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CONNECTING PC VIA WIRELESS NETWORK PERFORMANCE OF EQUIPMENT

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ABSTRACT: Increasing popularity of wireless networks has led to a rapid decrease in the price of wireless devices along with a marked improvement in their technical performance. A wireless network infrastructure can now be achieved with much lower costs than a traditional cable. In this way, there are prerequisites to achieve cheap and easy Internet access local communities, with all the benefits resulting. Access to information is a source of global network.
KEYWORDS: computers, Wireless Network, drivers

❖ INTRODUCTION

Increasing popularity of wireless networks has led to a rapid decrease in the price of wireless devices along with a marked improvement in their technical performance.

A wireless network infrastructure can now be achieved with much lower costs than a traditional cable. In this way, there are prerequisites to achieve cheap and easy Internet access local communities, with all the benefits resulting.

❖ METHODOLOGY

CONNECTING THE DEVICE. Before installing the Router, please make sure your broadband service provided by your ISP is available. If there is any problem, please contact with your ISP. After that, please install the Router according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

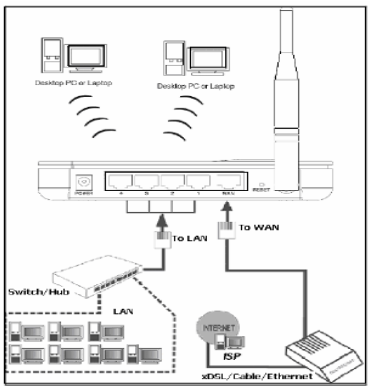

Figure 1. Hardware Installation of the Router

1. Locate an optimum location for the Router. The best place is usually near the center of the area in which your PC will be wirelessly connected. The place had better accord with the Installation Environment Requirements.
2. Adjust the direction of the antenna. Normally, upright is a good direction.
3. Connect the PC(s) and each Switch/Hub in your LAN to the LAN Ports on the router.
4. (If you have the wireless NIC and want to use wireless function, you can skip this step.)
5. Connect the DSL/Cable Modem to the WAN port on the router.
6. Connect the AC power adapter to the AC power socket on the router, and the other end into an electrical outlet. The router will start to work automatically.
7. Power on your PC and Cable/DSL Modem.

CONFIGURE OUR PC. Our PC needs a network adapter. You may directly connect your adapter to the Router, or you may connect your adapter to a Hub/Switch, and then connect the Hub/Switch to the Router. Follow the instructions below to configure a computer running Windows XP to be a DHCP client.

1. From the START menu on your desktop, go to SETTINGS, and then click on Network Connections.
2. In the NETWORK CONNECTIONS window, right-click on LAN (Local Area Connection), then click Properties.
3. In the GENERAL tab of INTERNET PROTOCOL (TCP/IP) PROPERTIES menu, highlight Internet Protocol (TCP/IP) under "This connection uses the following items:" by clicking on it once. Click on the Properties button.
4. Select "Obtain an IP address automatically" by clicking the radio-button. Click OK.

CONFIGURE THE IP ADDRESS manually:

1. Open TCP/IP Properties of the LAN card in our PC, enter the IP address. Now, we can run the Ping command in the command prompt to verify the network connection between your PC and the Router.

2. Open a command prompt, From the Start menu on your desktop, select run tab, type cmd in the field, and complete the numbers of *ping* on the screen that appears, and then press Enter.

If the connection between our PC and the Router is correct the LEDs of LAN port which link to on the device and LEDs on our PC's adapter should be lit.

❖ PERFORMANT EQUIPMENTS FOR CONNECTING PC VIA WIRELESS NETWORK

1W AMPLIFIER 1000MW WIRELESS 6DBI. Art equipment that allows us to receive signals wirelessly at distances up to 3,000 meters and 5,000 meters in urban areas without major obstacles. Increase signal reception power of over 5 times! It is compatible with all types of laptop.

BGN 2.4 GHz wireless adapter, antenna 6dBi, MIMO technology, 100Mbps, notebook support

Compatible with IEEE 802.11n draft 3.0 wireless 802.11a/b/g Standards

- 2.4GHz frequency band, MIMO (Multiple Input Multiple Output)
- Complies with Universal Serial Bus Rev. 2.0

Specifications TX

- High speed transfer data rate up to 150 Mbps
- High speed transfer data rate up to 300 RX Mbps
- Supports WPS by S / W
- Supports Wireless Data Encryption with 64/128-bit WEP, WPA, WPA2, TKIP, AES.
- Wide Range coverage
- Compliant with FCC Part 15.247 for U.S., ETS 300 328 for Europe
- Supports drivers for Windows 2000, XP 32/64, Vista 32/64, Linux (2.4.x/2.6.x), Mac (10.4.x/10.5.x)

Power PC & PC

Figure 2. Directional WLAN Antenna

DIRECTIONAL WLAN ANTENN (2.4GHz, 17 dB)

This model has thus having a high resistance grounding surge caused by storms and lightning. The antenna is small and is easily installed on the roof or balcon, not special support required, it can be used in access-point and the client (please make sure you have plugged into the equipment, otherwise it will be necessary cables and adapters). It can operate in both polarization (horizontal or vertical) depending on how it is mounted

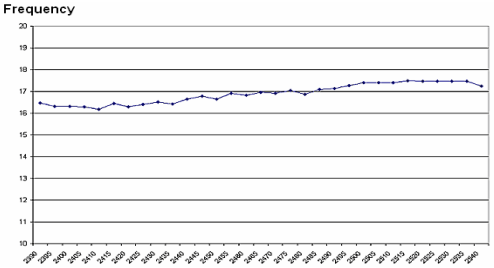

Figure 3. The graphic representation

Most often, vertical polarization antenna is used in this way it can be changed by rotating the 90° antenna. The radiator can be unscrewed and no position can be changed. If the antenna must operate with a sectorial antenna, it has to be put in horizontal position as in the picture below.

❖ RESULTS

The results are detailed in the graphic representation (Figure 4). The specifications and characteristics are presented in Table 1.

Features horizontally Characteristics of vertically

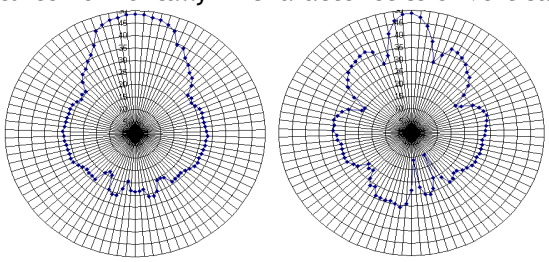

Figure 4. The representation of horizontally and vertically characteristics.

Table1: Specifications and characteristics

Name	Directional WLAN Anthen
Gain	17dB
Band	2390-2540 MHz
Polarization	V / H
Report of the wave state. (VSWR)	<1.9
Report front / rear	25 dB
Half power beam - H	30 °
Half power beam - E	15 °
Impedance	50 ohms
Connector	N-socket (female)
Size	450 x 390 x 285 mm
Mounting Diameter	35-40mm

❖ CONCLUSIONS

Wireless computer networks are intended for applications where cable installation is not possible or where necessary to terminal mobility. The performance equipments presented in this article allows our PC to receive signals wirelessly at distances up to 3,000 meters and 5,000 meters in urban areas without major obstacles.

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