



Firmware Release Notes:

Z-Com XV-5850 Dual-band Access Point In **NETGEAR WAB102** Customization

firmware release 1.2.0

Release Date: Dec. 13, 2002

A Summary of This Release

- This firmware is based on Atheros AP21 reference code 2.1.1.7.
- Support General European domain. Allow user to select country code if the AP is shipped with General European domain (WAB102-GE).
- The baseband of 802.11b/2.4GHz is programmed with a set of register values to improve the range of 802.11b/2.4GHz wireless service.

firmware release 1.1.2

Release Date: Nov. 21, 2002

A Summary of This Release

- Support AU and CN domain.
- After a factory default reset (via Web or Default button), the AP's configuration will be saved into flash ROM persistently right after the AP has finished reboot. This change is made to avoid a problem that the default settings cannot be saved if user made a factory default reset and unplugged the power immediately after the AP has finished reboot. Older firmware version generally needs extra 60 seconds to begin saving and introduced this problem.

firmware release 1.1.1

Release Date: Oct. 24, 2002

Bugs Fixed

- Prevent from an unexpected timeout error when user upgrades the firmware through a



wireless link. (bug id: 23)

- Correct the problem that an unexpected error message (“The two new passwords don’t match.”) was showed if user input a new password with 32 characters in length. (bug id: 25)
- When user clicks on help, raise the help window if it is minimized or hides behind other windows. (bug id: 26)
- If user has restored the factory default, showing it has been applied instead of displaying the original yes-or-no selection. (bug id: 24)
- Set the maximal input length of WEP keys according to the key size that user has selected.

firmware release 1.1.0

Release Date: Oct. 17, 2002

Bugs Fixed

- Compile the firmware with optimizing (-O3) and remove unnecessary debug flags to retain the throughput at turbo mode operation. (bug id: 17)
- Prevent from unexpected Fareast character set (BIG-5, Traditional Chinese) installation when help page is opened with IE. (bug id: 21)
- Remove wireless station from the station list if its idle time exceeds three minutes. (bug id: 11)
- Change the welcome banner of (telnet) CLI to NETGEAR-specific instead of Atheros’ generic banner. (bug id: 22)

firmware release 1.0.0

Release Date: Oct. 7, 2002

Bugs Fixed

- Improve the compatibility of DHCP client to work with the DHCP server which responds to the AP with DHCPOFFER and DHCPACK packets in unicast IP address.
- The range of 802.11a/5GHz DTIM Interval is 1~255 (not 1~16384).
- When user has changed the DHCP Client from enable to disable, show the static IP address which user configured (applied, not yet rebooted). In older firmware, AP doesn’t show the user-configured IP address after user has reloaded the ‘Setup’ page.



- The maximal number of MAC address entries in Access Control (ACL) is now correctly limited to 100.
- Unexpected error message now will not be displayed if user enters some WEP keys but keeps the rest of the keys untouched. (This bug was introduced in the firmware release v0.0.5)

A Summary of This Release

- Enable 802.11b/2.4GHz radio only after the AP is initialized successfully.
- If user has pressed the Default button for more than four seconds (factory default reset), the Power LED will be fast-blinking to let user know he/her has pressed the Default button long enough.
- Not showing 'Turbo Mode' option if the AP is not programmed in FCC regulatory domain.
- If the DHCP Client is disabled, AP will block all the DHCP responses from the network to avoid wireless clients get IP address from DHCP server.
- The cursor will move to next column automatically when user inputs the IP address or MAC address.
- The status of power-saving station displays "associated", instead of "power saving", in the Station List page.
- New help content.

firmware release 0.0.5

Release Date: Sep. 18, 2002

Bugs Fixed

- Factory default IP address now is 192.168.0.226.
- Fixed a bug that the web server gets stuck if AP has failed to get IP from DHCP server.

A Summary of This Release

- Show correct channel list and data-rate list when user clicks around the Turbo mode radio buttons.
- Prompt invalid WEP key length message if the length of key input is not correct.
- Show correct MAC Address List when user clicks around the Access Control mode radio buttons.



- Allow user to add an MAC address entry in the ACL before the APPLY button being clicked.
- New context of 'About' page from NETGEAR PLM.
- Don't show 'reboot reminder' if there is only password (nothing else) has been applied.
- Shorten the waiting time for AP rebooting.
- Keep web and telnet services being available through Ethernet during scanning 802.11a channels.
- Help content (draft) is added.
- Remove Logout from left-hand side menu.

firmware release 0.0.4

Release Date: Sep. 11, 2002

Bugs Fixed

- DHCP client now sends DHCP discovery packet correctly.
- Factory default will populate the AP with values those NETGEAR expects. (the problem was introduced in firmware release 0.0.3)

A Summary of This Release

- AP detects the existence of DHCP server and use manually assigned IP addresses (or factory default IP address if it has not been changed) if there is no DHCP server found.
- Change the blinking of 11b LED to be similar to the way of 11a's doing.
- Avoid 'stuck' problem if 11b module (XI-1250) has been removed or malfunction.
- The web pages have been tested with web browsers below:
 - Microsoft Internet Explorer 5
 - Netscape Navigator 4.78
 - Mozilla 5.0
- Setup: change "best" to "Best" in both data rate selections of 11a and 11b.
- Access Control: factory default is now "No Access Control". (It is "Deny MAC address(es) in list" in previous releases)



- Security: Change "Default shared key" to "Default Key" in 802.11b Security.
- Access Control: Apply button move to the right hand side of the ACL options.
- Factory default use channel 52 for Normal mode channel 50 for Turbo mode.
- Change "Access control" into "Access Control", "Advanced setup" into "Advanced Setup", "Firmware upgrade" into "Firmware Upgrade", "Station list" into "Station List", "Restore factory default" into "restore Factory Default".

firmware release 0.0.3

Release Date: Sep. 9, 2002

A Summary

- This firmware is based on Atheros AP21 reference code 2.0.1.254.
- Made some font size changes on web pages
- Added 'HELP' links on web pages. The help contains are pending.
- DHCP Client is provided.
- The default AP name (netgearXXXXXX) is always effective regardless of user's setup.
- Access Control applies to 11b as well.
- Advanced Settings (RTS Threshold, Fragment Length, Short/Long Preamble) of 11b take effect.
- Setup of 11b Data Rate takes effect.
- Station List displays 11b stations as well.

firmware release 0.0.2

Release Date: Aug. 30, 2002

A Summary

- This firmware is based on Atheros AP21 reference code 2.0.0.172.
- WEB UI is finalized (HTML files and respective CGI routines).
- Firmware upgrade through WEB is ok.
- Factory default settings are,

User Name	admin
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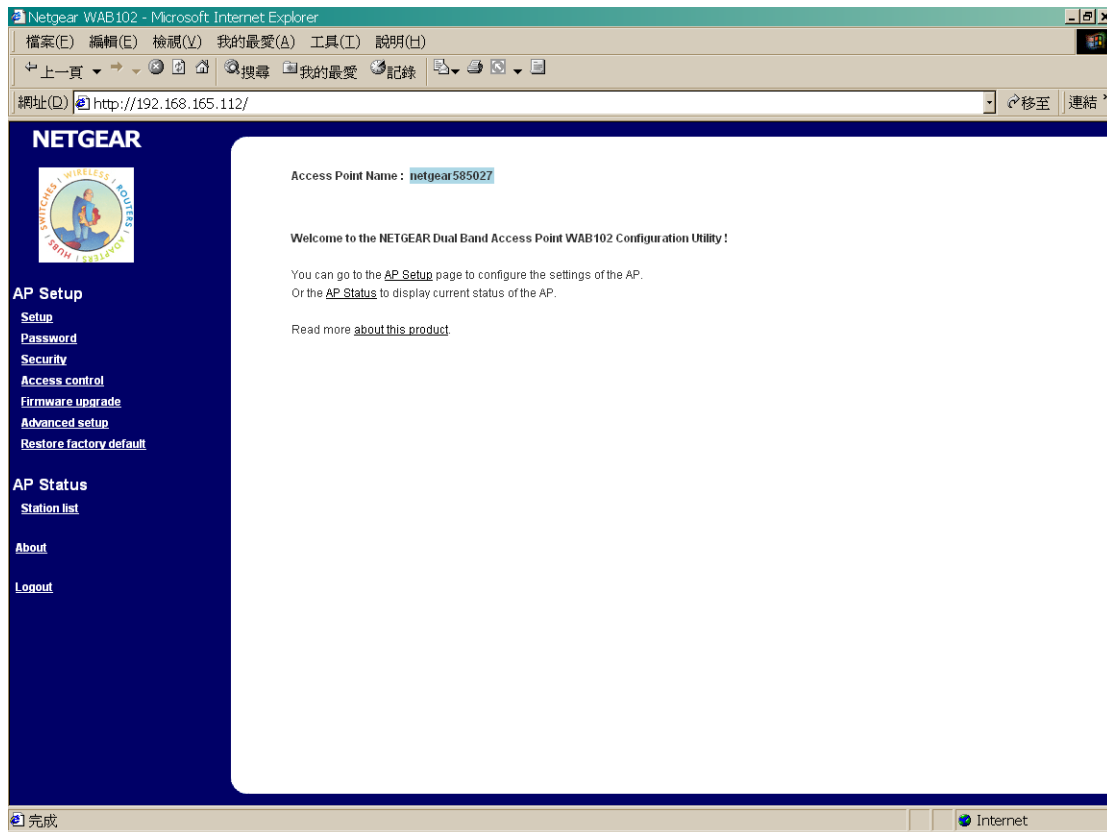


Password	1234
System Name	netgearxxxxxx , where xxxxxx is the last six digits of the AP's MAC address
AP IP Address	192.168.0.226
AP Subnet Mask	255.255.255.0
SSID for 11a	Wireless
SSID for 11b	Wireless
11a RF Channel	Auto
11b RF Channel	6

- NETBIOS Name daemon is ok.
- DHCP Client is still [under development](#).
- Access Control applies to [11a only](#).
- Station List displays [11a stations only](#).
- Reboot reminder will [always](#) be displayed once user has pressed the [Apply] button. It *should* be displayed only when a reboot is really necessary.
- A login prompt will appear before opening a protected page if idle time exceeds 15 minutes.
- No CLI change is made.

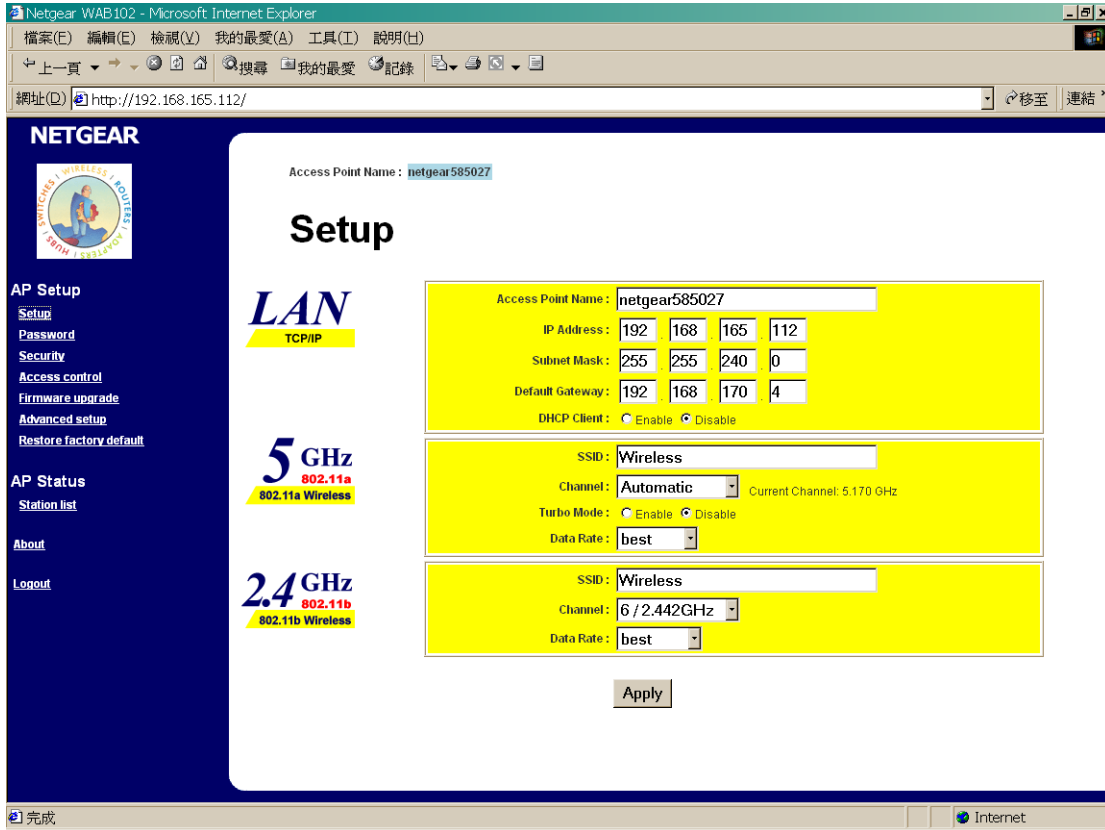
Page-by-page Review

Welcome Page:



This page is finished.

Setup Page



Netgear WAB102 - Microsoft Internet Explorer

檔案(E) 編輯(E) 檢視(V) 我的最愛(A) 工具(I) 說明(H)

上一步 下一步 搜索 我的最愛 記錄

網址(D) http://192.168.165.112/ 移至 連結

NETGEAR

Access Point Name: netgear585027

Setup

LAN
TCP/IP

Access Point Name: netgear585027

IP Address: 192 168 165 112

Subnet Mask: 255 255 240 0

Default Gateway: 192 168 170 4

DHCP Client: ☐ Enable ☒ Disable

SSID: Wireless

Channel: Automatic Current Channel: 5.170 GHz

Turbo Mode: ☐ Enable ☒ Disable

Data Rate: best

SSID: Wireless

Channel: 6 / 2.442GHz

Data Rate: best

Apply

完成 Internet

The user input will be validated before being applied to AP.

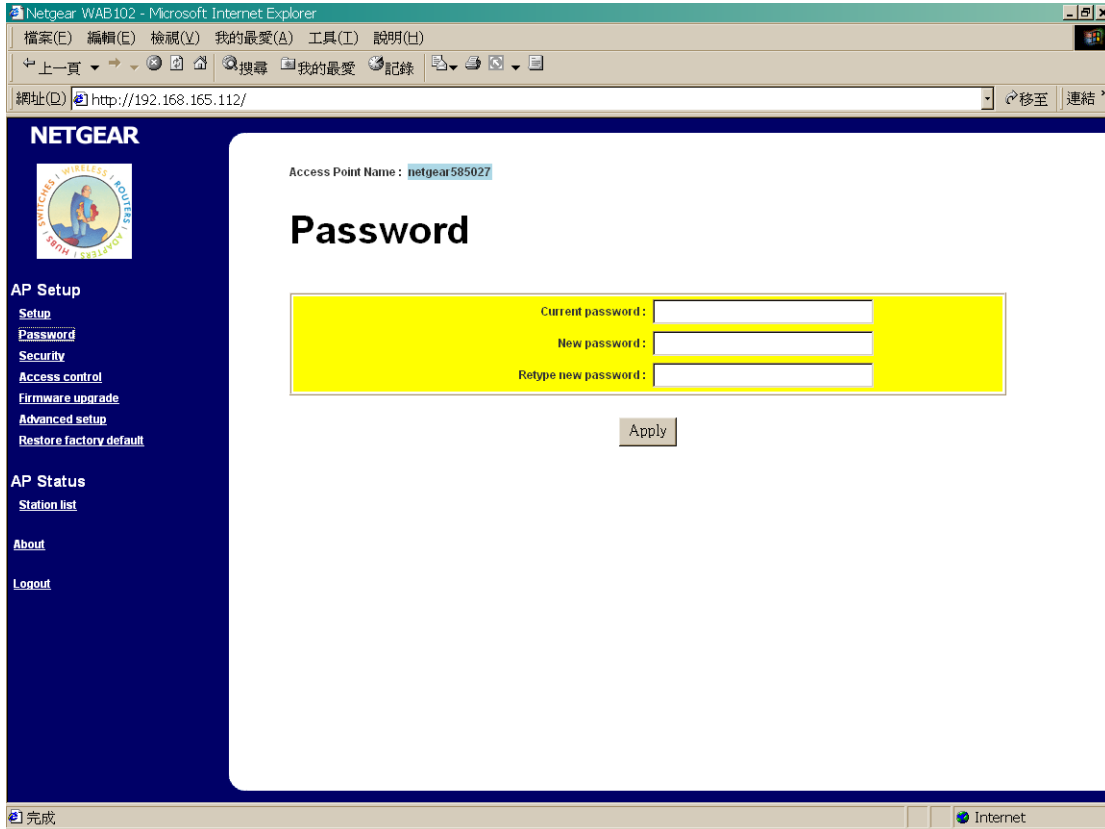
“DHCP Client” can be set but **not** taking effect.

“Data Rate” of 802.11b can be set but **not** taking effect.

IP Address input boxes will be grayed if the DHCP client is enabled.

[Discussion raised] Per the NETBIOS standard, the Access Point Name should be lesser or equal to 15 characters (0-9, A-Z, a-z, and hyphen -). We *should* enforce the user input of Access Point Name with this rule.

Password Page



Netgear WAB102 - Microsoft Internet Explorer

檔案(E) 編輯(E) 檢視(V) 我的最愛(A) 工具(I) 說明(H)

← 上一頁 → 搜尋 我的最愛 記錄

網址(D) http://192.168.165.112/ 移至 連結 »

NETGEAR

Access Point Name : netgear585027

Password

Current password :

New password :

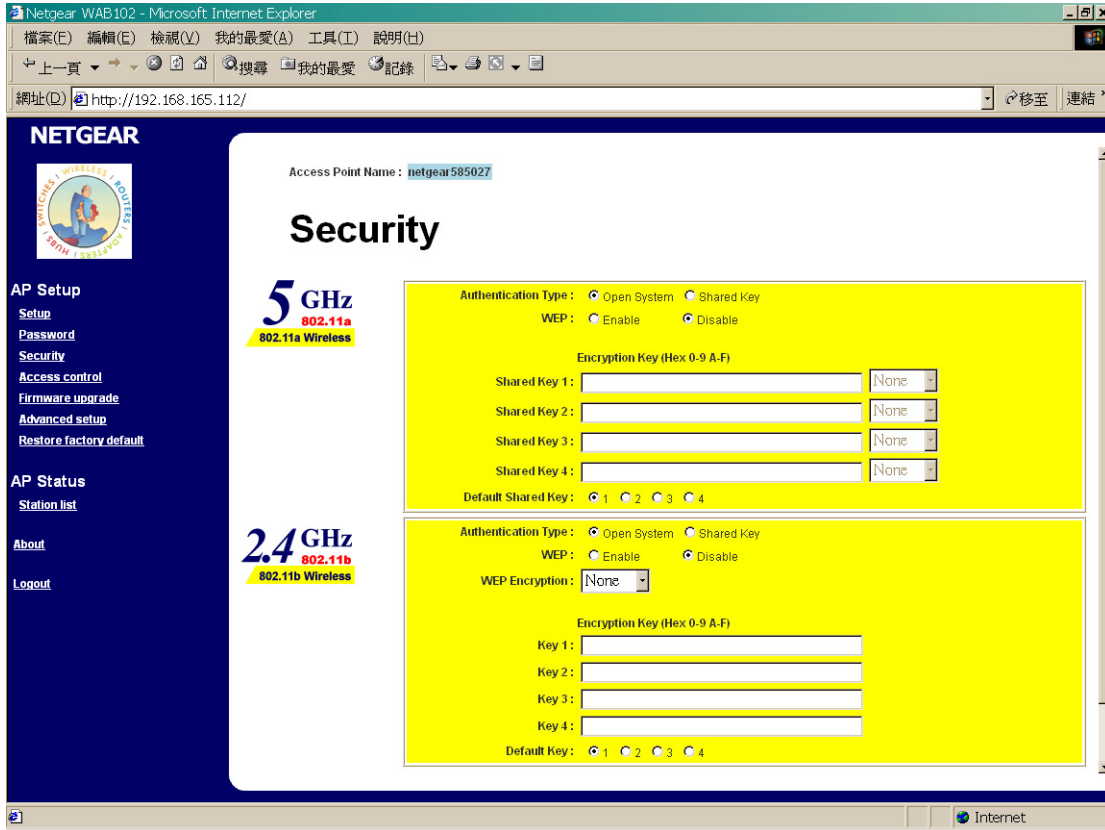
Retype new password :

Apply

完成 Internet

This page is finished.

Security Page



Netgear WAB102 - Microsoft Internet Explorer

檔案(E) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

地址(D) http://192.168.165.112/ 移至 連結

NETGEAR

Access Point Name: netgear585027

Security

5 GHz
802.11a
802.11a Wireless

Authentication Type: ☒ Open System ☐ Shared Key

WEP: ☐ Enable ☒ Disable

Encryption Key (Hex 0-9 A-F)

Shared Key 1: None

Shared Key 2: None

Shared Key 3: None

Shared Key 4: None

Default Shared Key: ☒ 1 ☐ 2 ☐ 3 ☐ 4

2.4 GHz
802.11b
802.11b Wireless

Authentication Type: ☒ Open System ☐ Shared Key

WEP: ☐ Enable ☒ Disable

WEP Encryption: None

Encryption Key (Hex 0-9 A-F)

Key 1:

Key 2:

Key 3:

Key 4:

Default Key: ☒ 1 ☐ 2 ☐ 3 ☐ 4

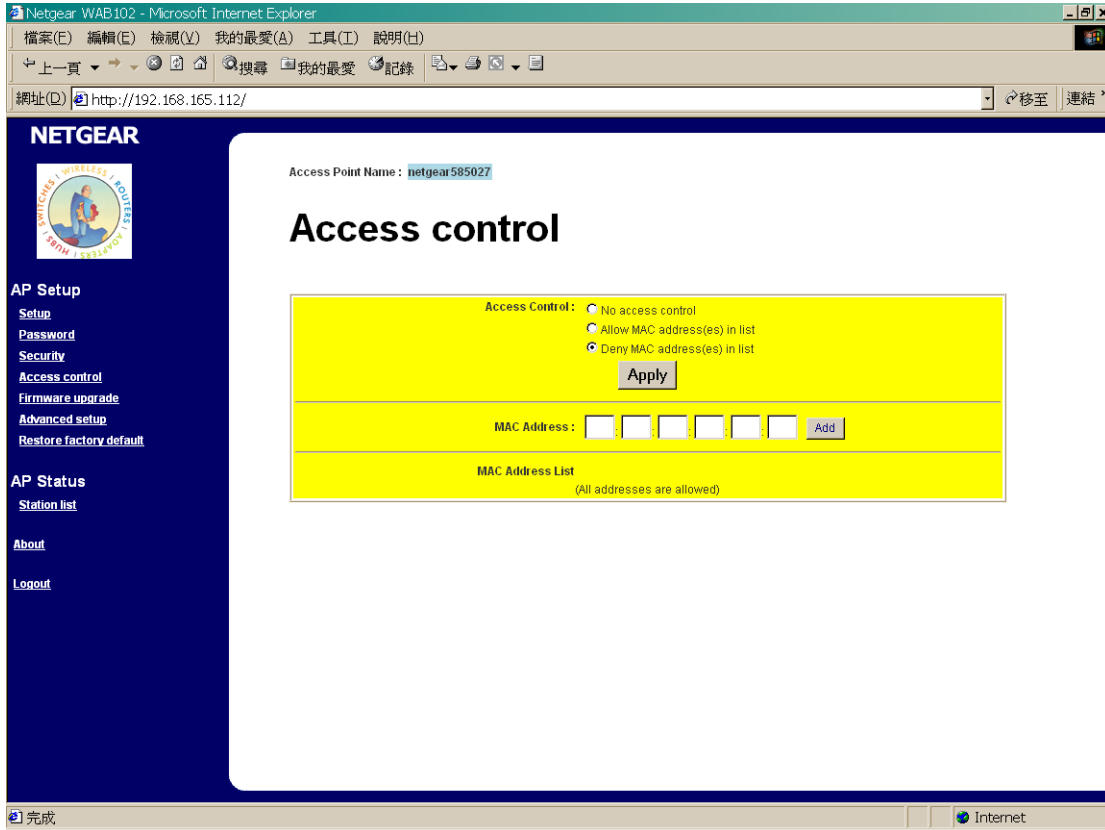
Internet

This page is finished.

802.11a Shared Key and 802.11b Key input boxes will be grayed if the WEP is disabled, respectively.

Atheros AP21 code doesn't allow to set key length into "None" if user has selected a Default Shared Key. A workaround *should* be developed.

Access Control Page



Netgear WAB102 - Microsoft Internet Explorer

檔案(E) 編輯(E) 檢視(V) 我的最愛(A) 工具(I) 說明(H)

← 上一頁 → 搜尋 我的最愛 記錄

網址(D) http://192.168.165.112/ 移至 連結

NETGEAR

AP Setup

- Setup
- Password
- Security
- Access control
- Firmware upgrade
- Advanced setup
- Restore factory default

AP Status

- Station list

About

Logout

Access Point Name : netgear585027

Access control

Access Control: ☐ No access control
☐ Allow MAC address(es) in list
☒ Deny MAC address(es) in list

Apply

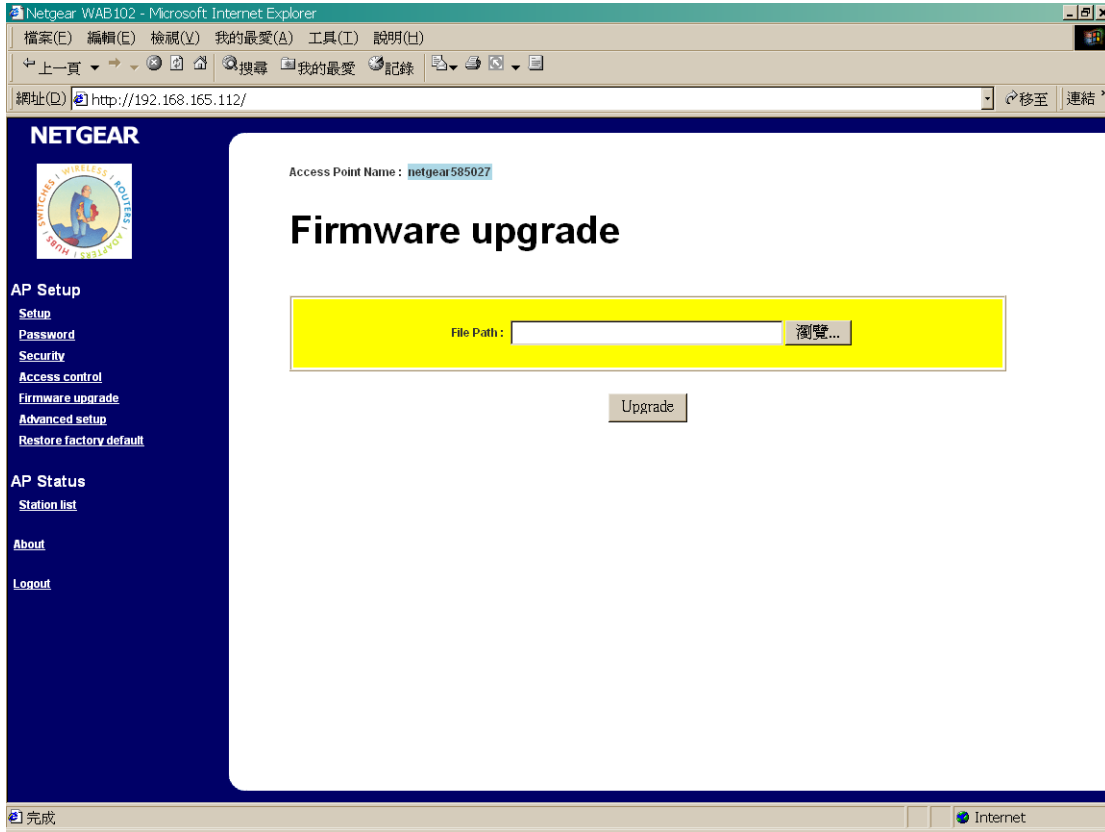
MAC Address : Add

MAC Address List
(All addresses are allowed)

完成 Internet

Access control applies to [11a](#) only.

Firmware Upgrade Page

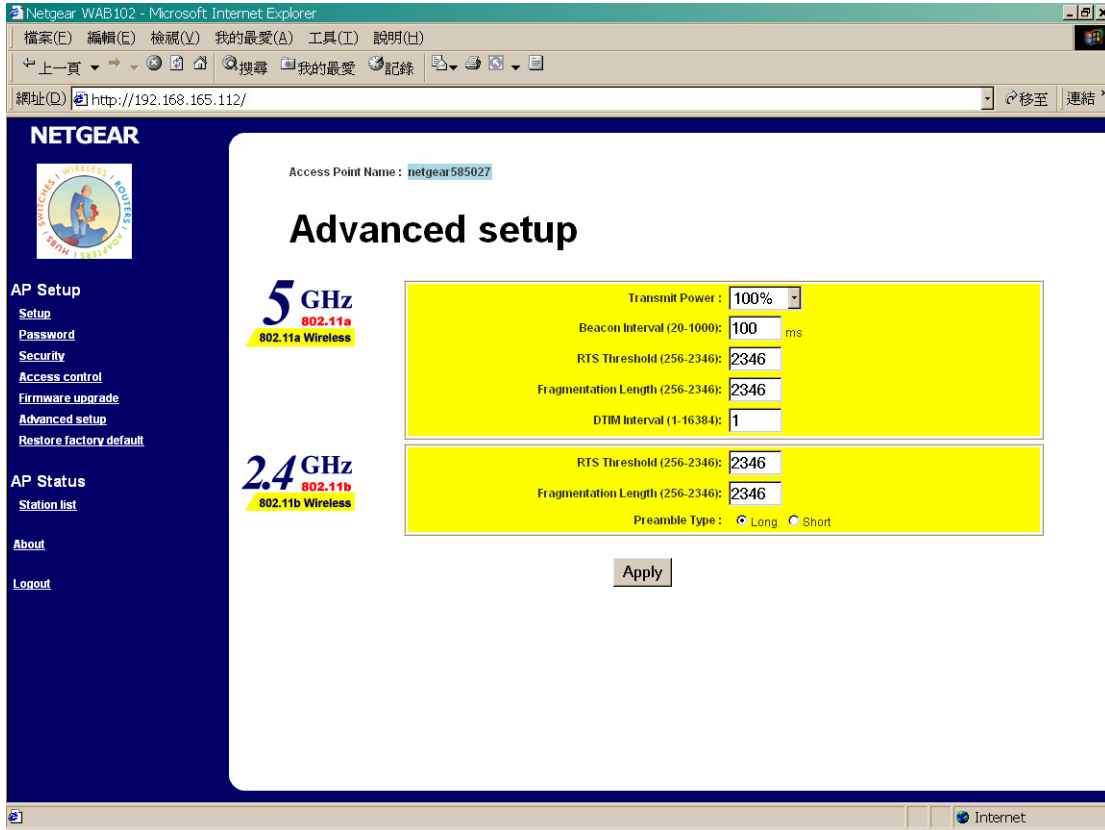


This page is finished.

Web server will inspect the checksum and header of firmware file. Only a valid WAB102-specific firmware file will be accepted. Generic AP21 firmware (AP21.SYS or AP21DBG.SYS) or any other file type will be rejected.

Web server also handles huge file (file size is way beyond the memory size of WAB102 AP) well.

Advanced Setup Page



Netgear WAB102 - Microsoft Internet Explorer

Access Point Name : netgear585027

Advanced setup

5 GHz
802.11a
802.11a Wireless

Transmit Power :	100%
Beacon Interval (20-1000):	100 ms
RTS Threshold (256-2346):	2346
Fragmentation Length (256-2346):	2346
DTIM Interval (1-16384):	1

2.4 GHz
802.11b
802.11b Wireless

RTS Threshold (256-2346):	2346
Fragmentation Length (256-2346):	2346
Preamble Type :	<input checked="" type="radio"/> Long <input type="radio"/> Short

Apply

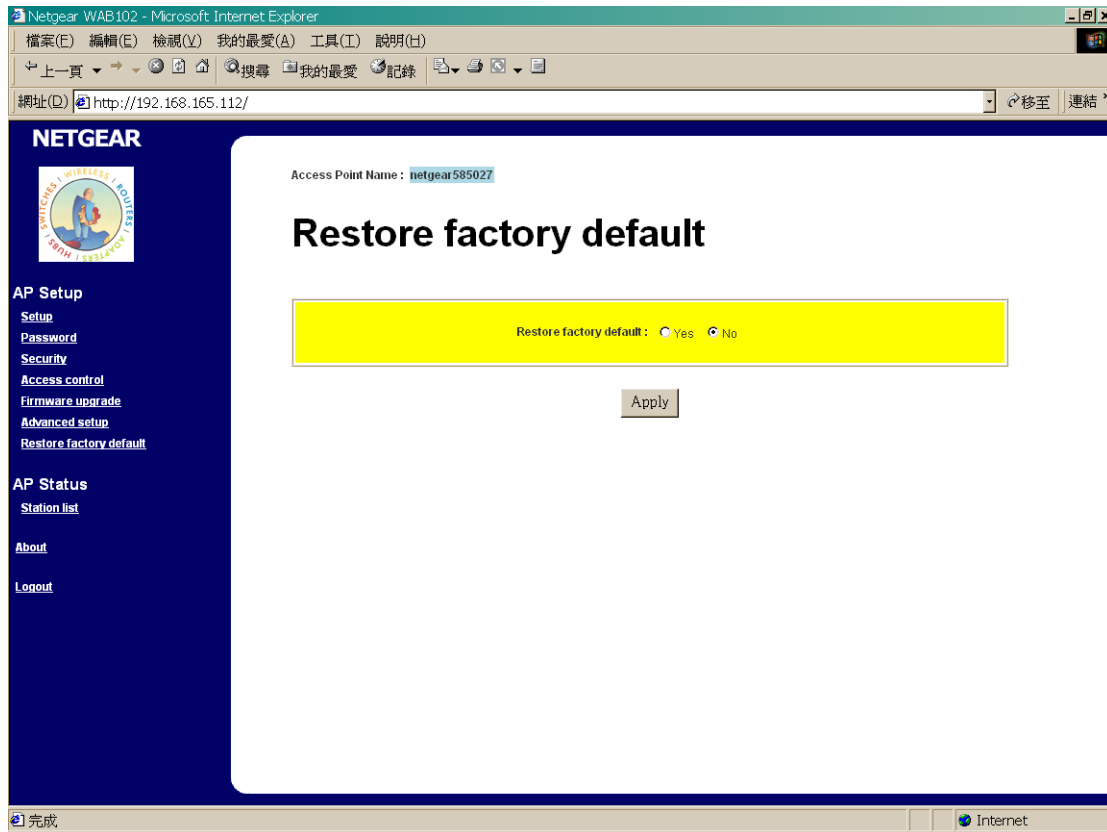
The advanced 802.11a parameters are ok.

The user input will be validated before being applied to AP.

“RTS Threshold”, “Fragmentation Length”, and “Preamble Type” of 802.11b can be set but **not** taking effect.



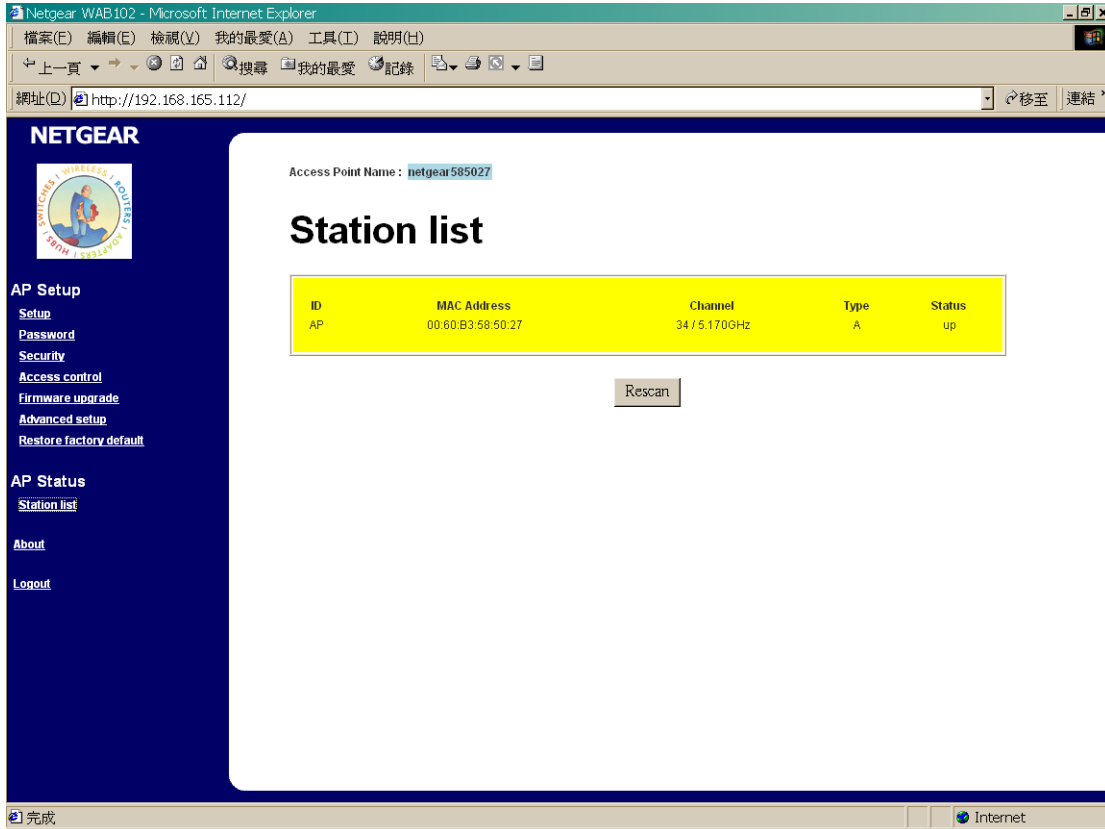
Restore Factory Default Page



This page is finished.

Everything but IP address settings will be populated with factory default settings. Hardware reset button (press it for five seconds) will reset **everything** to factory default, however.

Station List Page



Netgear WAB102 - Microsoft Internet Explorer

檔案(E) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)

地址(D) http://192.168.165.112/ 移至 連結 »

NETGEAR

Access Point Name : netgear585027

Station list

ID	MAC Address	Channel	Type	Status
AP	00:60:B3:58:50:27	34 / 5.170GHz	A	up

Rescan

AP Setup
[Setup](#)
[Password](#)
[Security](#)
[Access control](#)
[Firmware upgrade](#)
[Advanced setup](#)
[Restore factory default](#)

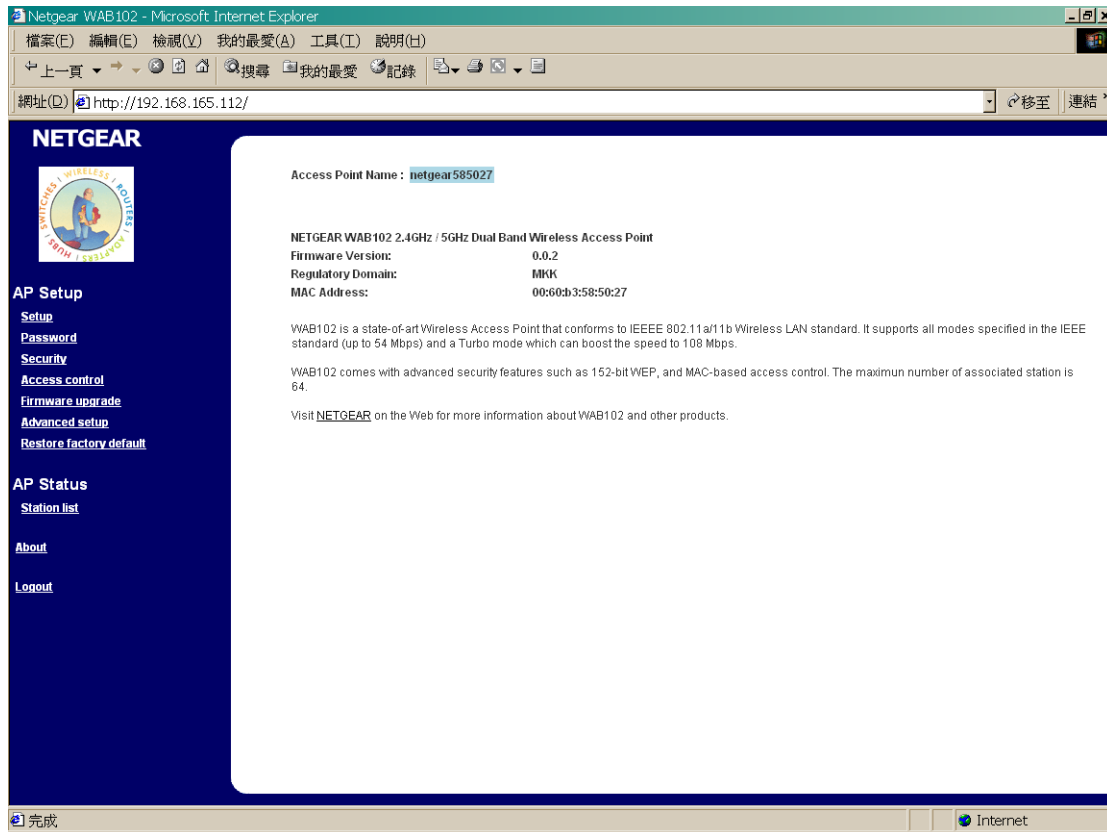
AP Status
[Station list](#)

[About](#)
[Logout](#)

Station List displays **11a stations only**.

The 'AP' is displayed in this version but will be removed in later versions.

About Page



This page is finished.

The firmware version shown here is 0.0.2.