OBT-58108

User Manual

Versão 1.0 – 13/05/2005

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FCC Information

This equipment has been tested and found to comply with the limits for Class digital devices pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication.

Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

The user should not modify or change this equipment without written approval from company name. Modification could void authority to use this equipment.

For Safety reasons people shuld not work in a situation which RF exposure limits a re exceeded. To prevent the situation happening, people who work with the antenna should be aware of the following rules:

Install the antenna in a location where a distance of 20cm from the antenna may be maintained.

While installing the antenna in the location, please do not turn on the power of wireless equipment.

While the device is working, please do not contact the antenna.

About the manual

The purpose to use this manual is for install the Wireless Outdoor Bridge. This manual is including disposing course and method and helping the customer to solve the unpredictable problem.

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1. OBT-58108 Introduction

- **Appearance of Product**
- **Features and Benefits**
- **Representative Application**
- **System Requirement**

The next-generation Broadband Wireless Access device ─ OBT-58108 802.11a Wireless Outdoor Bridge is specially designed for Point-to-Point and Point-to-Multipoint applications, offering campus-wide connections between buildings at a speed of up to 54Mbps. OBT-58108-I build in 23dBi gain antenna, OBT-58108-E with N-Female connector for external antenna.

The new features and benefits are: support POE (power over Ethernet), support test-link, use this utility, you can place the antenna in the best place. Fully compliant with IEEE802.11a standard, The Wireless Outdoor Bridge provides powerful features.

Appearance of Product

Features and Benefits

Creates a Point-to-Point connection linking two LANs, using two Wireless Outdoor Bridge
Creates a Point-to-Multipoint system using three or more Wireless Outdoor Bridge
Features 54Mbps data rate by incorporating OFDM technology
Fully IEEE 802.11a compatible
Operating in the unlicensed 5.8GHz ISM band
MAC address control
Easy to install and friendly to user, just plug and play
Provides Web-based configuration utility
Tight design with lightweight, compact size, and low power consumption
Support power over Ethernet
Waterproof and can place into outdoor directly
Test-link utility, help you place your antenna at the best place

Representative Application

The Wireless Outdoor Bridge offer a fast, reliable, cost-effective solution for wireless client access to the network in applications like these:

◆Remote Access to Corporate Network Information
E-mail, file transfer and terminal emulation.

◆Difficult-to-Wire Environments
Historical or old buildings, asbestos installations, and open area where wiring is difficult to deploy.

◆Frequently Changing Environments
Retailers, Manufacturers and those who frequently rearrange the workplace and change location.

◆Temporary LANs for Special Projects or Peak Time
Trade shows, exhibitions and construction sites where a temporary network will be practical; Retailers, airline and shipping companies need additional workstations during peak period; Auditors requiring workgroups at customer sites.

◆Access to Database for Mobile Workers
Doctors, nurses, retailers, accessing their database while being mobile in the hospital, retail store or office campus.

◆SOHO (Small Office and Home Office) Users
SOHO users need easy and quick installation of a small computer network.

◆High Security Connection
The secure wireless network can be installed quickly and provide flexibility.

System Requirement

Installation of the Wireless Outdoor Bridge requires:

◆ A 10Base-T Ethernet interface or the exchanger or concentrator of 100Base-TX fast Ethernet interface.

◆ A dispose and have network bridge same network sections of PC , the same IP of address, and install the following WEB browsers, Microsoft Internet Explorer 6 and hit Service Pack 1 or the newer patch and wrapped up Q323308.（PC is used for disposing the one without the network bridge through HTTP port.）

	Notice：Wouldn't support Netscape browser's operation of AP at present , please use More than Microsoft IE 6. 0!

◆ One 48V, 750mA power module, in order to power supply of the Wireless Outdoor Bridge.

◆ A RJ-45 connector, supports the transfer rate of 10/100bps data.

2. Hardware Installation

- **Product Kit**
- **Hardware Installation**
- **Initialize**

Product Kit

Before installation, make sure that you the following items:

The Wireless Outdoor Bridge (OBT-58108)*1
DC Injector*1
Product CD*1
Power Adapter*1
Fixed settings*1

If any of the above items are not included or damaged, please contact your local dealer for support.

Hardware Installation

Take the following steps to set up the Wireless Outdoor Bridge.

◆Hardware equipment

◆Fixation

First you should fix the Wireless Outdoor Bridge, the following figure show it:

◆Connect the Ethernet Cable

The Wireless Outdoor Bridge supports 10/100M Ethernet connection. Attach UTP Ethernet cable to the RJ-45 connector on the Wireless Outdoor Bridge. Then connect the other end of the RJ-45 cable to a hub or a station. Please note that, use the crossover cable when you desire to connect the Wireless Outdoor Bridge to a PC.

Put UTP cable through the water-joint

Make the crystal head (not cross-over cable):

white orange | orange white green | blue white blue | green white brown | brown

Plug water-joint into the Wireless Outdoor Bridge

Close the water-joint

Initialize

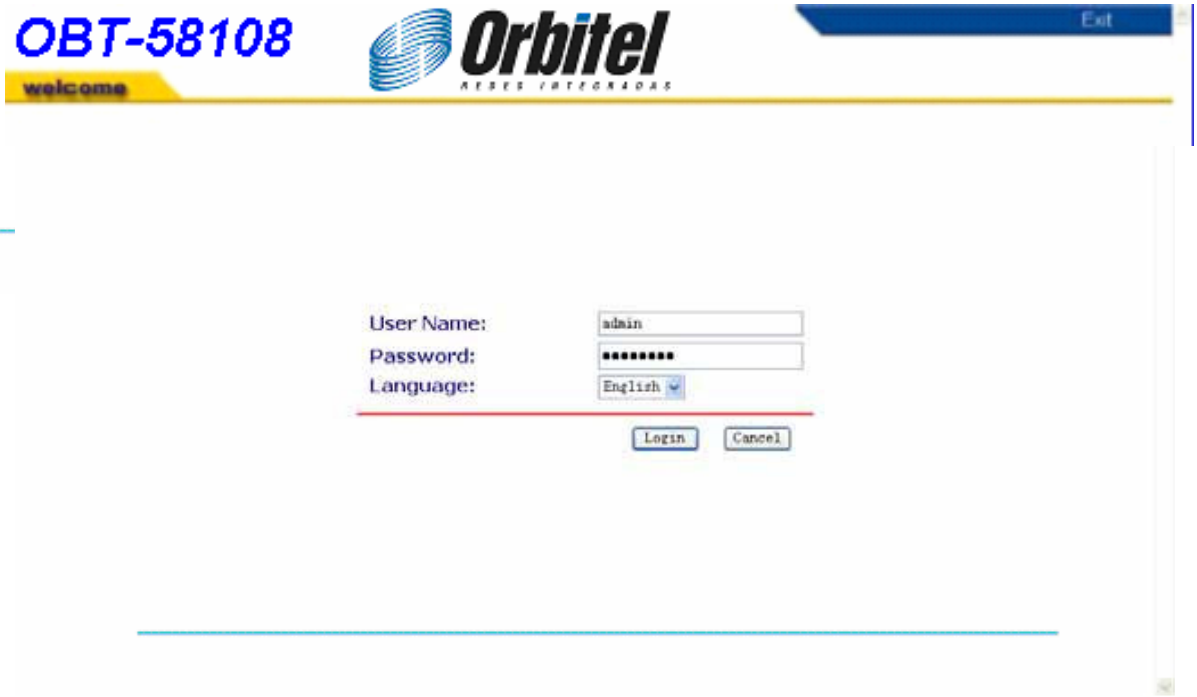
Have initial value , network of bridge whether which is short of province parameter set up , is it install after finishing is it can make working to it to supply powering in hardware to need only.

	Warning：Please don't insert and pull out the network cable with electricity.

3. Configuring OBT-58108

- **Using the Web Management**
- **General**
- **Basic Setup**
- **Security**
- **Advanced Setup**
- **Management**
- **Information**

Using the Web Management



Picture1 Enter

The built-in Web Management provides you with a user-friendly graphical user interface to manage the Wireless Outdoor Bridge. The Wireless Outdoor Bridge allows you via web browser (MS Internet Explorer 6.0) to monitor and configuration. Run Web Explorer, Enter default IP Address (**192.168.0.228**) of the Wireless Outdoor Bridge in the Address field. Enter default User Name (**admin**) and default Password (**password**), Click Login. The main page will show up.

The Wireless Outdoor Bridge allows configuration only via Web.

General

Picture2 General

General page displays current settings and statistics for the Wireless Outdoor Bridge. As this information is read-only, any changes must be made on other pages.

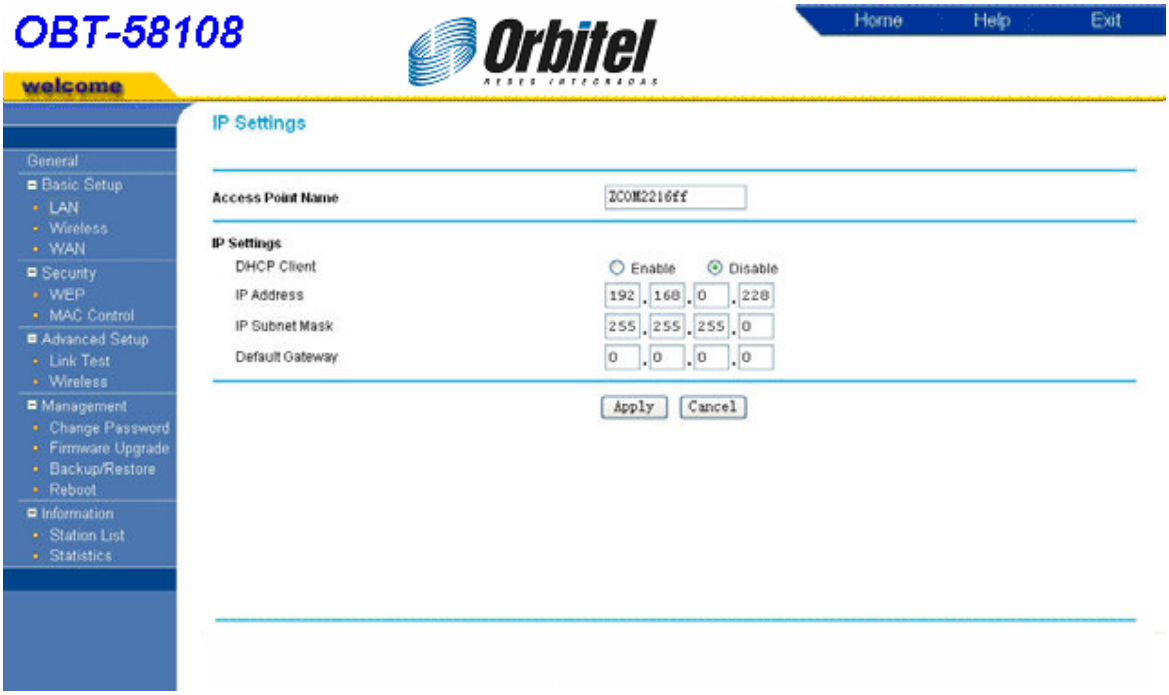
Access Point Information: General information.

Current IP Settings: These are the current settings for IP address, Subnet Mask, Default Gateway and DHCP settings.

Current Wireless Settings: These are the current settings for the Wireless Outdoor Bridge.

Basic Settings

LAN



Picture3 IP Settings

The default values are suitable for most users and situations.

Access Point Name

This unique name is Wireless Outdoor Bridge NetBIOS name. The default Name is located on the bottom label of OBT-58108. You may modify the default name with a unique name up to 15 characters long.

Default: ZCOMxxxxxx, where xxxxxx represents the last 6 digits of the MAC address.

IP Settings

By default, The Wireless Outdoor Bridge is set to be a DHCP (Dynamic Host Configuration Protocol) client disabled. You may enable the DHCP client to let the Wireless Outdoor Bridge getting its TCP/IP configuration from the DHCP server on your network.

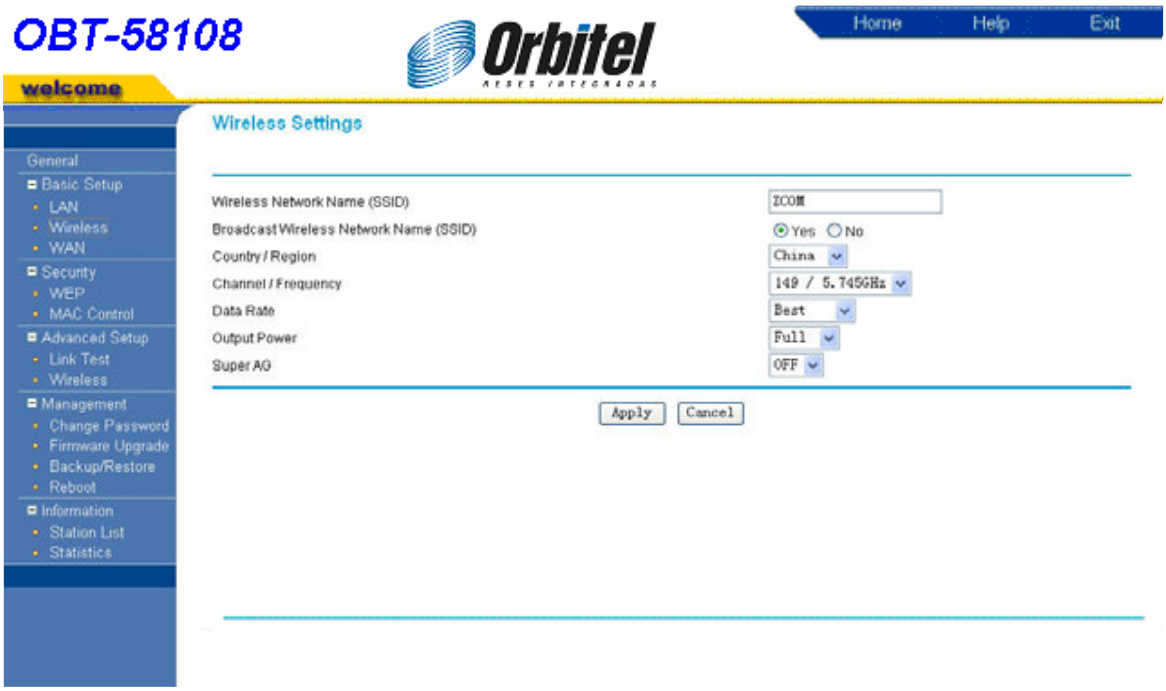
DHCP Client: The Wireless Outdoor Bridge will get the IP address, subnet mask and the default gateway settings automatically from the DHCP server if DHCP is enabled.

IP Address: Type the IP address of the Wireless Outdoor Bridge (**Default: 192.168.0.228**).

IP Subnet Mask: The Wireless Outdoor Bridge will automatically calculate the subnet mask based on the IP address that you assign. Otherwise, you can use 255.255.255.0 as the subnet mask.

Default Gateway Address: The Wireless Outdoor Bridge uses this IP address as default router gateway for any traffic beyond the local network.

Wireless



Picture 4 Wireless Settings

Enter a 32-character (maximum) service set ID in this field; the characters are case sensitive.

When in infrastructure mode, this field defines the service set ID (SSID). The SSID assigned to the wireless node is required to match the Wireless Outdoor Bridge SSID in order for the wireless node to communicate with the Wireless Outdoor Bridge.
Default: ZCOM

Broadcast Wireless Network Name (SSID)
If set to Yes, The Wireless Outdoor Bridge will broadcast its SSID, allowing Wireless Stations which have a "null" (blank) SSID to adopt the correct SSID. If set to No, the SSID is not broadcast.
Default: Yes

Country/Region
Select your country or region from the drop-down list. This field displays the region of operation for which the wireless interface is intended. It may not be legal to operate the Wireless Outdoor Bridge in a country/region other than the country/region shown here. If your country or region is not listed, please check with your local government agency or check our website for more information on which channels to use.
Default: China

Channel/Frequency
Select the channel you wish to use on your wireless LAN.
Default: 149

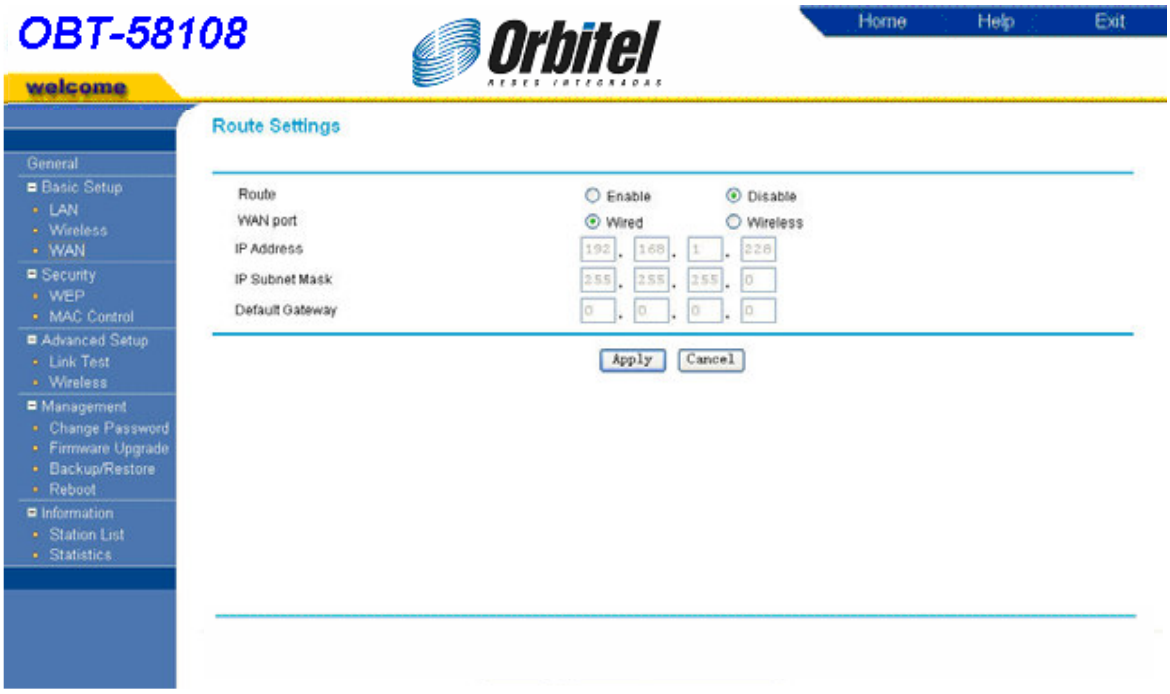
	Note. If you experience interference (shown by lost connections and/or slow data transfers) you may need to experiment with different channels to see which is the best.

Data Rate:
Show the wireless network and transmit the data rate. The data rate that may be supported is as follows: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps and Best.
Default: Best.

Output power:
Show that there is not output power of the network bridge. Possible output power selects as follows: Full, 50% , 25% , 12.5% and minimum. Output power can be adjusted according to the state of the local network.
Default: Full.

Super AG
Select the Super AG you wish to use on your wireless LAN.
Default: off

WAN



Picture 5 WAN Setting

Choose to open the route function: You can set up IP address , subnet mask , value that is closed of acquiescence network according to your need .

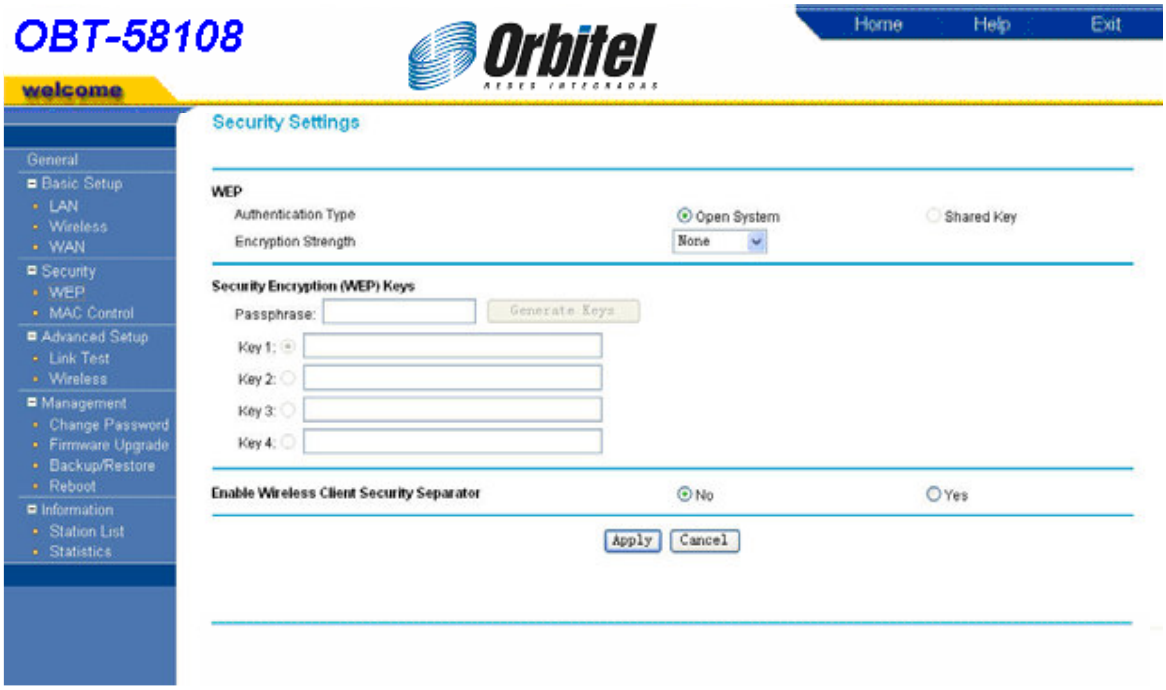
	Notice: When you choose the route function, If choose WAN port to be that then IP address established in LAN is the address of the wireless end in the wired end; If the WAN port chosen is the wireless end on the contrary, then IP address established in LAN end is the address of the wired end.

	Notice: The IP Address of LAN and WAN can't be in the same net section

	Notice: After establishing IP address of WAN , need to click the button “Reboot” and enabling setting up and coming into force

Security

WEP



Picture 6 Security Settings

WEP
Enable or Disable the Wired Equivalent Privacy for data encryption.

Authentication Type
Specifies the Authentication type used: Open System or Shared Key. If "Shared Key" is selected, you need to enable WEP and enter at least one shared key.
Default: Open System

Encryption Strength
Select the desired option. If enabled (64 bit, 128 bit or 152 bits) the keys must be entered, and other wireless stations must use the same keys. Note that 64-bit and 128-bit are the standard

Encryption strength options. 152-bit key length is a propriatary mode that will only work with other wireless devices that support this mode.
Default: None

Security Encryption(WEP) Keys
To use the "passphrase" to generate the keys, enter a passphrase and click the "Generate Keys" button. You can also enter the keys directly. These keys must match the other wireless stations. Key 1 Key 2 Key 3 Key 4. Select the key to be used as the default key. Data transmissions are always encrypted using the default key. The other keys can only be used to decrypt received data.

Wireless Client Security Separator
The associated wireless clients will not be able to communicate with each other if this feature is enabled. Default: Disable.

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Default: Disable.

MAC Control

Picture7 Access Control List

The optional Access Control window lets you block the network access privilege of the specified stations through the OBT-58108 Wireless Access Point. This provides an additional layer of security.

Choose the Turn Access Control On to enable Access Control feature.

Trusted Wireless Stations
This lists any wireless stations you have entered. If you have not entered any wireless stations this list will be empty.

To delete an existing entry, select it and then click the "Delete" button.

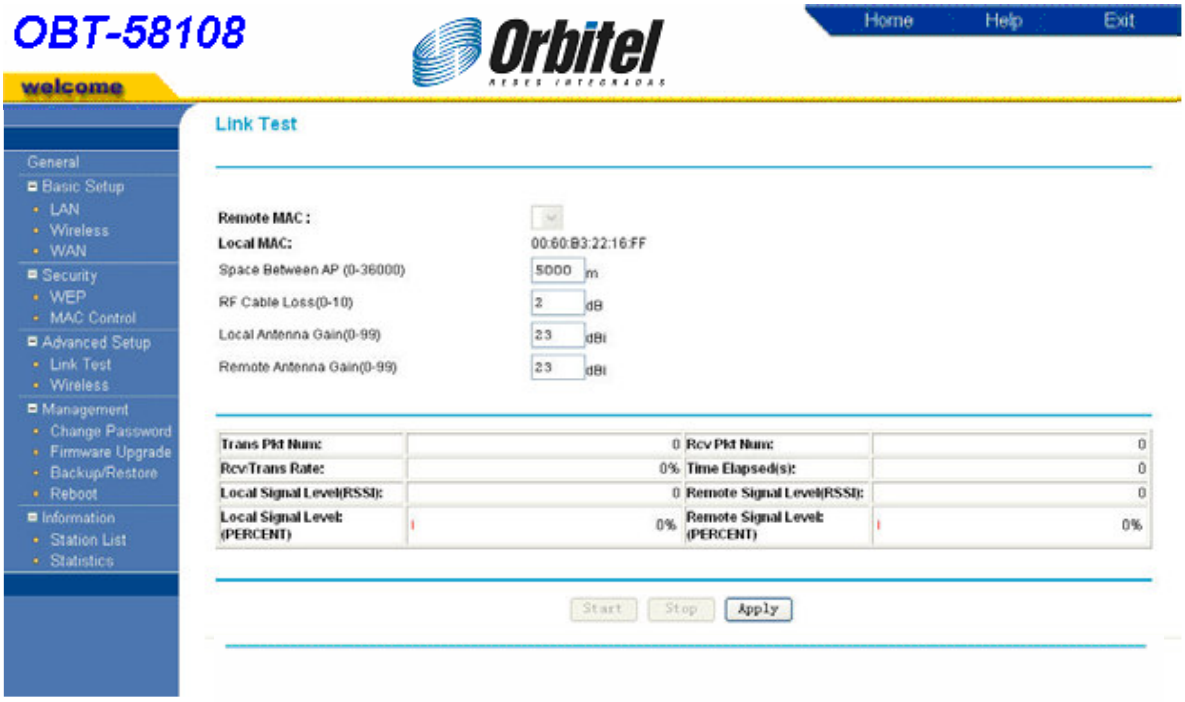
Available Wireless Stations

Select the stations from the wireless station list and click Add button to add to the Trusted Wireless Stations list.

Add new Station Manually
Use this to add the MAC address of the wireless stations to the Trusted Wireless Stations list.

Advanced Setup

Link Test



Picture8 Link Test

You must go to Wireless Settings page to enable Wireless Bridging and Repeating. Then you can select a Remote MAC to test link.

Select a Remote MAC, input the parameters of Space Between AP, RF Cable Loss, Local Antenna Gain and Remote Antenna Gain, click “Apply” button. Then click “Start”.

	Notice: In the point-to-point mode, The value of Space Between AP should close to the real distance. The distance must be input

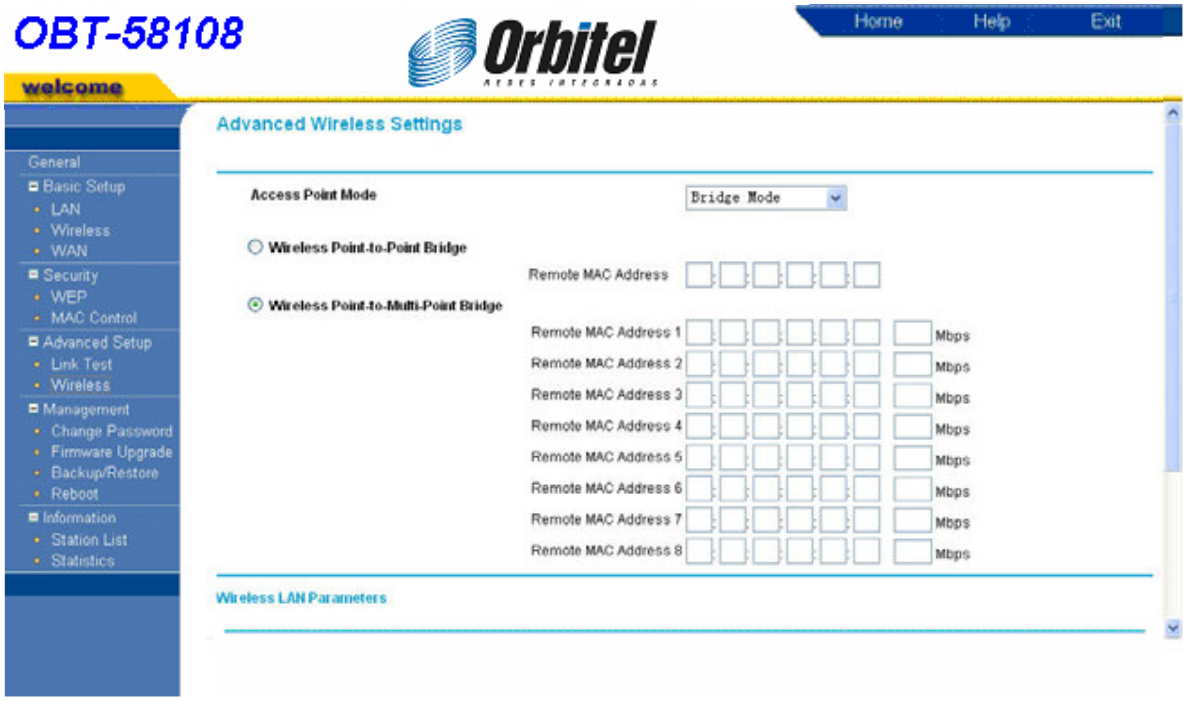
View the intensity of signal, and adjust the positions and angles of the antenna according to the intensity of signal. Adjust the antenna from side to side from head to foot, observe the number value of dBm at the same time , when the number value of dBm is the greatest, the antenna is in the best positions and angles promptly.

	Notice: Two kinds of expression methods that equipment has offered the intensity of signal to compare with intensity of signal, the intensity of signal than only generally consults the meaning, is subject to number value of the intensity of signal (dBm) while adjusting the aerial!

In point-to-Multipoint mode, must test every chain .

	Notice: In the point-to-Multipoint mode, central point input from for central point distance to get most far point, the far point is before reaching the real distance of central points for each point.

Wireless



Picture9 Advanced Wireless Settings

According to your environment , choose the corresponding work pattern:

Point to point—In this mode, equipment that is wireless outdoor bridge communication with another bridge mode only.

Point to Multipoint -- Choose only when this equipment is for the main fact in the wireless device group of the mode of the bridge. There is not a network bridge and must be established as the point-to-point mode of bridge graft in mode of other bridges, use MAC address of this equipment. Have network bridge send all flow " main fact " have network bridge , but not direct communication each other while being other.

	Notice: You must input MAC Address of the Remote Wireless Outdoor Bridge.

	Notice: In the point-to-Multipoint mode, input the Remote MAC Address to first line (Remote MAC address 1), wait for all far point is it join after testing to make, input all Remote MAC Address to the field.

Parameter of the wireless LAN

RTS Threshold
Request to Send Threshold. The packet size that is used to determine if it should use the CSMA/CD(Carrier Sense Multiple Access with Collision Detection)mechanism or the CSMA/CA mechanism for packet transmission. With the CSMA/CD transmission mechanism, the transmitting station sends out the actual packet as soon as it has waited for the silence period. With the CSMA/CA transmission mechanism, the transmitting station sends out an RTS packet to the receiving station, and waits for the receiving station to send back a CTS (Clear to Send) packet before sending the actual packet data.
Default: 2346

Fragmentation Threshold
This is the maximum packet size used for fragmentation. Packets larger than the size programmed in this field will be fragmented. The Fragment Threshold value must be larger than the RTS Threshold value.
Default: 2346

Beacon Interval
The Beacon Interval. Specifies the interval time between 20ms and 1000ms for each beacon transmission
Default: 100

DTIM
The Delivery Traffic Indication Message. Specifies the data beacon rate between 1 and 255.
Default: 1

Preamble Type
A long transmit preamble may provide a more reliable connection or slightly longer range. A auto transmit preamble gives better performance.
Default : Auto

Management

Change Password

Picture10 Change password

You can use the Change Password page to change the Wireless Outdoor Bridge administrator's password for accessing the Settings pages.

To change the password:

1、Type the old password.

2、Type a new password and type it again in the Repeat new password box to confirm it.

	Notice: Be sure to write it down in a secure location.

3、Click Apply to have the password changed or click Cancel to keep the current password.

The default password for the Wireless Bridge is: password.

Firmware Upgrade

Picture11 Upgrade Firmware

You can install a new version of the Wireless Outdoor Bridge's software using the Firmware Upgrade page.

	Warning: Once you click Upload do NOT interrupt the process of sending the software to the Wireless Outdoor Bridge and restarting the Wireless Outdoor Bridge.

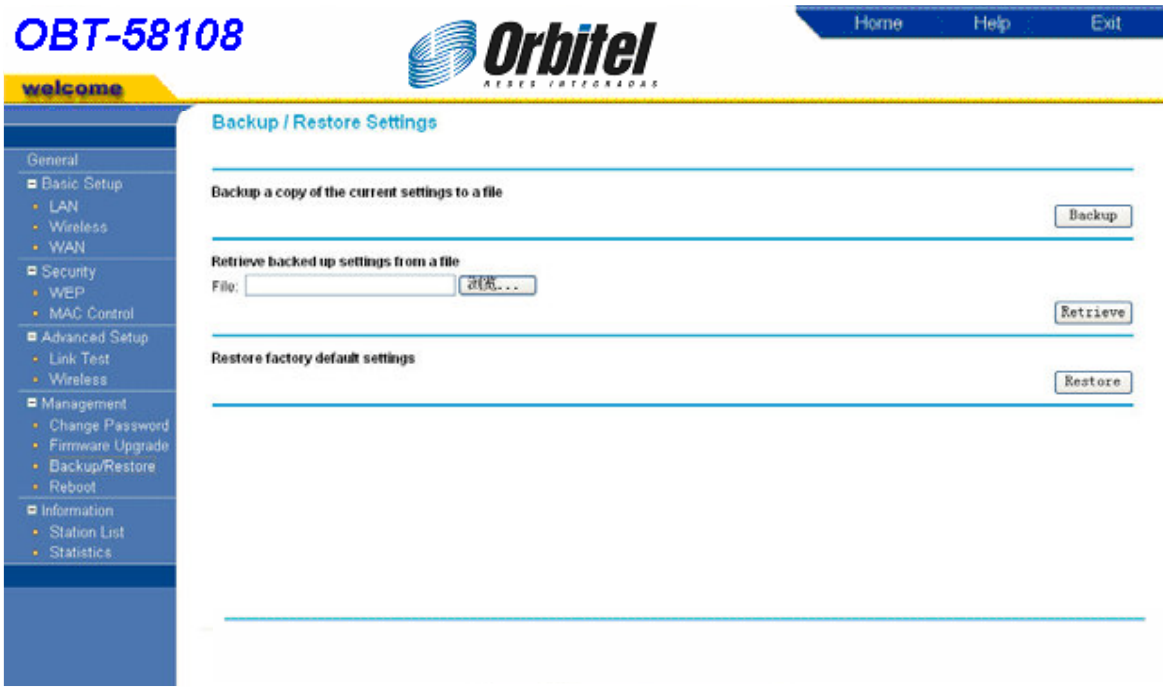
To upgrade the Wireless Outdoor Bridge software:
1、Download the new software.
2、If not done automatically, uncompress the downloaded file. If included, read the Release Notes before continuing.
3、Click Browse.
4、Locate and select the file you just downloaded and uncompressed from your local hard disk.
5、Click Upload to send the software to the Wireless Outdoor Bridge. This loads the new software into the Wireless Outdoor Bridge and causes the Wireless Outdoor Bridge to restart.

	Notice: Do not try to go online, turn off the Wireless Outdoor Bridge, shutdown the computer or do anything else to the Wireless Outdoor Bridge until the Wireless Outdoor Bridge finishes restarting! When the Test light turns off, wait a few more seconds before doing anything.

6、Click General and check the Firmware Version to verify that the Wireless Outdoor Bridge now has the new software installed.

	Warning: In some cases, such as a major upgrade, you may need to erase the configuration and manually reconfigure the Wireless Outdoor Bridge after upgrading it. Refer to the Release Notes included with the software to find out if you need to reconfigure the Wireless Outdoor Bridge.

Backup/Restore



Picture11 Backup/Restore Settings

This page allows you to back up the Wireless Outdoor Bridge's current settings and restore the factory default settings.

Once you have the Wireless Outdoor Bridge working properly, you should back up the information to have it available if something goes wrong. When you backup the settings, they are saved as a file on your computer. You can restore the Wireless Outdoor Bridge's settings from this file.

Backup a copy of the current settings to a file
To create a backup file of the current settings:
1、Click Backup.
2、If you don't have your browser set up to save downloaded files automatically, locate where you want to save the file, rename it if you like, and click Backup.
3、If you have your browser set up to save downloaded files automatically, the file is saved to the your browser's download location on the hard disk.

Retrieve backed up settings from a file
To restore settings from a backup file:
1、Click Browse.

2、Locate and select the previously saved backup file (by default, wg302.cfg).
3、Click Retrieve. A window appears letting you know that the Wireless Outdoor Bridge has been successfully restored to previous settings. The Wireless Outdoor Bridge will restart. This will take about one minute.

	Notice: Do not try to go online, turn off the Wireless Outdoor Bridge, shutdown the computer or do anything else to the Wireless Outdoor Bridge until it finishes restarting! When the Test light turns off, wait a few more seconds before doing anything with the Wireless Outdoor Bridge.

4、Close the message window.

Restore factory default settings
To erase the current settings and reset the Wireless Outdoor Bridge to the original factory default settings: Click Restore.

	Notice: Do not try to go online, turn off the Wireless Outdoor Bridge, shutdown the computer or do anything else to the Wireless Outdoor Bridge until the Wireless Outdoor Bridge finishes restarting! When the Test light turns off, wait a few more seconds before doing anything with the Wireless Outdoor Bridge.

Reboot

You may select Yes on Reboot the Wireless Outdoor Bridge and then click on APPLY button to reboot the Wireless Outdoor Bridge.

Information

Station List

Picture13 Wireless Station List

This page shows the Station ID, and MAC (Media Access Control) address for each Wireless Outdoor Bridge or client node associated with the Wireless Outdoor Bridge.

Statistics

Picture14 Statistics

This page displays both wired and wireless interface network traffic. Click Refresh to update the current statistics.

Wired Ethernet
This section displays traffic statistics for the wired Ethernet interface.

Wireless
This section displays traffic statistics for the Wireless interface.

Glossary

AP	The abbreviation of Access Point, refer in particular to the wireless access point.
BWA	The abbreviation of Broadband Wireless Access Point, does not have the network bridge to refer in particular to broadband .
IEEE 802.11	Include IEEE 802.11a/b/g。
Notice	Show that there is important information that reminds you with better using the equipment.
warning	It have potential dangerous operation will do harm to hardware of the equipment or make data not to lose or make equipment not to can be used normally all to show.
SSID	It distribute to may make wireless users can connect to the network name of AP AP to use for. It is different from the access point name of AP, it was used for distinguishing AP that that is only available for AP.
AP IP address	If has not used DHCP server in the network , has needed to assign a legal IP address for AP , used to land to AP through HTTP. IP address of acquiescence is http://192. 168. 0. 228.
HTTP User's name/password	Used for landing admin password or password of user name of acquiescence to AP from WEB page.
Encrypt setting	Which kind of encryption ways are not needed to decide to set up for AP with you according to the environment.
Link test	When AP is chosen as mode of bridge graft, this function can be used for determining the connection state with an purpose MAC address.
MAC control	This function is only valid under AP mode, invalid under the mode of bridge graft. Used in MAC address to filter.
STA	Wireless STA when should only tabulate when MAC controls the function to open could be connected to AP.
STA	MAC address connected to STA of AP all show in should be tabulated, when can add to and can believe wireless STA is tabulated according to the nee

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