Atop Technologies, Inc.

Wireless Client Adaptor EW5300

User's Manual

Version 1.0

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Important Announcement

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FCC WARNING

Class B for this product

This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. IEEE 802.11b/g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

UL Notice for Power supplier

All the series of EW5300 products are intended to be supplied by a Listed Power Unit marked with “LPS”, “Limited Power Source” or “Class 2” and output rate 9~48VDC, 1.0A minimum. Or, use the recommended power supply in “Optional Accessories”.

Contents

1. Introduction

1.1. Overview

EW5300 is a bridge between wireless LAN to Ethernet. It allows almost any Ethernet devices to be connected to a new or existing wireless network. The information transmitted by Wireless Client Adaptor is transparent to both host computers (IP network over wireless LAN) and devices (Ethernet). Data from the wireless LAN is transmitted to the designated Ethernet port and data from Ethernet port is transmitted to the Wireless (TCP/IP) transparently.

In the computer integration manufacturing or industrial automation area, Wireless Client Adaptor is used for field devices to direct connect to network.

Many control devices provide the ability to communicate with hosts through Ethernet. With EW5300, it is possible to communicate with a remote device in the Intranet environment or even in the Internet and thus, increases the communication distance dramatically.

Flexible configuration options enable this unit to be setup remotely over IP network by Web browser, or Window utility. Packed in a rugged DIN Rail mountable case and 9~48V DC power input range, EW5300 is ideal for almost any industrial and manufacturing automation.

1.2. Features

Transparent between Ethernet to Wireless networking

Metal housing and IP50 standard with DIN-Rail mounting.

IEEE 802.11g 54Mbps wireless network connectivity

Configurable via built-in web server and Windows-based utilities

Standard 2.4GHz High-gain antenna

Upgradeable firmware via network

2. Getting Started

2.1. Packaging Include

Atop Wireless Client Adaptor x 1

3 pins Terminal Block for Power Connector (TB model only) x 1

4 dBi Antenna x 1

Atop Wireless Client Adaptor quick start guide x 1

Product CD containing the reference configuration utility x 1

NOTE: Notify your sales representative if any of the above items is missing or damaged.

2.2. Ordering information

The EW5300 can be ordered using the following codes.

EW5300-WgN1	Wireless Client Adaptor

Optional Accessories and their ordering codes

12VDC-1.25A(US)	AC100~240V US plug / DC12V 3 pin Terminal block for TB model
12VDC-1.25A(EU)	AC100~240V EU plug / DC12V, 3 pin Terminal block for TB model
HG055	5.5dBi antenna, SMA (R) Female connector with 180cm cable
Wall Mount Kit x 2	Wall Mount Kit x 2

2.3. Interfaces

The interfaces of EW5300 on the front panel are shown in Fig. 1. There are two models, DB model and TB model as shown in the figure.

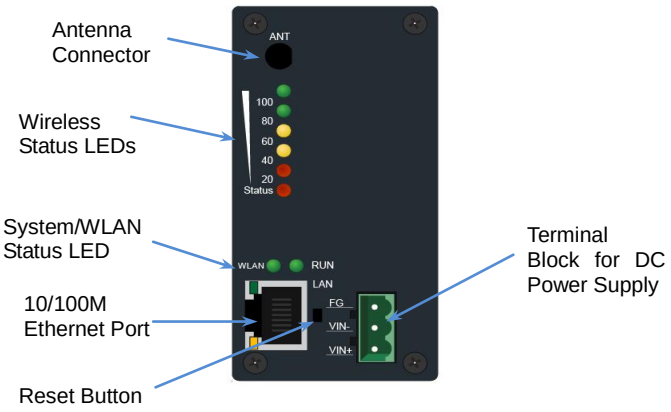


Fig. 1. EW5300 Front Panel and Interfaces

Fig. 1-a How to Connect Antenna and Cables to the Device

2.4. Installation Procedures

Step-1:Prepare necessary Ethernet cables and DC power Adaptor.

Step-2:Place EW5300 under the access point signal coverage area and connect EW5300 to Ethernet cable with RJ45 connector.

Step-3:Plug in EW5300 to DC-9-48V power source (with 3-pin terminal bock connector), buzzer will beep and the RUN LED will blink if EW5300 functions normally. For LED Status see Appendix C.3

Use **DeviceView** configuration utility on the Product CD to check the status of EW5300. If it starts up successfully, users shall find the IP and MAC addresses of EW5300. Users can also change IP address, gateway IP address and subnet mask networking parameters of EW5300 according to user networking configurations.

3. Software Setup

Now the EW5300 hardware is installed and the power is on, network IP configuration will be set in this section.

3.1. Default Settings

The default settings of EW5300 are shown in the following table

Property	Default Value
Wireless Client Adaptor IP	
IP Address	10.0.50.100
Gateway	10.0.0.254
Subnet Mask	255.255.0.0
Security	
User Name	admin
Password	Null (Leave it blank)
SNMP	
SysName of SNMP	Name
SysLocation of SNMP	Location
SysContact of SNMP	Contact

Table 1. Factory default settings of the EW5300

NOTE: Press push Reset button for 5 seconds and then release to restart EW5300 with the factory default settings.

3.2. IP Assignment

3.2.1. Configure IP by DeviceView Utility

Use **DeviceView** configuration utility that comes with Product CD-ROM or Diskette to configure the network parameters. For more details, please refer to Appendix A3.3.

Find a new device and IP assignment:

(1)Use **DeviceView Utility** to find the new device IP address or to get the device's current IP address as shown in Fig. 2.

(2)If needed, use **DeviceView Utility** to re-assign a new IP address, Network Mask and Gateway address to the new device.

(3)Users can also configure User ID, Password and Host Name using **DeviceView Utility**.

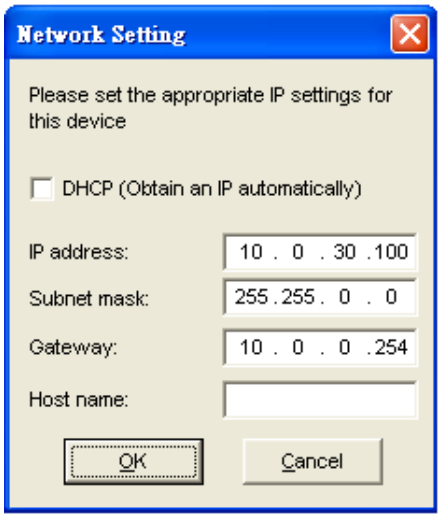


Fig. 2. IP Settings using DeviceView Utility software

Note: All settings will NOT be changed if User ID or Password was incorrect.

If there is more than one device using the same IP address in the same subnet, users need to correct the mapping between MAC address and IP address using ARP commands as explained in the next section.

3.2.2. Configure IP address using ARP commands

ARP (Address Resolution Protocol) commands can be used to assign a static IP address on EW5300 using its hardware MAC (Media Access Control) address. The MAC address "0060E9-xxxxxx" is printed on the rear side of EW5300. The following procedures show how to use ARP commands on MS-DOS Command Prompt Window.

Example: Set the IP address 10.0.50.101 to the MAC address 00-60-E9-00-79-F8. Using

C:\> arp –s 10.0.50.101 00-60-E9-00-79-F8

arp –a command shows the current mapping IP and MAC addresses.

arp –s "IP address" "MAC address" maps the IP address to a specific MAC address.

Note: ARP commands can only be used to set a static IP address of EW5300.

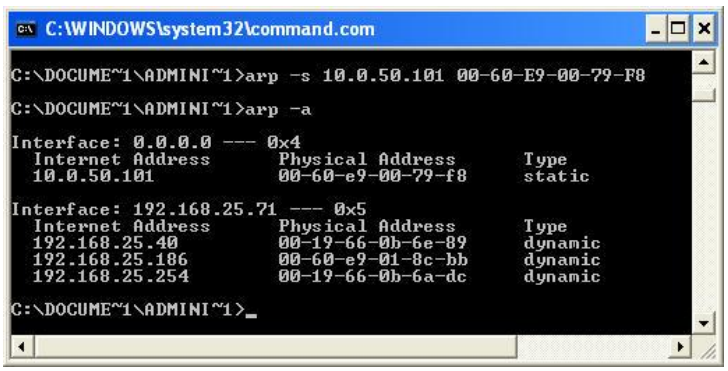


Fig. 3. Mapping IP address to MAC address using ARP Command

3.2.3. Configure IP Using Web Interface

Use common web browsers, e.g. Microsoft Internet Explorer or Mozilla Firefox, to configure the network parameters of EW5300.

Open a Web browser, type in the **IP address** (default IP: 10.0.50.100) of the EW5300 to be configured. The default user name is **admin** and the default password is **null** (leave it blank).

From the Web **Network links page**, please configure IP address, subnet mask, and gateway address, and then click "**Save Configuration**" to save all settings.

Click **Restart** button to reboot the device to make the changes effective.

Please refer to contents of Web Configuration section for more details of the settings.

3.2.4. Automatic IP address assignment using DHCP

DHCP server can automatically supply an IP address, gateway address, and subnet mask to EW5300 device if its DCHP client function is set. By default, the DHCP client function is disabled, users can activate the DHCP function by following these steps.

Execute **DeviceView Utility.**

Click on the **IP address** of EW5300 (This can be the default IP address if it was never set before).

Click **Config** to pop-up the static IP Dialog Window.

Check on **Auto IP.**

Click **Config Now**. (The EW5300 will restart and obtain an IP from DHCP server automatically)

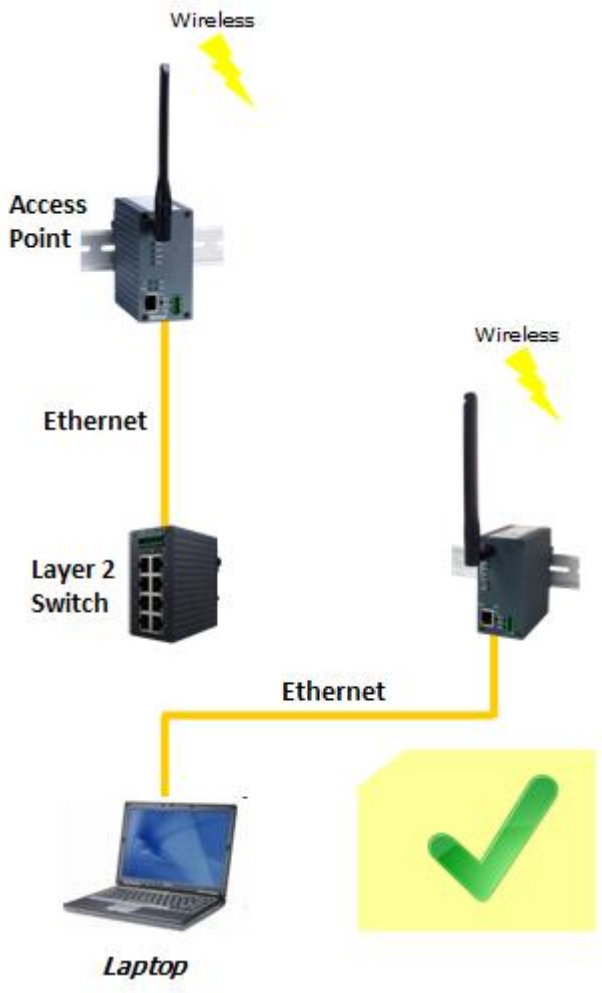
Note: You need to have a DHCP Server running in your subnet to automatically supply an IP address. Please consult your network administrator if you are not sure.

4. Application Connectivity

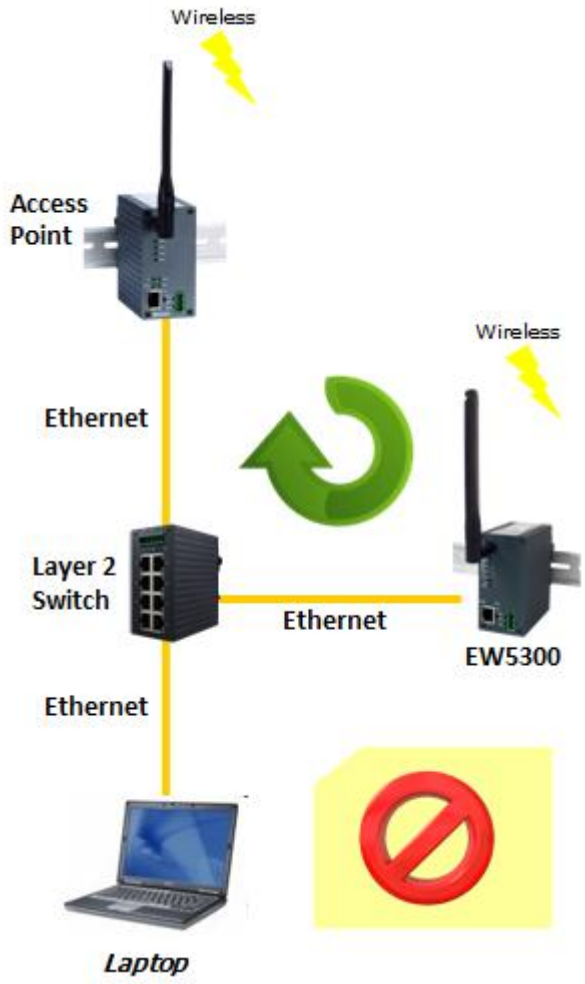
4.1. Ethernet to WLAN Bridge Function

The EW5300 can also work as a network bridge between Ethernet to WLAN. Packets from WLAN to Ethernet or from Ethernet to WLAN are transferred transparently. This will let the Ethernet devices can be accessed from wireless networks over the wireless interface.

If the device that you are connecting to has more than two network interfaces, please avoid connecting EW5300's LAN and WAN interfaces to the same network. This will create a network loop and crashes EW5300 or the network. For example, connecting LAN interface to a switch and WAN interface to an AP, both having access to the company network, this is wrong. A logical application would be to connect EW5300's LAN with your PC/device's LAN and use EW5300 as a wireless dongle.



This is the correct setup. Your laptop is connected to EW5300 via Ethernet and EW5300 is connected to the Access Point via wireless.



This setup would cause network failure. You connect EW5300 to the Access Point wirelessly and EW5300's wired interface is connected to a switch.

5. Configure EW5300 by Web Interface

Users need to assign an IP address to EW5300 before working on the web configuration operations. Please refer to Section 3.2 for IP address assignment.

5.1. Login to System

Open one of the web browsers, ex. Microsoft IE or Firefox etc. Enter the IP address of EW5300 on the URL. Example: http://10.0.50.100 or http://your-device-IP-address.

The following authentication screen shall appear. Enter User Name and Password then click on "OK". The default user name is **"admin"** and password is **null** (leave it blank).

Fig. 4. Authentication request for system security

5.2. General Information

Once the login is successful, an Overview window gives the general information of EW5300, included Network information as shown in Fig. 5.

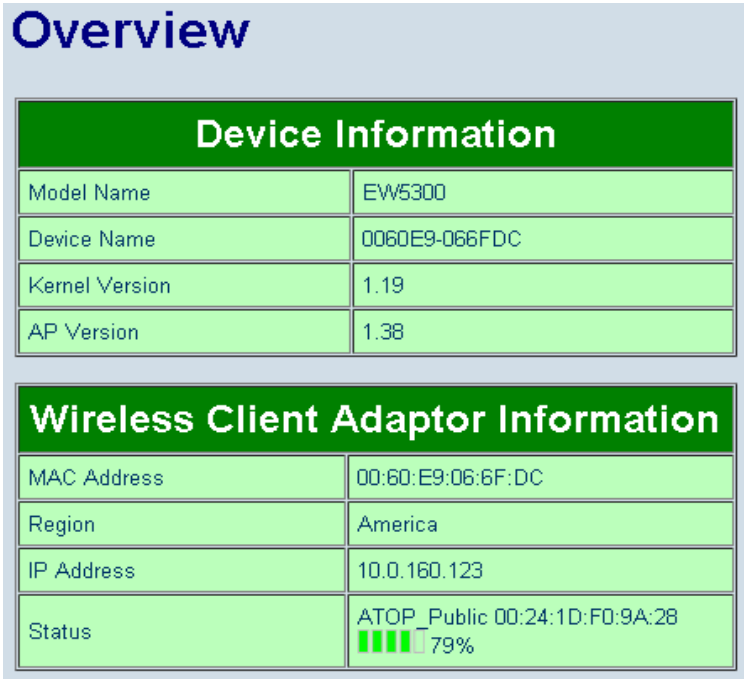


Fig. 5. Overview of system information on a Web Interface

5.2.1. Device Information

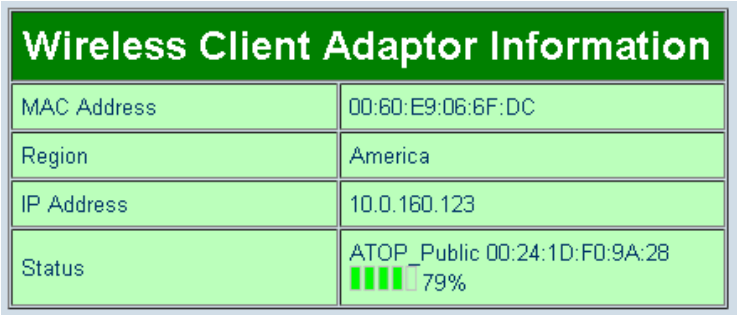
EW5300's system information includes Model Name, Device Name, Kernel Version, and AP version. The information is read only and is attributed from setting page or system status.

Device Information	
Model Name	EW5300
Device Name	0060E9-066FDC
Kernel Version	1.19
AP Version	1.38

Fig. 6. Device Information from Overview web page

5.2.2. Wireless Client Adaptor Information

The information provided is MAC address, Region for Regulation, IP address, and Link status.



Wireless Client Adaptor Information	
MAC Address	00:60:E9:06:6F:DC
Region	America
IP Address	10.0.160.123
Status	ATOP_Public 00:24:1D:F0:9A:28 79%

Fig. 7. Wireless Client Adaptor Information from Overview web page

5.3. Network Configurations

There are three items allowed to change on Networking page, included Wireless Client Adaptor Settings, DNS Setting and SNMP Settings.

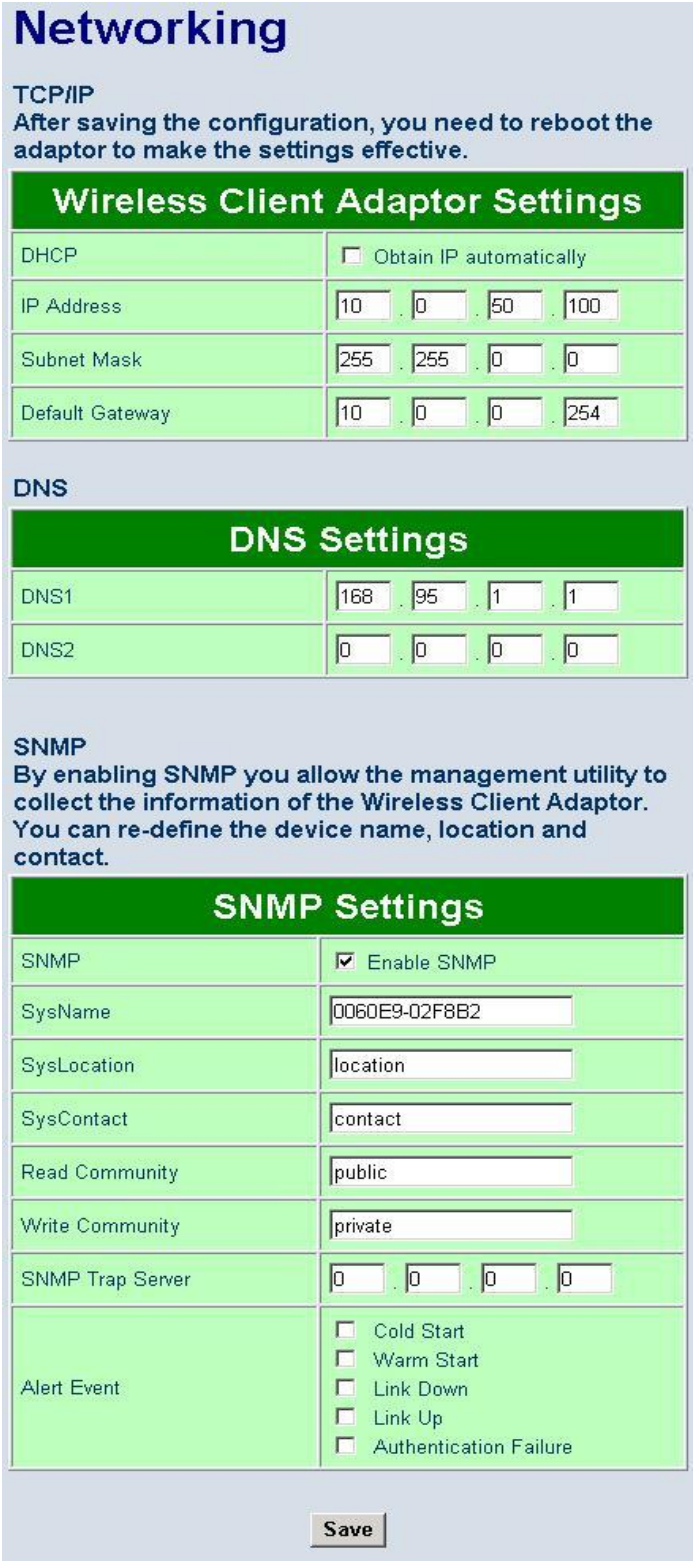


Fig. 8. Network information by Web page

5.3.1. Wireless Client Adaptor Settings

Click on the “Network” link and the following screen shall appear. Fill in network information on including IP Address, Subnet Mask, and Default Gateway. Alternatively, User may activate DHCP client function by

checking on “Obtain an IP automatically” field to automatically obtain IP Address, Subnet mask and Default gateway from a DHCP server.

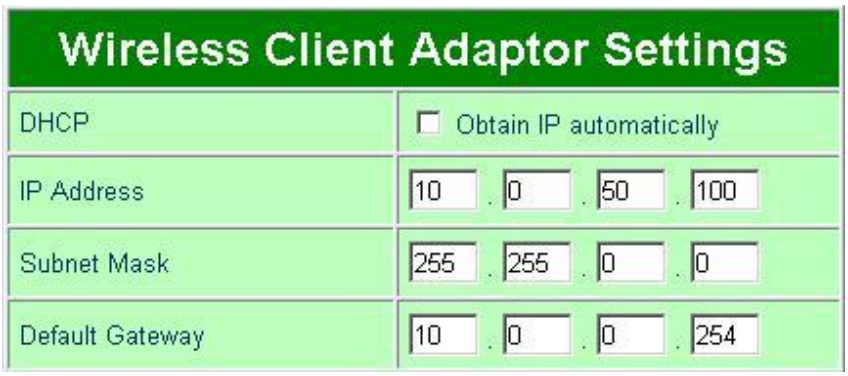


Fig. 9. Wireless Client Adaptor Settings from Network web page

5.3.2. DNS Settings

Click on the “Network” link and the following screen shall appear. Fill in the IP Address of DNS Servers in DNS1 and DNS2 fields. Alternatively, User can configure DNS by checking on “Obtain an IP automatically” field in to automatically obtain DNS from a DHCP server.

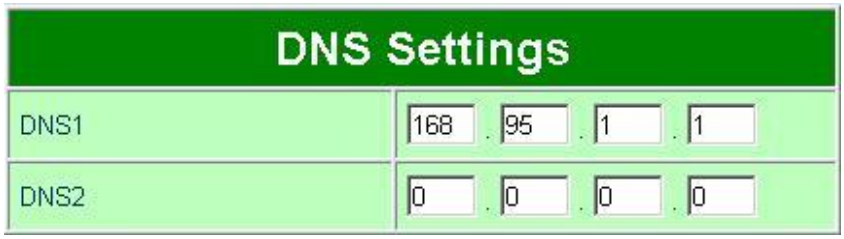


Fig. 10. DNS Settings from Network web page

5.3.3. SNMP Settings

Click on the “Network” link and the following screen shall appear. Check on “Enable SNMP” checkbox to continue the setting. Fill in the desired SysName, SysLocation, SysContact information in the fields. To give permission to read/write SNMP information, fill in the “Read Community” and “Write Community”. To set up a trap, fill in the IP address of a SNMP Trap Server, and then select events on which the trap server will catch. The changes of SNMP Settings will take effect only after the EW5300 is restarted.

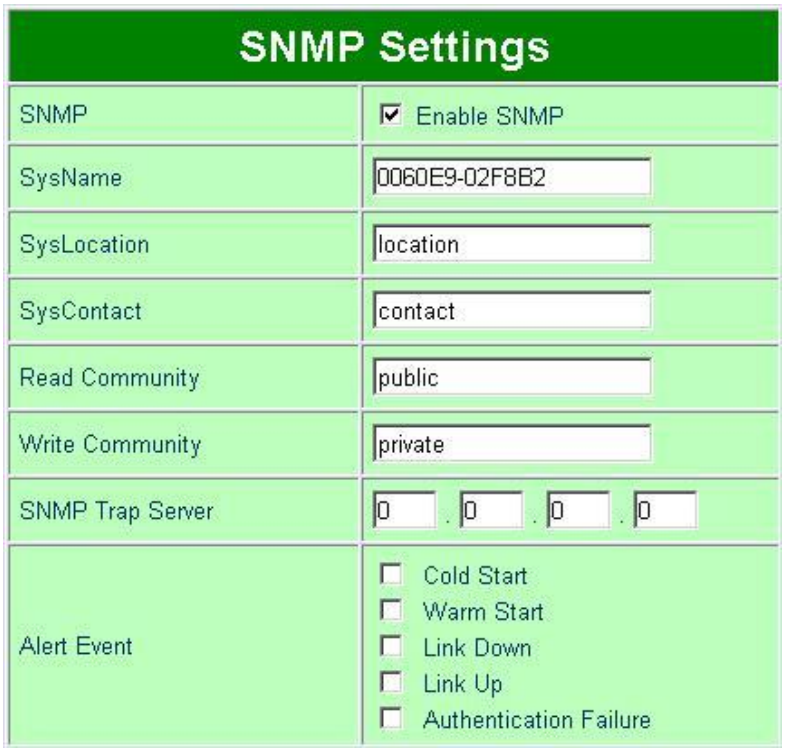


Fig. 11. SNMP Setting from Network web page

5.4. Wireless Configuration

Note: We recommend using LAN interface to setup Wireless Configurations to avoid disconnection issues. The WebUI might lock up if setup is made using the wireless interface because the connection is lost when wireless settings are changed. It might take some time for the device to attach to the Access Point with new settings.

There are three configuration pages for Wireless Configuration which are: Default, Current and Site-Survey Information Pages. Click on “Wireless” link and the following screen shall appear.

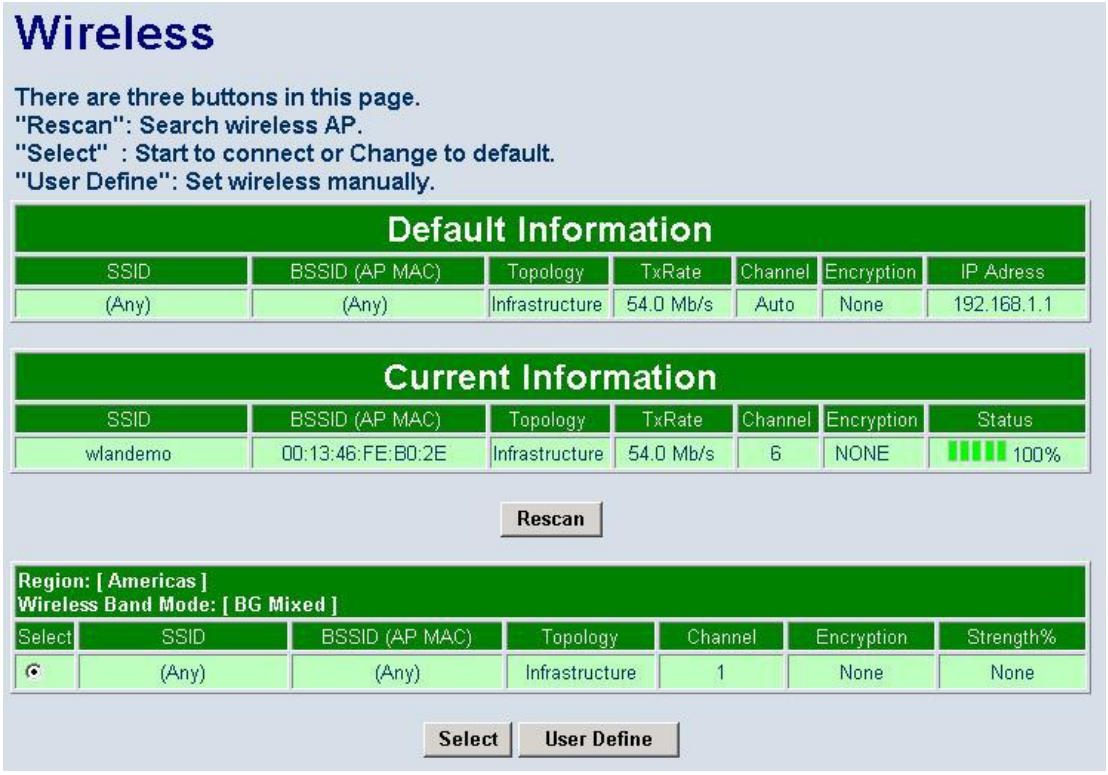


Fig. 12. Wireless Interface Information by Web page

There are 3 buttons to operate on the Wireless page

Rescan: Click on the "**Rescan**" button, and EW5300 will start site-survey procedures, then on the site-survey list will display the access points founded.

Select: On the site-survey list, click on radio button to attach to the access point you wanted.

User defined: Users can also define information of wireless access point to be manually connected.

5.4.1. Wireless Settings

Users can configure wireless LAN parameters through web pages. Pop-up windows page will be shown for advanced wireless settings if "Select" or "User Define" button was clicked. For example, User can configure SSID, BSSID, Topology, Wireless Band Mode, TxRate, Channel, Authentication, and Encryption of the access point that EW5300 want to connect to.

The advanced wireless settings also include Roaming Threshold. User can configure roaming signal threshold. EW5300 will change to the stronger signal wireless access point, if the original access point's signal strength is less than the roaming threshold.

Fig. 13. Pop-up Windows for Wireless Settings

5.4.2. Sample Wireless Application Cases

Below are some screen shot examples of Wireless Settings for different wireless security schemes.

I. Attach to the access point without authentication

Topology: Infrastructure Mode

Channel: Auto-assignment from Access point

Authentication: Open

Encryption: None

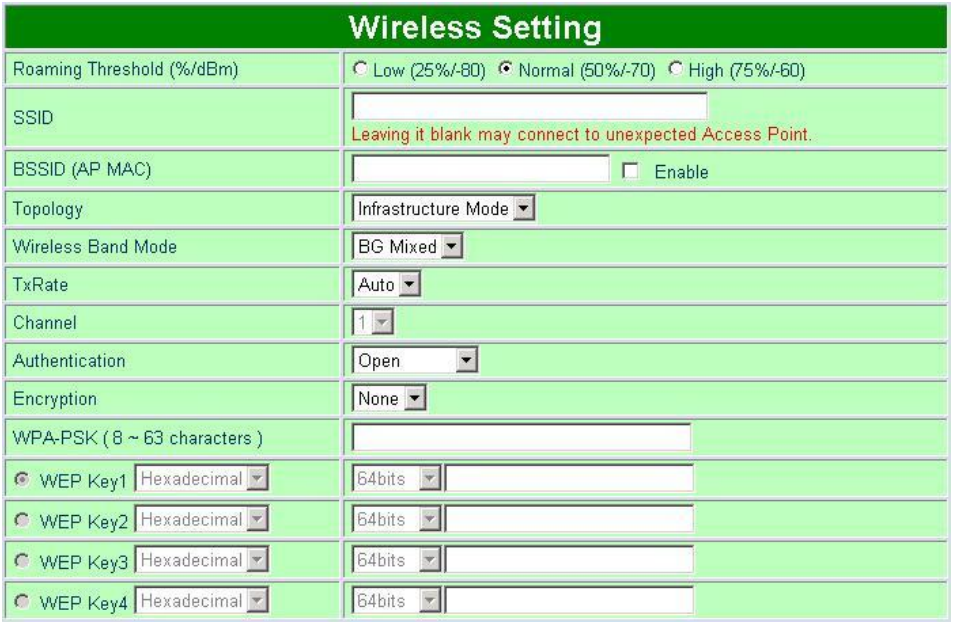


Fig. 14. Open Authorization and no Encryption

II. Attach to the access point with WEP Encryption

Topology: Infrastructure

Channel: Auto-assignment from Access point

Authentication: Shared

Encryption: WEP

WEP Key1~4: Hexadecimal or ASCII, 64 or 128bit, <WEP Key>

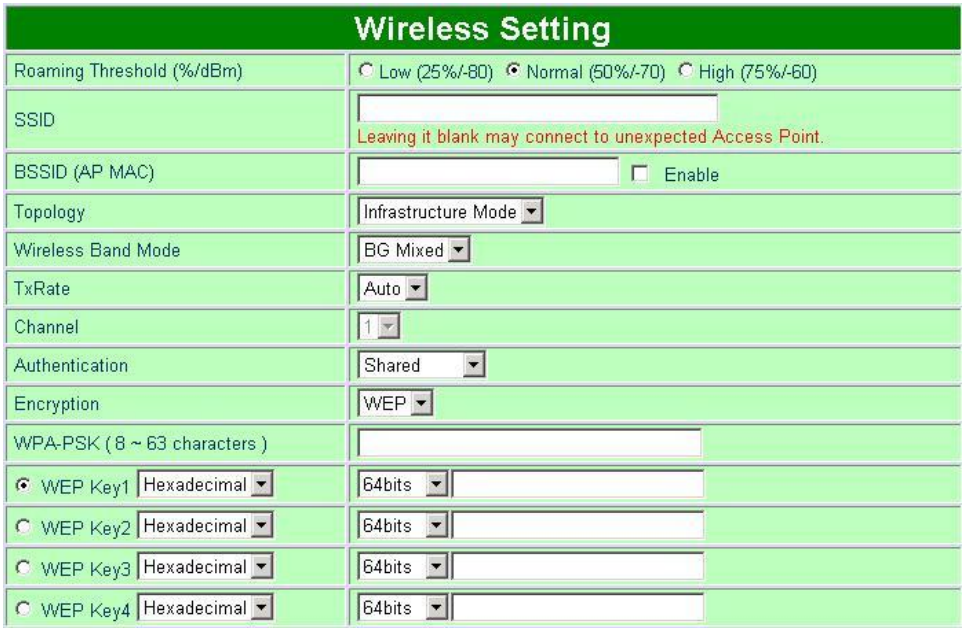


Fig. 15. Share Authorization and WEP Encryption

Note1: Enter 5 ASCII value or 10 Hexadecimal digit if select 64-bit encryption.
Note2: Enter 13 ASCII value or 26 Hexadecimal digit if select 128-bit encryption.

III. Attach to the access point with WPA-PSK Encryption

Topology: Infrastructure

Channel: Auto-assignment from Access point

Authentication: WPA-PSK

Encryption: TKIP or AES

WPA-PSK: 8~63 Characters

Wireless Setting	
Roaming Threshold (%/dBm)	Low (25%/-80) Normal (50%/-70) High (75%/-60)
SSID	Leaving it blank may connect to unexpected Access Point.
BSSID (AP MAC)	Enable
Topology	Infrastructure Mode
Wireless Band Mode	BG Mixed
TxRate	Auto
Channel	1
Authentication	WPA-PSK
Encryption	TKIP
WPA-PSK (8 ~ 63 characters)	
WEP Key1 Hexadecimal	64bits
WEP Key2 Hexadecimal	64bits
WEP Key3 Hexadecimal	64bits
WEP Key4 Hexadecimal	64bits

Fig. 16. WPA-PSK Authorization and TKIP Encryption

5.5. Configure System

There are five items for system settings, included Time, WLAN Region, Security, Set to default and Restart.

Fig. 17. Subsystem menu of system settings by Web Interface

5.5.1. Configure Time by NTP Service

User can set date and time manually by enable “Manual Settings” and fill in date and time manually. User can also enable “NTP” to obtain time automatically from a Time Zone and a NTP server.

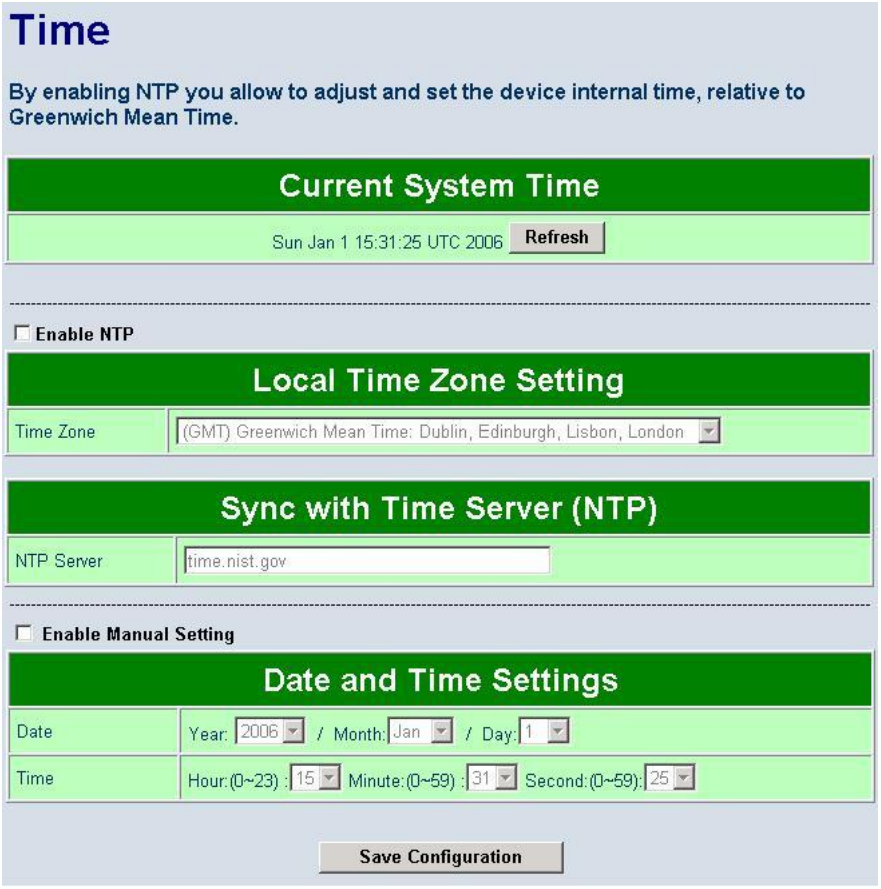


Fig. 18. Time service settings from System web page

5.5.2. WLAN Region

Click on the “WLAN Region” link and the following screen shall appear. Select the country from drop-down list box to the country that user wants to deploy the EW5300. This selection will affect the bands of channels of EW5300 wireless mode. For example, the normal system level channel configurations for deployments are channels 1, 6 and 11 for FCC countries and 1, 5, 9 and 13 for European Union countries.

Fig. 19. Time service settings from System web page

5.5.3. Security (Password Change)

Click on the “Security” link and the following screen shall appear. Enter the old password on “Old Password” field then enter the new password on “New Password” and the “Verified Password” fields, and then click on

"Save Configuration" to update the password. The maximum number of characters of each field is 8 characters.

Note: User may press the default reset key to reset password to the default value (blank)

Fig. 20. Change password from System Security Page

5.5.4. Restoring Factory Default Configurations

User can click on "Set to default and Restart" button to restore EW5300's settings to factory default.

Fig. 21. Set all parameters to factory default by Web Interface

5.5.5. Restart System

The changes of networking parameters will take effect only after the EW5300 is restarted. User can restart the EW5300 manually by click on Restart button on the restart menu web page.

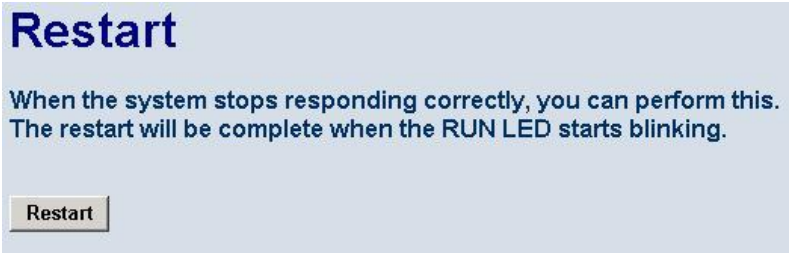


Fig. 22. Restart system by Web

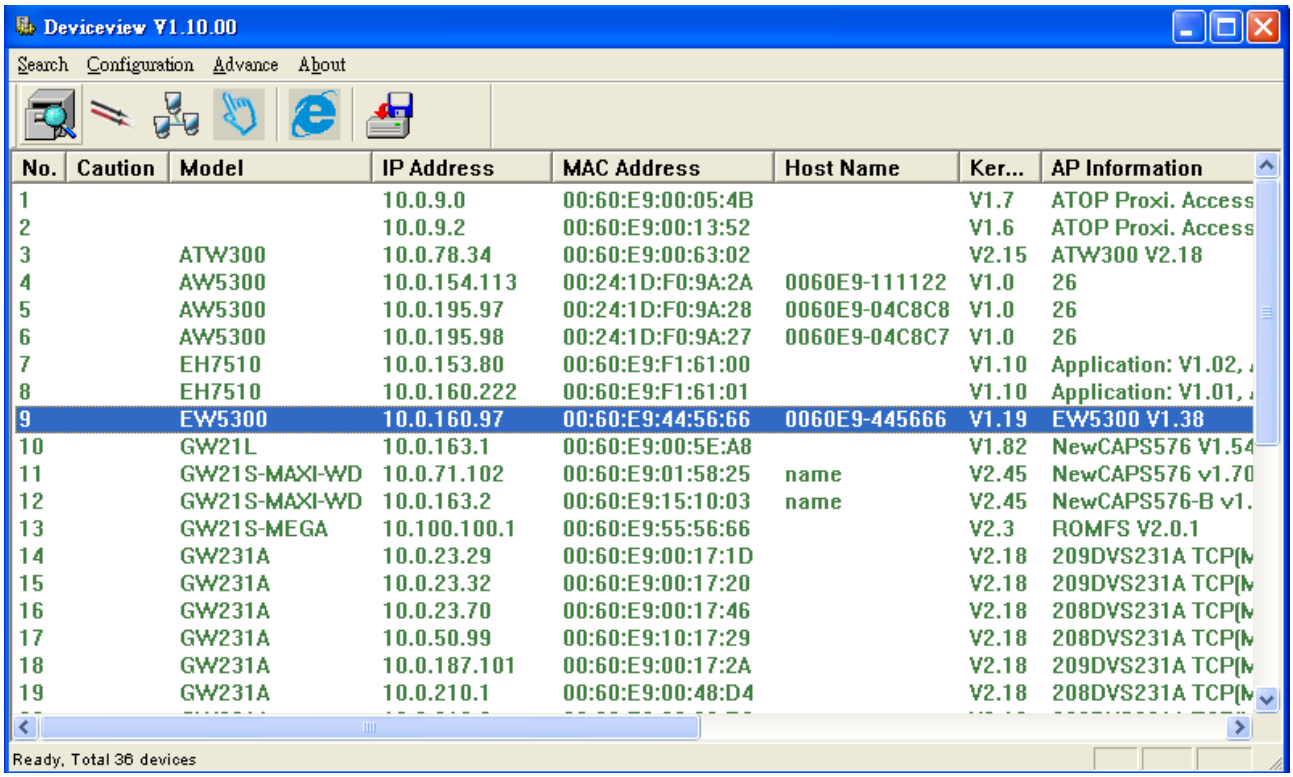
Appendix A. Configuration Utility

A.1. DeviceView utility Introduction

DeviceView utility, developed by ATOP, is a special tool for device management and configuration. It can realize the daily management on various ATOP network devices for address search, device positioning, parameter configuring, and firmware downloading.

A.2. Interface

The operating interface of the **DeviceView utility** is shown below:

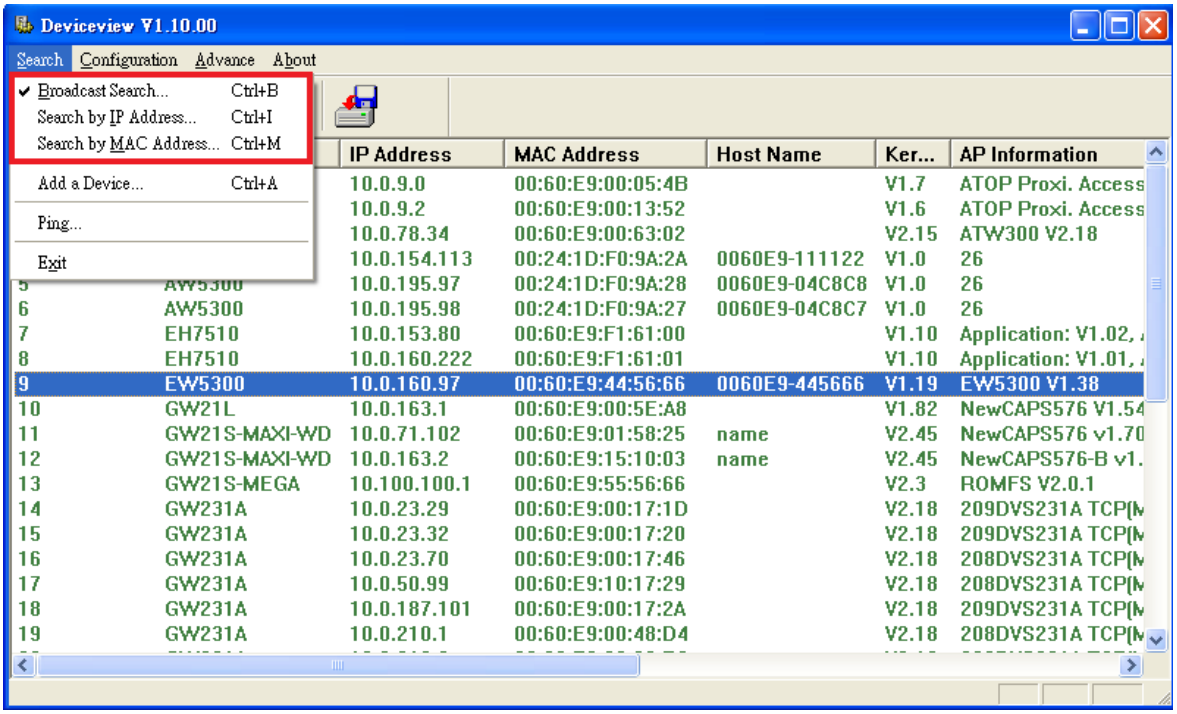


Caution Field	Description
!	IP conflict. There are two devices with the same IP address in the network.
@	The device is using DHCP.
<	The device is being located.
?	MAC conflict. There are two devices with the same MAC address in the network.

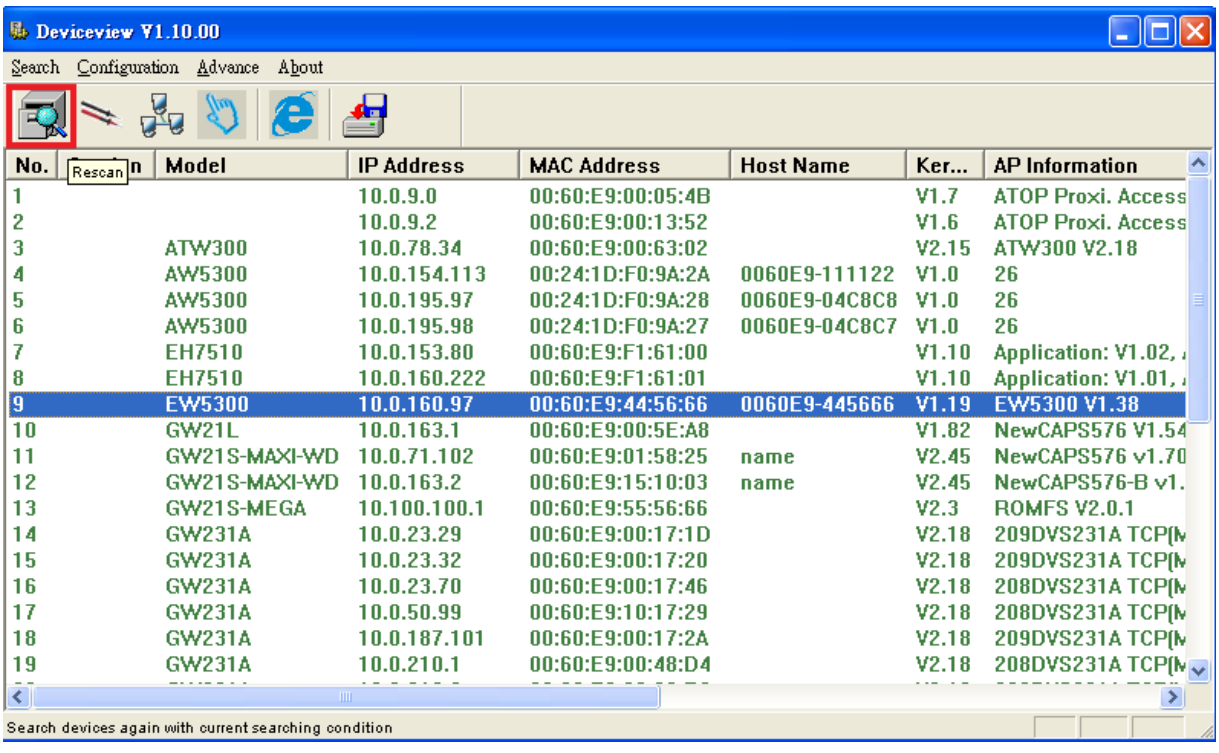
A.3. Functions

A.3.1. Device Search

This function is applied to search devices in the network. There are four methods to search devices, Search by Broadcast, Search by IP addresses, Search by MAC addresses and Rescanning devices by using the current search method. To select the search methods, users click the “Search” on the main menu which is shown below.



Alternatively, users can select Rescan by clicking the button on the toolbar as below.

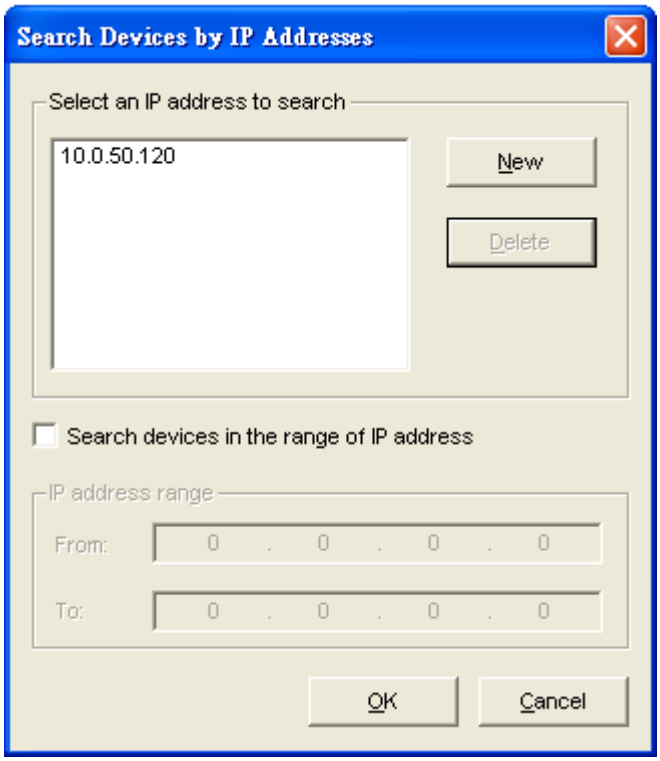


Broadcast Search

Once “Broadcast Search” is selected, a box will pop up as below. The user may type in or select different broadcast address based on his own requirement.

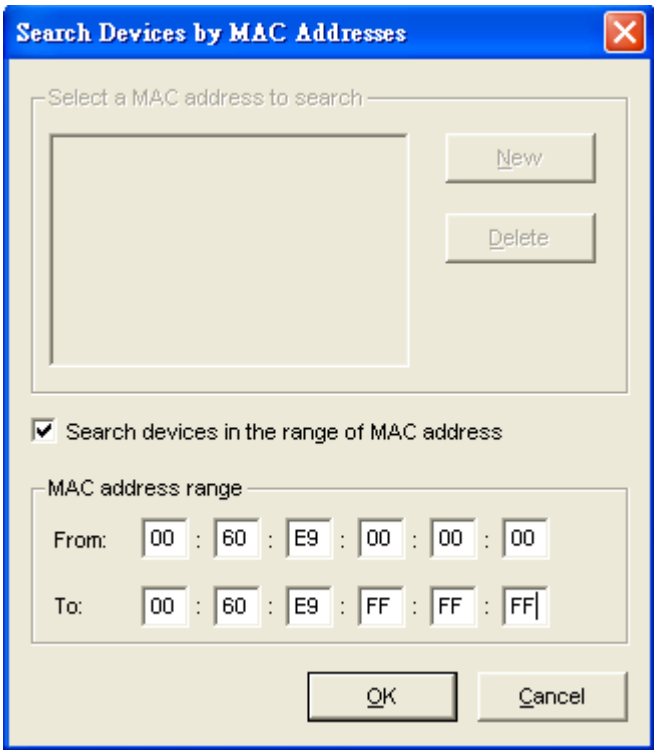
Search by IP address

Once “Search by IP Address” is selected, an interface will pop up as below. Here user may have two options: Select an IP address to search or Search device in the range of IP address.



Search by MAC Address

If “Search by MAC Address” is selected, another box will pop up as below. Here the user may search in two ways: “Search a MAC address to search” or “Search devices in the range of MAC address”

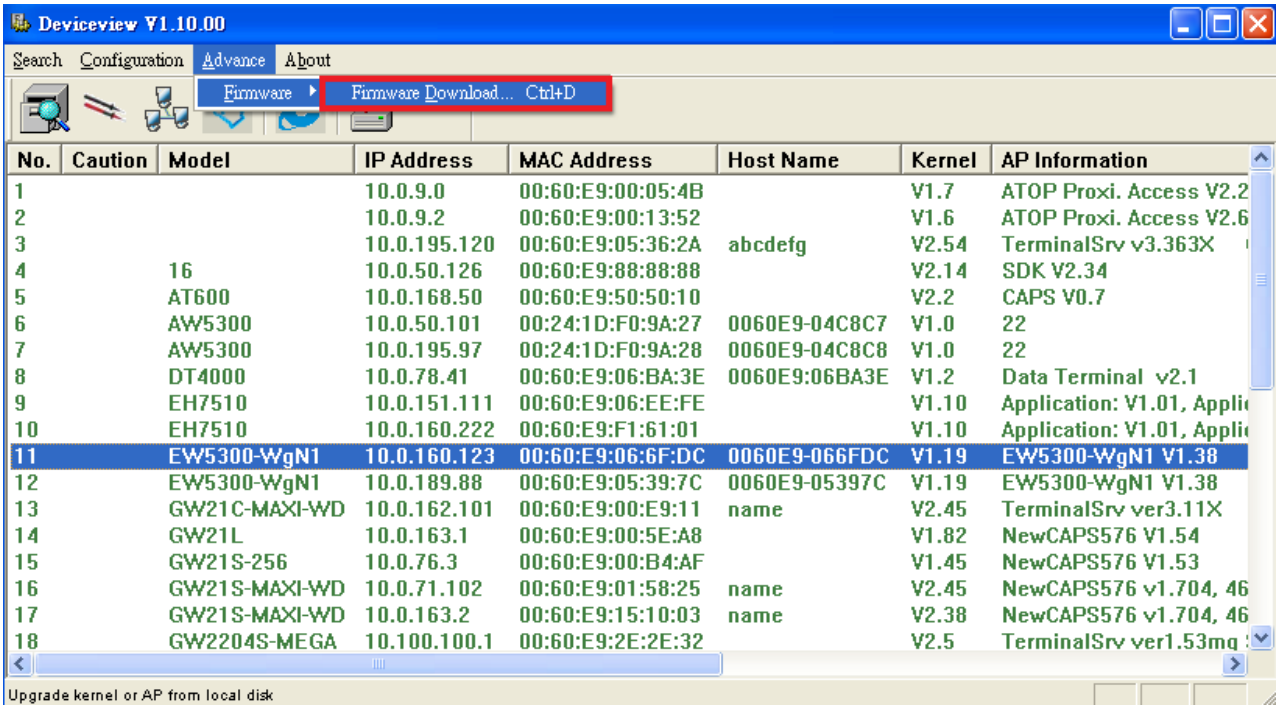


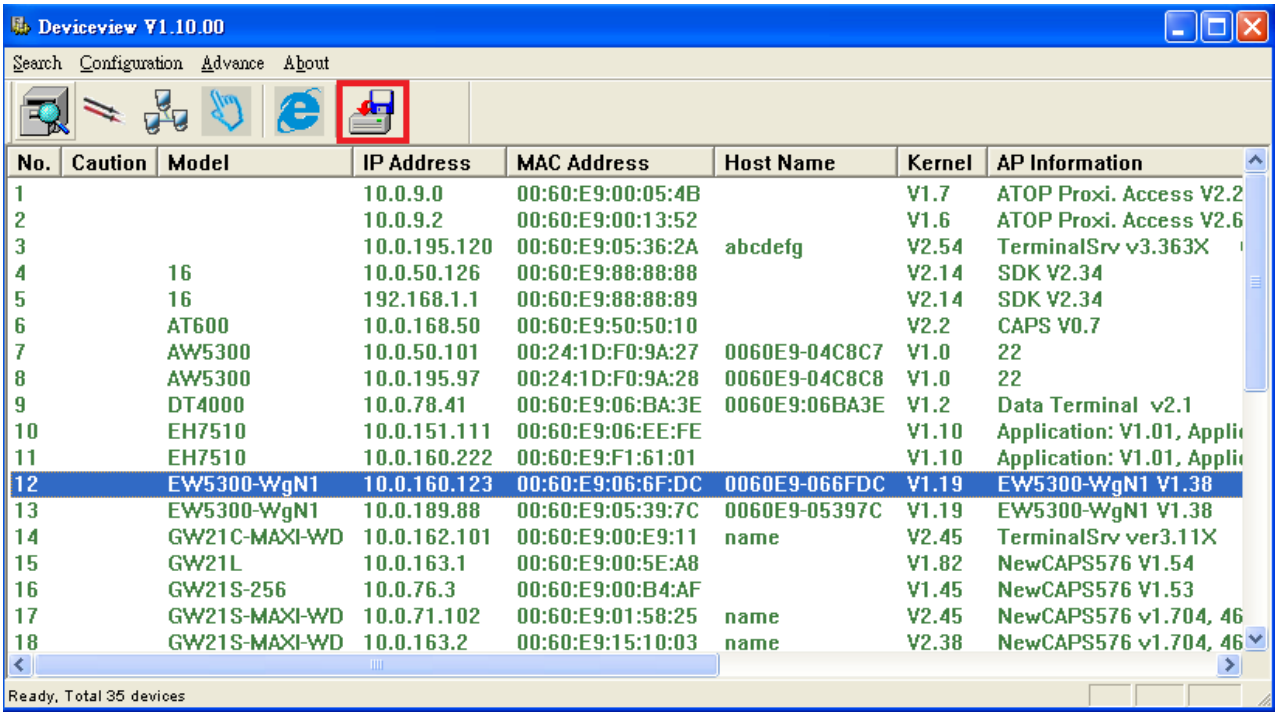
Rescan

Once the user click the “Rescan” button on the toolbar, the DeviceView utility shall re-search devices by using the current search way.

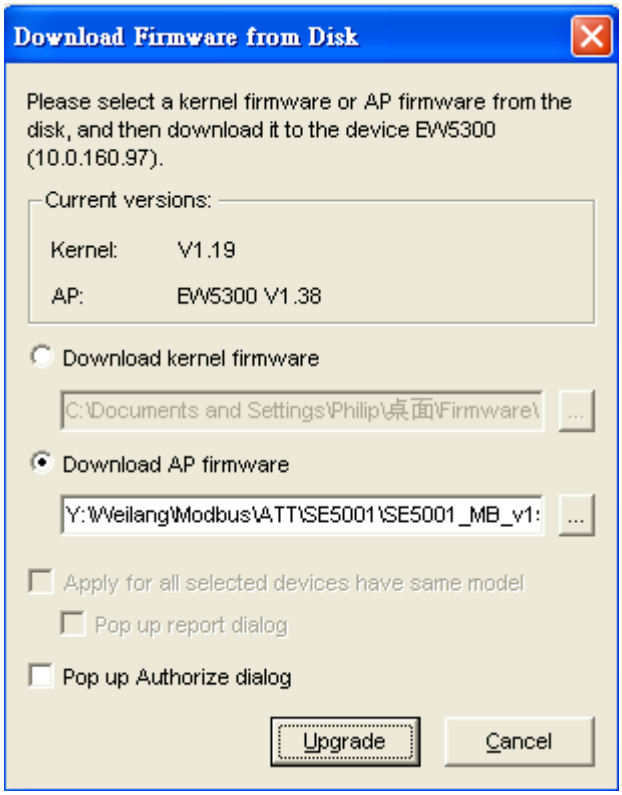
A.3.2. Firmware

This function is applied to downloading a firmware into the selected device. The user can enter the window for downloading by firstly clicking a designated network device, and then selecting the submenu option “Firmware Download” in the main menu option “Firmware”, or directly clicking the button **Upgrade from disk**.





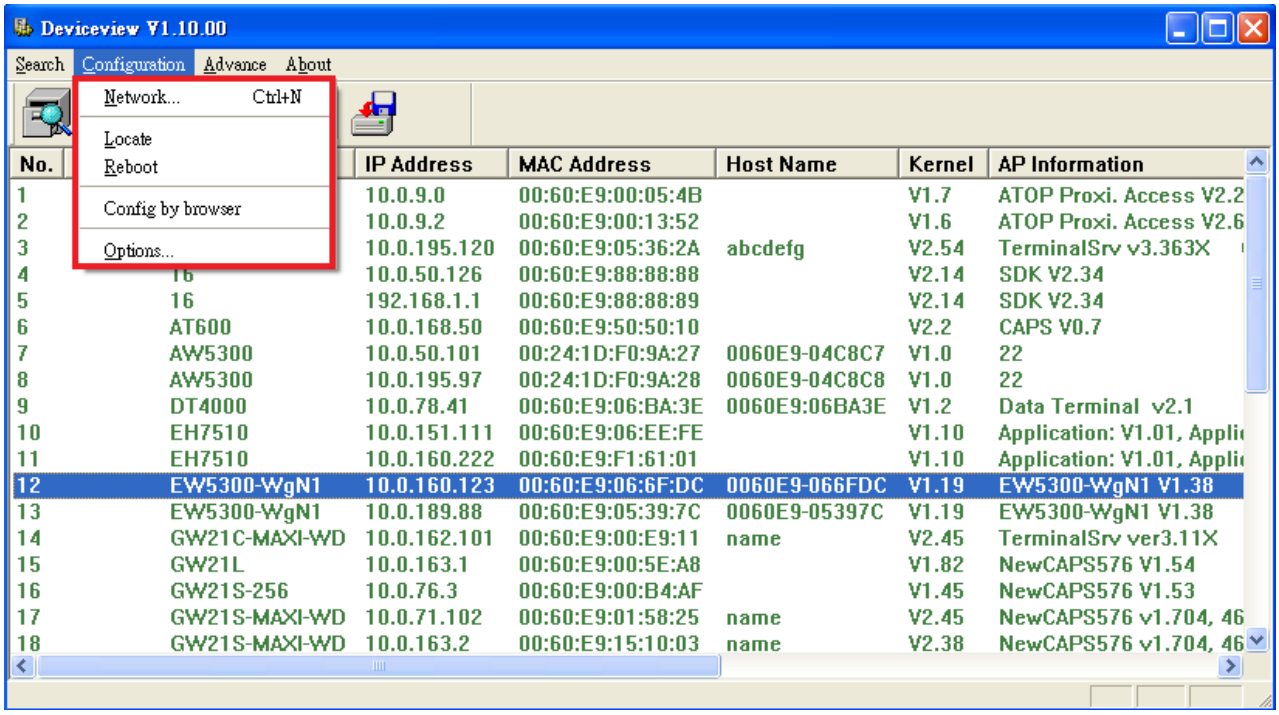
And then the user can select and download the required firmware from the disk, as shown in the figure below. The user can also select several same devices at one time, and realize the firmware updating for them by selecting **Apply for all selected devices have same model**.



A.3.3. Configuration

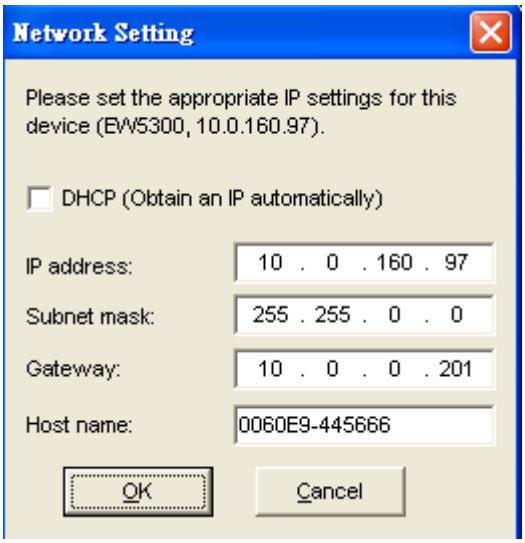
This function is for device configuration to set up parameters, to import and to export the parameters, and to set up some options. Here is the list of configurations: “Network”, “SNMP”, “COM Port”, “Locate”, “Reset”,

"Import Setting", "Export Setting", "Virtual COM", "Config by browser" and "Options." Users can carry out a configuration operating through menu or by clicking the corresponded button on the toolbar, shown as the figure below:



Network

The user can modify the IP address of any selected device, shown as the figure below. You can statically assign IP address, Subnet mask, and Gateway. Optionally, you can set up the device with a host name. You can select DHCP option to obtain an IP address automatically.



Locate

The user can apply this function to locate a device when its IP address is known, but its position is unknown. If you locate the device, it will beep. Users can locate the device by selecting the Configuration submenu **Locate** or clicking the **Locate** button on the toolbar.

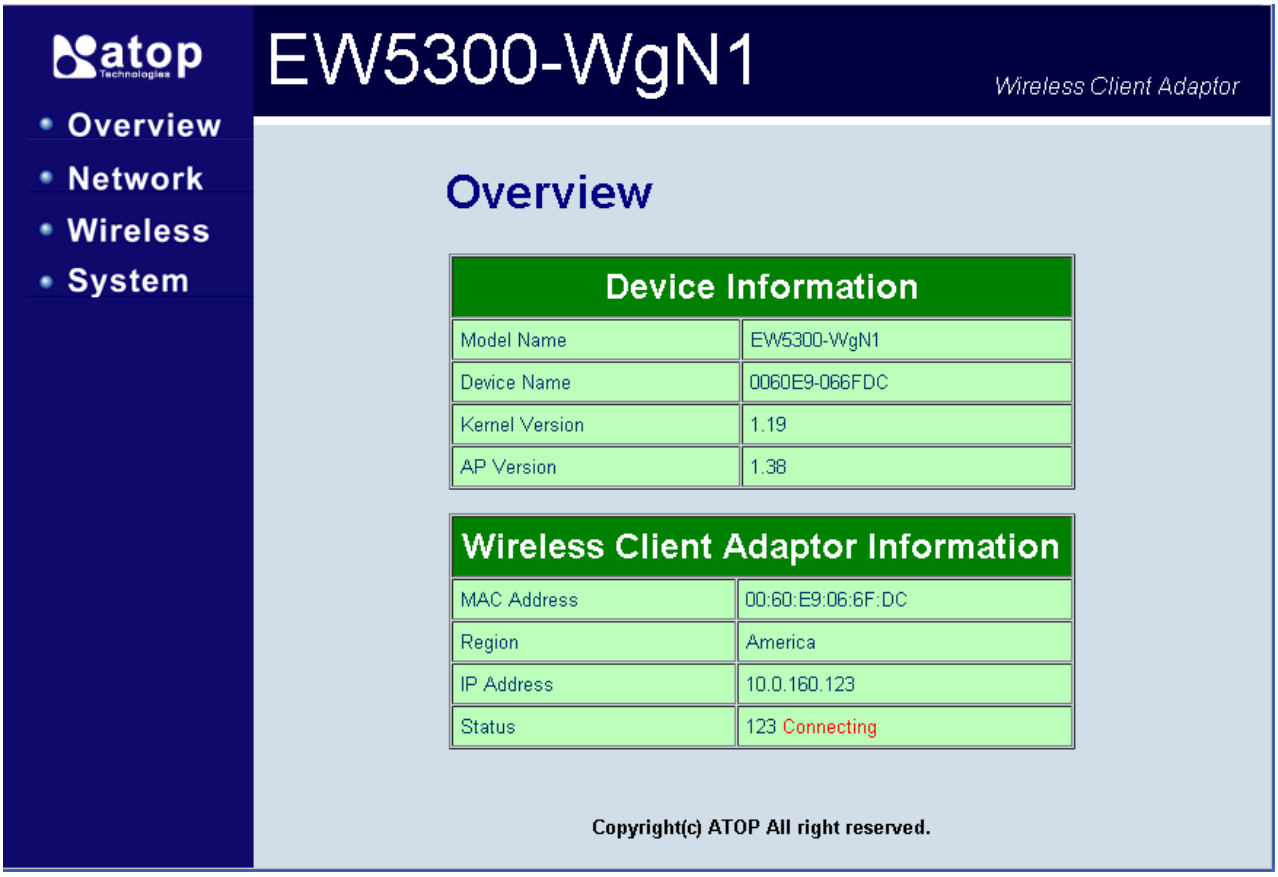
Reboot

The device should be restarted after a successful modification of parameter configuration. Users can also carry out a restart through the submenu option **Reset**.

The user can also select several devices at one time, and save the parameter information of these selected devices into a designated parameter file by selecting "Save all the selected devices".

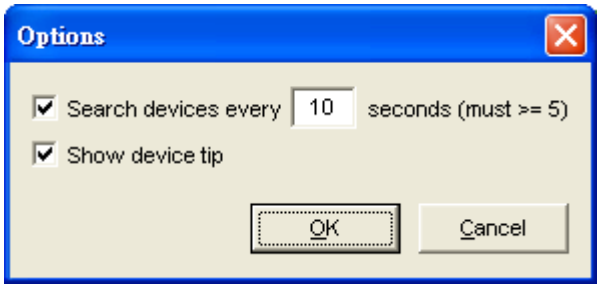
Configure by Browser

Some devices are supplied with build-in Web servers, which will be used to configure similar to DeviceView software. Users can carry out any parameter setting directly through the submenu option “Config by Browser”, and a Web browser is shown in the figure below.



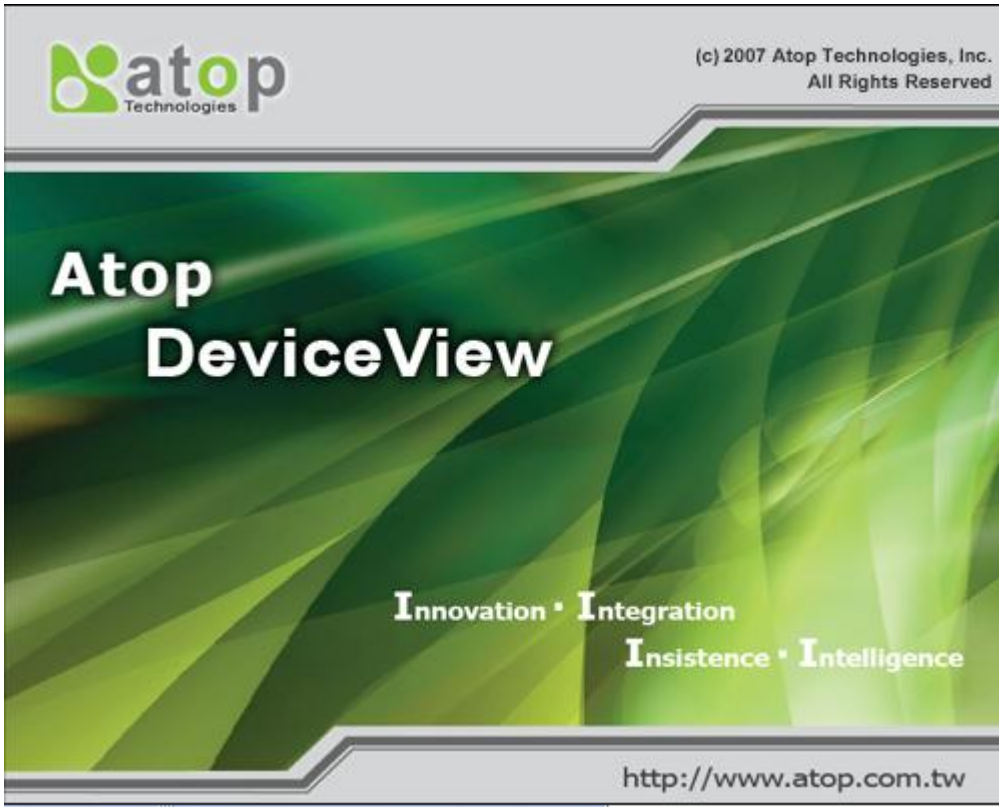
Options

The option is mainly applied to setting some common working rules of DeviceView utility, such as the device search time interval or whether to display any device information tip. The dialog is shown in the figure below.



A.3.4. About

This function is mainly applied to displaying information of the **DeviceView** utility, shown in the figure below.



Appendix B. Upgrading System Software

An updated version of a device firmware can be downloaded from our website, http://www.atop.com.tw. You may use our DeviceView software to upgrade a firmware. Please refer to DeviceView Firmware Download section. If you don't have other options, you may upgrade a firmware over a network connection by using our "linux_dl_v2.exe" utility as will be explained below.

B.1. System Upgrading Procedures

Follow the upgrading procedures below to download the latest firmware to a device.

Make sure the PC you will be used to download a firmware and the EW5300 device are on the same network. Use command "**ping"** or "**DeviceView"** utility program to verify their availability.

Edit "dll.bat" to yield the system requirements, Please make sure to save all modifications.

Run "dll.bat" or type a command and parameters as shown below as shown in Fig. 23.

C:\> linux_dl_v2.exe zImage.bin 10.0.152.100 (The device's IP is 10.0.152.100)

Note: "linux_dl_v2.exe" is the executable file (which can be found in Setup CD-ROM) for upgrading, zImage.bin is the name of the firmware file, and 10.0.152.100 is the IP address of EW5300.

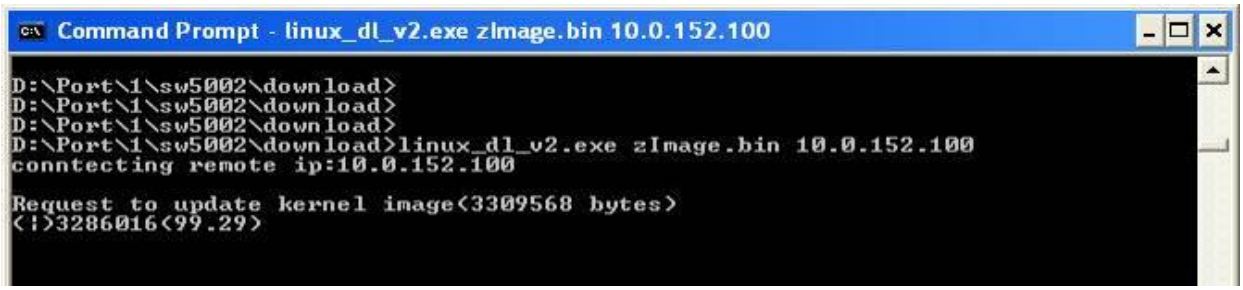


Fig. 23. Start firmware upgrade procedure for EW5300

EW5300 shall automatically perform the download after the command is executed, and the device will be restarted after the downloading process is successful as shown in Fig. 24.

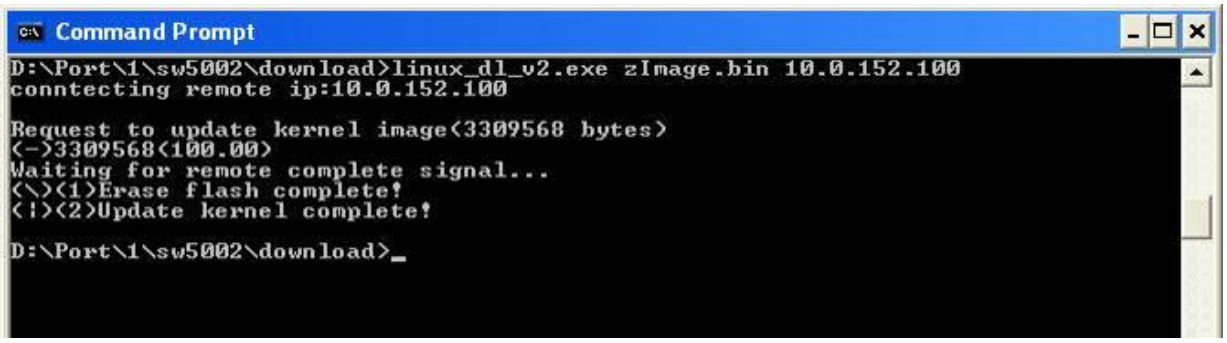


Fig. 24. Connected & downloading process for EW5300's Upgrade

B.2. Critical Issues in Upgrading Process

If the upgrading is successful, EW5300 shall re-program the flash memory, and the buzzer will beep before restarting. It takes around 5 seconds to complete the re-programming. **If any error occurs during the process, EW5300 will clear the corresponding memories, and the system will remain the same as the one before the upgrading process**.

Appendix C. Specifications

C.1. Hardware Specifications

Specifications	
System	
CPU	32bit 150MHz RISC processor with MMU
Flash	2+8MB(2MB for Bootloader)
RAM	32Mbytes SDRAM
EEPROM	2Kbytes
Watchdog	Hardware built-in
Ethernet	
Compliance	IEEE802.3
Port	1-port
Transmission Rate	10/100Mbps Auto-detection
Connector	RJ45
Auto MDI/MDI-X	Yes
WLAN	
Compliance	IEEE802.11 b/g
WEP	64-bit/128-bit data encryption
WPA	WPA/WPA2-PSK compliance(Supported TKIP/AES encryption)
Modulation	CCK,DQPSK,DBPSK,OFDM(11g)
Tx Power	11b: 15dBm/11g:14dBm
Rx Sensitivity	-66dBm@54Mbps / -80dBm@11Mbps
Transmission Rate	54Mbps(max.) with auto fallback
Transmission Distance	Up to 300 meters
Topologies	Infrastructure, Ad-Hoc
Antenna connector	Reverse SMA
Power	
Input	DC 9~48V
Consumption	Max. 4.5W(Tx Mode)
Environment	
Operating	0°C~65°C (32°F~149°F)
Storage Temperature	-40°C~85°C (-40°F~185°F), 5~95% RH
Dimension	
W x H x D	45mm x 91mm x 80mm

C.2. Others Specifications

Software	
Configuration	Web browser, Windows Utility
DeviceView	For Windows
Support Protocol	ICMP,IP,TCP,UDP,DHCP Client,Telnet,DNS,SNMP,HTTP,SNTP
Ordering Information	
EW5300-WgN1	Wireless Client Adaptor
Regulatory Approvals	
FCC	FCC Part 15, Subpart B, Class B ANSI C63.4-2003
CE	EN 301 489-1 V1.8.1(2008-04)
	EN 301 489-17 V2.1.1(2009-05)
	EN 55022:2006+A1:2007,Class B
	EN 61000-3-2:2006(Not Applicable)
	EN 61000-3-3:2008(Not Applicable)
	EN 61000-4-2:2009
	EN 61000-4-3:2006+a1:2008
	EN 61000-4-4:2004
	EN 61000-4-5:2006
	EN 61000-4-6:2009
	EN 61000-4-11:2004(Not Applicable)
Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
RoHS	Lead(Pb) Free
Warranty	5 years
Optional Accessories	
Antenna	HG055 5.5dBi reverse SMA connector with 180cm cable HG090 9dBi reverse SMA connector with 150cm cable
RF Cable	HG-C150AN SMA(R) to N-male 150cm cable
Power Adapter	US315-12(US/EU):AC100~240V / DC 12V ; 5.08mm pitch terminal block

C.3. Beep & LED Status

C.3.1. Startup status

Message	Description
^==^========^^^ (5sec)	Startup OK and application firmware is enabled

Note: Buzzer indication: "^" : Beep twice "=" : Beep off

C.3.2. Wireless Signal Strength status

The Access Point link quality can be detected by LED indicator on EW5300. In a running mode, once press a default key and then release, one of the specified actions below shall be performed depending on the released time after you heard how many beeps. The Access Point radio link quality is indicated by the number of LEDs lid on as shown in the table below.

Radio Link Quality LED Message

○ Off ● On ☼ Blinking

Operations		LED1	LED2	LED3	LED4	LED5	LED6
Connecting	Search AP (sequentially blinking)	☼	☼	☼	☼	☼	☼
	Connected AP/ Get assigned IP	☼	☼	☼	☼	☼	☼
	Not matched SSID	☼					
	Not available IP	☼	☼				
Connected	Signal Strength is less 20%	●					
	Bad Signal Strength (20%)	●	●				
	Poor Signal Strength (40%)	●	●	●			
	Fair Signal Strength (60%)	●	●	●	●		
	Good Signal Strength (80%)	●	●	●	●	●	
	Excellent Signal Strength (100%)	●	●	●	●	●	●

Note: The lowest LED is indicated for STATUS on the EW5300's front plate.

C.3.3. WLAN LED Message

Message	Description
LED Off	No data is transmitting on Ethernet
LED Blinking	Data is transmitting on Ethernet

C.3.4. RUN LED Message

Message	Description
LED Blinking (0.5 sec interval)	AP firmware is running