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WL-1100SD

Wireless 802.11b SD Card

User's Guide

Powered by OvisLink Corp.

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PACKAGE CONTENTS & SYSTEM REQUIREMENTS

Package

1. Manual (In CD-ROM)

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If you miss any of these items please contact your reseller.

System Requirements

- PDA with Windows® Pocket PC 2002 and 2003 with at least 32 MB memory
- Secure Digital (SD) slot (Assuming SDIO host controller and driver are already installed)
- Microsoft® Active Sync® should be installed
- An IEEE802.11b or Wi-Fi approved Access Point/Base station

INTRODUCING SD WLAN CARD CARD

The SD WLAN Card is a wireless network card that complies with the IEEE 802.11b standard on wireless LANs (Revision B).

SD WLAN Card features and benefits

- Wi-Fi (Wireless Fidelity) certified (Expected in Q2/04).

- Supports data rates up to 11 Mbps.

- Fully compatible with any other wireless LAN system based on Direct Sequence Spread Spectrum (DSSS) radio technology that complies with the "IEEE 802.11b standard on wireless LANs.

- Automatic Transmit Rate Select mechanism in the transmit range of 11, 5.5, 2 and 1 Mbps.

- 128 bit Wired Equivalent Privacy (WEP) data encryption and WPA support.

- Efficient Power Management.

- Roaming over multiple channels.

- Working range up to 300 meters in an open environment.

- Supports Ad-hoc and infrastructure modes for easy wireless communication.

SD WLAN Card Wireless Network Scenarios

- The SD WLAN Card enables you to:
- Connect your computer to a Peer-to-Peer workgroup of wireless computing devices
- Connect your computer to a Small Office/Home Office (SOHO) network that includes Wi-Fi access points.
- Connect your computer to a Local Area Network (LAN) Infrastructure that includes the SD WLAN Card, or other IEEE 802.11b compliant LAN systems

Wireless stations can be equipped with the SD WLAN Card, but also with other WLAN PC Cards. Both the SD WLAN Card and the WLAN PC Card share the same wireless functionality.

Peer-to-Peer (Ad-hoc) Workgroup

The Peer-to-Peer workgroup configuration enables you to quickly set up a small wireless workgroup, where the workgroup participants can exchange files using features like "Files and Printer Sharing" as supported by Microsoft® Networking.

You can use this option to setup a temporary or Ad-hoc network in environments where no access points are available (for example in Small Office/Home Office "SOHO" environments). As long as the stations are within range of one another, this is the easiest and least expensive way to set up a wireless network.

Home Networking

With SD WLAN Card, wireless access to the Internet or other devices is at your fingertips. All you need to do is connect the SD WLAN Card to an existing access point that may be connected to the external Cable or xDSL modems and you are ready to:

- Share files and printers, and
- Access the Internet.

2-2-3 Enterprise Networking

With the Wi-Fi certified Access Point in the corporate network system, you can connect to a corporate Local Area Network (LAN) infrastructure to access all network facilities in wireless. LAN Infrastructures may either be:

- Stand-alone wireless LANs.
- Wireless network infrastructures connected to an existing Ethernet network.
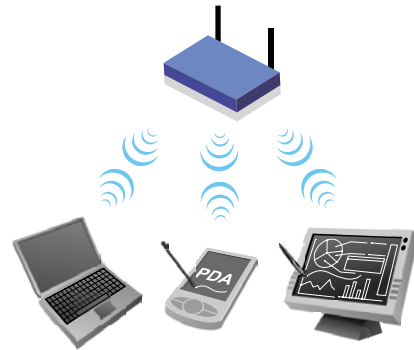
About the SD WLAN Card CD-ROM

The SD WLAN Card CD-ROM contains both software and documentation for the SD WLAN Card card.

INSTALLING THE DRIVER

Installation of the SD WLAN Card Driver to the Pocket PC using Microsoft Active Sync®

1. Connect your PDA to your computer and make sure Active-Sync® has established for a connection between the two devices.
2. Insert the CD ROM to your PC. The following screen will apeear, click **Install Driver** to start driver installation. After driver installation is complete, clik **Install Utility** to start utility installation.
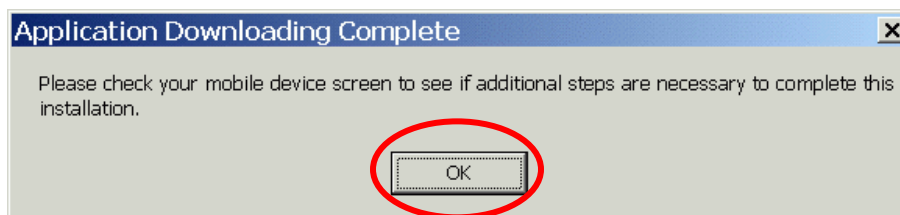
Note: Do not insert the SD WLAN Card into the card slot of your PDA until the Driver (Step 1) and Utility (Step 2) installations have been performed.

Step 1
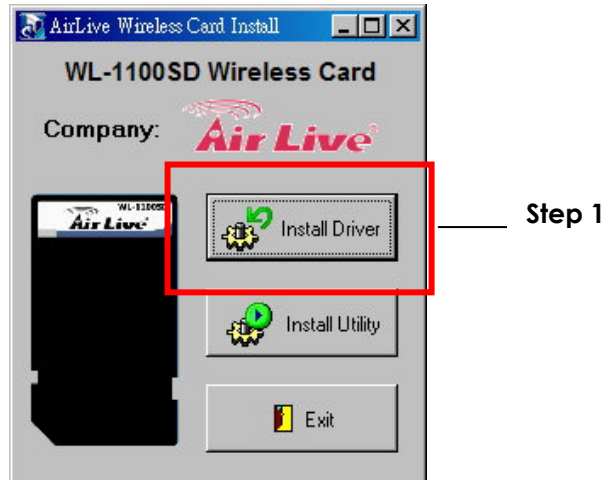
3. Click **"YES"** to proceed the installation.
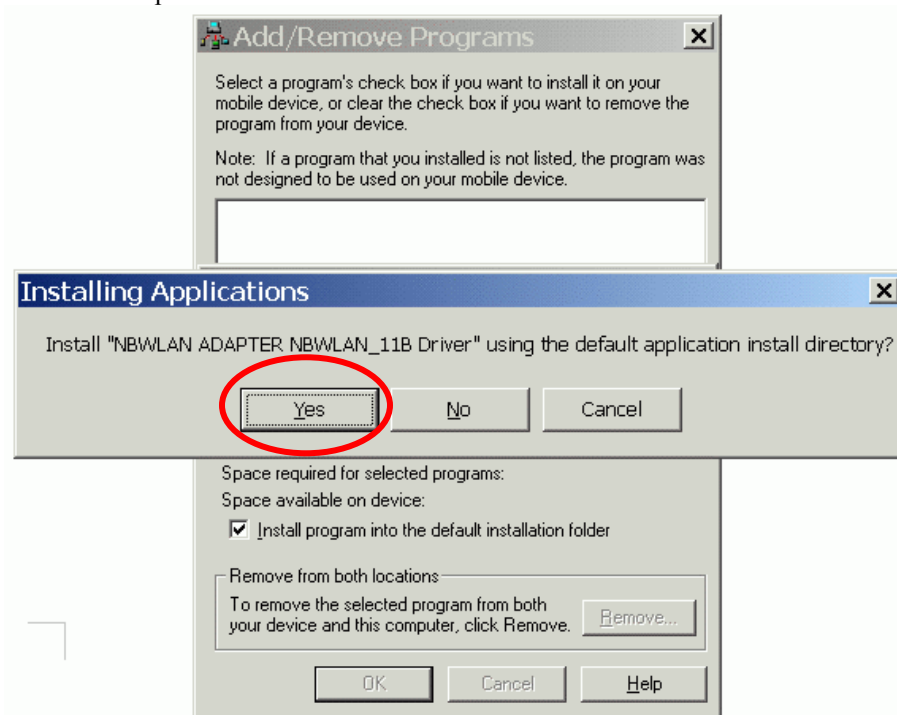
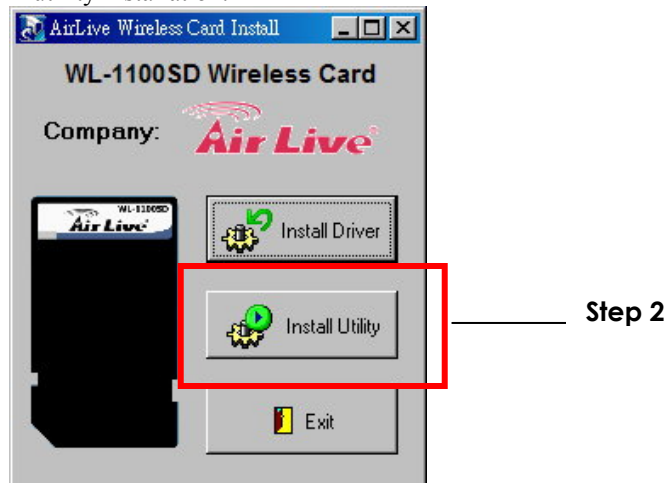4. Click **"OK"** to complete the driver installation.

## To verify if the installation of the driver was completed

successfully:

1. Soft reset the PDA (push Soft-reset Button of PDA)
   * Some PDA may not require resetting but it should be safer to reset.
2. Insert the SD WLAN Card into the PDA
3. Check the LED on the SD WLAN Card. If steady **Blue** light is seen, the SD WLAN Card is active.
4. (Optional) To check the quality of the network connection, you should use the SD WLAN Card configuration utility program as described in the next section

SD WLAN CARD CONFIGURATION UTILITY

1. Click **Install Utility** to perform utility installation.

2. Click **"YES"** to proceed the installation.
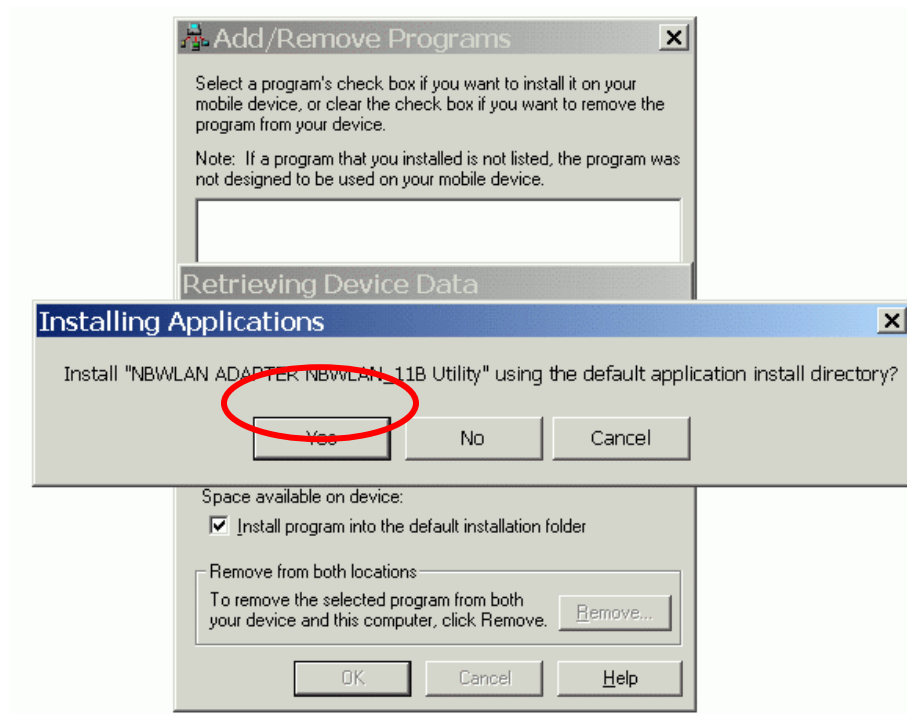
3. Click **"OK"** to complete the driver installation.
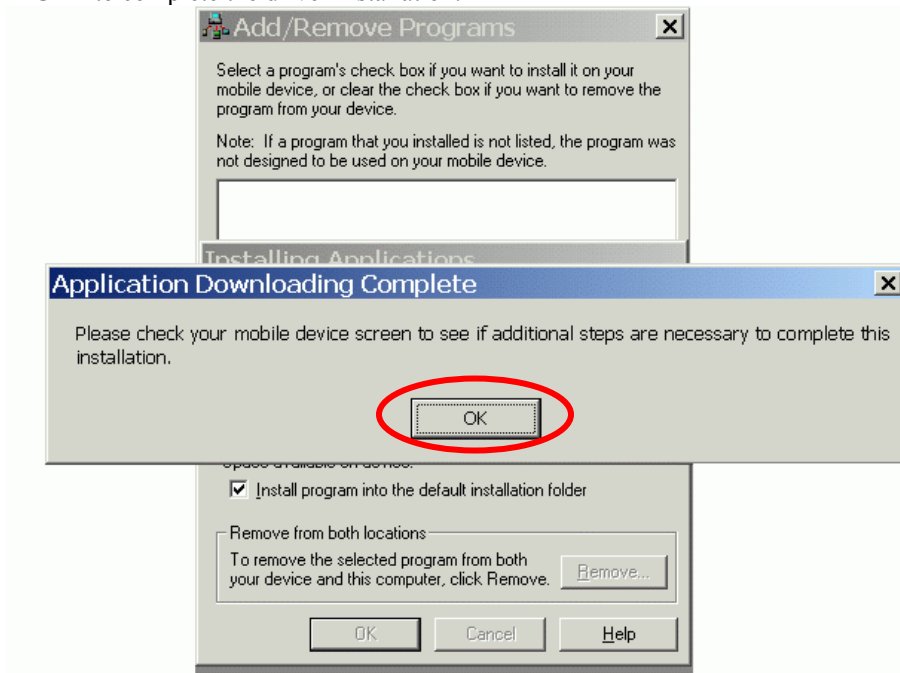
CONFIGURING THE UTILITY

Status tab

SSID	The current access point name (ESS ID)
Status	The current connection status.
Type	The current connection mode.
Channel	The wireless radio channel currently used by the card.
Tx Rate	The current transmit rate. This can be 1 Mbps, 2 Mbps and 5.5 Mbps.

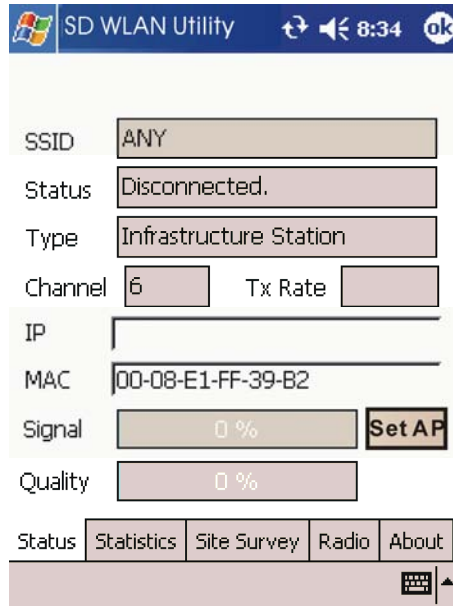| IP	The IP address of the card.
MAC	The MAC address of the card.
Signal	Shows the signal strength of the received signal.
Set AP	Click to enter wireless network configuration screen.
Quality	Shows the signal quality of the received signal.

Statistics tab
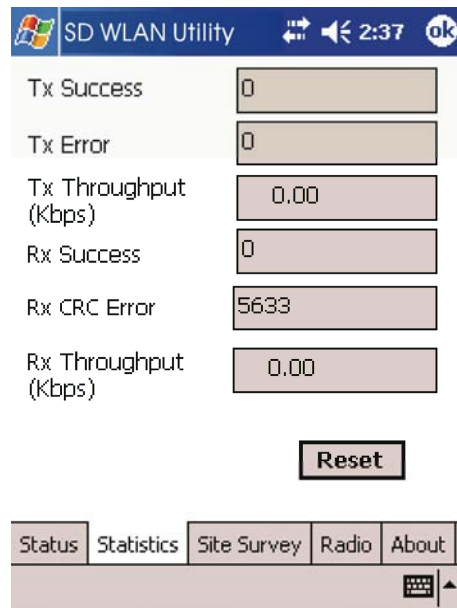
Tx Success	The number of successfully transmitted packets.
Tx Error	The number of unsuccessfully transmitted packets.
Tx Throughput (kbps)	The actual instantaneous transmit rates, in Kbps.
Rx Success	The number of successfully received packets.
Rx CRC Error	The number of unsuccessfully received CRC packets.
Rx Throughput (kbps)	The actual instantaneous receive rates, in Kbps.
Reset	Click to clear the previously settings.

Site Survey tab
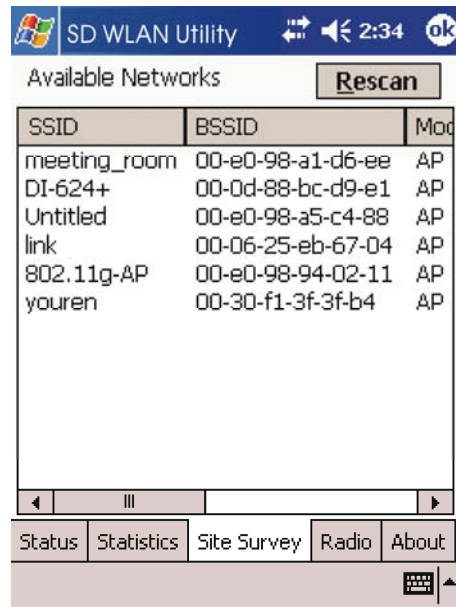
Rescan	Searches for all available networks. Clicking on the button, the device will start to rescan and list all available sites.
SSID	The current access point name.
BSSID	The MAC address for the Access Point or station.
Mode	The currently connected device mode.
WEP	WEP (Wired Equivalent Privacy) shows the current WEP used in the AP. WEP can be enabled or disabled.
CH	The wireless radio channel currently used by the card.
Signal	The signal strength from the network Access Point or station.
Support Rates	Displays all the supported rates.

Radio tab

S/W Radio	Select **Off** or **On** to turn off/on Radio Frequency function.
Power Saving	**Disable**: Select to disable power saving function. **Enable (Max):** Select to enter power saving mode instantly. **Enable (Fast):** Select to enter power saving mode later (Under the circumstances of not receiving/transmitting packets, the system will enter Power Saving mode in 10 seconds).

About tab

Shows the driver version and the utility version.
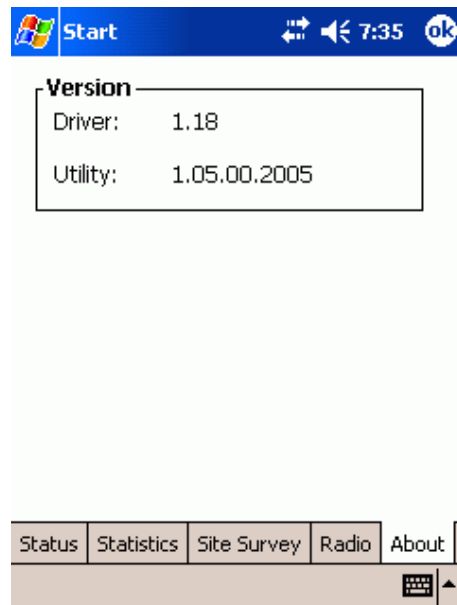
SDIO WIRELESS LAN CARD SPECIFICATIONS

	Item	Specification
1	Frequency Range	2412 – 2484 MHz (ISM band)
2	Tx Modulation	Direct Sequence Spread Spectrum, DSSS
3	Coding Modulation	DBPSK (1Mbps), DQPSK (2Mbps), CCK (5.5 & 11Mbps)
4	Media Access Control Method	CSMA/CA
5	Bus Type	SD (by CG-100 SDIO controller)
6	Standard	IEEE802.11b
7	Approval	FCC, part 15.247 (USA) EN 300.328 (Europe) TELEC STD-T33 / ARIB STD-T66 (Japan)
8	Antenna	Single
9	Input Power	3.3 VDC ± 0.2V
10	Tx Output Power	12dBm ± 1 dB
11	Power Consumption	< 250 mA typical < 280 mA receive < 10 mA power save mode < 1.5 mA deep sleep mode
12	Rx Sensitivity	-87 dBm @ 11 Mbps -91 dBm @ 5.5 Mbps -94 dBm @ 2 Mbps -96 dBm @ 1 Mbps
13	Temperature	0 - 40°C (operational) -20 - 80°C (storage)
14	Dimension in mm	55(L) x 24(W) x 2.1(T)
15	Weight	7g

TROUBLESHOOTING

Introduction

This chapter provides typical problems with their own specific troubleshooting tips.

Common Troubleshooting Tips

LED Activity

If you encounter difficulty using and/or installing your SD WLAN Card product, the error may be related to various causes :
- Out-of range situation, which prevents the SD WLAN Card from establishing a wireless connection with the network.
- Configuration mismatch, which prevents the SD WLAN Card from establishing a wireless connection with the (correct) network.
- Absence of, or conflict of the SD WLAN Card Driver .
- A problem or conflict with the SD WLAN Card socket from powering on.
- A conflict of the SD WLAN Card hardware with another device.
The starting point to troubleshoot problems with your SD WLAN Card is looking at the LED activity of the SD WLAN Card.

LED Activity
- ❖ The power LED will be blank when the SD WLAN Card is properly inserted but not transmitting/receiving data.
- ❖ The Act LED will be blinking Blue when transmitting/receiving wireless data.

Cannot Connect To Network

If your SD WLAN Card seems to be working fine, but you are not able to connect to the network, this error might be due to a configuration mismatch.
For example if LED of your SD WLAN Card lights, the problem is likely to be caused by a configuration mismatch of :
- Network Name (The SD WLAN Card Network Name is case-sensitive).
- Encryption Key
Other causes may be:
- No driver loaded.
- Station not authorized to access network.
- SD WLAN Card defect.
The most common cause is simple mistake. First check whether the card is inserted properly or not. Check whether any APs are available or not. If you see many APs, select any of one those APs and click connect. If you don't see any APs click Rescan Button. If you still don't see AP list after refscanning, it is possible that no active AP is nearby. You may be in the dead zone. Move around or change the PDA orientations. It may help.

Cannot Find the AP

Check the available access point in the neighborhood by clicking the **Site Survey** tab in the utility. If the access point requires WEP key, input the same WEP key then try to connect again. If you do not know the WEP key, contact the system administrator to obtain the appropriate key.
For identifying the specific AP, check the wireless networks available in the neighborhood. If the AP shows ESSID, use the same ESSID to connect the AP. ESSID is assigned to the specific AP for that purpose.

The System is Very Slow

Some devices with non-powerful CPU may suffer their performance significantly. If the system is very slow, check
- If you are opening many windows, close them
- Change the antenna orientation for better signal reception
- Check the signal strength if it is weak move toward the AP.

SD WLAN Card Does Not Operate After Returning From the Stand-by or Sleeping Mode

This may happen when the driver is not functioning. Reinstall the SD WLAN Card driver again.