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# IEEE 802.11b/g/n Wireless Media Adapter

# User Manual

V1.1.0

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## About This Manual

This manual explains Z-Com VUS-100 IEEE 802.11n Wireless Virtual USB Storage (hereafter called “USB”), how to build the infrastructure based on the VUS-100 and proposals when using this USB storage.

For your attention on important parts, special characters and patterns are used in this manual:

**Note:**

- This indicates an important note.

**Bold: Indicates the function, important words, and so on.**

# CONTENT

**CHAPTER 1 INTRODUCTION ..... 7**

INTRODUCTION ..... 7

APPEARANCE ..... 7

KEY FEATURES ..... 7

TYPICAL APPLICATIONS ..... 8

**CHAPTER 2 BASIC INSTALLATION ..... 10**

SYSTEM REQUIREMENTS ..... 10

PACKAGE CONTENTS ..... 10

HARDWARE INSTALLATION ..... 10

LED DEFINITION ..... 11

**CHAPTER 3 BASIC SETTINGS ..... 12**

FACTORY DEFAULT SETTINGS ..... 12

UTILITY & WEB - DOUBLE MANAGEMENT TOOLS ..... 12

BASIC SETTINGS ..... 13

IP SETTINGS ..... 14

WIRELESS BASIC SETTINGS ..... 16

WIRELESS SECURITY SETTINGS ..... 17

SITE SURVEY ..... 18

WIRELESS CONNECTION SCENARIO ..... 19

**CHAPTER 4 BROWSE LOCAL SHARED FOLDERS ..... 20**

AUTO-SEARCH SHARED FOLDERS IN LAN ..... 20

BROWSE SEVERAL LOCAL SHARED FOLDERS SIMULTANEOUSLY ..... 20

**CHAPTER 5 BROWSE FLICKR NETWORK ALBUM ..... 22**

ADD/DELETE FLICKR ACCOUNT ..... 22
MAXIMUM PHOTOS TO RETURN ..... 24
BROWSE PRIVATE FLICKR NETWORK ALBUM ..... 24

**CHAPTER 6 MANAGEMENT ..... 31**

VIEW THE VUS-100 BASIC INFORMATION ..... 31
VIEW STATISTICS INFORMATION ..... 31
FIRMWARE UPGRADE ..... 32
BACKUP/RESTORE SETTINGS ..... 34
RESTORE FACTORY DEFAULT SETTINGS ..... 36
REBOOT ..... 37

**CHAPTER 7 TROUBLESHOOTING ..... 39**

FAQ (FREQUENTLY ASKED QUESTIONS) ..... 39
TECHNICAL SUPPORT ..... 40

**APPENDIX A. SPECIFICATIONS ..... 41**

**APPENDIX B. TECHNICAL TERMS ..... 44**

**APPENDIX C. ASCII ..... 45**

# FIGURE

FIGURE 1 VUS-100 ..... 7
FIGURE 2 APPLICATION – LOCAL SHARED FOLDER ..... 8
FIGURE 3 APPLICATION – NETWORK ALBUM ..... 8
FIGURE 4 APPLICATION – COMPATIBLE HISENSE LED TV ..... 8
FIGURE 5 APPLICATION – PS3 ..... 9
FIGURE 6 DEFAULT INTERFACE OF UTILITY ..... 13
FIGURE 7 BASIC SETTINGS ..... 14
FIGURE 8 IP ADDRESS ASSIGNMENT ..... 15
FIGURE 9 WIRELESS BASIC SETTINGS ..... 16
FIGURE 10 WIRELESS SECURITY SETTINGS ..... 17
FIGURE 11 SITE SURVEY ..... 18
FIGURE 12 WIRELESS CONNECTION SCENARIO ..... 19
FIGURE 13 FOLDERS ..... 20
FIGURE 14 BROWSE SEVERAL SHARED FOLDERS ..... 21
FIGURE 15 FLICKR ACCOUNT ..... 22
FIGURE 16 ADD FLICKR ACCOUNT ..... 23
FIGURE 17 MAXIMUM PHOTOS TO RETURN ..... 24
FIGURE 18 BROWSE PRIVATE FLICKR NETWORK ALBUM ..... 25
FIGURE 19 AUTHENTICATION ..... 26
FIGURE 20 LOGIN ..... 27
FIGURE 21 CONFIRMATION ..... 28
FIGURE 22 CODE ..... 29
FIGURE 23 INPUT THE CODE ..... 30
FIGURE 24 BASIC INFORMATION ..... 31
FIGURE 25 STATISTICS ..... 32
FIGURE 26 UPGRADE FIRMWARE VIA UTILITY ..... 33

FIGURE 27 UPGRADE FIRMWARE VIA WEB ..... 33

FIGURE 28 BACKUP/RESTORE SETTINGS VIA UTILITY ..... 34

FIGURE 29 BACKUP/RESTORE SETTINGS VIA WEB ..... 35

FIGURE 30 RESTORE FACTORY DEFAULT SETTINGS VIA UTILITY ..... 36

FIGURE 31 RESTORE FACTORY DEFAULT SETTINGS VIA WEB ..... 37

FIGURE 32 REBOOT VIA UTILITY ..... 38

FIGURE 33 REBOOT VIA WEB ..... 38

# TABLE

TABLE 1 VUS-100 LED DEFINITION ..... 11

TABLE 2 VUS-100 FACTORY DEFAULT SETTINGS ..... 12

TABLE 3 PRODUCT SPECIFICATIONS ..... 41

TABLE 4 TECHNICAL TERMS ..... 44

TABLE 5 ASCII ..... 45

# Chapter 1 Introduction

## Introduction

Thank you for choosing Z-Com VUS-100 IEEE 802.11n Wireless Virtual USB Storage! Compliant with IEEE 802.11b/g/n, this VUS-100 brings you with ideal transmission data rate and wider compatibility as well. As a concept of virtual USB storage, the USB host support is a must for connecting device. While highlighting its feature by replacing the traditional use of digital frame, VUS-100 transmits shared albums in LAN and Flickr network album via wireless, enabling you to conveniently browse your photos at anytime and anywhere!

## Appearance

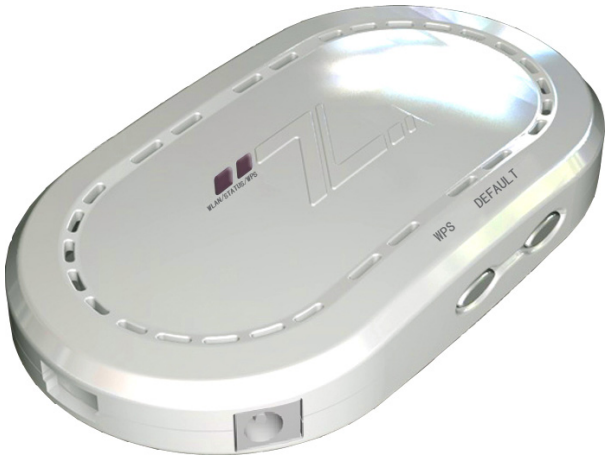


**Figure 1 VUS-100**

## Key Features

- Transmit on-line photos to the digital photo frame, compatible Hisense LED TV and PS3 constantly via wireless
- Support local shared photo album transmission
- Support Flickr network album transmission (only can support Flickr currently)
- User-friendly Windows and Web-based management interfaces
- Support WPS enabled through hardware PBC

# Typical Applications

- Play photos in local shared folders via digital photo frame

**Figure 2 Application – Local Shared Folder**

- Play photos in Flickr network album via digital photo frame

**Figure 3 Application – Network Album**

- Play photos in local shared folders or Flickr network album via compatible Hisense LED TV

**Figure 4 Application – Compatible Hisense LED TV**

- Play photos in local shared folders or Flickr network album via Play Station 3

**Figure 5 Application – PS3**

# Chapter 2 Basic Installation

## System Requirements

Before installing and using your VUS-100, make sure your system meets the following requirements:

- One set of access point compliant with IEEE 802.11b/g/n
- One set of PC installed with 10/100 Base-TX network adapter
- Keep the IP address of PC, access point and VUS-100 in the same network segment. By default, VUS-100 is set to 192.168.1.1, configure the IP address of PC to 192.168.1.X (X can not be 0, 1 or 255)
- A Web browser on PC for configuration such as Microsoft Internet Explorer 6.0 or above

## Package Contents

The package you have received should contain the following items, if any of them are not included or damaged, please contact your local vendor for support:

- VUS-100 Virtual USB Storage × 1
- 5V Power Adapter × 1
- USB Converter × 1
- Product CD × 1

## Hardware Installation

Please follow the steps below to install your VUS-100:

- Power on VUS-100, and connect it to your computer with an USB converter after the WLAN(green) lights up;
- Wait for the VUS-100 driver auto installation. Insert the attached product CD and copy the Utility.exe in it to your PC. Double-click to open this utility and make configuration for your

VUS-100 (Please refer to **Chapter 3** & **4** for configuration details.)

- Plug VUS-100 out from your computer after configuration, and connect it to the digital photo frame, compatible Hisense LED TV or PS3 to complete installation.

# LED Definition

The following table demonstrates the definition of LED which indicates the network activity of VUS-100.

**Table 1 VUS-100 LED Definition**

| LED | Status | | Definition |
|---|---|---|---|
| Status | Red | On | Device powered on |
| | | Off | WLAN is up |
| | | Blinking Fast | Device resetting |
| WLAN | Green | Blinking | Find a WLAN network and ready to connect |
| | | Solid | Connect to a WLAN network – Tx/Rx Data |
| WPS | Blue | Blink Once | WPS enabled or disabled |
| Status & WPS | Red/Blue | Blink Concurrently | Firmware upgrading |

**Note:**

- The LED of WLAN and Status share the same LED.

# Chapter 3 Basic Settings

## Factory Default Settings

The VUS-100 is set to default values when you first use it. The following table demonstrates the default settings of VUS-100, you can re-acquire these parameters by resetting the device. If necessary, please refer to **Restore Factory Default Settings**.

**Table 2 VUS-100 Factory Default Settings**

| Item | Default Value |
|---|---|
| Device Name | VUS-100 |
| UPnP | Disable |
| IP Address | 192.168.1.1 |
| Gateway IP | 192.168.1.254 |
| Subnet mask | 255.255.255.0 |
| Primary DNS | 0.0.0.0 |
| Second DNS | 0.0.0.0 |
| SSID | any |
| Encryption | Disabled |
| Output Power | Full |
| Security Auth-type | Open System |

**Note:**

- Please reboot your VUS-100 after modifying its configuration, refer to **Reboot** for how to reboot your device.

## Utility & Web - Double Management Tools

VUS-100 provides you with two ways for management: **Utility** and **Web**. You can use either of them to check and configure your USB storage settings.

Follow the steps below to start them:

- **Utility Management Tool**

Copy the **Utility.exe** from the attached product CD into your PC, and double-click to run this utility, as shown below:

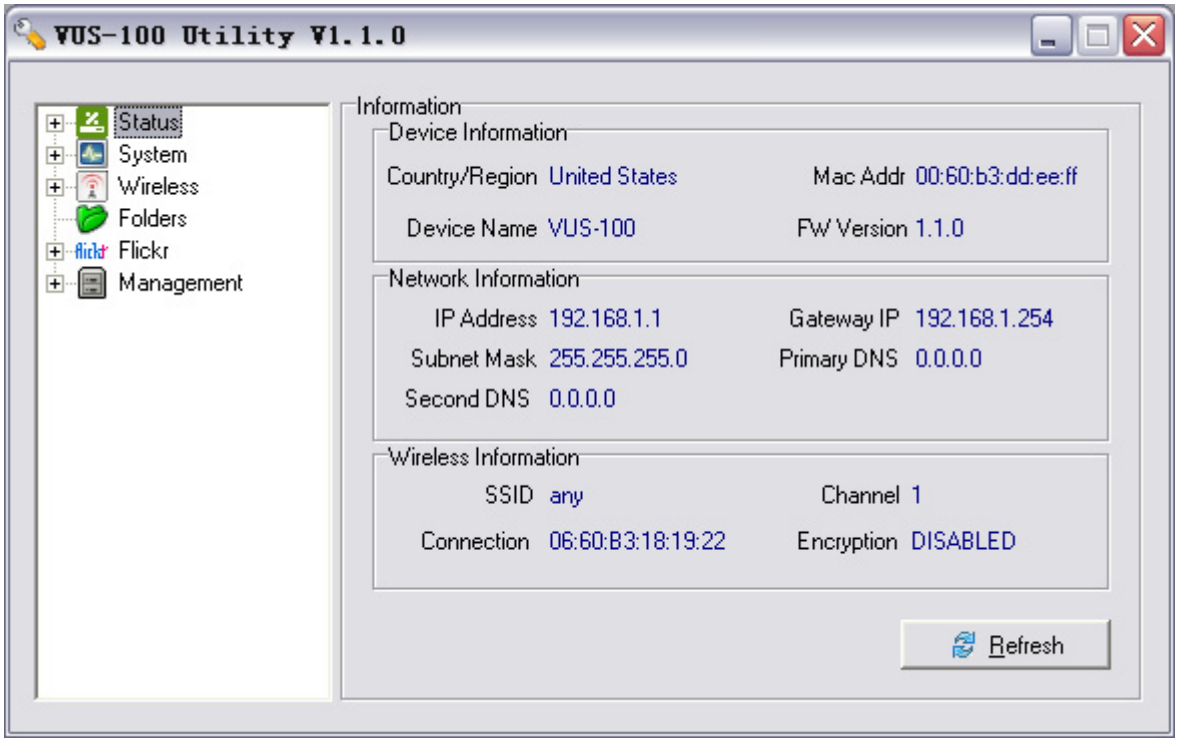


**Figure 6 Default Interface of Utility**

- **Web-based Management Interface**

Alternatively, after accessing the wireless network, you can input the IP address (By default it is set to 192.168.1.1) of VUS-100 in the IE address field to login VUS-100 Web-based management interface or use UPnP to login VUS-100 and make configuration.

As the information and configuration options in Web-based management interface are identical to the ones in Utility, we mainly take Utility as an example in this manual.

# Basic Settings

From the Utility, click to open **System** → **General** in the left menu bar to modify basic parameters for your VUS-100.

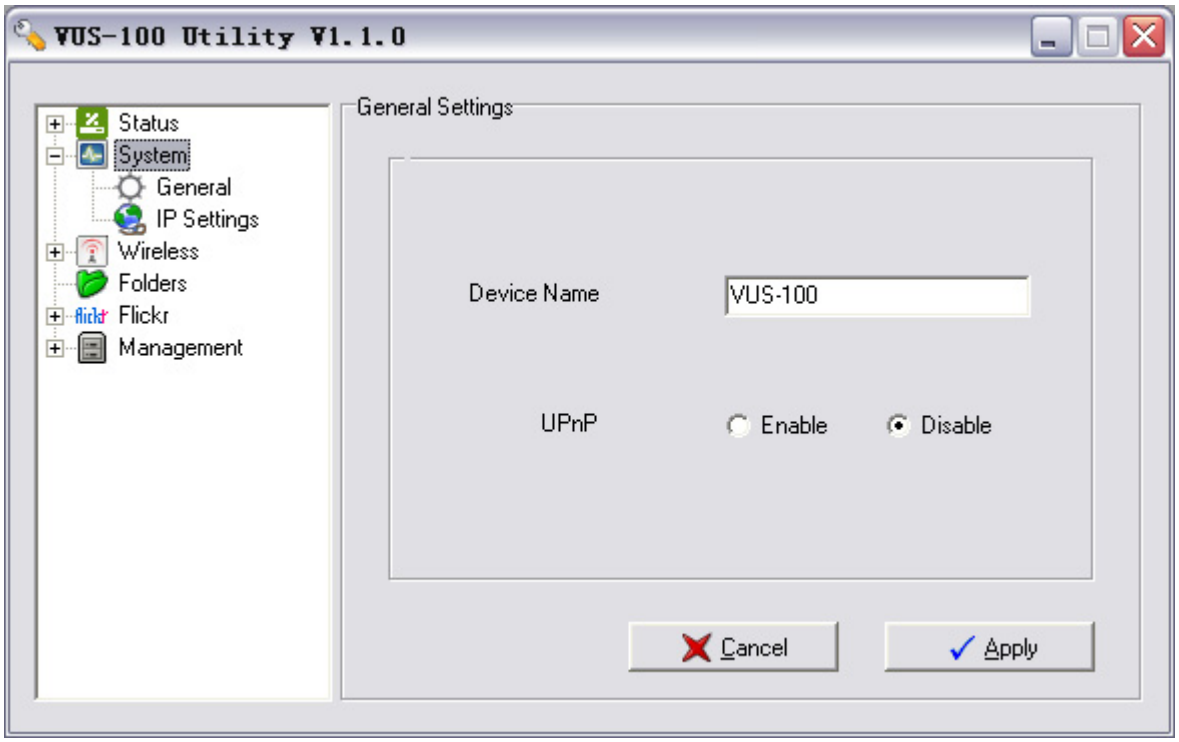


**Figure 7 Basic Settings**

- **Device Name**

You can specify the name of VUS-100 at will. Note that it is 15 characters at most and case-sensitive.

- **UPnP**

By enabling UPnP, VUS-100 is able to search for available network devices automatically, so as to establish connection with other network devices much faster.

# IP Settings

You can specify and manage the IP address of VUS-100 in this page.

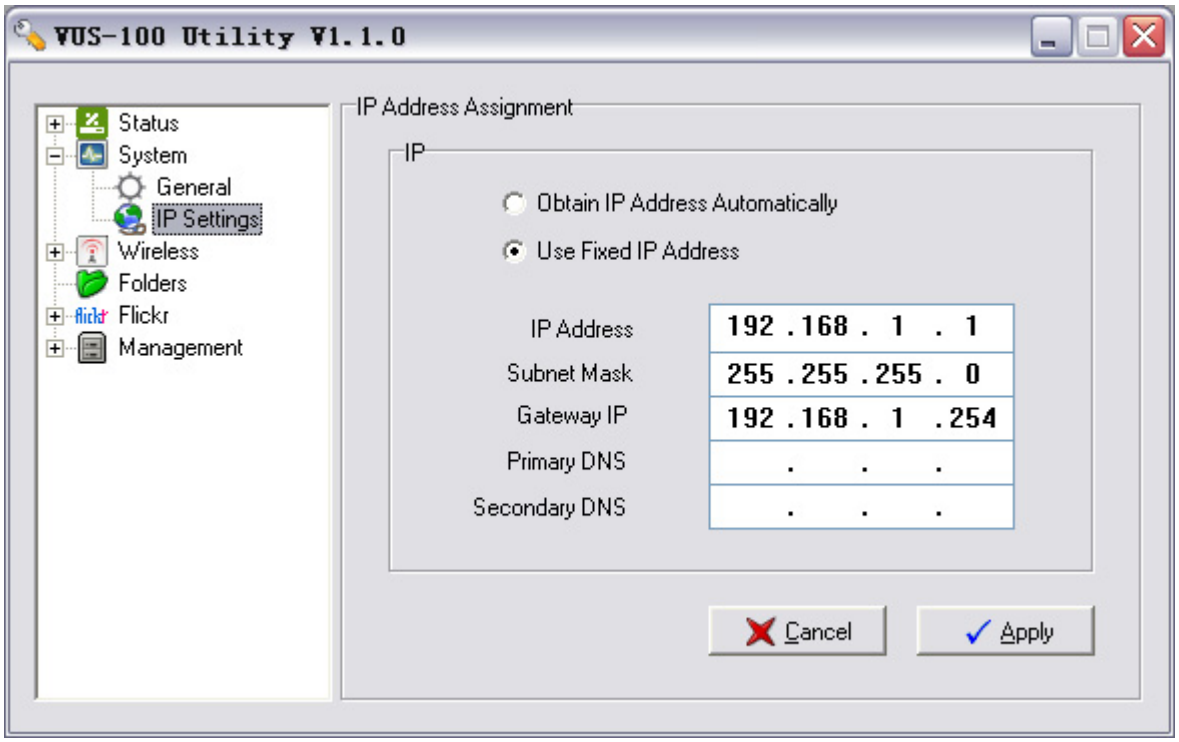


**Figure 8 IP Address Assignment**

- **Obtain IP Address Automatically**

By checking this option, VUS-100 will request for an IP address from the network if being connected to the wireless network, then the DHCP server will select an idle IP from its IP pool and allocate it to VUS-100 after receiving this request.

- **Use Fixed IP Address**

You have to manually specify the IP address, subnet mask, gateway IP, primary DNS and secondary DNS if check this option.

**Note:**

- When browsing the shared folders in LAN with VUS-100, the IP address of VUS-100 and the PC in LAN should be in the same network segment.
- When browsing Flickr network album with VUS-100, set an IP address for your VUS-100 to access the Internet.

# Wireless Basic Settings

From the Utility, click **Wireless** → **Basic Settings** in the left menu bar to make basic wireless configuration for your VUS-100.

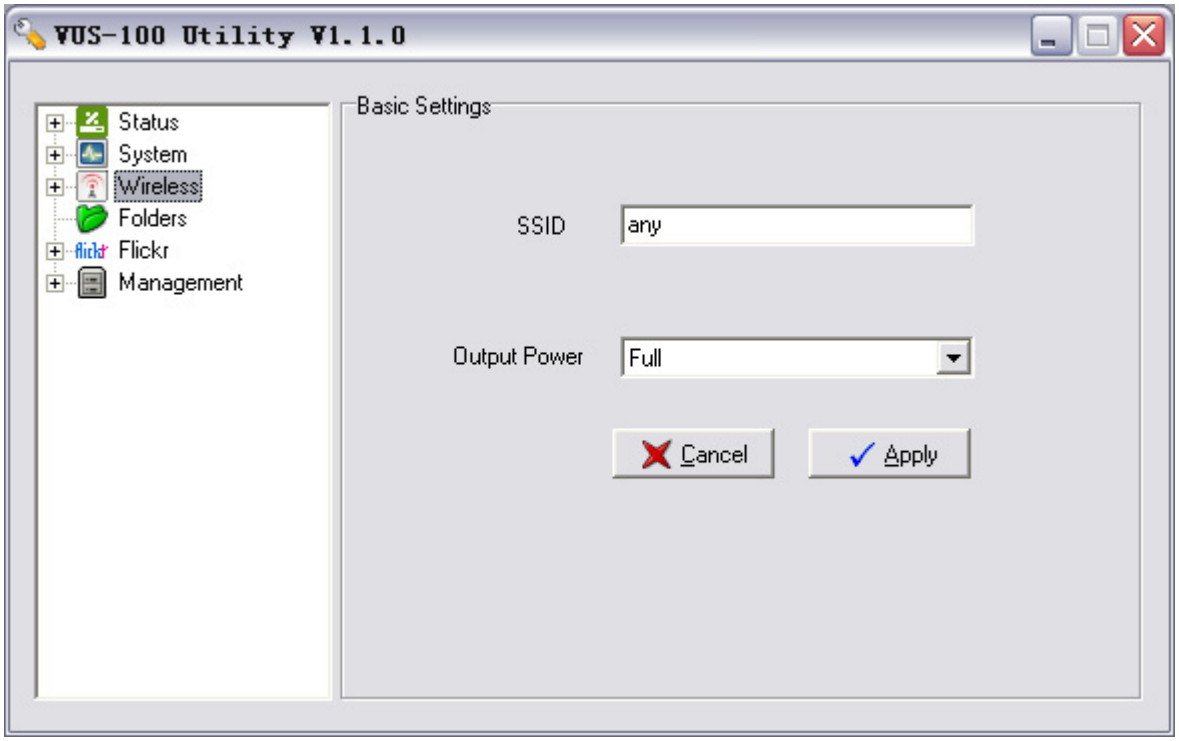


**Figure 9 Wireless Basic Settings**

- **SSID**

For AP and STA to identify a wireless network, SSID is composed of 32 ASCII characters at most and is case-sensitive. Keep the SSID on VUS-100 and AP identical for connection. By default, it is set to **any** which means VUS-100 will search and establish connection with the available AP of strongest signal strength.

- **Output Power**

Specify the transmission power for VUS-100. The higher the output power is, the wider the wireless signal covers, whereas the power consumption grows accordingly. Usually, it is set to **Full**.

# Wireless Security Settings

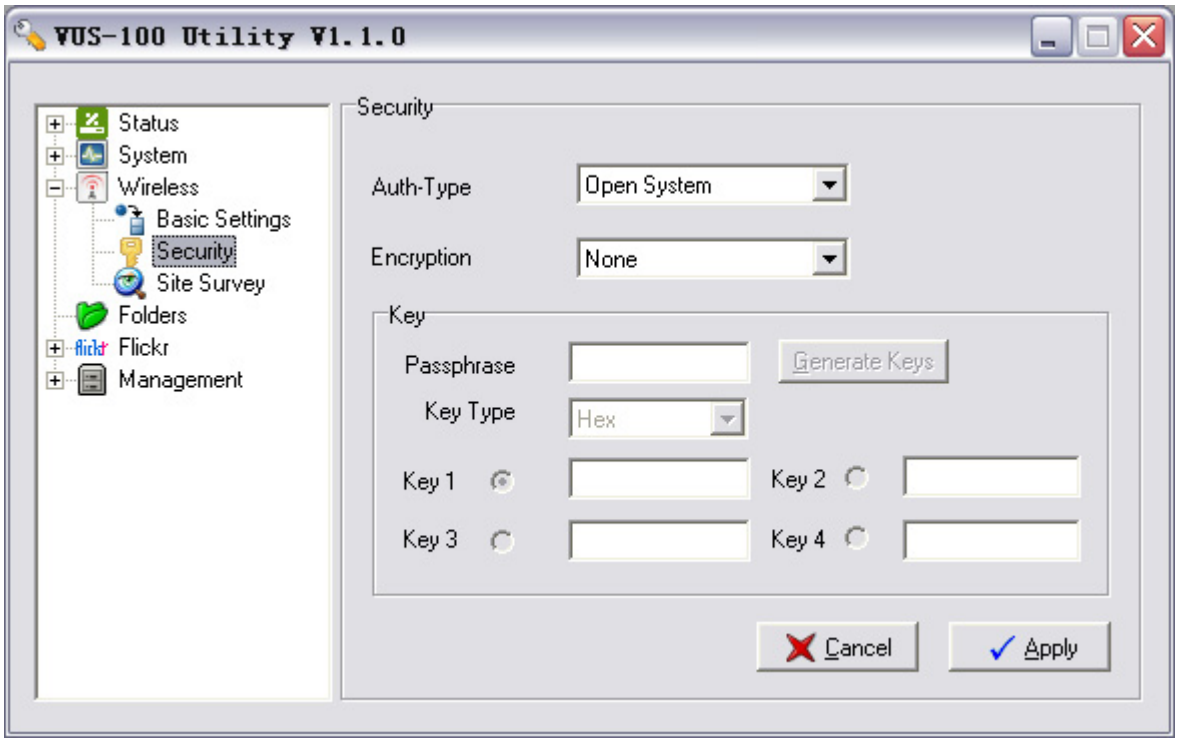


**Figure 10 Wireless Security Settings**

- **Auth-Type (Authentication Type)**

- Open System: Allows connection with any AP.
- Shared Key: Encryption and key are required.
- WPA-PSK: As a simplified WPA mode, there is no need for special authentication server. This WPA Pre-shared Key mode only requires to input a key in each WLAN nodes (AP, wireless router, adapter, etc) beforehand.
- WPA2-PSK: This is a new version of WPA. If it is enabled, AES encryption and passphrase are required.

- **Encryption**

Select a data encryption way. If it is enabled, key is required. And only share the same key with other wireless devices (AP), can the connection be established.

- None: Available only under open system.

- 64 bits: It is composed of 10 hex digits.
- 128 bits: It is composed of 26 hex digits.
- 152 bits: it is composed of 32 hex digits.
- TKIP: Short for Temporary Key Integrity Protocol, it is a dynamic encryption way co-used with WPA-PSK.
- AES: Short for Advanced Encryption Standard, it is usually co-used with WPA, WPA2, WPA2-PSK.

**Note:**

- Keep the Auth-Type, Encryption and Key in VUS-100 and its associated AP identical, otherwise the connection may fail!

# Site Survey

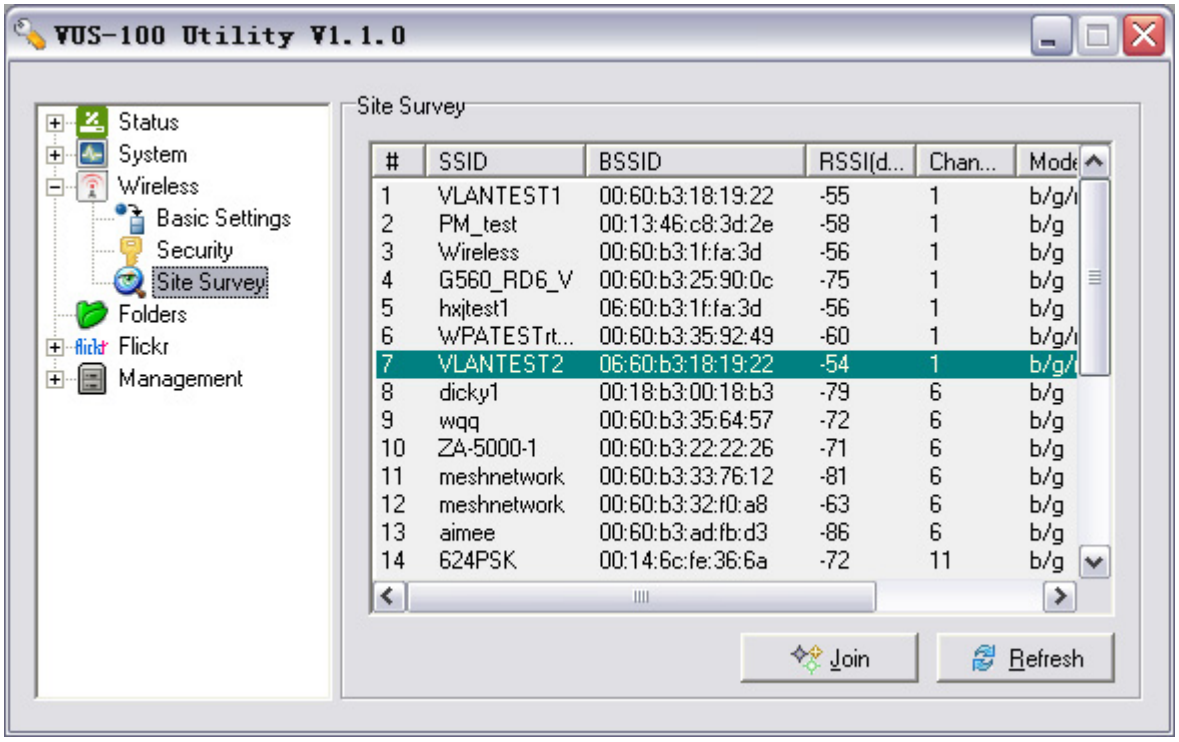


**Figure 11 Site Survey**

The VUS-100 will search for available APs in LAN and establish connection automatically after being powered on. You can view the information of available APs in **Site Survey** from **Wireless**. Select the AP you would like to connect and click **Join** to establish connection.

Clicking **Refresh** allows you to view the real-time site survey list.

# Wireless Connection Scenario

The following picture illustrates typical applications on VUS-100. It can be co-used with the digital photo frame, compatible Hisense LED TV or play station 3 as you wish.

**Figure 12 Wireless Connection Scenario**

# Chapter 4 Browse Local Shared Folders

## Auto-search Shared Folders in LAN

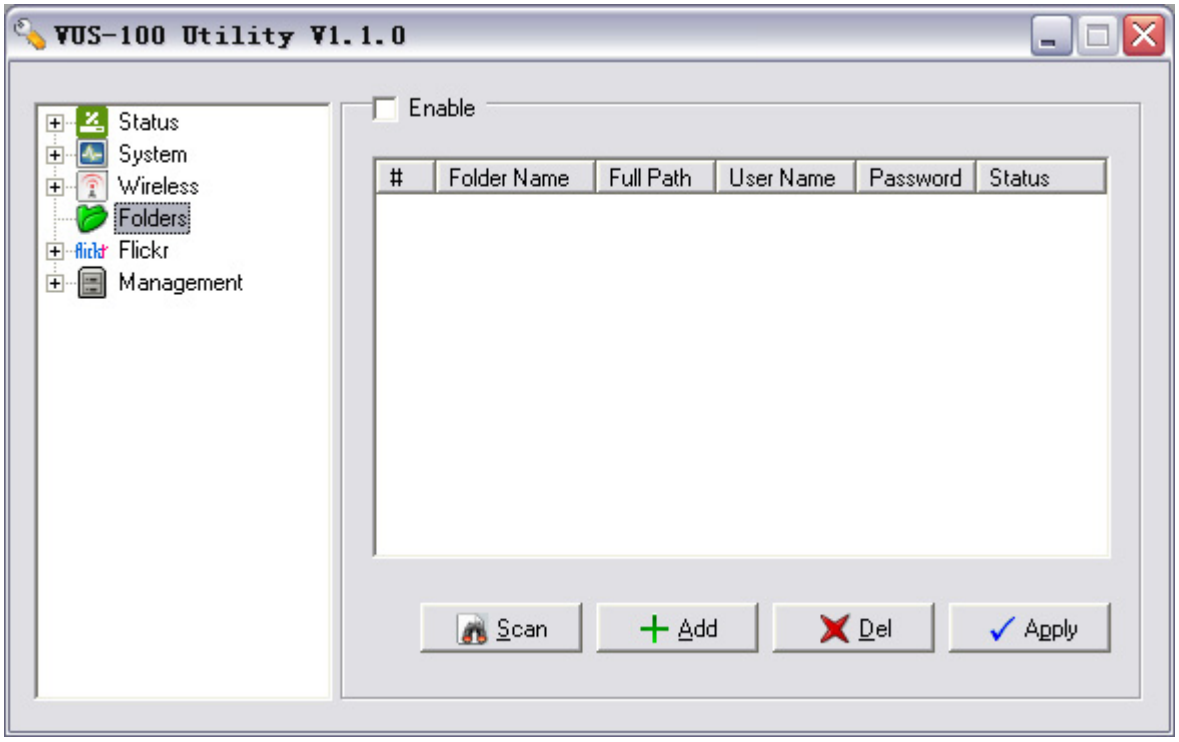


**Figure 13 Folders**

- Open **Folders** in the left menu bar;
- By clicking **Scan** the VUS-100 will search all the available shared folders in LAN automatically.
- The scan result will be listed in the dialog box.

## Browse Several Local Shared Folders Simultaneously

VUS-100 allows you to browse more than one shared folder simultaneously if there are several shared folders available in LAN.

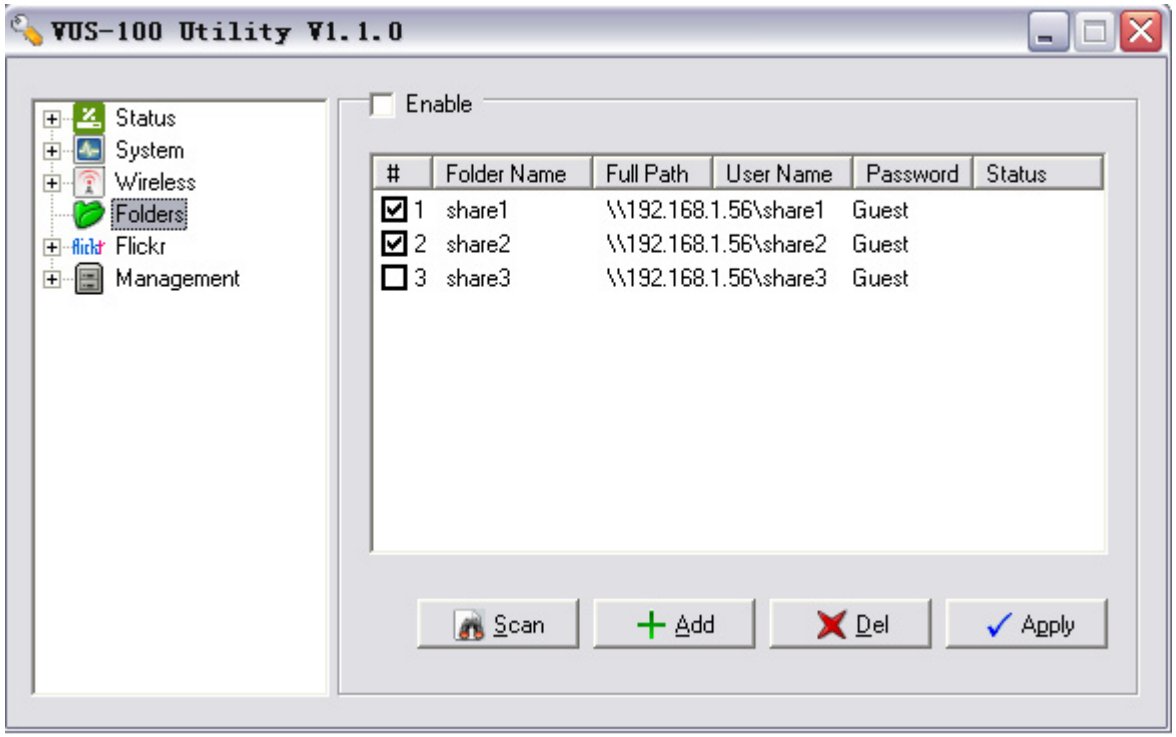


**Figure 14 Browse Several Shared Folders**

# Chapter 5 Browse Flickr Network Album

## Add/Delete Flickr Account

Click **Flickr** in the left menu bar to add or delete the account of Flickr network album.

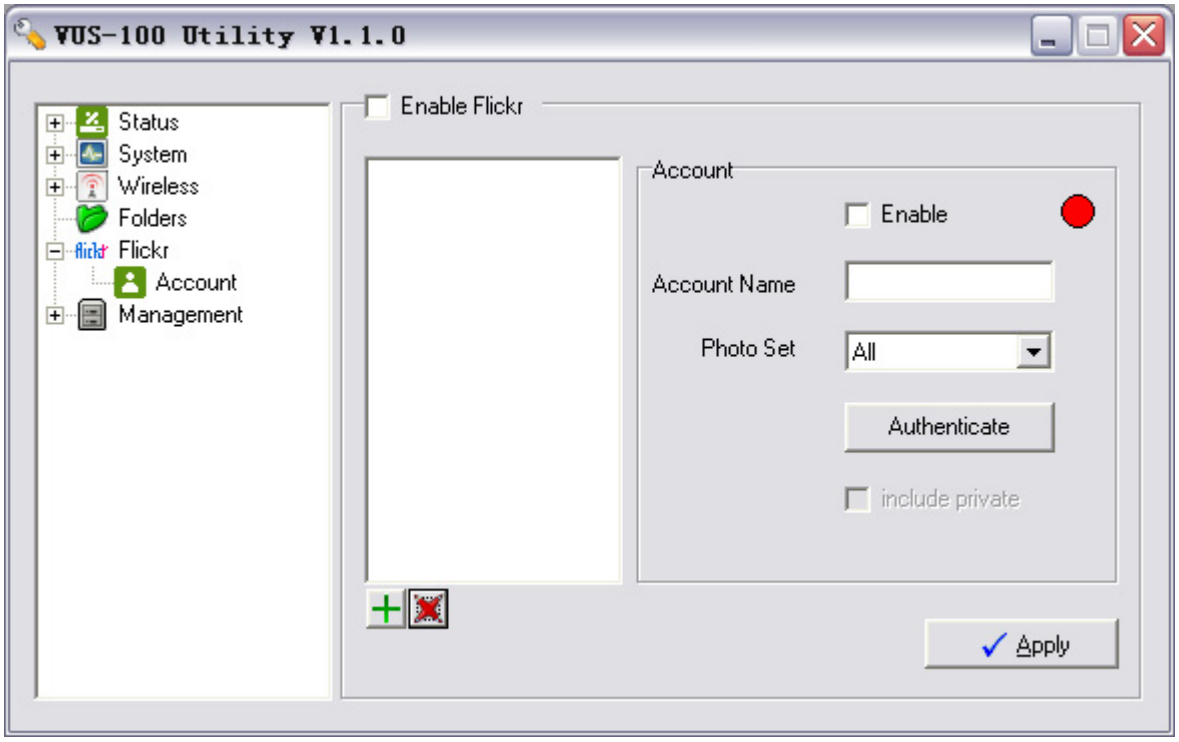


**Figure 15 Flickr Account**

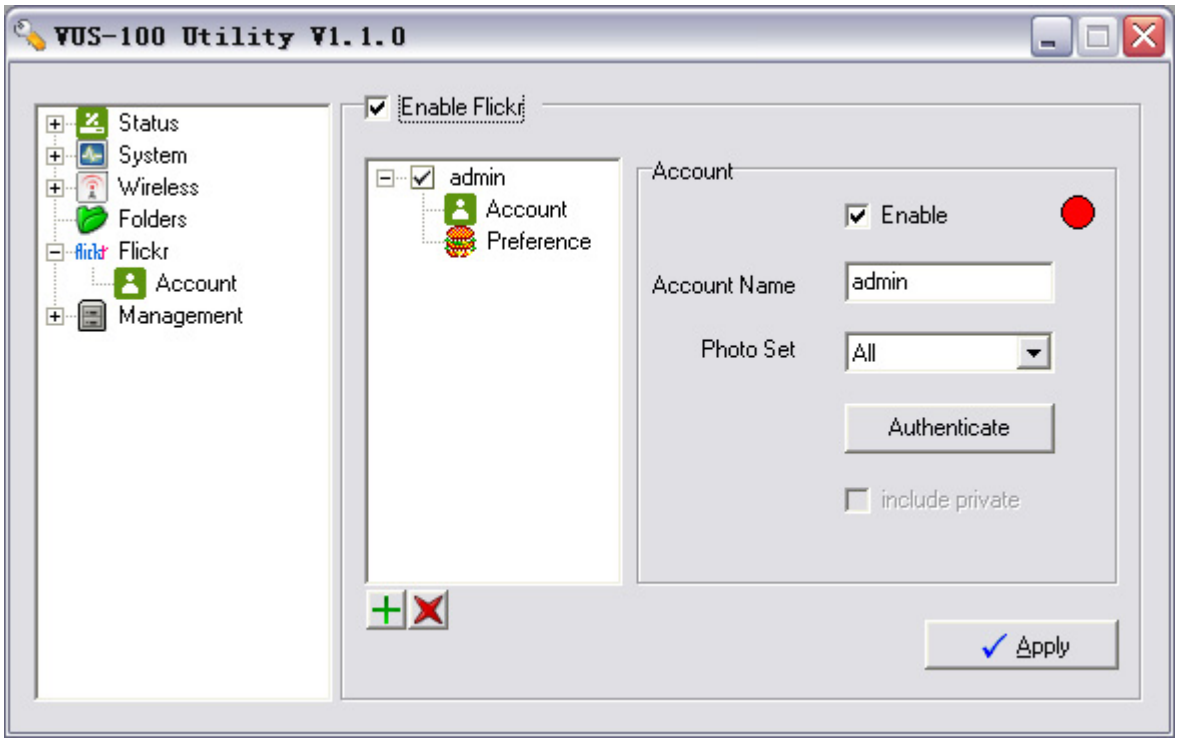


**Figure 16 Add Flickr Account**

After adding an account, you can browse the shared albums under this account; as to the private albums, please refer to **Browse Private Flickr Network Album**.

**Note:**

- The length of Flickr user name can not exceed 50 characters.
- Click “Apply” to save settings after adding or deleting, and reboot the device.

# Maximum Photos to Return

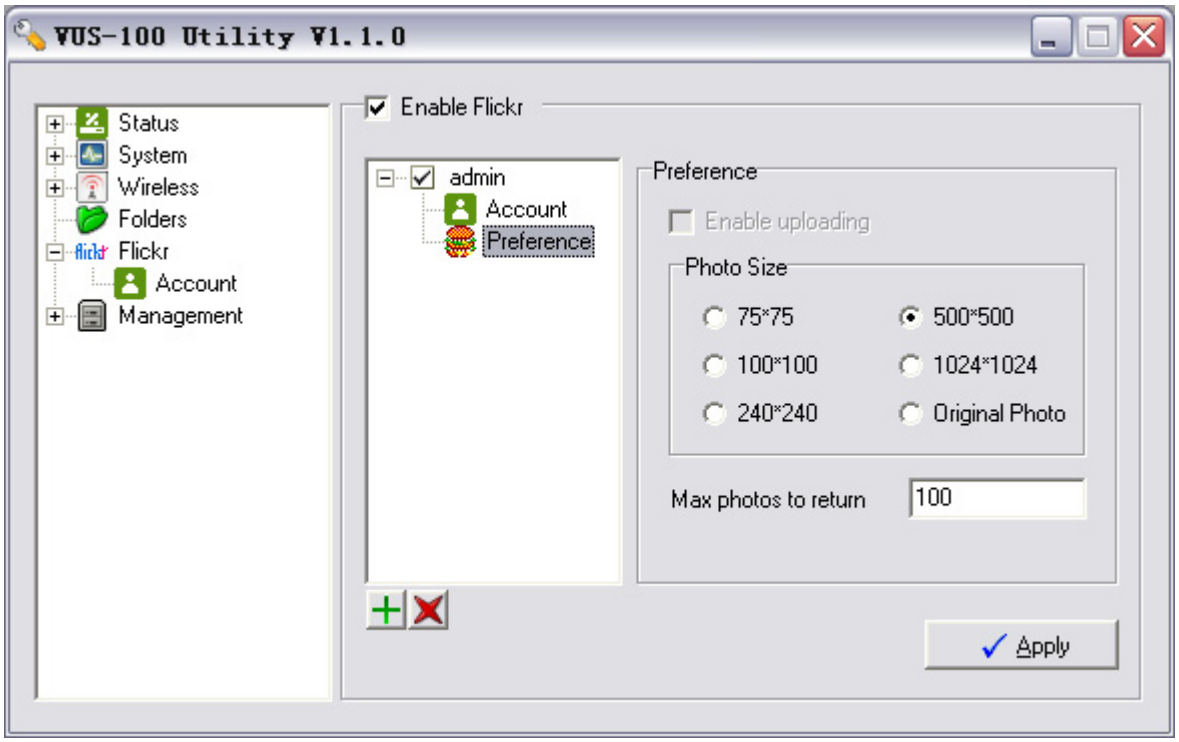


**Figure 17 Maximum Photos to Return**

- **Maximum Photos to Return**

You can specify the number of photos to be browsed in this field, ranging from 1 to 500.

Besides from setting the maximum number, you can also specify the size of photos to be browsed.

The available size options are:

75×75, 100×100, 240×240, 500×500, 1024×1024, and Original Photo.

**Note:**

- Original Photo: You have to apply an authority from Flickr if you would like to view the original photo. Usually this is a charge service.

# Browse Private Flickr Network Album

You have to perform an authentication process on Flickr before browsing private Flickr network

album.

- **Step 1.** Add a Flickr account that you will use to browse the private album in **Account Name** field;

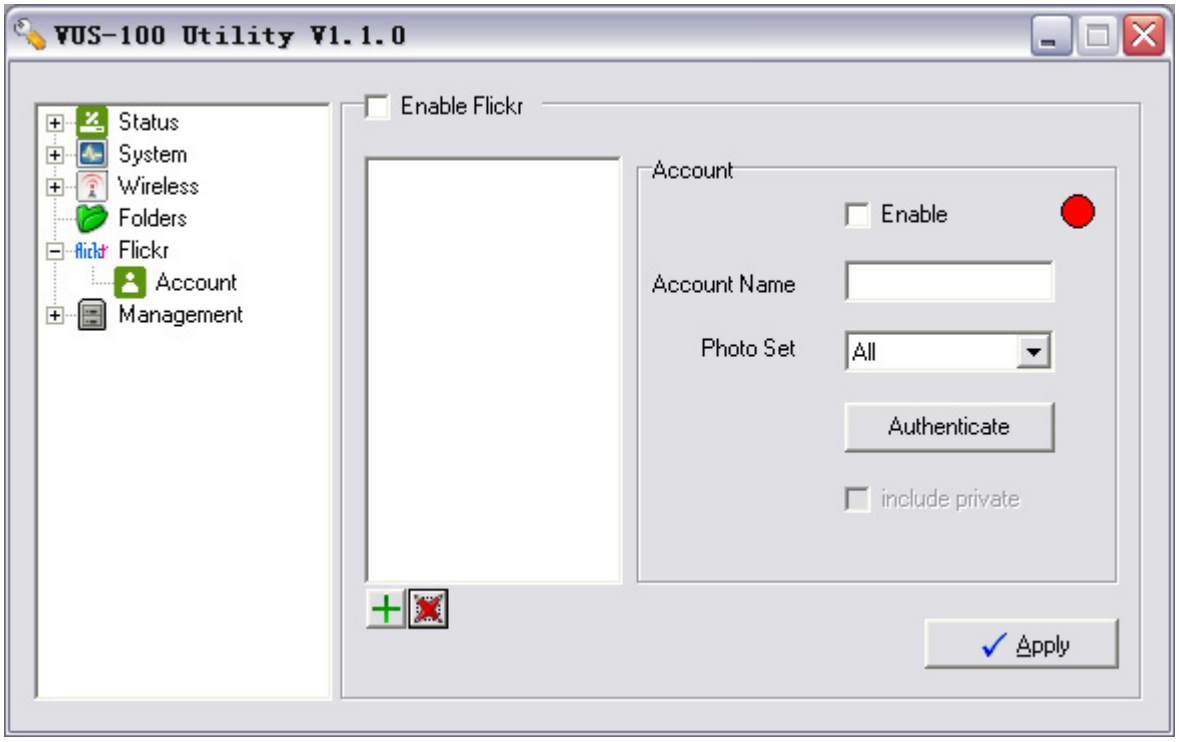


**Figure 18 Browse Private Flickr Network Album**

- **Step 2.** Click **Authentication** to continue;

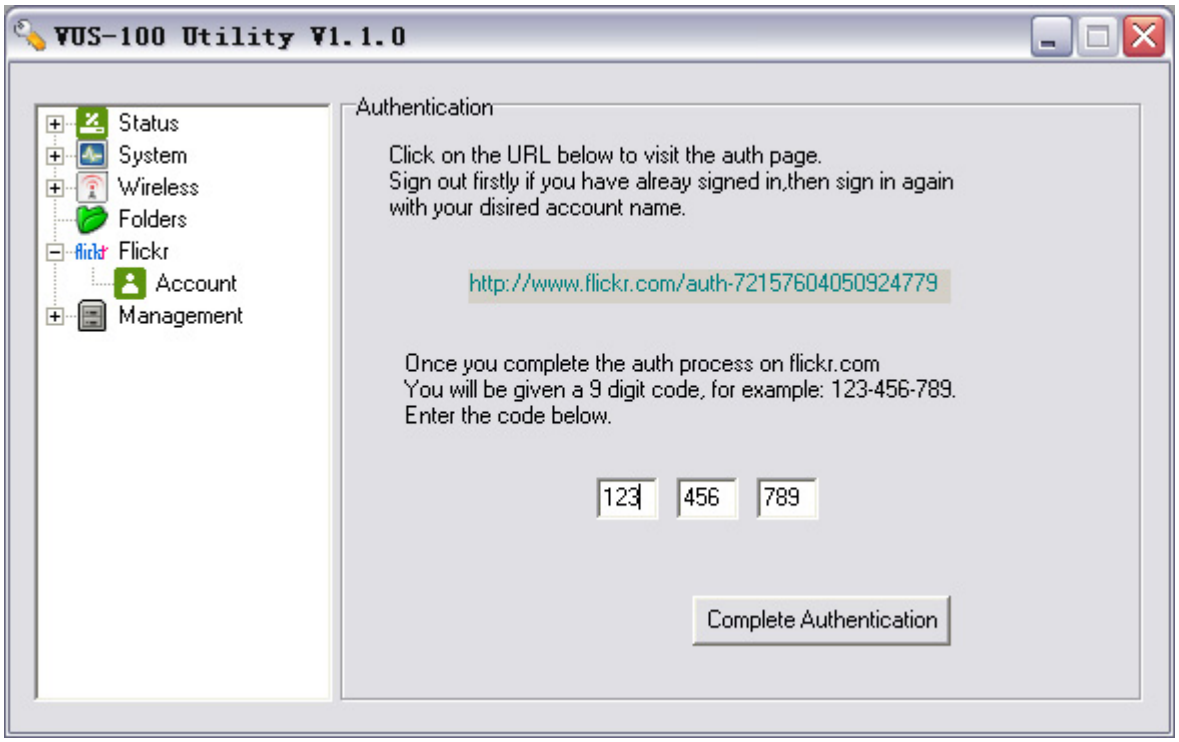


**Figure 19 Authentication**

- **Step 3.** Click the link as shown above: **http://www.flickr.com/auth-72157604050924779** to open Flickr website;

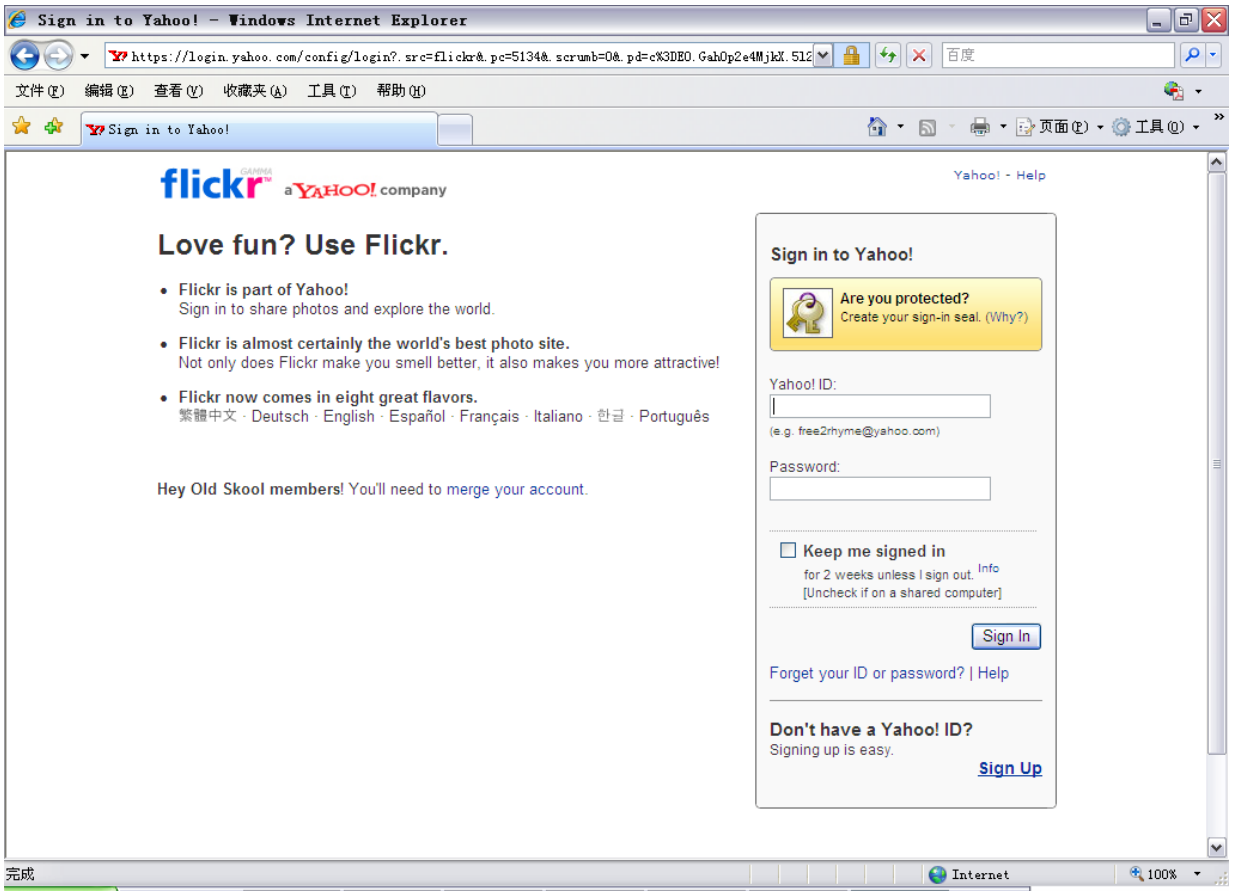


**Figure 20 Login**

- **Step 4.** Input the Username and Password of account that you would like to browse. By clicking **Sign In**, you are entering into the confirm webpage as shown below:

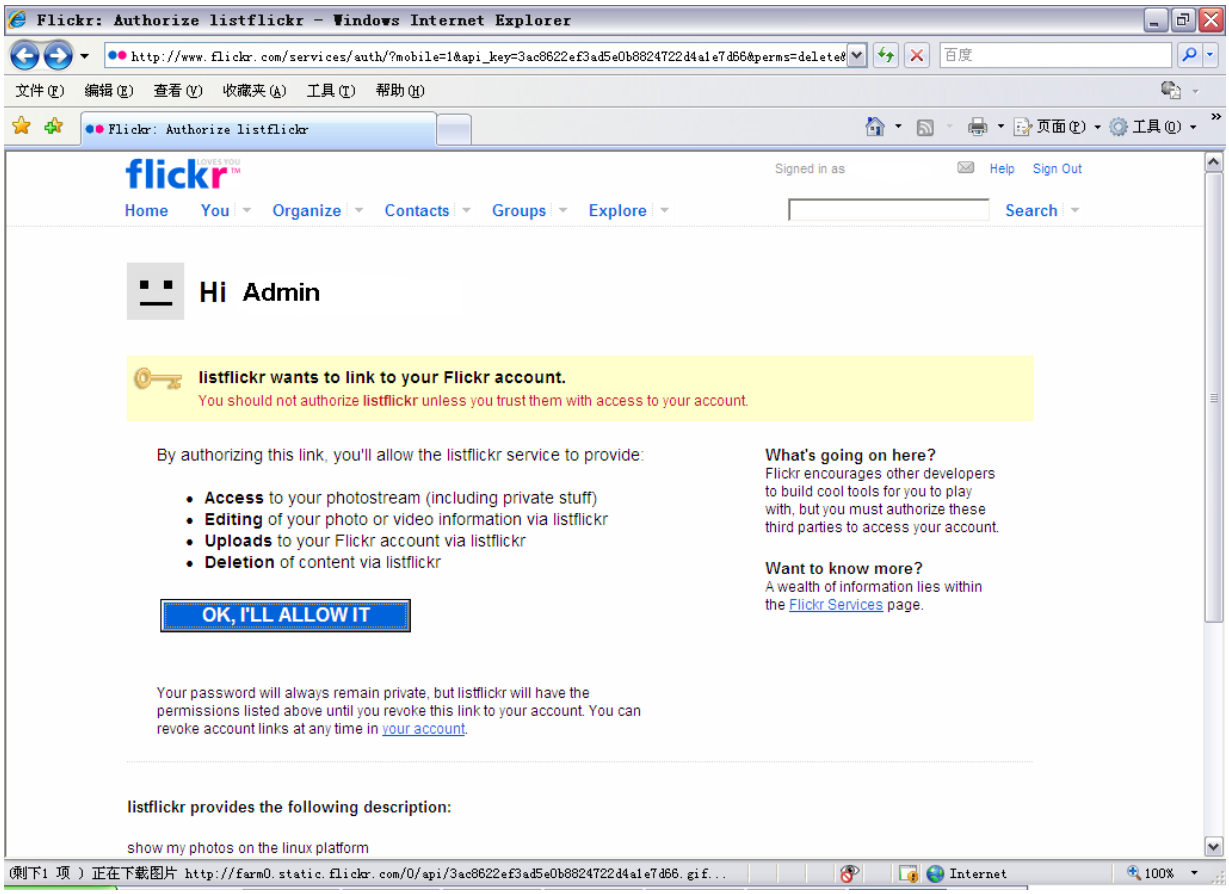


**Figure 21 Confirmation**

- **Step 5.** Click **OK, I'LL ALLOW IT**.

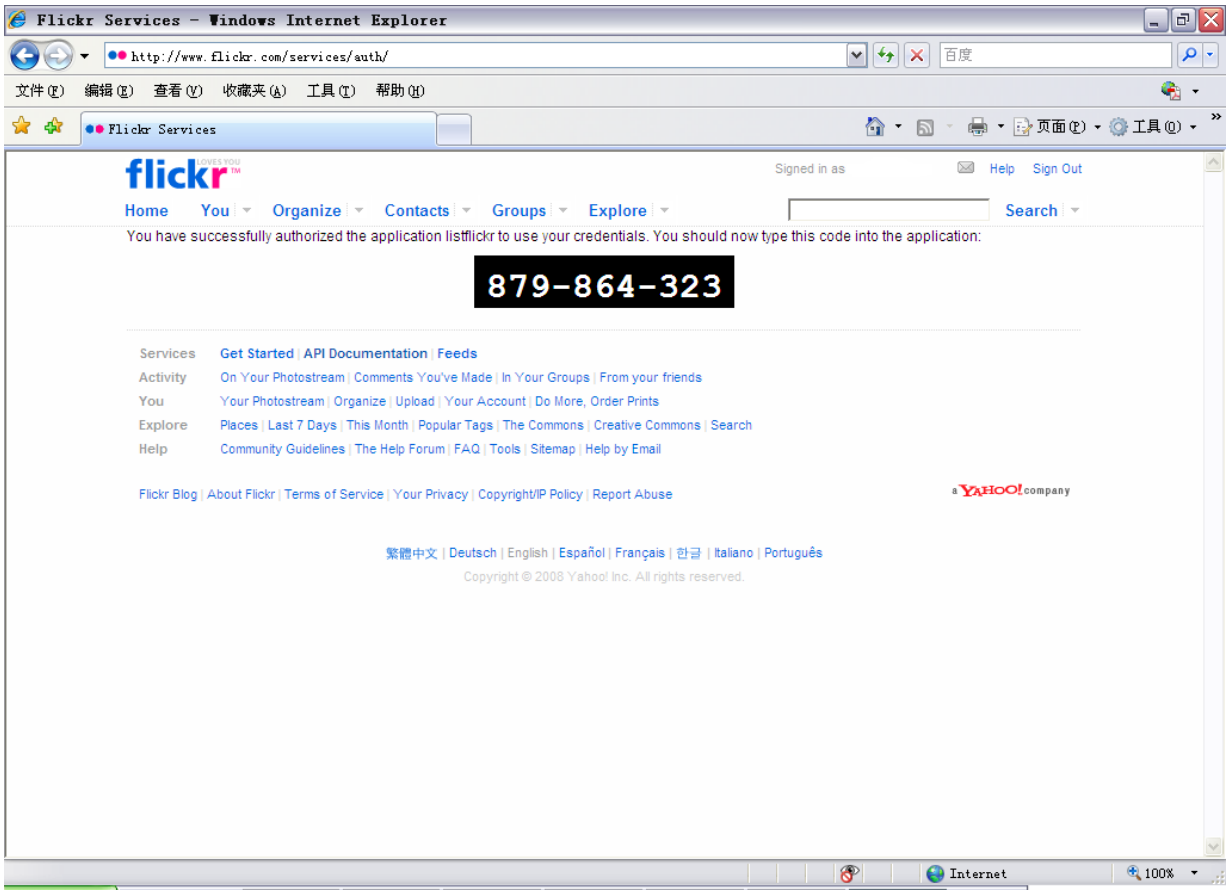


**Figure 22 Code**

- **Step 6.** Type the code that you get into the corresponding field of your Utility, and click **Complete Authentication** to finish the process. Now you can browse that private Flickr Network Album.

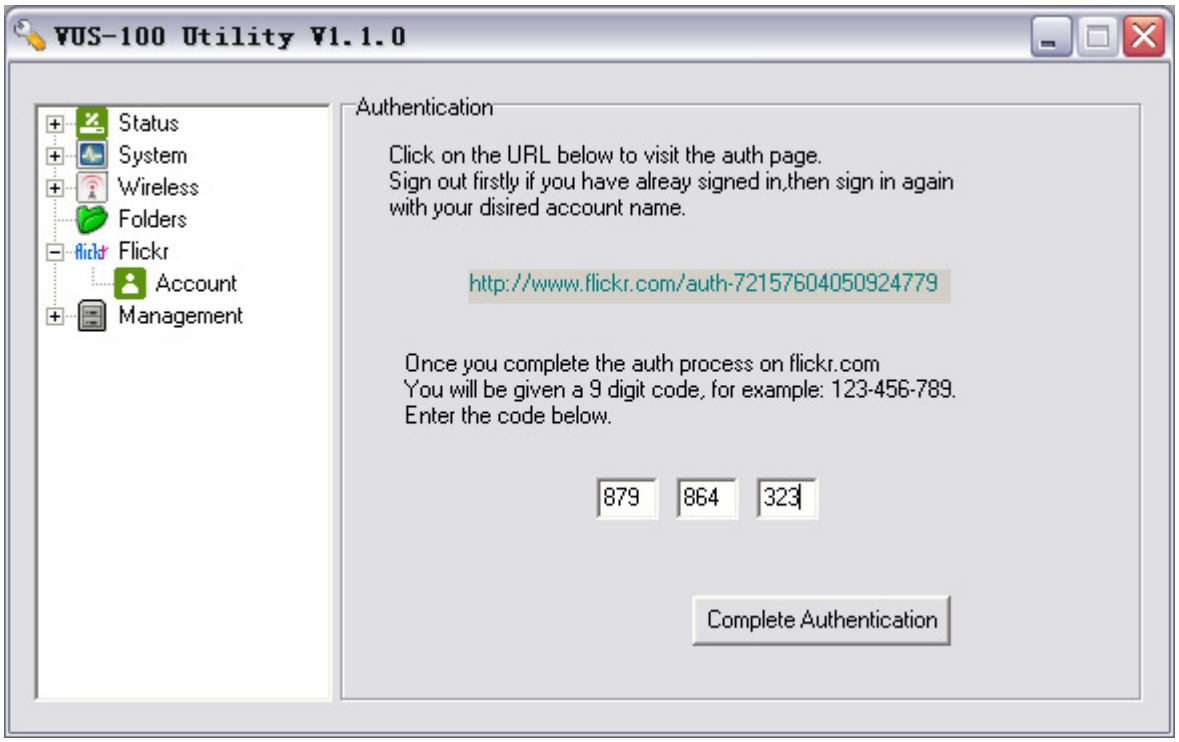


**Figure 23 Input the Code**

# Chapter 6 Management

## View the VUS-100 Basic Information

In the Utility, click **Status** in the left menu bar to view the basic information of your VUS-100. Click **Refresh** to view the real-time information. All is read-only.

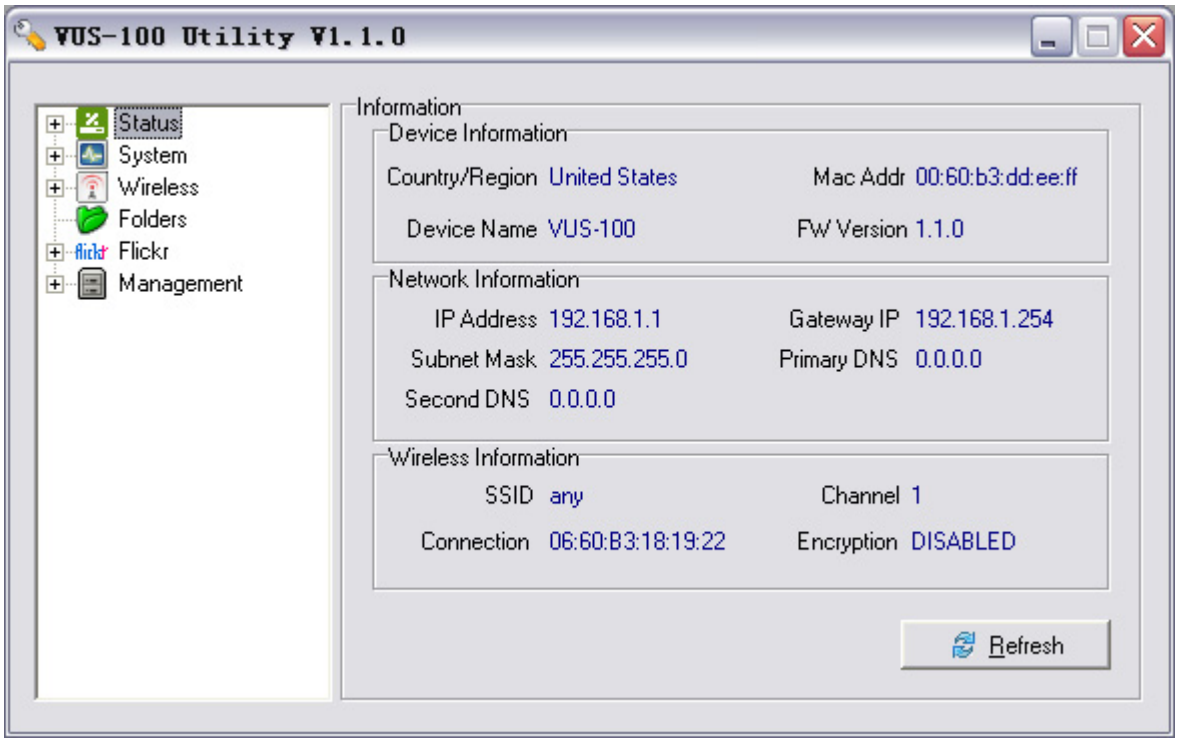


**Figure 24 Basic Information**

## View Statistics Information

In the Utility, click **Statistics** under **Status** in the left menu bar to view the data statistics of VUS-100. Click **Refresh** to view the real-time information. All is read-only.

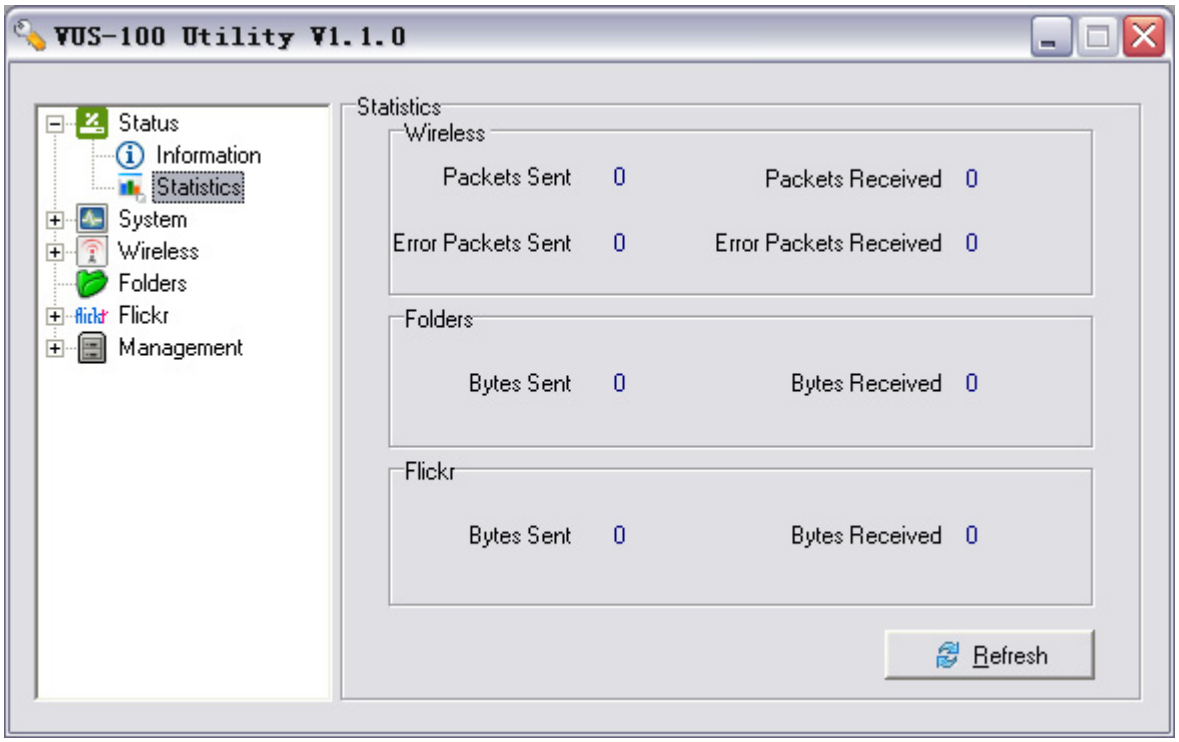


**Figure 25 Statistics**

- **Wireless:** It illustrates the communication statistics with AP.
- **Folders:** It illustrates the communication statistics when browsing the shared folders in LAN.
- **Flickr:** It illustrates the communication statistics when browsing the Flickr network album.

# Firmware Upgrade

VUS-100 provides you with multiple options for firmware upgrade.

- **Upgrade Firmware via Utility**

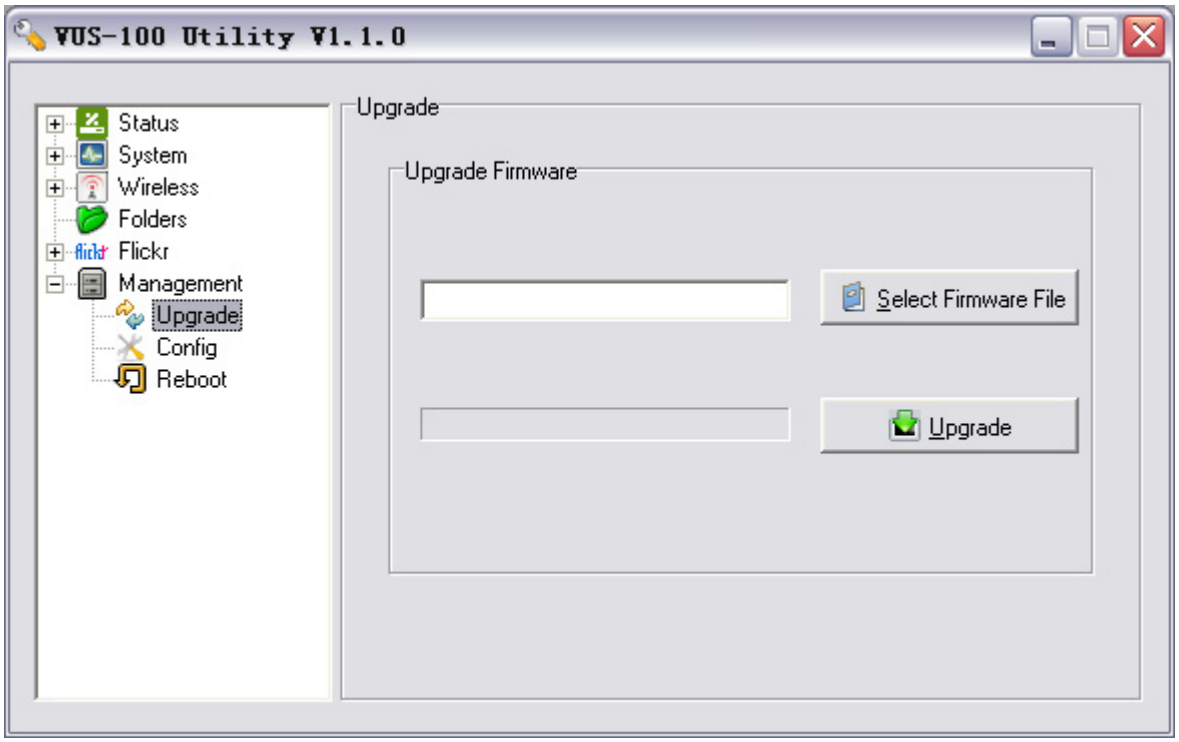


**Figure 26 Upgrade Firmware via Utility**

- Click to open **Management** → **Upgrade** in the left menu bar;
- Click **Select Firmware File** and select the file you would like to upgrade;
- Start upgrade by clicking **Upgrade**;
- A prompt indicating successful upgrade will pop up after the firmware has been upgraded;
- Reboot VUS-100 to let the new firmware be applied.

- **Upgrade Firmware via Web**

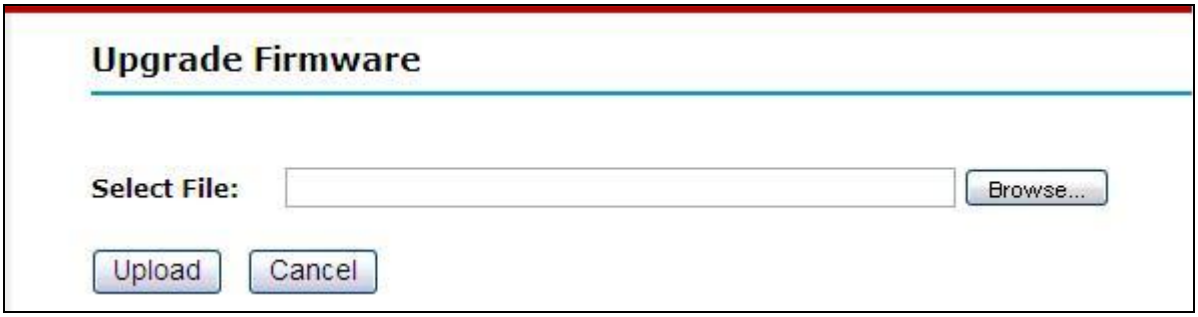


**Figure 27 Upgrade Firmware via Web**

- Click to open **Management** → **Upgrade**;

- Click **Browse** to select the file you would like to upgrade;
- Click **Upload** to start firmware upgrade;
- Reboot VUS-100 to let the new firmware be applied.

# Backup/Restore Settings

It is strongly recommended backing up configuration information in case of something unexpected. If tragedy hits the VUS-100, you may have an access to restore the important files by the backup. VUS-100 provides two ways to backup and restore settings.

- **Backup/Restore Settings via Utility**

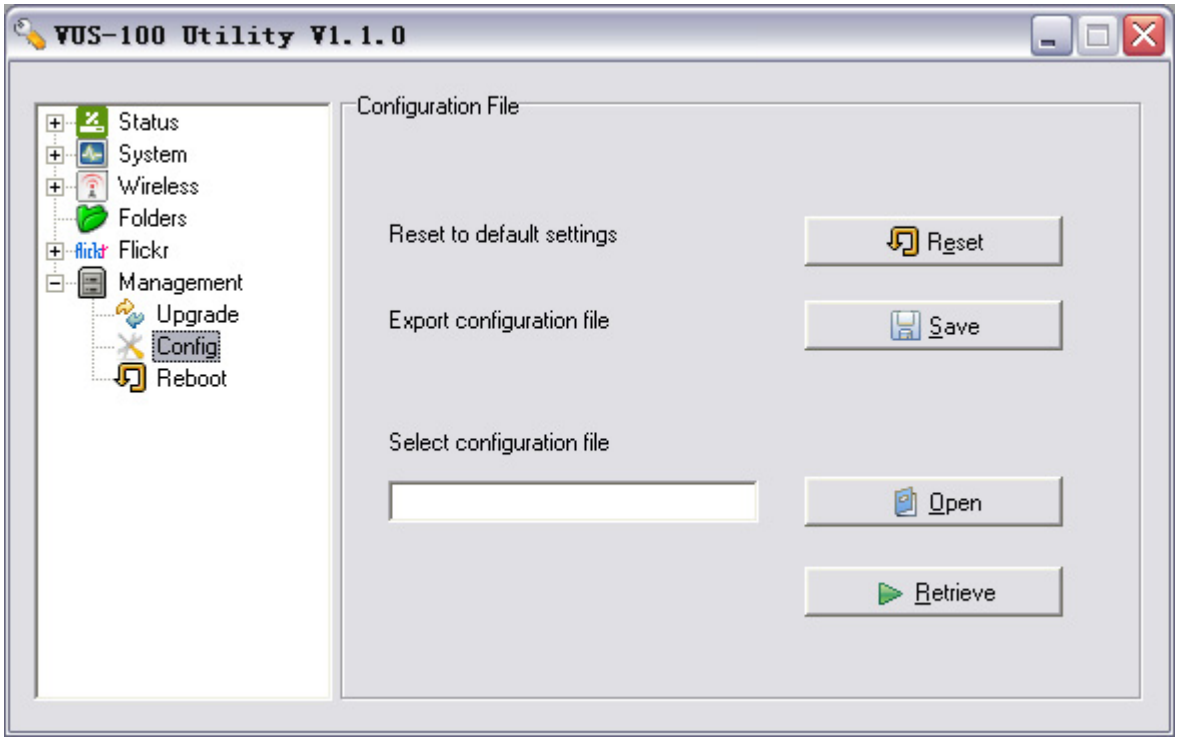


**Figure 28 Backup/Restore Settings via Utility**

**Backup Settings:**

- Click to open **Management** → **Config** in the left menu bar;
- By clicking **Save** a dialog box will pop up, suggesting you select a save path and specify a file name, such as **C:\VUS-100.cfg**.

- After confirming, a **VUS-100.cfg** file will be saved in your local disk.

**Restore Settings:**

- A dialog box will pop up by clicking **Open**, suggesting you select the file that you want to restore, such as C:\VUS-100.cfg;
- Click **Retrieve,** that configuration file will be loaded to your VUS-100;
- A window suggesting reboot your VUS-100 will appear. After reboot, new settings will be applied into your device.

- **Backup/Restore Settings via Web**

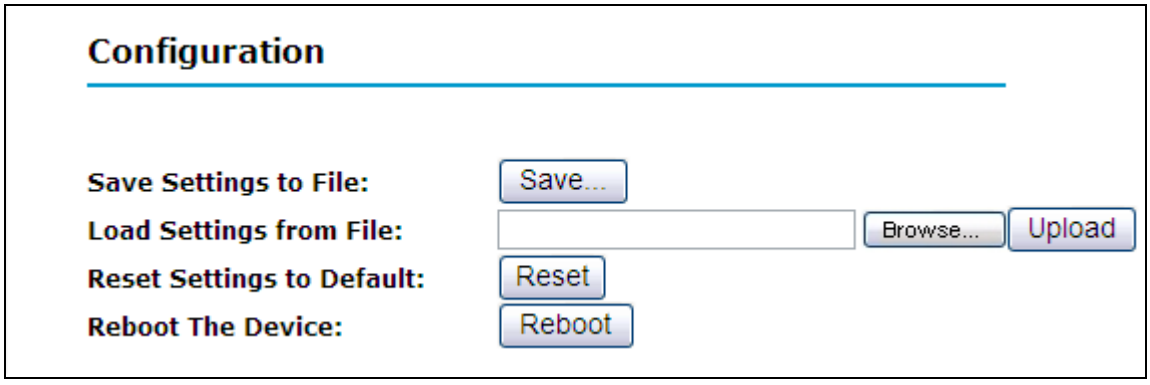


**Figure 29 Backup/Restore Settings via Web**

**Backup Settings:**

- Click to open **Management** → **Configuration**;
- A dialog box will pop up by clicking **Save**, specify the path and file name, like vus-100.cfg;
- This vus-100.cfg file will be saved into your local disk by clicking **Yes**.

**Restore Settings:**

- A dialog box will pop up by clicking **Browse**;
- Select the file you would like to restore, like vus-100.cfg;
- This vus-100.cfg file will be restored into VUS-100 by clicking **Upload**;
- After automatic reboot, the new settings will be applied.

# Restore Factory Default Settings

The VUS-100 provides three ways to restore factory default settings.

- **Restore Factory Default Settings via Utility**

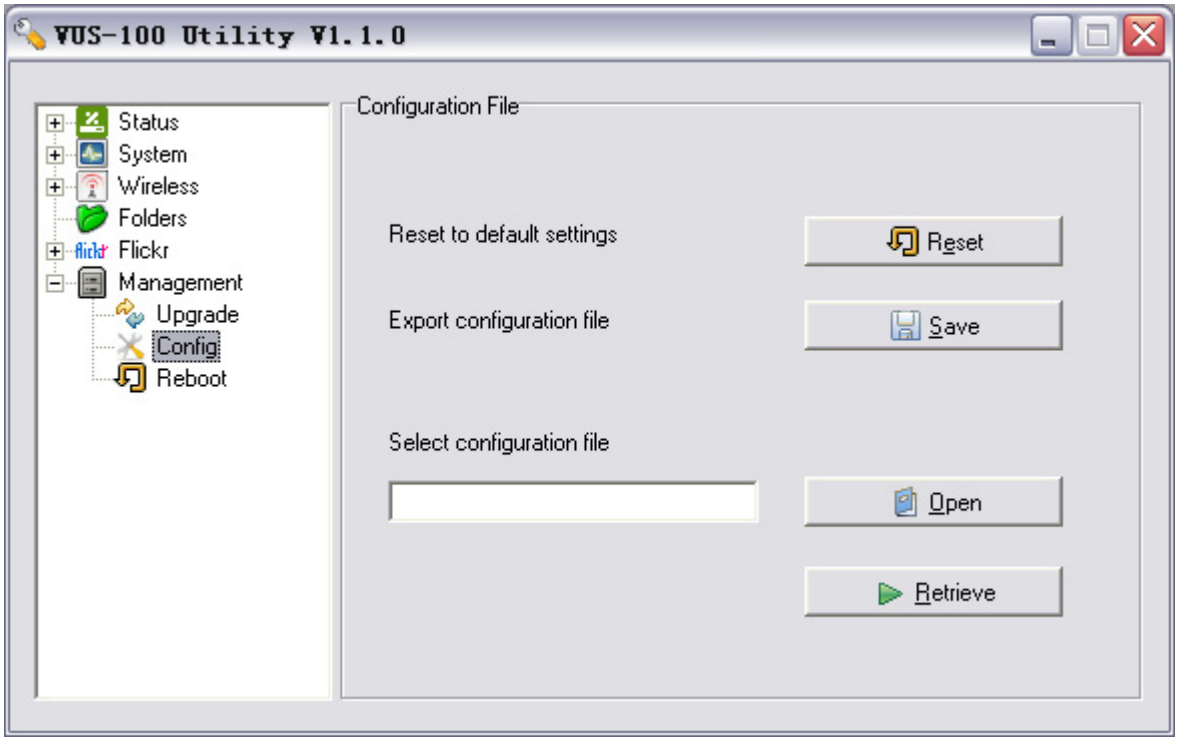


**Figure 30 Restore Factory Default Settings via Utility**

- Click to open **Management** → **Config** in the left menu bar;
- By clicking **Reset** a window will pop up, suggesting you whether to restore factory default settings. Click **Yes** to start the process. It will take about 120 seconds.

- **Restore Factory Default Settings via Web**

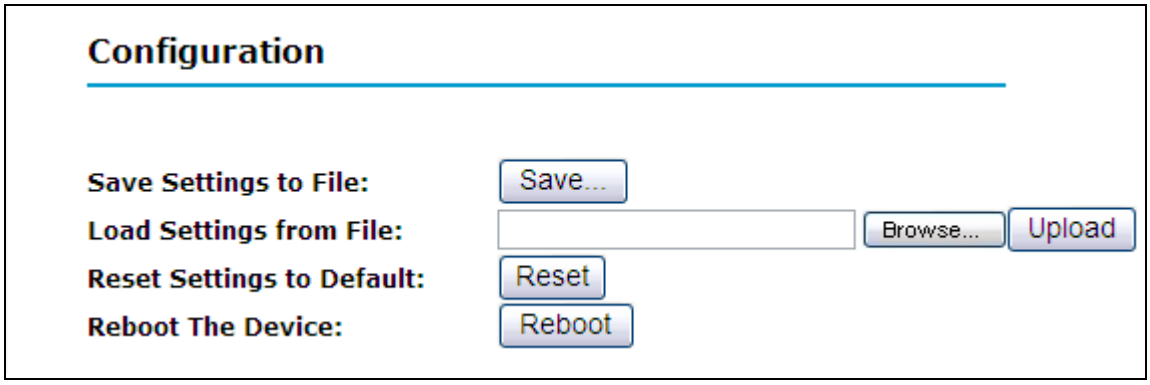


**Figure 31 Restore Factory Default Settings via Web**

- Click to open **Management** → **Configuration**;
- By clicking **Reset** a window will pop up, suggesting you whether to restore factory default settings. Click **Yes** to start the process.

- **Restore Factory Default Settings via Default Button**

When the VUS-100 is working with power switched on, press the default button for about 3 seconds, then the device will reboot and default settings will be applied.

# Reboot

The VUS-100 provides two ways to reboot.

- **Reboot via Utility**

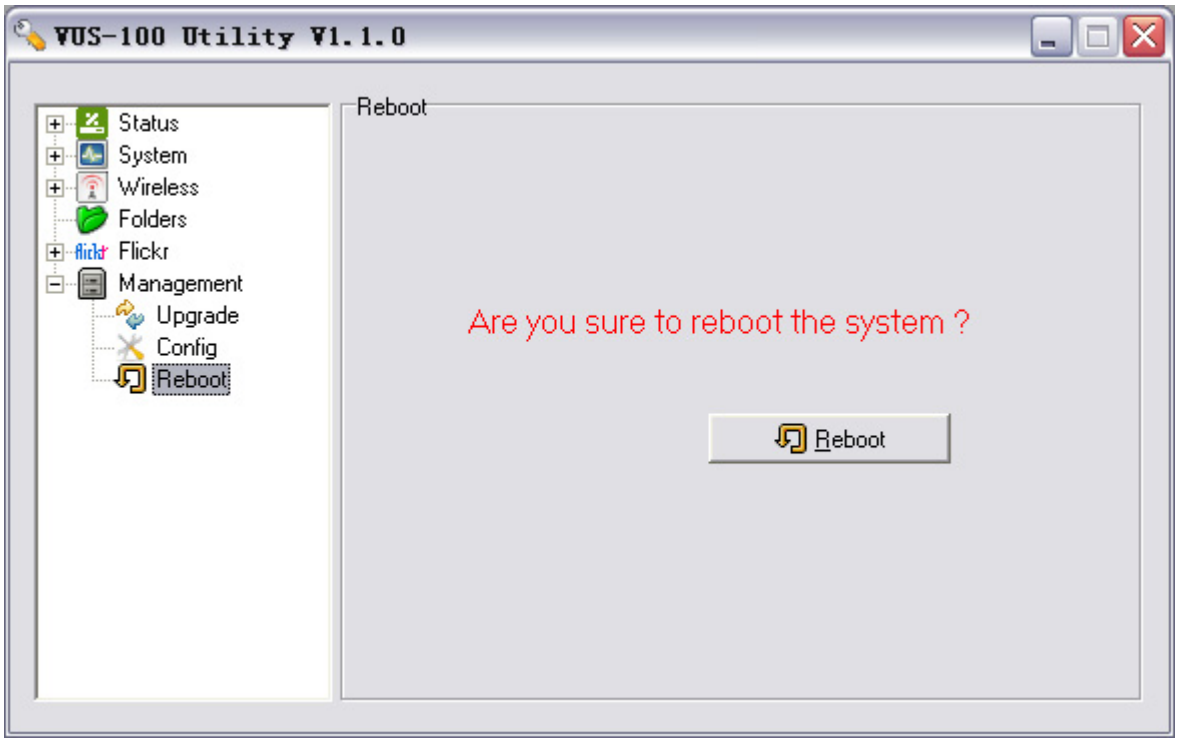


**Figure 32 Reboot via Utility**

- Click to open **Management** → **Reboot** in the left menu bar;
- Please wait for about 120 seconds after clicking **Reboot**, till the reboot process is completed.

- **Reboot via Web**

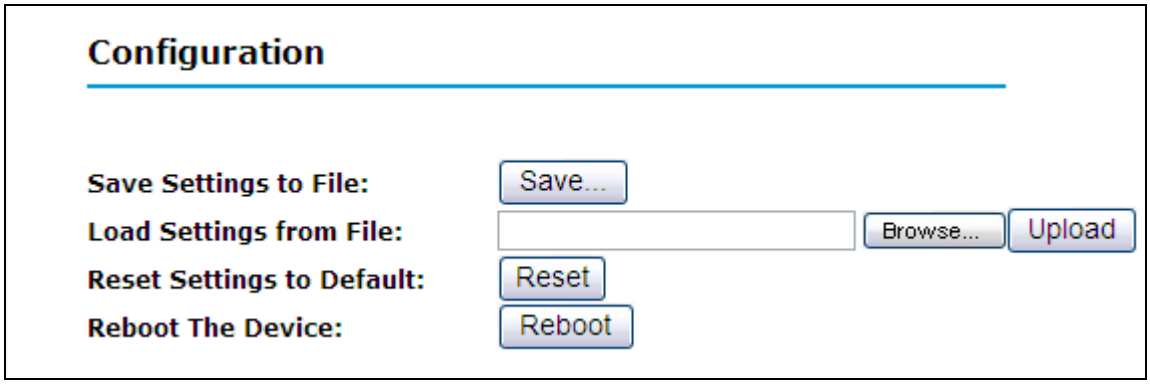


**Figure 33 Reboot via Web**

- Click to open **Management** → **Configuration**;
- By clicking **Reboot** a window will pop up, click **Yes** to start the process.

# Chapter 7 Troubleshooting

## FAQ (Frequently Asked Questions)

**Q 1. How to know the MAC address of my VUS-100?**

MAC address distinguishes itself by the unique identity among network devices. There are three ways available to know it:

- At the bottom of each VUS-100 posted a label with the MAC address, as shown below:
- From the VUS-100 utility, open **Information** in Status to view the MAC address;
- From the VUS-100 Web-based management, open Basic Information to view the MAC address.

**Q 2. Why my VUS-100 fails to access the AP?**

Please check the following settings on both your VUS-100 and the AP:

- Whether Country/Region is identical on both devices;
- Whether SSID is identical on both devices;
- Whether Encryption is identical on both devices;
- Whether you have rebooted your VUS-100 after configuration.

**Q 3. Why can't I browse the shared folders in LAN?**

- Whether the IP address of VUS-100 and PC in LAN are in the same network segment;
- Whether the folder name and path are correct;
- Whether the properties of shared folder is "Shared" and "Writable";
- Whether you have reboot your VUS-100 after configuration?

**Q 4. Why can't I browse photos in Flickr network album?**

- Whether the IP address of VUS-100 is a valid one that can connect to the Internet;
- Whether the Filckr account of the album that you are going to browse is correct;

- Whether the Filckr album that you are going to browse is a private one? If so, please apply for an authority;
- Whether you have reboot your VUS-100 after configuration?

# Technical Support

Please go to **http://www.zcom.com.tw** for the latest firmware. If there is any problem or difficulty during installation and usage, please contact local vendor for support.

Website: **http://www.zcom.com.tw**

Support E-mail: **supportBwa@zcom.com.tw**

Tel : +886-3-5777364

Fax : +886-3-5773359

# Appendix A. Specifications

**Table 3 Product Specifications**

| SPECIFICATION | |
|---|---|
| Model | VUS-100 |
| Standards | - IEEE 802.11b (Wi-Fi Compatible)<br>- IEEE802.11g (Wi-Fi Compatible)<br>- IEEE802.11n (Wi-Fi Compatible)<br>- IEEE802.3af (Power over Ethernet)<br>- IEEE802.1x (Security Authentication)<br>- TCP/IP<br>- UDP<br>- ARP<br>- UPnP<br>- USB |
| Ports | - 1× USB Port<br>- 1× Power |
| LED | - WLAN (Green)<br>- Status (Orange)<br>- WPS (Blue) |
| Button | - 1× Default button<br>- 1× WPS Button |
| System Flash/RAM | 8M Flash; 32M DDR |
| **FEATURE** | |
| Operating Mode | Client |
| DHCP | DHCP Client |
| Power Save | Manual Adjustment:<br>Full, Half(50%), Quarter(25%), Eighth(12.5%), Min |
| **SECURITY** | |
| Administrator Logon | Administrator Logon with SSL/SSH Encryption |
| Authentication | - Open System<br>- Shared Key<br>- WPA with Pre-Shared Key<br>- WPA2 with Pre-Shared Key<br>- WPS（PBC） |

| | |
|---|---|
| Data Encryption | - WEP (40, 128, 152-bit) with Passphrase WEP Key Generation<br>- TKIP<br>- AES |
| SSID Broadcast | Yes |
| **MANAGEMENT** | |
| Web-based Management | Yes. Secure SSL |
| Windows-based Utility | Yes |
| Firmware Upgrade | Utility/ HTTP |
| Save & Load Configuration | Utility /HTTP The Configuration File is human-editable. |
| Adjacent AP/STA Scan | Yes (SSID, BSSID channel, mode(11b/11g/n), security mode) |
| RADIUS Accounting | Yes |
| **WIRELESS** | |
| Antenna | PCB Antenna *1 |
| Output Power (average) | 11b: 16dBm @ 11Mbps<br>11g: 15dBm @ 54Mbps<br>11n: 11dBm @ HT20<br>11n: 11dBm @ HT40 |
| Operating Frequency | 2.412-2.462GHz |
| Modulation | IEEE 802.11g (OFDM/DSSS)<br>48/54 Mbps (QAM-64)<br>24/36 Mbps (QAM-16)<br>12/18 Mbps (QPSK)<br>6/9 Mbps (BPSK)<br>5.5/11 Mbps (CCK)<br>2 Mbps (DQPSK)<br>1 Mbps (DBPSK) |
| | IEEE 802.11b (DSSS)<br>5.5/11 Mbps (CCK)<br>2 Mbps (DPQSK)<br>1 Mbps (DBPSK) |
| Sensitivity | IEEE 802.11b: 11Mbps ≦ -80dBm<br>IEEE 802.11g: 54Mbps ≦-68dBm<br>IEEE 802.11n: 2.4GHz<br>HT20 ≦ -62dBm<br>HT40 ≦ -59dBm |
| Wireless Auto Speed Option | IEEE 802.11b<br>Best,11, 5.5, 2, 1 Mbps |

| | |
|---|---|
| | IEEE 802.11g<br>Best,54, 48, 36, 24, 18, 12, 9, 6 Mbps |
| | IEEE 802.11n Draft 2.0 |
| **ENVIRONMENT** | |
| Dimensions | 40(L)mmx70(W)mmx10(H)mm |
| Weight | <400g |
| Power Supply | DC Adapter : +5V DC@1A |
| Operating Temperature | 0 ~ 55 ℃ |
| Operating Humidity | 10 ~ 95% Non-Condensing |
| Storage Temperature | -10 ~ 65 ℃ |
| Storage Humidity | 5 ~ 95% Non-Condensing |
| Green policy | RoHS Compliant |
| Warranty | 12 months |

# Appendix B. Technical Terms

**Table 4 Technical Terms**

| Terms | Description |
|---|---|
| IEEE 802.11n | An extension to 802.11 specification developed by the IEEE for wireless LAN (WLAN) technology. 802.11n builds upon previous 802.11 standards by adding multiple-input multiple-output (MIMO). The additional transmitter and receiver antennas allow for increased data throughput through spatial multiplexing and increased range by exploiting the spatial diversity through coding schemes. The speed is 100 Mbit/s, and so up to 4-5 times faster than 802.11g. 802.11n also offers a better operating distance than current networks. |
| Access Point | A base station in a wireless LAN, which is typically a wireless Ethernet (Wi-Fi) LAN. It is typically a stand-alone device that plugs into an Ethernet switch or hub. If more than one access point is used, like a cellular phone system, users can roam with their mobile devices and be handed off from one cell to another. |
| WEP | Wired Equivalent Protection, is a kind of data encryption. WEP 40bits/128bits is the standard of IEEE 802.11. this encryption method enhances the security of wireless network. |
| DHCP, DHCP Client, DHCP Server | DHCP, Dynamic Host Configuration Protocol. An Ethernet protocol specifying how a centralized DHCP server can assign network configuration information to multiple DHCP clients. The assigned information includes IP addresses, DNS addresses, and gateway (router) addresses. |
| Encryption | To secure the communication between the wireless device and other devices, encryption is implemented to protect secret against attack. |
| IP Address and Network Mask | IP Address is a four-byte number uniquely defining each host on the Internet, usually written in dotted-decimal notation with periods separating the bytes (for example, 134.177.244.57). Ranges of addresses are assigned by Internet, an organization formed for this purpose. Combined with the IP address, the IP Subnet Mask allows a device to know which other addresses are local to it, and which must be reached through a gateway or router. |
| MAC | The Media Access Control address is a unique 48-bit hardware address assigned to every network interface card. |
| Router | A device that forwards data between networks. An IP router forwards data based on IP source and destination addresses. |

# Appendix C. ASCII

WEP can be configured with a 64-bit or 128-bit Shared Key (hexadecimal number or ACSII). As defined, hexadecimal number is represented by 0-9, A-F or a-f; ACSII is represented by 0-9, A-F, a-f and punctuation. Each consists of two-digit hexadecimal.

**Table 5 ASCII**

| ASCII Character | Hex Equivalent | ASCII Character | Hex Equivalent | ASCII Character | Hex Equivalent | ASCII Character | Hex Equivalent |
|---|---|---|---|---|---|---|---|
| ! | 21 | 9 | 39 | Q | 51 | i | 69 |
| " | 22 | : | 3A | R | 52 | j | 6A |
| # | 23 | ; | 3B | S | 53 | k | 6B |
| $ | 24 | < | 3C | T | 54 | l | 6C |
| % | 25 | = | 3D | U | 55 | m | 6D |
| & | 26 | > | 3E | V | 56 | n | 6E |
| ‘ | 27 | ? | 3F | W | 57 | o | 6F |
| ( | 28 | @ | 40 | X | 58 | p | 70 |
| ) | 29 | A | 41 | Y | 59 | q | 71 |
| * | 2A | B | 42 | Z | 5A | r | 72 |
| + | 2B | C | 43 | [ | 5B | s | 73 |
| , | 2C | D | 44 | \ | 5C | t | 74 |
| - | 2D | E | 45 | ] | 5D | u | 75 |
| . | 2E | F | 46 | ^ | 5E | v | 76 |
| / | 2F | G | 47 | _ | 5F | w | 77 |
| 0 | 30 | H | 48 | ` | 60 | x | 78 |
| 1 | 31 | I | 49 | a | 61 | y | 79 |
| 2 | 32 | J | 4A | b | 62 | z | 7A |
| 3 | 33 | K | 4B | c | 63 | { | 7B |
| 4 | 34 | L | 4C | d | 64 | \| | 7C |
| 5 | 35 | M | 4D | e | 65 | } | 7D |
| 6 | 36 | N | 4E | f | 66 | ~ | 7E |
| 7 | 37 | O | 4F | g | 67 | | |
| 8 | 38 | P | 50 | h | 68 | | |

7F-2,No.9.Prosperity RD. I
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Fax:886-3-5773359

# Federal Communications Commission (FCC) Interference Statement

This device, IEEE 802.11b/g/n Wireless Media Adapter, complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- ✧ This device may not cause harmful interference.
- ✧ This device must accept any interference received; including interference that may cause undesired operation.

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

"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, and (2) this device must accept any interference received, including interference that may cause undesired operation."

**Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.**

**Caution:**

1. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment, under 47 CFR 2.1093 paragraph (d)(2).
2. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The IEEE 802.11b/g/n Wireless Media Adapter has been tested to the FCC exposure requirements (Specific Absorption Rate)