

music
AirPace
Wireless with Access Point



WAD-01B

User's Manual

WAD-01B

User's Manual

English

1st Edition, October 2006

Contents

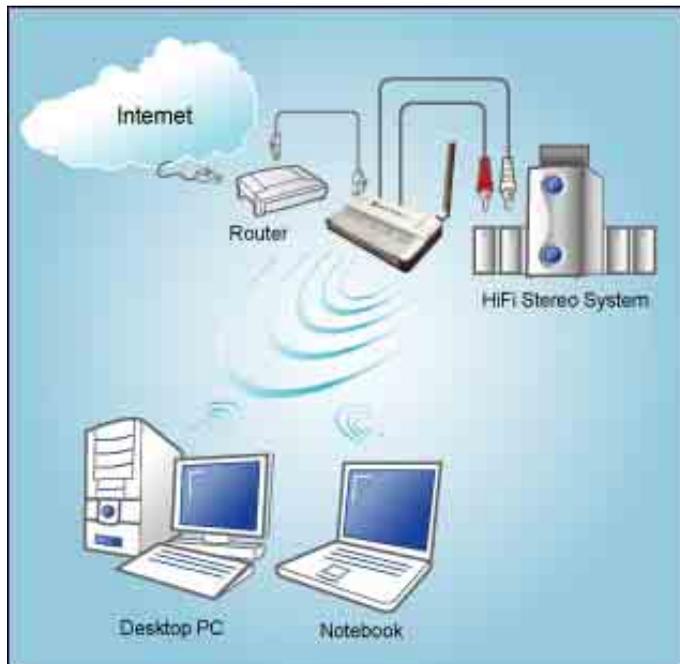
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1. Introduction

WAD-01B is bundled with **abit** wireless audio driver and utility. This creates a virtual sound system in your PC, which sends the audio output of any application via WAD-01B to your stereo system. Without any cables, you can listen to all digital music stored in your PC or notebook anywhere the stereo system is located.



1.1 Features

WAD-01B is compliant with 802.11g and supports the following features:

Access point:

Including AP mode and AP Client mode.

Wireless sound card (WSC):

Wireless sound card (WSC) is the most advanced technology on wireless audio transmission. After installing **abit** driver/utility, your computer can stream audio via 802.11 wireless or 802.3 wire network to WAD-01B.

Audio:

Support 2.1 & 5.1 wireless sound card.

※ **WAD-01B is not a Dolby or DTS decoder, it passes through audio signal only.**

1.2 Package Contents

The retail package contents include:

- WAD-01B
- Installation CD
- RJ-45 cable
- Omni-directional Antenna
- Quick Installation Guide
- 5V DC output Power Adapter
- Remote Controller

※ **Contact your dealer if you find any of the above items damaged or missing.**

2. Safety Notification

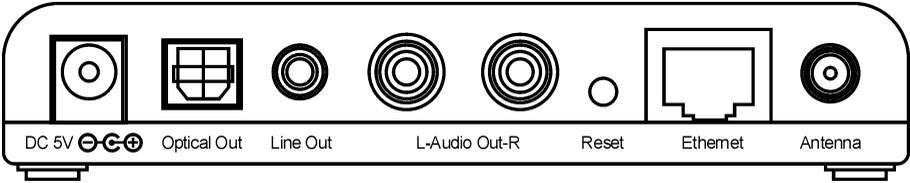
- ※ **WAD-01B should be placed in a safe and secure location with operating temperatures between +5 to +40 Celsius degree.**
- ※ **To ensure proper operation, please keep the device away from water, humidity, direct sunlight, or other heat sources.**
- ※ **Please read the user manual thoroughly before you install the device.**
- ※ **WAD-01B should only be repaired by authorized and qualified personnel.**

3. Getting Started with WAD-01B

3.1 System Requirements

- CD-ROM Drive
 - Network Adapter
 - Internet Explorer 5.5 or Netscape Navigator 6.1 or Higher for Web-Based Configuration
 - Windows XP Operating System
-
- ※ **Wireless Audio feature only works under Windows XP operating systems, abit wireless audio utility supports Windows XP only, NOT Windows 98 or Windows ME.**
 - ※ **The total supporting device numbers are depending on PC and network status. More devices will take more network bandwidths to stream audio, and this could impact audio quality.**

3.2 Buttons and Connectors



Antenna Socket

Connect the omni-directional antenna here.

Ethernet Port

This Ethernet port connects to your computer or Ethernet network devices, such as a switch or router, if using a wired connection.

Reset Button

There are two ways to reset WAD-01B factory defaults. Either press the Reset Button for approximately ten seconds, or restore the defaults from the firmware page in the device's Web Based Utility.

※ **Resetting WAD-01B will erase all your settings and replace them with the factory defaults. Do not reset the device if you want to retain these settings.**

Audio Out L/R Port

The Audio Out (Left and Right) ports connect to the Audio In (Left and Right) ports of your home stereo system.

Line Out Port

The Line Out port is where you can connect headphones or portable audio speakers with a headphone jack.

Optical Out Port

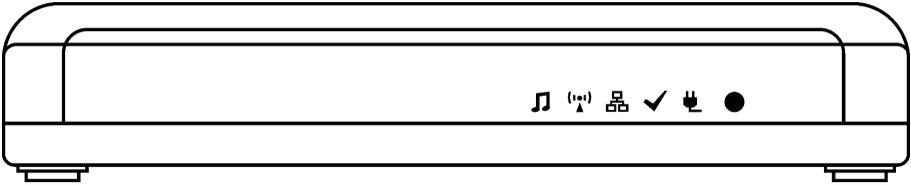
The Optical Out (SPDIF) port is where you connect the cable from the Optical In port of your home stereo system

Power Port

The Power port is where you connect the power adapter.

3.3 Status LEDs

The LEDs are located in front panel to indicate device information.



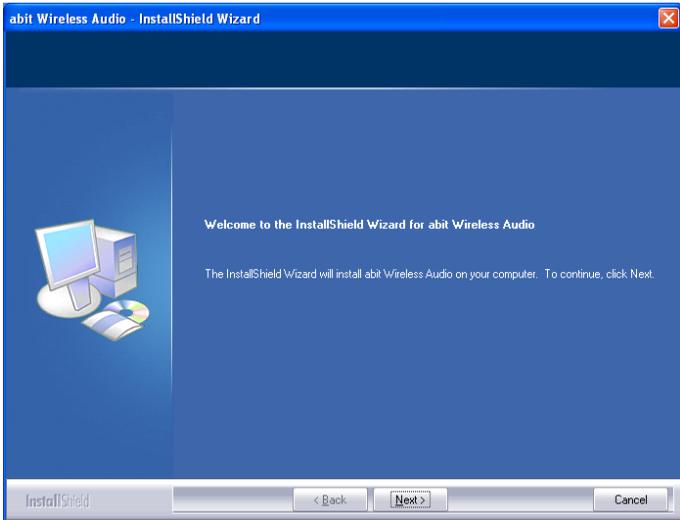
	Power	The Power LED lights up when the device is powered on.
	Ready	The Ready LED lights up when the device is ready. It will be flashing while upgrading firmware. After firmware upgrade process is done, the Ready LED will revert to light up status.
	Ethernet	The Ethernet LED displays two modes: Continuously lit: The device is successfully connected to a device through the Ethernet port. Flashing: The device is an indication of any network activity.
	Wireless LAN	If the LED is flashing, it means Wireless LAN is acting.
	Wireless Audio	The Wireless Audio LED displays three modes: Off: Nobody is running wireless audio feature, but could be using AP feature at current moment. Continuously lit: Specific computer is successfully connected to the device and enable wireless audio feature. Flash: Wireless audio transmission is acting.

4. Installation and Setup Wizard

4.1 Install WAD-01B driver and utility



Insert Installation CD onto your PC, then click [Start] button and select run, enter [d:\setup.exe] (if [D] is the letter of your PC's CD-ROM drive).



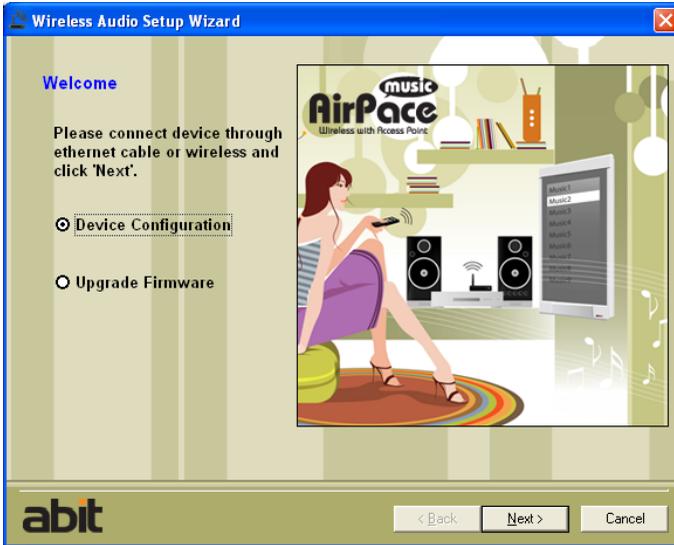
Please follow the utility's instruction to complete Driver/Utility installation process. After the Installation is done, the Setup Wizard will pop up.

4.2 Setup Wizard

4.2.1 Device Configuration

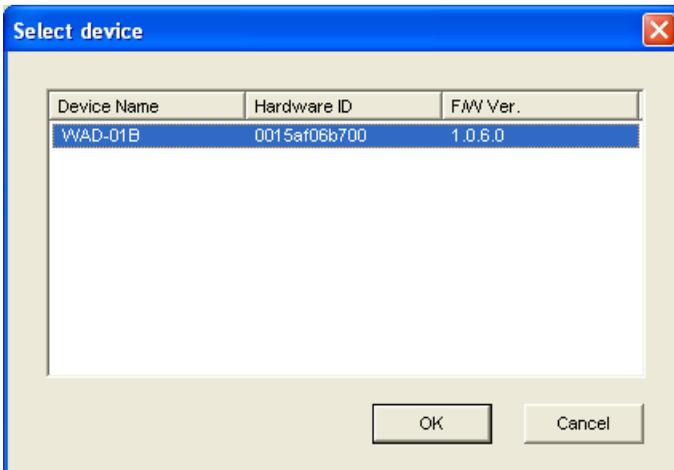
- ※ **Before starting setup wizard, please connect WAD-01B to Computer through Ethernet cable.**

The setup wizard will guide you through the WAD-01B configuration step by step, please follow the Setup Wizard's Device Configuration instruction to complete setup process. If you are an experienced user, you can choose [Cancel] to skip Setup Wizard.



Please choose [Device Configuration] or [Upgrade Firmware] feature and click [Next] button. The utility will then display the devices existing on current network.

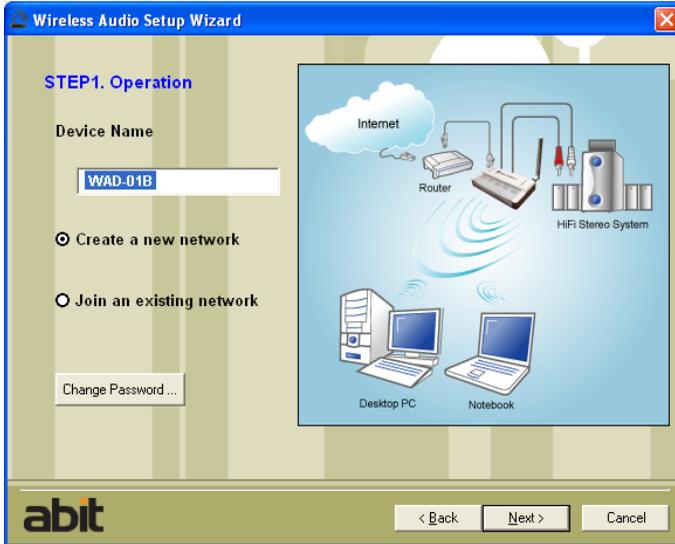
Please select the device you want to configure. Then click [OK] to next step.



Step 1: Operation

Device Name:

You can change device name to manage multi-audio AP/Receiver on same network. The device name will display on wireless audio utility.

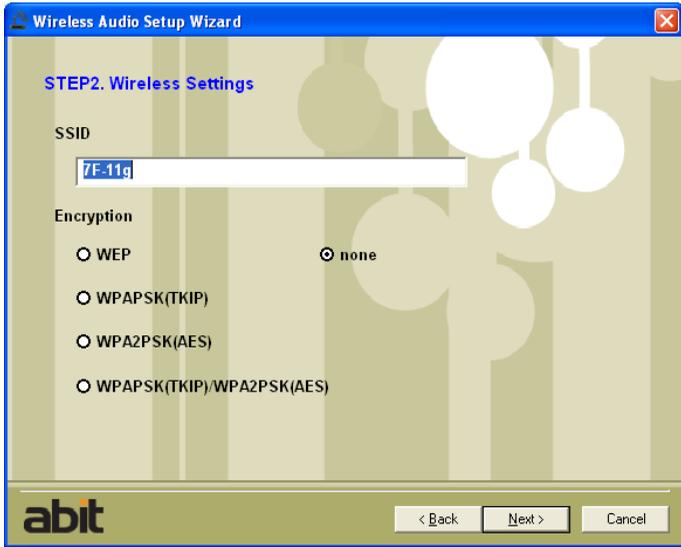


Create a new network:

If there is no Access Point in your network and you want WAD-01B to function as AP, please choose [Create a new network].

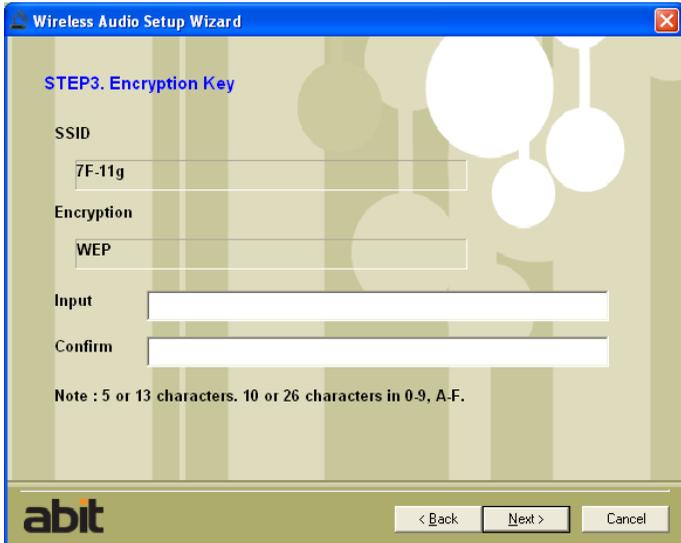
Step 2: Wireless Settings

If you choose [Create a new network] and click on Next, you can setup SSID and encryption type for wireless security.



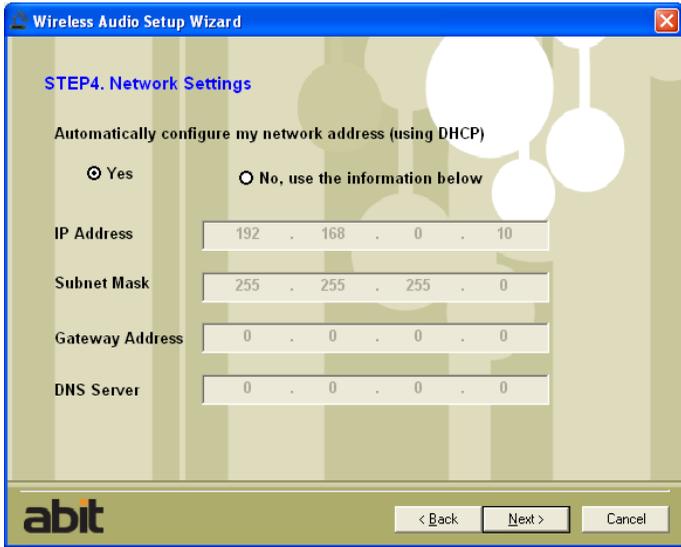
Step 3: Encryption Key

After encryption method being made, please follow the encryption instruction to input the security key.



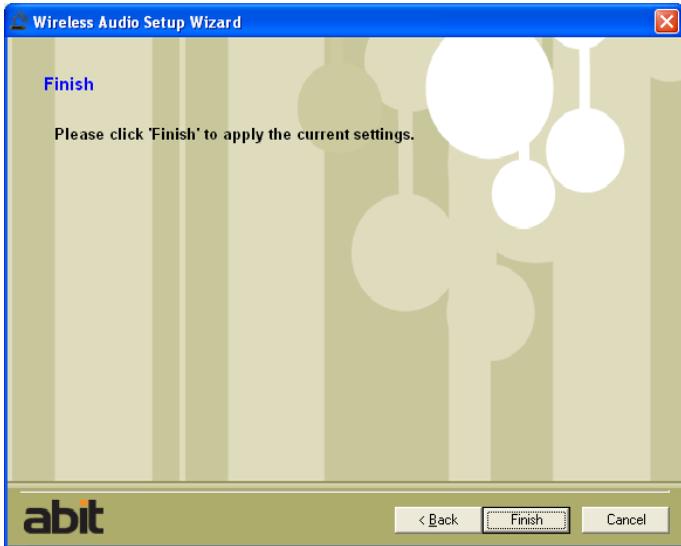
Step 4: Network Settings

You can choose either to enable or to disable DHCP feature. To disable the DHCP feature, you need to obtain relevant IP address, Subnet Mask, Gateway Address and DNS Server's information and input all information to the correspondent fields.



Step 5: Finish

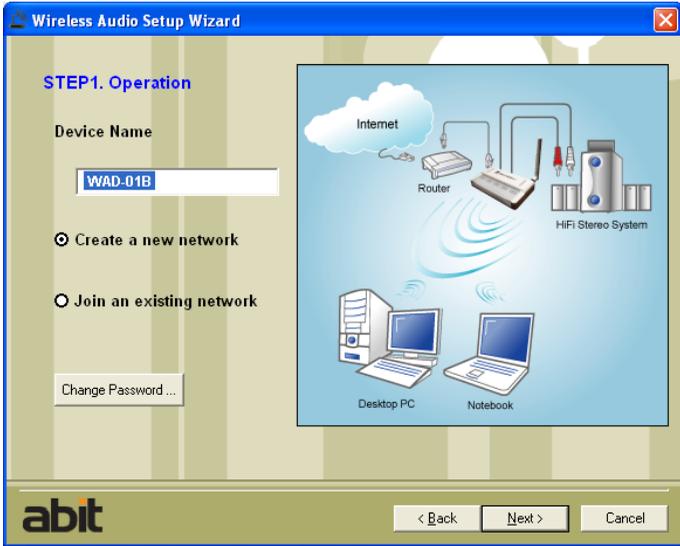
After DHCP setting is being set, click on [Finish] to close the Wireless Audio Setup Wizard.



Join an existing network:

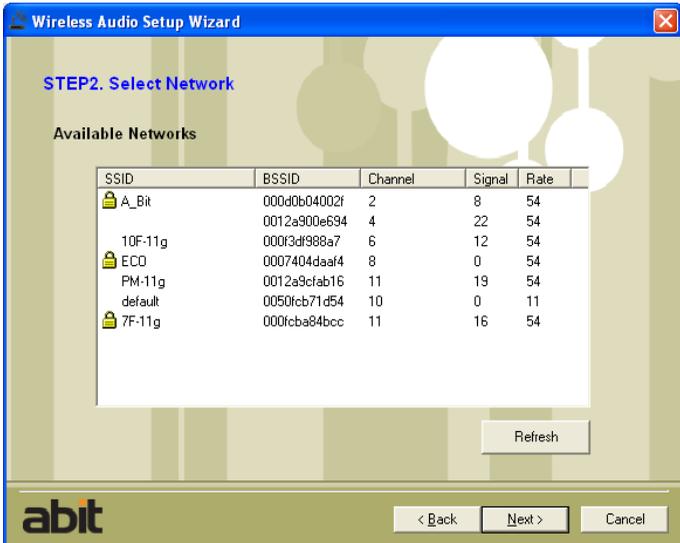
If you already have an available wireless network, you can configure the device as [Audio Receiver (AP Client)] to join it.

Step 1: Operation



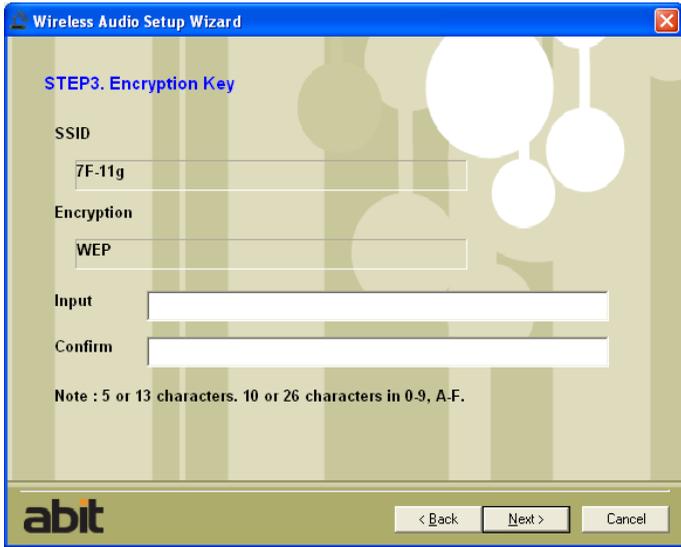
Step 2: Select Your Device

Once you choose [Join an existing network] and click on [Next], the WAD-01B will switch to [Client] mode and start to search the available network. Select the Device from the Online Devices list and click [OK].



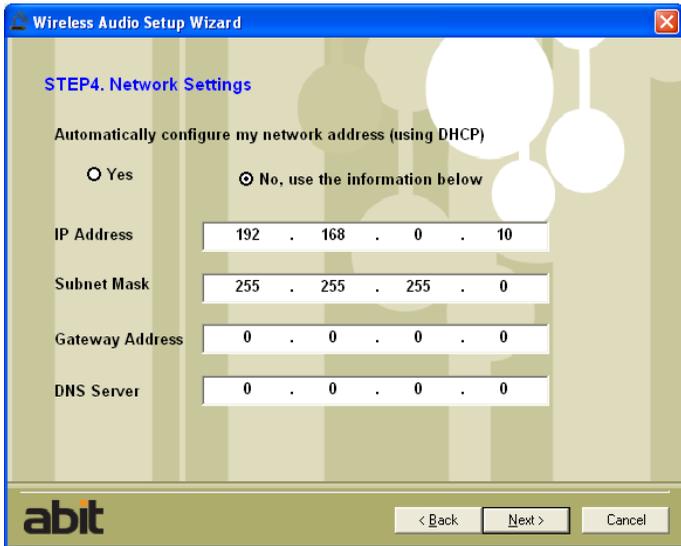
Step 3: Encryption Key

Please choose network and follow Setup Wizard's instruction to input security keys.



Step 4: Network Settings

You can choose either to enable or to disable DHCP feature. To disable the DHCP feature, you need to obtain relevant IP address, Subnet Mask, Gateway Address and DNS Server's information and input all information to the correspondent fields.



Step 5: Finish

Click on [Finish] to close the Wireless Audio Setup Wizard.



4.2.2 Connecting PC to WAD-01B

After completed the Setup Wizard process, WAD-01B will be configured as an Access Point or Client mode link to specific network according to your previous setup.

- ※ **IF WAD-01B is configured as Access Point, please connect your PC to WAD-01B directly through LAN port. When the connection is successful, the wireless audio utility will be opened automatically.**
- ※ **IF WAD-01B is configured as Client, please connect your PC to the same network as you choose in the Setup Wizard, the wireless audio utility will be opened automatically.**
- ※ **The default IP address for the WAD-01B is 192.168.0.10**

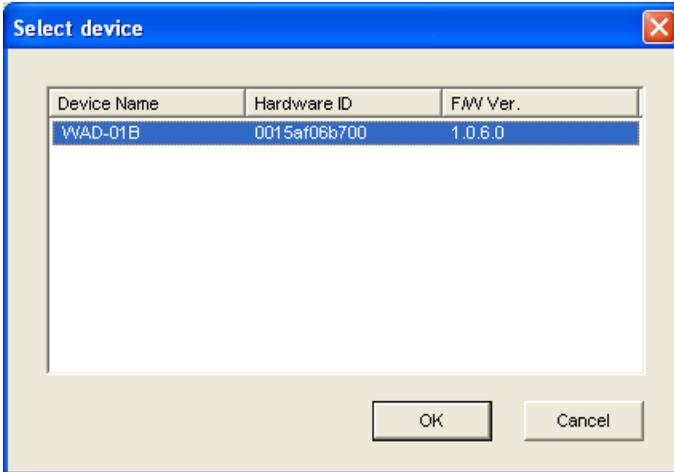
4.2.3 Upgrade Firmware

The firmware upgrade function can be found in Setup Wizard. You need to download and saved the latest and correct firmware for WAD-01B from **abit** website first, click on the [Browse] button to select the firmware file, and then click on [Finish] to start firmware upgrade process.

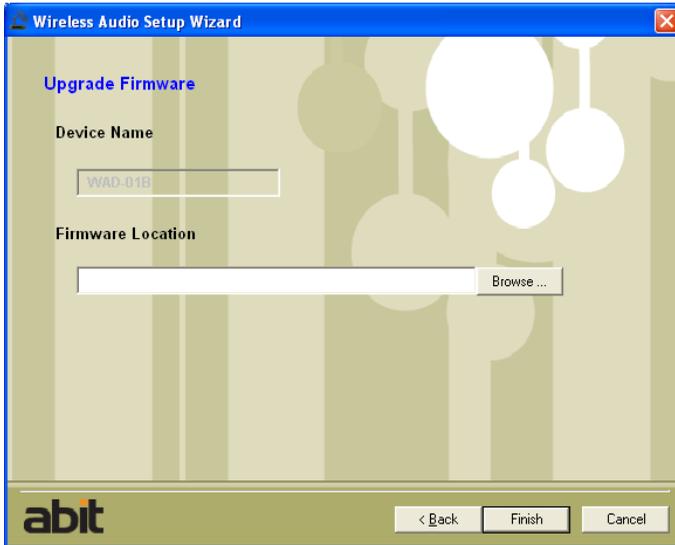
Step 1: Select Upgrade Firmware



Step 2: Select Device



Step 3: Select Firmware Location



- ※ **Do not upgrade your firmware through a wireless connection. During upgrade process, please ensure that the power connection and Ethernet connection are not interrupted. Upgrade through wireless connection with power/Ethernet interruption may lead to an irrecoverable damage to the device.**
- ※ **Only to upgrade firmware when encounter a problem or being advised by abit technicians.**

5. Wireless Audio Features

It's very easy to enable WAD-01B wireless audio features:

↩ **Step 1: Install abit driver and utility on your computer**

The **abit** wireless audio driver will create a virtual sound system in your PC, which sends the audio output of any application via WAD-01B to different stereo systems.

The **abit** wireless audio utility helps to manage single or multi-devices that exist on the same network. You can also choose PC original audio output or wireless audio output from the utility.

For detailed instructions of **abit** wireless audio driver/utility, please refer to Section 4 of this Manual.

↩ **Step 2: Power on your WAD-01B and connect to powered-speaker or decoder**

Plug-in the power adapter bundled with WAD-01B, the power LED will be lit up. Connect WAD-01B to a Powered-speaker, a Decoder (for SPDIF output), or home stereo system.

↩ **Step 3: Connect PC to WAD-01B, run the utility to enable wireless audio feature**

Please connect your PC to WAD-01B via 802.11 WLAN or 802.3 Wired Networks. For 802.11 Wireless Network setup, please refer to the Wireless Access Point or Wireless Access Point Client section.

When the network connection is activated, the Access Point feature of WAD-01B will start working. But you still have to run wireless audio utility to enable wireless audio feature. For instructions of wireless audio utility, please refer to Section 4 of this manual.

When the wireless audio feature is enabled, the blue [Wireless] LED is lit. If you start streaming digital music to WAD-01B, the blue LED will be flashing, which means wireless audio transmission is acting.

6. Wireless Audio Utility

The **abit** wireless audio utility allows you to have fully control over WAD-01B with functions including [Select PC/Wireless Audio Output], [Device Management], [Scan], [Configure], [Connect], [Disconnect], [Setup Wizard], [Buffer Setup], [Advanced Setting], and [About].

Select PC/Wireless Audio Output:



Consist of two major features - Switch to [PC Speaker] or [Wireless Audio].

Device Management:

All WAD-01B connects to a same network will be displayed on utility. The total supporting device numbers are depending on PC and network status. More devices will take more network bandwidths to stream audio, and it could impact audio quality.

The utility will display device name and Owner's Name (if somebody already connects to audio AP/Receiver).

Scan: The result after scan will be displayed in the Device Management Field.

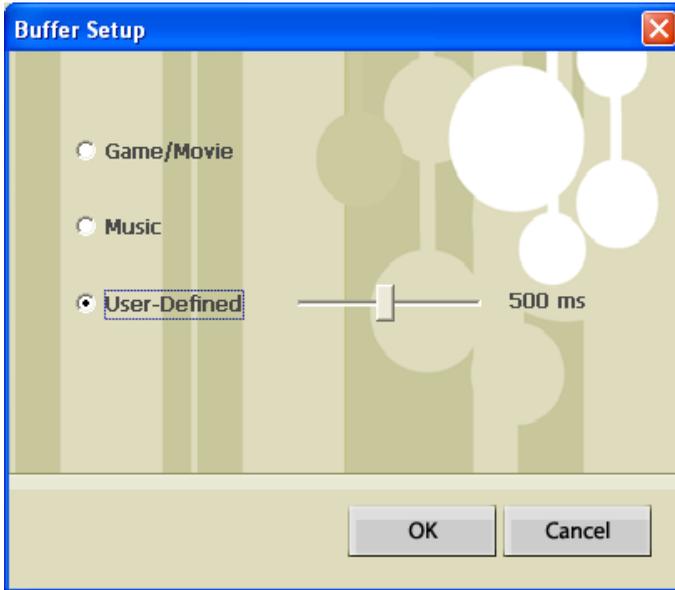
Configure: This allows more advanced configuration for the device. Please refer to the Access Point or Access Point Client section in this Manual.

Connect: Select a device from the list, which listed in the device management to establish audio connection.

Disconnect: Click Disconnect will disconnect the audio connection with the device.

Setup Wizard: Click on the setup wizard will bring out the Setup Wizard shown on section 4.2 Setup Wizard.

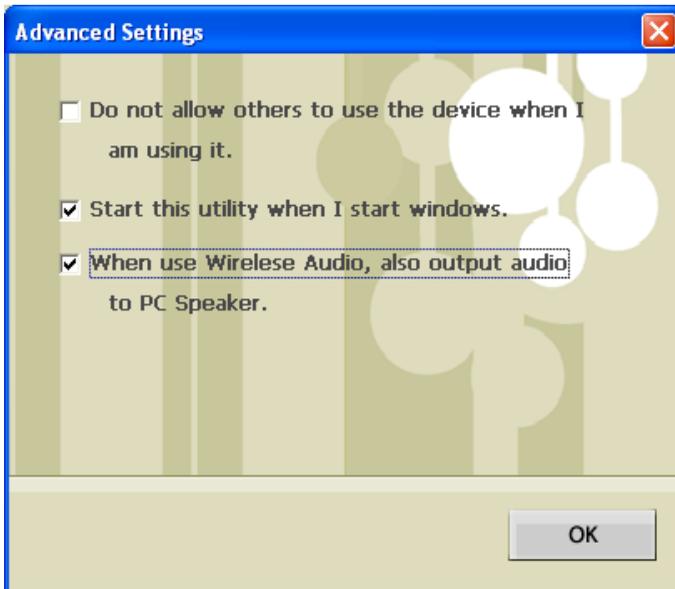
Buffer Setup: The Buffer Setup allows you to setup memory buffer size, including Movies/Game (200ms), Music (1 sec) and user-defined. Default is Music (1sec).



Bigger buffer causes audio transmission delay, but also makes it more stable and reduce the possibility of audio broken due to wireless signal interference.

Advanced Setting:

Contain various options for preferred settings.



About:

Display firmware version.



7. AP Mode

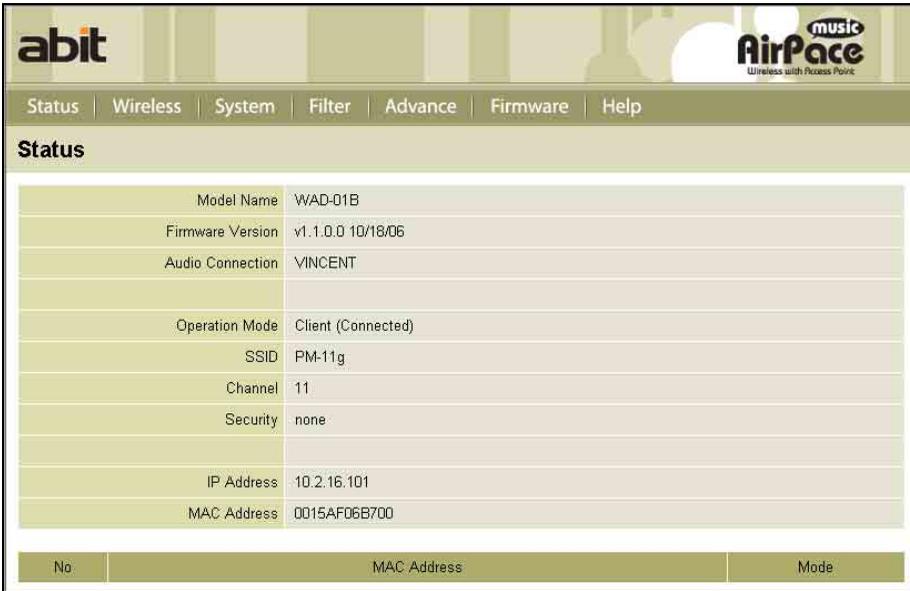
WAD-01B works as Access Point

To join an existing network you have at home, you can configure your WAD-01B to act as [Access Point]. This means to have Internet access while listening to wireless digital music playing by your stereo system.



7.1 Status

This section displays the AP's basic settings information.



Status	
Model Name	WAD-01B
Firmware Version	v1.1.0.0 10/18/06
Audio Connection	VINCENT
Operation Mode	Client (Connected)
SSID	PM-11g
Channel	11
Security	none
IP Address	10.2.16.101
MAC Address	0015AFD6B700

No.	MAC Address	Mode
-----	-------------	------

Model Name	The model name of device.
Firmware Version	The version of firmware.
Audio Connection	Shows who is using wireless audio transmission at current moment.
Operation Mode	Device acting as [AP] or [Client].
SSID	Displays the wireless network name, default is [WAD-01B].
Channel	Displays the wireless channel which device is using.
Security	Displays current wireless security setting.
IP Address	The IP address of device.
MAC Address	The MAC address of device.

MAKE CORRECT NETWORK SETTINGS OF YOUR COMPUTER

To change the configuration, use Internet Explorer (IE) or Netscape Communicator to connect the WEB management **192.168.0.10**.

7.2 Wireless

This page contains settings for the identification, radio channel and security type used in the Access Point.

Operation Mode	Client	<input type="button" value="Scan Wireless Network"/>
SSID	PM-11g	
Channel	1	(Note: In client mode, this option is ignored.)
Authentication Type	None	

- None
- WEP Open
- WEP Shared key
- WEP Open or Shared key
- WPA-PSK
- WPA2-PSK

SSID (Service Set Identifier): Only Access Points and clients sharing this SSID are able to communicate with each other. Your networking client allows you to choose to which network you connect. The network names you see from network client's activation program are SSID.

Channel: Select the appropriate channel from the list to correspond with your network settings. This defines the radio operation channel used by the device in the wireless network. You shall assign a different channel for each AP to avoid signal interference.

Authentication Type: Specify the type of wireless security to protect your wireless network. Default setting is [None]. No encryption is used.

Wired Equivalent Privacy (WEP): WEP is a basic encryption method in WLAN.

- **WEP Open:** Use WEP encryption, but no authentication is needed.
- **WEP Shared Key:** Use WEP encryption and authentication.
- **WEP Open/Shared key:** Use WEP encryption, WEP authentication or no authentication.

The screenshot shows the 'Wireless' configuration page of the Abit AirPace. The 'Operation Mode' is set to 'Client'. The 'SSID' is 'PM-11g'. The 'Channel' is '1'. The 'Authentication Type' is 'WEP Open or Shared key'. The 'WEP Key Size' is '64-bit'. There are four 'WEP Key' fields, all of which are empty. The 'Apply' and 'Cancel' buttons are at the bottom.

Operation Mode	Client	<input type="button" value="Scan Wireless Network"/>
SSID	PM-11g	
Channel	1 (Note: In client mode, this option is ignored.)	
Authentication Type	WEP Open or Shared key	
WEP Key Size	64-bit	
WEP Key 1	<input type="text"/>	
WEP Key 2	<input type="text"/>	
WEP Key 3	<input type="text"/>	
WEP Key 4	<input type="text"/>	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>		

WEP Key Size: Please specify the size of WEP key from 64 bits (10 hex characters) or 128 bits (26 hex characters).

WEP Key: Enter WEP keys for WEP encryption. Please set the Key from Key 1 to Key 4 as default key to allow client to access Wireless Network via Access Point.

The screenshot shows the 'Wireless' configuration page of the Abit AirPace. The 'Operation Mode' is set to 'Client'. The 'SSID' is 'PM-11g'. The 'Channel' is '1'. The 'Authentication Type' is 'WPA2-PSK'. The 'WPA Cipher Suite' is 'TKIP' (selected) and 'AES'. The 'WPA2 Cipher Suite' is 'AES Only'. The 'WPA Pass Phrase' field is empty. The 'Apply' and 'Cancel' buttons are at the bottom.

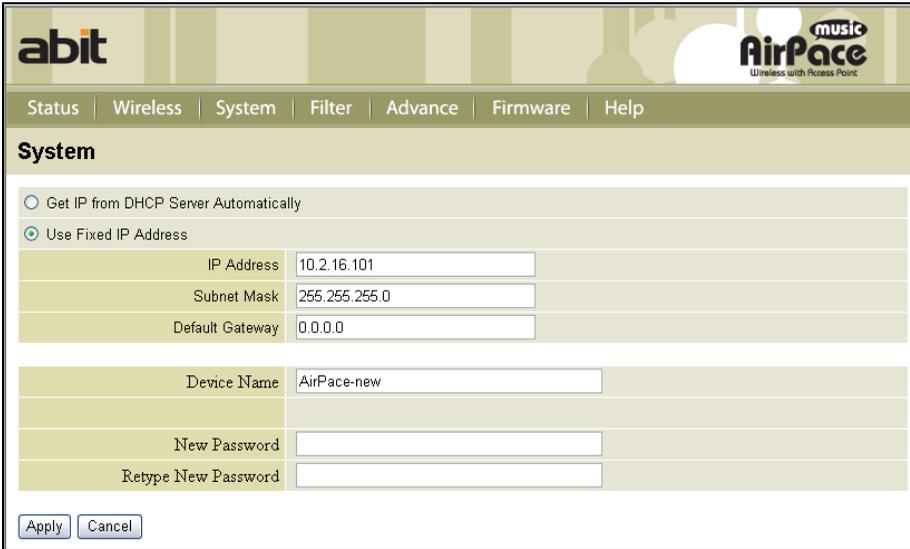
Operation Mode	Client	<input type="button" value="Scan Wireless Network"/>
SSID	PM-11g	
Channel	1 (Note: In client mode, this option is ignored.)	
Authentication Type	WPA2-PSK	
WPA Cipher Suite	<input checked="" type="radio"/> TKIP <input type="radio"/> AES	
WPA2 Cipher Suite	AES Only	
WPA Pass Phrase	<input type="text"/>	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>		

WPA-PSK (Wi-Fi Protected Access): The WPA security pre-shared key supports TKIP and AES algorithm. TKIP and AES utilize a stronger encryption method and incorporate Message Integrity Code (MIC) to provide protection against hackers. To use WPA Pre-Shared Key, enter a password in the WPA Shared Key field between 8 and 63 characters long.

WPA 2 PSK (Wi-Fi Protected Access 2): This security mode offers higher AES security method with 128bits encryption. To select this WPA2 Pre-shared key, please enter a password in the WPA Pass Phrase Key field between 8 to 63 characters long.

7.3 System

This page allows you to select [Get IP from DHCP Server Automatically] to get IP address dynamically or [Use Fixed IP Address] to manually enter a permanent IP address for device.



The screenshot shows the 'System' configuration page for an Abit AirPace wireless router. The page has a navigation bar with tabs: Status, Wireless, System (selected), Filter, Advance, Firmware, and Help. The 'System' section contains two radio button options: 'Get IP from DHCP Server Automatically' (unselected) and 'Use Fixed IP Address' (selected). Below these are three input fields for IP configuration: IP Address (10.2.16.101), Subnet Mask (255.255.255.0), and Default Gateway (0.0.0.0). Further down are three more input fields: Device Name (AirPace-new), New Password, and Retype New Password. At the bottom left are 'Apply' and 'Cancel' buttons.

<input type="radio"/> Get IP from DHCP Server Automatically	
<input checked="" type="radio"/> Use Fixed IP Address	
IP Address	10.2.16.101
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Device Name	AirPace-new
New Password	
Retype New Password	

Apply Cancel

IP Address: Default value is 192.168.0.10.

Subnet Mask: Default value is 255.255.255.0.

Default Gateway: Default value is 0.0.0.0.

Device Name: This allow administrator to assign a name for the device, administrator can type a name up to 16 characters long to represent the device.

Password: Administrator can change the default administrator's password up to 32 characters in length.

7.4 Filter

The MAC Filter page allows network administrator to block/allow access for wireless devices to this access point.

abit **AirPace** music
Wireless with Access Point

Status | Wireless | System | **Filter** | Advance | Firmware | Help

MAC Filter

Disabled

Only **deny** PCs listed below to connect

Only **allow** PCs listed below to connect

1	<input type="text"/>	17	<input type="text"/>
2	<input type="text"/>	18	<input type="text"/>
3	<input type="text"/>	19	<input type="text"/>
4	<input type="text"/>	20	<input type="text"/>
5	<input type="text"/>	21	<input type="text"/>
6	<input type="text"/>	22	<input type="text"/>
7	<input type="text"/>	23	<input type="text"/>
8	<input type="text"/>	24	<input type="text"/>
9	<input type="text"/>	25	<input type="text"/>
10	<input type="text"/>	26	<input type="text"/>
11	<input type="text"/>	27	<input type="text"/>
12	<input type="text"/>	28	<input type="text"/>
13	<input type="text"/>	29	<input type="text"/>
14	<input type="text"/>	30	<input type="text"/>
15	<input type="text"/>	31	<input type="text"/>
16	<input type="text"/>	32	<input type="text"/>

Disabled: Default setting is to disable the MAC Filter function.

Only deny PCs listed below to connect: The MAC addresses entered below will be blocked from accessing this Access Point. The MAC address not listed in the list will be able to connect to this AP.

Only allow PCs listed below to connect: Only allows MAC addresses entered below to connect to this access point, others are blocked.

※ **If your PC is not on the allowing list, you will lose wireless connection after clicking Apply button. You must then configure this device through Ethernet.**

7.5 Advance

Advance page allows administrator to make further wireless network settings, such as SSID broadcast, Radio Preamble, RTS threshold and Beacon Periods etc.

※ **DO NOT change the setting on this page if you are not a professional user. Any change on this page might cause your wireless connection fail.**



The screenshot shows the 'Advance' configuration page for an Abit AirPace wireless access point. The page has a navigation bar with tabs: Status, Wireless, System, Filter, Advance (selected), Firmware, and Help. The 'Advance' section contains the following settings:

Broadcast SSID	<input type="radio"/> Disabled <input checked="" type="radio"/> Enabled
Radio Preamble	Long
802.11g Only Mode	<input checked="" type="radio"/> Disabled <input type="radio"/> Enabled
RTS Threshold	2347 (256-2432)
Beacon Period	100 (20-1000)
DTIM Period	1 (1-255)
MAC Cloning Mode	<input checked="" type="radio"/> Disabled <input type="radio"/> Enabled

At the bottom of the settings area, there are 'Apply' and 'Cancel' buttons.

Broadcast SSID: This setting is related with SSID for whether it can be broadcasted by wireless or not. If it is disabled, only devices with correct SSID can connect to this access point. Default setting is [Enabled].

Radio Preamble: [Long] preamble may provide more reliable connection and [Short] preamble may provide better performance. [Auto Select] will select preamble type automatically. Default setting is [Long].

802.11g Only Mode: Select [Enabled] to accept 802.11g wireless connection only. Default setting is [Disabled] and accepts both 802.11 b/g wireless connections.

RTS Threshold: If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The device sends request to send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. Default setting is [2347].

Beacon Period: A beacon is a packet broadcast by the device to synchronize the wireless network. The Beacon Period value indicates the frequency interval of the beacon. Default value is [100] milliseconds.

DTIM Period: This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. Default setting is [1].

7.6 Firmware

The screenshot shows the 'Firmware' section of the abit AirPace web interface. At the top, there is a navigation menu with the following items: Status, Wireless, System, Filter, Advance, Firmware, and Help. Below the menu, the 'Firmware' section is titled. It contains three main rows of controls:

- Upgrade Firmware:** This row shows the 'Current Version: v1.1.0.0 10/18/06'. It includes a text input field for the firmware file path, a 'Browse...' button, and an 'Upgrade' button.
- Restore Configuration to Default:** This row includes a 'Restore' button.
- Restart Device:** This row includes a 'Restart' button.

Upgrade Firmware: Current Firmware version can be located within the Upgrade Firmware column. In order to start firmware upgrade, you need to download the latest and correct firmware for the device from internet. Click [Browse] button to locate the firmware file (*.bin) and then click Upgrade button to upgrade firmware.

- ※ **Do not upgrade your firmware through a wireless connection. During upgrade process, please ensure that the power connection and Ethernet connection are not interrupted. Upgrade through wireless connection or power/Ethernet interruption may lead to irrecoverable damage to the device.**
- ※ **Only to upgrade the firmware for the device when there is problem related or being advised by the abit technicians.**

Restore Configuration to Default: Click [Restore] button to restore the device to Factory Default Settings.

Restart Device: Click [Restart] button to reboot the device.

8. Client Mode

WAD-01B Works as Client



Client or Wireless Client mode allows WAD-01B device to become a wireless client and connect to another AP. In other words, WAD-01B now becomes a wireless adapter card to the wireless network to receive wireless audio from PC.

Client mode can be enabled within the Wireless and under Operation Mode. After Client being selected and click on Apply, device will prompt a message for restarting the device. After device reboot, it will be operating under Client mode.

The screenshot shows the web interface for the WAD-01B device. The top navigation bar includes 'Status', 'Wireless', 'System', 'Filter', 'Advance', 'Firmware', and 'Help'. The 'Wireless' section is active. The configuration table is as follows:

Operation Mode	Access Point	Scan Wireless Network
SSID	PM-11g	
Channel	1 (Note: In client mode, this option is ignored.)	
Authentication Type	None	

Buttons for 'Apply' and 'Cancel' are located at the bottom left of the configuration area.

8.1 Status

This section displays Client mode's basic settings information.

Model Name	WAD-01B
Firmware Version	v1.1.0.0 10/18/06
Audio Connection	VINCENT
Operation Mode	Client (Connected)
SSID	PM-11g
Channel	11
Security	none
IP Address	10.2.16.101
MAC Address	0015AF06B700

No MAC Address Mode

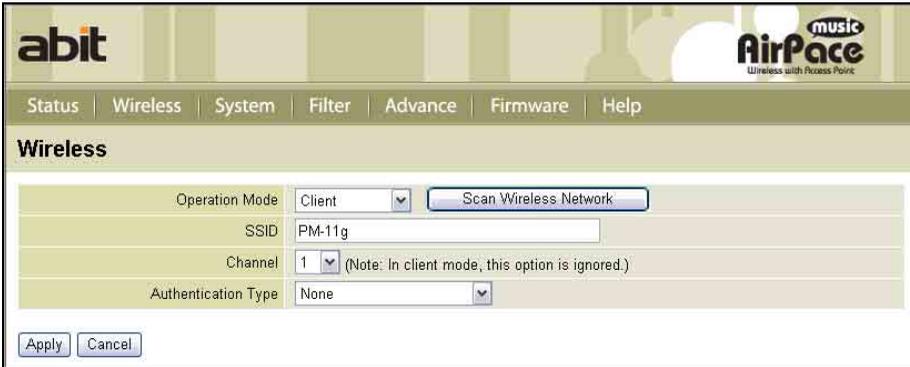
Model Name	The model name of device.
Firmware Version	The version of firmware.
Audio Connection	Shows which user is playing audio via this device.
Operation Mode	Current operation mode is [Access Point] or [Client].
SSID	Displays the wireless network name.
Channel	Displays the wireless channel which device is using.
Security	Displays current wireless security setting.
IP Address	The IP address of device.
MAC Address	The MAC address of device.

MAKE CORRECT NETWORK SETTINGS OF YOUR COMPUTER

To change the configuration, use Internet Explorer (IE) or Netscape Communicator to connect the WEB management **192.168.0.10**.

8.2 Wireless

This page contains settings for the identification, radio channel and security type use in the Access Point Client mode.



abit **AirPace** music
Wireless with Access Point

Status | Wireless | System | Filter | Advance | Firmware | Help

Wireless

Operation Mode: Client

SSID: PM-11g

Channel: 1 (Note: In client mode, this option is ignored.)

Authentication Type: None

Click on **Scan Wireless Network** will bring out the following window that displays all the Access Point or Router signals found within the areas.

	SSID	BSSID	Ch	Network	Rate	Security	Signal
<input type="radio"/>	7F-11g	00-0F-CB-A8-4B-CC	11	AP	54	WEP	22%
<input type="radio"/>	PM-11g	00-12-A9-CF-AB-16	11	AP	54	OPEN	59%

Rescan: Scan for more AP/Router signals within area.

Join: Join the AP/Router that being found from list.

Close: Close Scan Wireless Network window.

SSID (Service Set Identifier): only Access Points and clients sharing this SSID are able to communicate with each other. Your networking client allows you to choose to which network you connect. The network names you see from network client's activation program are SSID.

Channel: Select the appropriate channel from the list to correspond with your network settings. This function will be ignored when operated in Access Point Client mode.

Authentication Type: There are 6 types of wireless security available in Access Point Client mode, default is [None]. No encryption is used.

The screenshot shows the 'Wireless' configuration page of the abit AirPace. The 'Operation Mode' is set to 'Client'. The 'SSID' is 'PM-11g' and the 'Channel' is '1'. The 'Authentication Type' dropdown menu is open, showing options: None, WEP Open, WEP Shared key, WEP Open or Shared key, WPA.PSK, and WPA2.PSK. The 'None' option is currently selected.

Wired Equivalent Privacy (WEP): WEP is a basic encryption method in WLAN.

- **WEP Open:** Use WEP encryption but no authentication is needed.
- **WEP Shared Key:** Use WEP encryption and authentication.
- **WEP Open/Shared key:** Use WEP encryption, WEP authentication or no authentication.

The screenshot shows the 'Wireless' configuration page of the abit AirPace with WEP settings. The 'Operation Mode' is 'Client', 'SSID' is 'PM-11g', and 'Channel' is '1'. The 'Authentication Type' is set to 'WEP Open or Shared key'. The 'WEP Key Size' is '64-bit'. There are four WEP Key fields: WEP Key 1 (with a radio button), WEP Key 2, WEP Key 3, and WEP Key 4 (all with radio buttons).

WEP Key Size: Please specify the size of WEP key from 64 bits (10 hex characters) or 128 bits (26 hex characters).

WEP Key: Enter WEP keys for WEP encryption. Please set Key from Key 1 to Key 4 as default key to allow client to access Wireless Network via Access Point.

Wireless	
Operation Mode	Client <input type="button" value="Scan Wireless Network"/>
SSID	PM-11g
Channel	1 (Note: In client mode, this option is ignored.)
Authentication Type	WPA2-PSK
WPA Cipher Suite	<input checked="" type="radio"/> TKIP <input type="radio"/> AES
WPA2 Cipher Suite	<input checked="" type="radio"/> AES Only
WPA Pass Phrase	

WPA-PSK (Wi-Fi Protected Access): The WPA security pre-shared key supports TKIP and AES algorithm. TKIP and AES utilize a stronger encryption method and incorporate Message Integrity Code (MIC) to provide protection against hackers. To use WPA Pre-Shared Key, enter a password in the WPA Shared Key field between 8 and 63 characters long.

WPA 2-PSK: This security mode offers higher AES security method with 128bits encryption. To select this WPA2 Pre-shared key, please enter a password in the WPA Pass Phrase Key field between 8 to 63 characters long.

8.3 System

This page allows you to select [Get IP from DHCP Server Automatically] to get IP address dynamically or [Use Fixed IP Address] to manually enter a permanent IP address for device.

System	
<input type="radio"/>	Get IP from DHCP Server Automatically
<input checked="" type="radio"/>	Use Fixed IP Address
IP Address	<input type="text" value="10.2.16.101"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="0.0.0.0"/>
Device Name	<input type="text" value="AirPace-new"/>
New Password	<input type="text"/>
Retype New Password	<input type="text"/>

IP Address: Default value is [192.168.0.10].

Subnet Mask: Default value is [255.255.255.0].

Default Gateway: Default value is [0.0.0.0].

Device Name: This allow administrator to assign a name for the device, administrator can type a name up to 16 characters long to represent the device.

Password: Administrator can change the default administrator's password up to 32 characters in length.

8.4 Filter

The MAC filter mode will not go into effect under Client Mode.

abit **music AirPace**
Wireless with Access Point

Status | Wireless | System | **Filter** | Advance | Firmware | Help

MAC Filter

Disabled

Only **deny** PCs listed below to connect.

Only **allow** PCs listed below to connect

1	<input type="text"/>	17	<input type="text"/>
2	<input type="text"/>	18	<input type="text"/>
3	<input type="text"/>	19	<input type="text"/>
4	<input type="text"/>	20	<input type="text"/>
5	<input type="text"/>	21	<input type="text"/>
6	<input type="text"/>	22	<input type="text"/>
7	<input type="text"/>	23	<input type="text"/>
8	<input type="text"/>	24	<input type="text"/>
9	<input type="text"/>	25	<input type="text"/>
10	<input type="text"/>	26	<input type="text"/>
11	<input type="text"/>	27	<input type="text"/>
12	<input type="text"/>	28	<input type="text"/>
13	<input type="text"/>	29	<input type="text"/>
14	<input type="text"/>	30	<input type="text"/>
15	<input type="text"/>	31	<input type="text"/>
16	<input type="text"/>	32	<input type="text"/>

8.5 Advance

The Advance page allows administrator to make further wireless network settings, such as SSID broadcast, Radio preamble, RTS threshold and Beacon Periods etc.

✳ **DO NOT change the settings on this page if you are not sure, otherwise you will lose your wireless connection.**

Broadcast SSID	<input type="radio"/> Disabled	<input checked="" type="radio"/> Enabled
Radio Preamble	Long	
802.11g Only Mode	<input checked="" type="radio"/> Disabled	<input type="radio"/> Enabled
RTS Threshold	2347	(256-2432)
Beacon Period	100	(20-1000)
DTIM Period	1	(1-255)
MAC Cloning Mode	<input checked="" type="radio"/> Disabled	<input type="radio"/> Enabled

Apply Cancel

Broadcast SSID: This setting is related with SSID for whether it can be broadcasted by wireless or not. If it is disabled, only devices with correct SSID can connect to this access point. Default setting is [Enabled].

Radio Preamble: [Long] preamble may provide more reliable connection and [Short] preamble may provide better performance. [Auto Select] will select preamble type automatically. Default setting is [Long].

802.11g Only Mode: Select [Enabled] to accept 802.11g wireless connection only. Default setting is [Disabled] and accepts both 802.11 b/g wireless connections.

RTS Threshold: If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The device sends request to send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. Default setting is [2347].

Beacon Period: A beacon is a packet broadcast by the device to synchronize the wireless network. The Beacon Period value indicates the frequency interval of the beacon. Default value is [100] milliseconds.

DTIM Period: This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. Default setting is [1].

MAC Cloning Mode: Designed to use the Ethernet port's MAC address of your PC as the default MAC address for WAD-01B. Select [Enabled] to clone the MAC address of PC connects to Ethernet port of device. The default is [Disabled]

8.6 Firmware

The screenshot shows the 'Firmware' section of the abit AirSpace web interface. At the top, there is a navigation menu with the following items: Status, Wireless, System, Filter, Advance, Firmware, and Help. Below the menu, the 'Firmware' section is displayed. It contains three main areas:

- Upgrade Firmware:** This area shows the current firmware version as 'v1.1.0.0 10/18/06'. Below this, there is a text input field for the firmware file path, a 'Browse...' button, and an 'Upgrade' button.
- Restore Configuration to Default:** This area contains a 'Restore' button.
- Restart Device:** This area contains a 'Restart' button.

Upgrade Firmware: Current Firmware version can be located within the Upgrade Firmware column. In order to start firmware upgrade, you need to download the latest and correct firmware for the device from Internet. Click [Browse] button to locate the firmware file (*.bin) and then click Upgrade button to upgrade firmware.

※ **Do not upgrade your firmware through a wireless connection. During upgrade process, please ensure that the power connection and Ethernet connection are not interrupted. Upgrade through wireless connection or power/Ethernet interruption may lead to irrecoverable damage to the device.**

Advice: only to upgrade the firmware for the device when there is problem related or being advised by the **abit** technicians.

Restore Configuration to Default: Click [Restore] button to restore the device to Factory Default Settings.

Restart Device: Click [Restart] button to reboot the device.

9. Remote Controller

User may use this remote controller's volume, track, mute, play or pause function buttons to control computer's default multimedia player via WAD-01B.

Track control buttons work with any audio media player that supports multimedia keyboard commands, which including but not limited to:

- Windows Media Player 9 (and higher)
- iTunes 4 (and higher)
- RealPlayer 10 (and higher)
- WinAmp 5 (and higher)



- ※ **The Remote Controller can only be operated with WAD-01B within a limited range.**
- ※ **Remove the isolated pad in the battery chamber to enable the battery power.**

10. Troubleshooting

10.1 Common Problems

Q: There is a message that says this device has been owned by [xxxx] and I cannot connect to it.

A: On the advanced setting page of wireless audio utility, current user can lock the utility and reject the other users connecting to this device. Hence, you cannot connect to WAD-01B.

Q: What is my device's default IP Address?

A: The device's default IP address is 192.168.0.10.

Q: What should I do if I forget all the default settings?

A: You may reset to the default settings of WAD-01B by pressing and holding the [Reset] button on the rear panel for 10 seconds then go to Setup Wizard to configure again.

Q: My Device has a wired connection to my network. Why can't I see the Device on my Device Utility?

A: Restart the PC and try again. Check all the cable connections and power.

Q: My device is wirelessly connected to my network, why can't I see the Device on my Device Utility?

A: Restart the PC and try again. If it happens again, please return to the Setup Wizard again and make sure you configure the Device properly, or move your Device closer to your wireless access point and try again.

10.2 Music Adapter

Q: What kind of music format I can play with WAD-01B?

A: You can use anything that plays on your PC.

Q: I cannot hear the music

A: Please check Audio LED (blue), make sure the blue LED is turned on and flashing.

If the blue LED is turned off, please check your wireless connection, and open the **abit** Wireless Audio Utility to connect to the WAD-01B. Please check your wireless audio utility, it will display device status, make sure you are the person connects to the device.

If the blue LED is turn on but not flashing, it means wireless audio connection is successful but NO audio stream is running. Please restart your PC audio player and play the audio.

Q: Can I listen to music from more than one WAD-01B at the same time?

A: Yes, you can stream PC audio to multiple WAD-01B devices.

Warning: This feature only support WAD-01B working under [Client] mode. Due to WAD-01B hardware limitation, when WAD-01B works as an Access Point to support this feature, it could cause sound break occasionally.

Q: I hear some sound breaks occasionally, what can I do?

A: This should not happen in normal cases, but could happen due to some wireless RF interference, especially if there are many wireless devices nearby, such as access points or routers, a microwave oven, Bluetooth device, cordless phone, etc. Keep your WAD-01B away from these devices.

If you are using an Intel Centrino based laptop or some old WLAN card/dongle, it may have a short period of suspending time for background scanning around every minute. It may also cause sound streaming break. Please contact your wireless adapter factory to download the latest driver of your WLAN card. This problem only exists on Intel old driver version.

You can also change the power management setting of your wireless adapter from Max power saving to Max performance.

Q: The music is coming from PC's speaker and not the speaker that connects to the WAD-01B.

A: Please enter the **abit** Wireless Audio Utility to connect to the WAD-01B, and restart your PC audio player.

Q: My Wireless Device has been detected and connected to the utility, but there is no music coming from the speaker.

A: Check LED on front panel, make sure the wireless audio LED (blue one) is lighting up and flashing. If yes, please check the following items.

1. Check your audio cable connection.
2. If cable connection is correct, please close, then re-enter the audio player.
3. Reboot the PC and try again.

If the wireless audio LED (blue one) is turn-off, please check your wireless network, make sure your PC is connecting to WAD-01B. If wireless audio LED (blue one) is lighting up but not flashing, please check your wireless audio utility, make sure you already connect to WAD-01B.

10.3 Basic AP Functions

Q: My device does not turn on. No LED's light up.

A: Connect the power adapter to your AP and plug it into the power outlet.

Note: Use only the power adapter provided with your AP. Using any other adapter may damage your AP.

Q: LAN Connection Problems - I can't access my AP.

A: Make sure your AP is powered on.

Make sure that your computer has a compatible IP Address. Be sure that the IP Address used on your computer is set to the same subnet as the AP. For example, if the AP is set to 192.168.0.10, change the IP address of your computer to 192.168.0.15 or another unique IP Address that corresponds to the 192.168.0.X subnet. Use the Reset button located on the rear of the AP to revert to the default settings.

Q: I can't connect to other computers on my LAN.

A: Make sure that each computer has a unique IP Address. And the IP must be in the same subnet as the AP. Make sure that the Link LED is on. If it is not, try a different network cable. Check each computer for correct network settings.

10.4 Wireless Troubleshooting

Q: I can't access the Wireless AP from a wireless network card

A: Make sure the Mode, SSID, Channel, and Encryption settings are the same on each wireless adapter. Make sure your computer is within range and free from any strong electrical devices that may cause interference. Check your IP Address to make sure that it is compatible with the Wireless AP.

Q: I can't establish connection with Wireless AP with WPA2 encryption by using Windows Zero Configuration

A: Update Windows XP with the latest Wi-Fi Protect Access 2 (WPA2) through windows update, or alternatively search Microsoft's support site for latest copy of service pack or patch for WPA2.

11. Regulatory Information

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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

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

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive(73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms

- EN 55022 (CISPR 22) Radio Frequency Interference
- EN 55024(EN61000-4-2, EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61000-4-8; EN61000-4-11; EN61000-3-2; EN61000-3-3)Generic Immunity Standard.
- EN60950 (IEC950) Product Safety

R&TTL(CE) MANUAL REGULATORY REQUIREMENT(WLAN-IEEE 802.11b/g)

802.11b/g Restrictions

- European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz
- In France, the equipment must be restricted to the 2.4465-2.4835GHz is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directives (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

CE Declaration of Conformity



The equipment was passed. The test was performed according to the following European standards.

EMC

- EN 301 489-1 V1.4.1:2002; EN 301 489-17 V1.2.1:2002

Radio

- EN 300 328 V1.6.1 (2004)

Safety & Health

- EN 60950-1(2001); EN 50385(2002)

NCC(DGT) Statement

根據交通部 低功率管理辦法 規定：

第十四條

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。

第十七條

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，指依電信規定作業之無線電信。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。

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)

This document contains important information for users with regards to the proper disposal and recycling of **abit** products. Consumers are required to comply with this notice for all electronic products bearing the following symbol



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