

Exhibit E..... User's Manual



LANEscape™ WL2450

Station Adapter

User's Manual

Z-Com, Inc.
Science-Based Industrial Park
TAIWAN

FCC Information

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

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

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

The user should not modify or change this equipment without written approval from company name. Modification could void authority to use this equipment.

For the safety reason, people should not work in a situation which RF Exposure limits be exceeded. To prevent the situation happening, people who work with the antenna should be aware of the following rules:

1. Install the antenna in a location where a distance of 6.5 cm from the antenna may be maintained.
2. While installing the antenna in the location, please do not turn on the power of wireless card.
3. While the device is working, please do not contact the antenna.

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About This Manual

LANescape WL2450 User's Manual is first published by Z-Com, Inc. in 1998. This Revision is for LANescape WL2450 Version 1.0, issued in November, 1998. The purpose of this manual is for the setup of the product LANescape WL2450. It includes procedures which help you to avoid unforeseen problems. README.TXT in the Driver & Utility Diskette has the latest product information. You can use any text editor to open this file.

Chapter 1 Introduction

LANEscape is Z-Com's solution to IEEE 802.11 wireless LAN, which operates at 2.4GHz ISM band and throughput up to 2Mbps. LANEscape series include WL2410 Access Point, WL2420 PCMCIA adapter, WL2430 PCMCIA Type II adapter, WL2440 PC104 adapter and WL2450 station.

This manual covers WL2450.

1-1 Features and Benefits

LANEscape products have numerous features and benefits, such as:

1. Data rate up to 2 Mbps.
2. Working range up to 800 ft. in an open environment.
3. Supports point-to-point and point-to-multipoint access.
4. Seamless integration with IEEE 802.3 Ethernet LAN.
5. Direct Sequence Spread Spectrum (DSSS) technology provides robust, interference-resistant and secured wireless connection.
6. Wireless connection without the hassles and cost of cabling.
7. Supports Plug and Play.
8. Easy installation.

1-2 Applications

Applications of LANEscape are easy to obtain and highly efficient, for example:

1. **Access to corporate network information**
E-mail, file transfer and terminal emulation.
2. **Difficult wiring environments**
Historical or old buildings, asbestos installations, and open area where wiring is difficult and expensive.
3. **Frequently changed environments**
Retailers, manufacturers and banks who frequently rearrange the workplace and change location.
4. **Temporary LANs for special projects or peak time**
Trade shows, exhibitions and construction sites need temporary setup for a short time period. Retailers, airline and shipping companies need additional workstations for a peak period. Auditors require workgroups at customer sites.

5. **Access to database for mobile workers**
Doctors, nurses, retailers, white-collar workers need access to database while being mobile in the hospital, retail store or office campus.
6. **SOHO (Small Office and Home Office) users**
SOHO users need easy and quick installation of a small computer network.

1-3 Product Package

LANEscape WL2450 includes the following items. Please go through each listed item below. If any listed item is not included, please contact your dealer.

A. LANEscape WL2450 / Station Adapter

- WL2450 / Station x 1



- Antenna (dipole, omni-directional) x 1



- Adaptor x 1



- Driver & Utility Diskette x 1

- User's Manual x 1

1-4 System Requirements

Installation of WL2450 requires:

1. A computer equipped with RJ-45 or RS232 interface.
2. Minimum 500K bytes free disk space for install driver and utility program.

Chapter 2 Network Configuration and Planning

LANscape supports the same network configuration options of the existing wired LANs as defined by IEEE 802 standard committee.

LANscape could be configured as:

- ◆ Ad-Hoc for departmental or SOHO LANs
- ◆ Infrastructure for enterprise LANs
- ◆ LAN-Interconnection for point-to-point link as a campus backbone.

2-1 Network Topology

- ◆ Ad-Hoc

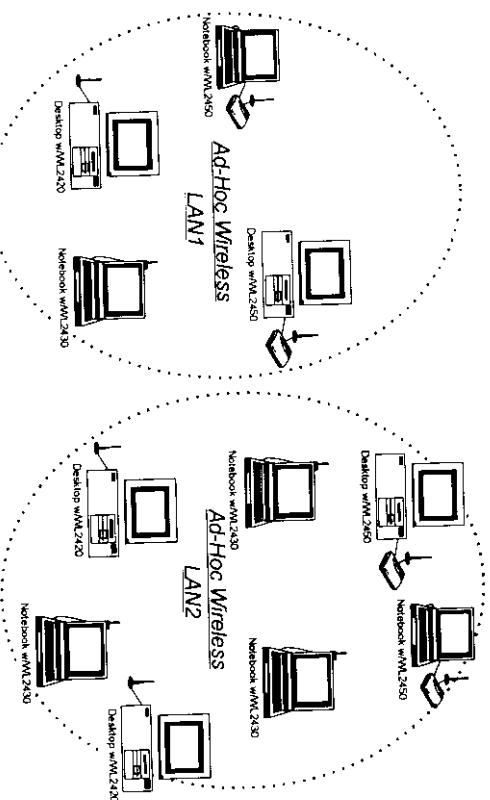


Fig 2.1 An Example of Ad-Hoc Wireless LANs

An Ad-Hoc wireless LAN is a group of computers, each equipped with one LANscape adapter, connected as an independent wireless LAN. Computers in a specific Ad-Hoc wireless LAN must be configured with the same radio channel.

Ad-Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO operation.

- ◆ Infrastructure

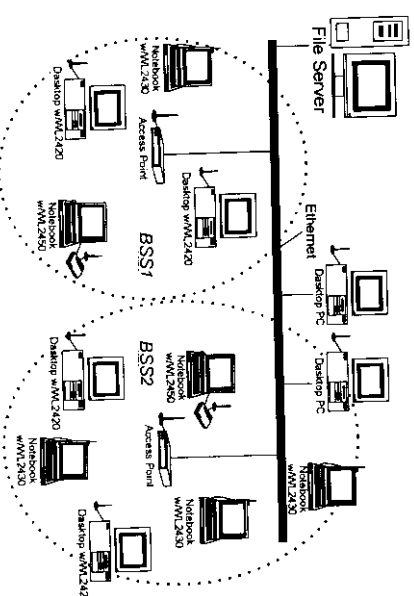


Fig 2.2 An Example of Infrastructure Wireless LAN

LANscape provides access to a (wired) Ethernet for wireless workstations. An integrated wireless and wired LAN is called an Infrastructure configuration. A group of LANscape PC users and a LANscape WL2410 Access Point construct a Basic Service Set (BSS). Each LANscape PC in this BSS can talk to any computer in the wired LAN infrastructure via the WL2410 Access Point.

Infrastructure configuration not only extends the accessibility of a LANscape PC to the wired LAN, but also doubled the effective wireless transmission range for 2 LANscape PCs. Since WL2410 is able to forward data within its BSS, the effective transmission range in an infrastructure LAN is doubled (See Fig 2.3)

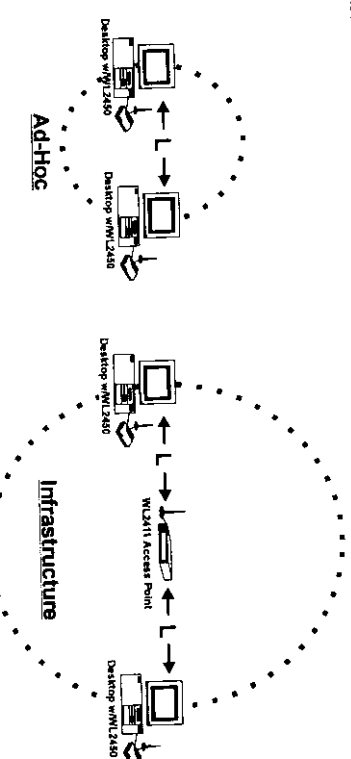


Fig 2.3 The effective Transmission Range

BSS ID is, in essential, the ID of each independent WL2410. All LANscape PCs configured without the roaming option in this independent BSS must be configured with BSS ID of that WL2410. Check your WL2410 for its BSS ID or use the Access Point Browser Utility program described in next section - "Roaming".

Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

2-2 Roaming

An Infrastructure configuration also supports roaming capability for mobile workers. More than one BSS can be configured as an Extended Service Set (ESS). On account of a continuous connection to the network, users **within this ESS** could roam freely. All LANscape PCs and WL2410s within one ESS must be configured with the same ESS ID and at the same radio channel.

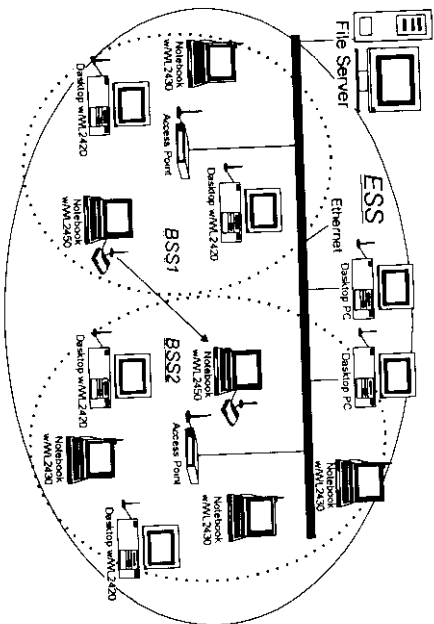


Fig 2.4 Roaming in an Extended Service Set (ESS)

Before setting up an ESS for roaming, it would be helpful to improve the performance by choosing a feasible radio channel and the right places for Access Points. LANscape provides **Site Survey** and **Access Point Browser** utilities for the above purposes.

Site Survey and Access Point Browser are functions of the LANscape Utility program (WLU.EXE), which can be found in the WL2450 Utility Diskette. Before utilizing Site Survey and Access Point Browser, a PC with LANscape WL2450 station and the Utility program installed is necessary. For details of WLU.EXE, please check the chapter of "LANscape Utility-WLU.EXE" in this manual.

◆ Site Survey

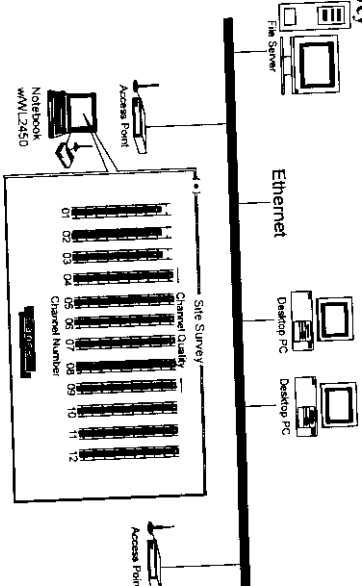


Fig 2.5 Site Survey Utility

Site Survey function can be found in the WLU program. After running WLU.EXE, select [Diagnostics Tools]→[Site Survey]. Site Survey displays the quality of all 12 radio channels in your environment. Generally, the higher the bar is, the better the quality will be. Choose the radio channel with the best quality as your operating radio channel. If you are setting up an ESS for roaming, configure all the LANscape PCs and WL2410s within this ESS at that channel.

◆ Access Point Browser

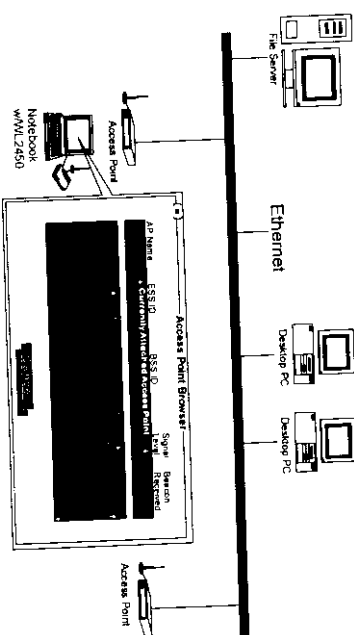


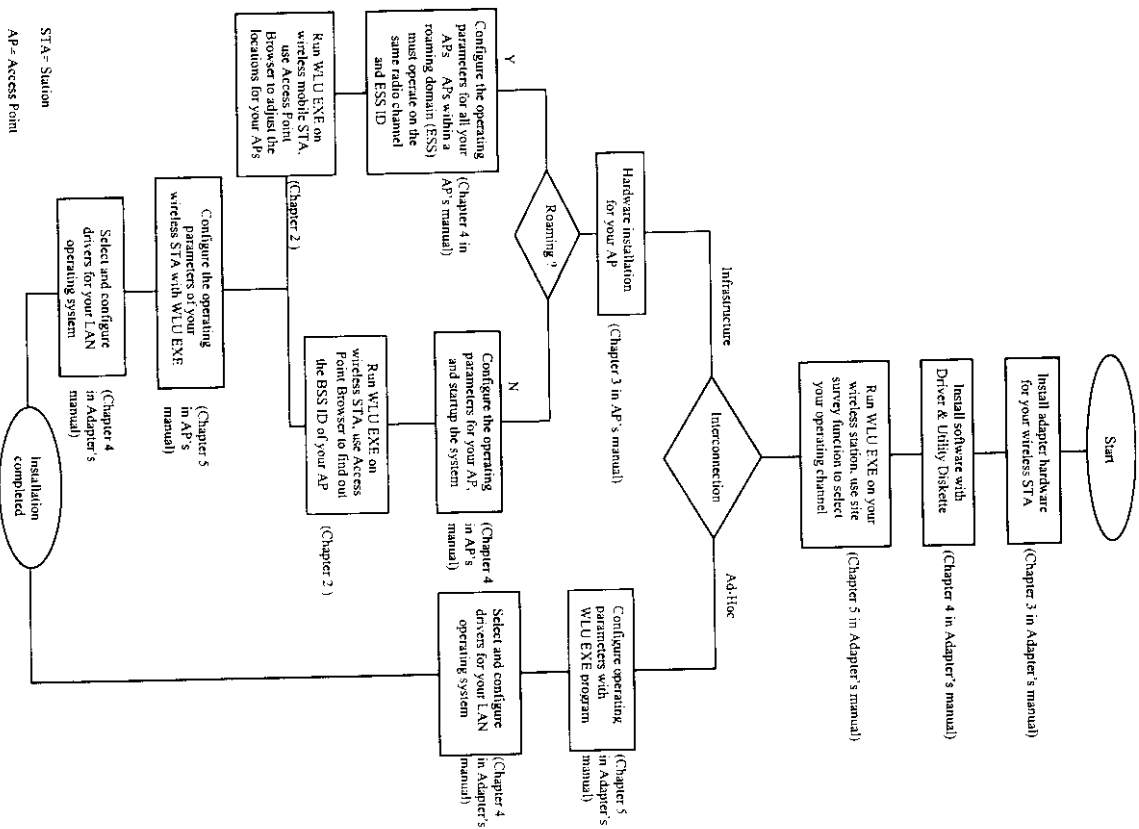
Fig 2.6 Access Point Browser Utility

Access Point Browser functions can be found in the WLU program. After running WLU.EXE, select [Diagnostics Tools]→[Access Point Browser]. Each Access Point broadcasts "beacon" periodically. The mobile station (with the "roaming" option being enabled) receives beacons from different Access Points, compares their signal level (technically, the RSSI, Radio Signal Strength Indicator), then the mobile station connects to the Access Point with the highest (i.e., best) signal level. Signal level is the indicator of the radio signal coverage of an Access Point.

Access Point Browser displays all the beacons received and its signal level from Access Points in the current physical location. Use a notebook PC running the Access Point Browser to walk around the coverage area of your ESS. The coverage of each Access Point can therefore be measured. Adjust the placement of your Access Points to form a continuous radio signal coverage within the ESS.

2-3 Wireless LAN System Configuration

This flow chart summarizes the installation procedure and provides a reference which can help you quickly identify the steps to setup your LANscape wireless LAN system. For details, please check the respective chapters in this manual and Access Point's manual.



Chapter 3 Hardware Installation

3-1 Hardware Installation for WL2450

The installation of WL2450 wireless includes the following steps:

Step1: Connection Host and WL2450

1. To connect RJ-45 or RS232 (9-pin type) interface connector.

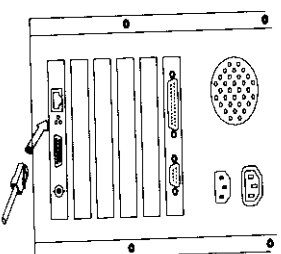


Fig 3.1 LANscape W12450

Step2: Attach the Antenna

Screw in the antenna connector clockwise to attach on the LANscape/WL2450 interface adapter. Place your antenna in a suitable position that might get the best Tx/Rx performance. Normally, the higher the position is, the better the performance will be.

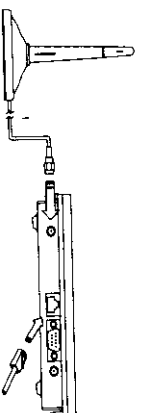


Fig 3.2 Attach the Antenna to the WL2450

Step3: Power on Your Computer

Turn on the power of your PC.

Note: 所使用的 RJ-45 和 RS232 接線均不需要跳線

Chapter 4 Software Installation

4-1 Introduction

不需安裝任何的驅動程式
產品的 RJ-45 介面是傳送 802.3 的協定，所以只要 HOST 端送來的是 802.3 的封包即可。因此，直接連上執行 802.3 的網路卡，就可經由本產品傳送資料

Chapter 5 LANescape Utility-WLU.EXE

5-1 Introduction

WLU.EXE (LANescape Utility) is an easy-to-use utility program with user-friendly graphical interface. It helps you to set up your network environment, configure your LANescape wireless LAN adapter, and diagnose the operation of your wireless LAN.

The LANescape Utility is a DOS mode Graphic User Interface (GUI) program. For Microsoft Windows 95, you must run WLU.EXE within the DOS window. You can navigate through the screens simply by using the **mouse** or the **keyboard**.

(A) Using the Mouse

If you have installed the mouse driver, you are ready to use the mouse to operate the LANescape Utility. We suggest users to use mouse for more convenient operation.

The instruction to use the mouse:

Move - move the cursor.

Left Button - click to press a button.

Right Button - not used

(B) Using The Keyboard

If your PC or notebook does not equipped with a mouse or you have not installed the mouse driver, you can still use the keyboard to operate the LANescape Utility.

The instruction to use the keyboard:

TAB - select highlighted button or input field.

ENTER - press the highlighted button.

Alt + [character key] - press the button with the highlighted character.

NOTE: An error message will be displayed if the LANescape wireless LAN adapter is not installed correctly into your PC.

ERROR: Z-Com LANescape wireless LAN adapter does not exist.

Make sure the installation of your LANescape wireless LAN adapter is OK and start WLU.EXE again.

5-2 Navigating The LANescape Utility

To set up your wireless network environment, please follow these steps:

Step 1: Configure the adapter - Select "Network Configuration" in the main menu screen (Fig 5.2) and follow the instructions.

Step 2: Diagnose the operation - Using "Diagnostics Tools" in the main menu screen and follow the instructions.

You will see a welcome screen (Fig 5.1) after you simply executing WLU command, for example:

C : \WL2450>wlu <Enter>

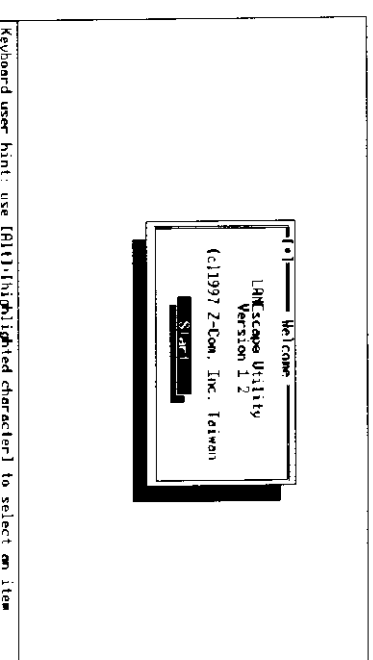


Fig 5.1 LANescape Utility Welcome Screen

Press [Start] button (<Alt>+ 'S' or <Enter>) to see the Main Menu screen.

A. Main Menu

The Main Menu screen (Fig 5.2) shows all main functions of the LANescape Utility:

- ☐ [Network Configuration] - LANescape Utility provides a screen for you to configure parameters of the LANescape wireless LAN adapter for your wireless network environment.
- ☐ [Diagnostics Tools] - The LANescape Utility provides several diagnostic tools for you to diagnose the operation of your wireless network environment.
- ☐ [Firmware Upgrade] - LANescape Utility provides the function of upgrading the firmware in the wireless adapter.
- ☐ [Exit] - End the execution of LANescape Utility, return to DOS.

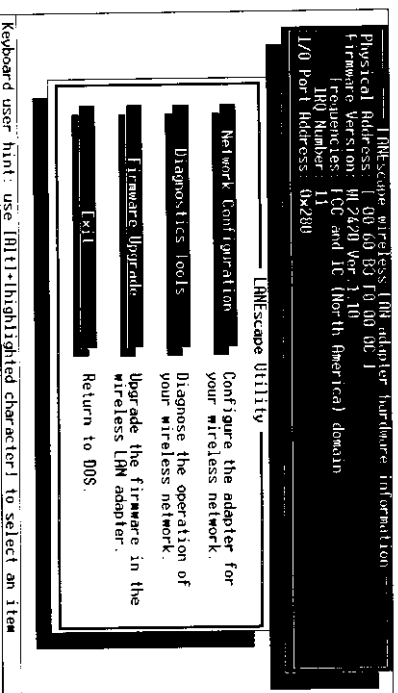


Fig 5.2 LANescape Utility Main Menu Screen

B. Adapter Hardware Information Window

A LANescape wireless LAN adapter hardware information window will show on the top of the screen (Fig 5.2) while Main Menu screen is displayed. In this window, you will see current adapter configuration information, that is, the physical address, firmware version, frequency domain, IRQ number, and I/O port address of the adapter which you installed in your desktop or notebook computers.

C. Network Configuration Screen

The Network Configuration screen (Fig 5.3) allows you to check and modify current configuration of the LANescape wireless LAN adapter. The user-configurable parameters are divided into two groups: **radio parameters** and **network parameters**.

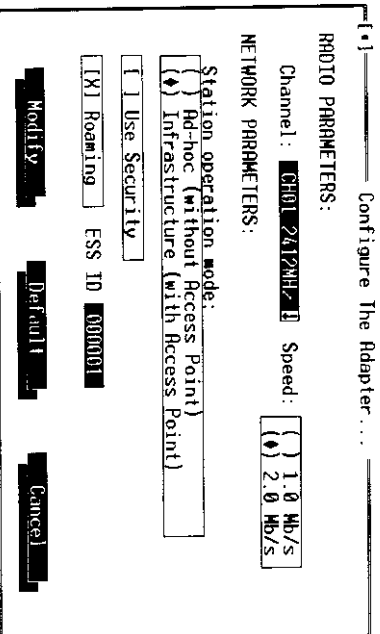


Fig 5.3 LANescape Utility Network Configuration Screen

C-1. RADIO PARAMETERS

Channel: Select the channel number as your operating radio channel.

Speed: Select the speed (bit rate) that will be used for transmitting and receiving wireless data. Owing to the RF modulation characteristics, the 1 Mbps operation speed sustains a longer working range than 2 Mbps. Select the proper operation speed that best meets your throughput and working range requirement.

C-2. NETWORK PARAMETERS

Station Operation Mode: Set the station operation mode to **Ad-Hoc** (without Access Point) or **Infrastructure** (with Access Point).

Use Security: Check this box if you want to enable the security feature.

Security Key: Input a security key while the security feature is enabled.

Roaming: Check this box if you want to enable the roaming feature.

ESS ID: Input a six-digit ESS ID (i.e., 000000-999999) while the roaming feature is enabled.

BSS ID: Input a six-byte hexadecimal value of BSS ID in an infrastructure operation mode while the roaming feature is disabled (example of BSS ID value: 00 60 B3 0F 00 01).

The BSS ID is, in essential, the ID of the WL2410 Access Point with which this station associated. Each WL2410 Access Point has its unique BSS ID. Check your WL2410 or use the Access Point Browser (in the Diagnostics Tools) to find out the BSS ID of your WL2410 Access Point.

NOTE: All parameters you modified on the wireless LAN adapter is kept in the flash ROM (non-volatile memory) on the adapter. The new parameters will take effect thereafter even though you boot your PC into any other operating systems or insert the adapter into another PC.

D. Diagnostics Tools Screen

The Diagnostics Tools screen (Fig 5.4) shows all diagnostics tools in the LANescape Utility. There are buttons for executing the following diagnostics tools:

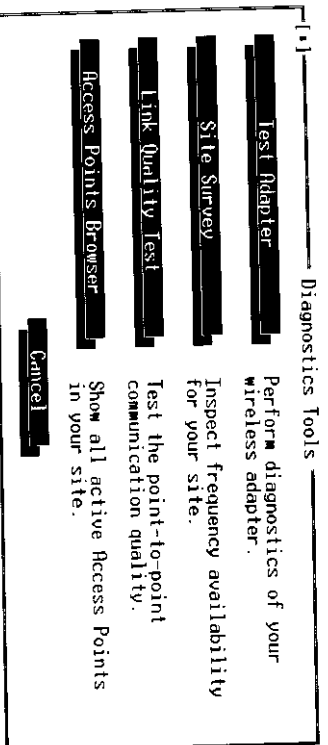


Fig 5.4 LANescape Utility Diagnostics Tools Screen

- ☐ [Test Adapter] - Perform diagnostics of your LANescape adapter.
- ☐ [Site Survey] - Inspect channel quality for your site.
- ☐ [Link Quality Test] - Test point-to-point communication quality.
- ☐ [Access Point Browser] - Show all active LANescape Access Points in your site.

The instructions of using each diagnostics tool are as follows:

• Test Adapter

When Test Adapter screen (Fig 5.5) is displayed, you can see three adapter internal test routines performed consequently. Their results (passed or failed) will be shown on each corresponding box.

This diagnostics tool is provided for testing the hardware components of your LANescape wireless LAN adapter. The following important components will be tested:

- Flash Memory
- SRAM
- Internal Loopback Test

Press [OK] button to exit the screen.

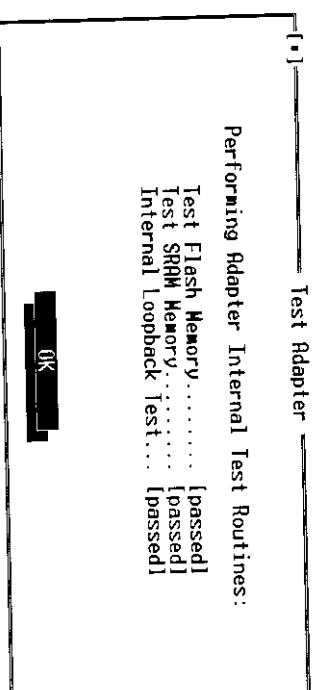


Fig 5.5 LANescape Utility Test Adapter Screen

NOTE: If you run the LANescape Utility on a multiprocessing operating system (such as MS-Windows), during Test Adapter session, all concurrent network data transmission (if any) will be stopped temporarily.

• Site Survey

When Site Survey screen (Fig 5.6) is displayed, the channel quality of all 12 radio channels will be displayed. These channel quality measurements are shown on each gauge for the 12 radio channels. The higher bar means the radio channel having better quality (i.e., less interference).

The channel quality is scanned channel-by-channel repeatedly. You may see some of the gauges changing their height occasionally. To determine the channel quality in a longer time span, you can refer to the average channel quality measurement from the small-shaped dot in each channel quality gauge.

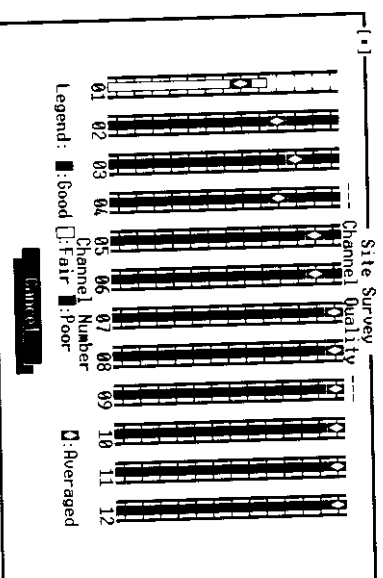


Fig 5.6 LANescape Utility Site Survey Screen

NOTE: If you run the LANescape Utility on a multi-processing operating system (such as MS-Windows), all concurrent network data transmission (if any) will be stopped temporarily during Site Survey session.

• **Link Quality Test**

Link Quality Test is a useful diagnostics tool for you to understand the point-to-point data transmission quality between two wireless LAN station. Or, if you use the Infrastructure wireless LAN configuration, you can test the transmission quality between your wireless LAN station and the WL2410 Access Point.

When Link Quality Test Screen is displayed, you may choose one of the roles that this wireless LAN station should perform.

NOTE: If you run the LANescape Utility on a multi-processing operating system (such as MS-Windows), all concurrent network data transmission (if any) will be stopped temporarily during Link Quality Test session.

1. **Act as Master test station (see Fig 5.7a):**

You should input the destination slave test station address before press [Start] button. The slave address can be found from the slave test station's screen (Fig 5.7b). The "Master Test Station" window (Fig 5.8) will be displayed after pressing [Start] button.

Fig 5.7a LANescape Utility Link Quality Test Screen - Master Selected

Fig 5.8 Master Test Station

The "Master Test Station" window (Fig. 5.8) contains the following status/statistical information during the Link Quality Test session:

☐ **Test Address:** The physical address of the destination slave test station. (Self physical address will be displayed while performing Access Point loopback test.)

☐ **Packet Sent:** Total test packets have been sent.

☐ **Packet Received:** Total responding packets have been received.

☐ **Packet Loss:** The percentage of packet loss.

☐ **Current Signal level:** The signal level when receiving last responding packet. The signal level is calculated as the percentage of its signal level measurement relative to the full signal level.

☐ **Link Quality:** A textual expression of the link quality evaluation. The evaluation of the link quality is judged by packet loss statistics. It can be one of following categories:

- A. **Excellent:** packet loss is less than 0.5%.
- B. **Good:** packet loss is between 0.5% to 2.0%
- C. **Acceptable:** packet loss is between 2.0 % to 5%
- D. **Poor:** packet loss is between 5.0% to 10%
- E. **Unacceptable:** packet loss is more than 10.0%

2. **Act as Slave test station (see Fig 5.7b):**

You can press [Start] button to start the slave test station. The "Slave Test Station" window (Fig 5.9) will be displayed after pressing [Start] button.

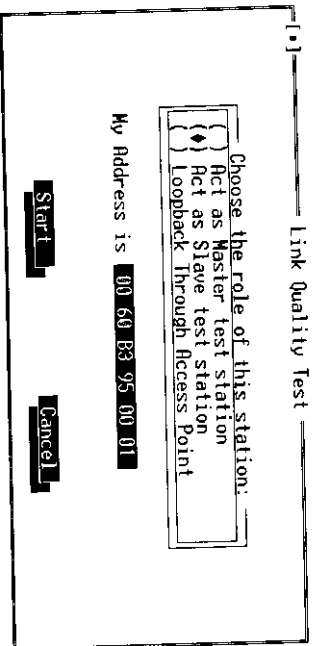


Fig 5.7b LANescape Utility Link Quality Test Screen - Slave Selected

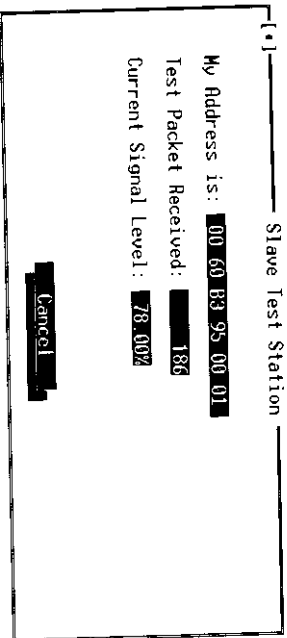


Fig 5.9 Slave Test Station

The "Slave Test Station" window (Fig 5.9) contains following status/statistical information during the Link Quality Test session:

- ☐ **My Address:** The slave test station's physical address.
- ☐ **Test Packet Received:** Total test packets received.
- ☐ **Current Signal Level:** The signal level when receiving last test packet. The signal level is calculated as the percentage of its signal level measurement relative to the full signal level.

3. Loopback through Access Point (see Fig 5.7c):

If you use the infrastructure wireless LAN configuration, you can select the Access Point loopback test. The loopback test is between this wireless station and the associated Access Point.

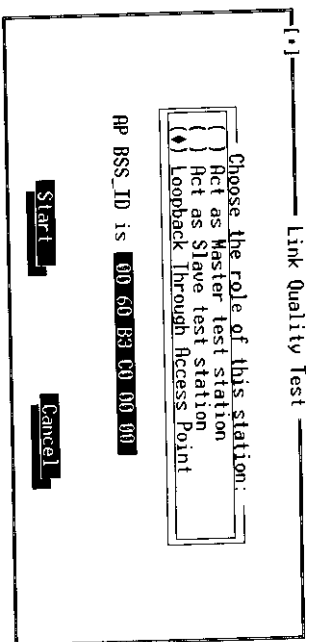


Fig 5.7c LANescape Utility Link Quality Test screen -Loopback Selected

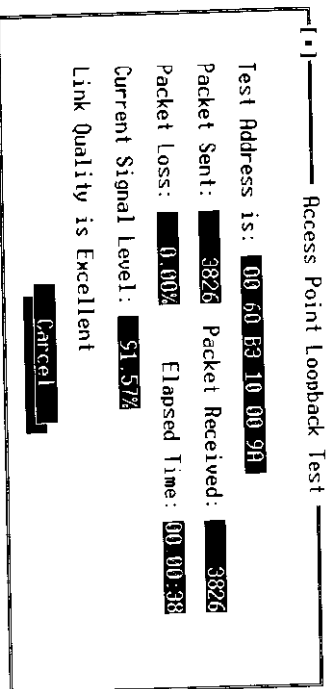


Fig 5.10 Access Point Loopback Test

• Access Point Browser

Select the [Access Point Browser] in Fig 5.4 and you will see a screen shown as Fig 5.11. Choose [Single Channel] if all your Access Points are operating on the same channel, and you will see the screen on Fig 5.12. You can monitor the Access Point on which your working station is currently attached to. If you have Access Points working on different channels, choose [Multi-Channel], and all the active Access Points will be shown. (For example: Fig 5.13)

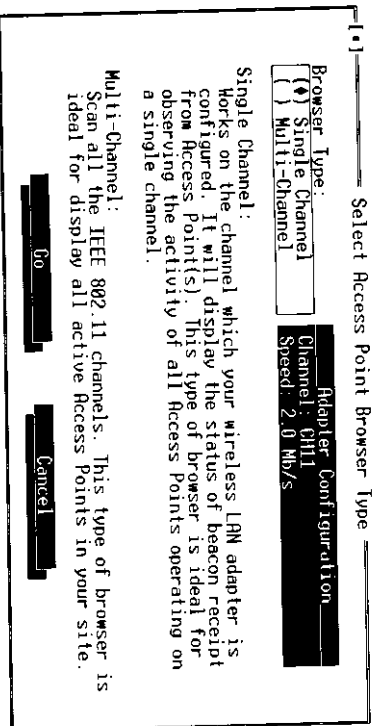


Fig 5.11 LANescape Access Point Browser Screen -Select the browser type

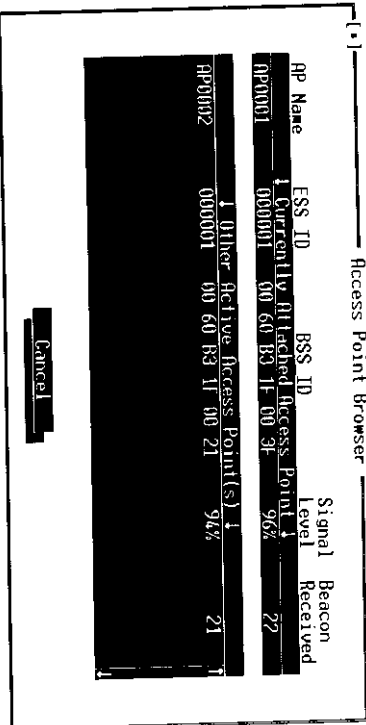


Fig 5.12 LANescape Access Point Browser Screen -Single Channel

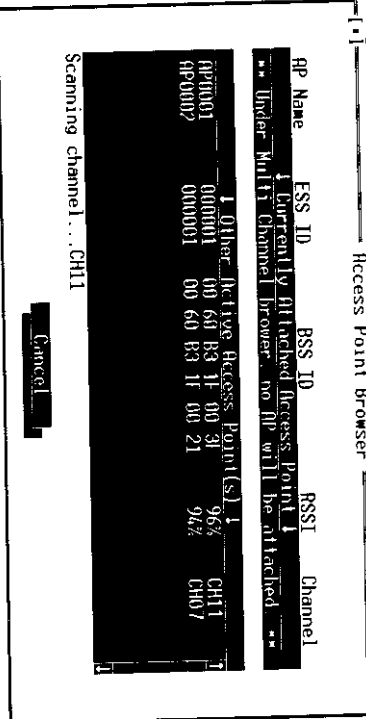


Fig 5.13 LANescape Access Point Browser Screen -Multi-Channel

When Access Point Browser screen (Fig 5.12 or 5.13) is displayed, you will see two Access Point information boxes:

1. **Currently Attached Access Point:** This box will display the Access Point which the wireless LAN station is currently attached to. (**NOTE:** There is no currently attached Access Point if this wireless LAN station is in Ad-Hoc mode or Multi-Channel browser is performed)
2. **Other Active Access Point(s):** If there are any other active Access Point can be listened by this wireless LAN station, they will be displayed in this box.

Each row of the Access Point information contains the following columns:

- ☐ **AP Name:** The name of the Access Point.
- ☐ **ESS_ID:** The ESS ID of the Access Point.
- ☐ **BSS_ID:** The BSS ID of the Access Point.
- ☐ **Signal Level:** Signal Level is the indicator of the radio signal coverage of the Access Point. The signal level is displayed in the percentage value of its current signal level measurement relative to the full signal level.
- ☐ **Beacon Received:** Each Access Point broadcasts "beacon" periodically. The wireless station will process these beacons to keep in touch with the network. It counts the beacons cumulatively from the beginning of the Access Point Browser session. This item only shows in the Single-Channel browser screen.
- ☐ **Channel:** The operating channel number of the respective access point. This item only shows in the Multi-Channel browser screen.

NOTE: If you run the LANescape Utility on a multi-processing operating system (such as MS-Windows), all concurrent network data transmission (if any) will be stopped temporarily while Access Point Browser is activating.

E. Firmware Upgrade

LANescape WL2450 Utility provides the function of upgrading the firmware in the wireless adapter to newer version. Choose the [Firmware Upgrade] button in Main Menu (Fig 5.2), and follow the directions on the screen.

CAUTION: Improper operation of firmware upgrade could damage your adapter. We strongly suggest that the firmware upgrade is done by experienced computer personnel and follows this instruction well to upgrade the firmware of your wireless LAN adapter.

- **Obtain The New Firmware**

The latest version of LANescape firmware can be obtained from Z-Com's home page at

"www.zcomwireless.com" or contact your local dealer for detail information.

- **Preparation**

Before doing firmware upgrade, please:

1. Close all running applications (especially, network applications), or, a reboot of your system is preferred.
2. Launch the WLU program, perform [Diagnostics Tools] ⇒ [Test Adapter] to verify the operation of your wireless LAN adapter.
3. Make sure the new firmware file is for your type of wireless LAN adapter (i.e., WL2450). Otherwise, the firmware upgrade tool will show up an "Invalid Firmware" message and refuse to do anything. The size of firmware file should be [32,768] bytes.
4. Memorize the path and filename to access the new firmware file. The firmware upgrade tool will ask you for that.
5. Always use the WLU program which works on your **current** version of firmware to do firmware upgrade. After firmware being upgraded, please read the documentation of the new firmware to determine if you need to upgrade your WLU program and drivers.

- **How to Operate the Firmware Upgrade Tool**

The Firmware Upgrade tool will perform the firmware upgrade in three steps. Please follow these step-by-step screens to upgrade the firmware of your LANEscape wireless LAN adapter.

First, a "Firmware Upgrade: Step 1 of 3" dialog box (Fig 5.14) will ask you for a filename to save a backup copy the current version of firmware in your LANEscape wireless LAN adapter. The backup copy will be valuable for restoring firmware if you have troubled to use the new firmware. Or, you can choose no to save the backup copy. Then, press the [Next] button to continue.

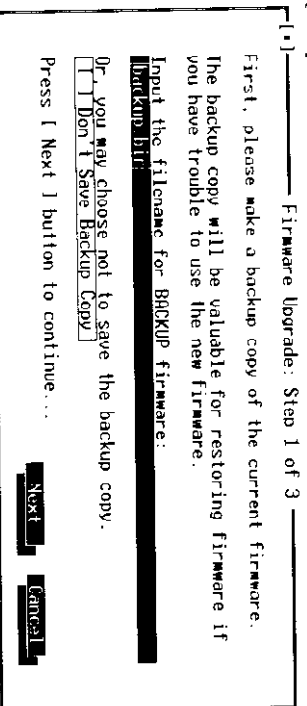


Fig 5.14 Firmware Upgrade: Step 1 of 3

Then, a "Firmware Upgrade: Step 2 of 3" dialog box (Fig 5.15) will show up. Please input

a full pathname to access the new firmware file. Once the filename is entered, press the [Next] button to install. If the file is successfully opened and verified, an "Install New Firmware..." message will be displayed. It will take about 5 seconds to finish the installation and verification. (If you access the new firmware file via a floppy drive, the process can take much longer than just 5 seconds.)

CAUTION: Don't power off, reset, or try anything to terminate the firmware upgrade while "Install New Firmware..." pop-up dialog box is in progress. Otherwise, your wireless LAN adapter will be damaged.

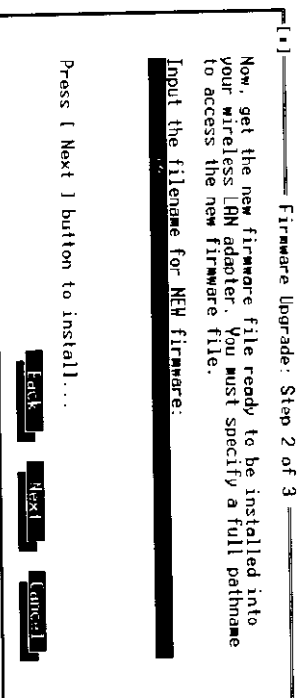


Fig 5.15 Firmware Upgrade: Step 2 of 3

Finally, if the installation is complete, a "Firmware Upgrade: Step 3 of 3" dialog box (Fig 5.16) will be displayed to show the result of installation. For the correct operation of your LANEscape wireless LAN adapter, please exit WLU and restart your computer. Please read the documentation of the new firmware to determine if you need to upgrade your WLU program and drivers.

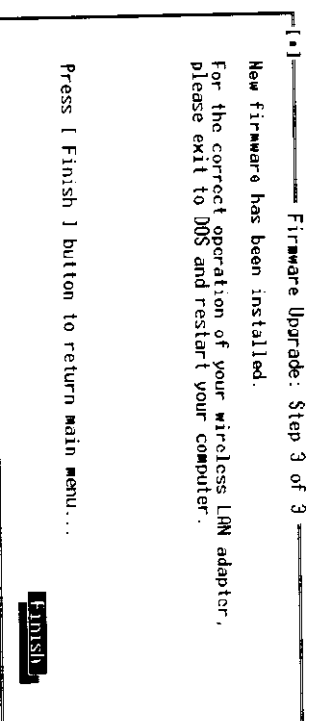


Fig 5.16 Firmware Upgrade: Step 3 of 3

Appendix A Specifications

Product	LANescape WL2450
Operating Frequency	2.412-2.462 GHz (FCC, Canada); 2.422-2.462 GHz (ETSI); 2.484 GHz (Japan)
RF Technology	Spread Spectrum Direct Sequence
Transceiver RF Output Power	50 mW
Data Rate	2 Mbps
Wireless Media Access Protocol	CSMA/CA, 802.11 Ready
Wired Media Access Protocol	CSMA/CD, 802.3
No. of Channels	12 Channels
Range	800 ft.
Host Bus Interface	RJ-45 & RS232 (9-Pin) interface
Driver	Needn't driver install
Regulatory Approval	FCC Part 15, CE Mark, ETS 300 328