# LR802UKG

**802.11b/g Wireless LAN USB Module** 

# **User's Manual**

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## Attachment

#### Note:

- The system manufacturer is required to attach this Module Approval Label to the system prior to delivery.

## **Windows Vista**

## **Driver Installation**

 After you have installed the Wireless Adapter your computer will display a Found New Hardware wizard screen, click Cancel to continue.



2. Under your windows environment, go to Start  $\rightarrow$  Control Panel  $\rightarrow$  System

→ Device Management to check whether 802.11.WLAN is detected.

Computer Management		- • •
Elle Action View Help		
⊨ → 2 🗔 😳 👔 🔂 🔛 .		
Computer Management (Local Dura Ting-PC	Actions	
A 12 System Tools	Profes Manager	
🕞 🕒 Task Scheduler 🔅 👘 🦺 Computer	r Device wanager	
Event Viewer Disk drives	s More Actions	
👂 🧝 Shared Folders 🛛 🕢 📲 Display ad	dapters	
Eccal Users and Groups	ROM drives	
Reliability and Performe E	sk drives	
Device Manager 🛛 🖶 🚽 Floppy dri	ive controllers	
🖌 🚝 Storage 🔅 🕀 Human In	iterface Devices	
🗃 Disk Management 🔅 😋 IDE ATA/A	ATAPI controllers	
🛛 🔓 Services and Applications 👘 🖗 IEEE 1394 I	Bus host controllers	
- Keyboards	s and a second se	
Hice and	other pointing devices	
🕀 😰 Other devi	ices	
- Um 802.11	bg WLAN	
jh Ethern	iet Controller	
B-E PCMCIA a	adapters	
B-P Ports (COI	M & LPT)	
Processors	3	
E-4 Sound, vic	deo and game controllers	
⊕ G Storage co	ontrollers	
B 🛃 System de	tvices	
	Senal Bus controllers	

3. On the *other devices Area*, right-click the **802.11bg WLAN**, and then select the *Update Driver Software*.

Update Driver Software
Disable
Uninstall
Scan for hardware changes
Properties

4. Update Driver Software – 802.11bg WLAN screen will be displayed, click

#### Browse my computer for driver software.

	×
🕞 📱 Update Driver Software - 802.11 bg WLAN	
How do you want to search for driver software?	
Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device.	
Browse my computer for driver software Locate and install driver software manually.	
	Cancel

5. Select the correct folder for your driver software, and then click **Next** to continue.



## 6. Wireless Adapter Driver is installing.

🕞 🚊 Update Driver Software - 802.11 bg WLAN	×
Installing driver software	

7. Driver software update successfully. Click Close to continue.



If you have installed the Windows Vista. You can use the Connect to aNote:Network for Wireless Connection and Configuring. Please refer the<br/>Windows Vista User's Guide.

## Uninstalling the Wireless LAN Card

1. For uninstalling the Wireless LAN Card, please go to: Start  $\rightarrow$  Control

Panel  $\rightarrow$  System  $\rightarrow$  Device Management.



2. Right-check whether **RT73 USB Wireless LAN Card**, and then select the *Uninstal.l* 

Update Driver Software Disable
Uninstall
Scan for hardware changes
Properties

3. Select the *Delete the driver software for this device*, and then click OK to

#### **Confirm Device Uninstall.**

Confirm Device Uninstall
RT73 USB Wireless LAN Card
Waming: You are about to uninstall this device from your system.
Delete the driver software for this device.
OK Cancel

4. The *Wireless Adapter* can now be safely removed from the system when the un-installation is done.

## Windows XP

#### **Driver Installation**

 After you have installed the Wireless Adapter your computer will display a Found New Hardware Wizard screen, click Cancel to continue.

Found New Hardware Wiz	ard
	Welcome to the Found New Hardware Wizard Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission). Read our privacy policy
	Can Windows connect to Windows Update to search for software? O Yes, this time only
	<ul> <li>Yes, now and every time I connect a device</li> <li>No, not this time</li> </ul>
	Click Next to continue.
	K Back Next > Cancel

2. Go to the directory where the Wireless Adapter Installation stored, then



3. **RALINK Wireless Network Card Setup Wizard** will install the driver on your system. Select Yes to accept the License Agreement.



4. Click *Next* to continue.

If you have installed the Windows XP Service Pack 2. You can use the
Note: Windows Zero Configuration Tool for Wireless Configuring. Please refer the Windows XP User's Guide.



5. Click *Next* to continue.



6. **RALINK Wireless Network Card** is configuring your new software installation,

RALINK Wireless Network Car	d Setup	
Setup Status		
		-
	RT7x Wireless LAN Card is configuring your new software installation.	
	Installing	
15		
Ralink		
Deres 1		
InstallShed	Lancel	

7. The installation is now complete. Please click Finish.

RALINK Wireless Network Ca	rd Setup
	Setup has finished installing
	RT7x Wireless LAN Card Setup is almost complete.
Ralink	Click Finish to complete RT7x Wireless LAN Card Setup.
InstallShield	Finish

When you complete the installation, the utility icon will appear on the system tray (2000 1:05 PM). You could double-click it to configure wireless network settings.

## Uninstalling the Wireless LAN Card

1. For uninstalling the Wireless LAN Card, please go to: Start  $\rightarrow$  Programs  $\rightarrow$  Ralink Wireless under Windows environment. Then click Uninstall – RT7x.



2. Select Remove all to uninstall the Wireless LAN Card driver and utility.



3. Wait for removing the driver and utility.

RALINK Wireless Network Car	d Setup	
Setup Status		
	Ralink Wireless LAN Card is configuring your new software installation.	
	Uninstalling	
Ralink		
InstallShied	Canc	e

4. After completing the uninstallation, click Finish to restart your computer.

RALINK Wireless Network Ca	rd Setup
	Uninstalling Ralink Wireless LAN Card has finished
	Uninstalling Ralink Wireless LAN Card is almost complete. Aegis will be uninstalled completely after reboot.
	Yes, I want to restart my computer now.
	No, I will restart my computer later.
	Llick Finish to uninstall Halink. Wireless LAN Laid completely.
InstallShied	Finish

## Configuring the Wireless LAN Card

Double-click the utility icon in your system tray to begin the utility configuration.

## Connecting to an existing network

Select **Site Survey** Tab, all available Access Points would be listed. Click on the desired Access Point, and click **Connect** to connect.

file Link Status Site	e Survey Statistics	Adva	nced	QoS Ab	oout	
SSID	BSSID	Si	C	Encry	Authe	Network
🥳 WL520G	00-11-D8-F2-98	55%	1	None	Unknown	Infrastruct
NDISTEST_A	E6-58-18-13-C7	60%	1	None	Unknown	Ad hoc
NDISTEST_S	00-0D-F0-00-97	65%	1	None	Unknown	Infrastruct
6F	00-0D-F0-11-60	10	8	TKIP	WPA-P	Infrastruct
Native 802.11	00-0D-F0-00-97	39%	11	None	WPA-P	Infrastruct
<		-1001				
Connected <> WL52	20G <b>1</b>	Rescar		Conne	ect A	dd to Profile

## Configuration

• Profile

The **Profile Tab** allows you to set values for all parameters by selecting a previously defined profile. To create a profile, click Add, type a profile name and set the corresponding parameters. If one of the profiles is no longer used, you may remove it by clicking the Delete button. After changing parameters, click the Activate button to take effect. You can have multiple profiles and modify the profile at any time.

e	Link Status	s Site Survey	Statistics	Advanced	QoS	About	
rofi	le List						
Pr	ofile Name	SSID	Chan	nel Authe	nticat	Encryption	Network
J	PROF2	WL520G	Auto	Open		None	Infrastructure
		(					-
	Add		Delete		Edit		Activate

• Link Status

	Site Survey	Statistics A	dvanced    l	Jos About	
Status :	WL520G	<> 00-11-D	8-F2-98-13		
Extra Info :	Link is Up	o [TxPower:1	00%]	Channel : 1 <> 2-	412000 KHz
Link Speed :	Tx (Mbps)	1	36.0	Rx (Mbps)	1.0
Throughput :	Tx (Kbps)		2.4	Rx (Kbps)	12.6
	Good	91%	20		10
Link Quality :					
	Normal	52%			] dBm
Signal Strength					
	Low	0%			
Noise Level :					

#### <u>Status</u>

The field shows the association status to available Access Point with SSID  $\leftarrow \rightarrow$  MAC address of the Access Point.

#### Current Channel

Shows the channel on which the connection is made.

#### Current Tx Rate

Shows the highest transmit rate of the current association.

#### Throughput (Kbits/sec)

This displays the instantaneous wireless Receive and Transmit throughput in Kbits per second.

#### Link Quality / Signal Strength

The Link Quality and Signal Strength bar graph is only active when the node is in Infrastructure Mode. The bar graph displays the quality and strength of the link between the node and its Access Point.

#### • Site Survey

**Site Survey** Tab lists the features of the available Access Points within range of the Wireless Adapter's signal.

Click on the desired Access Point, and click Connect to connect. You may click Rescan to refresh the list.

file Link Status Site	e Survey Statistics	Adva	nced	QoS At	bout	
SSID	BSSID	Si	C	Encry	Authe	Network
₩L520G	00-11-D8-F2-98	55%	1	None	Unknown	Infrastruct.
NDISTEST A	E6-58-18-13-C7	60%	1	None	Unknown	Ad hoc
NDISTEST_S	00-0D-F0-00-97	65%	1	None	Unknown	Infrastruct
6F	00-0D-F0-11-60	10	8	TKIP	WPA-P	Infrastruct
Native 802.11	00-0D-F0-00-97	39%	11	None	WPA-P	Infrastruct
<u> </u>		SIIIIS		~		) ) >
Connected <> WL52	20G	Rescar	n	Conne		dd to Profile

Add to Profile

You may select an Access Point, and click Add to Profile to include it to Profile List. Under Add Profile screen / System Configuration Tab, you may set Power Saving Mode, Network Type, RTS Threshold, and Fragment Threshold.

ontiguration	Authenticatic	in and Security				
Profile Name	PROF	1		SSID	WL520G	~
	Constantly Av	vake Mode)		O PSM (F	Power Saving Mo	ode)
Network Ty	pe <b>r I</b> r	ifrastructure	~	TX Power	Auto	
Preamble	A	uto	×			
🔲 RTS Thr	eshold	0			Å <sup>2347</sup> 2347	7
Fragment	Threshold	256			Å <sup>2346</sup> 2346	5

Under Add Profile screen / Authentication vs. Security Tab, you may set Authentication Type, Encryption Type, WPA Pre-Shared Key, and Wep Key. Click OK when you have finished the settings.

Or click Cancel to abort your new settings for Add to Profile.

The second secon	
None	*
-	
· · · · · · · ·	
×	
Please Keyin 10 HEX characters or 5 1. Please Keyin 26 HEX characters or	5 ASCII characters 13 ASCII characters
	Please Keyin 10 HEX characters or Please Keyin 26 HEX characters or

After fishing the Add Profile, Check **Profile** Tab, you may find the new added profile in Profile List.

e Link Statu	s Site Survey St	atistics Ad	vanced QoS	About	
rofile List					
Profile Name	SSID	Channel	Authenticat	Encryption	Network
PROF1	WL520G	Auto	Open	None	Infrastructure
PROF2	NDISTEST_S	Auto	Open	None	Infrastructure
1.0				(	
Add		lete	Edit		Activate

• Statistics

The **Statistics** Tab provides information about the Transmit and Receive frames.

1 Rali	nk Wireless	Utility				1	X
Profile	Link Status	Site Survey	Statistics	Advanced	QoS Ab	out	_
Tra	nsmit Statistics						-
1	Frames Trans	mitted Succes	sfully		(=))	422	
	Frames Trans	mitted Succes	sfully With	out Retry	=	365	
5	Frames Trans	mitted Succes	sfully After	Retry(s)	=	57	
	Frames Fail T	o Receive AC	K After All F	Retries		32	
	RTS Frames	Successfully F	leceive CT	5	=	0	
	RTS Frames I	ail To Receiv	e CTS		1 <b>7</b> 3	0	
Rec	eive Statistics						5
	Frames Rece	ved Successi	ully		=	205	
	Frames Rece	ved With CR	CError			472	
	Frames Dropp	ed Due To O	ut-of-Resou	rce	=	0	
	Duplicate Fra	mes Received	l)		-	0	30
						Reset Counter	]
					(	OK Help	

Advance

The Configuration Utility also offers the advanced configuration for user to set the Wireless Adapter under certain network environment. These advanced options include Wireless mode, B/G Protection, Tx Rate, and Turn On/Off RF.

1 Ralink Wireless	Utility				
Profile Link Status	Site Survey Statistics	Advanced	QoS	About	
Wireless mode	802.11 B/G mix	×			
B/G Protection Tx Rate	Auto 💌	Enat	ile CCX um on (	(Cisco Compatibl	e eXtensions)
Tx BURST	Window Size	[]E	nable R ] Non-\$ Limit	adio Measureme Serving Channel 250 millise	nt: Measurements :conds (0-2000)
Turn c	ff RF				Apply
				L OK	

• QoS

**QoS** Tab shows to provide Power Save and Direct Link.

Profile       Link Status       Site Survey       Statistics       Advanced       QoS       About         WMM Enable       Apply         WMM - Power Save Enable       Setting         Direct Link Setup Enable       Apply         Direct Link       Direct Link         MAC Address :       -       -         Timeout Value :       60       sec         DLS Status       Apply	
WMM Enable     Apply       WMM - Power Save Enable     Setting       Direct Link Setup     Apply       Direct Link     Direct Link Setup       MAC Address :     -       Timeout Value :     60       Sec     Apply	
WMM - Power Save Enable     Setting       Direct Link Setup     Apply       Direct Link Setup     MAC Address :       MAC Address :     60 sec       Apply	
Direct Link Setup Enable Apply Direct Link Direct Link Setup MAC Address: Timeout Value: 60 sec Apply DLS Status	
Direct Link           Direct Link Setup           MAC Address :           Image: Comparison of the set of th	
MAC Address Timeout	
Tear Down	

#### • About

**About** Tab shows the product version including the detail of Configuration Utility Version, Driver Version, EEPROM Version, and NIC MAC Address.

	K [	WWW.RA	LINKTECH.COM	
	(c) Copyright 2006,	Ralink Technolog	, Inc. All rights reserv	ed.
ſ	RaConfig Version :	1.2.7.0	Date :	11-15-2006
	Driver Version :	1.1.4.0	Date :	11-02-2006
	EEPROM Version :	1.4	Firmware Version	n: 1.9
ſ	IP Address :	192.168.15.3	Phy_Address :	00-0C-43-25-73-01
	Sub Mask :	255.255.255.0	Default Gateway :	192.168.15.1

## Attachment

#### • Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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 of the following measures:

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

**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.

#### **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 minimum distance 20cm between the radiator & your body.

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

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

## This device is intended only for OEM integrators 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,

3) For all products market in US, OEM has to limit the operation channels in CH1 to CH11 for 2.4G band by supplied firmware programming tool. OEM shall not supply any tool or info to the end-user regarding to Regulatory Domain change.

As long as 3 conditions above are met, further <u>transmitter</u> test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

**IMPORTANT NOTE:** In the event that these conditions <u>can not be met</u> (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID <u>can</u> <u>not</u> 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.

#### End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID: RUJ-LR802UKG".

#### Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

#### Canadian Regulatory Wireless Notice

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

1) this device may not cause interference and

2) this device must accept any interference, including interference that may cause undesired operation of the device

#### **IMPORTANT NOTE:**

#### **IC Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

#### ◆ For NCC 警語

- ★ 經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均不得 擅自變更頻率、加大功率或變更原設計之特性及功能。
- ★ 低功率射頻電機之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前項合法通信,指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

#### Note:

- 1. 本模組於取得認證後將依規定於模組本體標示審驗合格標籤
- 2. 系統廠商應於平台上標示「本產品內含射頻模組: **《XXXyyyLPDzzzz-x**」字樣

#### Japanese Notice

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