



# MS-Windows Drivers v6.0

Update Information

March 2000

## What's new?

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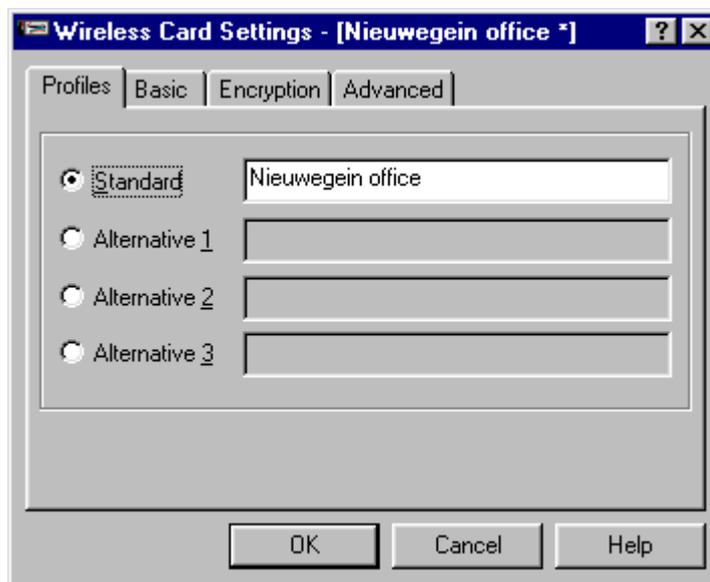
This document gives an overview of new functions offered by the WaveLAN System Release 6.0, for usage in stations (PCs) running Windows 95, 98 or NT. It describes the functions which are not yet covered in the documentation shipped with the WaveLAN / ORINOCO PC Cards. The WaveLAN Control Panel Applet

Release 6.0 of the WaveLAN system will include a significant change in the way the user can configure his WaveLAN card. Key changes are that configuration changes can be done without going through a card removal/reinsertion cycle or a PC reboot cycle, and that multiple configuration profiles can be kept in your PC.

## Driver Configuration Look With CPA

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The card configuration screens of the WaveLAN Windows drivers will be changed as indicated in the next paragraphs. These screens are part of the WaveLAN Control Panel Applet (CPA), which will be automatically installed when the driver is installed, and which can be activated by doubleclicking the WaveLAN icon on the Windows Control Panel or by selecting "Settings" from the menu of the new Comms Quality Indicator program. The CPA presents itself with the following text in the titlebar: "Wireless Card Settings – [xxxxxxx]".



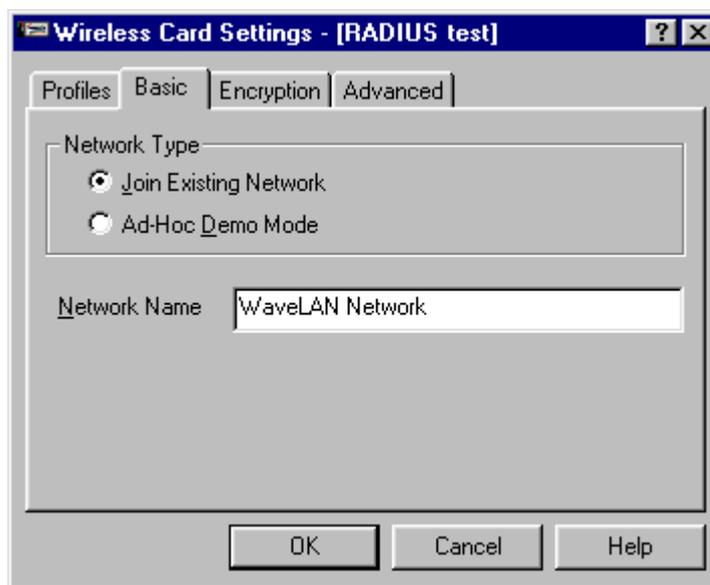
### “Profiles” tab

With this tab, the user is offered a method to quickly change configuration profile by pressing a radio button and OK. The driver is reconfigured (including re-initialization of the NIC) and restarted without the need for a re-boot of the PC for most changes. Those changes that require a reboot will alert the user to do a reboot.

The text field for the name of this configuration (e.g. "Nieuwegein-office", "Home", "Atlanta-office", "Library") can be entered when the configuration is selected via the radio button. It is grayed out for all but the currently selected one. Contents of the other tabs apply to what is selected on this screen; the title bar will reflect the currently selected configuration. When leaving the utility with OK, the chosen configuration (with possible changes in the next tabs) will be activated for the WaveLAN station.

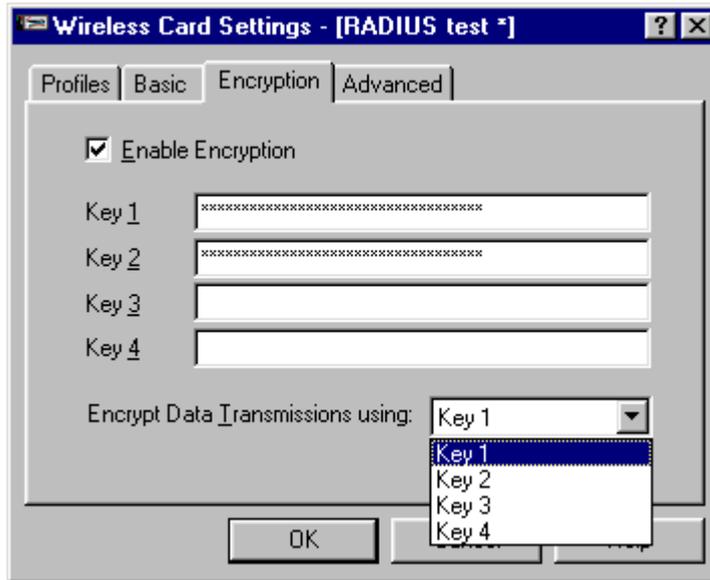
The first configuration (**Standard**) has a special meaning. It will be the default target for remotely initiated configuration changes. As example, a remote application can distribute and install WEP keys. When selecting the station, and sending updated keys, the standard configuration will be affected, unless specifically another alternative is identified.

At initial installation, or at any time a change needs to be made, the user can select here the configuration he wants to set-up or change.



### “Basic” tab

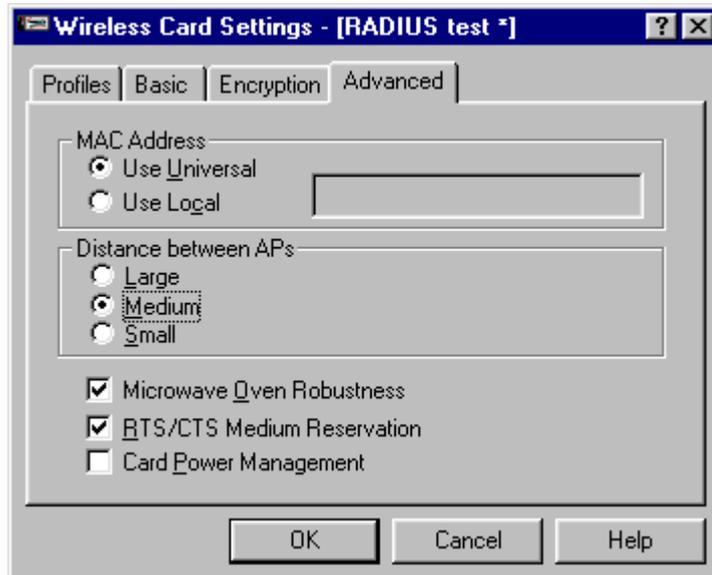
This screen concentrates on the key Wi-Fi required parameter for a Station, the SSID. In our case represented as “Network Name”. The Network Name field is grayed out if Ad-Hoc Demo Mode is selected. At the initial activation of the CPA, during driver installation, this tab is offered on top. This allows the user who wants to do minimum set-up to simply enter the Network Name string and press OK. In that case, the reference name for the “Standard” configuration (shown in the titlebar) will be “Standard”. Changing this name to another (e.g. “Office”) will require usage of the “Profiles” tab.



### “Encryption” tab

This screen allows entering of the second required Wi-Fi configuration parameter, the WEP key(s). No changes here relative to the current way of entering WEP information for system release 5.2 WaveLAN drivers. Fields are grayed out when Enable Encryption is not checked.

Entry of the keys requires exactly 5 printable characters (or exactly 13 for Gold Cards) or 10 hexadecimal digits preceded by “0x” (or exactly 26 for Gold Cards). Entering longer or shorter string will cause an error message.



### “Advanced” tab

This screen is changed quite a bit relative to earlier drivers. The construction of the “MAC Address” entry is such that the user has to specifically indicate that he wants to use Local Address before he can enter a MAC Address. The MAC Address field is grayed out if “Use Universal” is selected. Default = Use Universal.

The Local MAC Address parameter is the exception to the rule that no reboot is required. After changing this parameter, the program will ask the user to reboot in order to provide the information on the local MAC address to the protocol stack.

The parameter that used to be called "AP density" is now referred to as "Distance between APs", and is changed to radio buttons. These radio buttons need to be repeated in the WaveMANAGER/AP configuration that corresponds with this parameter. Default = Large.

NB: Distance options correspond with Density as shown below:

<u>Distance between APs</u>	<u>AP Density</u>
=Large	=Low
=Medium	=Medium
=Small	=High

"Microwave Oven Robustness" is a new parameter that must be turned ON (checked) when the station is expected to be used in the presence of microwave oven(s). Default = OFF (not checked).

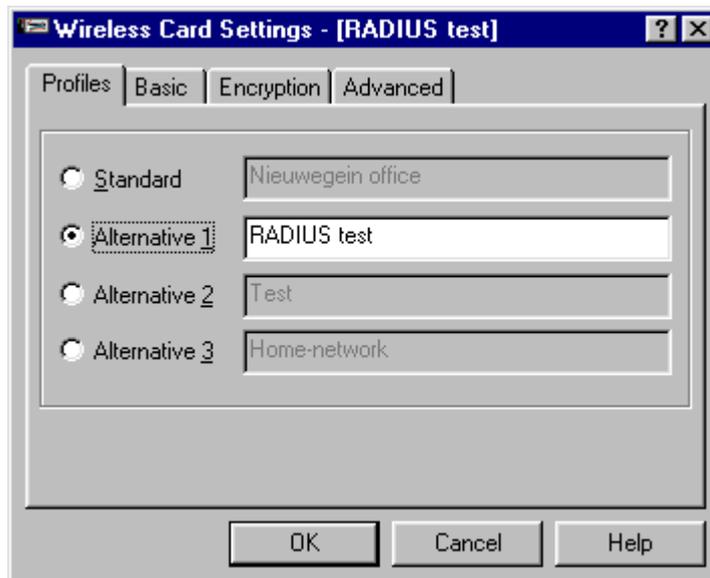
"RTS/CTS Medium Reservation" has the RTS/CTS as extra annotation. It will no longer refer to a selection list with "OFF" and "Hidden Stations". When ON, it will use the threshold as currently defined for Hidden Stations. Default = OFF (threshold = maximum).

"Card Power Management" replaces the former full tab on Power Management. When this is checked, all defaults from the previous configurator are applied. Default = OFF.

Notice that the Transmit Rate setting and the Fixed/Automatic setting are no longer possible by the user. The values used are "Highest Data rate" with Auto Fallback.

## Using Multiple Profiles

When multiple profiles are pre-configured, the Profiles Screen will look as shown below.



Next to the Standard configuration, three Alternative configuration profiles can be created. Switching between profiles is done by simply pushing the Radio button for the profile of choice and enter OK.

## Activating the WaveLAN CPA via the Windows Control Panel

When the release 6.0 Windows driver is installed, a new WaveLAN icon will appear on the Windows Control Panel as shown in the figure below. Doubleclicking the “WaveLAN” icon will start the Control Panel Applet at the “Profile” screen.



**Control Panel**

When activated in this manner, the CPA will come up with the “Profiles” tab on top. The user then has a simple manner of switching to another configuration profile. In required, he can make changes to a profile by going to the other tabs.

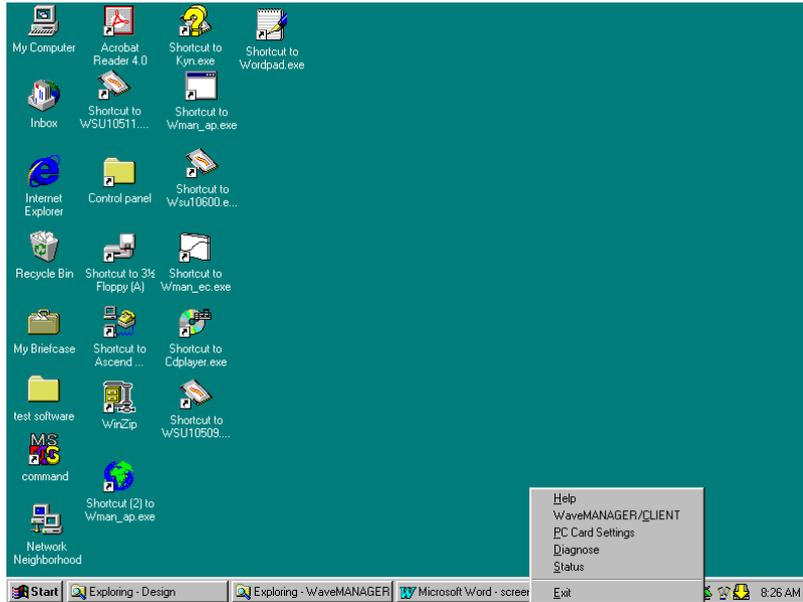
## Entering The WaveLAN CPA VIA CQI

An alternative manner to activate the WaveLAN CPA is via the new WaveLAN Comms Quality Indicator (CQI) icon. This icon is installed at the Windows task bar as shown in the figure below. When the cursor is put on this icon, it will display the current quality of the radio connection (as Excellent, Good, Marginal or No Connection). The color of the icon also reflects this status (green, yellow, red, white/black).



**CQI Icon on task bar**

When the icon is clicked with the right-hand mouse button, a pop-up menu is shown. Selecting the item “PC Card Settings” with the left-hand mouse button and releasing the button will activate the Configuration Applet at the “Profiles” screen.



## CQI Pop-Up Menu

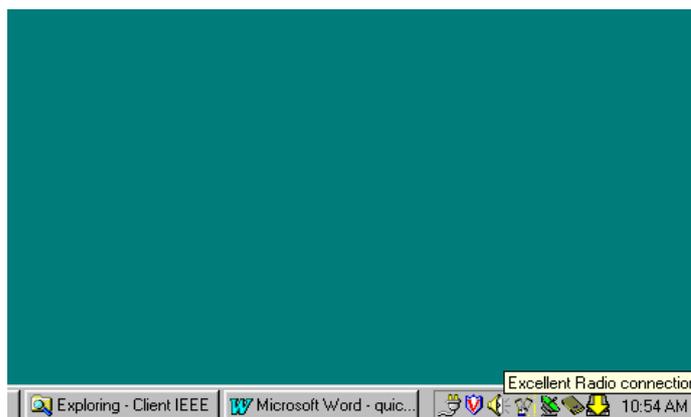
When finished with the CPA, the user can do OK (or Cancel). The pop-up menu will be gone then.

## The Comms Quality Indicator (CQI)

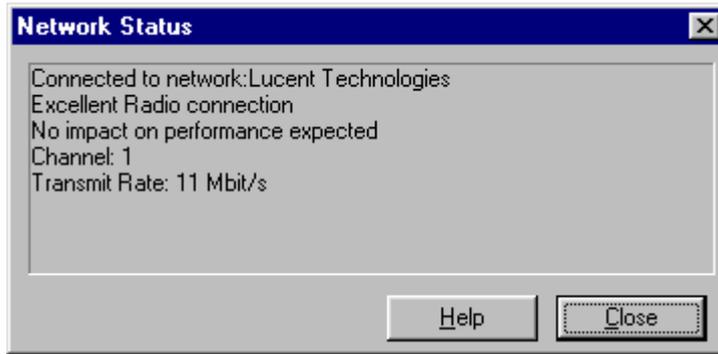
As already mentioned in the previous chapter, release 6.0 includes a new component called Comms Quality Indicator, abbreviated to CQI.

The CQI can be installed by running the SETUP.EXE in the directory \CQI\\*. \* of the update package loaded from the website.

The CQI icon on the Windows task bar is shown in the figure below. When the cursor is put on this icon, it will display the current quality of the radio connection (as Excellent, Good, Marginal or No Connection). The color of the icon also reflects this status (green, yellow, red, white/black).



When the icon is clicked with the left-hand mouse button, a “Network Status” information panel is shown.



This gives a quick overview of the key attributes of the Wireless network connection of this station. It shows the following lines:

“Connected to network: xxxxx”. Here the Network Name [=SSID] of the current connection is filled in

“No | Excellent | Good | Marginal Radio Connection”. This gives a qualifier for the current quality of the connection

“No Impact ...”. Here an indication is given on possible or probable impact the user may experience in his data communication.

“Channel: n”. Here the current frequency channel in use is shown

“Transmit rate: xx Mbit/s”. Here the actual data rate as used is shown.

When the icon is clicked with the right-hand mouse button, a pop-up menu is shown (see 1.4).

The following sections cover the functions from the pop-up menu (when the right-hand mouse button is used).

## Status

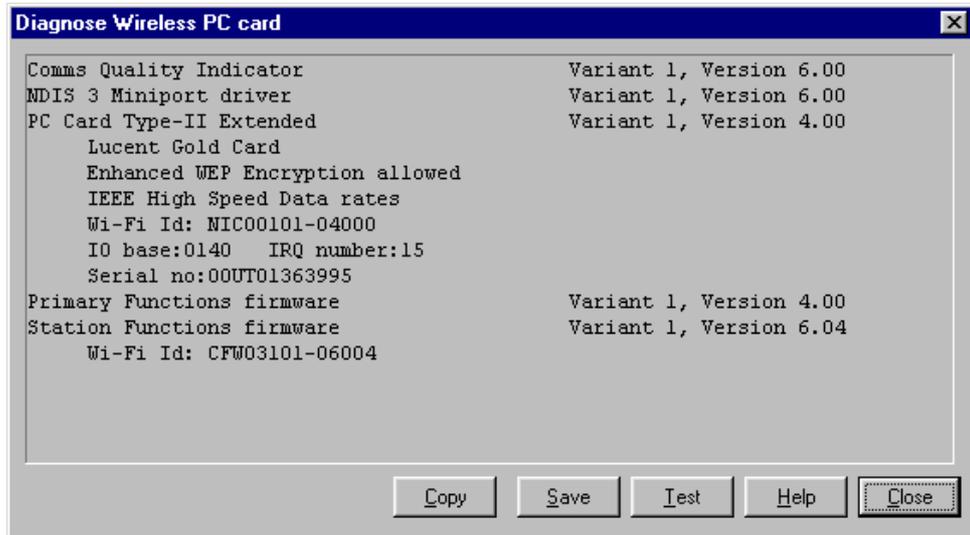
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The Status function displays the same status information as is shown when the lefthand mouse button is used.

## Diagnose

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The Diagnose function displays the following screen with variant and version information on the WaveLAN system components known by the CQI program.



For the WaveLAN PC Card additional information is displayed:

Type of card (e.g. Lucent GOLD card)

Encryption capabilities (No WEP, IEEE WEP, Enhanced WEP)

Data rates

Wi-Fi Hardware Identifier (for reference to Wi-Fi certificate)

IO Base and IRQ in use

The serial number of the Lucent PC Card

On the Station Firmware the following extra information is given:

Wi-Fi Firmware Identifier (for reference to Wi-Fi certificate)

When pressing the COPY button, a copy of the screen is made to the Windows CLIPBOARD. When pasting this into a file, it will look as follows:

```
- - - - - Wireless network card Diagnostics Log - - - - -
- -
```

This logfile identifies the version level of the various Wireless

network card components and systems settings of your computer.

Please include this log file with every support request to your

Orinoco Technical Support Representative.

```
- - - - -
Date: 2000/03/10 08:34:03
```

```
OS: Windows 95 Version 4.00.67109975 B
```

Comms Quality Indicator Version 6.00	Variant 1,
NDIS 3 Miniport driver Version 6.00	Variant 1,
PC Card Type-II Extended Version 4.00	Variant 1,
Lucent Gold Card	
Enhanced WEP Encryption allowed	
IEEE High Speed Data rates	
Wi-Fi Id: NIC00101-04000	
IO base:0140    IRQ number:15	
Serial no:00UT01363995	
Primary Functions firmware Version 4.00	Variant 1,
Station Functions firmware Version 6.04	Variant 1,
Wi-Fi Id: CFW03101-06004	

- - - - - End of File - - - - -

Using the SAVE button will ask for a file name, and will write a log to this file.



The TEST button performs a quick diagnostic test of the WaveLAN card and displays the result on the screen.

## PC Card Settings

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This function will activate the Control Panel Applet described before. It allows the user to make changes to his current configuration and re-apply them, or he can make a change to an alternative configuration. See the information on the CPA for more details on usage and possibilities of the CPA.

## WaveMANAGER/CLIENT

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This function will start up the WaveMANAGER/CLIENT program when that program is installed in the same directory as the CQI. When using the recommended installation options, this will automatically be the case. See the WaveMANAGER/CLIENT documentation for more details.

When the WaveMANAGER/CLIENT is not installed or not at the proper directory, this item will be omitted from the pop-up menu.

## WaveMANAGER/CLIENT

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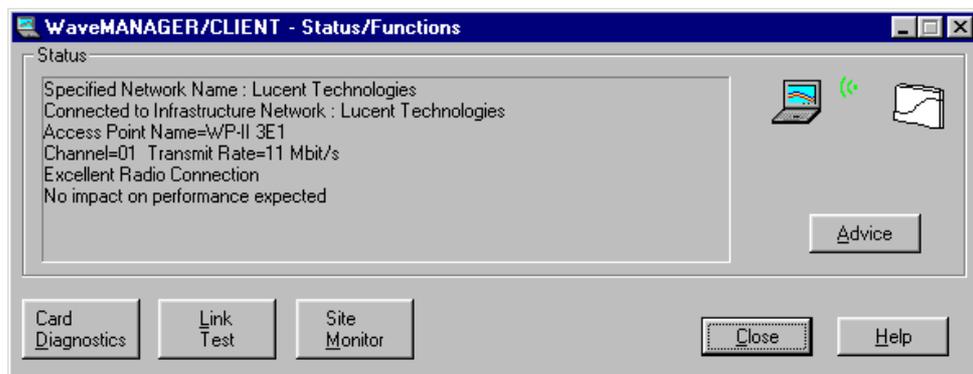
The WaveMANAGER/CLIENT utility can be installed from the SETUP.EXE in directory \WM-CL\\*. \* of the update image downloaded from the website.

The changes to WaveMANAGER/CLIENT are in the start-up panel and in the representation of the data rates in the Link Test function.

## Status Panel

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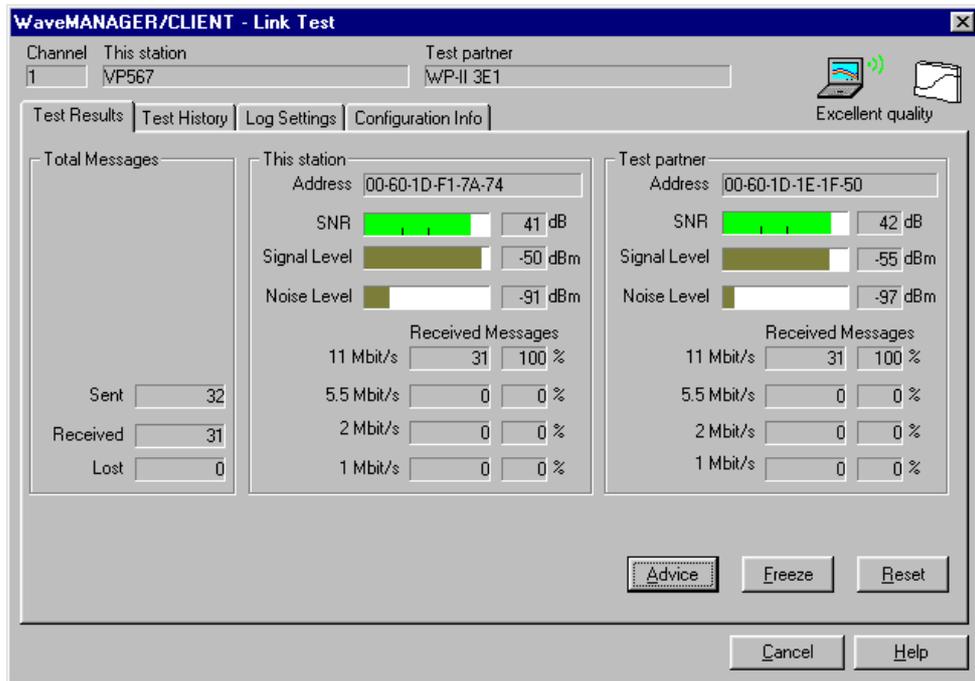
The lay-out of this panel has changed. The SNR information is no longer displayed



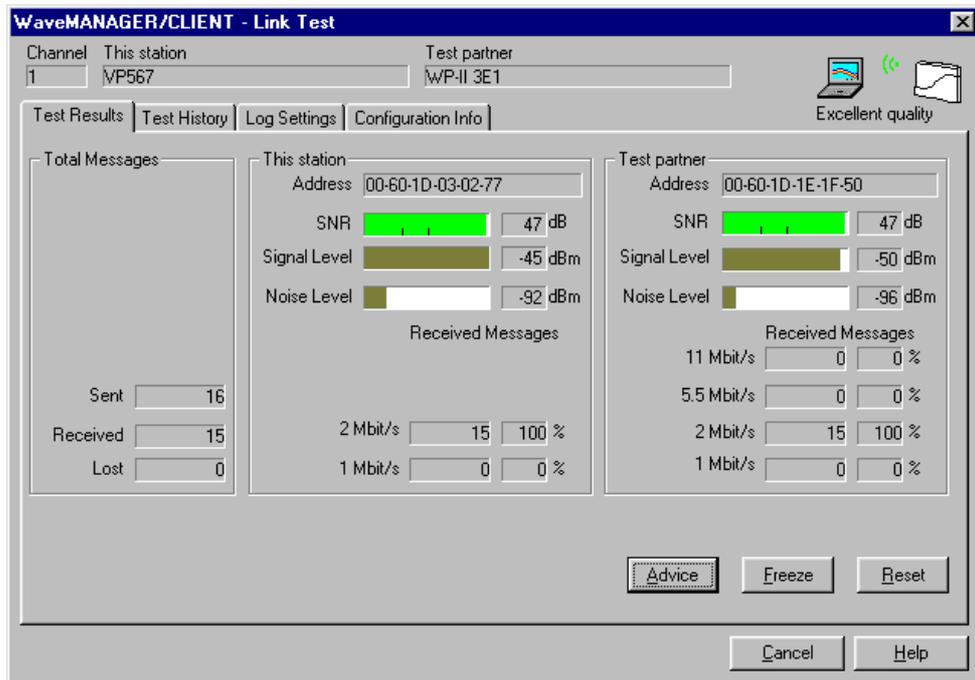
The line "Specified Network Name: Xxxxxx" indicates the string that was entered as desired Network Name. This can be a specific string or ANY.

The line "Connected to Infrastructure Network: Xxxxx" gives the Network Name (SSID) of the WavePOINT your PC is connected to.

## Link Test Panel



The Link Test will display the actual data rates used for the exchange. The sample above shows a Turbo 11Mb card in both PC and WavePOINT.



This example shows how the screen will look when a 2 Mbit/s card is used in the PC against a WavePOINT with a Turbo 11Mb card.