanism.
- **WEP 64 Bit:** For 64bits WEP key, either 5 ASCII characters or 10 hexadecimal digitals leading by **0x** can be entered. For example, **ABCDE** or **0x4142434445**.
- **WEP 128 Bit:** For 128bits 13 ASCII characters or 26 hexadecimal digits leading by **0x** can be entered. For example, **ABCDEFGHJKLM** or **0x4142434445464748494A4B4C4D**.

128 bits WEP is most secure, but has more encryption/decryption overhead.

Note that all wireless devices must support the same WEP encryption bit size and have the same key.

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Four keys can be entered here, but only one key can be selected at a time. The keys can be entered in ASCII or Hexadecimal. Choose one key from key 1 to key 4.

Click **OK**, the **Security Settings** is saved.

2-A.4 Configuring the Access Control

For additional security of wireless access, the **Access Control** facility allows you to restrict the network access right by controlling the wireless LAN MAC address of client. Only the valid MAC address that has been configured can access the wireless LAN interface. By clicking the **Access Control** in the **Detailed Settings** group, a new web page will appear, as depicted below, so that you could edit the clients' MAC addresses to control their access rights.

Enable Access Control: To check the **Enable Access Control** to enable the MAC Address access control feature.

MAC Address: Display all MAC addresses that are edited before. Four buttons (Add, Remove, Edit, and Cancel) are provided to edit a MAC address.

Wireless LAN Setup

> Basic Setup > Wireless LAN Setup > Access Control [<< Main Menu](#)

Access Control [<< Back](#)

☐ Enable Access Control

Index	MAC Address
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MAC Address :
[] : [] : [] : [] : [] : []

[Add](#) [Remove](#) [Edit](#) [Cancel](#)

Note :
Add or remove the wireless user's MAC address to accept or deny the access to the network.

[Clear All](#) [OK](#)

Add: Add a new MAC address into the list.

Remove: Delete the selected MAC address in the list.

Edit: Edit the selected MAC address in the list.

Cancel: Give up the access control set up.

Clean All: Clean all entries in the MAC address list.

OK: Click it to save the access control list.