KWA-O1850-I

User Manual

Copyright

Preface

About this manual

The purpose to use this manual is for install the wireless Access Point. This manual is including disposing course and method and helping the customer to solve the unpredictable problem.

The following typographical conventions are used in this purpose:

*** Notice:

This indicates an important Note.

!!! Caution:

This indicates a warning or caution.

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Chapter 1 Introduction

Introduction

KWA-O1850-I is designed for outdoor environment application, the KWA-O1850-I work on 5GHz，and is a high-performance outdoor-deployable wireless bridge that provides wireless connectivity among multiple network location. It provides higher reliability and changeable channel bandwidth, for long distance point to point connectivity of up to 40km.

Based on powerful FDD technology, it is the best way to ensure higher quality between multi-media transitions, for example, video, voice and image as well. Also, it is a right solution for telecommunication.

Appearance of Product

Figure 1 **KWA-O1850-I**

Features and Benefits

- Support 802.3af PoE (Power over Ethernet)
- Support 5/10/20/40 MHz channel bandwidth
- Support FDD mechanism, to ensure quality for multi-media application
- Support friendly WEB-Based interface for management
  Support SNMP remote management

Typical Application

Design for long distance point to point connection. Such as ISP, it is the best choice as low cost, short construction time for broadband wireless access of enterprise.

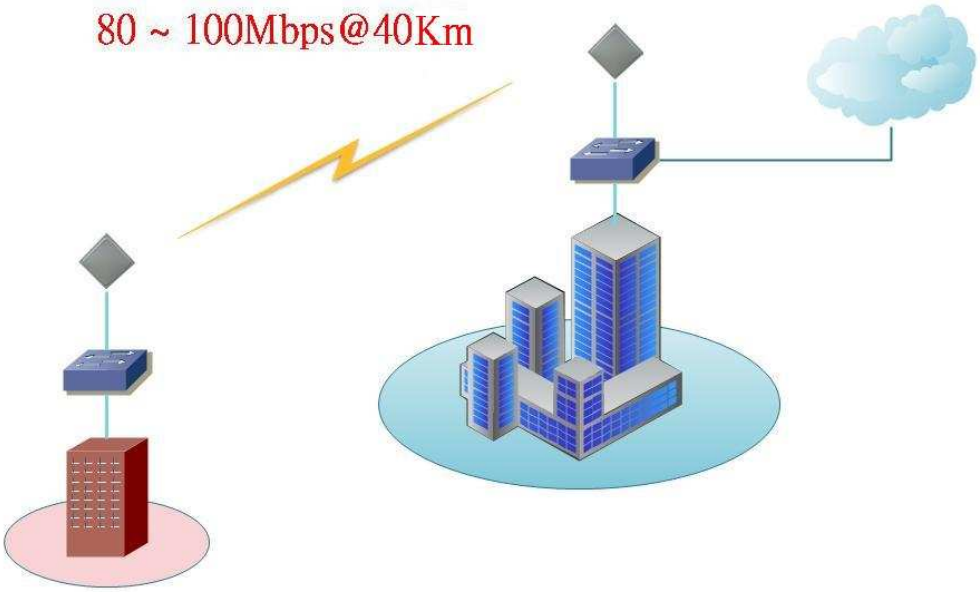

Figure 2 **Point-to-Point**

Chapter 2 Hardware Installation

System Requirement

Installation of outdoor unit of KWA-O1850-I system requirement:

- Two PC with RJ-45 connector NIC supporting the transfer rate of 10/100Mbps data
- The IP address of NIC should be the same subnet with the AP such as 192.168.1.X , the default IP address of AP is 192.168.1.1
- Microsoft Internet Explorer 6 or above.

Product Kit

- KWA-O1850-I x 1
- PoE Injector x 1
- Power Code x 1
- Mounting Kit x 1

Hardware Installation

The following steps will help you while installing KWA-O1850-I.

LED Descriptions

Definition of LED on the Motherboard：

LED	Status	Description
Power	Blue	Power ON
STATUS	Blue	Power on lights 10 Sec then OFF
Remote RSSI	Blue	CPE：Go around while surveying (not connect yet), Represent strength of RSSI after connected. Low (1 LED) → High (4 LEDs)
RST		Push 5 seconds then release to reset device

Figure 3 **LED Definition**

Chapter 3 Basic Settings

Factory Default Settings

We'll elaborate the KWA-O1850-I factory default settings. You can re-acquire these parameters by default. If necessary, please refer to the "Restore Factory Default Settings".

Item	Factory default
Login	
User Name	admin
Password	password
System	
Device Name	KWA-O1850-I
Ethernet Speed / Duplex	Automatic
IP Setting	IP Address / Netmask：192.168.1.1/24 （=192.168.1.1/255.255.255.0）
	Default Gateway：No
	DNS Server：No
Wireless Setup	
Remote Mac Address	No
TX Radio	A or B
Bandwidth / Freq.(A)	20MHz@5120MHz
Bandwidth / Freq.(B)	20MHz@5120MHz
TX Modulation	16QAM1/2
TX Power	16dBm
Management Setup	
SNMP Setting	SNMP Agent: Disable
	Read Community: public
	Write Community: private
	System Contact: No
	System Location: No
	IP Address to Receive Traps: No
Time Setting	Time Zone: (GMT+08:00)Beijing, Chongqing, Hong Kong, Urumchi,Taipei
	Daylight Saving Time(DST):
	Time Server: pool.ntp.org

Figure 4 **Default Settings**

How to Login the WEB-Based Interface

The KWA-O1850-I provides you with user-friendly Web-based management tool.

Open IE and enter the default IP address (**Default: 192.168.1.1 and 192.168.1.2**) and Login as below：

Figure 5 **Login Interface**

Enter the username (Default: **admin**) and password (Default: **password**) and click “Login”

!!! Caution

IP address of your PC must be the same subnet of device

After login, you can check basic information of device, such as MAC address off device, Firmware version, etc.

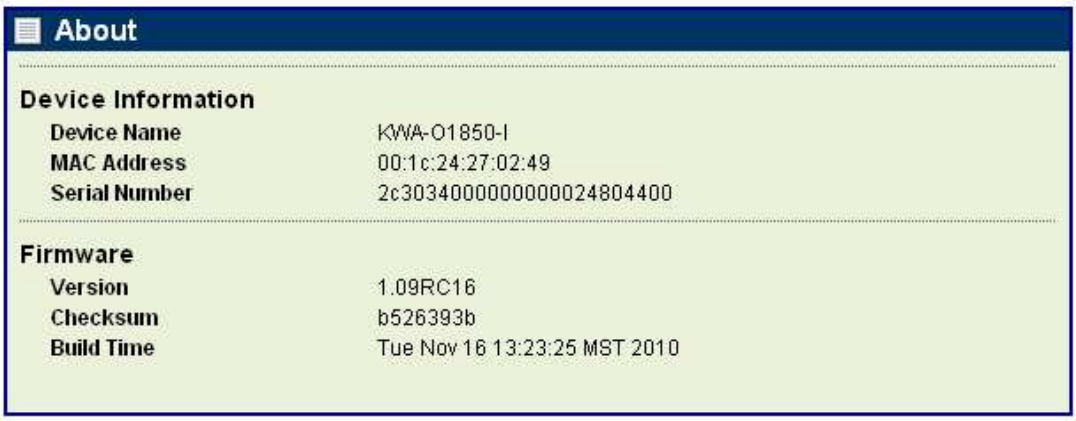

Figure 6 **Device Information**

Basic System Setup

Into System Setup, you can do basic settings of device：

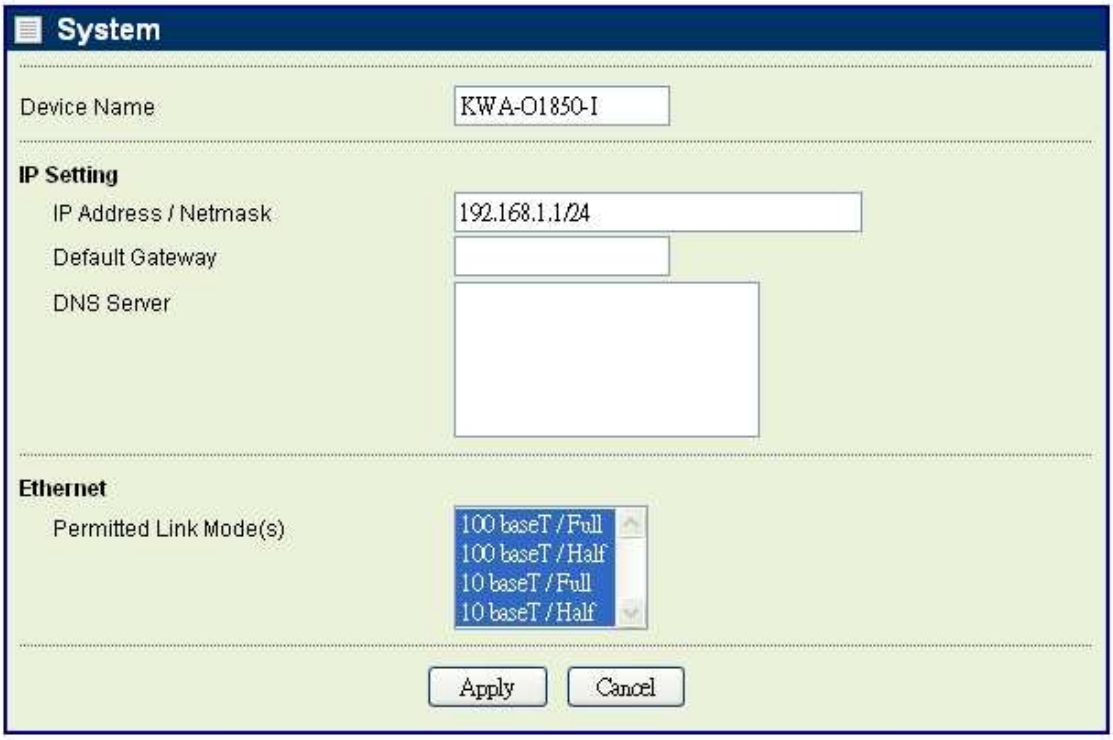

Figure 7 **System Settings**

Device Name

Specify the device name, which is composed of no more than 15 characters with (0-9), (A-Z), (a-z) or (-).

IP Address / Netmask

You have to specify a static IP address, subnet mask. Use subnet mask to ensure two devices in the same network. The /24 is the binary system.

Such as :

192.168.1.1 / 24 = 192.168.1.1 / 255.255.255.0

192.168.1.1 / 25 = 192.168.1.1 / 255.255.255.128

Default Gateway

Default gateway and DNS server for your local area network which connects to the LAN port.

Ethernet Data Rate

Specify the transmission rate of data, default is Automatic.

Automatic (T-Base100Mbps Full / T-Base100Mbps Half /T-base10Mbps Full / T-base10Mbps Half)

DNS Sever

You can set domain name server on the blank area.

Chapter 4 Wireless Settings

Basic Wireless Settings

Configure basic settings as following:

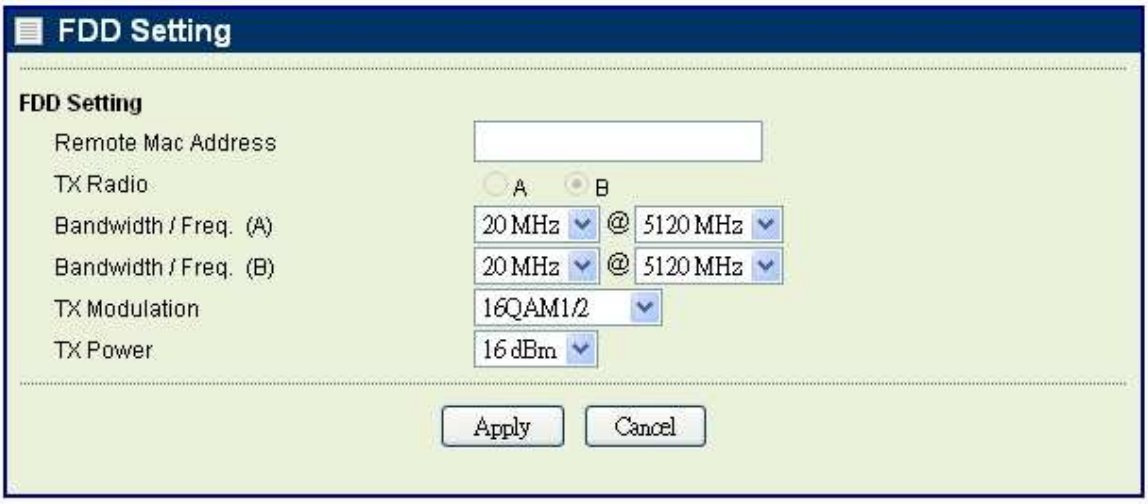

Figure 8 **parameters of wireless**

Remote MAC Address:

To specify remote device MAC address. Two devices have to assign MAC address of each other. And make sure the same parameters of Security, Radio for connection.

Tx Radio:

To select Tx Radio on A or B.

RF Bandwidth / Frequency

Decide radio A and B's RF bandwidth (Including 20 / 40 MHz.) and frequency.

TX Modulation

Normally choice transmission rate as "Best", system will adapt best rate for real environment.

Including 64QAM 3/4, 64QAM 2/3, 16QAM 3/4, 16QAM 1/2, QPSK 3/4, QPSK 1/2, BPSK 3/4, BPSK 1/2

Data Rate (Mbps)	BPSK 1/2	BPSK 3/4	QPSK 1/2	QPSK 3/4	16QAM 1/2	16QAM 3/4	64QAM 2/3	64QAM 3/4
20MHz	6	9	12	18	24	36	48	54
40MHz	12	18	24	36	48	72	96	108

Figure 9 **Data Rate vs. RF Bandwidth**

TX Power

Transmission power is between 9 dBm to 23 dBm.

Status

In this page, it can show remote bridge RSSI for local bridge and local bridge RSSI for remote bridge. We can decide the best direction of antenna from following steps:

1. We check the RSSI only in one side. (We call it local side.)
2. Fix remote side antenna, and adjust local side antenna. In local side, check the “RSSI” first, to find a best RSSI and then fix the local antenna.
3. Adjust the Remote antenna, to find the Best Remote RSSI, and then fix the remote antenna.
4. If “RSSI” is changed, and worse than before, adjust local antenna again to get a best one and fix local antenna.
5. If “Remote RSSI” is changed and worse, adjust remote antenna again.
6. Follow the same ways to get a better RSSI and Remote RSSI value. And Fix both side antennas.

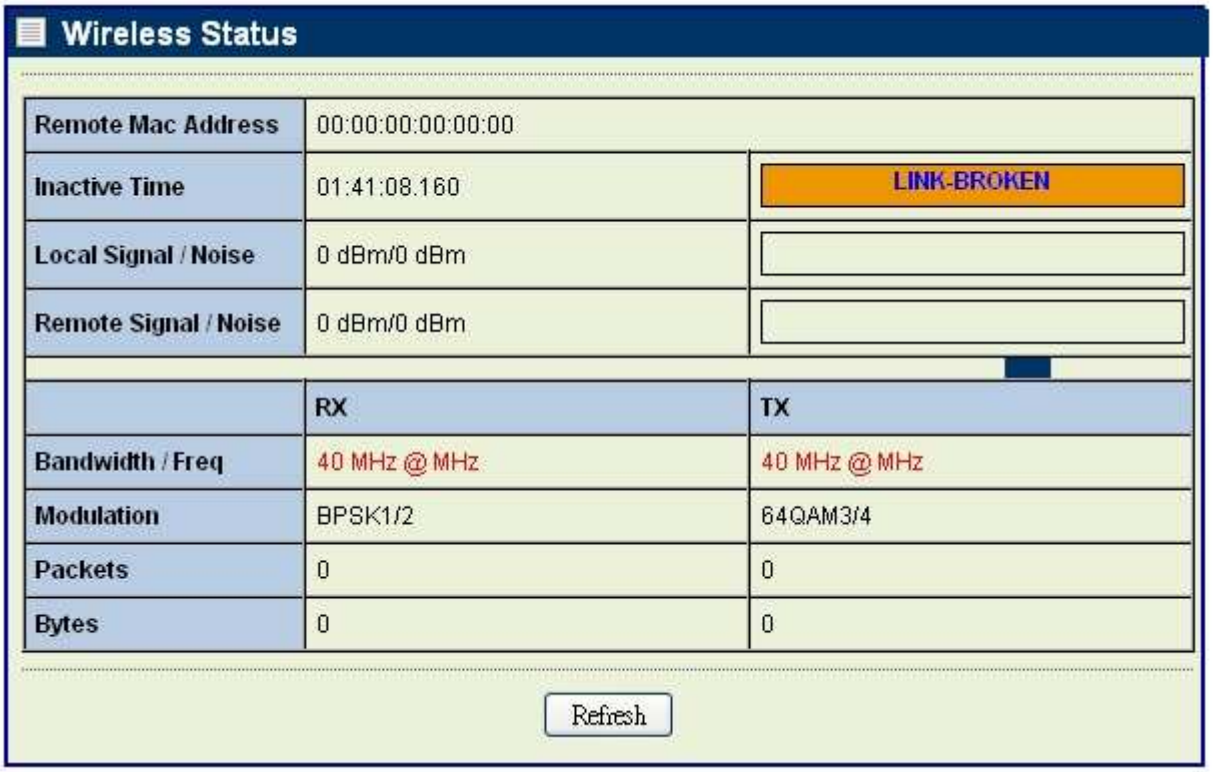

Figure 10 **Status**

Chapter 5 Management

Upgrade Firmware

Via WEB interface to upgrade firmware：

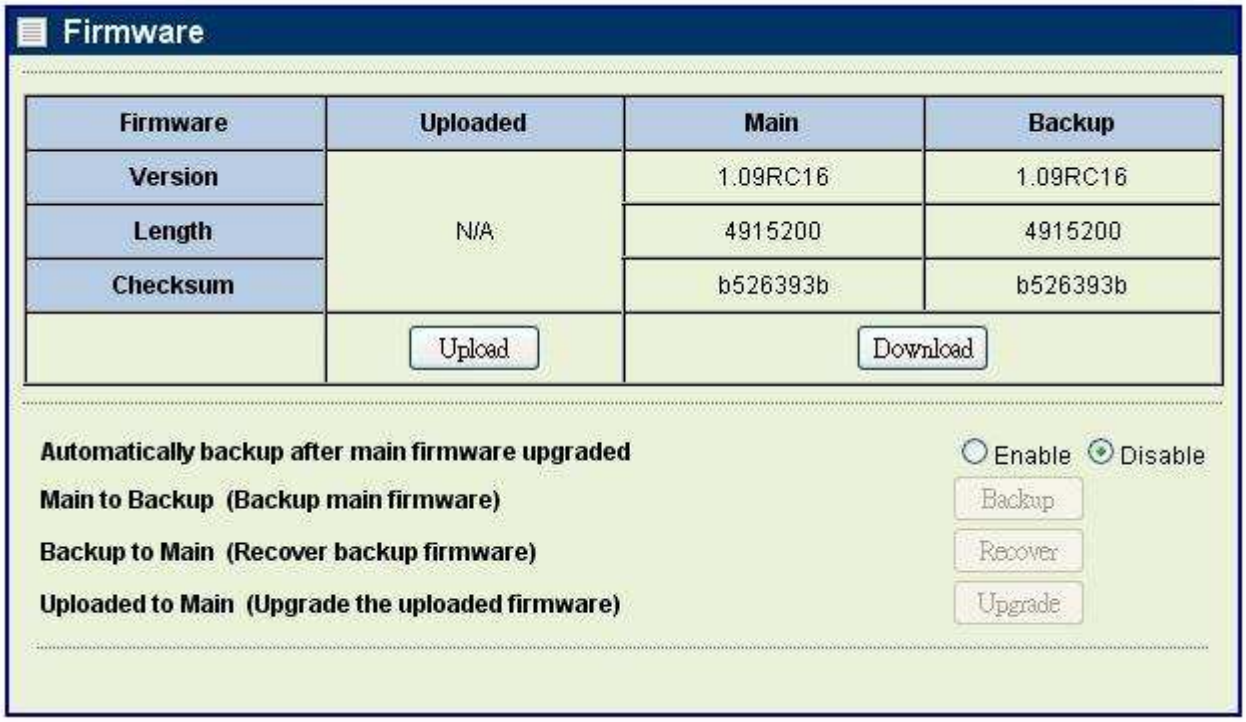

Figure 11 **Upgrade Firmware**

1. Open “Firmware” page。
2. Click “Upload” to select new “Firmware” and the device will upgrade the firmware automatically
3. Main: It’s show current firmware.
4.Backup : It can backup the main firmware.

After checked Firmware by system, it starts to upgrade firmware, and will back to Login page after firmware upgrade successful, otherwise system will show you the reason why it failed.

!!! Caution

Do NOT cut the power off during upgrade, otherwise the system may crash!

Backup/Restore

It would be better to backup settings of device after it work fine, so that you can recover settings quickly when something go wrong.

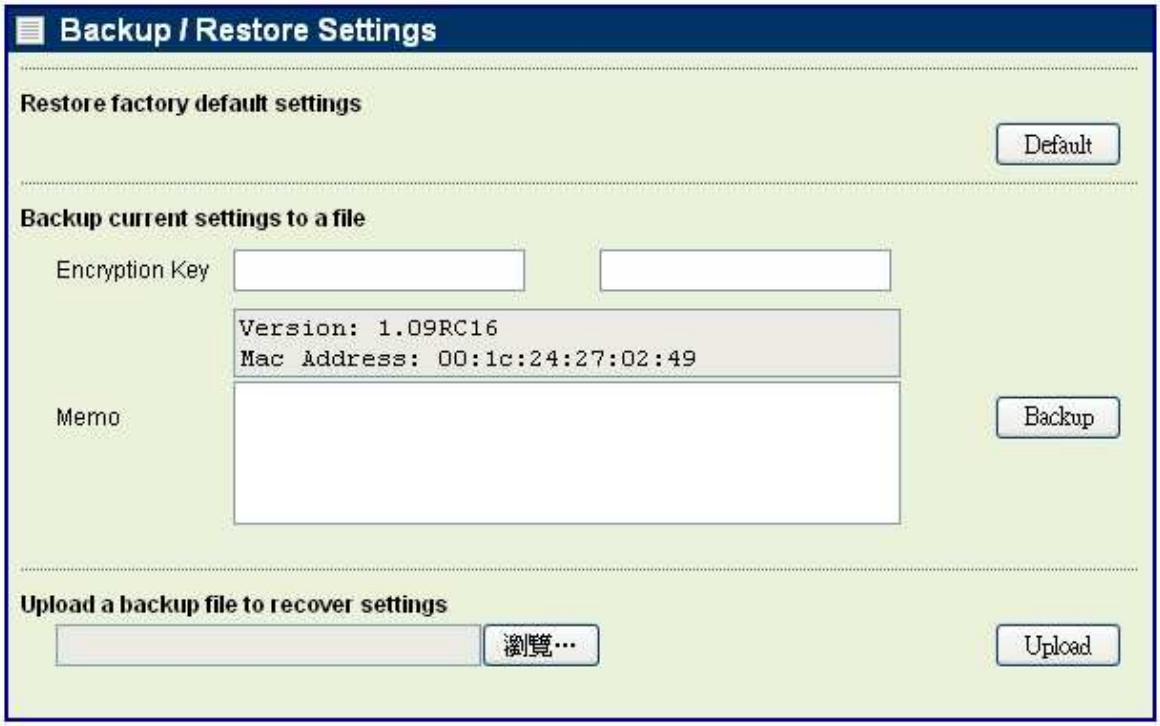

Figure 12 **Backup/Restore**

Open "**Backup/Restore**" page, click "**Default**", device will back to factory settings, or push "**RST**" button as device active, then it will back to factory settings after Alarm LED stop flash.

Open "**Backup/Restore**" page，click "**Backup**", it will pop up a dialog for input path and filename, such as **C:**, and it will save "**config.hfm**" in the local disk after that.

Open "**Backup/Restore**" page, click "Browser"，It will pop up a dialog to choice what file you want to restore, such as "**C:\config.hfm**", then click "**Upload**, the settings of the file will be restored back to device, and it will active for the device after auto reboot.

Change Password

Via “HTTP Setting”，you can modify password for WEB management.

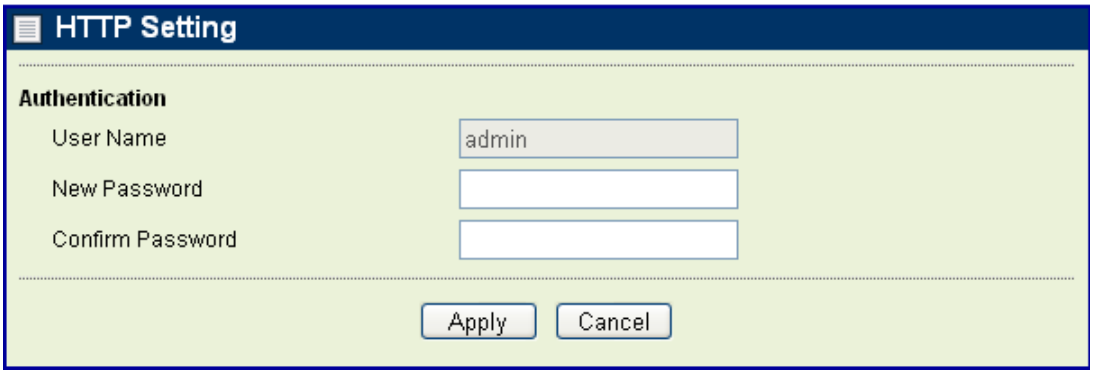

Figure 13 **Password**

You have to enter new password and confirm password then click apply it will change the password. (Maximum length of password is 63 character.)

Remote Management

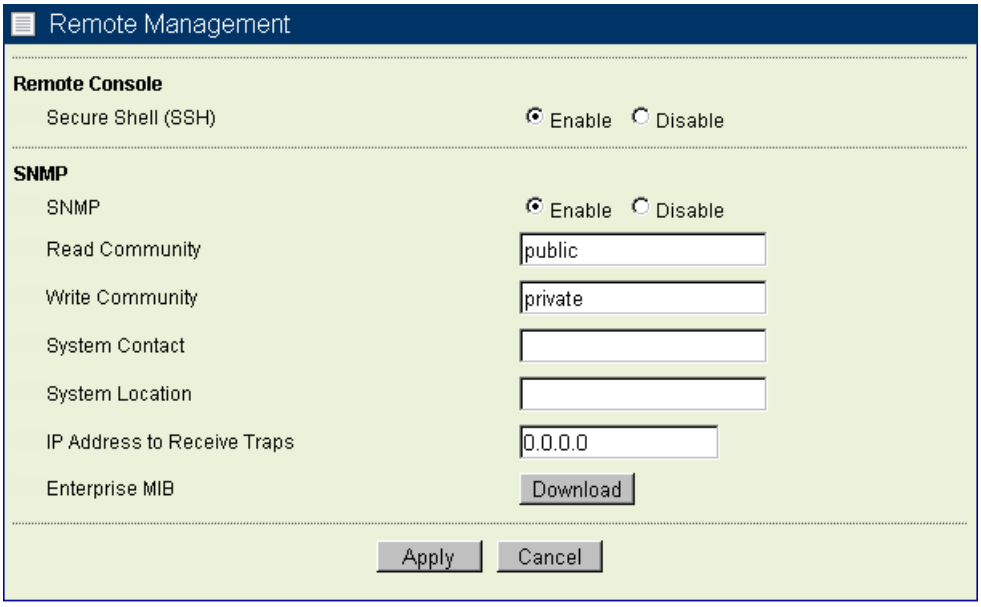

Figure 14 **Remote Management**

Remote Console

The KWA-O1850-I supports CLI management, which could be accessed by Secure Shell (SSH). It is recommended PuTTY be used to login. Download it from http://www.putty.org/ for free. The minimum system requirement for using PuTTY is Windows 95, 98, ME, NT, 2000, XP and Vista on Intel x86.

Follow the steps below to implement:

Once the program is downloaded, open up by double-clicking. Note that before using PuTTY, be sure you are able to connect to the WiFD2 bridge.

Enter IP Address of KWA-O1850-I (Default: 192.168.1.1), Port (22) and check SSH as connection type;

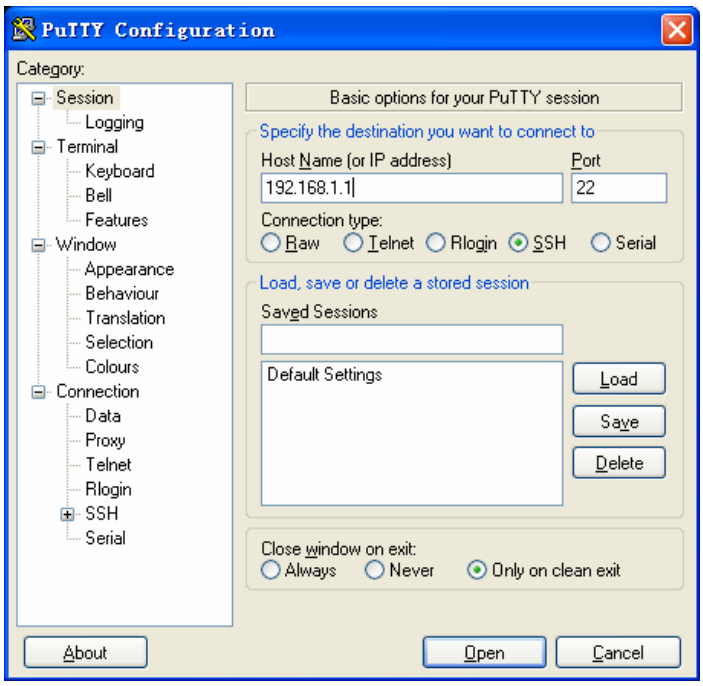

Figure 15 **PuTTY Configuration**

Click “**Open**”, a window as below will popup:

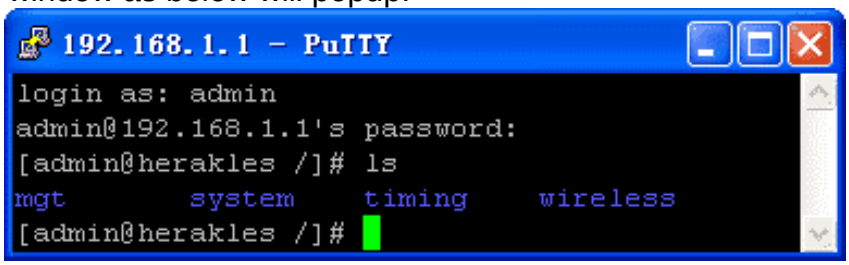

Figure 16 **SSH**

Enter the user name and password (Default user name/ password: admin/password) respectively, Afrer login it will show “**admin@herakles/**” and you can enter “help” to get more information.

Time Server

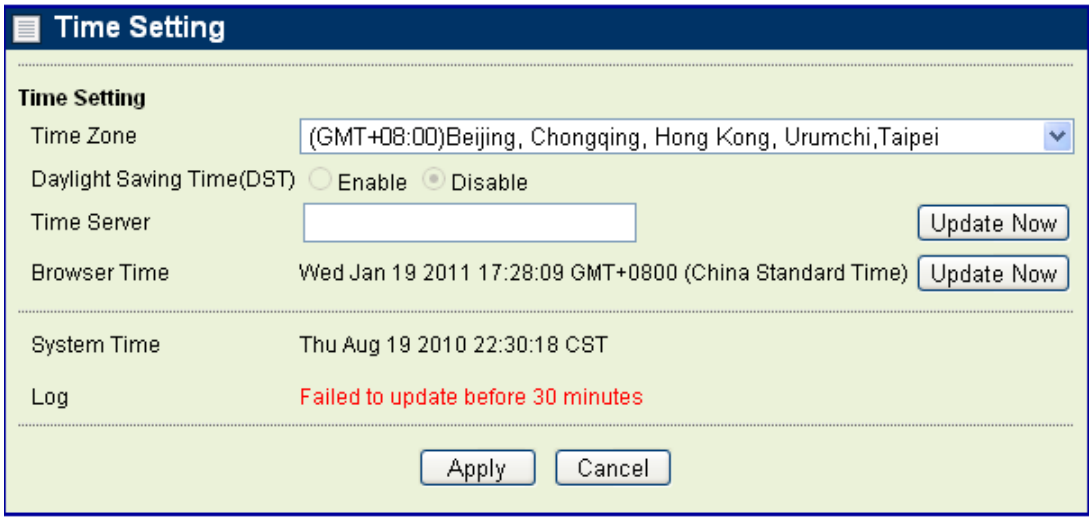

Figure 17 **Time Setting**

Time Zone

Select your time zone, default is (GMT+08:00)Beijing, Hong Kong, Urumchi, Taipei.

Daylight Saving Time

Select adjust for daylight saving time or not, default is disabled.

Time Server

Follow NTP protocol, and synchronize with Time Server.

Reboot

When you click the “reboot” then the device will pop up a reboot message. Click “yes” to reboot the system.

Figure 18 **Reboot**

Chapter 6 Troubleshooting

FAQ

How to know MAC address of device?

- The MAC address is written in a label which is in the bottom of device
- From the General page of WEB configuration, you also can get the MAC address of device.

Why two Access Points can not build connection after setting?

- Check “Remote Mac Address” which is correct.
- Check “Tx Radio” whether is different.
- Check the “Bandwidth/Freq.(A)” whether is same.
- Check the “Bandwidth/Freq.(B)” whether is same.

How to adjust output power?

- In the Wireless Settings page, you can do it.

What if forget IP address after setting?

- Press Rest button about 6~9 seconds (Status flash rapidly), release the button. Device will back to factory settings, default IP address is 192.168.1.1。

Why can not open WEB page of remote wireless device in local network?

- Because this kind of settings will slow the response of remote AP WEB Server, just waiting for several minutes or restarting remote wireless bridge is a way to solve problem. We suggest you set AP in local wired Ethernet network.

Service Support

If you have any questions, please contact us.