

Wireless - N PCI Adapter

User's Manual

Model # AWN-11N-PCI

FCC Warning

This equipment has been tested and found to comply with the limits for a Class C 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

- Consult the dealer or an experienced radio/TV technician for help. the receiver is connected.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of about eight inches (20cm) between the radiator and your body.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Modular Approval Statement:

This device is intended to be used only for OEM integrator under the following conditions: 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and

2) The transmitter module may not be co-located with any other transmitter or antenna.

IMPORTANT NOTE:

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Revision History

Revision V1.0 History First release

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Contents

1. Introd	uction	5						
1.1 F	Features	5						
1.2 L	ED Indicator	5						
1.3 F	Package Contents							
1.4 E	Sefore you start	6						
1.5 H	lardware Installation	6						
2. Install	ation Procedure	8						
2.1 F	For Windows XP and 2000	8						
2.2 F	For Vista	14						
3. Wirele	ess Network Configuration Utility	19						
3.1 For W	/indows XP & 2000	19						
3.1.1	Start	25						
3.1.2	Profile	31						
3.1.3	Network							
3.1.4	Advanced							
3.1.5	Statistics							
3.1.6	WMM	39						
3.1.7	WPS	45						
3.1.8	About							
3.1.9	Link Status	49						
3.1.10	Enable AP Mode Feature in Windows 2000 OS	50						
3.2 For W	/indows Vista	56						
3.2.1	Profile	56						
3.2.2	Link Status	64						
3.2.3	Site Survey	65						
3.2.4	Statistics	69						
3.2.5	WPS Configuration	72						
3.2.6	QoS	74						
3.2.7	About	81						
3.2.8	How to Manage Windows Profile							
4. Troub	leshooting	86						

1. Introduction

This is a wireless client device that delivers unrivaled wireless performance for your Desktop PC. It complies with IEEE 802.11n draft standard and backward compatible with IEEE 802.11b/g. With this adapter, you can easily upgrade your Desktop PC wireless connectivity. Once the wireless PCI adapter is connected, access the network with high-speed Internet connection while sharing photos, files, music, video, printers, and storage. Get a better Internet experience with a faster wireless connection so you can enjoy smooth digital phone calls, gaming, downloading, and video streaming. It also provides peer-to-peer communication among any compatible wireless users and no Access Point required.

This Wireless PCI Adapter provides maximum transfer rate up to 300Mbps and supports WEP, WPA, WPA2 and WPS high-level WLAN security features that guarantee the best security for users.

This product is made in ISO9001 approved factory and complies with FCC part 15 regulations and CE approval.

1.1 Features

- Complies with draft IEEE 802.11n standard
- Up to 300Mbps data transfer rates in 802.11n mode
- Backward compatible with IEEE 802.11b/g
- Legacy and High Throughput Modes
- 20MHz/40MHz bandwidth
- Supports 64/128-bit WEP Data Encryption
- Supports WPA, WPA2, WPS, 802.11i advanced security
- Supports both Infrastructure and Ad-Hoc Networking Modes
- Supports Quality of Service (QoS) WMM, WMM-PS
- Supports Multiple BSSID
- Supports Windows 2000/XP/Vista
- Simple user setup and diagnostics utilities

1.2 LED Indicator

LED	Light Status	Description
ACT	Blinking	Data is being transmitted or received.
LINK	On	Wireless link is established.

1.3 Package Contents

- One Wireless PCI Adapter
- Three External Antennas
- One CD-ROM (Drivers / Utility, User's Manual)

If any of the above items is missing, contact your dealer immediately.

1.4 Before you start

You must have the requirements as follow,

- A computer with an available PCI slot
- At least a 300MHz processor and 32MB memory
- Windows 2000/XP/Vista support
- A CD-ROM drive
- Wireless PCI Adapter properly installed

1.5 Hardware Installation

STEP 1: Turn off your computer and remove its cover

STEP 2: Insert the PCI card to an available PCI slot firmly. Please refer to the illustration below:



STEP 3: Secure this card to the rear of the computer chassis and put back the cover.

STEP 4: Secure the antenna to antenna connector of the card. Please refer to the illustration below:



STEP 5: Turn on the computer.

[Guidelines for the Hardware Installation]

Please observe the following guidelines when you are installing the PCI card to the Desktop PC:

Avoid placing the PC close to obstacles

Obstructions such as concrete and thick walls limit radio signal penetration and reduce the throughput and the coverage range of the PCI card.

Place the PC as high as possible

The higher the PC is placed, the better the performance.

Adjust the antenna position

The WLAN PCI card has two antennas for signal reception and one antenna for high power signal transmission. The antennas on the right and left side are for signal reception and should be set perpendicular (90 degrees) to each other. The central one is for signal transmission and should be pulled up about 45 degree. Please refer to the illustration below:



2. Installation Procedure

Note: If you have installed the Wireless Adapter driver & utility before, please uninstall the old version first.

2.1 For Windows XP and 2000

STEP 1: Found New Hardware Wizard is displayed after the adapter is installed and the computer is restarted. Please click **Cancel** to continue.

The wiza	d could not find the software on your computer for
2	Network Controller
It is rec look fo	commended that you connect to the Internet so that the wizard can search online and r the appropriate software.
0	Yes, connect and search for the software on the Internet
0	No, do not connect to the Internet now
lf you i the Ad	now another place where the software might be located, click Back and select vanced option.

(For Windows XP)

Upgrade Device Driver Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard upgrades drivers for the following hardware device:
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< <u>B</u> ack <u>N</u> ext > Cancel
(For Windows 2000)

STEP 2: Insert Installation CD into CD-ROM drive then windows below will appear. Click **Install Driver** to begin device driver installation.



STEP 3: Please read the following license agreement. Use the scroll bar to view the rest of this agreement. Select **I accept the terms of the license agreement** and click **Next** to continue.



STEP 4: In Windows XP, there is a **Windows Zero Configuration Tool** for you to setup wireless adapter. You can choose to configure the adapter through the **Microsoft Zero Configuration Tool** or the **Ralink Configuration Tool**. It is recommended to choose the **Ralink Configuration Tool** for the adapter. Click **Next** to continue.



STEP 5: If you need the adapter to operate with better performance, please choose **Optimize for performance mode** to enable the **Tx Burst mode**. Or you can choose **Optimize for WiFi**

mode to run in standard wireless network.

Relifik Wireless LAN - Install	Shield Woxerd	8
Setup Type Select the setup type that best a	uda yoka manda	
	Choose Configuration Talliant or WF1	
	Castones to WFinands	
R.		
A Ralink		
(Jernal/Scial)	(Back Heet)	Carcol

STEP 6: Click Install to begin the installation.



STEP 7: Please wait for a while during the adapter is configuring your new software installation.



STEP 8: After the setup wizard has successfully installed wireless LAN, click **Finish** to exit the wizard.

Ralink Wireless LAN - Install	Shield Wizard
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Ralink Wireless LAN. Click Finish to exit the wizard.
Ralink	
InstallShield	Keack Finish Cancel

To check if the adapter is properly installed, you can right-click **My Computer** \rightarrow choose **Properties** \rightarrow click **Device Manager**.



(For Widows XP)

(For Widows 2000)

The Configuration Utility appears as an icon on the system tray of Windows while the

adapter is running. You can open the utility by double-click on the icon.

Right-click the icon, there are some items for you to operate the configuration utility,

- Launch Config Utilities → Select this option to open the Configuration Utility tool.
- Use Zero Configuration as Configuration utility → Select this option to use Windows XP built-in wireless configuration utility (Windows Zero Configuration) to configure to card.
- Switch to AP Mode → Select this option to change to AP mode.
- **Exit** \rightarrow Select **Exit** to close the Configuration Utility tool.



2.2 For Vista

STEP 1: Found New Hardware Wizard is displayed after the adapter is installed and the computer is restarted. Please click **Cancel** to continue.



STEP 2: Insert Installation CD into CD-ROM drive then windows below will appear. Click **Install Driver** to begin device driver installation.



STEP 3: Please read the following license agreement. Use the scroll bar to view the rest of this agreement. Select **I accept the terms of the license agreement** and click **Next** to continue.



STEP 4: Click Install to begin the installation.



STEP 5: Please wait for a while during the adapter is configuring your new software installation.



STEP 8: After the setup wizard has successfully installed wireless LAN, click **Finish** to exit the wizard.

Ralink Wireless LAN - InstallShield	Wizard
	InstallShield Wizard Complete
	The InstallShield Wizard has successfully installed Ralink Wireless LAN. Click Finish to exit the wizard.
2	
R _{Ralink}	
InstallShield	< Back Finish Cancel

To check if the adapter is properly installed, you can right-click **My Computer** \rightarrow choose **Properties** \rightarrow click **Device Manager**.



The Configuration Utility appears as an icon on the system tray of Windows while the

adapter is running. You can open the utility by double-click on the icon.

		tes Pressee					
SSID	BSSID	Phy	Signal	▲ C	Encryption	Authentic	Network Ty
Default_11N	00-06-4F-33-44-66	N	29%	6	None	Unknown	Infrastructure
UNI	00-06-4F-50-1E-B6	G	44%	6	None	Unknown	Infrastructure
SMC	00-13-F7-19-26-D2	G	86%	6	None	Unknown	Infrastructure
RT2561_1	00-AA-BB-01-23-45	G	10%	6	None	Unknown	Infrastructure
WLAN_SW	00-07-40-F1-99-42	G	100%	9	TKIP	WPA-PSK	Infrastructure
Belkin_N1	00-17-3F-5A-8E-AD	N	86%	11	AES	WPA-PS	Infrastructure
WR514VN	00-06-4F-46-73-6D	N	100%	11	TKIP	WPA-PSK	Infrastructure
mySSID	00-03-7F-FE-00-02	G	76%	11	None	Unknown	Infrastructure
Connected <> V	VLAN_SW			Rescar	n	Add to I	Profile

Ralink wireless utility needs to cooperate with Microsoft AutoConfig service in order to perform scanning and connecting actions, so the AutoConfig service should be enable beforehand.



Control Menu \rightarrow Once Ralink wireless utility is minimized, the user can click the Ralink icon on the taskbar to bring up the control menu.

- Launch Config Utilities → Restore Ralink wireless utility window.
- Switch to AP Mode → Select this option to change to AP mode.
- **Exit** \rightarrow Select **Exit** to close the Configuration Utility tool.

3. Wireless Network Configuration Utility

3.1 For Windows XP & 2000

The Configuration Utility is a powerful application that helps you to configure the Wireless LAN adapter and monitor the link status and statistics during the communication process.

When the adapter is installed, the configuration utility will be displayed automatically. This adapter will auto connect to wireless device which has better signal strength and no wireless security setting.

In Windows XP, it provides wireless configuration utility named "Windows Zero configuration" which provides basic configuration function for Ralink Wireless NIC, Ralink's Utility (RaUI) provides WPA supplicant functionality. To make it easier for user to select the correct utility, RaUI will let user make the selection when it first runs after windows XP boots.

RaUI can co-exist with WZC (Windows Zero Configuration). When coexisting with WZC, RaUI only provides monitoring function, such as link status, network status, statistic counters, advance feature status, WMM status and WPS status. It won't interfere with WZC's configuration or profile functions. Please see below picture: To select WZC or RaUI



If "Use Zero Configurations as Configuration utility" is selected, please continue on the section. Below picture shows that the RaUI status when WZC is active as main control utility.

RaUI								1
Pintio	Network	Advanced) Statistics	VANA	Ø WPS	Radio On/Off	R	5
iorted by ++	🔘 SSID	G Channa	i	Signal		Show dBn		
Shiarar 2860A	P	10 in		81%				- 34
222		173		558	_			
Albert Y-200		200		765				
6P		101		575				
401		100		1028			_	
APPA		No.		708				- 1
Mar.		10.11		DIN .	_			
Receiver		10.11		010	_		-	
Drobation Drobate Rd		10		201				
Cabra		ebs	80 +	348	-		2	
Recen	Center	-Ant In Parties						
Statur	>> 4P1 =-== 00-00-7F-	00-07-44		-		unitered these	-	=1
Extra Info	++ Link is Up (DiPowe	en 10049						
Cherryl	** 6 * * 2400000 AP	±			Serie 1	NUMBER OF STREET		
Authentication	>> Unknower				1000	Harrison - Harrison		
Encryption	>> Horse				Notion 5	trangth >> 26%		
iP Address	ss 192,168,5,40		4	taronit Link Tennet		MACO		
SLD Mark	++ 295.255.255.0			The speed in	B.000 Albos			
Default Gateneor	>> 192.168.5.254			an orth bars of	an ener tester.	D.1D4		
	HT		P	FORTH		10077	-	
DW ++ n/m		240 >> n/e		Link Speed ++	54.0 Albps	Map		
O ve tría	WCS ++ h/a	SHET ++ IN'S		Throughput >>	D. DVG Alter:	05/746:		
						Abos		

When activating WZC, there are couple different on RaUI status compare to the without WZC running:

- Profile button will be gray, profile function is removed since the NIC is controlled by WZC.
- (2) The **connect** and **add profile** function will be gray. The reason is same as the first difference.

[Use WZC to configure wireless NIC]

STEP 1: If connection is lost or not connected, the status prompt as below will pop up.



STEP 2: Right-click the network connection icon in the task bar.



STEP 3: Select "View Available Wireless Networks" will pop up the dialog shown as below.



STEP 4: Select intended AP and click "**Connect**" shown as below, then click "**Connect Anyway**".



STEP 5: AP1 is successful connected.



STEP 6: If you want to modify information about AP, click "Change advanced settings"





eneral	Wireless Networks	Advanced
🔽 Use	Windows to configur	e my wireless network settings
Avail	able <u>n</u> etworks:	
To co	onnect to, disconnect	from, or find out more information
abou		View Wireless Networks
Autor	matically connect to a	unitable naturation in the order lister
belov	AP1 (Automatic)	Move up
belov	AP1 (Automatic)	Move up

STEP 8: Click "Properties" and then click "OK" button.

Network <u>n</u> am	e (SSID):	[AP1
-Wireless ne		250
1101000 110	twork key	
This netwo	k requires a ke	ey for the following:
Network A	uthentication:	Open
Data encry	ption:	Disabled
Network <u>k</u> e	y!	
Confirm net	work key:	
Key inde <u>x</u> (advanced);	1
🗹 T <u>h</u> e key	is provided for	r me automatically
This is a <u>c</u> access po	omputer-to-con ints are not use	mputer (ad hoc) network; wireless ed

STEP 9: After filling appropriate value, click "OK" button. And the status will prompt up as

below.



STEP 10: Click the Ralink's icon will bring up RaUI main window. User can find the surrounding APs in the list. The current connected AP will also shown with the green icon indicated as below screen. User may user the available tab to configure more advanced features provided by Ralink's wireless NIC.

	11	(P	M		0	e	R	
Finitie	Network	Advanced	Statistics	VIRM	WP5	Radio On/Off	About	
orted by >>	SSID.	Channe		lengik 🌢		Show dBm		
Shiano 2860a8		ibu.	200	RIN.	-			W
The Property		10		555	-			
405-act 30-200		No.		-	_			
ADDIT FEDO		100		55%	-			
40.7		No.		STR	_			. 1
10.04		5		700				
Por sin		5		100	_		_	
RS425		ib.		D10			-	
Erbadcow		211		DIA				
BUTTEN 34		e ii		768	_			
Cobra		00	69	348	-			2
Raican	i fannat i	- tet to in this						
Status	× AP1 ↔ > 00-03-7F	00-07-44		1	1000	colless free		
Ertra into	 Link to Up (TriPowe 	er: 100%)		£		Intradictory (1162)		
Channel	* 6 +-+ 2407000 AH	e				HERE AND A DOCUMENT		
Sconting	 Unitationet 				Hana	Presente LL Diller		-
Network Type	 Infrastructure 			Transit	14/04 J	nostri in tes		
IP Address	× 192.168.5.40			Life Spe	ed ++ 54.0 Abos	Mac		
Tub Alatik.	+ 258,255,258,D			Throughp	sut ++ D. DOD Albert	10.283		
Default Gateway	* 192.168.5.254					Alops		
	HT			Receive		The second	- 20	
BW >> trie		94D>> n/e		Link Spe	ed >> 240 Mops	Mas		
GL >> n/a	MCS ++ n/a	9/Bt >> tu'a		Throughp	sut ++ D.DV6 Albur	35.746		

3.1.1 Start

When starting RaUI, system will connect to the AP with best signal strength without setting profile or matching profile setting. It will issue a scan command to wireless NIC. After two seconds, the AP list will updated with the result of BSS list scan. The AP list include most

used fields, such as SSID, network type, channel used, wireless mode, security status and signal percentage. The arrow icon indicates the connected BSS or IBSS network.

Ralii								8
Profile	Network	Advanced) Statistics	VANK	Ø WPS	Radio On/Off	R	
iorted by **	OH 🕥	Channe	d 🥥	Signal		9 Show tillin		
- Shiang 28604	P	ibit		STX .	_			
		13		55%				
Aberti-200		136		76%				
AD		ib.		55%				
API		No		100%				
ADDA		ib.		208				- 1
MIR		ikin		815			-	
Broadcore		ibn		818			-	
Ruttain 54		ibii		7/2				
Cobra		36	89 9	34%	-			
Record	Connect	Add to Profile						
Status	>+ 4Pt ++ 00-00-7F	-00-07-44		-	1105		-	T.
Estra Info	++ Ltrik to Up (ToPave	er: 100%]				1 - 200 ()		
Channel	>> 6> 2407000 AB	łc.				General Content		
Activitication	>> Unichawr			1000	للمجار	1603 ++ C fbg		
Encryption	>> None				Noise	Strength >> 26%		
IP address	an 192 148 5 113			Transmit		and the second		
Tub Mark	** 355,255,255,0			LINK	speed >> 54.0.A	005		
Default Gateway	>+ 192.168.5.254			Inna	allighter as proper	0.019		
	нт			Becelus			12 A	
DW ++ n/e		240 st n/a		Link	Speed >> 54.0.4	tos Mase		
Q >> tura	MCS +> n/a	SNR1 >> n/a		Throa	ughput >> 0.014	Altapa 0.099		

There are three sections in RaUI. These sections are briefly described as below.

- Button Section: include Profile page, Network page, Advanced page, Statistics page, WMM page, WPS page, About button, Radio On/Off button and Help button.
- ➔ Button Section



■ Function Section: Corresponding button



➔ Network Page

Sorted by 24	🔘 SSID		Instatief.			Signal	Show dBra
				- 48	1 List		
_Shiang_2860A	p	8	511	890	1	61%	
888			13	89	9	5536	
WbertY-200		8	30	89	9	763	-
4P		e e	7	89	٩	5538	
AD1		8	54	89		100%	
APPA		e	56	890	1	70%	
AULT.		8	>11	89	-	61%	-
Breadcom		8	511	89		61%	
Buffala 54		8	>11	89		76.8	
Cabin		ę	50	89	٩	348	
Rescan	Connect	Add to Pr	offle				

➔ Advanced Page

er skon zaslarfé	902:11 B/G/Minox	Eneble CCX (Cloco Competible eXiterators)
		🖬 himmi 💷 k
		D Battle Ando Aessurements
Eneble T.K.Burr	d)	Service ring Chemptoten and and a 199 (200 and 20 2020)
Enable TCP WI	natiwi Size	
TastRoame	at 🔚 aller	
Show Authenti	ication Status Citalog	
Select	Your Country Region Code	
H 8/G>+	0.041-11	
Acply	4);	

➔ Statistics Page

Transmit	Receive		
Frames Transmitted	1 Successfully	=	1432
Frames Retransmitt	ed Successfully		4
Frames Fail To Rece	ive ACK After All Retries	=	0
RTS Frames Success	fully Receive CTS	19	0
RTS Frames Fail To P	Receive CTS	-	0
set Counter			

→ WMM Page

WWW >> Enabled	Power Save >> Disa	bled		Ofrect Link >> Disabled
WAN Englie				
WAAN - Power Save	Enable			
11/26/20	(D) 4000	11 N.10	CE 4040	
Direct Link Setup	Chable			
AACARTERS (Television (Construction)	6.0 BT 100	
				10000

➔ WPS Page

Di Unknown	hsinchu't	00-11-26-71-27-68	6	•	Rescan
					lingration
					PinCom
					64993945 Renew
		WPS Profile List			Config Hode
					Enrolee 💌
					Creat
					in Chine
					Bottle
					Disconnect
- 201	WPS Associate E	Program >> 0%			Exact indi-
1000					

€	About	Page
---	-------	------

.

ReConfig Version >> 2.0.3.0	Date >> 08-02-2007
Driver Version ++ 1.0.4.0	Date ++ 07-38-3007
EDROW Version >> 1.1	
Firmware Version >> 0.7	
Phy_Address >> 00-06-47-12-34-56	
WWW BAL	RATECHICON

- Status Section: Include Link Status, Authentication Status, AP's information, Configuration and retrying the connection when authentication is failed.
 - → Link Status

Status	Status >> WLAN_SW <> 00-07-40-F1-99-42		Link Quality >> 100%
Extra Info	Extra Info >> Link is Up [TxPower:100%]		Signal Strength 1 >> 75%
Channel	Channel >> 9 <> 2452 MHz		Signal Strength 2 >> 100%
Authentication	>> WPA-PSK		Signal Strength 3 >> 100%
Encryption	>> TKIP		Noise Strength >> 26%
Network Type	>> Infrastructure		Transmit
IP Address	>> 192.168.10.45		Link Speed >> 54.0 Mbps
Sub Mask	>> 255.255.255.0		Throughput >> 4.156 Kbps
efault Gateway	>> 192.168.10.1		7.240 Kbps
	HT		Receive
BW >> n/a		SNRO >> n/a	Link Speed >> 54.0 Mbps
Gl >> n/a	MCS >> n/a	SNR1 >> n/a	Throughput >> 14.896 Kbps 57.064

➔ Authentication Status

Card Name >> Ralink 8	02.11n Wireless LAN Card	Connected by manual
16:37:25.062	Starting network connection	
16:37:25.171	Network is connecting	
16:37:25.281	PEAP Authenticating	
16:37:28.375	Wireless client is authenticated.	
	10 M 10 M	



→ Retry the Connection

Card Name >> Ralink 802.11n Wireless LA	N Card	Identity >>	
Profile Name >> PROF1		Password >>	
Message >> Invalid identity or passwor	ď	,	

➔ Configuration

Authentication WPA Preshare	>> WPA 🔻	Encryption >> TKIP 🔻	
ер Кеу			
() Key#1	Hexadecimal 👻		
Ø Key#2	Hexadecimal 💌		
Ø Key#3	Hexadecimai 😽		
Key#4	Hexadecimal 💌		Show Password

At the mean time of starting RaUI, there is also a small Ralink icon appears within windows taskbar as below. You may double click it to bring up the main menu if you selected to close RaUI menu earlier. You may also use mouse;s right button to close RaUI utility.



→→ Ralink icon in system tray.

- Besides, the small icon will change color to reflect current wireless network connection status. The status indicates as follow:
 - → 18 -- indicate Connected and Signal Strength is Good.
 - → 🧏 -- indicate Connected and Signal Strength is Normal
 - → 1 -- indicate Wireless NIC is not connected yet
 - → K -- indicate Wireless NIC is not detected
 - → K -- indicate Connected and Signal Strength is Weak

3.1.2 Profile

Profile can book keeping your favorite wireless setting among your home, office, and other public hot-spot. You may save multiple profiles, and activate the correct one at your preference.



[Definition of each field]

Profile Name: Name of profile, preset to PROF (indicate 1,2,3,...)

SSID: AP or Ad-Hoc name

Network Type: Network's type, including infrastructure and Ad-Hoc.

Authentication: Authentication mode

Encryption: Encryption Type

Use 802.1x: Whether or not use 802.1x feature

Channel: channel in use for Ad-Hoc mode

Power Save Mode: Choose from CAM (Constantly Awake Mode) or Power Saving Mode.

Tx Power: Transmit power, the amount of power used by a radio transceiver to send the signal out.

RTS Threshold: User can adjust the RTS threshold number by sliding the bar or key in the

value directly.

Fragment Threshold: User can adjust the Fragment threshold number by sliding the bar or key in the value directly.

[lcons and buttons]

- ► → indicate connection is successful on currently activated profile
- ▶ → indicate connection is failed on currently activate profile
- ♦ → indicate network type is infrastructure mode
- ✓ → indicate network type is Ad-Hoc
- $\overline{\mathbf{I}} \rightarrow$ indicate security-enabled wireless network



A \rightarrow Hide the information of Status Section

3.1.2.1 Add/Edit Profile

There are 3 methods to open Profile Editor form:

- → You can open it from "Add to Profile" button in Site Survey function
- → You can open it form "Add" button in Profile function
- → You can open it from "Edit" button in Profile function

Profile Name >> PROF1		Network Type >>	Infrastructure	•
SSID >> AP1		Tx Power >>	Auto	•
Power Save Mode >> 🔘 C#	M 🕜 PSM	Preamble >>	Auto	~
] RTS Threshold	0	2347	2347	
Eragment Threshold	256	2346	2346	

Authentication WPA Preshare	>> Open 🔻	*	Encryption	>> None	•	802.1X	
ер Кеу							
O Key#1	Hexadecimal	• [
🖉 Key#2	Hexadecimal	• [
🖉 Key#3	Hexadecimal	• [
Key#4	Hexadecimal	• [Show Password

Profile Name: User can chose name for this profile, or use default name defined by system. **SSID:** User can key in the intended SSID name or use pull down menu to select from available APs.

Power Save Mode: Choose from CAM [Constantly Awake Mode] or Power Saving Mode.

Network Type: There are two types, infrastructure and 802.11 Ad-Hoc mode. Under Ad-Hoc mode, user can also choose the preamble type, the available preamble type includes auto and long. In addition to that the channel field will be available for setup in Ad-Hoc mode.

RTS Threshold: User can adjust the RTS threshold number by sliding the bar or key in the value directly. The default value is 2347.

Fragment Threshold: User can adjust the Fragment threshold number by sliding the bar or key in the value directly. The default value is 2346.

Channel: Only available for setting under Ad-Hoc mode. User can choose the channel frequency to start their Ad-Hoc network.

Authentication Type: There are 7 type of authentication modes supported by RaUI. They are Open, Shared, LEAP, WPA, WPA-PSK, WPA2, WPA2-PSK.

Encryption Type: For open and shared authentication mode, the selection of encryption type are None and WEP. For WPA, WPA2, WPA-PSK and WPA2-PSK authentication mode, the encryption type supports both TKIP and AES.

802.1x Setting: It is an authentication for WPA and WPA2 certificate to server.

WPA Pre-Shared Key: This is the shared secret between AP and STA. For WPA-PSK and WPA2-PSK authentication mode, this field must be filled with character longer than 8 and less than 32 lengths.

WEP Key: Only valid when using WEP encryption algorithm. The key must matched AP's key. There are several formats to enter the keys:

- → Hexadecimal 40bits: 10 Hex characters
- → Hexadecimal 128bits: 26 Hex characters.
- ➔ ASCII 40bits: 5 ASCII characters
- → ASCII 128bits: 13 ASCII characters

3.1.2.2 Example to Add Profile in Profile

Step 1: Click Add in Profile function

Rai	н								1
-	Profile	Network	Advanced) Statistics	MANNA.	() WPS	Radio On/Off	R	
		Profit	w Lint						
						Profile Name 1	10		
						\$510 -			
						Network Type :			
						Authentication			
						Encryption (
						Use 802. tr i			
						Chernel			
					Po	wer Stue Mode -			
					13	To Donast a			
						DTC Theasteast	8		
					42.5	ers measing			
-					Free	nenic (ministroio)			
_	400	,	Cent	1. 0.050	-				3
	Status >>	AP1 ++ 00-00-78-	00-07-44		17000	100	20440 - 1171	-	
	Extra Info >>	Link is Up (DiPowe	en 100%]				-6%		
	Charnel >>	6 < > 2407000 AP	tr		1 S	Stand	Strength 2 >> \$%		
	ittentication >>	Unknown			100	Signal:	Strength 3 >> 29%		
.41		Norse				Notes	Strength >> 0%		
	Encryption ++	212040121129			Traturni				
N	Encryption ++	Infrastructure							
N	Encryption ** letwork Type ** IP Address ** Set Alacta **	Infrastructure 192, 168, 5, 60			Lin	Speed >> 54.0/	Maps Mab		
N	Encryption ++ letwork Type ++ IP Address ++ Sub Alask ++ auft Gatanee ++	Infrastructure 192.168.5.60 255.255.255.0 192.168.5.254			Law Theo	i Speed >> 54.07 ughput >> 0.000	Maps Mah		
Au N Den	Encryption ** letwork Type ** IP Address ** Sub Alask ** auft Getaway **	Infrastructure 192, 168,5,60 255,255,255,0 192, 168,5,254 HT			Land Theo	i Speed >> 54.07 oghput >> 0.000	Napr Han Maps D. Cos Alaps		
N Den	Encryption ++ letwork Type ++ IP Address ++ Sub Alatk ++ aut Gateway ++	Infrastructure 1V2, 168,5, 60 255, 255, 255, 0 1V2, 168,5, 254 HT	940		Lini Theo Receive Lini	speed >> 54.0/ oghput >> 0.000	Napa Mah Alapa Daga Alapa		
N Den	Encryption >+ IP Addream >+ Sub Alatik >+ auft Getaway >+ V >> 10/0 2 >> 10/0	Inhastructure 192.168.5.60 255.255.256.0 192.168.5.254 HT	940 -> nia 941 -> nia		Lini Theo Receive Lini Theo	1 Speed >> 54.07 ughput >> 0.000 1 Speed >> 54.07 ughput >> 0.025	Napa Mah Alapi Alapi Napa Napa		

Step 2: Add Profile page will pop up.

1.100		(af	in the second se		0	9		R
Profile	Network	Advanced	Statistics	VVMMV	WPS	Radio On/	orr	About
	Prof	e List						
					Profile Name			
					15D			
					Network type			
					Focustion			
					Line 802.1×			
					Charriel			
				Ft	owr Save Veck			
					Tic Power			
					RTS Threshold			
				Frag	nent Threshold	•		
Kdd	(and	Deater	Artesta	Freg	rent Threshold	-		
Kdd System Fon	Tio duth VE	Dente -	Attended of the second	Frag	sent Threshold	••)		
kai System Con	Pig Authi, Y E	ncry.	011 - 111 -	Frag	Rent Threshold			
Rati System Con Pi	ng Auth, \ E	nony	() Orre	Frag	Perit Treeshold Filebaorik 1	vee >> Infrast	nucture	•
Kdel System Com Pi	Auth, \ E SID ++	nony.	() 0006000	Frag	prent Threshold Platonark 1 Tis Pr	ve Vere >> Infrast ever >> Ar	ructure ito	:
Kdd System Com Prover	Fig Auth, \ E stille Here +> FEO STID ++ Serie Mode ++ Q	nony. I 1 can gran	araala Dirta oo oo	Freg	nert Threshold Network 1 Ta Pa	ype >> linfract exer >> Ar	nucture ito	•
Kodi System Com Poseer	Pig Authy, N E Still Harra III (FROM SSID III (SSID III) Saves Hock III (G	NCTY-		Frag	Rent Threshold Rebusink 1 Tis Pa	yee ** Indust wee ** Andust	nachure ito	•
Rdd System Con Power	Fig Authy, N E other Name => (PEOP SSID >> (Same Made => ()	псту. 1 сан Фран	antenia Antenia A	Frig	Network Treeshold Network 1 Tic Pr	yee >> lintaat wee >>	nooture ito	•
Kdd System Con Power Power Power Program	The Autor, I E Still Autor, I E Still Harm III (FBCP Still Hade III (FBCP Street Hade III (FBCP) NHI Threat Hade	псту. 1 сан Фран		Frig	Network Treetfold	yee >> Infract eer >> A waa == A maa == A	ructure ito	•
Kali Poser Poser Poser Poser Poser	Not Threshold	псту. 1 сан е изи — —		Freg	Network Theology Network 1 Ta Pa	yee >> Indust wee >> Indust wee >> w wee >> w wee >> w	nucture ito	•

Step 3: Change profile name to what you want to connect. Pull down the SSID and select one intended AP. The AP list is the result of last Network.

Rati									
1	Profile N	letwork.	Advanced	A Statistics	NIKA	Ø	Radio On/Off	R	1
		Prote	elist -						
		11916				Profile Nam	e >>		
						53	D 24		
						Network Typ	e >>		
					10	Authenticatio	n 89		
						Encryptio	0.××		
						Use 802.1	44.3		
						Chann	a se		
					Pa	wer Save Alod	a 19		
						Til Powe	e >>		
						RTS Threshol	d >+		
					Frag	nent Threshol	d ee		
_	Add		- trace	sther.					
Sy	stern Config	Auth: \ Er	iciy,	St. 19-1					
	Profile Nat	a a PROF	1		-	Between	Type == infostouch		
			2			+-	Deserves the	_	
	25	IB sa		-	Contraction of the later	14	FORMET FOR MUCO		
	Powert Save Alox	te 10 Abert	6_23804P 7-200		DOMA2ERGEBS	10 C I I I I	oreaction defects	~	
		AP			0007404000	7E			
c	RTS Threshold	APPA	101.00 T - 135		00146549F40	5	oc lise		
F	Framert Director	Eekin Booad	_N1_W1reless_281	111	00004328111	11	Trans	-	
1		Broad	oom/WPS		001010902E3	5 -	we we		
		Gaude	skP		0000766FCS	97 =			
		Denna	SNP .		0000431027	18			
		and the second se			and the second second				

Step 4: Then, you can see the profile which you set appear in the profile list. Click "**Activate**" to activate the profile setting.



3.1.3 Network

Under the Network function, system will display the information of surrounding APs from last scan result. List information includes SSID, BSSID, Signal, Channel, Encryption algorithm, Authentication and Network type as below:



[Definition of each field]

SSID: Name of BSS or IBSS network

Network Type: Network type in use, infrastructure for BBS, Ad-Hoc for IBSS network **Channel:** Channel in use.

Wireless Mode: AP support wireless mode. IT may support 802.11a, 802.11b, 802.11g or 802.11n wireless mode.

Security-Enable: Whether AP provides security-enabled wireless network

Signal: Receive signal strength of specified network

[Icons & Buttons]

- ➤ Indicate connection is successful.
- \checkmark \rightarrow Indicate network type is infrastructure mode.
 - ✓ → Indicate network type is Ad-Hoc mode.
- Indicate security-enabled wireless network.
- a → Indicate 802.11a wireless mode
- Indicate 802.11b wireless mode.
- Indicate 802.11g wireless mode.

J → Indicate 802.11n wireless mode.

Sorted by >>	0	SSID	0	Channel	0	Signal	→	Indicate t	he
			<u>.</u>						

AP lists are sorted by SSID, Channel, or Signal.
Command to connect to the selected network.

Rescan → Issue a rescan command to wireless NIC to update information on surrounding wireless network.

Add to Profile → Add the selected AP to Profile setting. It will bring up profile page and save user's setting to a new profile.

[Connected Network]

Connect

- (1) When RaUI first ran, it will select the best AP to connect automatically.
- (2) If user wants to connect to other AP, He can click "Connect: button for the intended AP to make connection.
- (3) If the intended network has encryption other than "Not Use", RaUI will bring up the security page appropriate information to make the connection.
- (4) When you double-click on the intended AP, you can see AP's detail information.

3.1.4 Advanced

Wireless mode or	BIDD. 11 BI/G/IN mits	Enable OCX (Clicco Compatible eXtensions)	
		T Terr m Court	
		🗋 žiutečkitečenom	
Enable TX Bur	st.	📋 Han-Serving Charrier Mean Internet Litters 🔽 2002, Pol 10 (2000)	
Enable TOP W	trakava Sitak		
Fast Roaming	et 🔚 den		
Show Authent	ication Status Dialog		
Select	Your Country Region Code		
11.8/Q >>	D: CH1-11		
4659	14 ()		

Wireless Mode: Select wireless mode. 802.11B only, 802.11B/G mix, and 802.11B/G/N mix, modes are supported. (802.11 A/B/G mix selection item only exists for A/B/G adapter; 802.11B/G/N mix selection item only exists for B/G/N adapter; 802.11A/B/G/N mix selection item only exists for A/B/G/N adapter.)

Wireless Protection: User can choose from Auto, On, and Off (Only 802.11n adapter don't support)

- → Auto: STA will dynamically change as AP announcement
- → ON: Always send frame with protection.
- → Off: Always send frame without protection.

TX Rate: Manually force the Transmit using selected rate. Default is auto. (802.11n wireless card doesn't support.)

Enable Tx Burst: Ralink's proprietary frame burst mode.

Enable TCP Windows Size: Enhance throughout.

Fast Roaming at: Fast to roaming, setup by transmit power.

Select your Country Region Code: 8 countries to choose.

Show Authentication Status Dialog: When you connect AP with authentication, choose whether show "**Authentication Status Dialog**" or not. Authentication Status Dialog display the process about 802.11x Authentication.

Enable CCX (Cisco Compatible eXtensions): support Cisco Compatible Extensions function.

- → LEAP turn on CCKM
- → Enable Radio Measurement: can channel measurement every 0~2000 milliseconds.

Apply: Save the save changes

▼ → Show the information of Status Section

Hide the information of Status Section

3.1.5 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters. This page translates the MIB counters into a format easier for user to understand.

[Transmit Statistics]

ames Transmitted Successfully	=	1432
rames Retransmitted Successfully	æ	4
rames Fail To Receive ACK After All Retries	=	0
IS Frames Successfully Receive CTS	=	0
IS Frames Fail To Receive CTS	-	0

Frames Transmitted Successfully: Frames successfully sent.

Frames Fail To Receive ACK After All Retries: Frames failed transmit after hitting retry limit.

RTS Frames Successfully Receive CTS: Successfully receive CTS after sending RTS frame.

RTS Frames Fail to Receive CTS: Fail to receive CTS after sending RTS frame. **Frames Retransmitted Successfully:** Successfully retransmitted frames numbers **Reset Counter:** Reset counters to zero

[Receive Statistics]

rames Received Succ	cessfully	=	3153
rames Received With	h CRC Error	=	201964
rames Dropped Due 1	To Out-of-Resource	=	0
uplicate Frames Rec	eived	=	0

Frames Received Successfully: Frames received successfully.

Frames Received With CRC Error: Frames receive with CRC error.

Frames Dropped Due To Out-Of-Resource: Frames dropped due to resource issue.

Duplicate Frames Received: Duplicate received frames.

Reset Counter: Reset counters to zero

▼ → Show the information of Status Section

▲ → Hide the information of Status Section

3.1.6 WMM

WMM function involves "WMM Enable", "WMM-Power Save Enable" and "DSL Setup".

rt Link >> Disabled
•

WMM-Power Save Enable: Enable WMM Power Save.

Direct Link Setup Enable: Enable DLS (direct Link Setup).

[WMM Enable – Enable Wi-Fi Multi-Media]

If you want to use "WMM-Power Save" or "Direct Link Setup" you must enable WMM. The setting methods of enabling WMM indicating as follow:

Step 1: Click "WMM Enable"

WMM >> Emabled	Power Take >> Disibled	Direct Link >> Directed
WARA Enable		
WWW - Power Save B	able	
(10.00)		<u>□</u> i< <i>in</i>
Direct Link Setup En	ble .	
AAC address ()	Dawit Face +1	4 million (1997)
		Unidoren

Step 2: Change to "**Network**" function. And add an AP that supports WMM features to a **Profile**. The result will look like the below figure in **Profile** page.

Rati	P								
	Profile	Network	Advanced) Statistics	NIKA	() WPS	Radio On/Off	R	
		Profil	e List						
PRO	F1	4P1		0		Profile Name	PROF1		
						SIID	xx AD1		
						Network Type	>> Intrastructure		
						Autoentication	o Open		
						Encryption	~ None		
						the 802.1c	ND.		
						Channel	m 1		
					Po	wer Seve Alode :	AN CAN		
						Tx Power	or Auto		
						RFC threshold	·· 2347		
					Fran	next Threshold	0.2348		
	144	144	2972	1430.007	1038				
-	Add	Edit	Delete	Activate	64 - C				
	Status >>	₩1 ~> 00-03-7F-	00-07-44		-	101	CO11011000		
	Estra into >>	Link to Up (7:Powe	r: 10230				And the Distance		
	Channel >>	6 ↔→ 2437000 ₩H	2			16.6	Marger 1 Micks		
fit	territication >>	Open				1.1	the state of the		
1	Encryption >>	NONE				Wite	Strength >> 26%		
	Rusork. Type >>	Infractructure			Transmi	t		_	-8
	P ADDress >>	792.708.5700			(319	Speed >> 54.0	WERE		
Deta	It Gateway >>	192.168.5.254			This	ullabor >> 0.000	0.002		
0.96	and the second	нт			2000		MDps.	1.1.1	12
-	and a later		AND IN THE		Link	Speed as \$40	Whos Max		
01	>> 8/8	WS to tild	SNR122 D/A		Thre	ugtput >> 0.000	Webpe		
- CO.		and a second sec	Service and				1,449		

[WMM-Power Save Enable – Enable WMM Power Save]

Step 1: Click "WMM-Power Save Enable"

WIAM >> Enabled	Power Save >> Disable	đ		Dreet Link >> Olsapled
WINA Enable				
WMM - Power Save En	ative			
AC.BK	AC_BE	(V_04 []	D 40_VO	
🔲 Direct Link Setup Bra	cie			
Mar Antonio in		Transford.	a.s. 10 sec	000
				- Trist Doct

Step 2: Please select which ACs you want to enable. The setting of enabling WMM-Power Save is successfully.

WAM Enable				
WMM - Power Save I	Enable			
📔 AC_BK	III ACJEE	🗋 AC_VI	D 45_10	
Direct Unit Setup B	nable			
ANCADIMI		Trees the	14 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -	10000
				Mail Dress

[Direct Link Setup Enable – Enable DLS (Direct Link Setup)]

Step 1: Click "Direct Link Setup Enable"

WWW >> Enabled	Power Save >> Disabled			Direct Link >> Enabled
WIMA Evable				
WWW - Power Save Er	udie -			
D 45,05	$\Box = \pi$	0 4 M	0.00	
📔 Direct Line Setup Ere	die .			
MAC Address +>		Timeout Value >>	60 mc	Apply
				Tear Down

Step 2: Change to "**Network**" function. And add an AP that supports DLS features to a **Profile**. The result will look like the below figure in **Profile** page.

Profi	le Network	Advanced	Statistics	Witch	() WPS	Radia On/Off	R	E
	Profil	e List						
HICF1	42-1		U	Po	Profile Name SSID Network Type Kuthentication Encryption Unic 802, 1x Channel Tic Power RD3 Threshold post Threshold	 PROF1 M11 Infractiucture Open None NO 1 CAM Auto S147 S147 		
Add	Ede	Delete	Activate					
Stat Extra In Ohann Authanticath Encryptik	us >> AP1 <>00-03-77- to >> Linit to Up (7>Powe ef <> 6 <> 2437000 AH an >> Open an <> Open an <= NONE	00-07-64 # : 1029] 12			Notes	A constant of the second of th		
Network Typ IP Addre Ddr Mer Detsuit Gotew	se >> Intractinucture sz >> 192,168,5,60 dx >> 258,258,358,0 sy >> 192,168,5,254			Transmi Uni Thro	t : Speed >> 54.0 ugtput: >> 0.00) Mbps Aluc 10 Mbps 0.002 Mbps		
S₩ >> n/a Gi >> n/a	WCS >> n/a	SNRD >> n/a SNR1 >> n/a		Receive Uni Thro	(Speed >> 54./ ughput >> 0.0	I HEES Aline 13 Mees 1.443 VEES		

The Setting of DLS indicates as follow:

- (1) Fill in the blanks of Direct Link with MAC address of STA. The STA must conform to 2 conditions as follow:
 - → Connect with the same AP that support DLS features.
 - → Have to enable DLS

WWW >> Enabled	Potent Savet >> Dto	deled		Direct Link >> Enabled
WWA Chable				
WWW - Power Save B	noble			
E1 <.30		$\square \ll n$	11. ACUID	
🚪 Direct Link Setup Er	obie			
WAC Address >>	00 00 43 28 60	00 Tireout Valu	e >> 600 500	4004
				Teer Down

(2) Timeout Value represent that it disconnect automatically after some seconds. The value is integer. The integer must be between 0~65535. It represents that it always connects if the value is zero. Default value of Timeout Value is 60 seconds.

WWA >> Enablezi	Power Save >> Otrablec	5) () () () () () () () () () (Direct Link >> Enabled
WWA Chable				
WIMA - Power Save	Enable			
CI 14.20	□ =128.		☐ 40_00	
📕 Driveot Link Setup E	nabie			
WAC Address >	00 00 43 28 60 00	Timeout Value	500 Sec	420%
				Tear Down

(3) Click "Apply" button. The result will look like the below figure.

	0.162230.06235.0	2242		120000007020008
WAAN Envide				
WMM - Power Savel	Brable			
			12 (4.34)	
Chrect Link Setup E	habia			
AMC Address >>	00 Dc 42 28 60	00 Tineout Volue	an an seo	Aboly
	00-00-43-29-60-00		600	Tear Down

Describe "DLS Status" as follow:

- (1) As the up figure, after configuring DLS successfully, show MAC address of the opposite side and Timeout Value of setting in "DLS Status". In "DLS Status" of the opposite side, it shows MAC address of itself and Timeout Value of setting.
- (2) Display the values of "DLS Status" to "Direct Link Setup" as follow:

Step 1: In "DLS Status", select a direct link STA what you want to show its values in "Direct Link Setup".

WAW >> Enabled	Power Save +> Disab	led.		Direct Link >> Enabled
WAIN Enable				
WAM - Powert S	lavis Ersable			
	10 K.M.	$\square < \mathbb{N}$	(1) (4) (4)	
Ctreat Link Set	lup Childre			
AIAC Addre	az +1	Tensout VM	ant Db ++ a	Accts
8	00-00-43-28-69-00	6	600	Tear Down

Step 2: Double-Click and the result will look like the below figure.

WAIN EN	ste				
□ w	WV - Povert Save Drable	E.			
Ţ	a sela	1.400	11 M. M.	E 4045	
1	rest Link Setup Enable				
	AlaC Address >> 00	00 43 28 60 00	Tensout Value >>	600 182	Asstr
		00-00-40-38-68-00		400	Tear Down

(3) Disconnect Direct Link Setup as follow:

Step 1: Select a direct link STA.

WAAK Enable				
WWW - Power Sake	Enable			
□ ×.#	□ ++.3**		(1) (4) (4)	
🚰 Ofrect Link Setup E	nable			
AMC Address >	00 De 43 28 80 D	0 Timeout Valu	e 20 000 sec	Acoly
1000	0040-4525-60-60		601	Tear Down

	m.trocki	alexandi Status			- AND BEAR AND
WALK E	Inable				
	IMM - Power Sake Enable	,			
	□ ><.#	$\Box = x$	□ ==_00	(1) (1) (2)	
	Hrect Link Setup Enable				
	ALAC Address >+ 00	0: 43 28 60 00	Timeout Value ++	600 280	Acch
					Tear Down

Step 2: Click "Tear Down" button. The result will look like the below figure.

3.1.7 WPS

	Pal	04-04	-60	100	1000	a	100		
	Departure	the second	1	Contractor .	Cart	9	Dadle Onl	R	
	Prome	TNOTWORK	Advanced	statistics	110040	-4452	Redio On	OIT About	
				MP) A	rtet		1011		
8	El clatinom	14	11000		EI-EI-85-80-72-27	38	T	Rescent	
	IO I Unknown	U	bloom_Sample		00-00-43-29-60-20	1		Information	
	ID : Unknown	.47	wint-78604P		00-00-40-38-60-60	з	9	Ptr Cade	
	D : Unknown	de	fuelt		00-19-02-44-04-69	6	۰.	54890945 Ramon	
				WPS Pro	ne Lut			Carrille Mode	
								Enroles 👻	
								theter.	
							. Amer		
								second:	
								Disconnect	
	Pin	WTS App	ociata E	8	Progress >> 0%		-		
	PBC	WES Prol	ait:	WPS status is disco	nnected			CTON	
	(414)	DH	00.02.14		_		_	_	
	Potes info so 11	ri s-s 00-00-54	e-10001			- 19			
	Channel >> 6		E					in.	
Aut	tentication ++ W	IPK					in the second		
	Encryption >> Ti	NP+4ES				hiolse	Strength >> 26	N .	
B	rtwork: Type ++ Ir	matnature			Trendmit				
	IP Address == 1	92.168.2.8			Line Sp	eed >> 54.0/	NODE	Mass	
	Sub Alark >> 2	85.255.255.D			Through	put >> 0.000	Magaz	5 112	
Defa	uit Gateway >> 1	92.168.2.254						KDDS	
		HL			Receive			Street in Street in	
EW.	nr nin		9480 ↔ n/a		Link Sp	eed ++ 48.07	Nbps	Mas:	
0	er bið	MCS ++ nra	94R1 ↔ nra		Through	put >> 140.0	K2 Napa	180.044	

WPS Configuration: The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simply the security setup and management of Wi-Fi networks. Ralink STA as an Enrollee

or external Registrar supports the configuration setup using PIN configuration method or PBC configuration setup using PIN configuration method or PBC configuration method through an internal or external Registrar.

WPS AP List: Display the information of surrounding APs with WPS IE from last scan result. List information includes SSID, BSSID, Channel, ID (Device Password ID), Security-Enabled. **Rescan:** Issue a rescan command to wireless NIC to update information on surrounding wireless network.

Information: Display the information about WPS IE on the selected network. List Information includes Authentication Type, Encryption Type, Config Methods, Device Password ID, Selected Registrar, State, Version, AP Setup Locked, UUID-E and RF Bands.

PIN Code: 8-digit numbers. It is required to enter PIN Code into Registrar using PIN method. Each NIC Wireless has only one PIN Code of Enrollee.

Config Mode: Our station role-playing as an Enrollee or an external Registrar.

WPS Profile List: Display all of credentials got from the Registrar. List information includes SSID, MAC address, Authentication and Encryption Type. If STA Enrollee, credentials are created as soon as each WPS success. If STA Registrar, RaUI creates a new credential with WPA2-PSK/AES/64Hex-Key and doesn't change until next switching to STA Registrar.

Control items on WPS Profile List:

→ Detail: Information about Security and Key in the credential

- → Connect: Command to connect to the selected network inside credentials. The active selected credential is as like as the active selected Profile.
- → Rotate: Command to rotate to connect to the next inside credentials

→ Disconnect: Stop WPS action and disconnect this active link. And then select the last profile at the Profile Page of RaUI if exist. If there is an empty profile page, the driver will select any non-security AP.

→ Delete: Delete an existing credential. And then select the next credential if exist. If there is an empty credential, the driver will select any non-security AP.

PIN: Start to add to Registrar using PIN configuration method. IF STA Registrar, remember that enter PIN Code read from you Enrollee before starting PIN.

PBC: Start to add to AP using PBC configuration method.

When you click PIN or PBC, please **don't do** any rescan within two-minute connection. If you want to abort this setup within the interval, restart PIN/PBC or press **Disconnect** to stop WPS connection.

WPS associate IE: Send the association request with WPS IE during WPS setup. It is optional for STA.

WPS probe IE: Send the probe request with WPS IE during WPS setup. IT is optional for STA.

Progress Bar: Display rate of progress from Start to Connected status.

46

Status Bar: Display currently WPS Status.

[WPS Information on AP]

WPS information contain authentication type, encryption type, config methods, device password ID, selected registrar, state, version, AP setup locked, UUID-E and RF bands.

Authentication Type: There are three types of authentication modes supported by RaConfig. There are Open, Shared, WPA-PSK, and WPA system.

Encryption Type: For Open and shared authentication mode, the selection of encryption are None and WEP. For WPA, WPA2, WPA-PSK, and WPA2-PSK authentication mode, the encryption type supports both TKIP and AES.



Config Methods: Correspond to the methods the AP supports as an Enrollee for adding external Registrars. (A bitwise OR of values)

Value	Hardware Interface
0x0001	USBA (Flash Drive)
0x0002	Ethernet
0x0004	Label
0x0008	Display
0x0010	External NFC Token
0x0020	Integrated NFC Token
0x0040	NFC Interface
0x0080	Push Button
0x0100	Keypad

Device Password ID: Indicate the method or identifies the specific password that the selected Registrar intends to use. AP in PBC mode must indicate 0x0004 within two-minute Walk time.

Value	Description
0x0000	Default (PIN)
0x0001	User-specified
0x0002	Rekey
0x0003	Display
0x0004	PushButton (PBC)
0x0005	Registrar-specified
0x0006-0x000F	Reserved

Selected Registrar: Indicate if the user has recently activated a Registrar to add an Enrollee. The values are "TRUE" and "FALSE"

State: The current configuration state on AP. The value are "Unconfigured" and "Configured". **Version:** WPS specified version.

AP Setup Locked: Indicate if AP has entered a setup locked state.

UUID-E: The universally unique identifier (UUID) element generated by the Enrollee. There is a value. It is 16 bytes.

RF-Bands: Indicate All RF bands available on the AP. A dual-band AP must provide it. The values are "2.4GHz" and "5GHz"

3.1.8 About

About function display the wireless card and driver version information.

(c) Copyright 2007, Raitek Technology, Inc.	All rights reserved.
RaConfig Version ++ 2.0.3.0	Date >> 08-02-3007
Driver Version >> 1.0.4.0	Dete >> 07-35-2007
EEFROM Vargion >> 1.1	
Firmware Version ++ 0.7	
Phy_Address ++ 00-06-47-12-34-56	
WWW PAL	PATEOL COM

- (2) Display Configuration Utility, Driver, and EEPROM version information
- (3) Display Wireless NIC MAC Address.

3.1.9 Link Status

Link Status displays the detail information current connection



Status: Current connection status. If no connection, it will show Disconnected. Otherwise, the SSID and BSSID will show here.

Extra Info: Display link status in use.

Channel: Display current channel in use.

Authentication: Authentication mode in use.

Encryption: Encryption type in use.

Network Type: Network type in use.

IP Address: IP address about current connection.

Sub Mask: Sub Mast about current connection.

Default Gateway: Default gateway about current connection.

Link Speed: Show current transmit rate and receive rate.

Throughout: Display transmits and receive throughput in unit of Mbps.

Link Quality: Display Connection quality based on signal strength and Tx/Rx packet error rate.

Signal Strength 1: Receive signal strength 1, user can choose to display as percentage or dBm format.

Signal Strength 2: Receive signal strength 2, user can choose to display as percentage or dBm format.

Signal Strength 3: Receive signal strength 3, user can choose to display as percentage or dBm format.

Noise Strength: Display noise signal strength.

HT: Display current HT Status in use, containing BW, GI, MCS, SNR0, and SNR1 value. (Show the information only for 802.11n wireless card)

3.1.10 Enable AP Mode Feature in Windows 2000 OS

In Windows 2000 Operation System, the local network won't be automatically established while using Wireless PCI adapter's AP mode. Please follow the below steps to enable Internet Connection Sharing feature first before you switch Wireless PCI adapter's AP mode.

Step 1: After the Wireless PCI Adapter is installed properly in Windows 2000 Operation System, go to Start → Settings → Control Panel → Choose "Network and Dial-up Connections" option. Right-Click your local area connection (such as another LAN Card in the same computer), and choose "Properties".



Step 2: In **Sharing** tab, enable **Internet Connection Sharing for this connection** and click "**OK**"

ocal Area Connection Properties	? ×
General Sharing	
Internet Connection Sharing allows other computers of local network to access external resources through the connection.	on your his
Internet Connection Sharing Local network operation may be momentarily disrupted.	
Settin	gs

Step 3: Back to Network and Dial-up Connection screen, right-click "Local Area Connection2" (for 802.11n Wireless LAN card) and choose "Properties".

Network and Dial-up Connection	15			
File Edit View Favorites Tools	Advanced	Help		
🖙 Back 👻 🔿 👻 🔂 🎯 Search	🔁 Folders 🛛 🔇) R R)	X 🛛 🏛 -	
Address 📴 Network and Dial-up Conne	ections			- ∂⊙
Network and Dial-up Connections	Make New Connection	Local Area Connection	Local Area Connection 2 Disable Stat <u>us</u> Create Sho	rtcut
Type: LAN Connection Status: Enabled			<u>D</u> elete Rena <u>m</u> e	
802.11n Wireless LAN Card	d connection.			

Step 4: Select "**Internet Protocol (TCP/IP)**" and click "**Properties**". You will see 802.11n Wireless PCI adapter will be automatically assigned an IP address as Access Point.

eeust letrace l		_
eneral [snaing]	Internet Protocol (TCP/IP) Properties	1
Connect using	General	
B02.11n Wireless LAN Card	You can get IP settings assigned automatically it your network supports.	
Forfigue	friz capability. Otherwise, you need to ask your network administrator for the anexystate ID actives:	
Components checked are used by this connections	the oppropriate in centrigs.	
Great for Microsoft Networks	C Obtain an IP address automatically	
R File and Pinter Sharing for Microsoft Networks	FF Ups the following IP address	£
AFGIS Protocol IEEE BIZ 14 v35.30	[P address: 192.168.0.1	1
C & Internet Protocol (I LP/IP)	Subret mark: 255 . 255 . 0	1
(rotal Uninstal Properties	Default gateway:	I
Description		J
Transmission Control Protocol/Internet Protocol. The default	C Optoin DNG server address automotically	
wide area network protocol that provides communication actors diverse interconnected networks.	 Use the following DNS server addresses: 	
_	Enferred DNS server:	
Showicon in taskbar when connected	Abernate DNS perver	
OK. Cancel	Adjunced.	
	05 04	en l

Step 5: In the System tray, now you can switch 802.11n Wireless PCI Adapter to AP Mode.

Launch Config Utilities	
Switch to AP Mode	
Exit	
	🙀 2:13 PM

Step 6: After switch to AP mode, Ralink Wireless Utility will automatically pup-up. The

Wireless Default SSID is assigned as "SoftAP-56".

🔏 Ralink Wireless Utility			x
Config Access Control Mac Ta	ble Event Log	Statistics About	
SSID SoftAP-56			Channel 1
Wireless Mode 802.11 B/	G/N mix 💌	<- Use Mac Address	Security Setting
Country Region Code		□ No forwarding amor	ng wireless clients
11 B/G JU: CH1-11	<u> </u>	Hide SSID	
		Allow BW 40 MHz	
Beacon (ms)	100		
TX Power 100	% 🔽		
Idle time(60 - 3600)(s)	300		
		Default	Apply
			Help

Step 7: To make sure your Soft AP is working properly, you need to use another computer which with Wireless LAN feature to access SoftAP-56 AP. In the below example, use another PC with Wireless feature in Vista Operation System. Go to Start \rightarrow Control Panel \rightarrow Choose "Network and Sharing Center" option \rightarrow Click "Connect to a network" to search the available networks.

Tasks	Network and Sharing Center	
View computes and devices		View Pull r
Manage wreless detworks		1
Set up a connection or national	WWWILE	levent
Manage network connections	(This computer)	(CIIIC)
Chaigmone and repair	7.22003N NSN	
1	Are Not connected	
11	Wineless networks are available.	
	Campatia Android	
Access 1		

Step 8: Select the network "SoftAP-56" and click "Connect" to establish the connection.

Show All	•	
WLAN_SW	Security-enabled network	llee
SoftAP-56	Unsecured network	lle.
Belkin_N1	Security-enabled network	lle
		al a

Step 9: After the computer is successful connected to SoftAP-56, Network and Sharing Center screen will be shown as below. Click "**View Status**" to see the detail.

V + Contro vana + 1	removere and sharing Center	• 11 35pm	
Tasks	Network and Sharing C	enter	
View computers and devices .		early of	View full map
Connect to a hetwork			12
Manage wreless definitions			
Manage network connectors	WINNE-PC	SoftAP-50	Internet
Gamma and most	(The composi	ut	
S 11	5 SoftAP-56 (Public networ	k)	Customere
	Access	Local only	
	Connection	Wireless Network Connection (SoftAP-56)	View status
		A Signal strength: Escallant	Disconnect
1.1	M Sharing and Obcovery		0
11	Network discovery	e Custom	
11 11	File sharing	e On	
an ya	Public Folder shering	a ou	
	Printer sharing	Off (no printers installed)	
11	Password protected sharing	e De	
	Media sharing	e CH	
Service	Show me all the files and folds	en larm sharing	
Inferince Optionalis	Show me all the shared netwo	& folders on this computer	
Wandpoor Transal			

Step 10: In General tab, click "**Detail...**", and then you can see the current Network connection details. If this computer is successful connect to SoftAP-56 Access Point, the DHCP server will be assigned to same IP address.

eneral			
Connection			
IPv4 Connectivity:	Local	Network Connection Data	aile
IPv6 Connectivity:	Limited	Network Connection Dea	303
Media State:	Enabled	Network Connection Detai	ls:
SSID:	SoftAP-56	Property	Valua
Duration:	00:10:46	rioperty	Value
Speed:	270.0 Mbps	Connection-specific DN.	
Signal Quality:	100	Description	802.11n USB Wireless LAN Card
	LICE	Physical Address	00-06-4F-55-68-77
Details <u>W</u> ireless Prope	erties	IDHCF Eriabled	103 100 D 100
		IPv4 Subpet Maek	255 255 255 0
cuvity		Lease Obtained	Wedneeday, October 12, 2005 9:00:17
Sent —	Received	Lease Expires	Wednesday, October 19, 2005 9:05:04
		IPv4 Default Gateway	192 168 0 1
Bytes: 742	126	IPv4 DHCP Server	192 168 0 1
	~	IPv4 DNS Server	192.168.0.1
		IPv4 WINS Server	
Properties Disable	Diagnose	NetBIOS over Topip En.	Yes
		Link-local IPv6 Address	fe80::e0fe:ba5d:b17e:6a7e%15
	Class	IPv6 Default Gateway	
	Liose	IPv6 DNS Server	
			m l b

3.2 For Windows Vista

Ralink wireless utility is shown as below. There are 6 settings pages in Ralink wireless utility:

		To	[A II	1	
Profile Name		Channel	Authentication	Encryption	Network Type
PROFI	WLAW_SW	ALICO	WFA-FSK	INF	Intrastructure
-					
-					
[f		D.L.	T	T-44	A

- Profile Page: Manage the profile.
- Link Status Page: Display current connection information.
- Site Survey Page: Display the available networks.
- Statistics Page: Display the packet counters
- WPS Configuration Page: Connect to WPS (Wi-Fi Protected Setup) capable APs.
- QoS Page: It involves "WMM Enable", "WMM Power Save Enable" and DLS setup
- About Page: Display Ralink driver and utility information.

3.2.1 Profile

In the **"Profile"**, you can view and manage the current using Available Point(s). You can **Add**, **Delete**, **Edit**, or **Activate** the current Available Point(s). Also you can duplicate the AP or set current AP as Default.

Profile Name	SSID	Channel	Authentication	Encryption	Network Type
PROF1	WLAN_SW	Auto	WPA-PSK	ТКІР	Infrastructure
		5.1.	1	= n	

Profiles Name: The Profiles List displays all the profiles and the relative settings of the profiles including Profile Name, SSID, and Channel...etc; preset to **PROF*** (* indicate 1,2,3,...)

SSID: AP to Ad-hoc name.

Channel: Channel in use for Ad-Hoc mode.

Authentication: Authentication mode.

Encryption: Security algorithm in use.

Network Type: Network's type, including Infrastructure and Ad-hoc.

Indicate connection is successful on currently activated profile.

4

Indicate connection is failed on currently activate profile.

Add/Delete/Edit Button: Click these buttons to add/delete/edit the selected profiles. Activate Button: Click "Activate" to connect the selected profile. When a profile is activated, the adapter will be initially connected to the profile.

3.2.1.1 Add a profile

Profile Name	1 590	Orannel	Authentication	Encorption	Network Type
()			_	197	1 1

By either pushing the "Add" button on Profile Page or the "Add to Profile" button on Site Survey Page, it brings up the profile setting sheet which contains two setting pages -- "Configuration" page and "Authentication and Security" page.

35ID	855ID	Phy	Sgrid	A C.	Encryption	Authentic	Network Ty.
Default_11N	00-06-4F-33-44-66	N	29%	6	None	Unknown	Infrastructure
UNI	00-06-4F-50-1E-86	4	44%	6	None	Unknewn	Infrastructure
SMC	00-13+77-10-26-02	G	85%	6	None	Unknown	Infrastructure
RT2561_1	00-AA-8B-01-23-45	ĝ.	10%	6	None	Unknown	Infrastructure
WRAN_SW	00-07-40-#1-99-42	G	108%	9	TKIP	WPA-PSK	Mashuoure
Belkin_N1	00-17-3F-54-8E-AD	N	36%	11	AES	WPA-PS.	Intrastructure
WR514WW	00-06-4F-46-73-6D	N	100%	n	TKIP	WPAPSK	Intrastructure
ionnected <-> N	NLAN_SW	_		Resca	ń j	Add to 1	Prolife

[Configuration page]

add Profile	nentication and Security			X
Profile Name	PROF1	SSID	WLAN SW	<u> </u>
Network Type	Infrastructure	▼ TX Power	Auto	•
		OK Cance	Apply	Help

Profile Name: Name of the profile

- SSID: Name of the desire network
- Network Type: Netowork of the desired network, either infrastructure or Ad-Hoc. Infrastructure – This operation mode requires the presence of a wireless Access Point. All communication is done via the Access Point or Router.

Ad-Hoc – Select this mode if you want to connect to another wireless station in the Wireless LAN network without through an Access Point or Router.

Tx-Power: The desired TX power level; the available options are 100%, 75%, 50% and Auto. If you want to lower the transmit power of the adapter for saving the power of the system, you can select the lower percentages from the list. The lower power will cause the lower signal strength and the coverage range.

[Authentication and Security page]

Authentication Type :	WPA-PSK	
Encryption :	ТКІР	×
WPA Preshared Key :		
– Wep Key		
€ Key#1 Hex	×	
C Key#2 Hex	<u> </u>	
C Key#3 Hex	-	
C Key#4 Hex	<u> </u>	
* WEP 64 Bits Encryptic * WEP 128 Bits Encrypt	n: Please Keyin 10 HEX characters or 5 ASCII char on: Please Keyin 26 HEX characters or 13 ASCII ch	acters aracters
	∏ Show	v Password

Authentication Type: The authentication of the desired network. For infrastructure network, the available modes are Open, Shared, WPA, WPA-PSK, WPA2, and WPA2-PSK.

Open: No authentication is needed among the wireless devices.

Shared: Only Wireless device using a shared key (WEP Key identified) is allowed to connecting each other. Setup the same key as the wireless device that the adapter intends to connect.

WPA: WPA provides a scheme of mutual authentication using either IEEE 802.1x/Extensible Authentication Protocol (EAP) authentication or pre-shared key (PSK) technology. It provides a high level of assurance to enterprise, small business and home users that data will remain protected and that only authorized users may access their networks. For enterprises that have already deployed IEEE 802.1x authentication, WPA offers the advantage of leveraging existing authentication databases and infrastructure.

WPA-PSK – It is a special mode designed for home and small business users who do not have access to network authentication servers. In this mode, known as Pre-Shared Key, the user manually enters the starting password in their access point or gateway, as well as in each wireless station in the network. WPA-PSK takes over automatically from that point, keeping unauthorized users that don't have the matching password from joining the network, while encrypting the data

traveling between authorized devices.

WPA2 – Like WPA, WPA2 supports IEEE 802.1x/EAP authentication or PSK technology. It also includes a new advanced encryption mechanism using the Advanced Encryption Standard (AES). AES is required to the corporate user or government users. The different between WPA and WPA2 is that WPA2 provides data encryption via the AES. In contrast, WPA uses Temporal Key Integrity Protocol (TKIP).

WPA2-PSK – WPA2-PSK is also for home and small business. The difference between WPA-PSK and WPA2-PSK is that WPA2-PSK provides data encryption via the AES. In contrast, WPA-PSK uses Temporal Key Integrity Protocol (TKIP).

Encryption: The encryption of the desired network.

- -- For Open and Shared authentications, the available encryption modes are **None** and **WEP**.
- -- For WPA, WPA-PSK, WPA2 and WPA2-PSK authentications, the available modes are **TKIP** and **AES**.

None – Disable the Encryption mode.

WEP – Enabled the WEP Data Encryption. When the item is selected, you have to continue setting the WEP Key Length & the key Index.

TKIP – TKIP (Temporal Key Integrity Protocol) changes the temporal key every 10000 packets (a packet is a kind of message transmitted over a network). This insures much greater security than the standard WEP security.

AES – AES has been developed to ensure the highest degree of security and authenticity for digital information and it is the most advanced solution defined by IEEE 802.11i for the security in the wireless network.

Note: All devices in the network should use the same encryption method to ensure the communication.

- WPA Pre-Shared Key: The WPA-PSK key can be from 8 to 64 characters and can be letters or numbers. This same key must be used on all of the wireless stations in the network.
- WEP Key (Key1~Key4): The WEP keys are used to encrypt data transmitted in the wireless network. There are two types of key length: 64-bit & 128-bit. Select the default encryption key form key1 to key4 by selected the radio button.

Fill the text box by following the rule below:

64-bit – Input 10-digit Hex values (in the "**A-F**", "**a-f**, and "**0-9**" range) or 5-digit ASCII characters (including "**a-z**" and "**0-9**") as the encryption keys. For example: "**0123456aef**" or "**test1**"

128-bit – Input 26-digit Hex values (in the "**A-F**", "**a-f**, and "**0-9**" range) or 13-digit ASCII characters (including "**a-z**" and "**0-9**") as the encryption keys. For example:

"01234567890123456789abcdef" or "administrator".

3.2.1.2 Edit a profile

Selecting an exiting profile then clicking the "**Edit**" button on Profile Page brings up the profile setting sheet filled with the profile information for user modification.

Inst	W.M.SW	hat.	NPAPSK.	Tige	bitminutare

3.2.1.3 Delete a profile

Selecting an exiting profile then clicking the "Delete" button on Profile Page to deletes the profile.

Pone Name	SSID WLIEFSW	Qiaviel Azu	Adheretication	Encryption	Network Type
			-		
-C					

3.2.1.4 Active a profile

Selecting an exiting profile then clicking the "**Active**" button on Profile Page activates the profile.

Profile Name PROF1	WLAN_SW	Auto	Authentication WPA-PSK	TKIP	Network Type Infrastructure

3.2.2 Link Status

In this section, you can immediately monitor the current connected link status, such as Link Speed, Throughput, Link Quality, Signal Strength, Noise Level ...etc.

Status :	MI AN SV	N < > 00 07 //	1 E1 00 /2				
	AACHIAT2A	V <> 00-07-40	J-F 1-33-42				
Extra Info :	Link is Up	[TxPower:100	%]				
Channel :	9 <> 2452	2 KHz					
Link Speed :	Tx (Mbps)		54.0	Rx (Mbps)		54.0	
Throughput :	Tx (Kbps)		3.4	Rx (Kbps)		5.0	
	Good	100%					
Link Quality :							
	Good	81%			🗖 dBm		
Signal Strength 1:							
	Good	100%					
Signal Strength 2							
	Good	100%		an in parate of			
Signal Strength 3:							
	Low	26%		an en sur oar oa			
Noise Level :							
HT BW:n/a	Gl: n/a	MCS: n	/a	SNR0: n/a	SNR1: n/	'a	

Status: Current connection status. If no connection, it will show Disconnected. Otherwise, the SSID and BSSID will show here.

Extra Info: Display the link status and current channel in use.

Channel: Display the number of the radio channel and the frequency used for the networking. **Link Speed (Mbps):** Display the transmission and reception rate of the network. The maximum transmission rate is 54Mbps.

Throughput (Kbits/sec): Display transmits and receives throughout in unit of K bits/sec.

Link Quality: Display connection quality based on signal strength and TX/RX packet error rate.

dBm: If you want to know the signal strength in the unit of dBm, select the check box.

Signal Strength: Receive signal strength, user can choose to display as percentage or dBm format.

Signal Strength2: Receive signal strength 2, user can choose to display as percentage or dBm format.

Noise Level: Display the noise signal strength.

HT: Display current HT status in use, containing BW, GI, MCS, SNR0, and SNR1 value. (show the information only for 802.11n wireless card.)

3.2.3 Site Survey

When you open the Configuration Utility, the system will scan all the channels to find all the access points/stations within the accessible range of your adapter and automatically connect to the wireless device with the highest signal strength. From the "**Site Survey**", all the network nearby will be listed. You can change the connection to another network or add one of the networks to your own profile list.

SSID	BSSID	Phy	Signal	🔺 C	Encryption	Authentic	Network Ty
Default_11N	00-06-4F-33-44-66	N	29%	6	None	Unknown	Infrastructure
UNI	00-06-4F-50-1E-B6	G	44%	6	None	Unknown	Infrastructure
SMC	00-13-F7-19-26-D2	G	86%	6	None	Unknown	Infrastructure
RT2561_1	00-AA-BB-01-23-45	G	10%	6	None	Unknown	Infrastructure
WLAN_SW	00-07-40-F1-99-42	G	100%	9	TKIP	WPA-PSK	Infrastructure
Belkin_N1	00-17-3F-5A-8E-AD	N	86%	11	AES	WPA-PS	Infrastructure
WR514VN	00-06-4F-46-73-6D	N	100%	11	TKIP	WPA-PSK	Infrastructure
mySSID	00-03-7F-FE-00-02	G	/6%	11	None	Unknown	Infrastructure
Connected <> V	VLAN_SW			Rescar	n	Add to I	Profile

SSID: Name of BBS of IBSS network.

BSSID: MAC address of AP or randomly generated of IBSS.

Signal: Receive signal strength of specified network.

Channel: Channel in use.

Encryption: Encryption algorithm used within than BBS or IBSS. Valid value includes WEP, TKIP, AES, and Not Use.

Authentication: Authentication mode used within then network, including Unknown,

WPA-PSK, WPA2-PSK, WPA and WPA2.

Network Type: Network type in use, Infrastructure or Ad-Hoc.

Rescan: Issue an rescan command to wireless NIC to update information on surrounding wireless network.

Re-Scanning: Clicking the re-scan button to perform the re-scanning action.

Add to Profile: Add the selected AP to Profile setting. It will bring up profile page and save user's setting to a new profile.

[Connect A Network]

(1) When Raconfig first ran, it will select the best AP to connect automatically.

(2) If user wants to connect to other AP, he can double-click mouse on the intended AP to make connection.

(3) If the intended network has encryption other than "Not Use", Raconfig will bring up the security page and let use input the appropriate information to make the connection.

Market States The Changes is successful.

Example 1: Open and Non-Encrypted

Step 1 - Choose "Open" authentication type

Step 2 – Choose "**None**" encryption type

uthentication Ty	vpe :	200	🔹 🗆 Use S	02.1x	
rayplion :		None			
PA Preshored i	Key :	-			
eligi (ig: ∉ tast)	[thes	+			i
P 10102	Hei	-			
Cist	[Hail	-			
Ĉ kejdt	the.	-			-1
VEP 64 (16 VEP (25 8)	Encycler	Pleasa Flager (1) Please Koler 2	HCC characteries EHCC (NOGON)	i 1.400) etaanta or 1.0.4500 etaam	e. Neti
				T Stree Pe	

Step 3 – After the profile is saved, click "**Activate**" button on Profile Page to activate the profile.

Profile Name	SSID	Channel	Authentication	Encryption	Network Type
PROF1	WLAN SW	Auto	WPA-PSK	TKIP	Infrastructure
PROF2	Default_11N	Auto	Open	None	Infrastructure
Ade		Delete		Edit	Activate

Example 2: WEP-Encrypted

Step 1 – Choose "Open" or "Shared" authentication type

Step 2 – Choose "WEP" encryption type

Step 3 –Enter the WEP KEY

uthentication Type :	Open 💌 🗖 Use 802.1x	
ncryption :	WEP	
/PA Preshared Key :		
Wep Key		
⊂ Key#2 Hex	_	
C Key#3 Hex	<u> </u>	
C Key#4 Hex	•	
* WEP 64 Bits Encrypt * WEP 128 Bits Encryp	on: Please Keyin 10 HEX characters or 5 ASCII character tion: Please Keyin 26 HEX characters or 13 ASCII charac	s ters
	C Show Pa	eeword

Step 4 –After the profile is saved, click the "**Activate**" button on Profile Page to active the profile.

Profile Name	SSID	Channel	Authentication	Encryption	Network Type
PROF1	WLAN SW	Auto	WPA-PSK	TKIP	Infrastructure
PROF2	WEP_Encryption	Auto	Open	WEP	Infrastructure
	. 1	Delete	1 -	da (Astivata

Example 3: WPA-PSK/WPA2-PSK

Step 1 – Choose "WPA-PSK" or "WPA2-PSK" authentication type

Step 2 – Choose "TKIP" or "AES" encryption type

Step 3 –Enter the pre-shared KEY

Authentication Type :	WPA-PSK				
Encryption :	ТКІР	•			
WPA Preshared Key :					
- Wep Key					
Ƙ Key#1 Hex	<u> </u>				
C Key#2 Hex					
C Key#3 Hex					
C Key#4 Hex	x				
* WEP 64 Bits Encrypti * WEP 128 Bits Encryp	m: Please Keyin 10 HEX characters or 5 ASCII charact ion: Please Keyin 26 HEX characters or 13 ASCII char.	ters acters			
	□ Show I	Password			

Step 4 –After the profile is saved, click the "**Activate**" button on Profile Page to active the profile.

PROF1 WLAN_SW Auto WPA-PSK TKIP Infrastructu	FKIP Infrastructure

Example 4:WPA/WPA2

Step 1 – Choose "WPA" or "WPA2" authentication type

Step 2 – Choose "TKIP" or "AES" encryption type

Authentication Type :	WPA	•		
Encryption :	TKIP			<u> </u>
WPA Preshared Key :				
Wep Key		-		
€ Key#1 Hex	*			
C Key#2 Hex	<u>*</u>			
C Key#3 Hex	<u></u>			
C Key#4 Hex				
*WEP 64 Bits Encryp *WEP 128 Bits Encry	ion: Please Keyin stion: Please Keyi	10 HEX characters n 26 HEX characters	or 5 ASCII characte r or 13 ASCII charac	rs Sters
			Show Pa	assword

Step 3 –After the profile is saved, click the "**Activate**" button on Profile Page to active the profile.

Infrastructure
Infrastructure

Step 4 – The Windows profile setting dialog is popped-up for user to modify.

WPA Wireless Network	properties	×
Connection Security]	
S <u>e</u> curity type: E <u>n</u> cryption type:	WPA-Enterprise	•
Ch <u>o</u> ose a network at Protected EAP (PEA	uthentication method: P)	 Settings
Cache user inform to this network	nation for subsequent	connections
7		
		OK Cancel

3.2.4 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters. This page translates the MIB counters into a format easier for user to understand. You may reset the counters to Zero by clicking "**Reset Counter**".

🙀 Ralink Wireless Utility		×		
Profile Link Status Site Survey Statistics WPS Configuration	QoS About	1		
Transmit Statistics		ī		
Frames Transmitted Successfully	=	1671		
Frames Transmitted Successfully After Retry(s)	=	460		
Frames Fail To Receive ACK After All Retries	=	2		
RTS Frames Successfully Receive CTS	-	0		
RTS Frames Fail To Receive CTS	=	õ		
Receive Statistics				
Frames Received Successfully	-	9453		
Frames Received With CRC Error	=	32435		
Frames Dropped Due To Out-of-Resource	=	0		
Duplicate Frames Received		0		
		Reset Counter		
		OK Help		

[Transmit Statistics]

Frames Transmitted Successfully: Frames successfully sent

Frames Transmitted Successfully After Retry: Frames sent successfully with retry.

Frames Fail to Receive ACK After All Retries: Frames failed transmit after hitting retry limit. **RTS Frames Successfully Receive CTS:** Successfully receive CTS after sending RTS frames.

RTS Frames Fail To Receive CTS: Failed to receive CTS after sending RTS frames.

[Receive Statistics]

Frames Received Successfully: Frames received successfully.

Frames Received with CRC Error: Frames received with CRC error.

Frames Dropped Due to Out-of-Resource: Frames dropped due to resource issue.

Duplicate Frames Received: Duplicate received frames.

3.2.5 WPS Configuration

The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simply the security setup and management of Wi-Fi Networks.

SCID	Resin	Chappel		Authentic	Encontion	
3310	103310		110	Autorities	Пстурион	Rescan
						WPS Information
						Pin Code
						93756716 Renew
						Config Mode
< [m			•	L
SSID		Authentication		Encryption		Detail
						Connect
						Rotate
						Disconnect
						Import Profile
•		.III			E F	Delete
EIN	WPS Associate	E				
P <u>B</u> C	WPS Probe IE	M	/PS status			

WPS Associate IE: If the "WPS Associate IE" option is checked, station will send the association request with WPS IE during WPS setup.

WPS Probe IE: If the "WPS Probe IE" option is checked, station will send the probe request with WPS IE during WPS setup.

[Display WPS capable AP information]

The WPS capable AP information is listed in the upper frame, and the display AP's characters are SSID, BSSID, current operating channel, device password ID, authentication type, and encryption type.

Re-Scanning: Clicking "re-scan" button performs the re-scanning action.

WPS AP Information: Clicking the WPS information" button brings up the WPS capable AP information dialog.

Authentication Type: there are three type of supported authentication modes, and there are Open, Shared, WPA-PSK and WPA modes.
- Encryption Type: For Open & Shared authentication modes, the available encryption types are None and WEP. For WPA, WPA2, WPA-PSK and WPA2-PSK authentication modes, the available encryption types are TKIP and AES.
- Config Methods: This attributes contains the config methods supported and enabled by the selected Registrar.
- Device Password ID: Device Password ID indicates the method or identifies the specific password that the selected Registrar intends to use.
- Selected Registrar: Selected Registrar indicates if the user has recently activated a Registrar to add an Enrollee.
- State: This attribute is used to indicate the current configuration state. This attribute is either "Un-Configured" or "Configured".
- Version: This attribute is the specified WPS version.
- AP Setup Locked: AP Setup Locked indicates if AP has entered a setup locked state.
- UUID-E: UUID-E is the universally unique identifier (UUID) generated by the Enrollee.
- **RF-Bands:** RF Bands indicate the available RF bands.

[Configure WPS Profiles]

The user can configure WPS profile with either PIN method or PBC method.

PIN Method:

Step 1 → The Registrar enters the pin code generated by station.

Step 2 \rightarrow Click the "PIN" button.

PBC Method:

Step 1 \rightarrow Click the "PBC" button within 2 second while the Registrar clicks the button.

[Manage WPS Profiles]

The Received WPS profiles are listed in the lower frame, and the listed WPS profile attributes are SSID, MAC address, authentication type, and encryption type.

- WPS profile detail information: Selecting a profile then clicking the "Detail" button brings up the WPS profile detail information dialog.
- Connect with WPS Profile: Clicking the "Connect" button will connect to AP with the select WPS profile.
- Rotate WPS profile: If there are more than two WPS profiles, clicking the "Rotate" button will rotate to next profile and connect to AP with this profile. If the connection can't be made successfully, station will perform the WPS profile rotation repeatedly.

- Disconnect from WPS AP: Clicking the "Disconnect" button will stop the WPS connection.
- Delete WPS profile: Clicking the "Delete" button will delete the selected WPS profile.

3.2.6 QoS

The QoS Page of RaConfig. It involves **"WMM Enable"**, **"WMM – Power Save Enable"** and **"DLS setup Enable"**.

rofile Link Status	Site Survey Statistics WPS Configuration	QoS About
	Enable	Apply
	WMM - Power Save Enable	Setting
E I	Direct Link Setup Enable	Apply
Î	Direct Link	
	Direct Link Setup	
	MAC Address :	
	Timeout Value : 60 sec	Apply
	DLS Status	
	MAC Address Timed	out_
		TD
	*	

Configure to enable Wi-Fi Multi-Media

If you want to use "**WMM – Power Save**" or "**Direct Link**", you must enable WMM. The setting method of enabling WMM indicates as follows:

Step 1: Click "WMM Enable"

Step 2: Click "Apply".

Profile Link Status	Site Survey Statistics WPS Configura	tion QoS About	
Г	VMM - Power Save Enable	Setting	
Г	Virect Link Setup Enable	Apply	
	Direct Link		
	Direct Link Setup		
	Timeout Value : 60 sec	Apply	
	DIS Status		=
	MAC Address	limen t	
		Inneout	
		Tear Down	
	* [

Step 3: Change to "**Site Survey Page**". And add an AP that supports WMM features to a Profile. The result will look like the below figure in Profile page.

DDOF1	MAIL AND COM	Channel	Authentication	Encryption	Network Type
PROF2	WMM	Auto	Open	None	Infrastructure

Enable WMM – Power Save

Step 1: Click "WMM – Power Save Enable". And Click "Setting..." button.

Ralink Wireless U Profile Link Status	tility Site Survey Stat	istics WPS Co	nfiguration GoS	About	
MWM	Enable			Apply	
	WMM - Power Save	Enable		Setting	
	Direct Link Setup En	lable		Apply	
1	Direct Link				
	MAC Address : Timeout Value :				
	DLS Status				
	MAC Addres	is	Timeout		
				Tear Down	
Ĺ					
				ОК	Help

Step 2: After clicking "Setting..." button, show "Power Save Setting" dialog. Please select which ACs you want to enable. Then click "Apply" button. The setting of enabling WMM – Power Save is successfully.

Power Save Sett	ting
AC_BK	
F AC_BE	
AC_VI	
AC_VO	Apply

Enable DLS (Direct Link Setup)

Step) 1 :	Click	"Direct	Link	Setup	Enable'	'. And	Click	"Apply	" button
------	--------------	-------	---------	------	-------	---------	--------	-------	--------	----------

Proble Lark Status Statutus WPS Configuration QuS About If WNM Enable About Integration If WNM - Prover Save Enable Integration If Direct Link Setup Enable About If Direct Link Setup Enable About If Direct Link Setup Integration If Integration Integration If Integration Integration	Ralink Window Utilit		and See
MAC Address Timeout +	Prote Link Status Si WMM Envir WMM WMM WMM WMM WMM WMM WMM WM	s Survey Statistica WPS Configuration	About About Abo
or 1 to		MAC Address	Territory

Step 2: Change to **"Site Survey Page"**. And add an AP that supports DLS features to a Profile. The result will look like the below figure in Profile page.

Profile Name PROF2 PROF1	SSID WPA WLAN, SW	Channel Auto Auto	Authentication WPA WPA-PSK	Encryption TROP TROP	Network Type Infrastructure Monstructure
THEOREM -	H	htr-	Oper	Alex	History
			Ť.	in T	. Kanada

The Setting of DLS indicates as follow:

1. Fill in the blanks of Direct Link with **MAC Address** of STA. The STA must conform to two conditions as follow:

Step 1: Connect with the same AP that support DLS features.

Step 2: Have to enable DLS.

17 WMM Enable		Apply
IT WMM-	Power Save Enable	Getro
🖓 Desct Li	nk Setus Enable	Apply
Drest Dres Mak DLS	Link (Link Selva) C Activess [00] - [00] - [43] - exce Volue : Statue NAC Address Trinecut + [1] +	[25 - [77 - [18]

 Timeout Value represents that it disconnect automatically after some seconds. The value is integer. The integer must be between 0~65535. It represents that it always connects if the value is zero. Default value of Timeout Value is 60 seconds

		ante	
- war	en 1. Dennes Carao Danabia		
1	n - Forver Jarve Linaure	0.6410	
V Desc	t Link, Setup triable	Apply	
Centre 1	est unk keol Link Setui		
1	AAC Address 00 - 00 - 43	- 25 - 77 - 11	
(Faneout Value : State	Apply	
	ILS Statue		
	NAC Addware Tark	tee	
		3 2 1	
	A.C	Tear Down	
1	367.8		

3. Click "Apply" button. The result will look like the below
--

17 WMM Enable	Apply
T WMM - Power Save Enable	Setro
₩ Direct Link Setup Enable	Acrily
Dect Link Selup MAC Address [00 - [00 - [43] Titrecut Volue : Im sec DLS Status [00-00-43-25-73-10 6] 4	- [25 - [73 - [18 Avoly

Describe "DLS Status" as follow:

- As the up figure, after configuring DLS successfully, show MAC address of the opposite side and Timeout Value of setting in "DLS Status". In "DLS Status" of the opposite side, it shows MAC address of myself and Timeout Value of setting.
- 2. Display the values of "DLS Status" to "Direct Link Setup" as follow:

Step 1: In "DLS Status", select a direct link STA what you want to show it's values in "Direct Link Setup".

VWMM Enable VWMM - Power Save Enable VWMM - Power Save Enable V WMM - P	WMM Enable Andy WMM Fraulie Verify WMM Fraulie Verify Direct Link Setup Enable Andy Direct Link Setup Andy Direct Link Setup MAC Address Threeout Volue : and DLS Statue HAC Address MAC Address Timeout VILUE Statue E000 Image: +	ee I ne van I ne onde I vande I er sondere	a and large t
WIMM - Power Save Enable WIMM - Power Save Enable With Setup Enable Direct Link Setup Direct Link Setup M&C Addmass File Direct Volue RAC Addmass RAC Addmass Transol File File File	WINM - Power Save Enable	🐼 WMM Enable	Apply
	Direct Link Direct Li	WNM - Power Save Enable	Getro.
Direct Link Direct Link Direct Link Direct Link Direct Link MAC Addmass Timeout Value DLS Status HAC Addmass Timeout Timeout topologick/95/9/2018 topologick/95/97/9 topologick/95/9/2018 topologick/9	Direct Link Direct Link Setaji MAC Address DLS Statue NAC Address NAC Address	😥 Direct Link Setup Enable	Apply
4 [] +		Direct Link Setual MAC Addesse Terecut Volue DES Statue NAC Addesse NAC Addesse To DES Statue NAC Addesse To DES Statue	
		4 [+ isar bown

W WMM Enable	ADDY
F WMM - Power Save Enable	Georg.
🐼 Deect Link Setup Enable	Apply
Direct Link	
Direct Link Setup	an part part part
No.C. Accesso 00 - 0C - 4	13 - [25 - [70 - [18
Tareout Value: 600 and	Apply
DLS Statue	
MAC Address Te	restor
00-00-43-25-73-18	50.0
	Tear Down
47.6	
1.	

Step 2: Double click. And the result will look like the below figure.

3. Disconnect Direct Link Setup as follow:

Step 1: Select a direct link STA.

A MMM	Enable	Abuly	
E .	WMM - Power Save Enable	Setro_	
1	Direct Link Setup Enable	Apply	
	Direct Link Direct Link Direct Link Direct Link MAC Actives 100 - Timeous Value DLS Statue MAC Actives MAC Actives * * * * * * * * * * * * *	143 - 125 - 177 - 118 Avoly Treased 500 + Tear Down	

	1 A A A A A A A A A A A A A A A A A A A
₩ WMM crudie	ADDY
F WMM - Power Save Enable	Getrig
😥 Drect Link Setup Erable	Apply
Direct Link	
Direct Link Setup	m san san san
MAC ACCINES 00 - 0C - 43	1 - 125 - 170 - 111
Taneout Value : 600 and	Apply
DLS Statue	
MAC Address Tree	attest
	Tear Down
47.5	et <u>es es </u>

Step 2: Click "Tear Down" button. The result will look like the below figure.

3.2.7 About

In the "**About**", you can click the hyperlink to connect the website for the information of the wireless chipset vendor and review basic information about the Utility such as the RaConfig Version, Driver Version, EEPROM Version, IP Address, Sub Mask, and Default Gateway.

1000			_
(c) Copyright 2007	Raink Technology	Inc. All optic senerved.	
ReCords Version	10.18.0	Date	09-14-2007
Driver Version :	2000	Date :	08-23-2007
EEPFROM Version	ti.	Ronware Version	0.7
P Addware (192.168.10.45	Phy_Ackhena	10-06-4F-12-34-56
Sub Mark :	258,255,258.0	Default Galeway :	102.168.10.1

3.2.8 How to Manage Windows Profile

Windows profile manager can be reached via connection icon on the task bar or control panel.

[via Network icon]

Step 1: Right-click connection icon on the task bar, then click "Network and Sharing Center"



Step 2: Select "Manage wireless networks"

Tasks Network and Sharing Center Vew Manage services and devices Consist to a network Manage services (network) Image services (network) Set up a connections WINNELPC WLAN_SW Manage services (network) Connections Intervet WINNELPC WLAN_SW Manage services (NELAN_SW) Intervet WINNELPC WLAN_SW Manage services (NELAN_SW) Ween services (NELAN_SW) Manage services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Manage services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Manage services (NELAN_SW) Meen services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Macause Manage services (NELAN_SW) Meen services (NELAN_SW) Ween services (NELAN_SW) Macause Macause Meen services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Macause Macause Meen services (NELAN_SW) Ween services (NELAN_SW) Ween services (NELAN_SW) Macause Macause Meen services (NELAN_SW) Meen services (NELAN_SW) Ween services (NELAN_SW) Ween services	Network and Inter	net Network and Sharing Cente	a 👘 🖣 🖣 Seinch	
Service Contraction With Network Contraction Manage restrict Contraction With Network Namage restrict in poor With Network With Network With Network Contract and Internet Contraction Contract in poor With Network With Network Contraction Ministry Contraction With Network Connection With Service Contraction With Service Contraction Ministry Contraction Ministry <td< td=""><td>Tasks View computers and devices</td><td>Network and Sharing Ce</td><td>enter</td><td></td></td<>	Tasks View computers and devices	Network and Sharing Ce	enter	
Manage weeked (Minish) WINNEE-PC (This computer) WINNEE-PC	Connect to a network			View foll map
Set up a connection or natural Monage network connection: Original and repair WINKE-PC (This computer) WLAN_SW Internet Connection WIAN_SW Connection (VILAN_SW) Connection (VILAN_SW) New Status (E Signal attemptite Vary good Disconnection (VILAN_SW) Sharing and Obscovery On Image: Sharing (E Signal attemptite Vary good Image: Sharing (E Signal attemptite Vary good Image: Sharing (E Signal attemptite Vary good The sharing Off Image: Sharing (E Sharing) Off (no printern installed) Image: Sharing (E Sharing) The sharing Off (no printern installed) Image: Sharing (E Sharing) Image: Sharing (E Sharing) Image: Sharing (E Sharing) Image: Sharing (E Sharing)	Manage weeters networks			
Outgranue and report Customers Access Local and letternet Connection Wineless Network Connection (WLANLSW) Weenstatus Connection Wineless Network Connection (WLANLSW) Weenstatus Image: Connection Image: Connection (WLANLSW) Weenstatus Image: Connection Image: Connection (WLANLSW) Weenstatus Image: Connection Image: Connection (WLANLSW) Image: Connection (WLANLSW) Image: Connection Image: Connection (WLANLSW) Image: Connection (WLANLSW) Image: Connection Image: Connection (WLANLSW) Image: Connection (WLA	Set up a connection or national Manage network connections	WINNEE-PC (This computer)	WLAN_SW	Internet
Access Local and Internet Connection Wireless Network Connection (WLAN_SW) Ween status (# Signal strength: Vary good B Sharing and Discovery © On Network discovery © On • File sharing © Off • Public folder sharing © Off (no printers installed) • Printer staring © Off (no printers installed) • Password protected sharing • Off (no printers installed) • Media storing • Off •	Diagnosa and repoir	wian SW @rivete network	rk)	Cuttorran
Connection Windias Network Connection (VILAN, SW) Week Status (# Signal strength: Vary good Discounct Image: Starling and Discovery Image: Discovery Image: Discovery Network discovery Image: Discovery Image: Discovery File sharing Image: Diff Image: Diff Public folder sharing Image: Diff Image: Diff Printer sharing Image: Diff Image: Diff Printer sharing Image: Diff Image: Diff Media storing Image: Diff Image: Diff		Access	Local and Internet	- Constantion
Image: Signal strangth: Vary good Discounds Image: Signal strangth:		Connection	Wireless Network Connection (WLAN_SW)	View status
Image: Sharing and Obscovery Image: On Network discovery Image: On File sharing Image: Off Public folder sharing Image: Off Printer sharing Image: Off Printer sharing Image: Off Present Persent optimized sharing Media sharing Image: Off Media sharing Image: Off	1.1		e≝ Signal strength: Vary good	Disconnect
Network discovery © Dit File sharing © Off Public folder sharing © Off (no printers installed) Printer sharing © Off (no printers installed) Present Peaseord protected sharing Media sharing © Off Media sharing © Off	11	Sharing and Discovery		
File sharing © Off Public fielder sharing © Off Public fielder sharing © Off (no printers installed) Present Password protected sharing Present Optimes Media sharing	12 1	Network discovery	e Da	8
Public folder sharing # Off Printer sharing # Off (no printen installed) Person Person of protected sharing Person @ On Media sharing # Off		File sharing	e Off	8
Printer sharing Off (no printers installed) Present Present of protected sharing Media sharing On	11	Public Folder sharing	e on	۲
Terrated Peasword protected sharing © Cis.		Printer sharing	© Off (no printers installed)	۲
ndefinit Optimen Media staring @ Diff	Storatus	Password protected sharing	e De	8
	Billennet Optimie	Media sharing	e 0#	۲

Step 3: Right-click the mouse to bring up the profile manage menu.

Manage wirele Windows this to co	sork and Internet ss metworks to mate to these move network pro	 Manage Wireless Ne hat use (Wireless 1 tworks in the order liste ites) 	tworks Network Conn d balow. To chang	the Salarate ection) athe order, drag a network up or de	20 20
Add Ital Remove	Move up	C Adapter properties	3. Profile types	1 Network and Sharing Center	0
Networks you can view	and modify [4]				^
abc .	Ţ4	with WitA Enlerprise	T)(e	Arg suported.	Automotically con-
	-16	owity: WEE	Type	Arty supported	Automatically con-
S	34	unty Unsecured	Type	Any supported	Automotically con-
WLAN SW	Properties amove network aname Aove up	Carty MPA Personal	Type	Any supported	Automatically con-
MAN SV	PostRename Security type Radio type	NLAN_SW NPA-Personal Vry supported	Mode Automatik	ally connect	1

[via Control Panel]

Step 1: Select "Control Panel" on start menu.



Step 2: Double-click "Network and Sharing Center" icon.



🕞 👻 🕴 Control Panel 🕨	Network and Sharing Center	• + Search	No. of Concession, Name
Tasks View computers and devices	Network and Sharing C	enter	View full map
Connect to a network Manage wrotest network Set up a connection or network Manage network connections	WINNE-PC (This compute	wLAN_SW	- Of Internet
Chargening and repoir	wilden SW (Private netwo	rk)	Customing
	Accass	Local and Internet	
	Connection	Windexs Network Connection (WLAN_SW)	View status
		ell Signal strength: Eccellent	Disconnect
	A Sharing and Discovery		
	Network discovery	e On	۲
	File sharing	9 0 0	
1.1	Public Folder shering	u on	۲
10 8 1	Printer sharing	Off (no printers installed)	9
11. 21. 1	Password protected sharing	e De	8
1	Media sharing	e DH	۲
	Show me all the files and folds	en larm diating	
1	Show me all the shared netwo	rk folders on this computer	
	Show me all the shared netwo	rk folden an the computer	

Step 4: Right-click the mouse to bring up the profile managing menu.



4. Troubleshooting

This chapter provides solutions to problems usually encountered during the installation and operation of the adapter.

1. Symptom:

The LED is Off.

Possible Remedy:

Make sure the Wireless adapter is inserted properly. Otherwise, please contact your vendor.

2. Symptom:

The LED is always on not blinking.

Possible Remedy:

Make sure that you have installed the driver from the attached CD.

3. Symptom:

The LED is blinking but the Wireless adapter icon does not appear in your icon tray.

Possible Remedy:

Make sure that you have installed the Utility from the attached CD.

4. Symptom:

The Wireless adapter is linking, but can't share files with others.

Possible Remedy:

Make sure the File and printer-sharing function is enabled.

5. Symptom:

Slow or unstable performance.

Possible Remedy:

Try to change the channel of the communicating group or move your device closer to the communicating device.

6. Symptom:

Can't find the utility icon in the taskbar when plug in the Wireless adapter.

Possible Remedy:

You could enable the function by click the icon of Start \rightarrow All Programs \rightarrow Ralink Utility.

7. Symptom:

No wireless signal.

Possible Remedy:

Move the antennas of the access point or wireless router into an L shape (one vertically, and one horizontally). Click on the Refresh button on the Site Survey screen. If the computer still does not see the Access Point, and then try to move your Access Point closer to the computer. Then click on the Refresh button again. If the computer still does not see the Access Point, move all things that may cause interference with the wireless signal.

8. Symptom:

If you still cannot get a wireless connection of the network.

Possible Remedy:

Step 1- Turn the computer off

- Step 2- Turn the Access Point off
- Step 3- Turn the Access Point on

Step 4- Wait 30 seconds

Step 5- Turn the computer back on

Step 6- Using the Utility reconnect to the Access Point:

Step 7- Double click on the bar graph icon in the system tray

Step 8- Select the Site Survey Link

Step 9- Highlight the SSID of your wireless network and click connect

Step 10- Click OK if all the settings are correct

9. What is the IEEE 802.11g standard?

802.11g is the new IEEE standard for high-speed wireless LAN communications that provides for up to 54 Mbps data rate in the 2.4 GHz band. 802.11g is quickly becoming the next mainstream wireless LAN technology for the home, office and public networks. 802.11g defines the use of the same OFDM modulation technique specified in IEEE 802.11a for the 5 GHz frequency band and applies it in the same 2.4 GHz frequency band as IEEE 802.11b. The 802.11g standard requires backward compatibility with 802.11b.

The standard specifically calls for:

A. A new physically layer for the 802.11 Medium Access Control (MAC) in the 2.4 GHz frequency band, know as the extended rate PHY(ERP(. The ERP adds OFDM as a mandatory new coding scheme for 6, 12, and 24 Mbps (mandatory speeds), and 18, 36, 48, 54 Mbps (optional speeds). The ERP includes the modulation schemes found in 802.11b including CCK for 11 and 5.5 Mbps and Barker code modulation for 2 and 1 Mbps.

B. A protection mechanism called RTS.CTS that governs how 802.11g devices and 802.11b devices interoperate.

10. What does IEEE 802.11 feature support?

The product supports the following IEEE 802.11 functions:

- -- CSMA/CA Plus Acknowledge Protocol
- -- Multi-Channel Roaming
- -- Automatic Rate Selection
- -- RTS/CTS Feature
- -- Fragmentation
- -- Power Management

11. What is Ad-Hoc?

An Ad-Hoc integrated wireless LAN is a group of computers, each has a Wireless LAN adapter, Connected as an independent wireless LAN. Ad-Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO ope ration.

12. What is Infrastructure?

An integrated wireless and wireless and wired LAN is called an Infrastructure configuration. Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

13. What is BSS ID?

A specific Ad hoc LAN is called a Basic Service Set (BSS). Computers in a BSS must be configured with the same BSS ID.

14. What is WEP?

WEP is Wired Equivalent Privacy, a data privacy mechanism based on a 40 bit shared key algorithm, as described in the IEEE 802.11 standard.

15. What is TKIP?

TKIP is a quick-fix method to quickly overcome the inherent weaknesses in WEP security, especially the reuse of encryption keys. TKIP is involved in the IEEE 802.11i WLAN security standard, and the specification might be officially released by early 2003.

16. What is AES?

AES (Advanced Encryption Standard), a chip-based security, has been developed to

ensure the highest degree of security and authenticity for digital information, wherever and however communicated or stored, while making more efficient use if hardware and/or software than previous encryption standards. It is also included in IEEE 802.11i standard. Compare with AES, TKIP is a temporary protocol for replacing WEP security until manufacturers implement AES at the hardware level.

17. Would the information be intercepted while transmitting on air?

WLAN features two-fold protection in security. On the hardware side, as with Direct Sequence Spread Spectrum technology, it has the inherent security feature of scrambling. On the software side, WLAN series offer the encryption function (WEP) to enhance security and Access Control. Users can set it up depending upon their needs.

If you have any troubles to configure or setup this WLAN adapter, please feel free to contact us. Before contacting us, make sure collect following information. Submit complete detailed information of your problem will help us to provide you accurate answers.

Model Name: Serial Number: PC Settings: Other: