

# **WT-2000AP**

Turbo-G Wireless Access Point

# **User's Manual**

www.airlive.com

	Declaration of Conformity We, Manufacturer/Importer OvisLink Corp. 5F., NO.6, Lane 130, Min-Chuan Rd., Hsin-Tien City, Taipei County, Taiwan
ן In	Declare that the product <b>Furbo 802.11g Wireless Broadband Router</b> <b>AirLive WT-2000R / WT-2000AP</b> <b>is in conformity with</b> accordance with 89/336 EEC-EMC Directive and 1999/5 EC-R & TTE Directive
<u>Clause</u>	Description
■ EN 300 328 V1.6.1 (2004)	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission equipment operating in the 2.4GHz ISM band And using spread spectrum modulation techniques; Part 1 : technical Characteristics and test conditions Part2 : Harmonized EN covering Essential requirements under article 3.2 of the R&TTE Directive
<ul> <li>EN 301 489-1 V1.4.1 (2002)</li> <li>EN 301 489-17 V1.2.1 (2002)</li> </ul>	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic compatibility(EMC) standard for radio equipment and Services; Part 17 : Specific conditions for wideband data and HIPERLAN equipment
■ EN 50385:2002	Product standard to demonstrate the Compliance of radio base stations and Fixed terminal stations for wireless Telecommunication System with the Basic restrictions or the reference levels related to human exposure to radio Frequency electromagnetic fields (110 MHz $-40$ GHz) - General public
■ EN 60950-1: 2001	Safety for information technology equipment including electrical business equipment
■ CE marking	C€0678Φ

Manufacturer/Importer

albert ye

Signature : Name : Position/ Title :

Albert Yeh Vice President

Date : 2006/7/26

(Stamp)

# AirLive WT-2000R/WT-2000AP CE Declaration Statement

Country	Declaration	Country	Declaration
cs	OvisLink Corp. tímto prohlašuje, že tento AirLive	lt	Šiuo OvisLink Corp. deklaruoja, kad šis AirLive WT-
Česky [Czech]	WT-2000R/WT-2000AP je ve shodě se	Lietuvių	2000R/WT-2000AP atitinka esminius reikalavimus ir
	základními požadavky a dalšími příslušnými	[Lithuanian]	kitas 1999/5/EB Direktyvos nuostatas.
	ustanoveními směrnice 1999/5/ES.		
da	Undertegnede OvisLink Corp. erklærer herved,	nl	Hierbij verklaart OvisLink Corp. dat het toestel AirLive
Dansk [Danish]	at følgende udstyr AirLive WT-2000R/WT-	Nederlands [Dutch	WT-2000R/WT-2000AP in overeenstemming is met
	2000AP overholder de væsentlige krav og øvrige		de essentiële eisen en de andere relevante
	relevante krav i direktiv 1999/5/EF.		bepalingen van richtliin 1999/5/EG.
de	Hiermit erklärt OvisLink Corp., dass sich das	mt	Hawnhekk, OvisLink Corp, jiddikjara li dan AirLive
Deutsch	Gerät AirLive WT-2000R/WT-2000AP in	Malti [Maltese]	WT-2000R/WT-2000AP iikkonforma mal-ħtiġiiiet
[German]	lübereinstimmung mit den grundlegenden		essenziali u ma provvedimenti ofirain relevanti li
	Anforderungen und den übrigen einschlägigen		hemm fid-Dirrettiva 1999/5/FC
	Bestimmungen der Richtlinie 1999/5/EG		
	befindet		
et	Käesolevaga kinnitab OvisLink Corp. seadme	hu	Az OvisLink Corporation kijelenti, hogy az AirLive
Festi [Estonian]	Airl ive WT-2000R/WT-2000AP vastavust	Magyar	WT-2000R/WT-2000AP medfelel az 1999/05/CF
	direktiivi 1999/5/EÜ põhinõuetele ja nimetatud	[Hungarian]	irányely alapyető követelményeinek és egyéb
	direktiivist tulenevatele teistele asjakohastele	[nanganan]	vonatkozó rendelkezéseinek
	sätetele		Vondikozo rendeikezeseinek.
en	Hereby Ovisl ink Corp declares that this Airl ive	pl	Ninieiszym Ovisl ink Corp oświadcza że Airl ive WT-
English	WT-2000R/WT-2000AP is in compliance with the	Polski [Polish]	2000R/WT-2000AP jest zgodny z zasadniczymi
Linghon	essential requirements and other relevant		wymogami oraz pozostałymi stosownymi
	provisions of Directive 1999/5/EC		postanowieniami Dyrektywy 1999/5/EC
es	Por medio de la presente OvisLink Corp. declara	pt	OvisLink Corp declara que este AirLive WT-
Español	que el Airl ive WT-2000R/WT-2000AP cumple	Português	2000R/WT-2000AP está conforme com os requisitos
[Snanish]	con los requisitos esenciales y cualesquiera	[Portuguese]	essenciais e outras disposições da Directiva
	otras disposiciones anlicables o evigibles de la		1999/5/CE
	Directiva 1990/5/CE		1000/0/OE.
el	ME THN ΠΑΡΟΥΣΑ Ovist ink Corp ΛΗΛΟΝΕΙ	sl	Ovisl ink Corp iziavlia da je ta Airl ive WT-
Ελληνική [Greek]	OTI Airl ive WT-2000R/WT-2000AP	Slovensko	2000R/WT-2000AP v skladu z bistvenimi zabtevami
	ΣΥΜΜΟΡΦΟΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΟΛΕΙΣ	[Slovenian]	in ostalimi relevantnimi določili direktive 1999/5/ES
fr	Par la présente Ovisl ink Corp. déclare que	sk	Ovisl ink Corp týmto vyhlasuje, že Airl ive WT-
Francais [French]	l'annareil Airl ive WT-2000R/WT-2000AP est	Slovensky [Slovak]	2000 R/WT - 2000 AP  snlha základné požiadavky a
	conforme aux exigences essentielles et aux		všetky príslušné ustanovenia Smernice 1999/5/FS
	autros dispositions portinontos do la directivo		
it	Con la presente Ovisl ink Corp. dichiara che	fi	Ovisl ink Corp vakuuttaa täten että Airl ive WT-
Italiano [Italian]	questo Airl ive W/T-2000R/W/T-2000AP à	Suomi [Finnish]	2000R/WT-2000AP twopinen laite on direktiivin
	conforma ai requisiti assonziali ad alla altra		1000/5/EV electristen vagtimusten in sitä koskovien
	disposizioni portinonti stabilito della direttiva		diraktiivin muidan ahtaian mukainan
lv	Aršo Ovisl ink Corp. deklarē, ka Airl ive WT-		Hár með lýsir Ovisl ink Corn yfir því að Airl ive WT-
l atviski [l atvian]	2000R/WT-2000AP athilet Direktivae 1000/5/EK	Íslenska (Icelandio)	2000R/M/T-2000AP er í samræmi við gruppkröfur og
	būtiskajām prasībām un citiom ar to saistītajiom		aðrar kröfur, som gorðar oru í tilskipun 1000/5/EC
			aorar krolut, sem geroar eru fulskipult 1999/5/EC.
sv	Härmed intygar Ovist ink Corp. att denna Airl ive	no	Ovisl ink Corn erklærer herved at utstvret Airl ive WT
Svenska	WT_2000R/WT_2000AP står Löverensstämmelse	Norsk [Norwegian]	2000R/WT-2000AP er i samsvar med de
[Swedich]	med de väsentlige egenskapskrav och övrige		arunnleagende krav og gyrige relevante krav i
	rolovanta hostämmoleor som framgår av direktiv		diraktiv 1000/5/EE
	133313/20.	1	

A copy of the full CE report can be obtained from the following address:

OvisLink Corp. 5F, No.6 Lane 130, Min-Chuan Rd, Hsin-Tien City, Taipei, Taiwan, R.O.C.

This equipment may be used in AT, BE, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, SK, SI, ES, SE, GB, IS, LI, NO, CH, BG, RO, TR

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## **FCC 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 radio interference in a commercial environment. This equipment can generate, use and radiate radio frequency energy and, if not installed and used in accordance with the instructions in this manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

## **CE Declaration of Conformity**

This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022/A1 Class B.

The specification is subject to change without notice.

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# **Chapter 1** Introduction

Congratulations on your purchase of this outstanding AirLive Wireless AP This product is specifically designed for Small Office and Home Office needs. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for fully exploiting the functions of this product.

# **1.1 Functions and Features**

### AP Basic functions

 Auto-sensing Ethernet Switch Equipped with a 4-port auto-sensing Ethernet switch.
 DHCP server supported

All of the networked computers can retrieve TCP/IP settings automatically from this product.

 Web-based configuring Configurable through any networked computer's web browser using Netscape or Internet Explorer.

### Wireless functions

- High speed for wireless LAN connection Up to 54Mbps data rate by incorporating Orthogonal Frequency Division Multiplexing (OFDM).
- Roaming Provides

Provides seamless roaming within the IEEE 802.11b (11M) and IEEE 802.11g (54M) WLAN infrastructure.

- IEEE 802.11b compatible (11M) Allowing inter-operation among multiple vendors.
- IEEE 802.11g compatible (54M) Allowing inter-operation among multiple vendors.
   Auto fallback

54M, 48M, 36M, 24M, 18M, 12M, 6M data rate with auto fallback in 802.11g mode. 11M, 5.5M, 2M, 1M data rate with auto fallback in 802.11b mode.

#### Security functions

802.1X supported

When the 802.1X function is enabled, the Wireless user must authenticate to this router first to use the Network service.

 Support WPA-PSK and WPA version 1 and 2 When the WPA function is enabled, the Wireless user must authenticate to this router first to use the Network service

## Advanced functions

• System time Supported Allow you to synchronize system time with network time server.

# **1.2 Packing List**

- Wireless AP unit
- Installation CD-ROM
- Power adapter
- CAT-5 UTP Fast Ethernet cable

# **Chapter 2 Hardware Installation**

# 2.1 Panel Layout 2.1.1. Front Panel

WT-2000AP	POWER	STATUS 📕	LAN	-			
Depot				2	3	4	
Reset	W.LAN		_			SPEED	

Figure 2-1 Front Panel

## LED: Ports:

Port	Description
PWR	Power inlet

Port 1-4 the ports where you will connect networked computers and other devices.

## 2.1.2. Rear Panel



Figure 2-2 Rear Panel

## LED:

LED	Function	Color	Status	Description
Power	Power indication	Green	On	Power is being applied to this product.
Status	System status	Green	Blinking	Status is flashed once per second to indicate system is alive.
			Blinking	The WAN port is sending or receiving data.
WLAN	Wireless activity	Green	Blinking	Sending or receiving data via wireless
Link. 1~4	Link status	Green	On	An active station is connected to the corresponding LAN port.
Speed			Blinking	The corresponding LAN port is sending or receiving data.
10/100	Data Rate	Green	On	Data is transmitting in 100Mbps on the corresponding LAN port.
Reset				To reset system settings to factory defaults

# 2.2 Procedure for Hardware Installation

#### 2. Decide where to place your Wireless Access Point

You can place your Wireless Access Point on a desk or other flat surface, or you can mount it on a wall. For optimal performance, place your Wireless Access Point in the center of your office (or your home) in a location that is away from any potential source of interference, such as a metal wall or microwave oven. This location must be close to power and network connection.

#### 2. Setup LAN connection

- **a.** Wired LAN connection: connects an Ethernet cable from your computer's Ethernet port to one of the LAN ports of this product.
- **b.** Wireless LAN connection: locate this product at a proper position to gain the best transmit performance.



Figure 2-3 Setup of WLAN and LAN connections for this product.

#### 4. Power on

Connecting the power cord to power inlet and turning the power switch on, this product will automatically enter the self-test phase. When it is in the self-test phase, the indicators M1 will be lighted ON for about 10 seconds, and then M1 will be flashed 3 times to indicate that the self-test operation has finished. Finally, the M1 will be continuously flashed once per second to indicate that this product is in normal operation.

# Chapter 3 Network Settings and Software Installation

To use this product correctly, you have to properly configure the network settings of your computers and install the attached setup program into your MS Windows platform (Windows 95/98/NT/2000).

# 3.1 Make Correct Network Settings of Your Computer

The default IP address of this product is 192.168.1.254, and the default subnet mask is 255.255.255.0. These addresses can be changed on your need, but the default values are used in this manual. If the TCP/IP environment of your computer has not yet been configured, you can refer to **Appendix A** to configure it. For example,

- 1. configure IP as 192.168.1.1, subnet mask as 255.255.255.0 and gateway as 192.168.1.254, or more easier,
- 2. configure your computers to load TCP/IP setting automatically, that is, via DHCP server of this product.

After installing the TCP/IP communication protocol, you can use the **ping** command to check if your computer has successfully connected to this product. The following example shows the ping procedure for Windows 95 platforms. First, execute the **ping** command

### ping 192.168.1.254

If the following messages appear:

Pinging 192.168.1.254 with 32 bytes of data:

#### Reply from 192.168.1.254: bytes=32 time=2ms TTL=64

a communication link between your computer and this product has been successfully established. Otherwise, if you get the following messages,

#### Pinging 192.168.1.254 with 32 bytes of data:

#### Request timed out.

There must be something wrong in your installation procedure. You have to check the following items in sequence:

- 1. Is the Ethernet cable correctly connected between this product and your computer?
  - **Tip**: The LAN LED of this product and the link LED of network card on your computer must be lighted.
- 2. Is the TCP/IP environment of your computers properly configured?

**Tip**: If the IP address of this product is 192.168.1.254, the IP address of your computer must be 192.168.1.X and default gateway must be 192.168.1.254.

# **Chapter 4** Configuring Wireless Access Point

This product provides Web based configuration scheme, that is, configuring by your Web browser, such as Netscape Communicator or Internet Explorer. This approach can be adopted in any MS Windows, Macintosh or UNIX based platforms.



## 4.1 Start-up and Log in

Connect to 192.168.1.254
AirLive WT-2000AP
User name:
Password:
Remember my password
OK Cancel

Activate your browser, and **disable the proxy** or **add the IP address of this product into the exceptions**. Then, type this product's IP address in the Location (for Netscape) or Address (for IE) field and press ENTER. For example: http://192.168.1.254.

After the connection is established, you will see the web user interface of this product. There are two appearances of web user interface: for general users and for system administrator.

A window would pop-up asking for Login and Password. Please enter "**admin**" for login, and "**airlive**" for password.

## 4.2 Status

<b>Air</b> Live	● │ Quick Setup │ Status │	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
+ Basic Setting	System Status	
+ Maintenance	Item	Setting
	Wireless MAC Address	00-4F-67-02-AA-92
	Network ID(SSID)	airlive
	Channel	11.
	Security Type	None
	View Log System Time	Clients List Help Refresh e: 17 March 2008 09:23:39

This option provides the function for observing this product's working status:

- A. Wireless MAC Address: display the MAC address of this Wireless Access Point.
- B. Network ID (SSID):
  - The SSID is the network name used to identify a wireless network. The SSID must be the same for all devices in the wireless network (i.e. in the same BSS). Several access points on a network can have the same SSID. The SSID length is up to 32 characters. The default SSID is "airlive".
- C. Channel: display the Channel number of this Wireless Access Point
- D. Security Type: shows Wireless Security type information

# 4.3 View Log

Click the View Log button on System Status Page You can see the access logs from this screen also you can download the logs and save to your computer.



# 4.4 Client List

You can see the DHCP client information include Client IP,Host Name, Client's MAC address, administrator can select the client and do wake up and Delete actions, before you click the Wake Up button, just make sure the network adapter of the machine support wake on LAN function and turn it on. then just workable.



## 4.5 Wizard

Setup Wizard will guide you through a basic configuration procedure step by step. Press "Next >"



(www.airlive.com) 5 WT-2000AP Turbo-G Wireless Access Point Air Live + Basic Setting Setup Wizard + Advanced Setting + Maintenance LAN IP Address 192.168.0.241 255.255.255.0 Subnet Mask 0.0.0.0 Gateway (optional) < Back Undo Next > ſ

Setup Wizard – LAN IP Address: enter the IP address of this machine.

**Setup Wizard –** Wireless Setting : for details , please read the Basic Setting  $\rightarrow$  Wireless.:

Air Live	Quick Setup   Status		(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
<ul> <li>Basic Setting</li> <li>Primary Setup</li> </ul>	Wireless Setting		0-45-
DHCP Server	Rem		Setting
Vvireless	VWIREIESS	Senable ODisable	
+ Advanced Setting	Network ID(SSID)	airlive	
+ Maintenance	🕨 SSID broadcast	💿 Enable 🔘 Disable	
	Channel	11 💌	
	Security	None	~
	Save Undo WDS Setting	J MAC Address	s Control Help

Setup Wizard - Configuration is Completed : save and Reboot this machine

	13/11/01/01	
Air Live	Quick Setup   Status	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
+ Basic Setting + Advanced Setting + Maintenance	S	etup Wizard
	<b>Configura</b> Configurations wi Pl	<b>Ition is Completed.</b> Il not take effective until rebooting. ease click Reboot.
		<pre></pre>

# 4.6 Basic Setting

Basic Setting have Primary Setup, DHCP Server, and Wireless setting functions.



### 4.6.1 Primary Setup – LAN IP Address

Air Live	Quick Setup   Status		www.airlive.com WT-2000AP Turbo-G Wireless Access Point
- Basic Setting	Primary Setup		
DHCP Server	Item		Setting
<ul> <li>Wireless</li> <li>+ Advanced Setting</li> <li>+ Maintenance</li> </ul>	LAN IP Address	192.168.0.241	
	Subnet Mask	255.255.255.0	
	Gateway	0.0.0.0	(optional)
	Save Undo Help		

Entering the IP Address: default ip is 192.168.1.254, you can change ip address in this field and Press "Save"

#### 4.6.2 DHCP Server

Air Live	🎗 🛛   Quick Setup   Status	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup	DHCP Server	
OHCP Server	Item	Setting
Wireless	DHCP Server	💿 Disable 🔘 Enable
+ Advanced Setting	IP Pool Starting Address	100
+ Maintenance	IP Pool Ending Address	199
	🕨 Domain Name	
	Save Undo More>> Clie	nts List Help

The settings of DHCP server include the following items:

1. **DHCP Server**: Choose "Disable" or "Enable."

- 2. **IP pool starting Address/ IP pool ending Address**: Whenever there is a request, the DHCP server will automatically allocate an unused IP address from the IP address pool to the requesting computer. You must specify the starting and ending address of the IP address pool.
- 3. **Domain Name**: Optional, this information will be passed to the client. press "**More>>**" button into the other settings :

Air Live	Quick Setup   Status		www.airlive.com WT-2000AP Turbo-G Wireless Access Point
- Basic Setting	DHCP Server		
DHCP Server     Wireless	Item	@ Disable O Fach	Setting
+ Advanced Setting + Maintenance	IP Pool Starting Address	100	e
	IP Pool Ending Address	199	
	Domain Name		
	Primary DNS	0.0.0	
	Secondary DNS	0.0.0	
	Primary WINS	0.0.0	
	Secondary WINS	0.0.0	
	Gateway	0.0.0	(optional)
	Save Undo Clients List	Help	

- 4. **Primary DNS/Secondary DNS**: This feature allows you to assign DNS Servers
- 5. **Primary WINS/Secondary WINS**: This feature allows you to assign WINS Servers
- Gateway: The Gateway Address would be the IP address of an alternate Gateway. This function enables you to assign another gateway to your PC, when DHCP server offers an IP to your PC. press "Client List >" button into client list page

<b>Air</b> Live	Quick Setup   S	tatus	Turbo-G Wireles	ww.airlive.com) WT-2000AP ss Access Point
Basic Setting     Primary Setup	DHCP Clients List			
<ul> <li>♦ DHCP Server</li> <li>♦ Wireless</li> </ul>	IP Address	Host Name	MAC Address	Select
+ Advanced Setting + Maintenance		Wake up Delete E	Back Refresh	

4.6.3 Wireless Setting, 802.1X setting and WDS

Air Live	Quick Setup   Status	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
- Basic Setting	Wireless Setting	
DHCP Server	Item	Setting
♥ Wireless	Wireless	Enable      Disable
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	💿 Enable 🔿 Disable
	Channel	11 🕶
	Security	None
	Save Undo WDS Setting	g MAC Address Control Help

Wireless settings allow you to set the wireless configuration items.

- 1. Wireless : The user can enable or disalbe wireless function.
- 2. **Network ID (SSID)**: Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this product and other Access Points that have the same Network ID. (The factory setting is "default")
- Channel: The radio channel number. The permissible channels depend on the Regulatory Domain. The factory setting is as follow: channel 6 for North America; channel 7 for European (ETSI); channel 7 for Japan.

Air Live	● │ Quick Setup │ Status │	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup     OHCP Server	Wireless Setting Item	Setting
<ul> <li>Wireless</li> <li>+ Advanced Setting</li> <li>+ Maintenance</li> </ul>	<ul> <li>Wireless</li> <li>Network ID(SSID)</li> <li>SSID broadcast</li> <li>Channel</li> <li>Security</li> </ul>	© Enable © Disable airlive © Enable © Disable 11 None None
	Save Undo WDS Setting.	WEP 802.1x and RADIUS WPA-PSK trol Help WPA WPA2-PSK(AES) WPA2(AES) WPA-PSK / WPA2-PSK WPA1/WPA2

- 4. **WEP Security**: Select the data privacy algorithm you want. Enabling the security can protect your data while it is transferred from one station to another. The standardized IEEE 802.11 WEP (128 or 64-bit) is used here.
- 5. WEP Key 1, 2, 3 & 4: When you enable the 128 or 64 bit WEP key security, please select one WEP key to be used and input 26 or 10 hexadecimal (0, 1, 2...8, 9, A, B...F) digits.
- 6. Pass-phrase Generator: Since hexadecimal characters are not easily remembered, this device offers a conversion utility to convert a simple word or phrase into hex.

#### 7. 802.1X Setting

Air Live	Quick Setup   Status	www.airlive.com WT-2000AF Turbo-G Wireless Access Point
- Basic Setting ♦ Primary Setup	Wireless Setting	
DHCP Server	Item	Setting
Wireless	Wireless	
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	⊙ Enable C Disable
	Channel	11 💌
	Security	802.1x and RADIUS
	Encryption Key Length	<ul> <li>64 bits</li> <li>C 128 bits</li> </ul>
	RADIUS Server IP	0.0.0.0
	RADIUS port	1812
	RADIUS Shared Key	
	Save Undo WDS Setting	MAC Address Control Help

#### 802.1X

Check Box was used to switch the function of the 802.1X. When the 802.1X function is enabled, the Wireless user must **authenticate** to this router first to use the Network service. RADIUS Server

IP address or the 802.1X server's domain-name. RADIUS Shared Key

Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

#### WPA-PSK

1. Select Encryntion and Preshare Key Mode

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of preshare key is from 8 to 63.

2. Fill in the key, Ex 12345678

Air Live	)   Quick Setup   Status	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
<ul> <li>Basic Setting</li> <li>Primary Setup</li> <li>DHCP Server</li> <li>Wireless</li> <li>Advanced Setting</li> <li>Maintenance</li> </ul>	Item         Wireless         Wireless         Network ID(SSID)         SSID broadcast         Channel         Security         Encryption         Preshare Key Mode         Preshare Key         Save       Undo         WDS Setting	Setting            • Enable   Disable         airlive         • Enable   Disable         11 ▼             • Enable   Disable         11 ▼             • TKIP   AES         ASCII▼             • MAC Address Control Help

#### WPA

Check Box was used to switch the function of the WPA. When the WPA function is enabled, the Wireless user must **authenticate** to this router first to use the Network service. RADIUS Server

IP address or the 802.1X server's domain-name. Select Encryption and RADIUS Shared Key

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of preshare key is from 8 to 63.

Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

Air Live	│ Quick Setup │ Status │	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
- Basic Setting ♦ Primary Setup	Wireless Setting	Cotting
<ul> <li>DHCP Server</li> <li>Wireless</li> </ul>	Wireless	Enable O Disable
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	⊙ Enable ○ Disable
	Channel	11 💌
	Security	WPA
	Encryption	© TKIP O AES
	RADIUS Server IP	0.0.0.0
	RADIUS port	1812
	RADIUS Shared Key	
	Save Undo WDS Setting	MAC Address Control Help

#### WPA2-PSK(AES)

1. Select Pre-share Key Mode

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of Pre-share key is from 8 to 63.

2. Fill in the key, Ex 12345678

#### WPA2(AES)

Check Box was used to switch the function of the WPA. When the WPA function is enabled, the Wireless user must **authenticate** to this router first to use the Network service. RADIUS Server

IP address or the 802.1X server's domain-name. Select RADIUS Shared Key

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of Pre-share key is from 8 to 63.

Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

<b>Air Live</b>	Quick Setup   Status	www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup	Wireless Setting	
DHCP Server	Item	Setting
♦ Wireless	Wireless	⊙ Enable ○ Disable
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	⊙ Enable ○ Disable
	Channel	11 💌
	Security	WPA2-PSK(AES)
	Preshare Key Mode	ASCII
	Preshare Key	
	Save Undo WDS Setting	MAC Address Control Help

### WPA-PSK /WPA2-PSK

The router will detect automatically which Security type(Wpa-psk version 1 or 2) the client uses to encrypt.

1. Select Pre-share Key Mode

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of Pre-share key is from 8 to 63.

2. Fill in the key, Ex 12345678

<b>Air Live</b>	● │ Quick Setup │ Status │	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup	Wireless Setting	
DHCP Server	Item	Setting
Wireless	Wireless	• Enable • Disable
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	⊙ Enable C Disable
	Channel	11 💌
	▶ Security	WPA-PSK / WPA2-PSK
	<ul> <li>Preshare Key Mode</li> <li>Preshare Key</li> </ul>	ASCII
	Save Undo WDS Setting	MAC Address Control Help

#### WPA/WPA2

Check Box was used to switch the function of the WPA. When the WPA function is enabled, the Wireless user must **authenticate** to this router first to use the Network service. RADIUS Server

The router will detect automatically which Security type(Wpa-psk version 1 or 2) the client

uses to encrypt. IP address or the 802.1X server's domain-name. Select RADIUS Shared Key

If you select HEX, you have to fill in 64 hexadecimal (0, 1, 2...8, 9, A, B...F) digits

If ASCII, the length of Pre-share key is from 8 to 63.

Key value shared by the RADIUS server and this router. This key value is consistent with the key value in the RADIUS server.

Air Live	Quick Setup   Status	www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
- Basic Setting ◇ Primary Setup	Wireless Setting	0 - 44
DHCP Server     Wireless	Item	Setting
<ul> <li>Wireless</li> <li>Advensed Cetting</li> </ul>	• wireless	
+ Advanced Setting	Network ID(SSID)	airlive
+ Maintenance	SSID broadcast	
	Channel	11 -
	Security	WPA1/WPA2
	RADIUS Server IP	0.0.0.0
	RADIUS port	1812
	RADIUS Shared Key	
	Save Undo WDS Setting.	MAC Address Control Help

#### WDS(Wireless Distribution System)

WDS operation as defined bythe IEEE802.11 standard has been made available. Using WDS it is possible to wirelessly connect Access Points, and in doing so extend a wired infrastructure to locations where cabling is not possible or inefficient to implement.

Air Live	■   Quick Setup   Sta	tus	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup	WDS Setting		
OHCP Server     Wireless	Item	Disable C Enable	Setting
+ Advanced Setting + Maintenance	<ul> <li>Remote AP MAC</li> </ul>		
	Save Undo Help		

#### 4.6.4 MAC Address Control (Basic Setting→ Wireless Setting)

					ww.airliv	e.com
Air Live	1	Quick Setup   St	tatus	Turbo-G Wirele	WT-20 ss Acces	00AP s Point
Basic Setting     O Primary Setup	MAC	Address Contro	bi			
OHCP Server		Item		Setting		
Wireless	🕨 м	AC Address Control	Enable			
+ Advanced Setting + Maintenance	Connection control Wireless and wired clients		nts with C checked can connect to IAC addresses to connect.	with C checked can connect to this device; and addresses to connect.		
		Association control	Wireless clients with A of deny 🔽 unspecified N	checked can associate to the wirel IAC addresses to associate.	less LAN; a	nd
	ID	MAC	Address	IP Address	С	Α
	1			192.168.0.		
	2			192.168.0.		
	3			192.168.0.		
	4			192.168.0.		
	<	DI	HCP clients select or t >> Save Undo	he 💌 Copy to ID 💌		

MAC Address Control allows you to assign different access right for different users and to assign a specific IP address to a certain MAC address.

**MAC Address Control** Check "Enable" to enable the "MAC Address Control". All of the settings in this page will take effect only when "Enable" is checked.

**Connection control** Check "Connection control" to enable the controlling of which wired and wireless clients can connect to this device. If a client is denied to connect to this device, it means the client can't access to the Internet either. Choose

	"allow" or "deny" to allow or deny the clients, whose MAC addresses are not in the "Control table" (please see below), to connect to this device.
Association control	Check "Association control" to enable the
	controlling of which wireless client can associate to the wireless LAN. If a client is denied to associate to the wireless LAN, it means the client can't send or receive any data via this device. Choose "allow" or "deny" to allow or deny the clients, whose MAC addresses are not in the "Control table", to associate to the wireless LAN

#### **Control table**

ID	MAC Address	IP Address	С	Α
1		192.168.0.		
2		192.168.0.		
3		192.168.0.		
4		192.168.0.		
	DHCP clients select on	e 💌 Copy to ID 💌		
<	<< Previous Next >> Save Undo Help			

• "Control table" is the table at the bottom of the "MAC Address Control" page. Each row of this table indicates the MAC address and the expected IP address mapping of a client. There are four columns in this table:

MAC Address	MAC address indicates a specific client.
IP Address	Expected IP address of the corresponding client. Keep it empty if you don't care its IP address.
С	When " <b>Connection control</b> " is checked, check " <b>C</b> " will allow the corresponding client to connect to this device.
A	When " <b>Association control</b> " is checked, check " <b>A</b> " will allow the corresponding client to associate to the wireless LAN.

In this page, we provide the following Combobox and button to help you to input the MAC address.

DHCP clients	select one	👻 Сор	y to 🔟 💌

You can select a specific client in the "DHCP clients" Combobox, and then click on the "Copy to" button to copy the MAC address of the client you select to the ID selected in the "ID" Combobox.

#### **Previous page and Next Page**

To make this setup page simple and clear, we have divided the "Control table" into several pages. You can use these buttons to navigate to different pages.

# 4.7 Advanced Settings

<b>Air Live</b>	Quick Setup   Status	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
+ Basic Setting - Advanced Setting ◇ System Time ◇ Miscellaneous + Maintenance	Advar	nced Setting
	System Time     - Allow you to set device tim	ne manually.

## 4.7.1 System Time

PC Date and Time:	2006年3月16日下午	¢ 04:00:14	
© Cat Data and	Time menually		
<ul> <li>Ser Dare aud</li> </ul>	Time manually		
Date	Year: 2005 🔽	Month: Feb 💌	Day: 1 💌

## Set Date and Time using PC's Date and Time

Use PC Date and Time as Machine

## Set Date and Time manually

Selected if you want to Set Date and Time manually.

# 4.8 Maintenance



#### 4.8.1 Change Password

<b>Air Live</b>	Quick Setup   Status	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
+ Basic Setting + Advanced Setting	Change Password	
- Maintenance	Item	Setting
Change Password	Old Password	
View Log	New Password	
<ul> <li>◇ Firmware Upgrade</li> <li>◇ Backup Setting</li> <li>◇ Restore Setting</li> </ul>	Reconfirm	
<ul> <li>◊ Reset to Default</li> <li>◊ Reboot</li> </ul>	Save Undo	

You can change Password here. We **strongly** recommend you to change the system password for security reason.

### 4.8.2 View Log

<b>Air</b> Live	Quick Setup   Status	www.airlive.com WT-2000AP Turbo-G Wireless Access Point
+ Basic Setting + Advanced Setting - Maintenance © Change Password © View Log © Firmware Upgrade © Backup Setting © Restore Setting © Reset to Default © Reboot	System Log Display time: Tue Feb 01 00:01:36 2005 2008年3月28日下午 04:02:04 TX TCP Back Refresh	reset for 192.168.0.71(50783) -> 192.168.0.242(80)

You can View system log by clicking the  $\ensuremath{\text{View Log}}$  button

### 4.8.3 Firmware Upgrade

<b>Air Live</b>	Www.airlive.com WT-2000AP   Quick Setup   Status   Turbo-G Wireless Access Point
<ul> <li>+ Basic Setting</li> <li>+ Advanced Setting</li> <li>- Maintenance</li> <li>&gt; Change Password</li> <li>&gt; View Log</li> <li>&gt; Firmware Upgrade</li> <li>&gt; Backup Setting</li> <li>&gt; Restore Setting</li> <li>&gt; Reset to Default</li> <li>&gt; Reboot</li> </ul>	Firmware Upgrade         Firmware Filename         ②質…         Current firmware version is R1.97g4e-R61_0225. The upgrade procedure takes about 20 seconds.         Note! Do not power off the unit when it is being upgraded. When the upgrade is done successfully, the unit will be restarted automatically.         Upgrade       Cancel

You can upgrade firmware by clicking **Firmware Upgrade** button.

#### 4.8.4 Backup Setting



You can backup your settings by clicking the **Backup Setting** button and save it as a bin file. Once you want to restore these settings, please click **Firmware Upgrade** button and use the bin file you saved.

#### 4.8.5 Reset to default



You can also reset this product to factory default by clicking the **Reset to default** button.

#### 4.8.6 Reboot



You can also reboot this product by clicking the **Reboot** button.

# Appendix A TCP/IP Configuration for Windows 95/98

This section introduces you how to install TCP/IP protocol into your personal computer. And suppose you have been successfully installed one network card on your personal computer. If not, please refer to your network card manual. Moreover, the Section B.2 tells you how to set TCP/IP values for working with this NAT Router correctly.

### A.1 Install TCP/IP Protocol into Your PC

- 1. Click Start button and choose Settings, then click Control Panel.
- 2. Double click **Network** icon and select **Configuration** tab in the Network window.
- 3. Click Add button to add network component into your PC.
- 4. Double click **Protocol** to add TCP/IP protocol.

Select Network Component Type	? ×
Click the type of network component you want to install:	
📇 Client	<u>A</u> dd
🕮 Adapter	
Y Protocol	Cancel
Service	
Protocol is a 'language' a computer uses. Computers must use the same protocol to communicate.	

5. Select **Microsoft** item in the manufactures list. And choose **TCP/IP** in the Network Protocols. Click **OK** button to return to Network window.

Select Network Protocol	×
Click the Network Pro an installation disk for	otocol that you want to install, then click OK. If you have r this device, click Have Disk.
<u>M</u> anufacturers:	Network Protocols:
🗿 Banyan	🖗 Fast Infrared Protocol
a IBM	FIPX/SPX-compatible Protocol
Y Microsoft	🍹 Microsoft 32-bit DLC
🍹 Novell	G Microsoft DLC
	🖗 NetBEUI
	TCP/IP
	<u>H</u> ave Disk
	OK Cancel

6. The TCP/IP protocol shall be listed in the Network window. Click **OK** to complete the install procedure and restart your PC to enable the TCP/IP protocol.

#### A.2 Set TCP/IP Protocol for Working with NAT Router

- 1. Click Start button and choose Settings, then click Control Panel.
- 2. Double click **Network** icon. Select the TCP/IP line that has been associated to your network card in the **Configuration** tab of the Network window.

Network ? 🗙
Configuration   Identification   Access Control
The following network components are installed:
PCI Fast Ethernet DEC 21140 Based Adapter
NetBEUI -> Dial-Up Adapter
Figure Adapter
TCP/IP→ Diarop Adapter
Eile and printer sharing for Microsoft Networks
Add Remove Properties
Primary Network Logon:
Client for Microsoft Networks
<u>F</u> ile and Print Sharing
Description
TCP/IP is the protocol you use to connect to the Internet and
wide-area networks.
OK Cancel

- 3. Click **Properties** button to set the TCP/IP protocol for this NAT Router.
- 4. Now, you have two setting methods:

a. Select Obtain an IP address automatically in the IP Address tab.

TCP/IP Properties		? ×
Bindings	Advanced	NetBIOS
An IP address can If your network doe your network admin the space below.	be automatically assigned s not automatically assigned histrator for an address, ar	d to this computer. n IP addresses, ask nd then type it in
Obtain an IP	address automatically	
C Specify an IP	address:	
[P Address:		
S <u>u</u> bnet Mas	k:	
	OK	. Cancel

b. Don't input any value in the Gateway tab.

TCP/IP Properties				? ×
Bindings DNS Configuration	Adv Gateway	anced WINS Confi	N guration	etBIOS IP Address
The first gateway i The address order machines are used	n the Installe in the list wi I.	ed Gateway lis Il be the order	st will be t in which	he default. these
New gateway:	•	Add		
_ Installed gatewa	μs:	<u>H</u> emov	/8	
		OK		Cancel

c. Choose **Disable DNS** in the DNS Configuration tab.

TCP/IP Properties				? ×
Bindings DNS Configuration	Adv. Gateway	anced WINS Confi	Ne guration	etBIOS IP Address
• Disable DNS				
Host:		D <u>o</u> main:		
DNS Server Sear	ch Order —		<u>A</u> dd	
		B	emove	
Domain Suffix Se	arch Order	_		
			A <u>d</u> d emove	
			9 <u>11</u> 979	
		Ok		Cancel

- B. Configure IP manually
  - a. Select **Specify an IP address** in the IP Address tab. The default IP address of this product is 192.168.1.254. So please use 192.168.1.xxx (xxx is between 1 and 253) for IP Address field and 255.255.255.0 for Subnet Mask field.

Bindings	Adv	Advanced N		etBIOS
DNS Configuration	Gateway	WINS Conf	iguration	IP Address
An IP address car If your network do your network adm the space below.	n be automat es not auton inistrator for	ically assigne natically assig an address, a	ed to this c in IP addre ind then ty	omputer. esses, ask pe it in
C <u>O</u> btain an IP	address aut	omatically		
Specify an IF	<sup>o</sup> address: —			
IP Address:	192	.168.1	.115	
S <u>u</u> bnet Mas	sk: <b>255</b>	. 255 . 255	i. 0	
50				

b. In the Gateway tab, add the IP address of this product (default IP is 192.168.1.254) in the New gateway field and click **Add** button.

Bindings	Adva	nced	Net	BIOS
DNS Configuration	Gateway	WINS Config	uration	IP Address
The first gateway The address orde machines are use	in the Installed r in the list will d.	l Gateway list be the order i	will be the n which th	e default. nese
New gateway:	1 254	Add		
152.100.	1 .234	800		
		- 1 <del></del>		
_ Installed gatew	ays:			
- Installed gatew	ays:	<u>H</u> emove	-	
- Installed gatew	ays:	Hemove	2	
Installed gatew	ays:	Hemove	:	
_ <u>Installed gatew</u>	ays:	Hemove		
_ Installed gatew	ays:	<u>H</u> emove	2	

c. In the DNS Configuration tab, add the DNS values which are provided by the ISP into DNS Server Search Order field and click **Add** button.

TCP/IP Properties	? ×
Bindings Advance	d NetBIOS   NS Configuration   IP Address
O Disable DNS	
Enable DNS      Host: MyComputer      DNS Server Search Order	omain:
168.95.192.1	Add
168.95.1.1	<u>H</u> emove
Domain Suffix Search Order ——	
	A <u>d</u> d
	Remove
[	OK Cancel

# Appendix B 802.1x Setting



Figure 1: Testing Environment (Use Windows 2000 Radius Server)

### **1 Equipment Details**

### PC1:

Microsoft Windows XP Professional without Service Pack 1.

AMIT 531C Wireless Cardbus:3.0.3.0

Driver version:

#### PC2:

Microsoft Windows XP Professional with Service Pack 1a or latter.

AMIT 561C Wireless Cardbus:1.0.1.0

Driver version: 1.7.29.0 (Driver date: 10.20.2001)

Authentication Server: Windows 2000 RADIUS server with Service Pack 3 and HotFix Q313664.

Note. Windows 2000 RADIUS server only supports PEAP after upgrade to service pack 3 and

HotFix Q313664 (You can get more information from

http://support.microsoft.com/default.aspx?scid=kb; en-us;313664)

#### 2 DUT

#### **Configuration:**

1.Enable DHCP server.

2.LAN IP address: 192.168.1.254/24.

3.Set RADIUS server IP.

4.Set RADIUS server shared key.

5.Configure WEP key and 802.1X setting.

The following test will use the inbuilt 802.1X authentication method such as ,EAP\_TLS, PEAP\_CHAPv2(Windows XP with SP1 only), and PEAP\_TLS(Windows XP with SP1 only) using the Smart Card or other Certificate of the Windows XP Professional.

#### 3. DUT and Windows 2000 Radius Server Setup

3-1-1. Setup Windows 2000 RADIUS Server

We have to change authentication method to MD5\_Challenge or using smart

card or other certificate on RADIUS server according to the test condition.

AirLive WT-2000AP User's Manual

#### 3-1-2. Setup DUT

1.Enable the 802.1X (check the "Enable checkbox").

2.Enter the RADIUS server IP.

3.Enter the shared key. (The key shared by the RADIUS server and DUT).

4.We will change 802.1X encryption key length to fit the variable test condition.

#### 3-1-3. Setup Network adapter on PC

1. Choose the IEEE802.1X as the authentication method. (Fig 2)

Note.

Figure 2 is a setting picture of Windows XP without service pack 1. If users upgrade to service pack 1, then they can't see MD5-Challenge from EAP type list any more, but they will get a new Protected EAP (PEAP) option.

2. Choose MD5-Challenge or Smart Card or other Certificate as the EAP

type.

3.If choosing use smart card or the certificate as the EAP type, we select to

use a certificate on this computer. (Fig 3)

4. We will change EAP type to fit the variable test condition.

🕹 Wireless Network Connection Properties 👘 🛛 🔀				
General Wireless Networks Authentication Advanced				
Select this option to provide authenticated network access for wired and wireless Ethernet networks.				
✓ Enable network access control using IEEE 802.1×          EAP type:       Smart Card or other Certificate         MD5-Challenge         Smart Card or other Certificate         Properties				
Authenticate as computer when computer information is available				
Authenticate as guest when user or computer information is unavailable				
OK Cancel				

Figure 2: Enable IEEE 802.1X access control

#### 4. Windows 2000 RADIUS server Authentication testing:

4.1DUT authenticate PC1 using certificate. (PC2 follows the same test procedures.)

- 1. Download and install the certificate on PC1. (Fig 4)
- 2. PC1 choose the SSID of DUT as the Access Point.
- 3. Set authentication type of wireless client and RADIUS server both to EAP\_TLS.
- 4. Disable the wireless connection and enable again.
- 5. The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC1. (Fig 5)
- 6. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure. (Fig 6)
- 7. Terminate the test steps when PC1 get dynamic IP and PING remote host successfully.

Certificates				? 🛛
Intended purpose:	<all></all>			~
Personal Other Pe	ople Intermediate Certificati	on Authorities Tru	isted Root Certific	ation 🔹 🕨
Issued To	Issued By	Expiratio	Friendly Name	
fae1	WirelessCA	2/6/2004	<none></none>	
Import	xport		A	ivanced
Certificate intended	Durboses			
				/iew
			_	
			L	⊆lose





#### **Figure 5: Authenticating**



Figure 6: Authentication success

4.2DUT authenticate PC2 using PEAP-TLS.

- 1. PC2 choose the SSID of DUT as the Access Point.
- 2. Set authentication type of wireless client and RADIUS server both to PEAP TLS.
- 3. Disable the wireless connection and enable again.
- 4. The DUT will send the user's certificate to the RADIUS server, and then send the message of authentication result to PC2.
- 5. Windows XP will prompt that the authentication process is success or fail and end the authentication procedure.
- 6. Terminate the test steps when PC2 get dynamic IP and PING remote host successfully.

# **Support Type:** The AP supports the types of 802.1x Authentication: PEAP-CHAPv2 and PEAP-TLS.

#### Note:

- 1.PC1 is on Windows XP platform without Service Pack 1.
- 2.PC2 is on Windows XP platform with Service Pack 1a.
- 3.PEAP is supported on Windows XP with Service Pack 1 only.
- 4. Windows XP with Service Pack 1 allows 802.1x authentication only when data encryption function is enable.

# **Appendix C WDS Setting**

### How to setup and work:

First, check the Wlan-mac address of AP1, AP2 and AP3. Please goto command mode and use

"Arp –a ".

If you can not find the information of Mac, please make the cable to plug in lan-port of ap and ping the lan ip address then arp –a. There are some information in the screen. For example:

#### C:\>ping 192.168.122.217

```
Pinging 192.168.122.217 with 32 bytes of data:
Reply from 192.168.122.217: bytes=32 time<10ms TTL=64
Ping statistics for 192.168.122.217:
   Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
   Minimum = Oms, Maximum = Oms, Average = Oms
Control-C
C
C:\>arp -a
Interface: 192.168.122.14 on Interface 0x1000003
 Internet Address
                        Physical Address
                                              Туре
 192.168.122.3
                        00-50-fc-3f-cc-ed
                                              dynamic
 192.168.122.217
                        00-50-18-00-0f-d9
                                              dynamic
```

AP 1:	AP2:	AP3:
IP:192.168.1.254	IP:192.168.1.253	IP:192.168.1.252
Mac:00-50-18-00-0f-fe	Mac:00-50-18-00-0f-fd	Mac:00-50-18-00-0f-fc
SSID:Default	SSID:Default	SSID:Default
Channel:11	Channel:11	Channel:11
Dhcp Server:Enable		

#### Blue Line:Wireless



If the Settings are ok, the client1 and client2 can get ip from dhcp server of AP1. Then Client1 and Client2 can get information each other.

### AP1 Setting:

AP1 $\leftarrow$  → AP2(Remote Mac: 00-50-18-00-0f-fd) AP1 $\leftarrow$  → AP3(Remote Mac: 00-50-18-00-0f-fc)

<b>Air</b> Live	● │ Quick Setup │ St	atus	www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
Basic Setting	WDS Setting		
DHCP Server	Item		Setting
♥ Wireless	Wireless Bridging	Oisable C Enable	
+ Advanced Setting	Remote AP MAC	00-50-18-00-0f-fd	
+ Maintenance		00-50-18-00-0f-fc	
	Save Undo Help		

## AP2 Setting:

AP2←→ AP1(Remote Mac: 00-50-18-00-0f-fe)

<b>Air</b> Live	● │ Quick Setup │ Sta	atus	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
Basic Setting     Primary Setup     DHCP Server     Wireless     Advanced Setting     Haintenance	WDS Setting		Setting
	<ul> <li>Wireless Bridging</li> <li>Remote AP MAC</li> </ul>	Disable C Enable     00-50-18-00-0f-fe	
	Save Undo Help		

## AP3 Setting

AP3 ← → AP1(Remote Mac: 00-50-18-00-0f-fe)

<b>Air Live</b>	● │ Quick Setup │ Sta	tus	www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
Basic Setting     O Primary Setup	WDS Setting		
OHCP Server	Item		Setting
♦ Wireless	Wireless Bridging	Disable C Enable	
+ Advanced Setting + Maintenance	Remote AP MAC	00-50-18-00-0f-fe	
	Save Lindo Helo		
	Save ondo Help		

# **Appendix D FAQ and Troubleshooting**

How do I connect AP by using wireless?

#### 1.How to start to use wireless?

**A:** First, make sure that you already installed wireless client device in your computer. Then check the Configuration of wireless router. The default is as below:

<b>Air Live</b>	Quick Setup   Status	(www.airlive.com) WT-2000AP Turbo-G Wireless Access Point
<ul> <li>Basic Setting</li> <li>♦ Primary Setup</li> <li>♦ DHCP Server</li> <li>♦ Wireless</li> </ul>	Wireless Setting	Setting
	Wireless	© Enable © Disable
+ Advanced Setting + Maintenance	<ul> <li>Network ID(SSID)</li> <li>SSID broadcast</li> <li>Channel</li> <li>Security</li> </ul>	airlive © Enable O Disable 11 None
	Save Undo WDS Setting	MAC Address Control Help

About wireless client, you will see wireless icon:







If the client can not access your wireless router, please refresh network list again. However, I still can not fine the device which ssid is "default", please refer to Q3.

Network Tasks	Choose a wireless network		
Refresh network list	Click an item in the list below to connect to a <u>w</u> ireless network in range or to get more information.		
	default Non-secure wireless network	Signal Strength: BILL Connected	

Choose the one that you will want to connect and Connect:



#### If successfully, the computer will show



## 2.When I use AES encryption of WPA-PSK to connect even if I input the correct

#### pre-share key?

A: First, you must check if the driver of wireless client supports AES encryption. Please refer to the below:



If SSID is default and click "Properties" to check if the driver of wireless client supports AES encryption.

default properties					
Association Authentication Connection					
Network <u>n</u> ame (SSID): default					
_ Wireless network key					
This network requires a key for the following:					
Network Authentication:					
Data encryption:					
Network key:					
C <u>o</u> nfirm network key:	]				
Key inde <u>x</u> (advanced): 1					
This is a computer-to-computer (ad hoc) network; wireless access points are not used					
OK Canc	el				