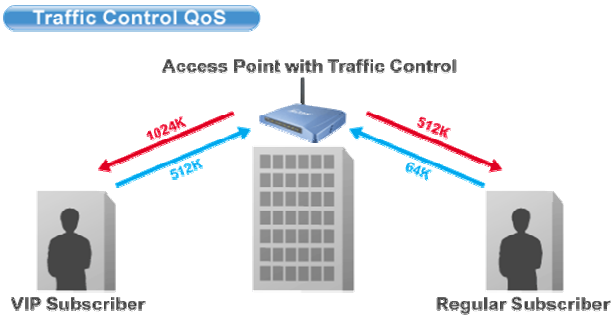
Traffic Control QoS Guide

AirLive WL-5460AP/ WL-5470AP E11 Firmware

What is Traffic Control QoS?

Traffic Control is a great tool to control the bandwidth of the WISP subscribers. Therefore, the WISP operators can offer different class of connection speeds for different subscription fees - just like the ADSL service! The AirLive advance firmware can control the bandwidth by Interface or IP/MAC.



What type of Traffic Bandwidth Control does the E11 firmware offer?

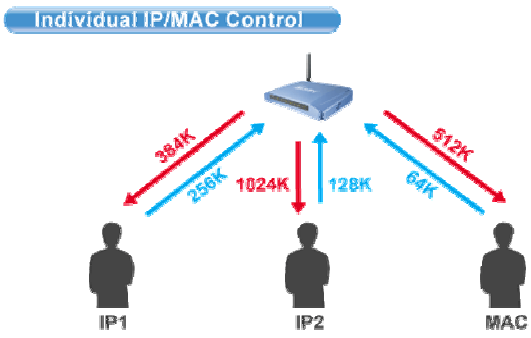
The E11 firmware's Traffic Bandwidth limits the "Maximum Data Rate". There are 2 types of Traffic Control it offers.

Interface Control

The interface QoS controls the data rate at the WLAN and LAN interfaces. Therefore, all traffics are controlled the same way. This type of traffic control is suitable when AP is used as a Client AP in "Client Mode" and WISP mode. So WISP can control the maximum data rate

Individual IP/MAC Control

The AP can set the maximum data rate for each IP or MAC addresses. This type of traffic control is most suitable for outdoor AP in "AP" or "Gateway" mode.

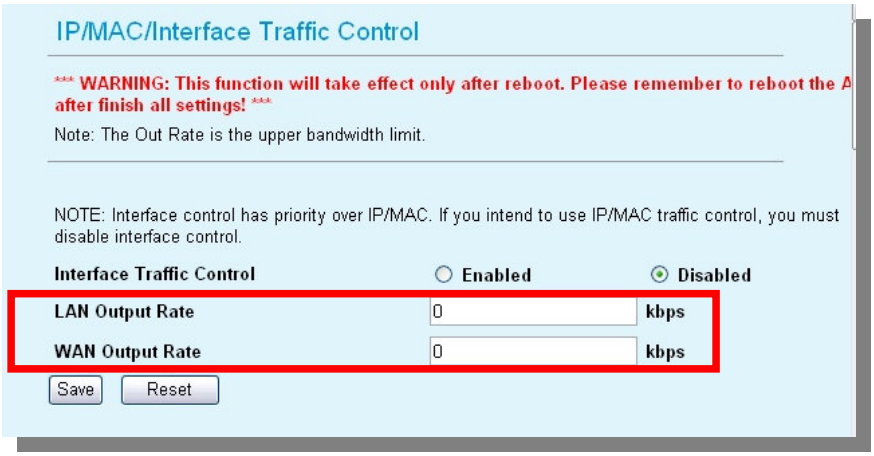


What is the Output Rate?

The “Output Rate” is the data speed out of an interface. There are 3 types Output Rate supported by the AP

1. **LAN Output Rate**: This is the speed of the traffic out of the LAN port. In gateway mode, the LAN Output Rate includes both the wired LAN and WLAN interface.
2. **WLAN Output Rate**: This is the speed of the traffic out of the Wireless LAN
3. **WAN Output Rate**: This is the speed of the traffic out of the WAN port. In WISP mode, the WAN Output Rate also includes the WLAN interface.

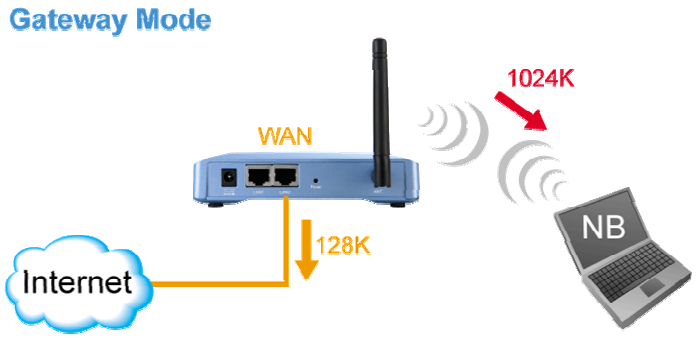
The AP’s Web UI will tell you which types of output rate it supports, it differs in each wireless mode.



In the following example:

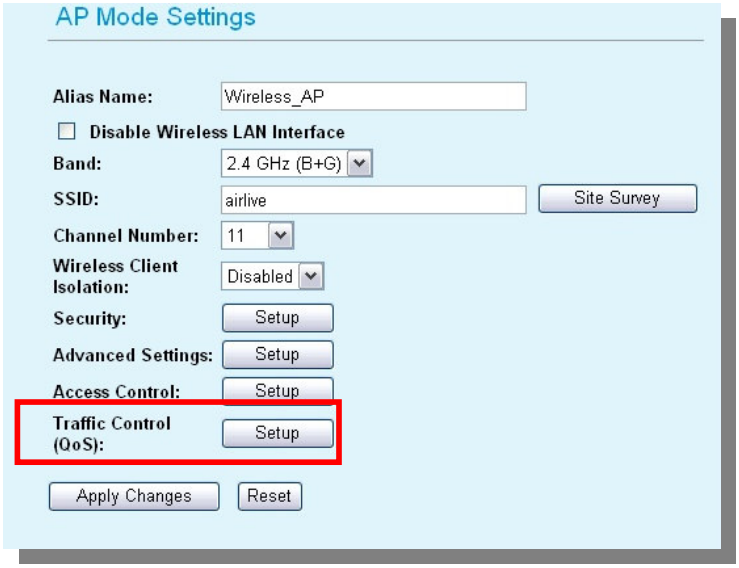
- The AP is in Gateway Mode
- The WAN Output Rate is 128K
- The LAN/WLAN Output Rate is 1024K

In this setup, the notebook users get an upstream bandwidth of 128K and downstream bandwidth of 1024K.

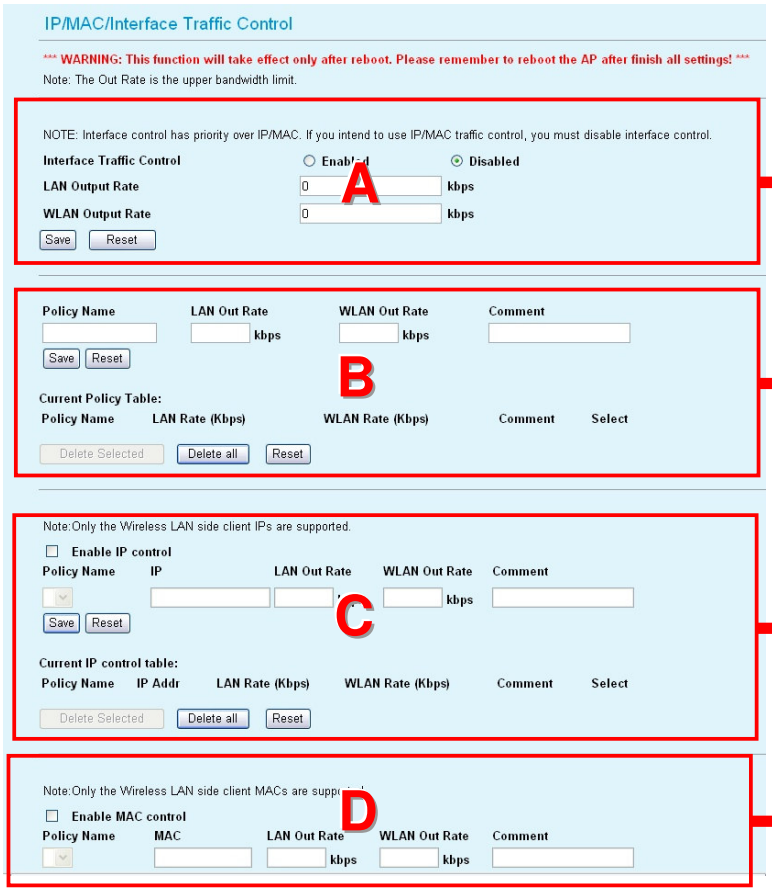


Configure the Traffic Control QoS

From the Mode Setting page, please choose the “Traffic Control(QoS)” on the bottom of the list.



Once you click on the “setup” button, a new window will pop-up with the Traffic Control settings. They are divided into “A”, “B”, “C”, “D” section for further explanations.



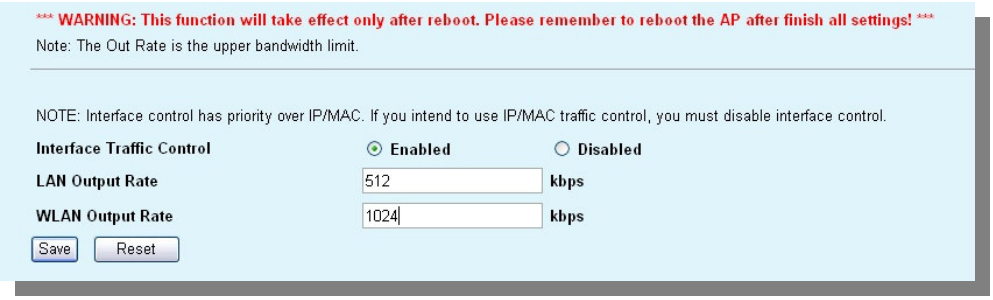
This section is the “Interface Control” session. You must disable the “interface Traffic Control” if you want to use the “IP/MAC Traffic Control”

This section is for defining the “Policy” of “Individual IP/MAC Traffic Control”. Once a policy is defined, it can be chosen as template in IP/MAC Traffic Control Settings

This section is to configure the bandwidth by IP address. You can control more than one IP address.

This section is to configure the bandwidth by MAC address. You can control more than one MAC address.

A. Interface Control Settings:

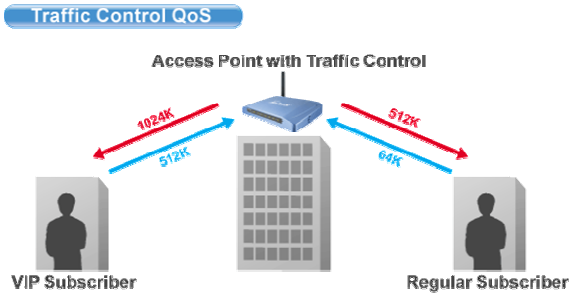


In the Interface Control Settings, the AP only controls the total bandwidth limit of an interface. For example, if you want to limit the output data rate of the LAN to 512K and the output data rate of WLAN to 1024K. You should perform the following steps:

1. Enable the "Interface Traffic Control
2. Enter "512" in the "LAN Output Rate"
3. Enter "1024" in the "WLAN Output Rate"
4. Click on "Save"
5. Reboot the AP.

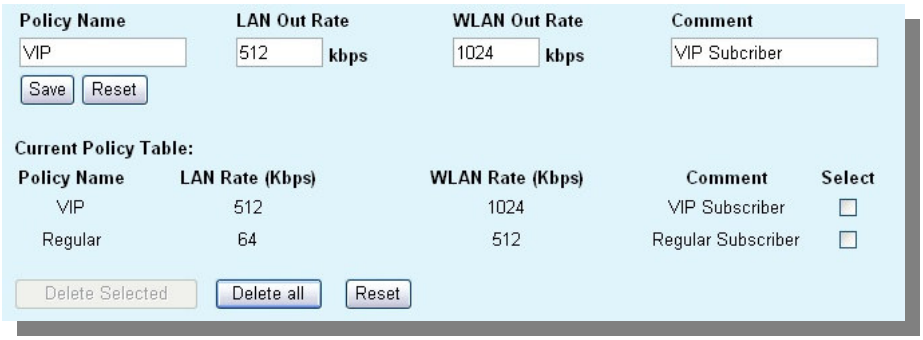
B. Define Policy

A policy is a set of bandwidth rules that can be used as a template. For example, if you want to provide 2 kinds of bandwidth speed to the users:



- VIP Subscriber:
  - LAN Out Rate: 512 Kbps
  - WLAN Out Rate: 1024 Kbps
- Regular Subscriber:
  - LAN Out Rate: 64 Kbps
  - WLAN Out Rate: 512 Kbps

You can configure the bandwidth rule as policies "VIP" and "Regular".



Please follow the step below to create a new policy “VIP”

1. Enter “VIP” for the “PolicyName”
2. Enter “512” for the “LAN Out Rate”
3. Enter “1024” for the “WLAN Out Rate”
4. Enter “VIP Subscriber” for the “Comment”
5. Click on “Save” button
6. Now the “VIP” policy will show up in the “Current Policy Table”

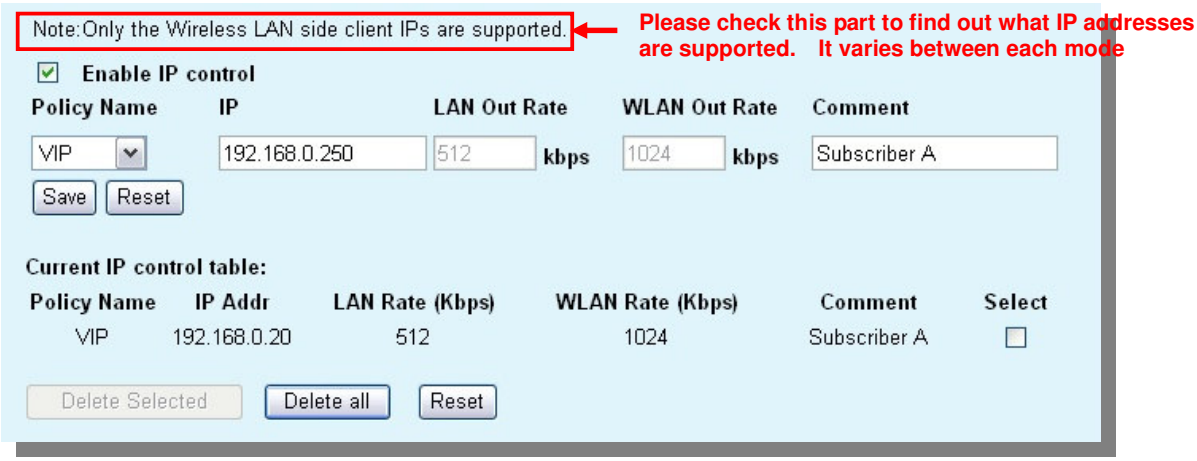
Once finished, the administrator will be able to choose the policy “VIP” for their IP/MAC Traffic Control.

C. Bandwith Control by IP address

You can set the maximum bandwidth of a PC or a subscriber by using the IP Control.

Please follow the procedure below to setup IP Traffic Control

1. Please make sure the “Interface Traffic Control” is disabled
2. Before you start, please check the following area to see which client IPs are supported. It differs between each mode.



3. Enable the IP Control
4. If you have defined a Policy already, please choose a Policy name. The “Out Rates” will be automatically pasted from the Policy template. You cannot change the Out Rates if you have chosen a Policy
5. If you want to define new Data Rate, please do not choose any policies. Then you can enter the values in the “LAN”, “WLAN”, or “WAN” Out Rates.
6. Press “Save” to save settings
7. Reboot your AP.

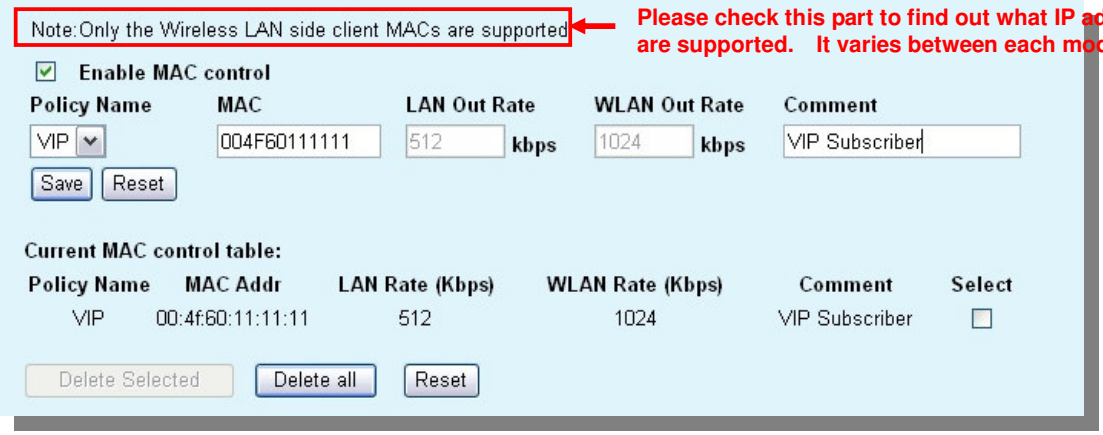
** If you want to control the traffic flow between the IPs in the same interface, please make sure both IPs are configured for the IP Traffic Control.*

D. Bandwith Control by MAC address

You can set the maximum bandwidth of a PC or a subscriber by using the MAC Control.

Please follow the procedure below to setup MAC Traffic Control

1. Please make sure the "Interface Traffic Control" is disabled
2. Before you start, please check the following area to see which client MACs are supported. It differs between each mode.
3. Enable the MAC Control

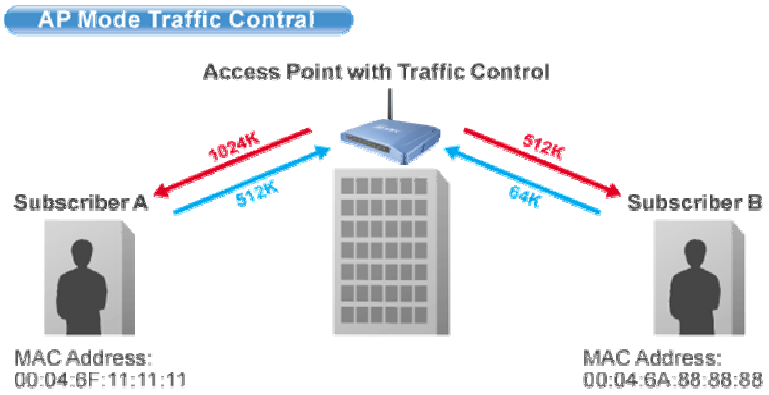


4. If you have defined a Policy already, please choose a Policy name. The "Out Rates" will be automatically pasted from the Policy template. You cannot change the Out Rates if you have chosen a Policy
5. If you want to define new Data Rate, please do not choose any policies. Then you can enter the values in the "LAN", "WLAN", or "WAN" Out Rates.
6. Press "Save" to save settings
7. Reboot your AP.

** If you want to control the traffic flow between MAC addresses in the same interface, please make sure both MAC addresses are configured for the MAC Traffic Control.*

Application Example

Example1: AP Mode Traffic Control



In this example, the AP is installed outdoor to provide Internet service. There are 2 different type of Internet service offered by the WISP:

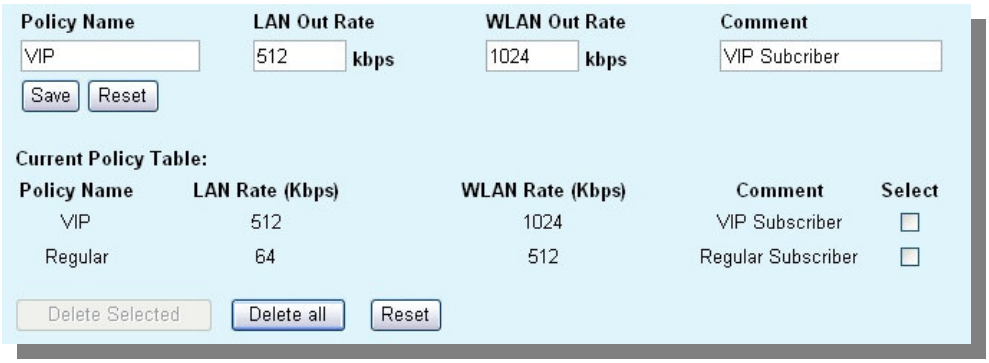
- **VIP Service:**
  - Upstream Data Rate: 512 Kbps
  - Downstream Data Rate: 1024 Kbps
- **Regular Service**:
  - Upstream Data Rate: 64 Kbps
  - Downstream Data Rate: 512 Kbp

The Subscriber's information is as followed:

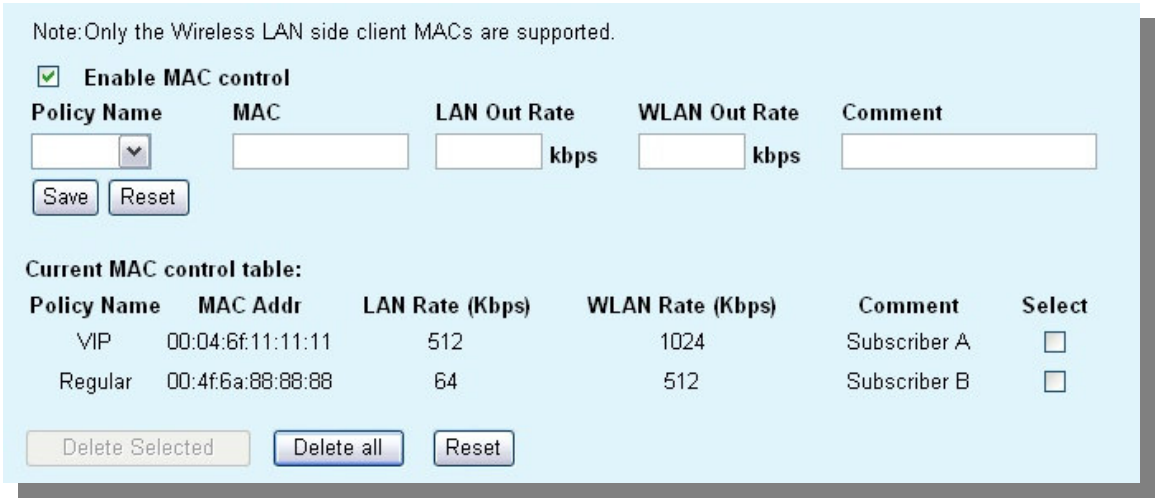
- Subscriber A
  - VIP Service
  - MAC Address of the PC or Wireless Client: 00:04:6F:11:11:11
- Subscriber B
  - Regular Service
  - MAC Address of the PC or Wireless Client: 00:04:6A:88:88:88

Step-by-Step Configuration

1. Please disable the "Interface Traffic Control"
2. On the Policy, please add the "VIP" and "Regular" policies as shown on the graph below



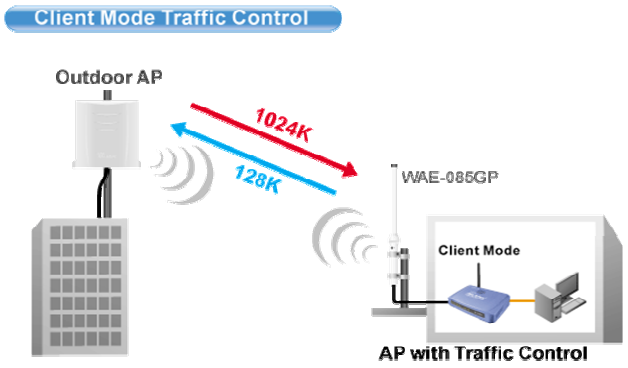
3. Please enable the “MAC Control”
4. Please fill in the 2 entries as shown on the graphic below



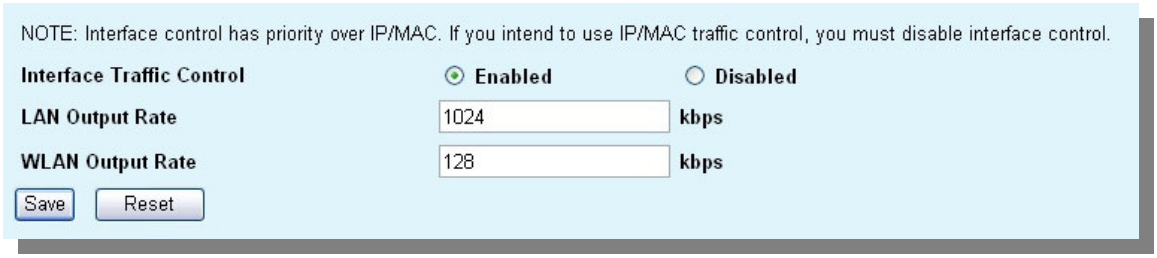
5. Reboot the AP

Example2: Client Mode Traffic Control

In the following example, the AP is used as the wireless client to the WISP Service. The Service provider need to restrict the bandwidth of the AP to 1024K Downstream and 128K Upstream.



Step-by-Step Configuration



1. Please enable the “Interface Traffic Control”
2. Enter “1024” in the “LAN Output Rate” field
3. Enter “128” in the “WLAN Output Rate” field
4. Press “Save”
5. Reboot the AP