antaira®

making connectivity simple...

Wireless Router Software User’s Manual

Version 1.1.2

(March 2022)

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FCC Notice

This equipment has been tested and found to comply with the limits for a Class-A 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. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. 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:

- 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.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Industrial Ethernet Wireless APs

Software User Manual

This manual supports the following models:

- ARS-7235-AC(-T)
- ARX-7235-AC-PD-T
- ARS-7235-PD-AC(-T)
- ARS-7235-5E-AC(-T)
- ARY-7235-AC-PD
- ARS-7235-PSE-AC(-T)

This manual supports the following software version:

- Release: Antaira r38373 (01/22/19)

Please check our website (www.antaira.com) for any updated manual or contact us by e-mail (support@antaira.com).

Table of Contents

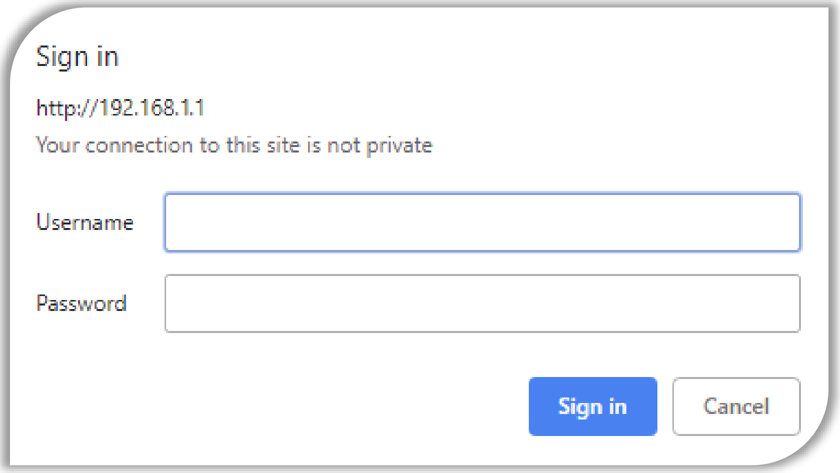
1. Access with Web Browser

1.1 Web GUI Login

All of Antaira's industrial managed devices are embedded with HTML web GUI interfaces. They provide user-friendly management features through its design and allows users to manage the devices from anywhere on the network through a web browser.

Step 1: To access the WEB GUI, open a web browser and type the following IP address: http://192.168.1.1

Step 2: The default WEB GUI login:
Username: root
Password: admin



Sign in

http://192.168.1.1

Your connection to this site is not private

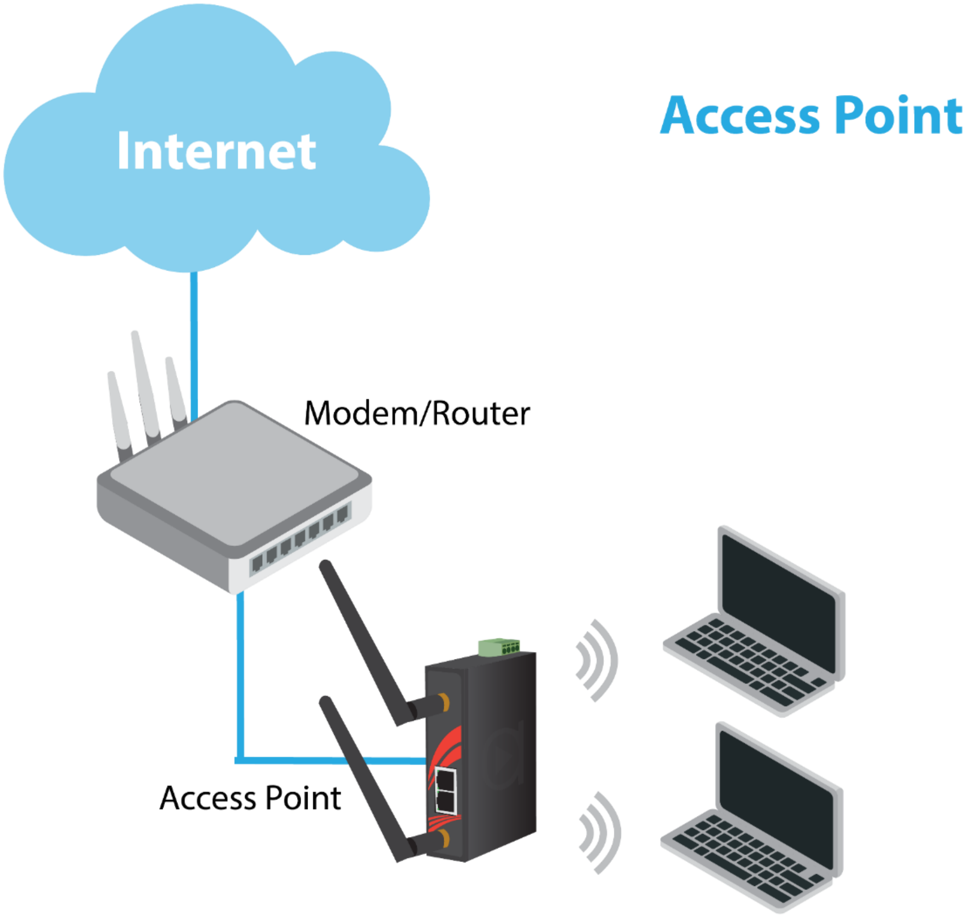
Username

Password

1.2 Operation Modes

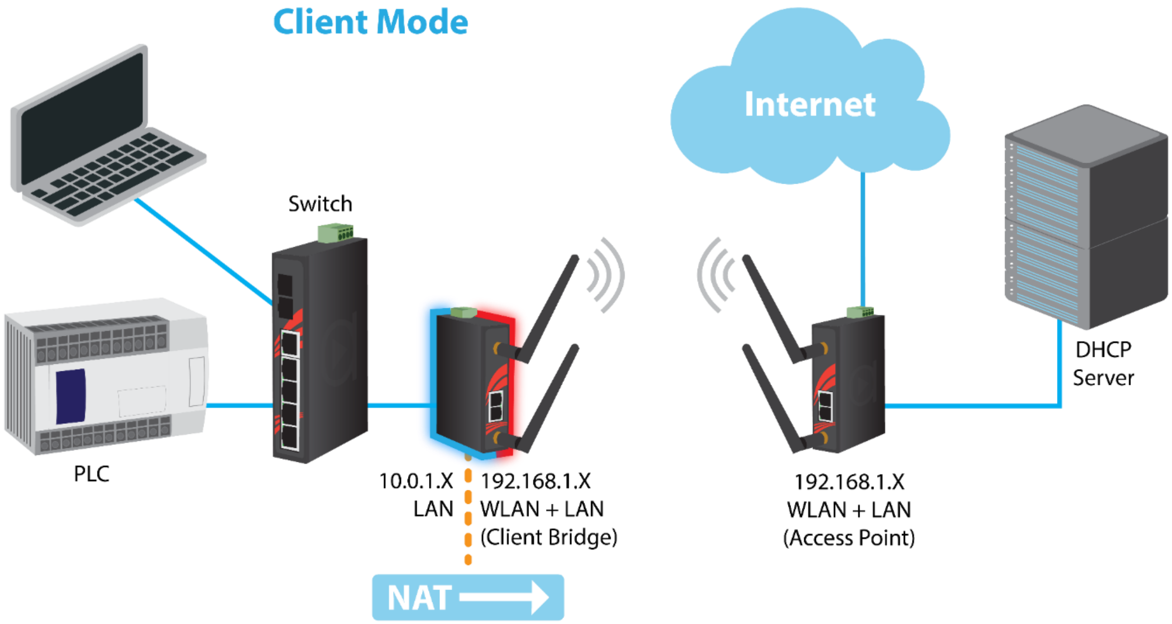
1.2.1 Access Point

The access point mode allows Wi-Fi devices to connect to a wired network. In this mode, multiple wireless devices can be supported on a single wired local area network. In the example below, Internet is provided via the Modem/Router. The Access Point is connected directly to the Modem/Router by an Ethernet cable. Multiple devices can then connect to the access point’s Wi-Fi and access the Internet.



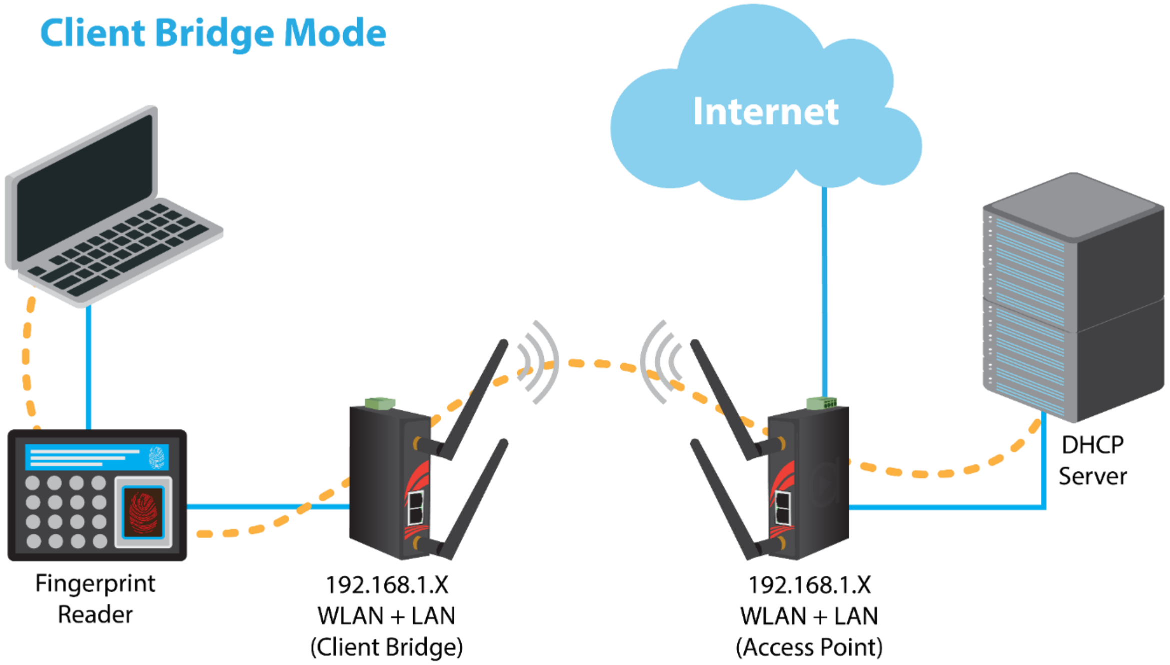
1.2.2 Client Mode

Client mode allows the router to connect to other access points as a client. This turns the Wireless Local Area Network (WLAN) portion of your router into the Wide Area Network (WAN). In this mode, the router will no longer function as an access point (does not allow clients), therefore, you will need to be wired to make configurations. In client mode, the WLAN and the LAN will not be bridged, allowing two different subnets. Port forwarding (From the WLAN to the LAN) will be necessary for FTP servers, VNC servers, etc that are located behind the client mode router. For this reason, most users choose to use Client Bridge Mode instead.



1.2.3 Client Bridge Mode

Client Bridge Mode is much like Client Mode, except the WLAN and LAN are on the same subnet. Consequently, NAT is no longer used and services such as DHCP will be able to work on the bridged network. Just as in client mode, the router will not accept wireless clients.



1.2.4 WDS Station/WDS Access Point

In a typical Access Point to Station/Client connection, whenever traffic is passed through the AP, the MAC address of the client packet changes to the MAC address of the AP. This can add overhead and latency. A Wireless Distribution System (WDS) allows one or more access points to connect wirelessly and share internet access across. WDS also preserves the MAC addresses of client frames across links between the WDS AP to WDS Stations, reducing the latency caused in typical wireless setups. WDS Stations can only be paired with WDS AP.

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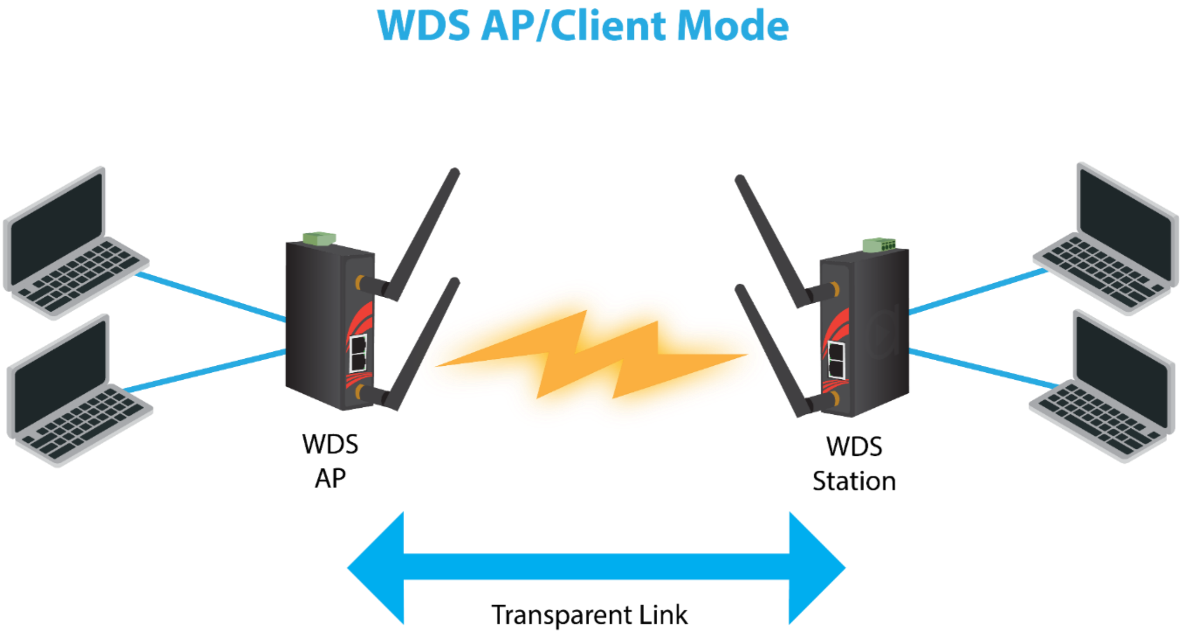
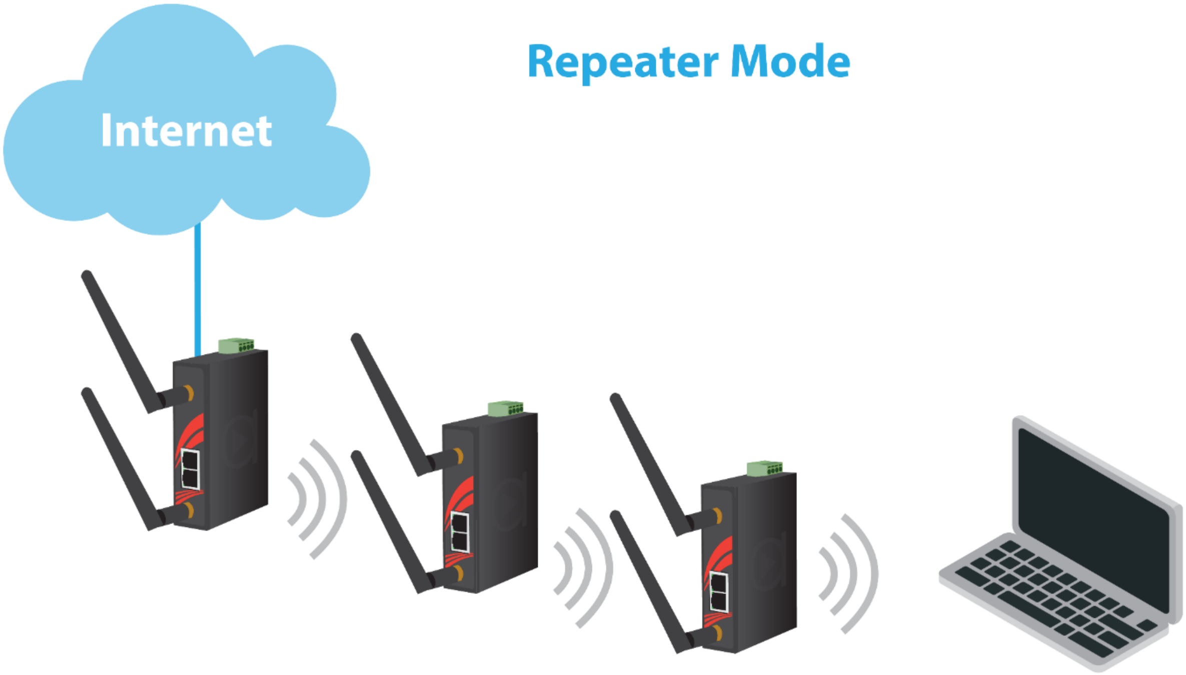


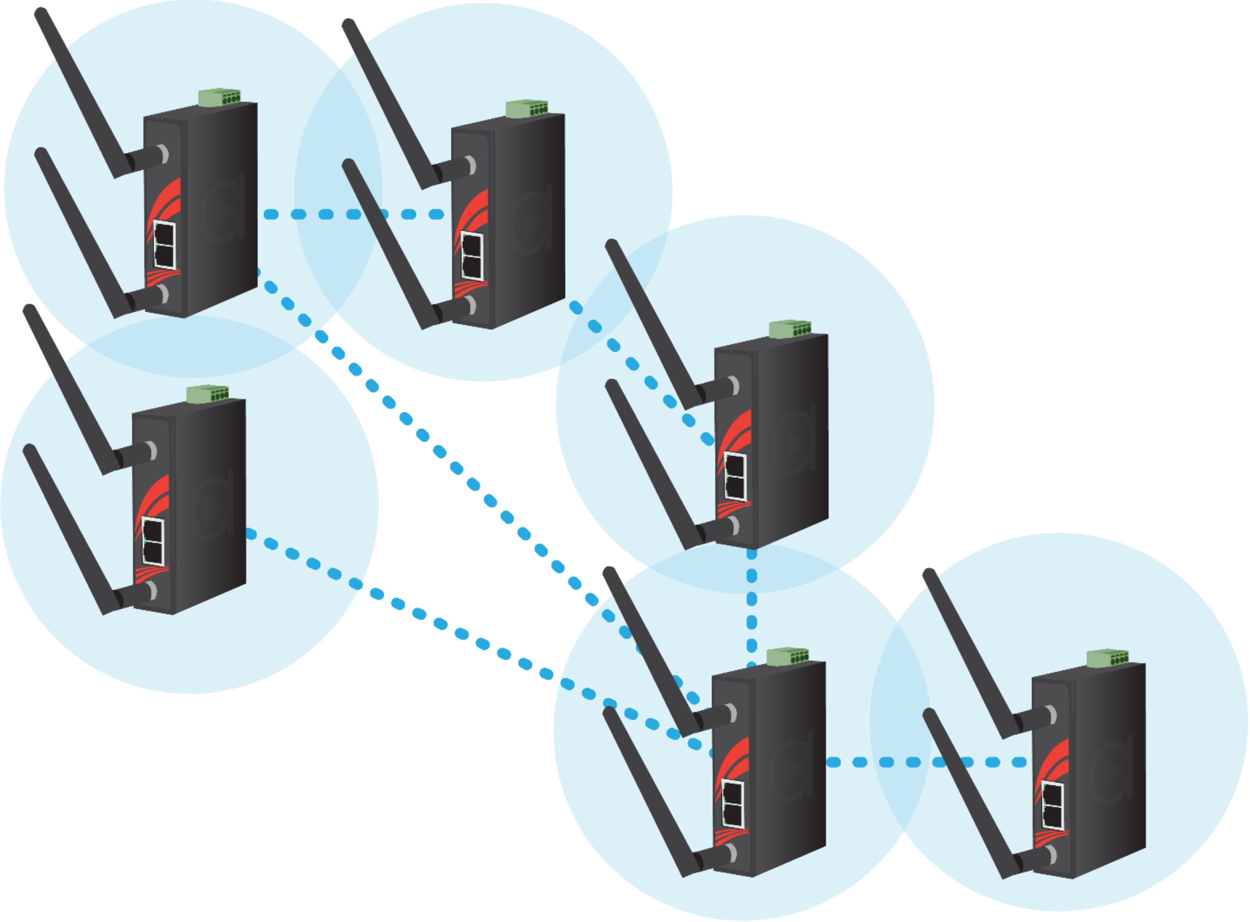
1.2.5 Repeater Mode

In Repeater Mode, the access point will act as a relay for another wireless signal. Repeater Mode takes an existing signal from a wireless AP or wireless router and rebroadcasts it. This mode is beneficial for extending the wireless range and coverage. The drawback is that the re-transmitted signal throughput is halved for every repeater used.



1.2.6 Mesh Mode 802.11s

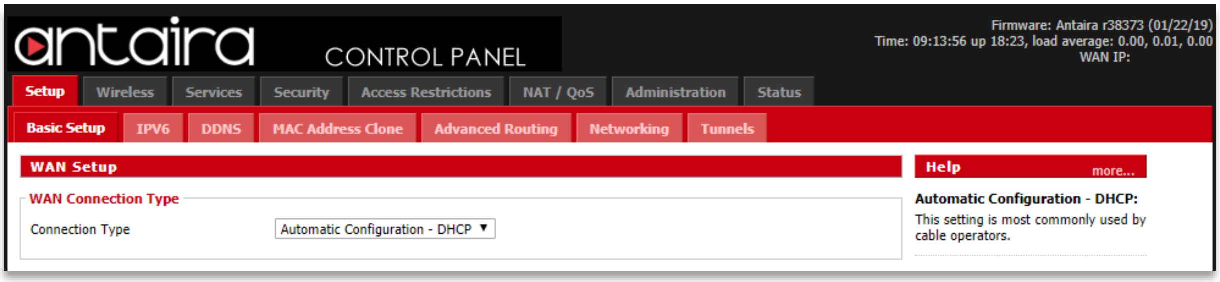
IEEE 802.11s is a wireless LAN standard for mesh networking. Each Mesh Station forms a mesh link with one another, over which paths can be established for multi-hop wireless links and routing of packets through other Mesh Stations towards the destination.



2. Setup

2.1 Basic Setup

The Setup Screen is the first screen you will see when accessing the router. After you have configured and made changes to these settings, it is recommended to set a new password for the router. This will increase security by protecting the router from unauthorized changes. All users who try to access the router's web interface will be prompted for the router's password.



Firmware: Antaira r38373 (01/22/19)
Time: 09:13:56 up 18:23, load average: 0.00, 0.01, 0.00
WAN IP:

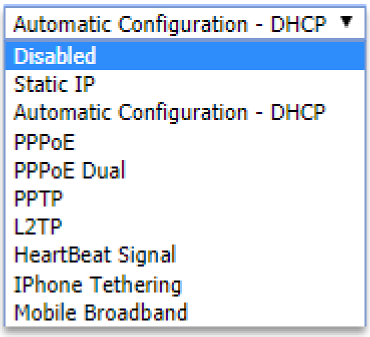
WAN Connection Type

Connection Type: Automatic Configuration - DHCP

Automatic Configuration - DHCP:
This setting is most commonly used by cable operators.

Setup > Basic Setup

2.1.1 WAN Setup



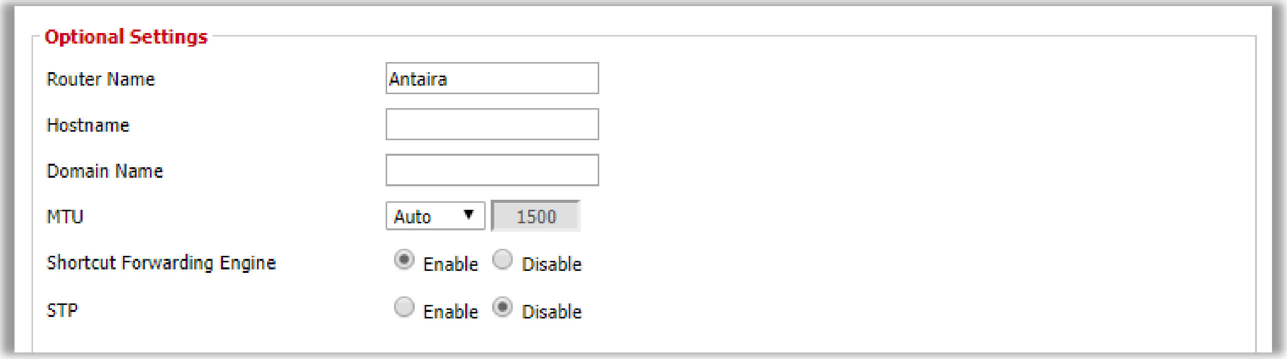
Automatic Configuration - DHCP ▼

- Disabled
- Static IP
- Automatic Configuration - DHCP
- PPPoE
- PPPoE Dual
- PPTP
- L2TP
- HeartBeat Signal
- IPhone Tethering
- Mobile Broadband

Setup > Basic Setup > WAN Setup

WAN Connection Type	Description
Disabled	Disable the WAN port.
Static IP	A static IP address is used. **Required:** IP address, subnet mask, gateway, and server to be entered manually.
Automatic Configuration -DHCP	The WAN port will obtain its IP address from a DHCP server.
PPPoE	Configure as PPPoE Client. **Required:** Username and Password. **Advanced Options:** Service Name, T-Online VLAN 7 Support, PPP Compression, MPPE Encryption, Single Line Multi Link, and Connection Strategy.
PPPoE Dual	Allows users to set multiple paths of the WAN.
PPTP	Establishes a connection via PPTP. **Required:** Gateway, Username, Password, and encryption information.
L2TP	Establishes a connection via L2TP. Required: Gateway, Username, Password, and encryption information.
HeartBeat Signal	Short frames sent by the wireless device that contains information, such as the SSID, encryption information, data rates, and other information. This information is only used if the IPS supports heartbeat signals.
IPhone Tethering	Establishes a connection via IPhone tethering.
Mobile Broadband	Establishes a connection via mobile broadband.

2.1.2 Optional Settings



Optional Settings

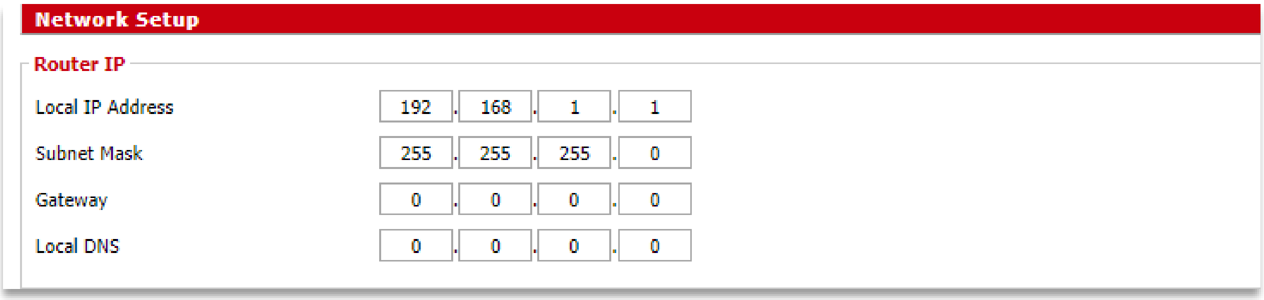
Router Name	Antaira
Hostname	
Domain Name	
MTU	Auto ▼ 1500
Shortcut Forwarding Engine	● Enable ○ Disable
STP	○ Enable ● Disable

Setup > Basic Setup > Optional Settings

Optional Settings	Description
Router Name	The desired name to appear for the router.
Hostname	Necessary for some ISPs and can be provided by the ISP.
Domain Name	Necessary for some ISPs and can be provided by the ISP.
MTU	Maximum Transmission Unit: Specifies the largest packet size permitted for Internet transmission. Auto will allow the device to select the best MTU for Internet connection. Manual values entered should be in the range 1200 – 1500.
Shortcut Forwarding Engine	Enable or disable this feature.
STP	Spanning Tree Protocol: Creates the best path between devices without creating loops.

2.1.3 Router IP

Enter the desired LAN side IP address, Subnet mask, Gateway, and Local DNS information.



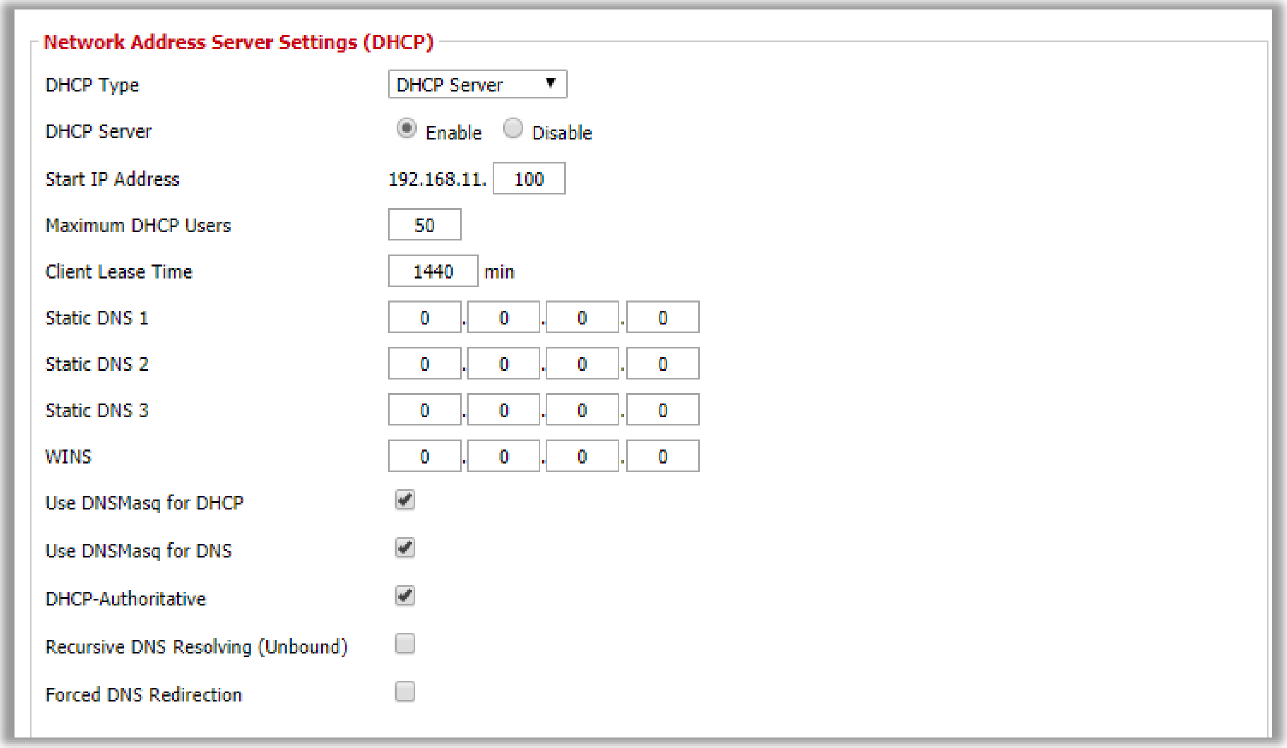
Network Setup

Router IP

Local IP Address	192	168	1	1
Subnet Mask	255	255	255	0
Gateway	0	0	0	0
Local DNS	0	0	0	0

Setup > Basic Setup > Network Setup

2.1.4 Network Address Server Settings (DHCP)



Network Address Server Settings (DHCP)

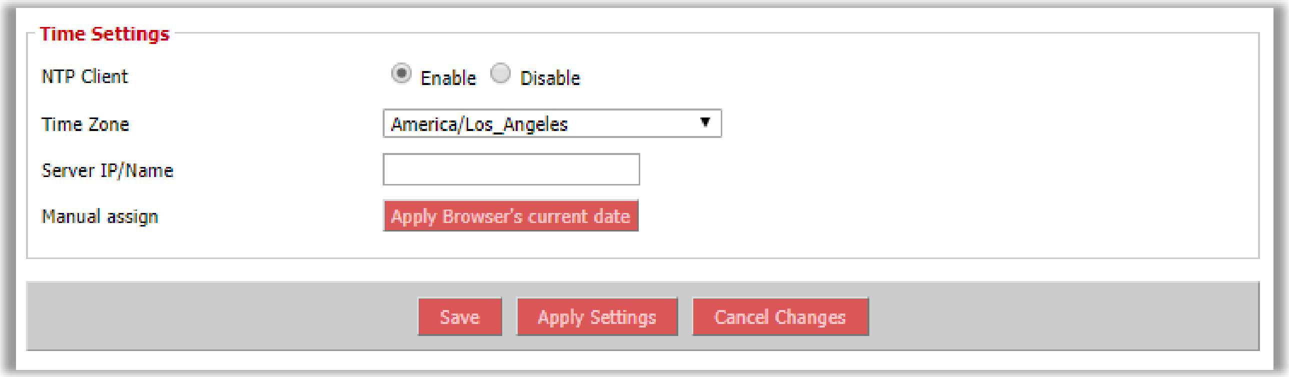
DHCP Type	DHCP Server ▼
DHCP Server	● Enable ○ Disable
Start IP Address	192.168.11. 100
Maximum DHCP Users	50
Client Lease Time	1440 min
Static DNS 1	0 . 0 . 0 . 0
Static DNS 2	0 . 0 . 0 . 0
Static DNS 3	0 . 0 . 0 . 0
WINS	0 . 0 . 0 . 0
Use DNSMasq for DHCP	☑
Use DNSMasq for DNS	☑
DHCP-Authoritative	☑
Recursive DNS Resolving (Unbound)	□
Forced DNS Redirection	□

Setup > Basic Setup > Network Address Server Settings

Network Address Server Settings	Description
DHCP Type	**Server:** This device will function as the DHCP server. If there is already a DHCP server on the network, select **Disable**. **Forwarder:** Additional routers can be hardwired to the main router on the network. The additional routers will have the type set as Forwarder. Any devices connected to the additional routers will receive their DHCP information from the main router.
DHCP Server	**Enable** if you want this router to provide DHCP addressing. Disable if there is an existing DHCP server on the network.
Start IP Address	A numerical value for the DHCP server to start its addressing with when assigning IP addresses. ****Do not start with the routers IP address. ****
Maximum DHCP Users	The maximum number of devices the router will assign

	IP address through DHCP.
Client Lease Time	The lease time of an IP address given by the DHCP server before it expires.
Static DNS #	The Domain Name System is how domain names are translated to IP addresses. The ISP provider will typically provide at least one unique DNS IP address.
WINS	Windows Internet Naming Services: Manages the PC's interaction with the internet.

2.1.5 Time Settings


Time Settings

NTP Client: ● Enable ○ Disable

Time Zone: America/Los_Angeles ▼

Server IP/Name:

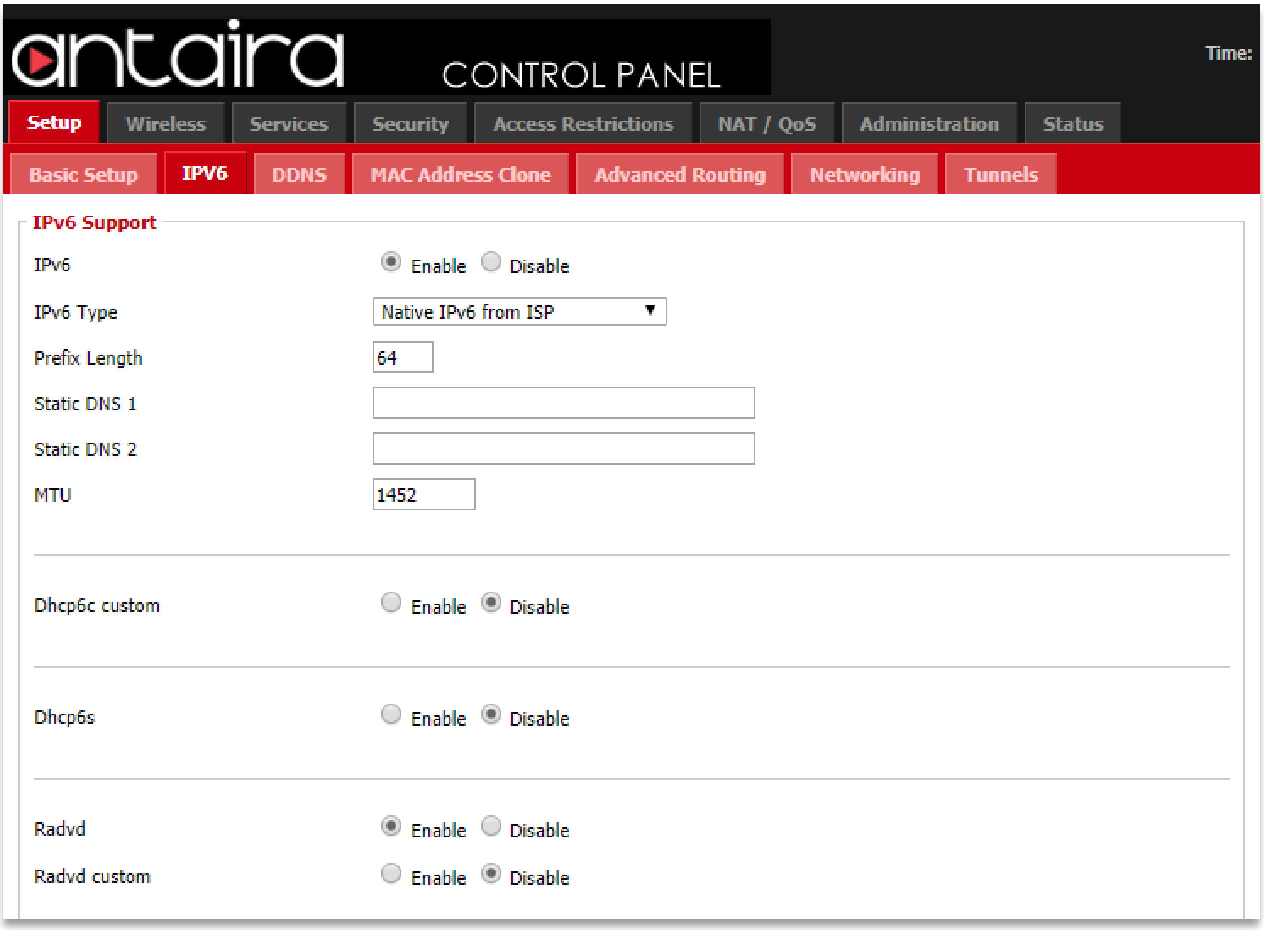
Manual assign: Apply Browser's current date

Setup > Basic Setup > Time Settings

Time Settings	Description
NTP Client	Network Time Protocol: Used for time synchronization between the client and the network time server.
Time Zone	Select time zone for the unit.
Server Ip/Name	Enter either the server's IP address or assigned domain name.
Manual Assign	Applies the browser's current date.

2.2 IPv6

Internet Protocol version 6 (IPv6) is a network layer IP standard used by electronic devices to exchange data across a packet switched network. It follows IPv4 as the second version of the Internet Protocol to be formally adopted for general use.



IPv6 Support

IPv6: ● Enable ○ Disable

IPv6 Type: Native IPv6 from ISP

Prefix Length: 64

Static DNS 1:

Static DNS 2:

MTU: 1452

Dhcp6c custom: ○ Enable ● Disable

Dhcp6s: ○ Enable ● Disable

Radvd: ● Enable ○ Disable

Radvd custom: ○ Enable ● Disable

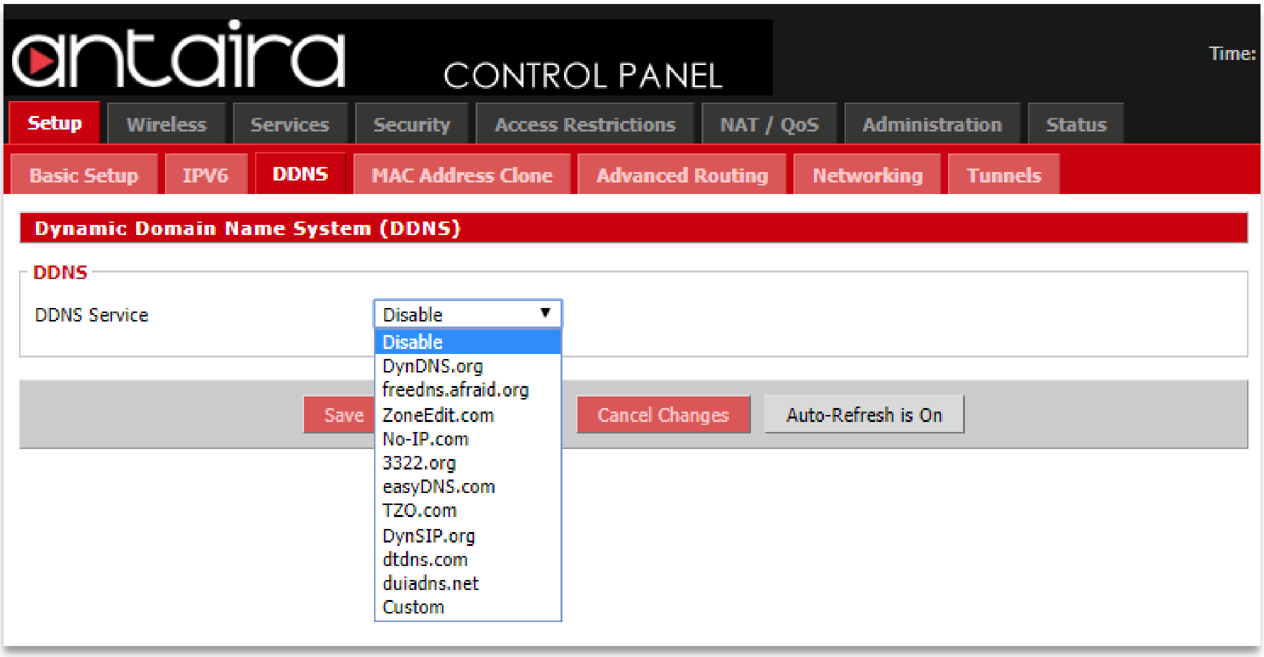
Setup > IPv6

IPv6	Description
IPv6	Enable or disable IPv6.
IPv6 Type	Select between *Native IPv6 from ISP*, *DHCPv6 with Prefix Delegation*, or *6in4 Static Tunnel*.
Prefix Length	Enter a prefix length.
Static DNS	Enter a static DNS if needed.
MTU	Maximum Transmission Unit: Specifies the largest packet size permitted for Internet transmission. Auto will allow the device to select the best MTU for Internet connection. Manual values entered should be in the range 1200 – 1500.

Dhcp6c custom	This option is used to request and configure IPv6 addresses and host network configuration information (e.g., DNS) for a network interface from the DHCPv6 server.
Dhcp6s	This option provides IPv6 addresses and prefix assignment administrative policy and configuration information for DHCPv6 clients.
Radvd	Linux IPv6 Router Advertisement Daemon
Radvd custom	Custom options for radvd configuration.

2.3 DDNS

The router offers a Dynamic Domain Name System (DDNS). The DDNS allows users to assign a fixed host and domain name to a dynamic internet IP address. This is useful when hosting a website or FTP server.



Dynamic Domain Name System (DDNS)

DDNS

DDNS Service: Disable

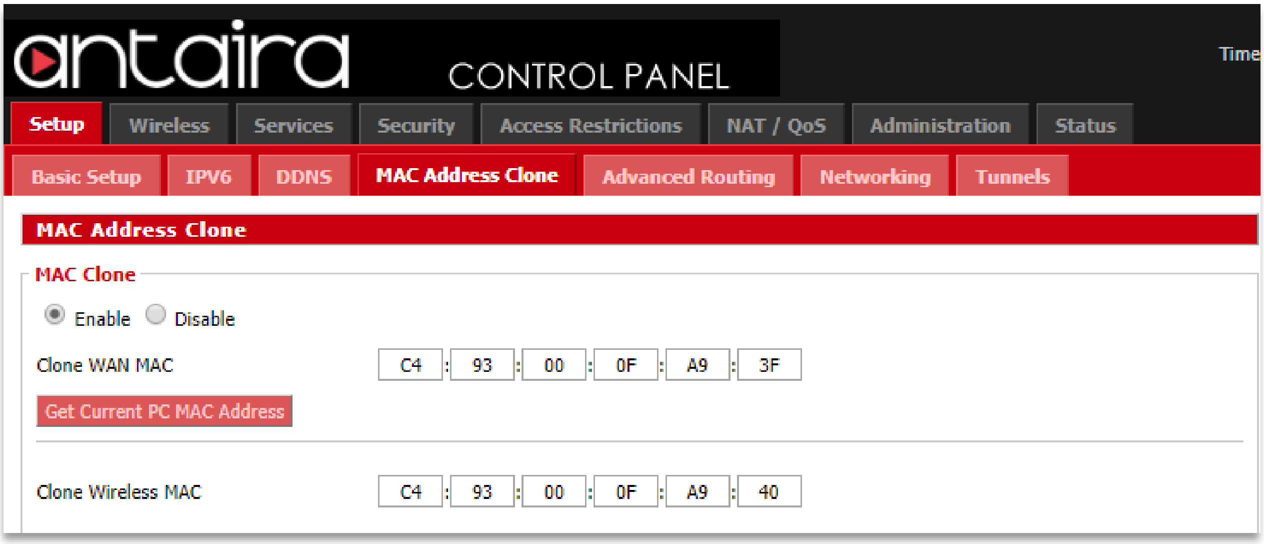
Disable
DynDNS.org
freedns.afraid.org
ZoneEdit.com
No-IP.com
3322.org
easyDNS.com
TZO.com
DynSIP.org
dtdns.com
duiadns.net
Custom

Setup > DDNS

DDNS Settings	Description
DDNS Service	Sign up for a DDNS service through a DDNS service provider.
Username	Setup a Username through the DDNS service provider.
Password	Setup a Password through the DDNS service provider.
Hostname	Setup a Hostname through the DDNS service provider.
Type	**Dynamic:** Allows a hostname (chosen by the user through the DDNS service provider) to point to the users IP address.
	Static: Like Dynamic service, but the DNS host will not expire after 35 days without updates.
	Custom: Creates a managed primary DNS that provides the user more control over the DNS.
Wildcard	Enabling the Wildcard feature allows the user’s host to be aliased to the same IP address and the DNS server.
External IP Check	Allows the DDNS function to pick up the WAN IP from the router instead of checking on an external site.
Force Update Interval	The number represents how often (in days) an update will be performed.

2.4 MAC Address Clone

By enabling the MAC address clone, the user is able to clone the MAC address of the network adapter onto the router.



MAC Address Clone

MAC Clone

● Enable ○ Disable

Clone WAN MAC C4 : 93 : 00 : 0F : A9 : 3F

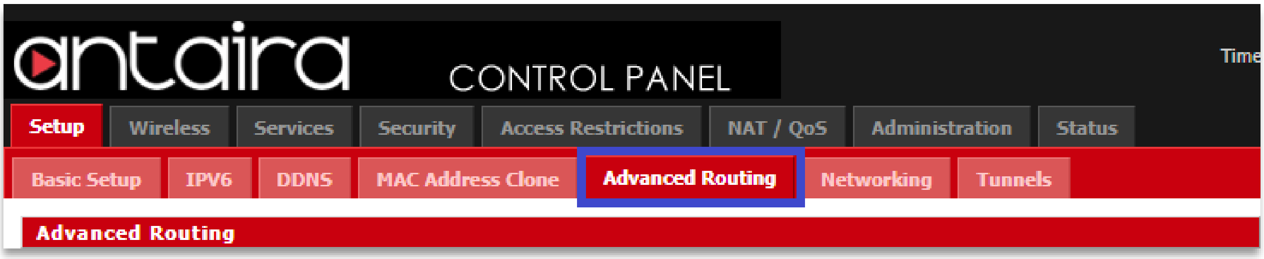
Clone Wireless MAC C4 : 93 : 00 : 0F : A9 : 40

Setup > MAC Address Clone

Enter the MAC address of the network adapter in the **Clone WAN MAC** section or click the **Get Current PC MAC Address** to fill in the MAC address of the PC currently connected. Get Current PC Mac is typically used when establishing a service with certain ISP providers.

2.5 Advanced Routing

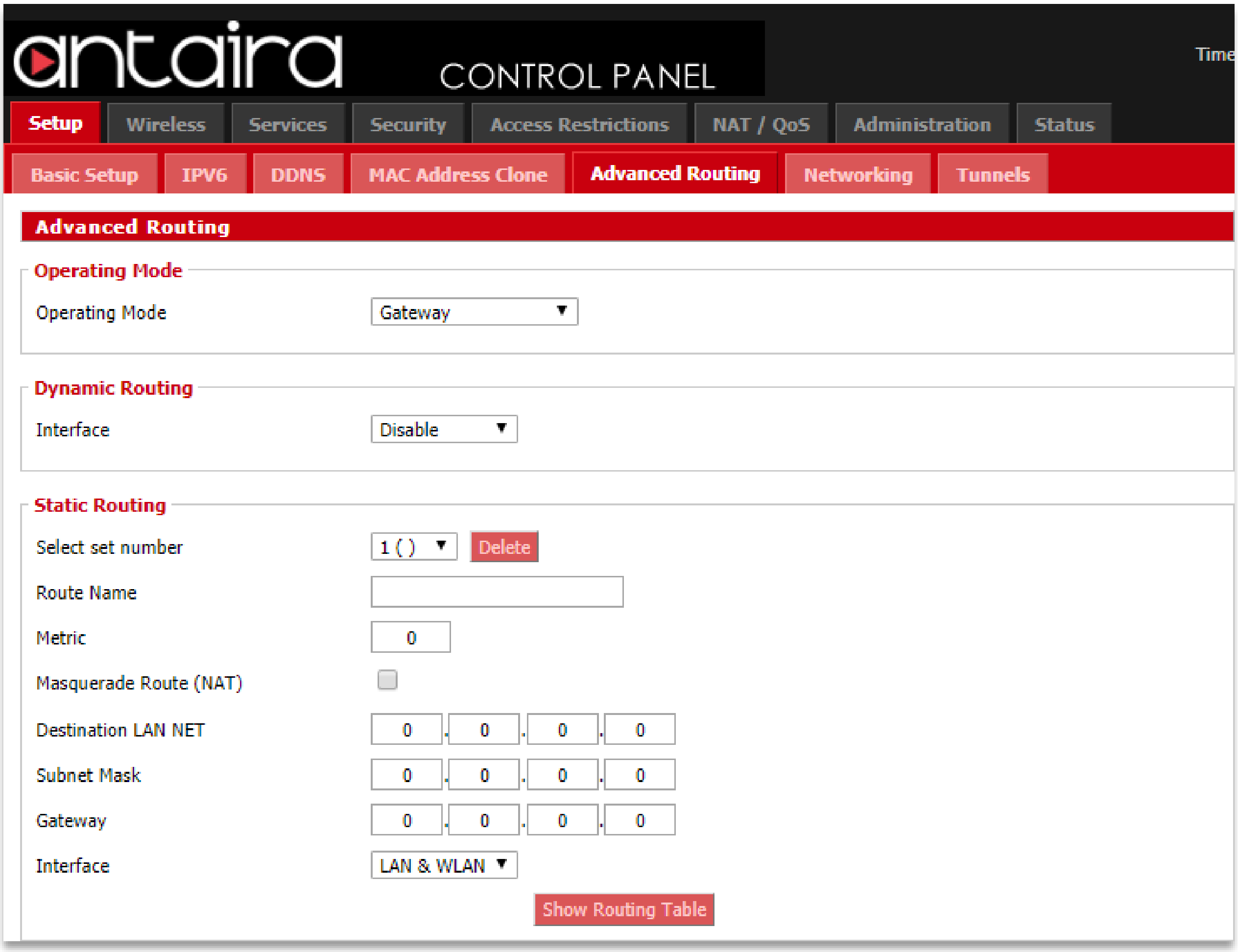
On the Advanced Routing screen, you can set the routing mode and settings of the router. Choose the appropriate working mode for you needs. Generally, if the router is hosting your network's connection to the Internet, use **Gateway** mode. In Gateway mode, the router performs NAT, while in other modes it does not.



Setup > Advanced Routing

2.5.1 Gateway

In the Gateway operating mode, the router will route packets between the LAN/WLAN and the Internet (through the WAN port). This is the default setting and most common when the router is hosting the network's Internet connection through the WAN port.



Advanced Routing

Operating Mode

Operating Mode: Gateway

Dynamic Routing

Interface: Disable

Static Routing

Select set number: 1 ( )

Route Name:

Metric: 0

Masquerade Route (NAT): □

Destination LAN NET: 0 . 0 . 0 . 0

Subnet Mask: 0 . 0 . 0 . 0

Gateway: 0 . 0 . 0 . 0

Interface: LAN & WLAN

Setup > Advanced Routing > Operating Mode > Gateway

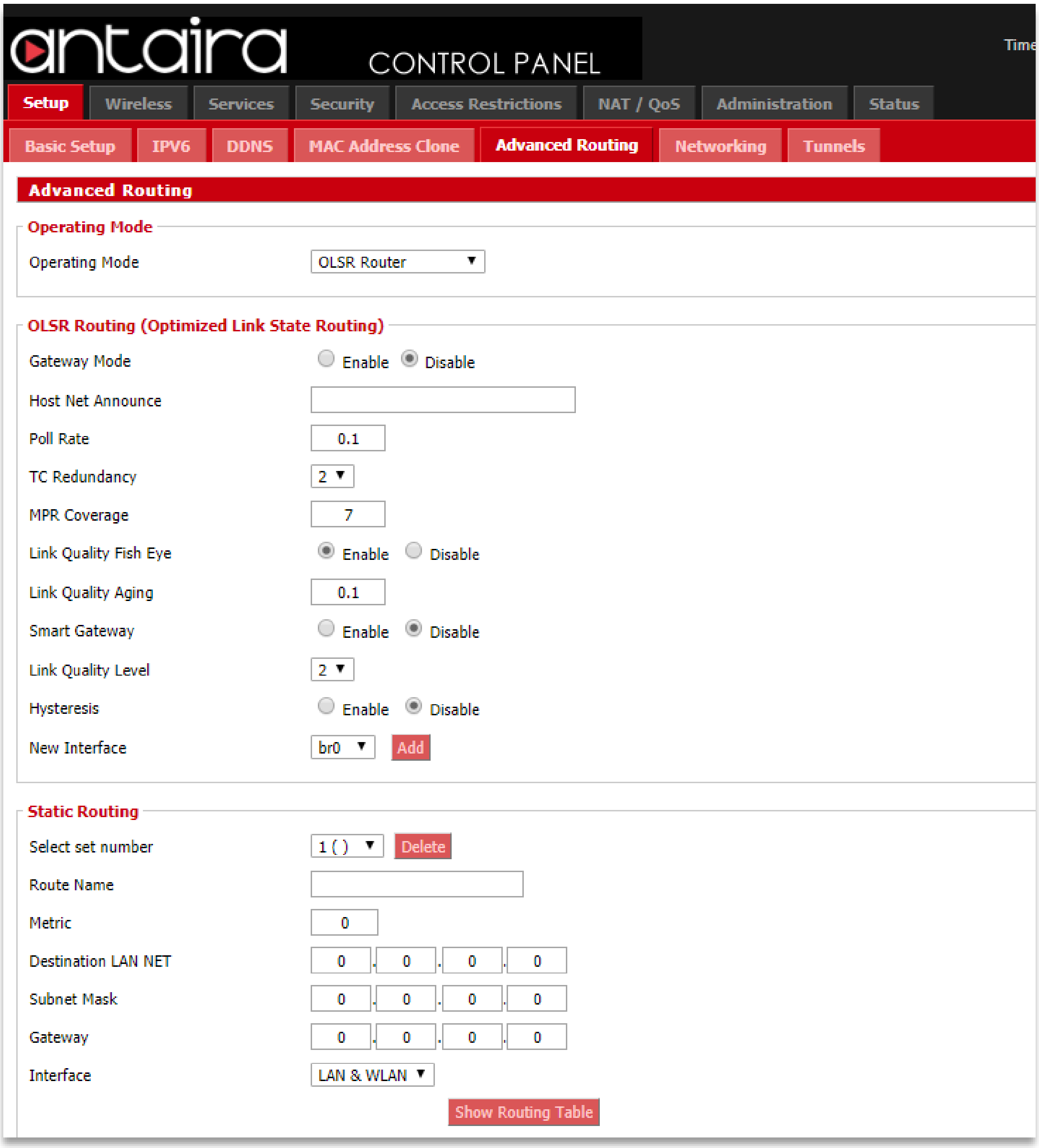
Gateway	Description
Operating Mode	**Gateway:** If the router is hosting the Internet connection, the router will perform NAT in Gateway mode.
	BGP: Boarder Gateway Protocol.
	RIP2 Router: Routing Information Protocol**.**
	OSPF Router: Open Shortest Path First.
	OSPF & RIP2 Router: Uses a combination of RIP and OSPF.

	OLSR Router: Optimized Link State Routing Protocol. **Router:** Static routes.
Dynamic Routing – Interface	Tells the end user if the destination IP address is on the LAN & WAN, WAN or Loopback.
Select Set Number	A unique router number. You can set up to 50 routes.
Route Name	The name assigned to a specific route number.
Metric	Enter a metric number.
Masquerade Route (NAT)	Enable or disable masquerading (NAT).
Destination LAN Net	The remote host assigned to the static route.
Subnet Mask	Enter a subnet mask.
Gateway	Enter a gateway IP address.
Interface	Select the interface that the static route will apply to.

Destination LAN NET	**Network address of destination LAN.**
Subnet Mask	Subnet mask of destination LAN.
Gateway	Gateway IP address.
Interface	Select the interface for the path of the route.

2.5.2 OLSR Router

Optimized Link State Routing Protocol (OLSR) is an IP routing protocol optimized for mobile ad-hoc networks, which can also be used on other wireless ad-hoc networks. OLSR is a proactive link-state routing protocol which uses hello and topology control (TC) messages to discover and then disseminate link state information through the mobile ad-hoc network. Individual nodes use this topology information to compute next hop destinations for all nodes in the network using shortest hop forwarding paths.



Advanced Routing

Operating Mode

Operating Mode: OLSR Router

OLSR Routing (Optimized Link State Routing)

Gateway Mode: ○ Enable ● Disable
Host Net Announce:
Poll Rate: 0.1
TC Redundancy: 2
MPR Coverage: 7
Link Quality Fish Eye: ● Enable ○ Disable
Link Quality Aging: 0.1
Smart Gateway: ○ Enable ● Disable
Link Quality Level: 2
Hysteresis: ○ Enable ● Disable
New Interface: br0

Static Routing

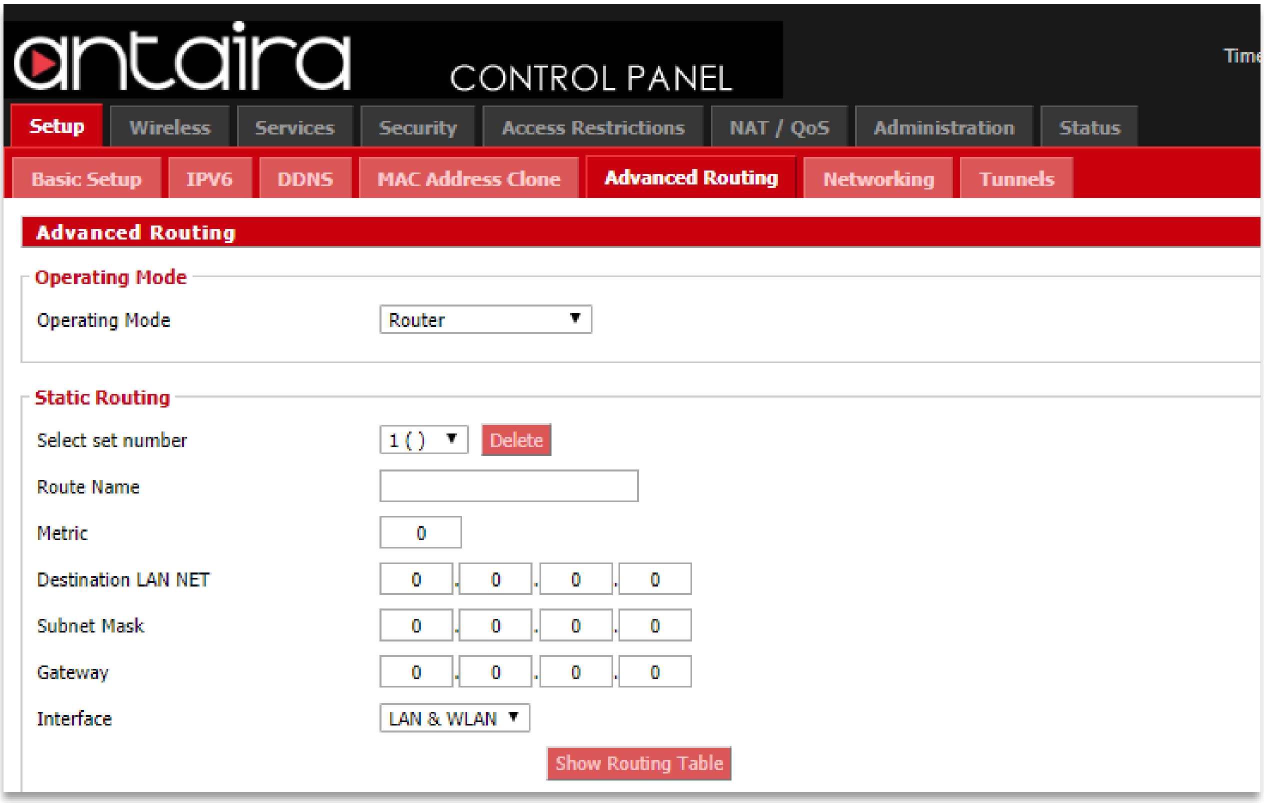
Select set number: 1 ( )
Route Name:
Metric: 0
Destination LAN NET: 0 . 0 . 0 . 0
Subnet Mask: 0 . 0 . 0 . 0
Gateway: 0 . 0 . 0 . 0
Interface: LAN & WLAN

Setup > Advanced Routing > Operating Mode > OLSR Router

OLSR Router	Description
Gateway Mode	Enable or disable feature.
Host Net Announce	Enter a host net announce.
Poll Rate	Set the poll rate interval.
TC Redundancy	Set the TC Redundancy.
MPR Coverage	Set the MPR Coverage.
Link Quality Fish Eye	Enable or disable this feature.
Link Quality Aging	Set the link quality aging.
Smart Gateway	Enable or disable this feature.
Link Quality Level	Set the link quality level.
Hysteresis	Enable or disable this feature.
New Interface	Add a new interface.
Select Set Number	Select the Route set (1-64).
Route Name	Give the route a name.
Metric	An integer giving weight to the cost of the route.
Destination LAN NET	Network address of destination LAN.
Subnet Mask	Subnet mask of destination LAN.
Gateway	Gateway IP address.
Interface	Select the interface for the path of the route.

2.5.3 Router

Router Mode allows users to set static routes.



Advanced Routing

Operating Mode

Operating Mode: Router

Static Routing

Select set number: 1 ( )

Route Name:

Metric: 0

Destination LAN NET: 0 . 0 . 0 . 0

Subnet Mask: 0 . 0 . 0 . 0

Gateway: 0 . 0 . 0 . 0

Interface: LAN & WLAN

Setup > Advanced Routing > Operating Mode > Router

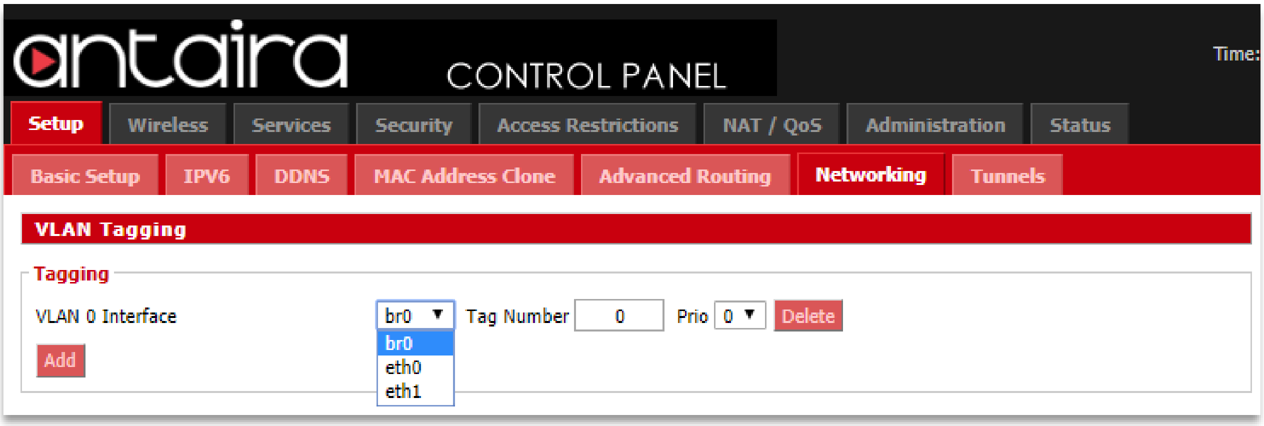
Router	Description
Select Set Number	This is the unique router number. You may set up to 50 routes.
Route Name	Enter the name you would like to assign to this route.
Metric	
Destination LAN NET	This is the remote host to which you would like to assign the static route.
Subnet Mask	Enter the subnet mask.
Gateway	Enter the gateway IP address.
Interface	Select the interface that the static route will apply to.

2.6 Networking

2.6.1 VLAN Tagging

VLAN Tagging allows the user to create new VLAN interfaces from the standard interfaces by filtering defined tag numbers.

Tagging: Allows you to create a new VLAN interface out of a standard interface by filtering the interface using a defined TAG number.



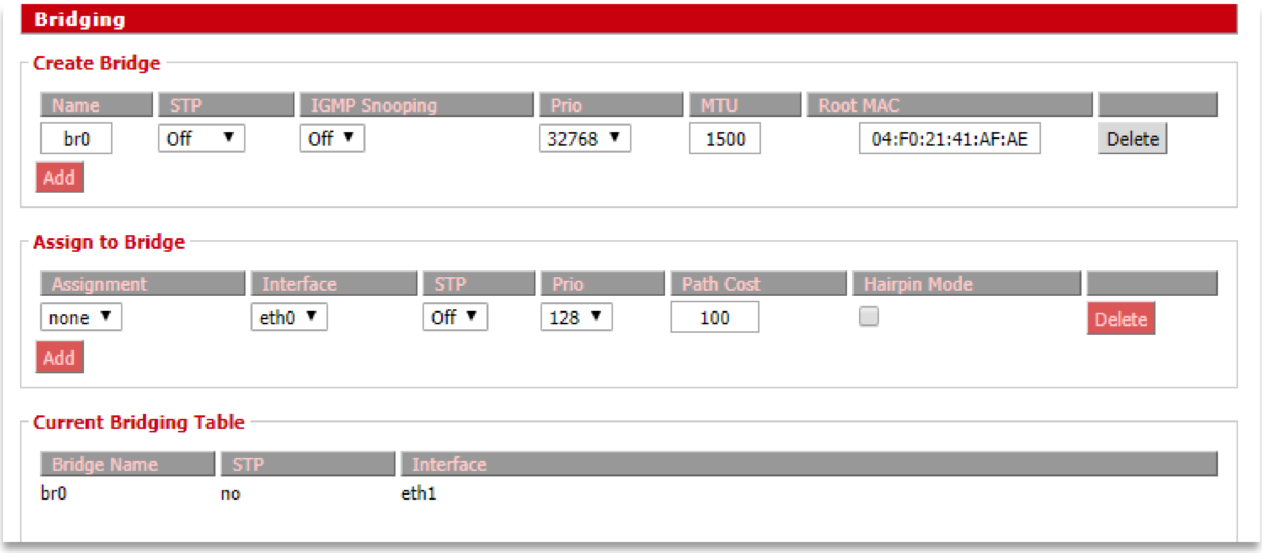
VLAN Tagging

Tagging

VLAN 0 Interface: br0 · Tag Number: 0 · Prio: 0

Setup > Networking > VLAN Tagging

2.6.2 Bridging



Bridging

Create Bridge

Name	STP	IGMP Snooping	Prio	MTU	Root MAC	
br0	Off	Off	32768	1500	04:F0:21:41:AF:AE	Delete

Add

Assign to Bridge

Assignment	Interface	STP	Prio	Path Cost	Hairpin Mode	
none	eth0	Off	128	100	□	Delete

Add

Current Bridging Table

Bridge Name	STP	Interface
br0	no	eth1

Setup > Networking > Bridging

Current Bridging Table: A table with all of the current bridges and their components can be seen it the Bridging section of the networking tab.

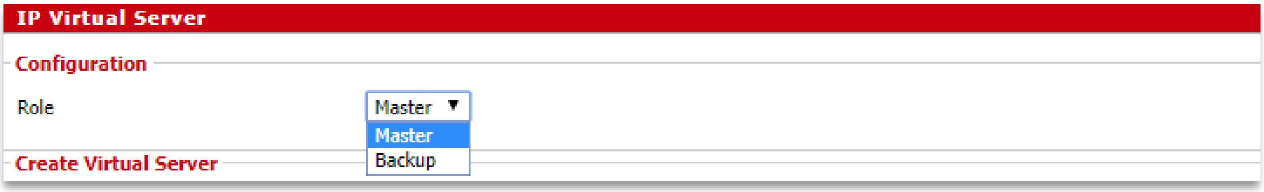
Create Bridge	Description
Add	Create a new network bridge.
STP	Spanning Tree Protocol. Turn on or off.
IGMP Snooping	Turn on or off IGMP Snooping.
Prio	Sets the bridge priority order. (Lower numbers are higher priority.)
MTU	Maximum Transmission Unit: Specifies the largest packet size permitted for Internet transmission. Auto will allow the device to select the best MTU for Internet connection. Manual values entered should be in the range 1200 – 1500.
Root MAC	The Root MAC address.

Assign to Bridge: Allows a user to assign an interface to a network bridge.

Assign to Bridge	Description
Assignment	Assign any valid interface to a network bridge.
Interface	Select the interface to assign to the bridge.
STP	Spanning Tree Protocol. Turn on or off.
Prio	Sets the priority order (Lower numbers are higher priority).

Path Cost	Set the path cost.
Hairpin Mode	Enables Hairpin routing.

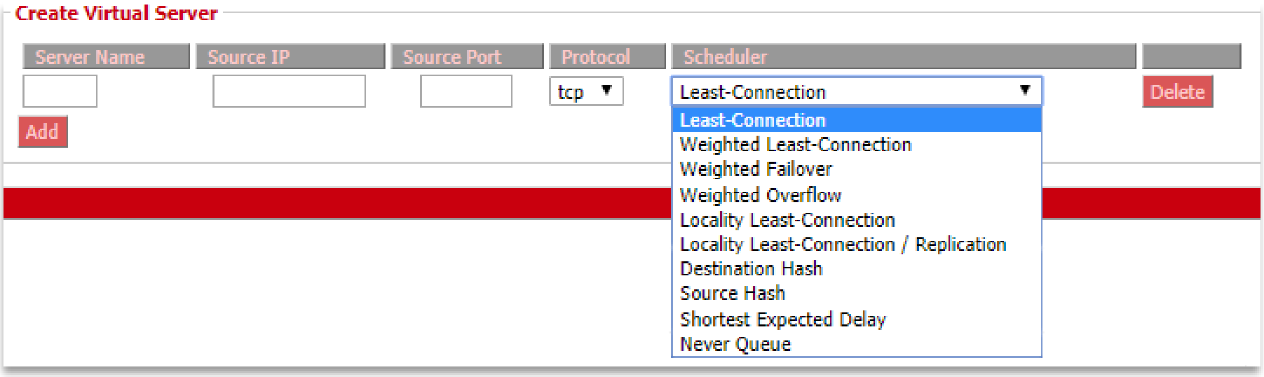
2.6.3 IP Virtual Server



Setup > Networking > IP Virtual Server

Role	Description
Role	Select the role of the IP virtual server: Master or Backup.

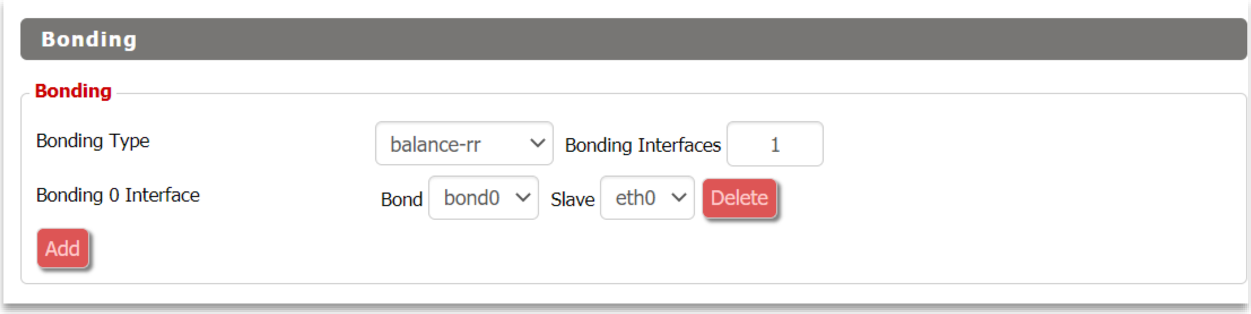
2.6.4 Create Virtual Server



Setup > Networking > Create Virtual Server

Create Virtual Server	Description
Server Name	Enter a server name.
Source IP	Enter a source IP address.
Source Port	Enter a source port.
Protocol	Choose between TCP, UDP, or SIP protocol.
Scheduler	Select the scheduler from the drop-down menu.

2.6.5 Bonding


Bonding

Bonding

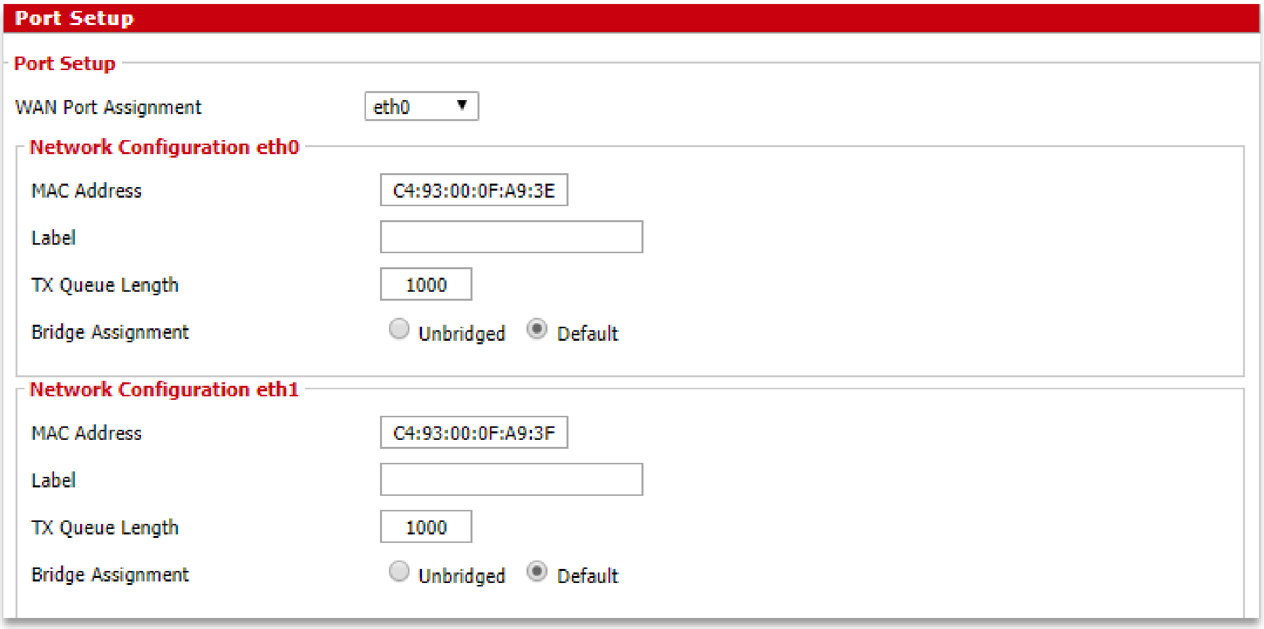
Bonding Type: balance-rr

Bonding Interfaces: 1

Bonding 0 Interface: Bond bond0, Slave eth0

Setup > Networking > Bonding

2.6.6 Port Setup


Port Setup

Port Setup

WAN Port Assignment: eth0

Network Configuration eth0

MAC Address: C4:93:00:0F:A9:3E

Label:

TX Queue Length: 1000

Bridge Assignment: ○ Unbridged ● Default

Network Configuration eth1

MAC Address: C4:93:00:0F:A9:3F

Label:

TX Queue Length: 1000

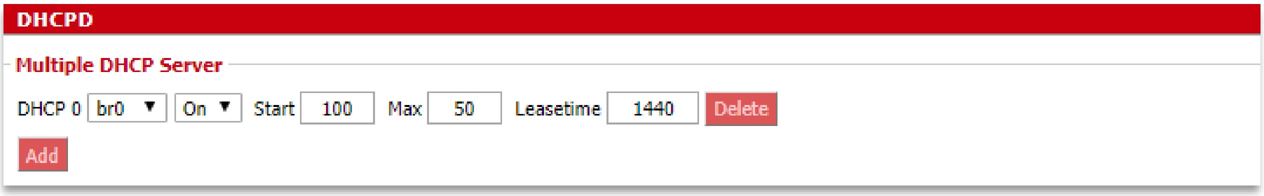
Bridge Assignment: ○ Unbridged ● Default

Setup > Networking > Port Setup

Port Setup	Description
WAN Port Assignment	Select a WAN Port.
MAC Address	MAC Address of the configured WAN port.
Label	Input a label if desired.
TX Queue Length	Set the TX-queue length.
Bridge Assignment	Select the bridge assignment: Unbridged or Default.

2.6.7 DHCPD

This feature allows you to configure a DHCP server on a specific port.



DHCPD

Multiple DHCP Server

DHCP 0 br0 ▼ On ▼ Start 100 Max 50 Leasetime 1440 Delete

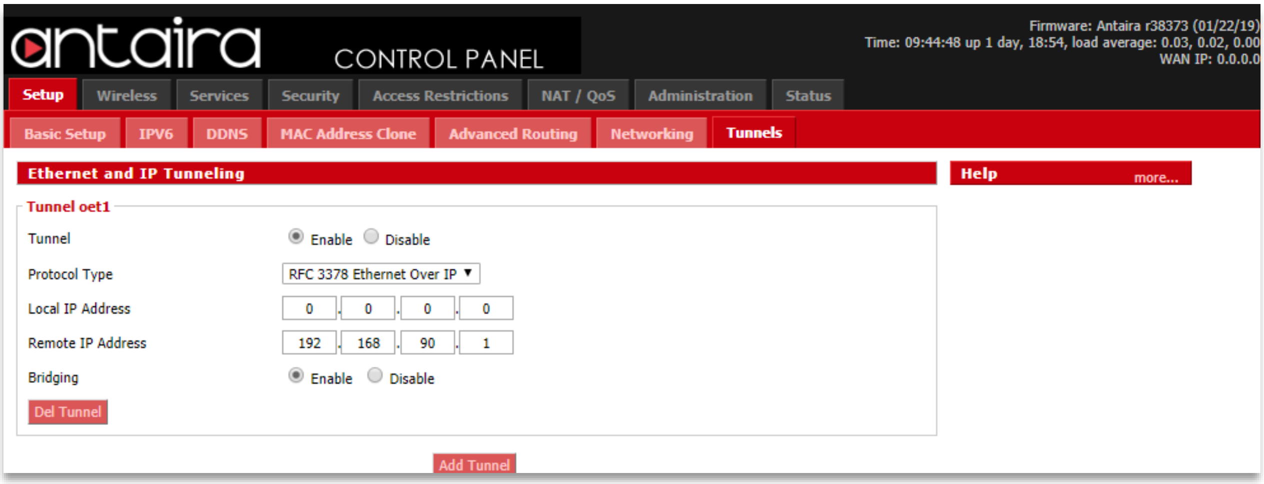
Add

Setup > Networking > DHCPD

2.7 Tunnels

2.7.1 Ethernet and IP Tunneling

Ethernet over IP (EoIP) tunneling enables you to create an Ethernet tunnel between two routers on top of an IP connection. The EoIP interface appears as an Ethernet interface. When the bridging function of the router is enabled, all Ethernet traffic will be bridged just as if there was a physical connection between the two routers.



Firmware: Antaira r38373 (01/22/19)
Time: 09:44:48 up 1 day, 18:54, load average: 0.03, 0.02, 0.00
WAN IP: 0.0.0.0

Ethernet and IP Tunneling

Tunnel oet1

Tunnel ● Enable ○ Disable

Protocol Type RFC 3378 Ethernet Over IP ▼

Local IP Address 0 . 0 . 0 . 0

Remote IP Address 192 . 168 . 90 . 1

Bridging ● Enable ○ Disable

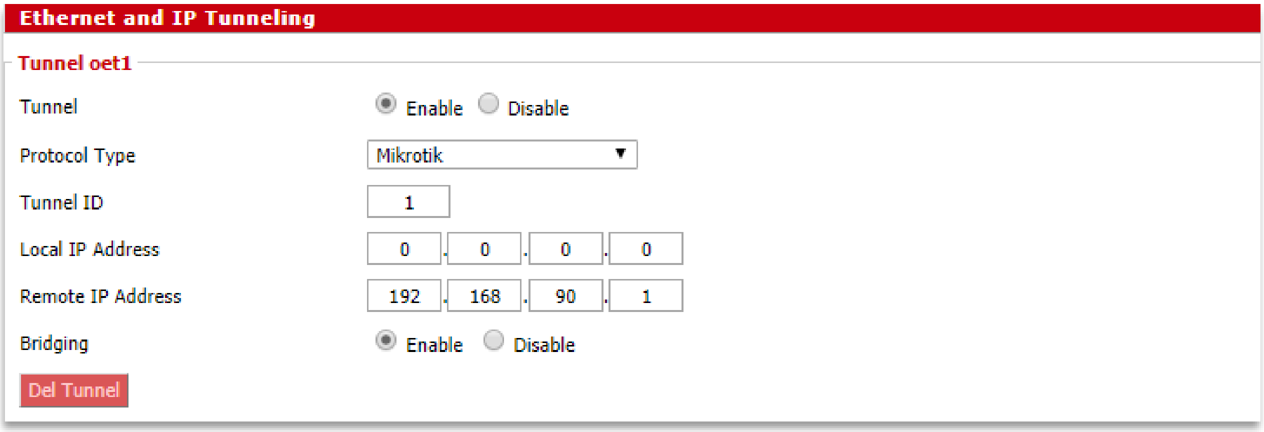
Del Tunnel

Add Tunnel

Setup > Tunnels

Tunnel	Description
Tunnel	Enable or disable tunneling.
Protocol Type	Select the protocol type.
Local IP Address	Enter a local IP address.
Remote IP Address	Enter a remote IP address.
Bridging	Enable or disable bridging.

2.7.1.1 Mikrotik


Ethernet and IP Tunneling

Tunnel oet1

Tunnel ● Enable ○ Disable

Protocol Type: Mikrotik

Tunnel ID: 1

Local IP Address: 0 . 0 . 0 . 0

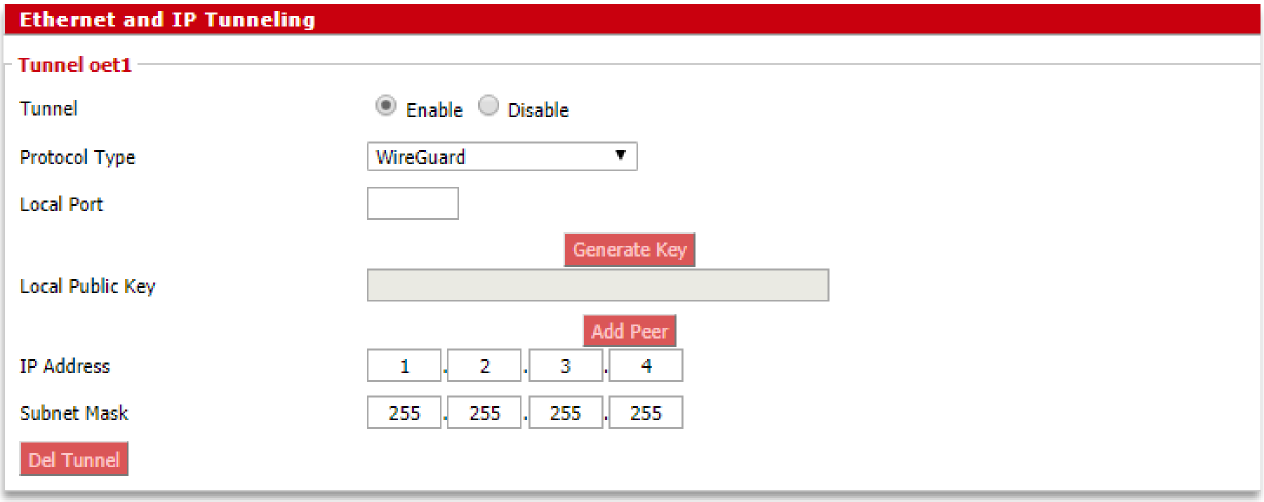
Remote IP Address: 192 . 168 . 90 . 1

Bridging ● Enable ○ Disable

Setup > Tunnels > Ethernet and IP Tunneling > Mikrotik

Tunnel - Mikrotik	Description
Tunnel	Enable or disable tunneling.
Protocol Type	Select the protocol type.
Tunnel ID	Enter a tunnel ID.
Local IP Address	Enter a local IP address.
Remote IP Address	Enter a remote IP address.
Bridging	Enable or disable bridging.

2.7.1.2 WireGuard


Ethernet and IP Tunneling

Tunnel oet1

Tunnel ● Enable ○ Disable

Protocol Type: WireGuard

Local Port:

Local Public Key:

IP Address: 1 . 2 . 3 . 4

Subnet Mask: 255 . 255 . 255 . 255

Setup > Tunnels > Ethernet and IP Tunneling > WireGuard

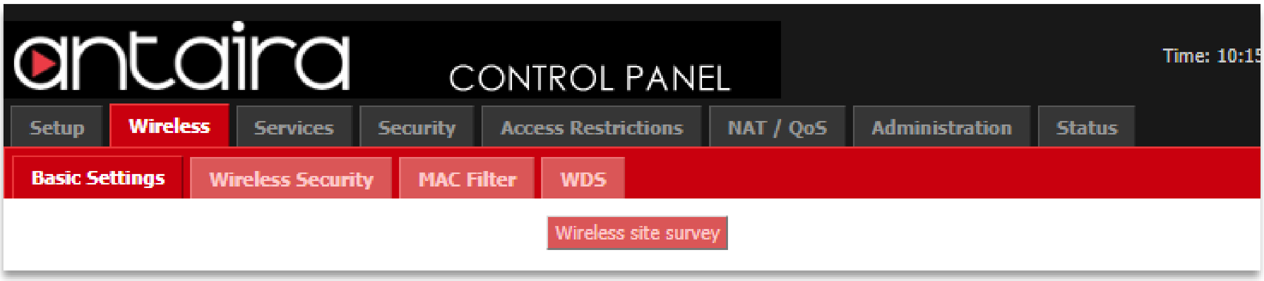
Tunnel – WireGuard	Description
Tunnel	Enable or disable tunneling.
Protocol Type	Select the protocol type.
Local Port	Enter a local port number.
Local Public Key	Enter or generate a local public key.
IP Address	Enter an IP address.
Subnet Mask	Enter a subnet mask.

3. Wireless

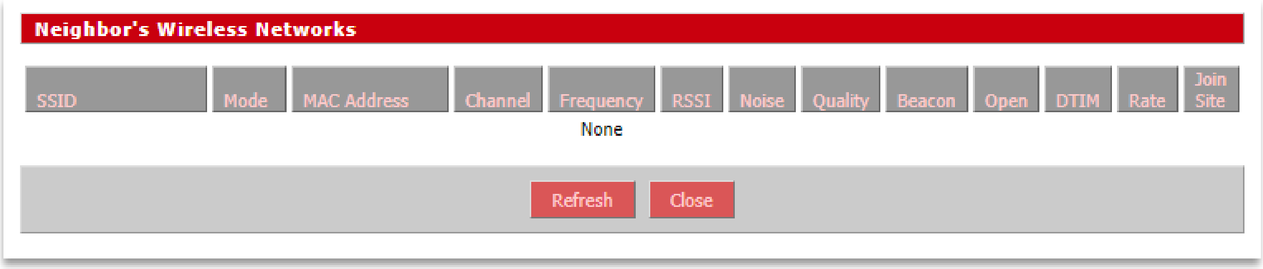
3.1 Basic Settings

All basic wireless settings can be configured here. Users can change the Wireless Mode, Network Mode, Channel Width, Wireless Channel, and SSID.

3.1.1 Wireless Site Survey



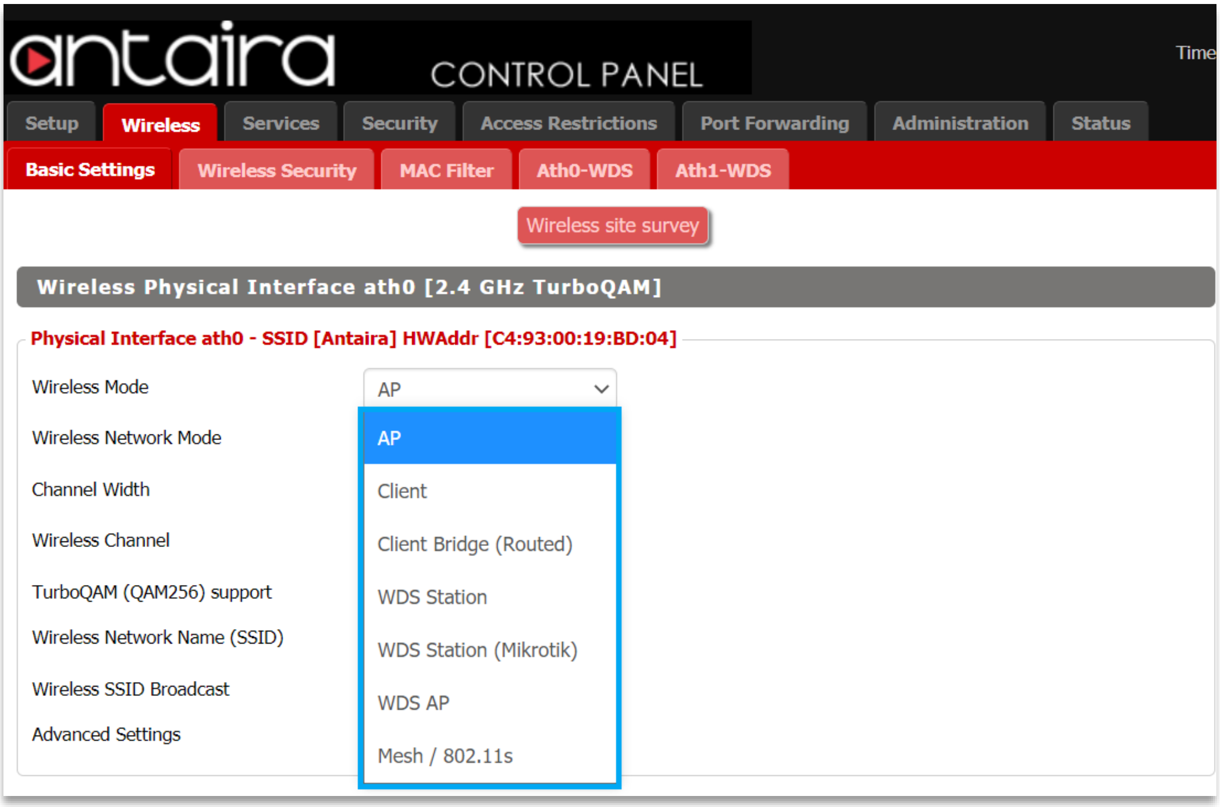
Wireless > Basic Settings



SSID	Mode	MAC Address	Channel	Frequency	RSSI	Noise	Quality	Beacon	Open	DTIM	Rate	Join Site
None												

Wireless > Basic Settings > Wireless Site Survey

3.1.2 Wireless Mode



Wireless Physical Interface ath0 [2.4 GHz TurboQAM]

Physical Interface ath0 - SSID [Antaira] HWAddr [C4:93:00:19:BD:04]

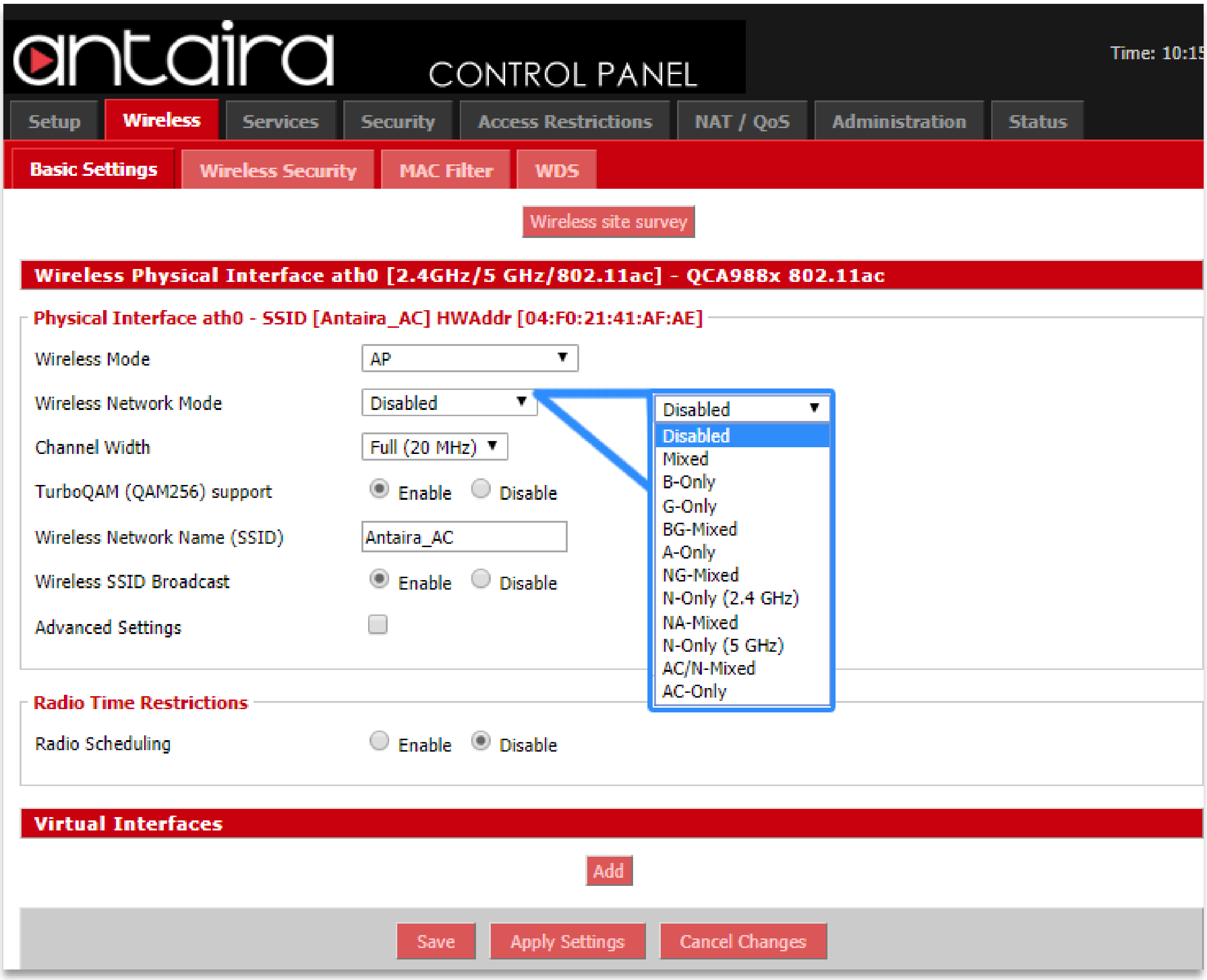
Wireless Mode: AP

Wireless > Basic Settings > Wireless Mode

Basic Settings	Description
Wireless Mode	**AP:** The default settings. Access Point Mode will allow the router to act as a connection point for wireless client devices to connect with.
	Client: The radio interface is used to connect the Internet-facing side of the router (the WAN) as a client to a remote access point. NAT or routing are performed between WAN and LAN. Use this mode if your Internet connection is provided by a remote access point and you want to attach a subnet of your own to it.
	Client Bridge (Routed): The radio interface is used to connect the LAN side of the router to an access point. The LAN and access point will be in the same subnet (bridging two network segments). The WAN side of the router is unused and can be disabled. Use this mode to make the router act as a WLAN adapter for a device connected to one of its LAN Ethernet ports.
	WDS Station: Used to connect with a WDS AP. WDS

	Station functions like a Client, but multiple layer 2 devices can be connected to the WDS Station device.
	WDS AP: Functions as an access point that only WDS Station devices can connect to.
	Mesh/802.11s: Connects wireless devices without having to set up infrastructure. All nodes see each other on a Layer 2 bridged network. Layer 3 infrastructure will work on top of this.

3.1.3 Wireless Network Mode



Wireless Physical Interface ath0 [2.4GHz/5 GHz/802.11ac] - QCA988x 802.11ac

Physical Interface ath0 - SSID [Antaira_AC] HWAddr [04:F0:21:41:AF:AE]

Wireless Mode: AP

Wireless Network Mode: Disabled

Channel Width: Full (20 MHz)

TurboQAM (QAM256) support: ● Enable ○ Disable

Wireless Network Name (SSID): Antaira_AC

Wireless SSID Broadcast: ● Enable ○ Disable

Advanced Settings: □

Radio Time Restrictions

Radio Scheduling: ○ Enable ● Disable

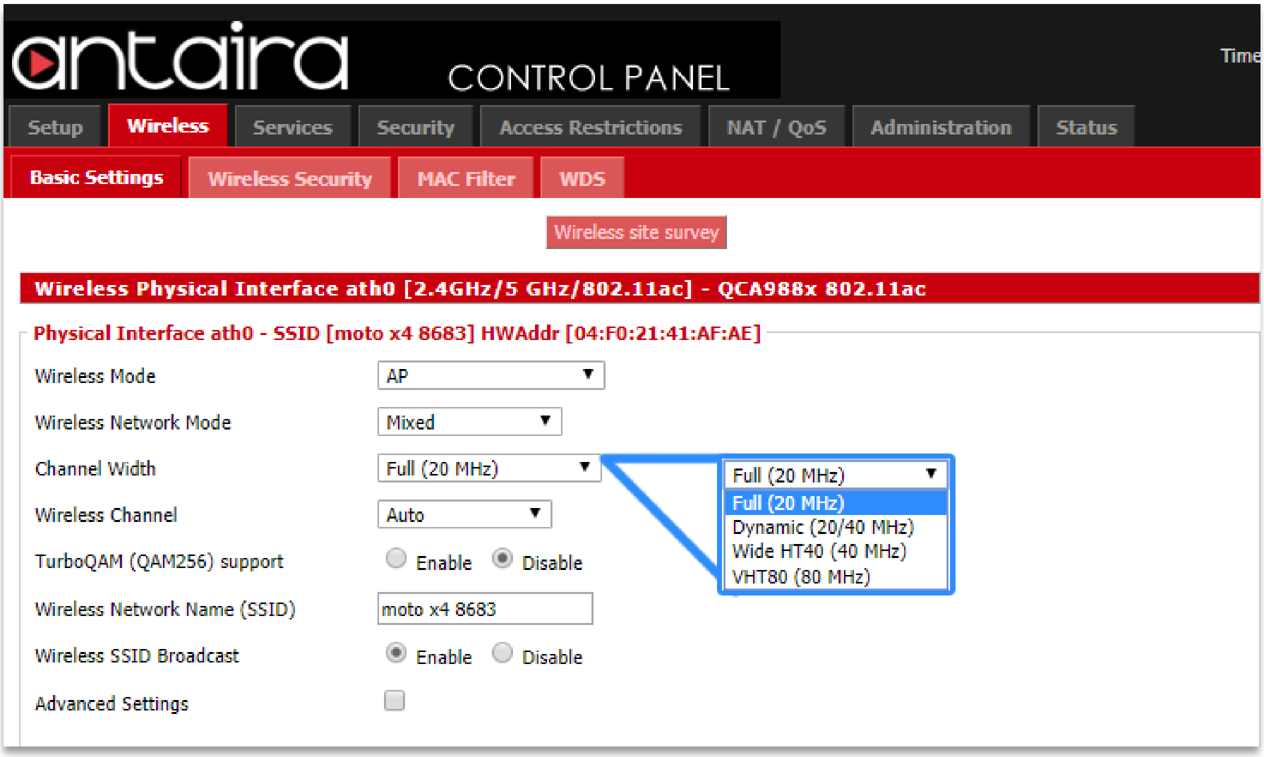
Virtual Interfaces

Wireless > Basic Settings > Wireless Network Mode

Basic Settings	Description
Wireless Network Mode	**Disabled:** Disables the wireless network mode.
	Mixed: If you have mixed b/g/n devices on your network.
	B-Only: IEEE 802.11b allows a maximum data rate of

	11Mbits/s through 2.4GHz wireless connections. If only B-type wireless devices are on the network, use this mode.
	G-Only: IEEE 802.11g allows a maximum data rate of 54Mbits/s through 2.4GHz wireless connections. If only G-type wireless devices are on the network, use this mode.
	BG-Mixed: If B and G-type wireless devices are on the network, use this mode.
	A-Only: IEEE 802.11a allows a maximum data rate of 54Mbits/s through 5GHz wireless connections. If only A-type devices are on the network, use this mode**.**
	NG-Mixed: Mix band of 802.11b/g/b modes.
	N-Only (2.4GHz): N-Only wireless network mode.
	NA-Mixed: Mix band of 802.11n/a modes.
	N-Only (5GHz): Improved throughput for 5GHz devices.
	AC/N-Mixed: Mix band of 802.11ac/n modes.
	AC-Only: AC-Only wireless network mode.

3.1.4 Channel Width



Wireless Physical Interface ath0 [2.4GHz/5 GHz/802.11ac] - QCA988x 802.11ac

Physical Interface ath0 - SSID [moto x4 8683] HWAddr [04:F0:21:41:AF:AE]

Wireless Mode	AP
Wireless Network Mode	Mixed
Channel Width	Full (20 MHz)
Wireless Channel	Auto
TurboQAM (QAM256) support	○ Enable ● Disable
Wireless Network Name (SSID)	moto x4 8683
Wireless SSID Broadcast	● Enable ○ Disable
Advanced Settings	□

Wireless > Basic Settings > Channel Width

Basic Settings	Description
Channel Width	Choose between: Full (20MHz), Dynamic (20/40 MHz), Wide HT40 (40MHz), or VHT80 (80MHz).
Wireless Channel	Select the appropriate channel from the list provided to correspond with your network settings (in North America between channel 1 and 11, in Europe 1 and 13, in Japan all 14 channels). All devices in your wireless network must use the same channel in order to function correctly. Try to avoid conflicts with other wireless networks by choosing a channel where the upper and lower three channels are not in use.

TurboQAM Support: Non-standard 256-QAM support on 2.4GHz 802.11n enabling a data rate of up to 200Mbps per spatial stream instead of 150Mbps with the standard 64-QAM.

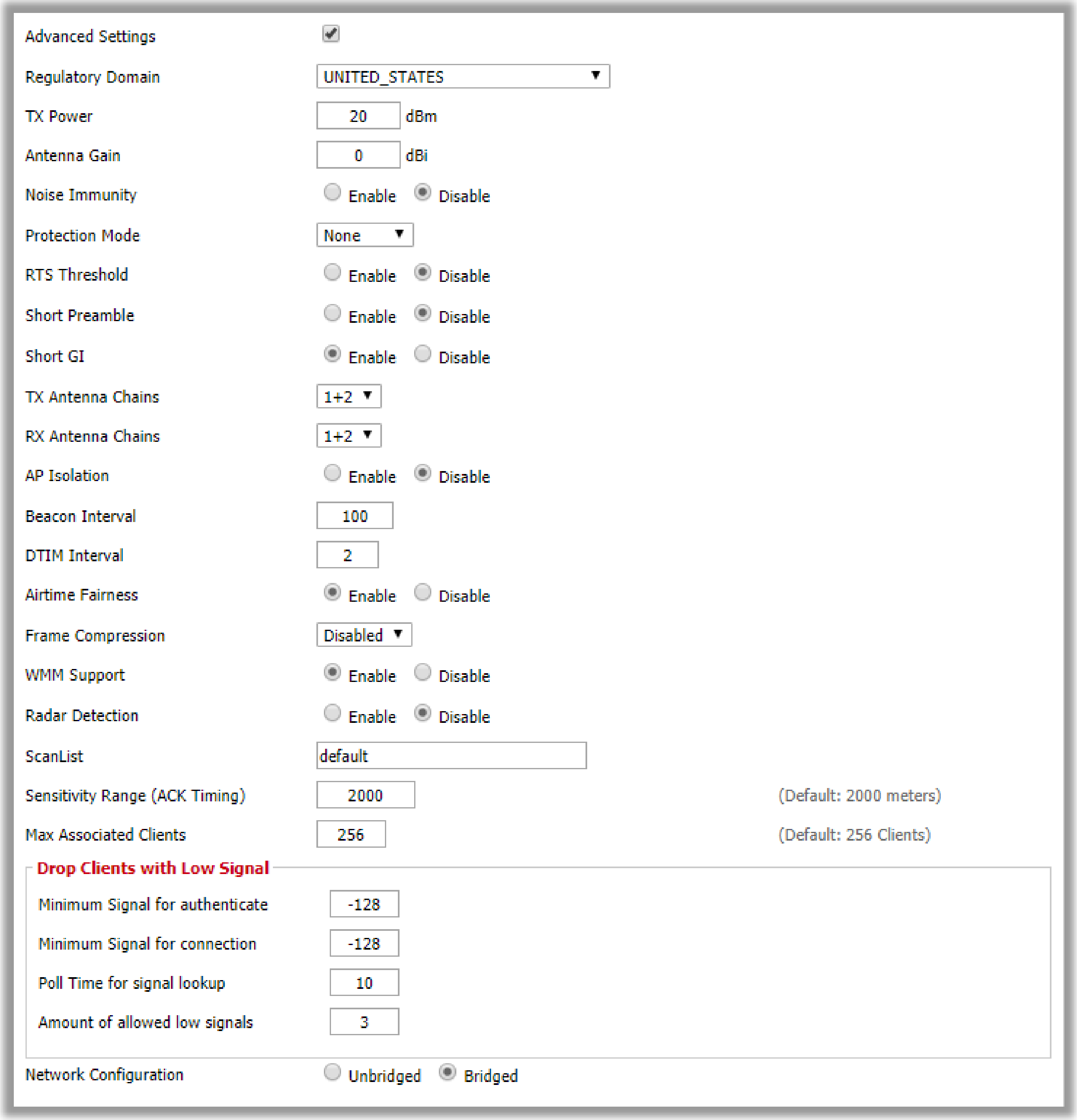
3.1.5 Wireless Network Name (SSID)

The SSID is the Service Set Identifier used to identify the operator’s wireless LAN. The SSID is set by the user in Access Point or Access Point WDS Mode. All of the client devices within the range of the access point will receive the broadcasted SSID. The SSID is case-sensitive and must not exceed 32 alphanumeric characters. Make sure this setting is the same for all devices connected to your wireless network.

Wireless SSID Broadcast: When disabled, the SSID of the access point will no longer be broadcasted. This means client devices will not see the SSID of the unit even though they are within range. A user wishing to connect with a client device to a hidden SSID will need to directly input the SSID and password information. The hidden SSID acts as an additional layer of security, making it harder for unwanted users to connect to the network.

3.1.6 Advanced Settings

By selecting the *Advanced Settings* box, the following options will become available.



Advanced Settings	☑	
Regulatory Domain	UNITED_STATES ▼	
TX Power	20 dBm	
Antenna Gain	0 dBi	
Noise Immunity	○ Enable ● Disable	
Protection Mode	None ▼	
RTS Threshold	○ Enable ● Disable	
Short Preamble	○ Enable ● Disable	
Short GI	● Enable ○ Disable	
TX Antenna Chains	1+2 ▼	
RX Antenna Chains	1+2 ▼	
AP Isolation	○ Enable ● Disable	
Beacon Interval	100	
DTIM Interval	2	
Airtime Fairness	● Enable ○ Disable	
Frame Compression	Disabled ▼	
WMM Support	● Enable ○ Disable	
Radar Detection	○ Enable ● Disable	
ScanList	default	
Sensitivity Range (ACK Timing)	2000	(Default: 2000 meters)
Max Associated Clients	256	(Default: 256 Clients)

Drop Clients with Low Signal

Minimum Signal for authenticate	-128
Minimum Signal for connection	-128
Poll Time for signal lookup	10
Amount of allowed low signals	3

Network Configuration	○ Unbridged ● Bridged

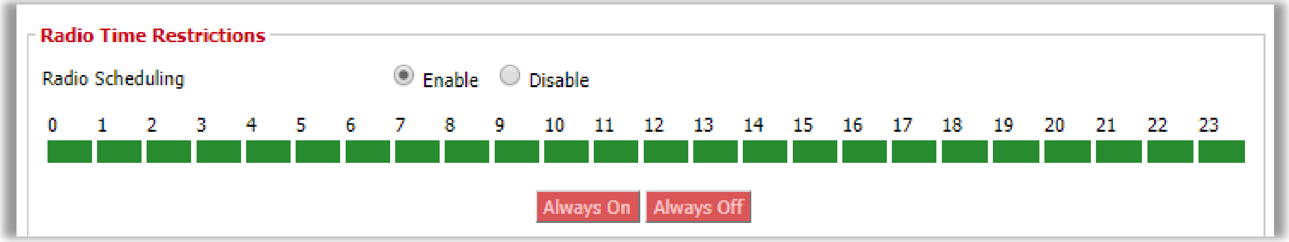
Wireless > Basic Settings > Advanced Settings

Basic Settings	Description
Regulatory Domain	Select a regulatory domain from the drop-down menu.
TX Power	Enter a value for the transmit power is dBm.
Antenna Gain	The antenna’s ability to direct radio frequency energy.

Noise Immunity	Enable or disable this feature.
Protection Mode	CTS (Clear to Send) protection allows multiple client devices to send data simultaneously to a single access point. The CTS protection is able to set an order of what device gets to transmit, preventing the access point from discarding packets.
RTS Threshold	Specifies the maximum size for a packet before data is fragmented into multiple packets.
Short Preamble	Default is Long Preamble. A short preamble can be used but communication issues might occur when communicating with IEEE 802.11b devices.
Short GI	Enable or disable this feature.
TX Antenna Chains	Used based on external antennas to provide optimum performance.
RX Antenna Chains	Used based on external antennas to provide optimum performance.
AP Isolation	Disabled by default. If enabled, wireless clients are isolated and access to and from other wireless clients is stopped.
Beacon Interval	Set the beacon interval.
DTIM Interval	Set the STIM interval.
Airtime Fairness	Enable or disable this feature.
Frame Compression	Enable or disable this feature.
WMM Support	Enable or disable this feature.
Radar Detection	Looks for airport or military pulses from radars to prevent unintended interference between equipment.
ScanList	
Sensitivity Range (ACK Timing)	Default is 2000 meters. The sensitivity range is a timing adjustment based on the distance between linking devices. When the time needed to transmit is greater than the amount of time sender waits before resending the same packet. Typically, the ACK time should be 2 times the distance between devices (measured in meters). If the ACK time is too low, information can be lost. 0 disables ACK timing completely.
Max Associated Clients	Number of clients that can be connected to the access point.
Minimum Signal for Authenticate	Set the minimum signal for authentication.
Minimum Signal for	Set the minimum signal for connection.

Connection	
Poll Time for Signal Lookup	Set the poll time for signal lookup.
Amount of Allowed Low Signals	Set the amount of allowed low signals.
Network Configuration	**Bridged** shares the wireless interface and LAN port (same network). **Unbridged** allows the separation between the Wireless interface and LAN.

3.1.7 Radio Time Restrictions



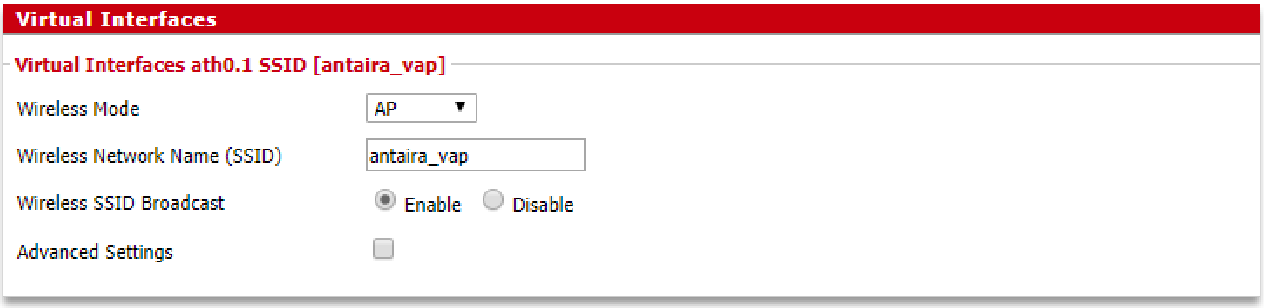
Radio Time Restrictions

Radio Scheduling ● Enable ○ Disable

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩	🟩

Wireless > Basic Settings > Radio Time Restrictions

3.1.8 Virtual Interfaces



Virtual Interfaces

Virtual Interfaces ath0.1 SSID [antaira_vap]

Wireless Mode: AP ▼

Wireless Network Name (SSID): antaira_vap

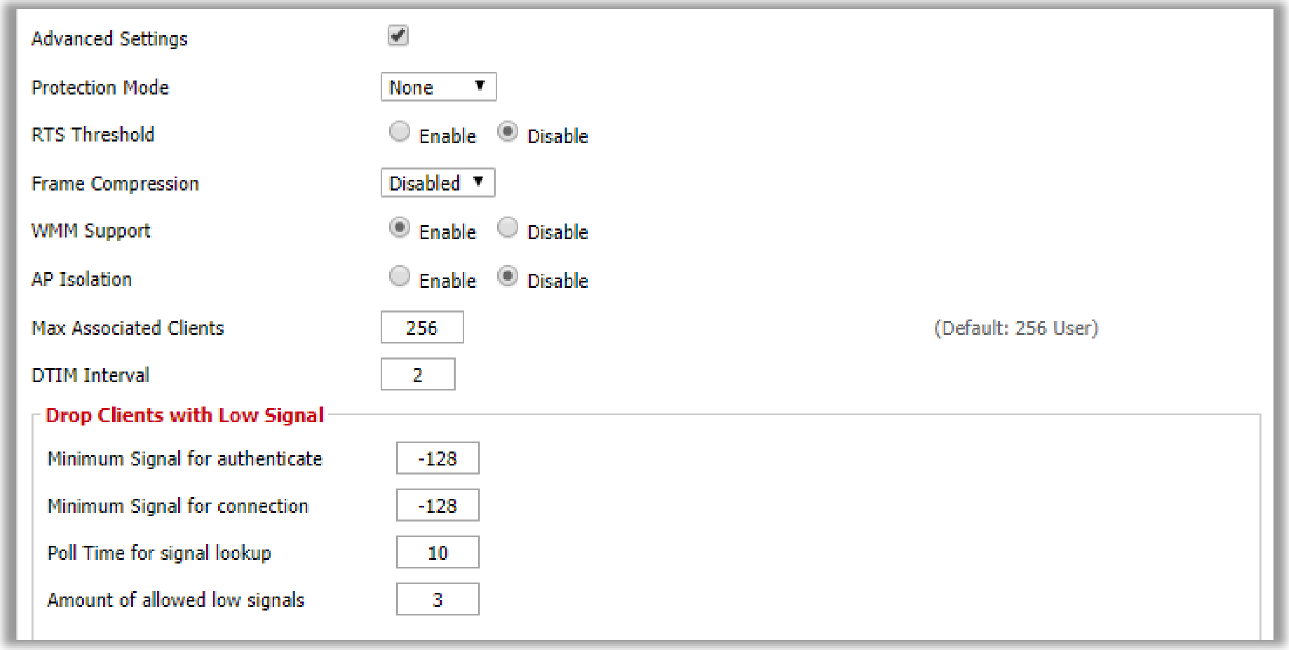
Wireless SSID Broadcast: ● Enable ○ Disable

Advanced Settings: ☐

Wireless > Basic Settings > Virtual Interfaces

Basic Settings	Description
Wireless Mode	Choose between Access Point or WDS Access Point for the wireless mode of the virtual interface.
Wireless Network Name (SSID)	Enter a SSID for the virtual interface.
Wireless SSID Broadcast	Enable or disable broadcasting of the SSID.

3.1.9 Advanced Settings



Advanced Settings: ☑

Protection Mode: None ▼

RTS Threshold: ○ Enable ● Disable

Frame Compression: Disabled ▼

WMM Support: ● Enable ○ Disable

AP Isolation: ○ Enable ● Disable

Max Associated Clients: 256 (Default: 256 User)

DTIM Interval: 2

Drop Clients with Low Signal

Minimum Signal for authenticate: -128

Minimum Signal for connection: -128

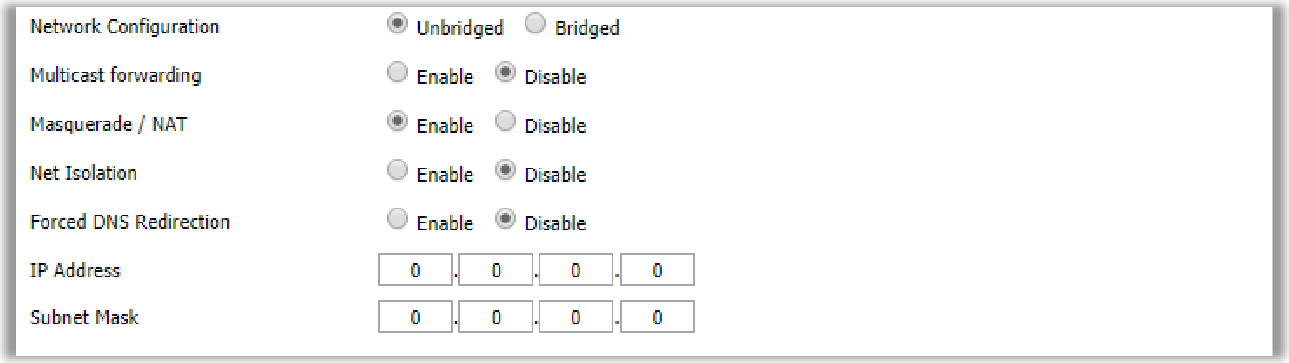
Poll Time for signal lookup: 10

Amount of allowed low signals: 3

Wireless > Basic Settings > Virtual Interfaces > Advanced Settings

Basic Settings	Description
Protection Mode	Choose between None, CTS, RTS/CTS
RTS Threshold	Specifies the maximum size for a packet before data is fragmented into multiple packets.
Frame Compression	Enable or disable this feature.
WMM Support	Enable or disable this feature.
AP Isolation	Disabled by default. If enabled, wireless clients are isolated and access to and from other wireless clients is stopped.
Max Associated Clients	Number of clients that can be connected to the access point. Default max is 256 users.
DTIM Interval	Set the DTIM interval.
Minimum Signal for Authenticate	Set the minimum signal for authentication.
Minimum Signal for Connection	Set the minimum signal for connections.
Poll Time for Signal Lookup	Set the poll time for signal lookup.
Amount of Allowed Low Signals	Set the amount of allowed low signals.

3.1.10 Network Configuration



Network Configuration	● Unbridged ○ Bridged
Multicast forwarding	○ Enable ● Disable
Masquerade / NAT	● Enable ○ Disable
Net Isolation	○ Enable ● Disable
Forced DNS Redirection	○ Enable ● Disable
IP Address	0 . 0 . 0 . 0
Subnet Mask	0 . 0 . 0 . 0

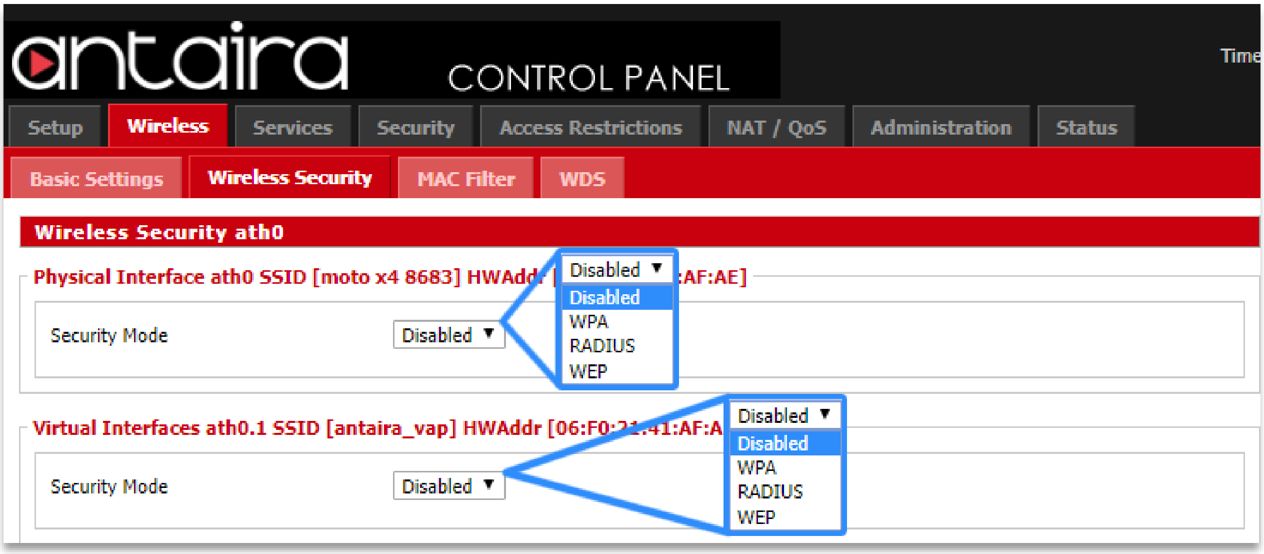
Wireless > Basic Settings > Virtual Interfaces > Advanced Settings > Network Configuration

Basic Settings	Description
Network Configuration	**Bridged** shares the Wireless interface and LAN port (same network). **Unbridged** allows the separation between the Wireless interface and LAN.

Multicast Forwarding	Enable or disable Multicast forwarding.
Masquerade/NAT	Enable or disable NAT.
Net Isolation	Enable or disable Net Isolation.
Forced DNS Redirection	Enable or disable Forced-DNS-Redirection.
IP Address	Enter an IP Address.
Subnet Mask	Enter a Subnet Mask.

3.2 Wireless Security

The Antaira router supports different types of security settings for your network: WiFi Protected Access (WPA), WPA2, WPA3, Remote Access Dial In User Service (RADIUS), and Wires Equivalent Privacy (WEP), which can be selected from the list next to Security Mode. To disable security settings, select *Disabled*.



Wireless Security ath0

Physical Interface ath0 SSID [moto x4 8683] HWAddr [:AF:AE]

Security Mode Disabled

Virtual Interfaces ath0.1 SSID [antaira_vap] HWAddr [06:F0:21:41:AF:A

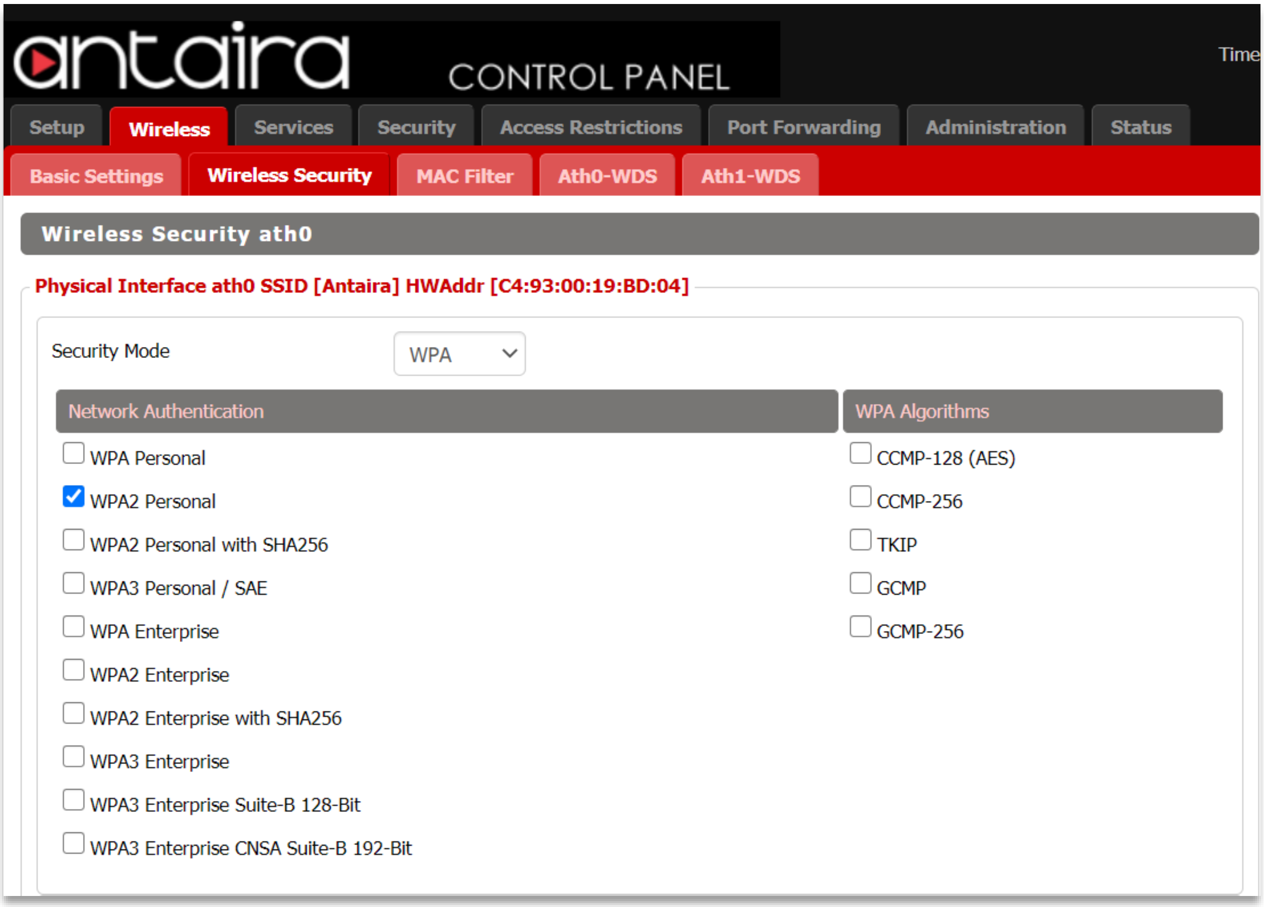
Security Mode Disabled

Wireless > Wireless Security > Security Mode

Wireless Security	Description
Security Mode	**Disabled:** Uses no wireless security.
	WPA: Uses WPA for wireless security. Additional options and settings will appear when selected.
	RADIUS: Uses RADIUS for wireless security. Additional options and settings will appear when selected.
	WEP: Uses WEP for wireless security. Additional options and settings will appear when selected.

	802.1x/EAP: (Only available when the Wireless Interface is in Client/Client Bridge/WDS Station mode) Uses 802.1x/EAP for wireless security. Additional options and settings will appear when selected.

3.2.1 WPA



Wireless Security ath0

Physical Interface ath0 SSID [Antaira] HWAddr [C4:93:00:19:BD:04]

Security Mode: WPA

Network Authentication	WPA Algorithms
□ WPA Personal	□ CCMP-128 (AES)
☑ WPA2 Personal	□ CCMP-256
□ WPA2 Personal with SHA256	□ TKIP
□ WPA3 Personal / SAE	□ GCMP
□ WPA Enterprise	□ GCMP-256
□ WPA2 Enterprise	
□ WPA2 Enterprise with SHA256	
□ WPA3 Enterprise	
□ WPA3 Enterprise Suite-B 128-Bit	
□ WPA3 Enterprise CNSA Suite-B 192-Bit	

Wireless > Wireless Security > Security Mode > WPA

Wireless Security	Description
Network Authentication	Choose the network authentication method.

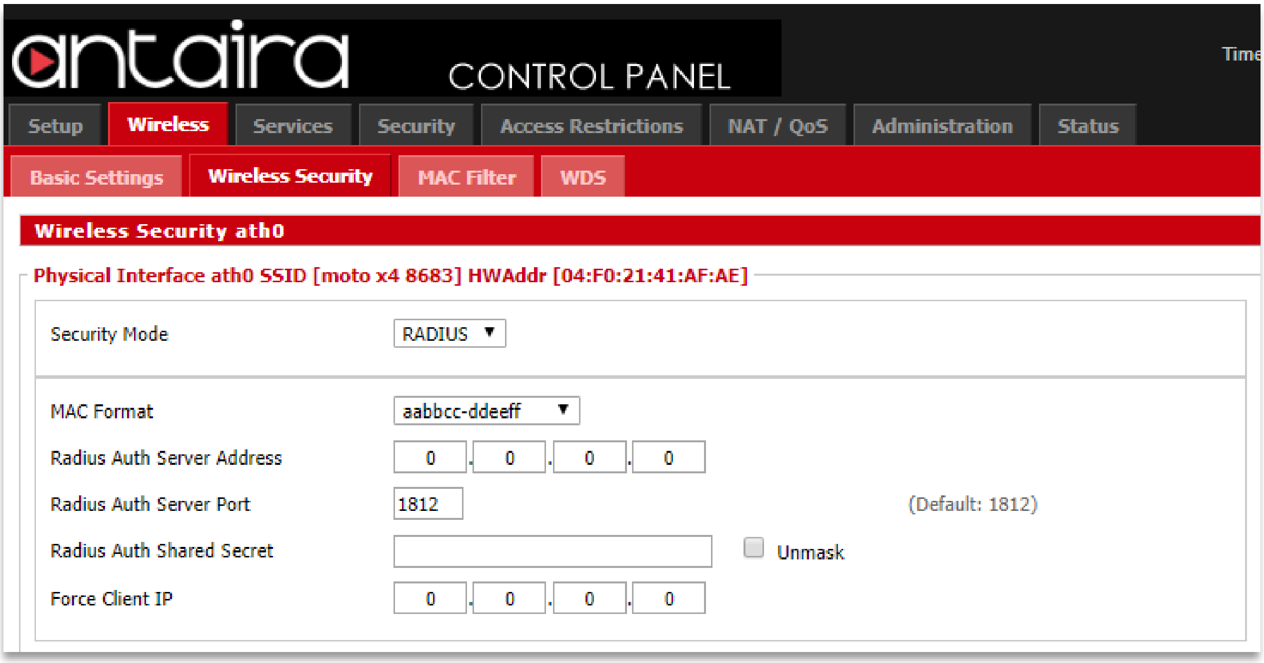
WPA Algorithms

Wireless Security	Description
WPA Algorithms	**CCMP-128 (AES):** Advanced Encryption System (AES) utilizes a symmetric 128-Bit block data encryption and

	MIC.
	TKIP: Temporal Key Integrity Protocol (TKIP) which utilizes a stronger encryption method than WEP and incorporates Message Integrity Code (MIC) to provide protection against packet tampering

3.2.2 RADIUS

RADIUS utilizes either a RADIUS server for authentication or WEP for data encryption. To utilize RADIUS, enter the IP address of the RADIUS server and its shared secret. Select the desired encryption bit (64 or 128) for WEP and enter either a passphrase or a manual WEP key.



Wireless Security ath0

Physical Interface ath0 SSID [moto x4 8683] HWAddr [04:F0:21:41:AF:AE]

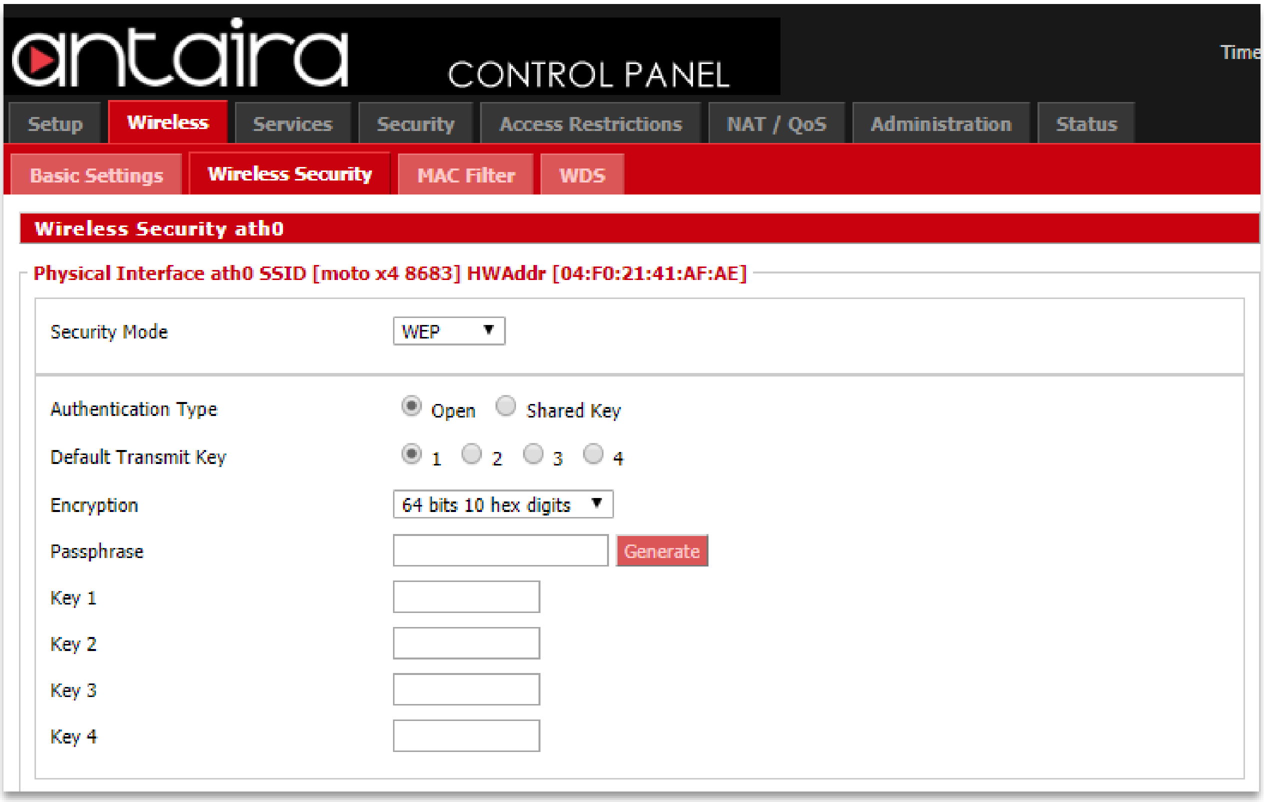
Security Mode	RADIUS	
MAC Format	aabbcc-ddeeff	
Radius Auth Server Address	0 . 0 . 0 . 0	
Radius Auth Server Port	1812	(Default: 1812)
Radius Auth Shared Secret		□ Unmask
Force Client IP	0 . 0 . 0 . 0	

Wireless > Wireless Security > Security Mode > RADIUS

Wireless Security	Description
MAC Format	When sending the authentication request to the RADIUS server, the wireless client uses the MAC address as the username. This would be received by the RADIUS server in the following format: aabbcc-ddeeff , aabbccddeeff , aa-bb-cc-dd-ee-ff.
Radius Auth Server Address	The RADIUS server IP address.
Radius Auth Server	The RADIUS server TCP port.

Port	
Radius Auth Shared Secret	The RADIUS shared secret.
Force Client IP	Enter a force client IP address if desired.

3.2.3 WEP



Wireless Security ath0

Physical Interface ath0 SSID [moto x4 8683] HWAddr [04:F0:21:41:AF:AE]

Security Mode: WEP ▼

Authentication Type: ● Open ○ Shared Key

Default Transmit Key: ● 1 ○ 2 ○ 3 ○ 4

Encryption: 64 bits 10 hex digits ▼

Passphrase:

Key 1:

Key 2:

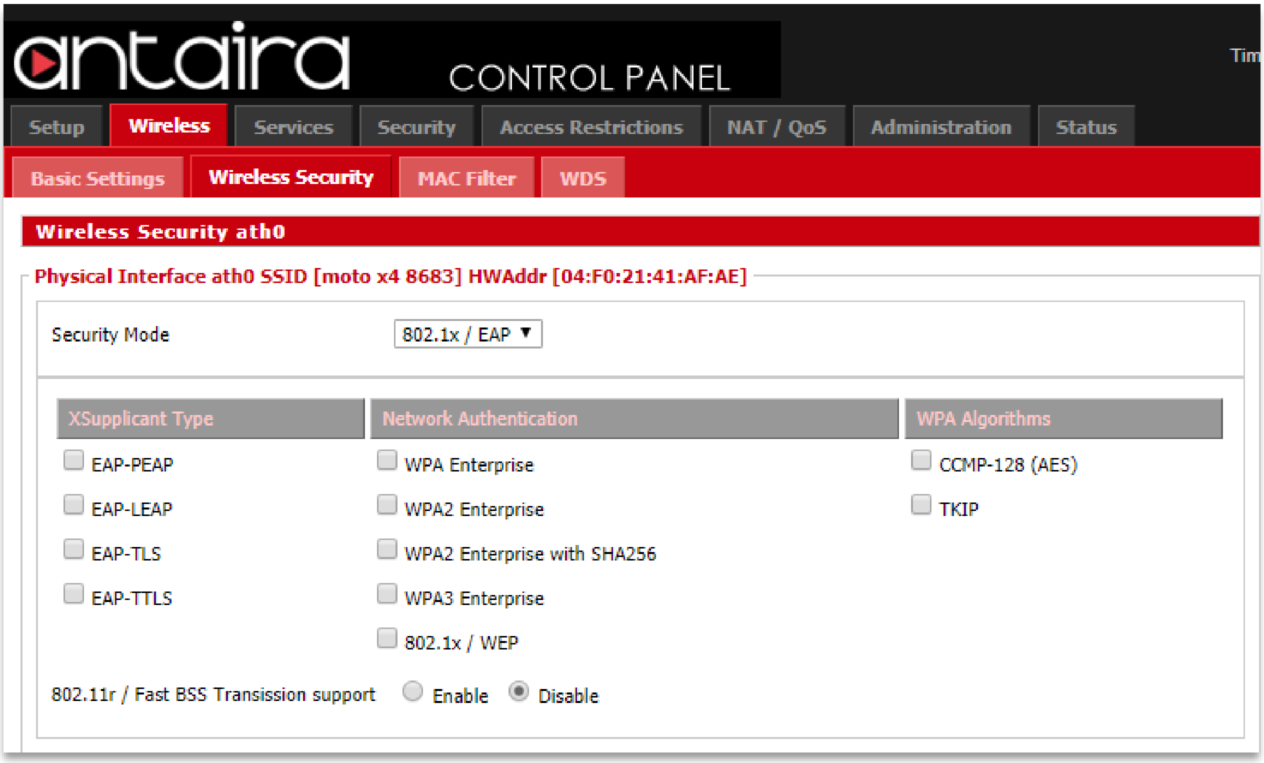
Key 3:

Key 4:

Wireless > Wireless Security > Security Mode > WEP

Wireless Security	Description
Authentication Type	Select Open or Shared Key for Authentication Type.
Default Transmit Key	Set the Default Transmit Key (1-4).
Encryption	Select the Encryption method.
Passphrase	Enter a Passphrase or generate one.
Key #	Enter key(s).

3.2.4 802.1x/EAP



Wireless Security ath0

Physical Interface ath0 SSID [moto x4 8683] HWAddr [04:F0:21:41:AF:AE]

Security Mode: 802.1x / EAP

XSupplicant Type	Network Authentication	WPA Algorithms
□ EAP-PEAP	□ WPA Enterprise	□ CCMP-128 (AES)
□ EAP-LEAP	□ WPA2 Enterprise	□ TKIP
□ EAP-TLS	□ WPA2 Enterprise with SHA256	
□ EAP-TTLS	□ WPA3 Enterprise	
	□ 802.1x / WEP	

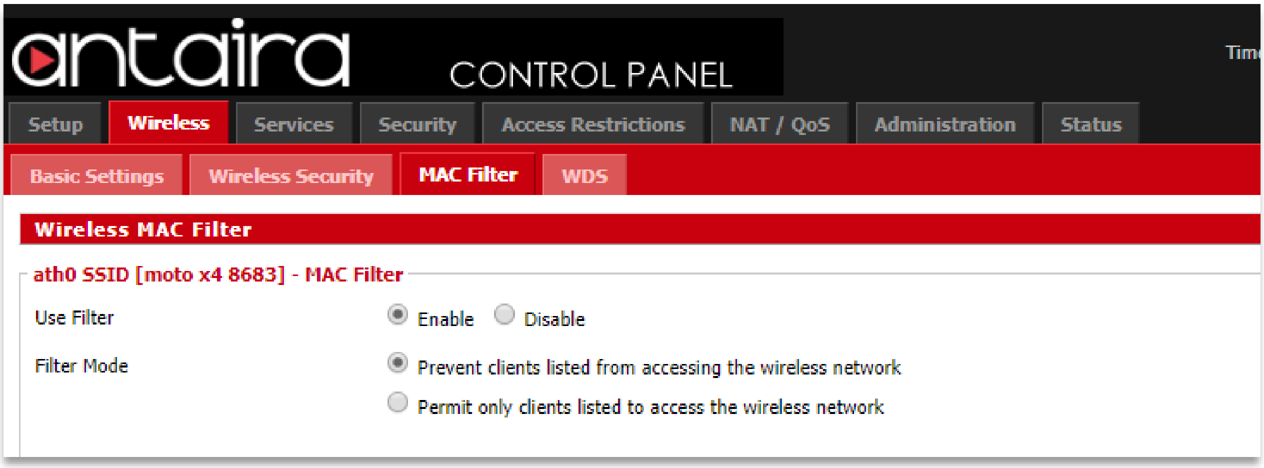
802.11r / Fast BSS Transission support ○ Enable ● Disable

Wireless > Wireless Security > Security Mode > 802.1x/EAP

Wireless Security	Description
XSupplicant Type	Select a XSupplicant type: EAP-PEAP, EAP-LEAP, EAP-TLS, EAP-TTLS.
Network Authentication	Select a Network Authentication method: WPA Enterprise, WPA2 Enterprise, WPA2 Enterprise with SHA256, WPA3 Enterprise, 802.1x/WEP.
WPA Algorithms	Select a WPA Algorithm: CCMP-128(AES), TKIP.
802.11r/Fast BSS Transmission Support	Enable or disable 802.11r/Fast BSS Transmission Support.

3.3 MAC Filter

The Wireless MAC Filter allows you to control which wireless-equipped PCs may or may not communicate with the router depending on their MAC addresses.



Wireless MAC Filter

ath0 SSID [moto x4 8683] - MAC Filter

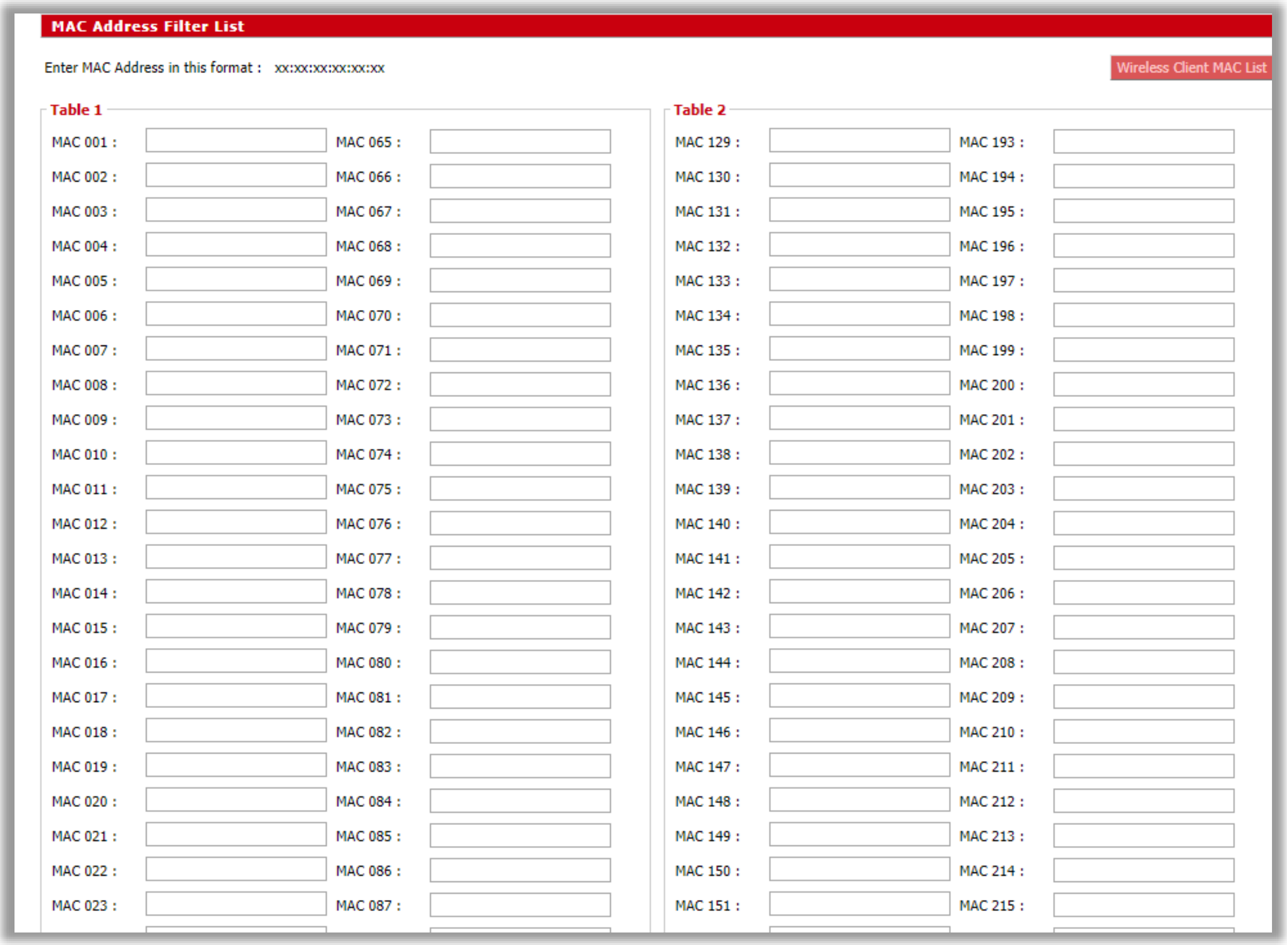
Use Filter ● Enable ○ Disable

Filter Mode ● Prevent clients listed from accessing the wireless network
○ Permit only clients listed to access the wireless network

Wireless > MAC Filter

MAC Filter	Description
Use Filter	Enable or disable Wireless MAC Filter.
Filter Mode	**Prevent Clients Listed from Accessing the Wireless Network:** If you want to block specific wireless-equipped PCs from communicating with the router, use this setting.
	Permit Only Clients Listed to Access the Wireless Network: If you want to allow specific wireless-equipped PCs to communicate with the router, use this setting. Click the *Edit MAC Filter List* button and enter the appropriate MAC addresses into the MAC fields. **Note:** The MAC Address should be entered in this format: xxxxxxxxxxxx (the x's represent the actual characters of the MAC address). Click the *Save Settings* button to save your changes. Click the *Cancel Changes* button to cancel your unsaved changes. Click the *Close* button to return to the previous screen without saving changes.

3.3.1 Edit MAC Filter List



MAC Address Filter List

Enter MAC Address in this format : xx:xx:xx:xx:xx:xx

Table 1

MAC 001 :		MAC 065 :	
MAC 002 :		MAC 066 :	
MAC 003 :		MAC 067 :	
MAC 004 :		MAC 068 :	
MAC 005 :		MAC 069 :	
MAC 006 :		MAC 070 :	
MAC 007 :		MAC 071 :	
MAC 008 :		MAC 072 :	
MAC 009 :		MAC 073 :	
MAC 010 :		MAC 074 :	
MAC 011 :		MAC 075 :	
MAC 012 :		MAC 076 :	
MAC 013 :		MAC 077 :	
MAC 014 :		MAC 078 :	
MAC 015 :		MAC 079 :	
MAC 016 :		MAC 080 :	
MAC 017 :		MAC 081 :	
MAC 018 :		MAC 082 :	
MAC 019 :		MAC 083 :	
MAC 020 :		MAC 084 :	
MAC 021 :		MAC 085 :	
MAC 022 :		MAC 086 :	
MAC 023 :		MAC 087 :	

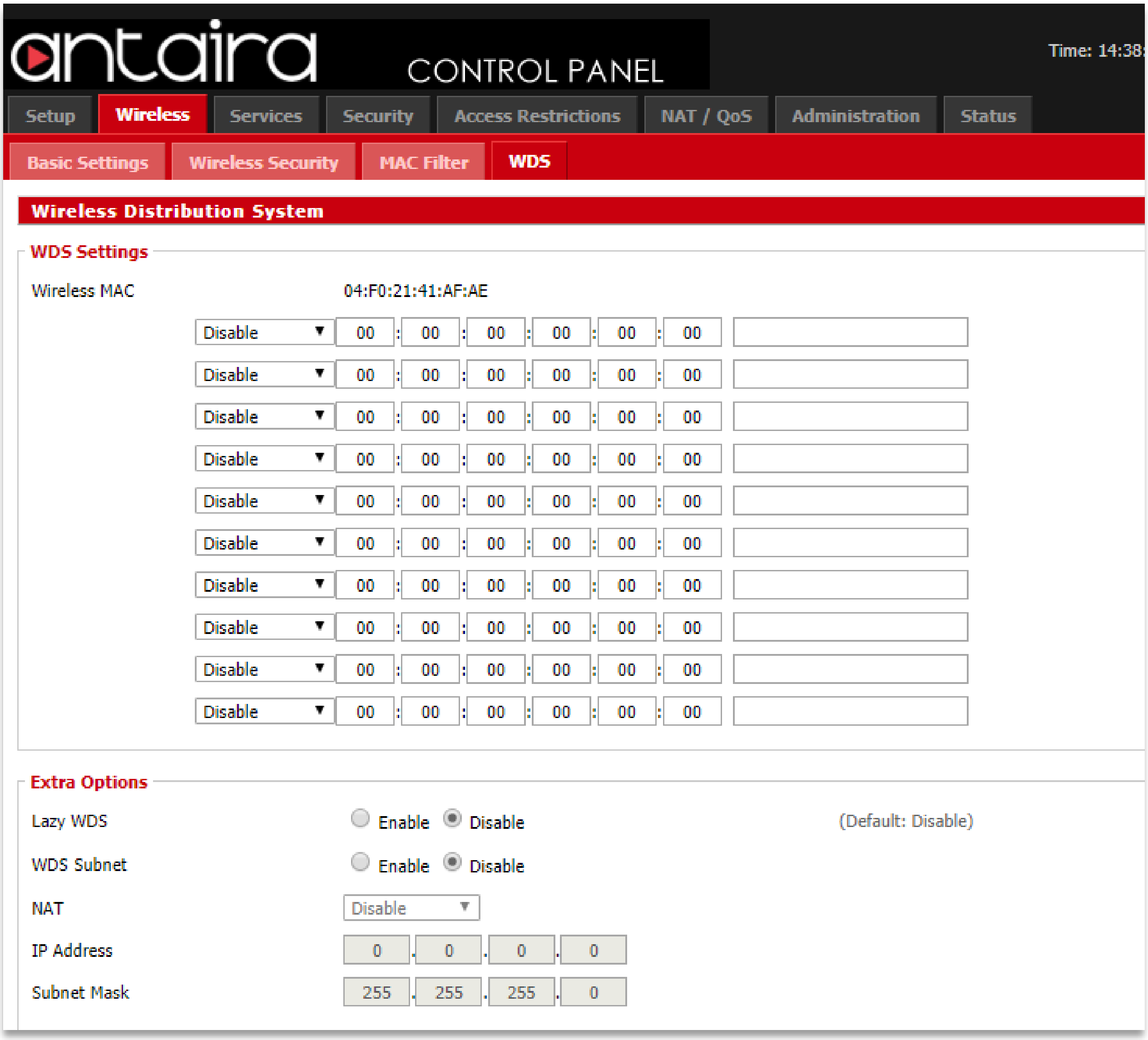
Table 2

MAC 129 :		MAC 193 :	
MAC 130 :		MAC 194 :	
MAC 131 :		MAC 195 :	
MAC 132 :		MAC 196 :	
MAC 133 :		MAC 197 :	
MAC 134 :		MAC 198 :	
MAC 135 :		MAC 199 :	
MAC 136 :		MAC 200 :	
MAC 137 :		MAC 201 :	
MAC 138 :		MAC 202 :	
MAC 139 :		MAC 203 :	
MAC 140 :		MAC 204 :	
MAC 141 :		MAC 205 :	
MAC 142 :		MAC 206 :	
MAC 143 :		MAC 207 :	
MAC 144 :		MAC 208 :	
MAC 145 :		MAC 209 :	
MAC 146 :		MAC 210 :	
MAC 147 :		MAC 211 :	
MAC 148 :		MAC 212 :	
MAC 149 :		MAC 213 :	
MAC 150 :		MAC 214 :	
MAC 151 :		MAC 215 :	

Wireless > MAC Filter > Edit MAC Filter List

3.4 WDS

WDS (Wireless Distribution System) is a Wireless Access Point mode that enables wireless bridging in which WDS APs communicate only with each other (without allowing for wireless clients or stations to access them), and wireless repeating in which APs communicate with each other and with wireless stations (at the expense of halving the throughput). This mode supports two types of WDS: LAN and Point to Point.



Wireless Distribution System

WDS Settings

Wireless MAC 04:F0:21:41:AF:AE

Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	
Disable ▼	00	00	00	00	00	00	

Extra Options

Lazy WDS ○ Enable ● Disable (Default: Disable)

WDS Subnet ○ Enable ● Disable

NAT Disable ▼

IP Address 0 . 0 . 0 . 0

Subnet Mask 255 . 255 . 255 . 0

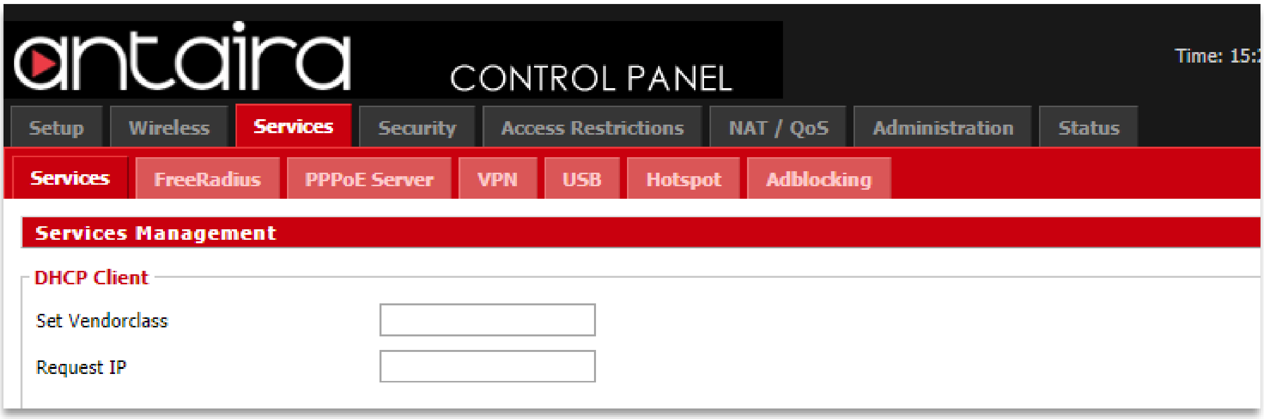
Wireless > WDS

WDS	Description
Wireless MAC	Select between Disable, Point-to-Point, or LAN. Then enter a corresponding Wireless MAC address.
Lazy WDS	Enable or disable Lazy WDS.
WDS Subnet	Enable or disable WDS Subnet.
NAT	Enable or disable NAT.
IP Address	Enter an IP Address.
Subnet Mask	Enter a Subnet Mask.

4. Services

4.1 Services

4.1.1 DHCP Client



Services Management

DHCP Client

Set Vendorclass

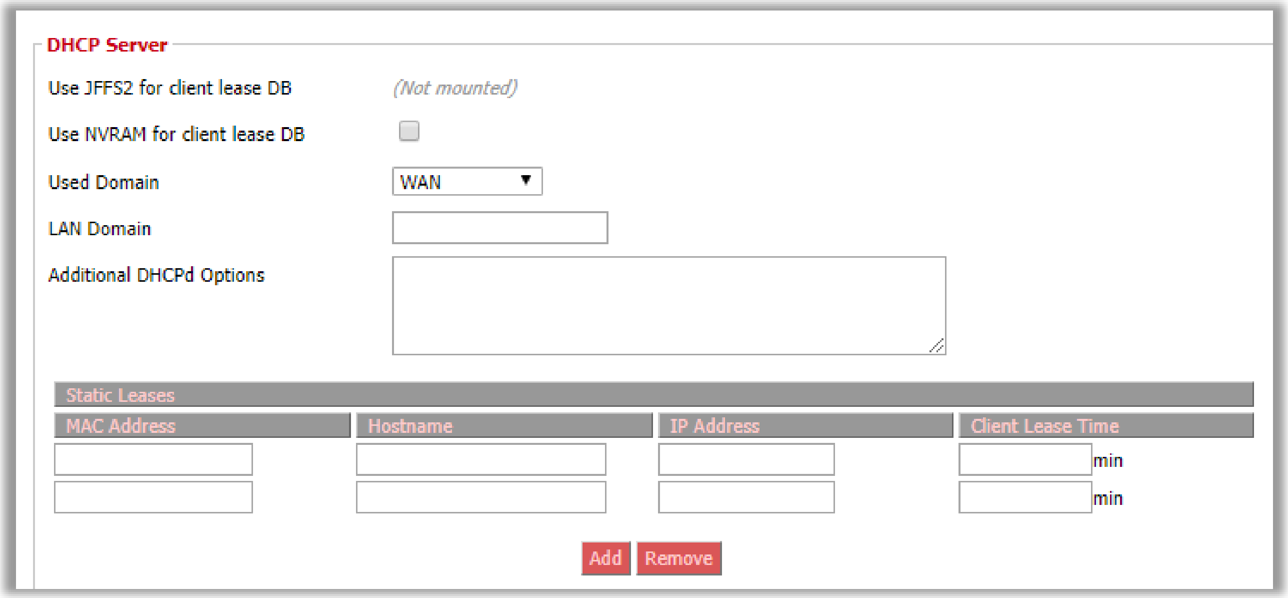
Request IP

Services > Services > DHCP Client

DHCP Client	Description
Set Vendorclass	Enter a vendorclass.
Request IP	Enter a request IP.

4.1.2 DHCP Server

A DHCP server assigns IP addresses to your local devices.



DHCP Server

Use JFFS2 for client lease DB	*(Not mounted)*
Use NVRAM for client lease DB	□
Used Domain	WAN
LAN Domain	
Additional DHCPd Options	

Static Leases

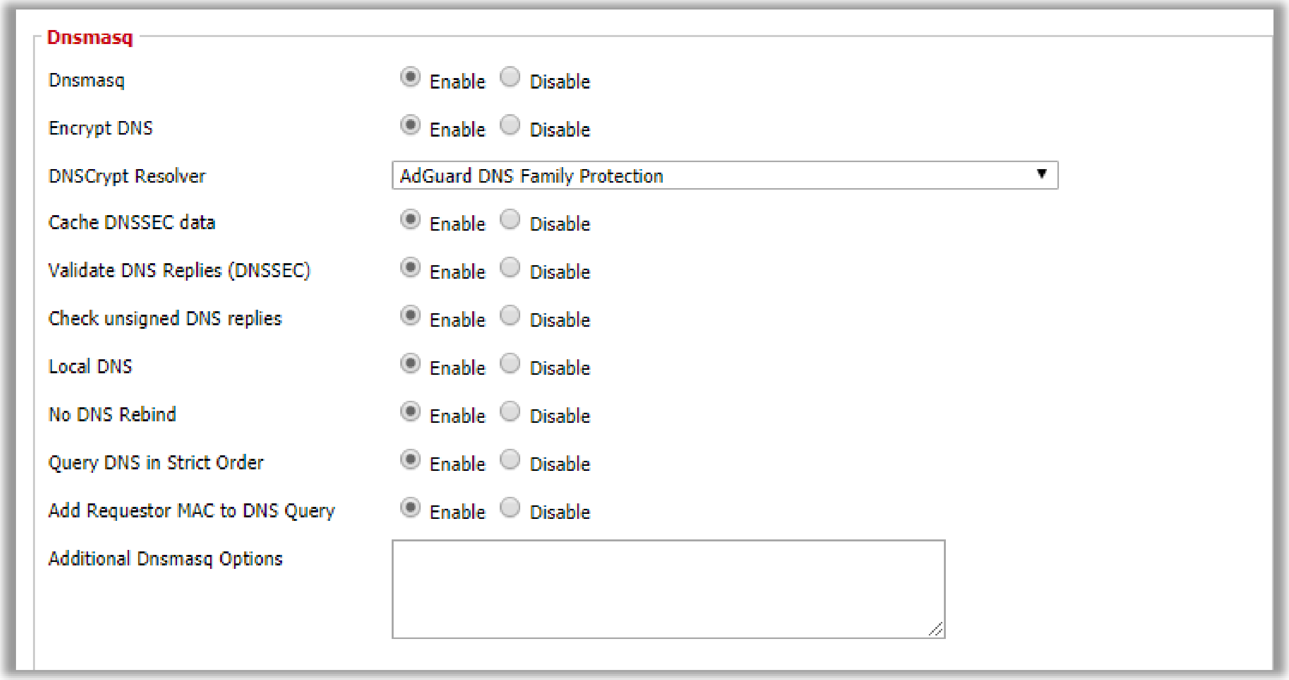
MAC Address	Hostname	IP Address	Client Lease Time
			min
			min

Services > Services > DHCP Server

DHCP Server	Description
Use NVRAM for Client Lease DB	Enable or disable this feature.
Used Domain	Select which domain the DHCP clients should get as their local domain. This can be the WAN domain set on the Setup screen of the LAN domain which can be set here.
LAN Domain	Define your local LAN domain here. This is used as the local domain for dnsmasq and DHCP service if chosen above.
Additional DHCPd Options	Enter any additional DHCPd options here.
Static Leases	If you want to assign certain hosts a specific address then you can define them here. This is also the way to add hosts with a fixed address to the router’s local DNS service (dnsmasq).

4.1.3 Dnsmasq

Dnsmasq is a local DNS server. It will resolve all host names known to the router from DHCP as well as forwarding and caching DNS entries from remote DNS servers.



Dnsmasq

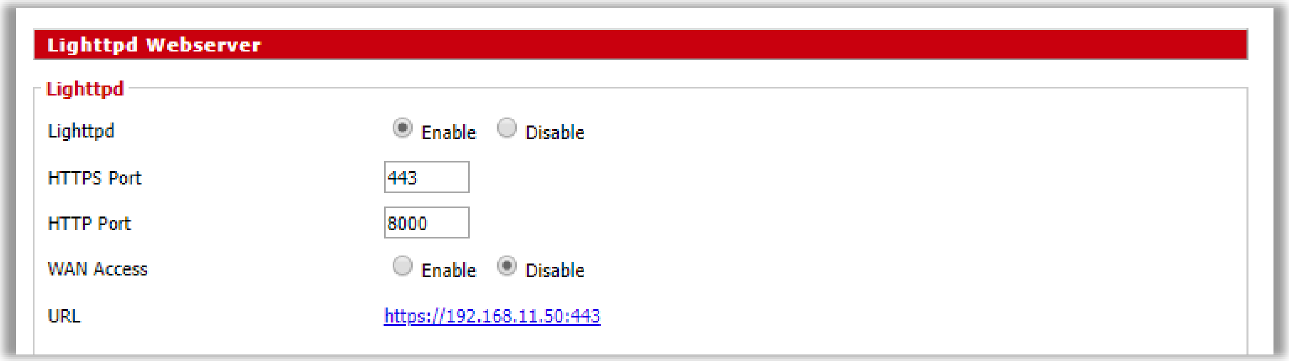
Dnsmasq	● Enable ○ Disable
Encrypt DNS	● Enable ○ Disable
DNSCrypt Resolver	AdGuard DNS Family Protection ▼
Cache DNSSEC data	● Enable ○ Disable
Validate DNS Replies (DNSSEC)	● Enable ○ Disable
Check unsigned DNS replies	● Enable ○ Disable
Local DNS	● Enable ○ Disable
No DNS Rebind	● Enable ○ Disable
Query DNS in Strict Order	● Enable ○ Disable
Add Requestor MAC to DNS Query	● Enable ○ Disable
Additional Dnsmasq Options	

Services > Services > Dnsmasq

Dnsmasq	Description
Dnsmasq	Enable or disable this feature.
Encrypt DNS	Enable or disable this feature.
DNSCrypt Reslover	
Cache DNSSEC data	Enable or disable this feature.
Validate DNS Replies (DNSSEC)	Enable or disable this feature.
Check Unsigned DNS Replies	Enable or disable this feature.
Local DNS	Enables DHCP clients on the LAN to resolve static and dynamic DHCP hostnames.
No DNS Rebind	Enable or disable this feature.
Query DNS in Strict Order	Enable or disable this feature.
Add Requestor MAC to DNS Query	Enable or disable this feature.

Additional Dnsmasq Options	Enter any additional options here.

4.1.4 Lighttpd Webserver



Lighttpd Webserver

Lighttpd

Lighttpd ● Enable ○ Disable

HTTPS Port 443

HTTP Port 8000

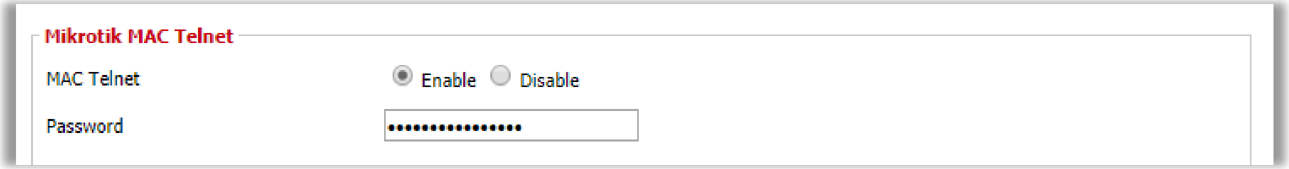
WAN Access ○ Enable ● Disable

URL https://192.168.11.50:443

Services > Services > Lighttpd Webserver

Lighttpd	Description
Lighttpd	Enable or disable this feature.
HTTPS Port	Set the HTTPS Port. Default is port 443.
HTTP Port	Set the HTTP Port. Default is port 8000.
WAN Access	Allow WAN Access.
URL	Displays the URL link.

4.1.5 Mikrotik MAC Telnet



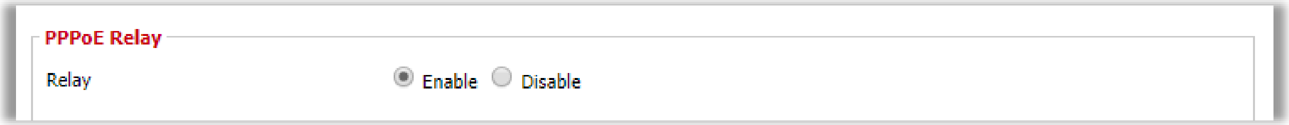
Mikrotik MAC Telnet

MAC Telnet ● Enable ○ Disable

Password ••••••••••••••••

Services > Services > Mikrotik MAC Telnet

4.1.6 PPPoE Relay

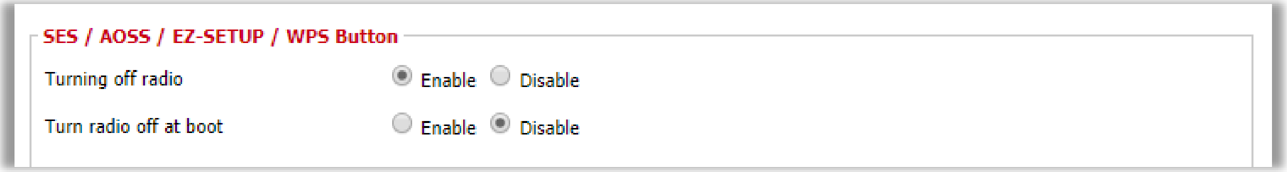


PPPoE Relay

Relay	● Enable ○ Disable

Services > Services > PPPoE Relay

4.1.7 SES/AOSS/EZ-SETUP/WPS Button



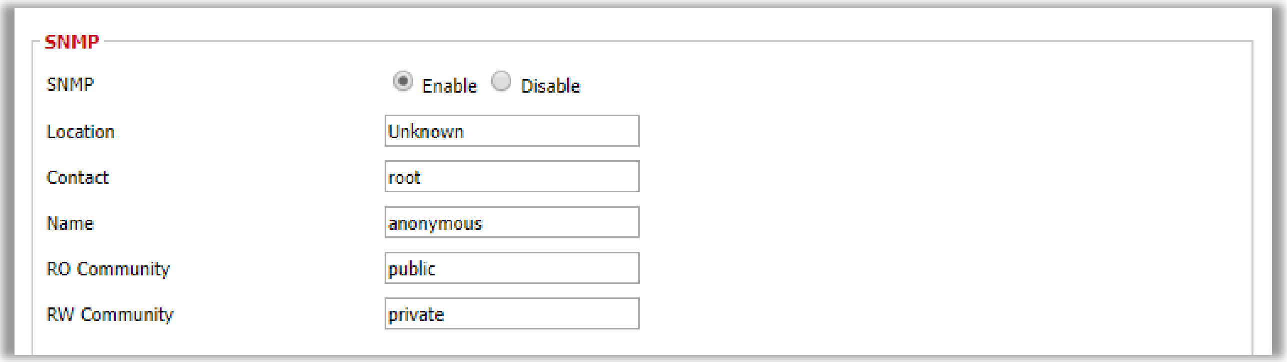
SES / AOSS / EZ-SETUP / WPS Button

Turning off radio	● Enable ○ Disable
Turn radio off at boot	○ Enable ● Disable

Services > Services > SES/AOSS/EZ-SETUP/WPS Button

4.1.8 SNMP

The Simple Network Management Protocol (SNMP) is an application layer protocol that facilitates the exchange of management information between network devices. SNMP enables network administrators to manage network performance, find and solve network problems, and plan for network growth.



SNMP

SNMP	● Enable ○ Disable
Location	Unknown
Contact	root
Name	anonymous
RO Community	public
RW Community	private

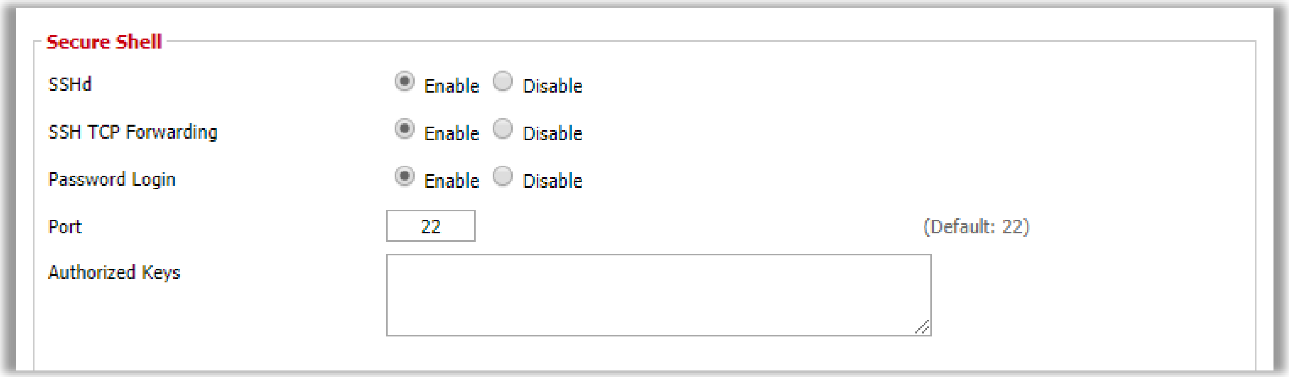
Services > Services > SNMP

SNMP	Description
SNMP	Enable or disable SNMP.

Location	Enter location information.
Contact	Enter contact information.
Name	Enter a name.
RO Community	Enter a Read-Only Community string.
RW Community	Enter a Read/Write Community string.

4.1.9 Secure Shell

Enabling SSH allows you to access the Linux OS of your router with an SSH client (Putty for example).



Secure Shell

SSHd ● Enable ○ Disable

SSH TCP Forwarding ● Enable ○ Disable

Password Login ● Enable ○ Disable

Port 22 (Default: 22)

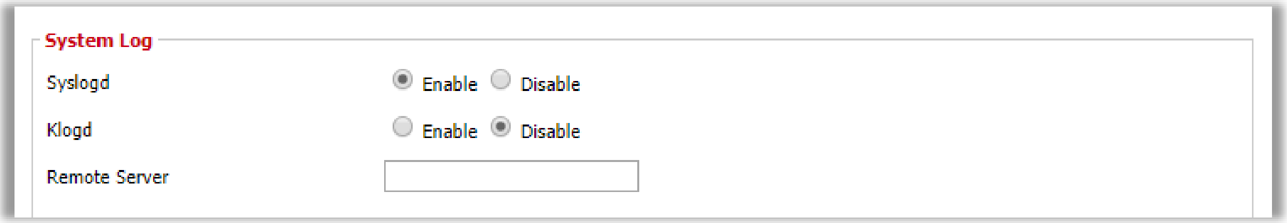
Authorized Keys

Services > Services > Secure Shell

Secure Shell	Description
SSHd	Enable or disable SSH.
SSH TCP Forwarding	Enable or disable this feature.
Password Login	Allow login with the router password (Username is *root*).
Port	Change the SSH port. Default is port 22.
Authorized Keys	Enter authorized keys is applicable.

4.1.10 System Log

System Logging is a messaging standard for logging on a network. Logging is useful to monitor the health of your network, help diagnose problems, intrusion detection, and intrusion forensics.



System Log

Syslogd ● Enable ○ Disable

Klogd ○ Enable ● Disable

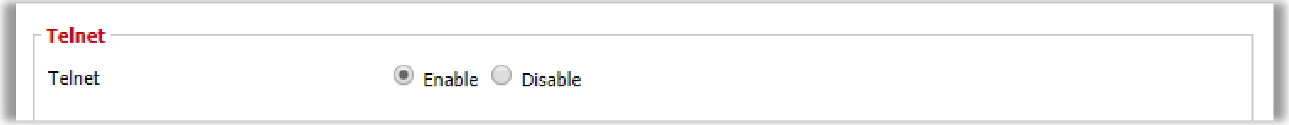
Remote Server

Services > Services > System Log

System Log	Description
Syslogd	Enable or disable syslogd.
Klogd	Enable or disable Klogd.
Remote Server	Enter the remote server IP address to receive syslogs**.**

4.1.11 Telnet

Enable or disable Telnet.

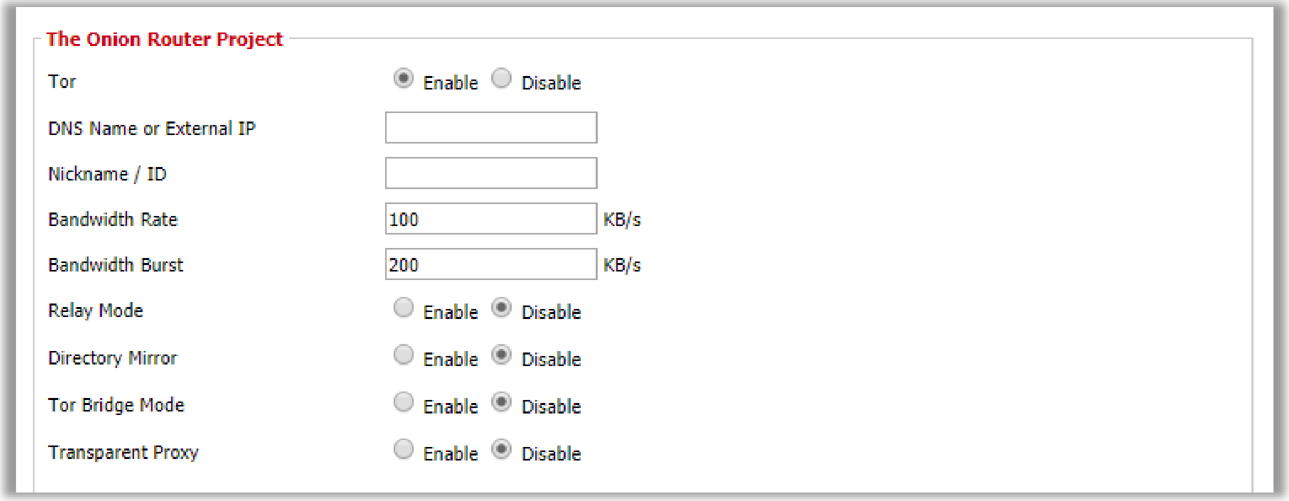


Telnet

Telnet ● Enable ○ Disable

Services > Services > Telnet

4.1.12 The Onion Router Project



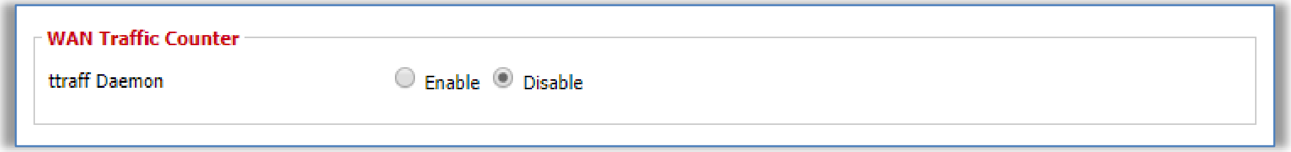
The Onion Router Project

Tor	● Enable ○ Disable
DNS Name or External IP	
Nickname / ID	
Bandwidth Rate	100 KB/s
Bandwidth Burst	200 KB/s
Relay Mode	○ Enable ● Disable
Directory Mirror	○ Enable ● Disable
Tor Bridge Mode	○ Enable ● Disable
Transparent Proxy	○ Enable ● Disable

Services > Services > The Onion Router Project

Onion Router Project	Description
Tor	Enable or disable this feature.
DNS Name or External IP	Enter the DNS name or external IP address.
Nickname/ID	Enter a nickname/ID.
Bandwidth Rate	Set the bandwidth rate.
Bandwidth Burst	Set the bandwidth burst.
Relay Mode	Enable or disable this feature.
Directory Mirror	Enable or disable this feature.
Tor Bridge Mode	Enable or disable this feature.
Transparent Proxy	Enable or disable this feature.

4.1.13 WAN Traffic Counter

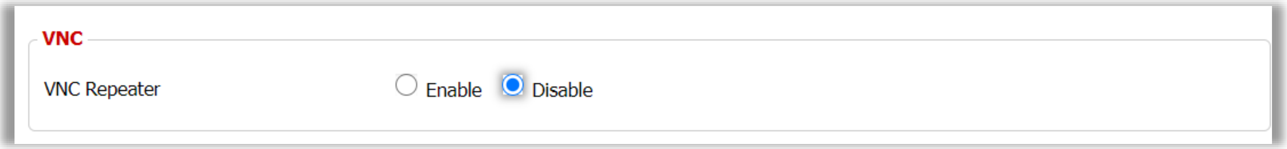


WAN Traffic Counter

ttraff Daemon ○ Enable ● Disable

Services > Services > WAN Traffic Counter

4.1.14 VNC

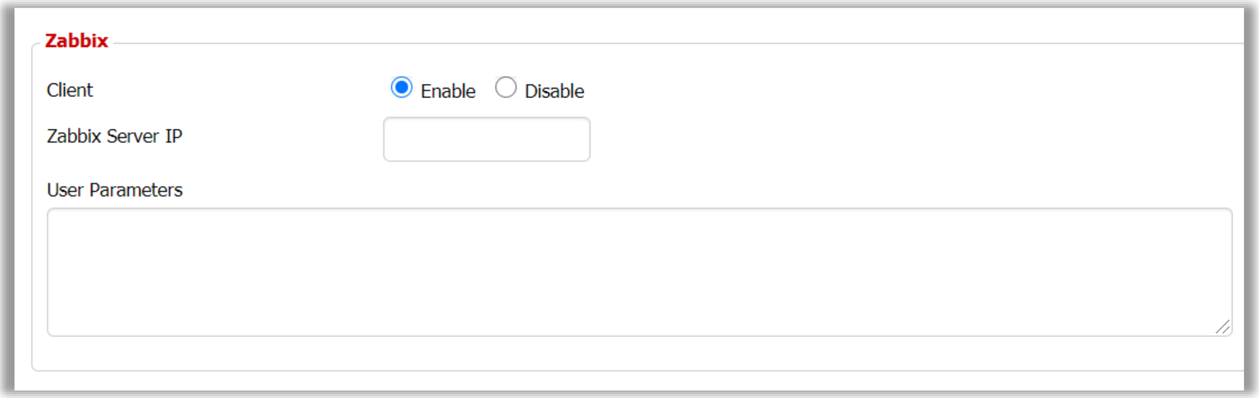


VNC

VNC Repeater ○ Enable ● Disable

Services > Services > VNC

4.1.15 Zabbix



Zabbix

Client ● Enable ○ Disable

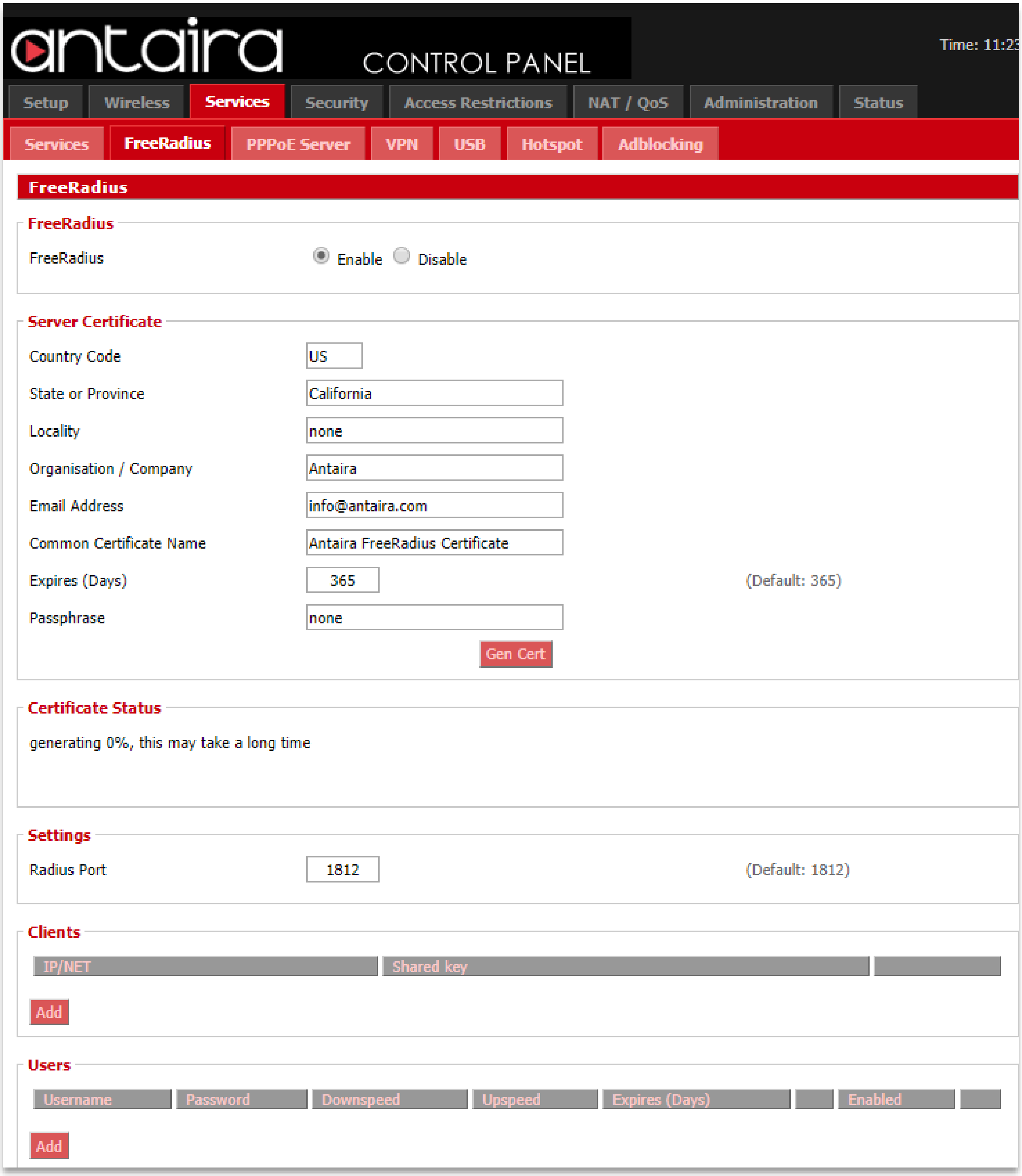
Zabbix Server IP

User Parameters

Services > Services > Zabbix

4.2 FreeRadius

FreeRADIUS is widely deployed RADIUS. FreeRADIUS can be used to authenticate WLAN clinets using WPA/WPA2 Enterpirse.



FreeRadius

FreeRadius

FreeRadius ● Enable ○ Disable

Server Certificate

Country Code	US	
State or Province	California	
Locality	none	
Organisation / Company	Antaira	
Email Address	info@antaira.com	
Common Certificate Name	Antaira FreeRadius Certificate	
Expires (Days)	365	(Default: 365)
Passphrase	none	

Gen Cert

Certificate Status

generating 0%, this may take a long time

Settings

Radius Port	1812	(Default: 1812)

Clients

IP/NET	Shared key	

Add

Users

Username	Password	Downspeed	Upspeed	Expires (Days)		Enabled	

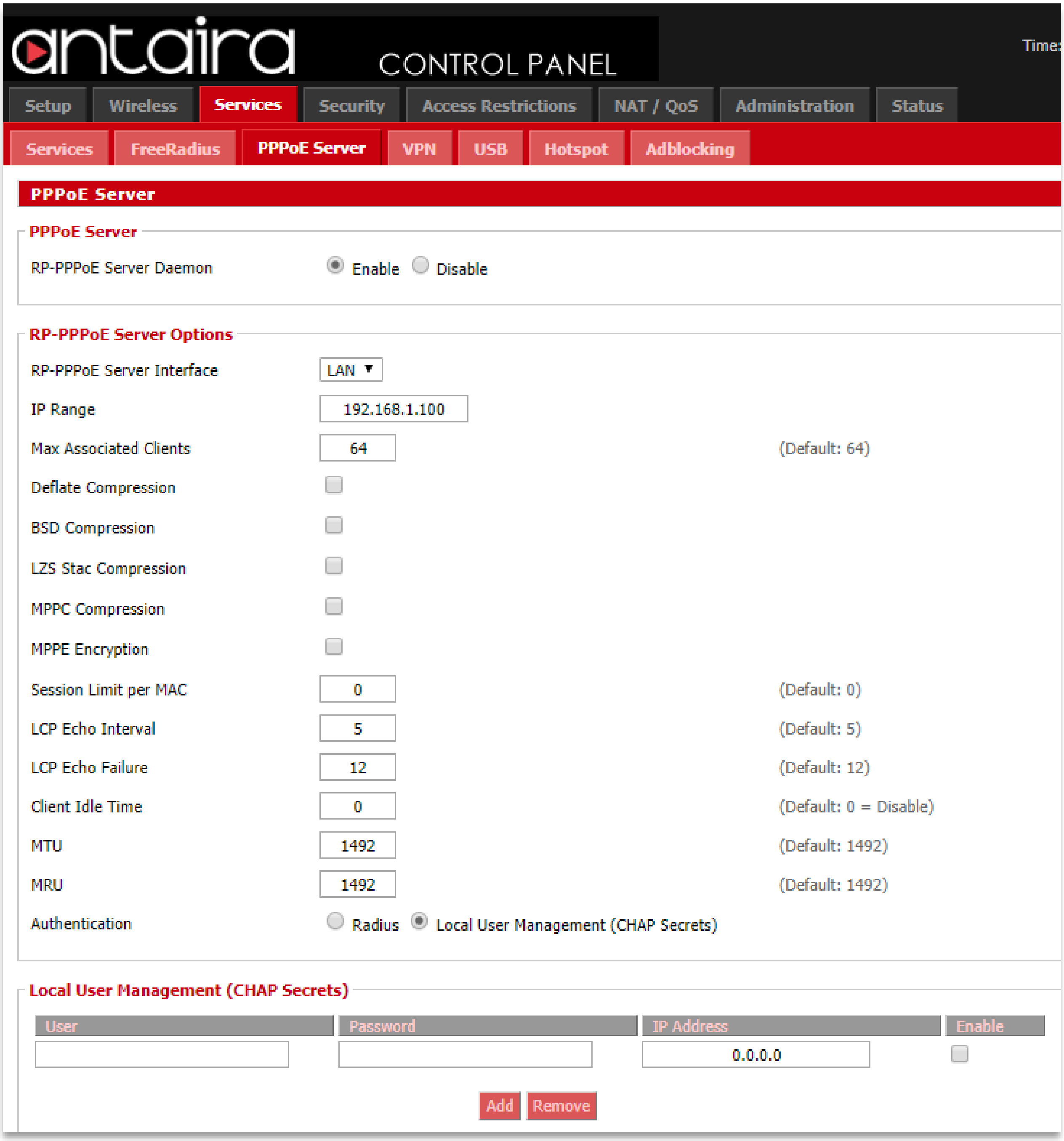
Add

Services > FreeRadius

FreeRadius	Description
FreeRadius	Enable or disable FreeRadius.
Country Code	Enter a Country Code.
State or Province	Enter a State or Province.
Locality	Enter a Locality.
Organization/Company	Enter an Organization or Company.
Email Address	Enter an email address.
Common Certificate Name	Enter a Common Certificate Name.
Expires (Days)	Set the expiration date for the certificate. Default is 365 days.
Passphrase	Enter a passphrase.
Radius Port	Set the Radius port. Default is port 1812.
Clients	Add clients.
Users	Add users.

4.3 PPPoE Server

The Point-to-Point Protocol over Ethernet (PPPoE) is a networking protocol for encapsulating PPP frames inside Ethernet frames.



PPPoE Server

PPPoE Server

RP-PPPoE Server Daemon	● Enable ○ Disable

RP-PPPoE Server Options

RP-PPPoE Server Interface	LAN	
IP Range	192.168.1.100	
Max Associated Clients	64	(Default: 64)
Deflate Compression	□	
BSD Compression	□	
LZS Stac Compression	□	
MPPC Compression	□	
MPPE Encryption	□	
Session Limit per MAC	0	(Default: 0)
LCP Echo Interval	5	(Default: 5)
LCP Echo Failure	12	(Default: 12)
Client Idle Time	0	(Default: 0 = Disable)
MTU	1492	(Default: 1492)
MRU	1492	(Default: 1492)
Authentication	○ Radius ● Local User Management (CHAP Secrets)	

Local User Management (CHAP Secrets)

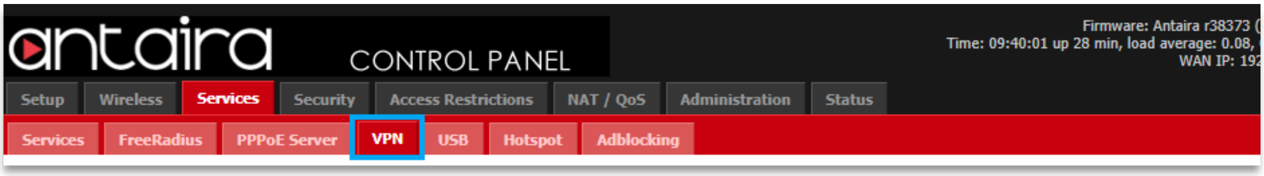
User	Password	IP Address	Enable
		0.0.0.0	□

Services > PPPoE Server

PPPoE Server	Description
RP-PPPoE Server Daemon	Enable or disable this feature.
RP-PPPoE Server Interface	Select the interface.
IP Range	Set the IP range.
Max Associated Clients	Set the maximum associated clients allowed.
Deflate Compression	Enable or disable this feature.
BSD Compression	Enable or disable this feature.
LZS Stac Compression	Enable or disable this feature.
MPPC Compression	Enable or disable this feature.
MPPE Encryption	Enable or disable this feature.
Session Limit per MAC	Set a session limit per MAC address. Default is 0.
LCP Echo Interval	Set the LCP Echo Interval. Default is 5.
LCP Echo Failure	Set the LCP Echo Failure. Default is 12.
Client Idle Time	
MTU/MRU	MTU/MRU should be set to equal. The default values are valid for Ethernet packet networks with an MTU of 1500Bytes. If you would like to use PPTP on other (WAN) connections, e.g. DSL, coax, fiber, etc, you will have to adjust the values to the correct settings. Default is 1436.
Authentication	Select an Authentication method.

4.4 VPN

Virtual Private Network (VPN) allows two LANs to create a secured virutal tunnel connection between each other over the Internet. Typically used to extend a private network across a public network.

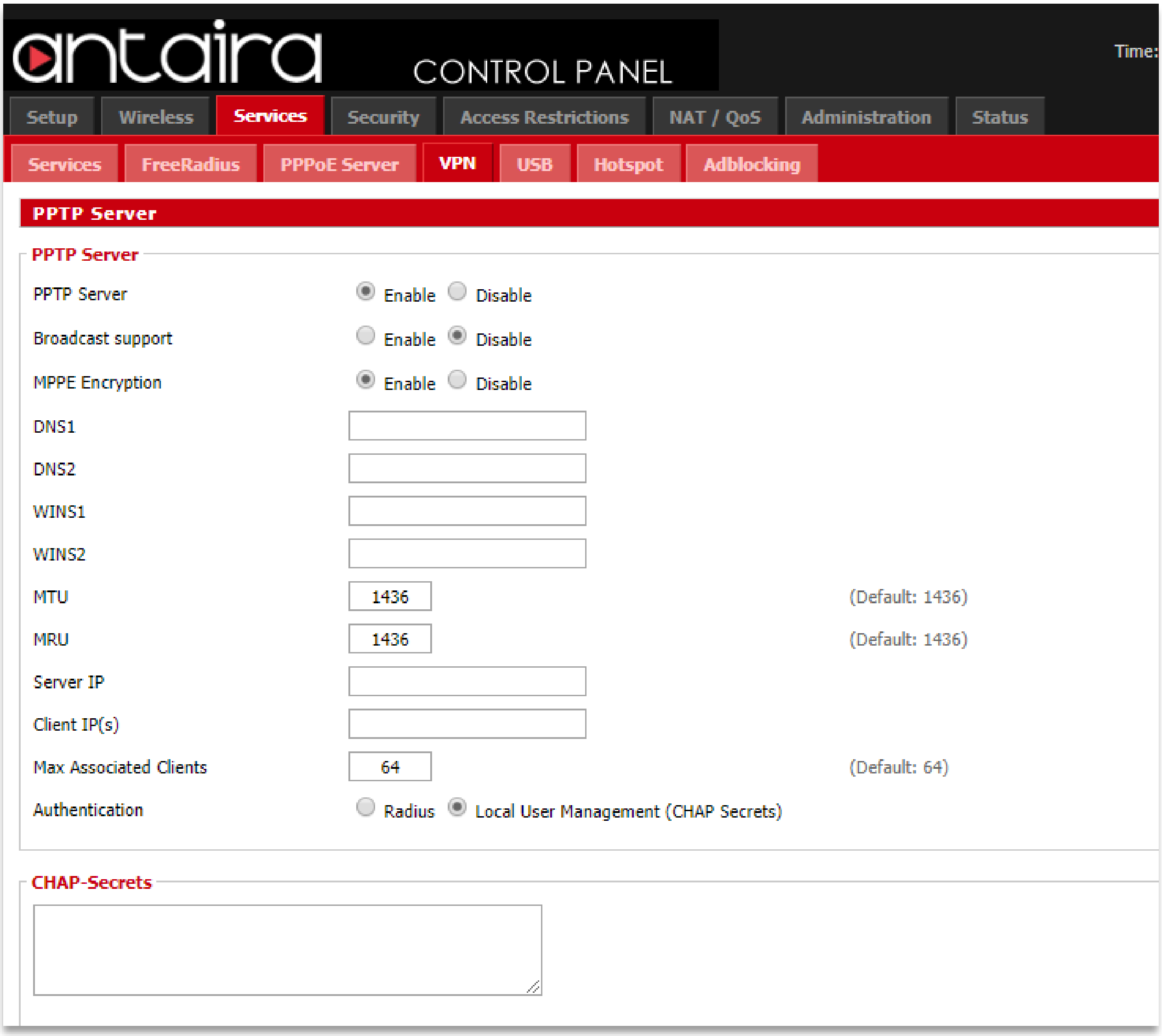


Firmware: Antaira r38373 (
Time: 09:40:01 up 28 min, load average: 0.08,
WAN IP: 192

Services > VPN

4.4.1 PPTP Server

A Point-To-Point Tunneling Protocol allows you to connect securely from a remote location (such as your home) to a LAN located in another location (workplace, business office, etc).



PPTP Server

PPTP Server

PPTP Server	● Enable ○ Disable	
Broadcast support	○ Enable ● Disable	
MPPE Encryption	● Enable ○ Disable	
DNS1		
DNS2		
WINS1		
WINS2		
MTU	1436	(Default: 1436)
MRU	1436	(Default: 1436)
Server IP		
Client IP(s)		
Max Associated Clients	64	(Default: 64)
Authentication	○ Radius ● Local User Management (CHAP Secrets)	

CHAP-Secrets

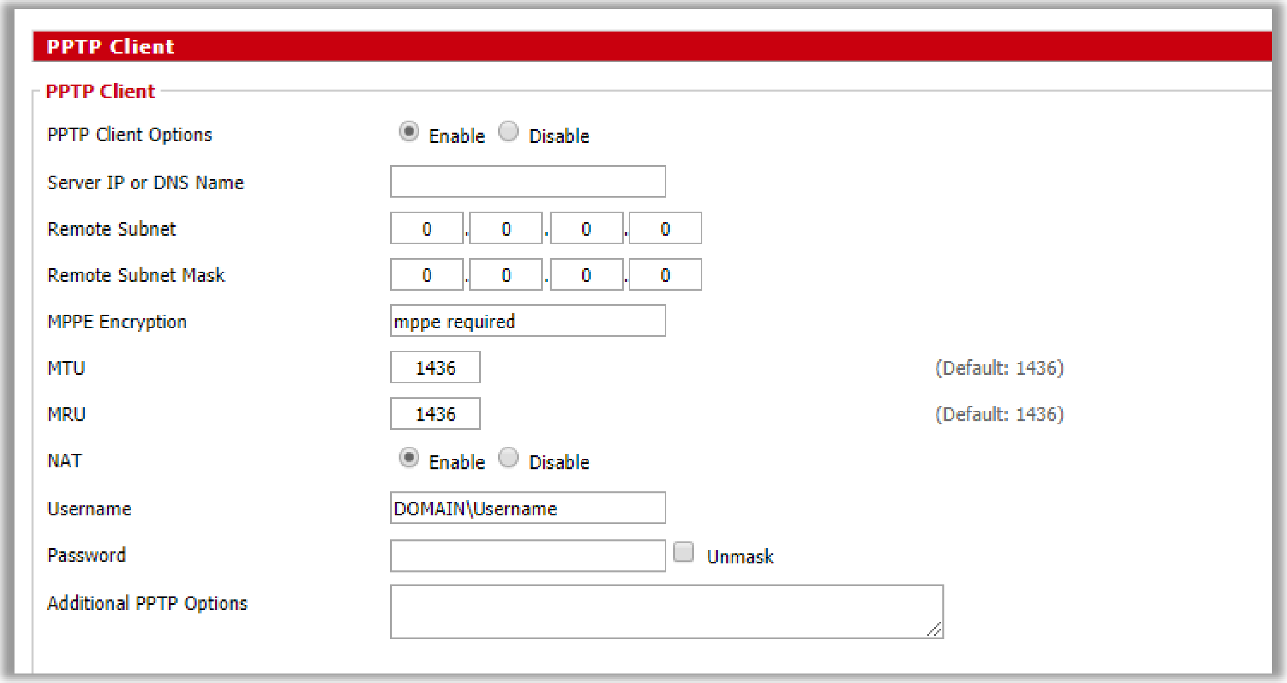
Services > VPN > PPTP Server

PPTP Server	Description
PPTP Server	Enable or disable PPTP Server option.
Broadcast Support	When **Disabled**, PPTP-Server does set *proxy-arp* which works for broadcasting in most cases. When **Enabled**,

	bcrelay will relay all broadcast messages to the default bridge network. This will increase cpu load. Disabled by default.
MPPE Encryption	Forces clients to use encryption with 128bit. When encryption is disabled, encryption to clients is allowed, but not forced.
DNS1 & 2	Add your local/WAN DNS Server. Setting DNS2 is optional.
WINS1 & 2	Add your local WINS server. This setting is optional.
MTU/MRU	MTU/MRU should be set to equal. The default values are valid for Ethernet packet networks with an MTU of 1500Bytes. If you would like to use PPTP on other (WAN) connections, e.g. DSL, coax, fiber, etc, you will have to adjust the values to the correct settings. Default is 1436.
Server IP	Enter a LAN IP Address *(An IP from your network that is not used by any device or the router).* Example: *(Assuming the router's LAN address is 192.168.1.1)* Server IP = 192.168.1.2. The default port for pptp is 1723.
Client IP(s)	The client IP range. Leaving it blank will not work. *(Input in format like: 192.168.1.100-199).* IPs in this range are given to clients trying to connect. This should be a valid IP address on the LAN segment of the network, and outside of the DHCP address range**.**
Max Associated Clients	Max allowed concurrent clients**.**
Authentication	RADIUS or CHAP Secrets.

4.4.2 PPTP Client

The PPTP Client configuration. These settings allow you to connect the router to a PPTP Server.



PPTP Client

PPTP Client

PPTP Client Options	● Enable ○ Disable	
Server IP or DNS Name		
Remote Subnet	0 . 0 . 0 . 0	
Remote Subnet Mask	0 . 0 . 0 . 0	
MPPE Encryption	mppe required	
MTU	1436	(Default: 1436)
MRU	1436	(Default: 1436)
NAT	● Enable ○ Disable	
Username	DOMAIN\Username	
Password		□ Unmask
Additional PPTP Options		

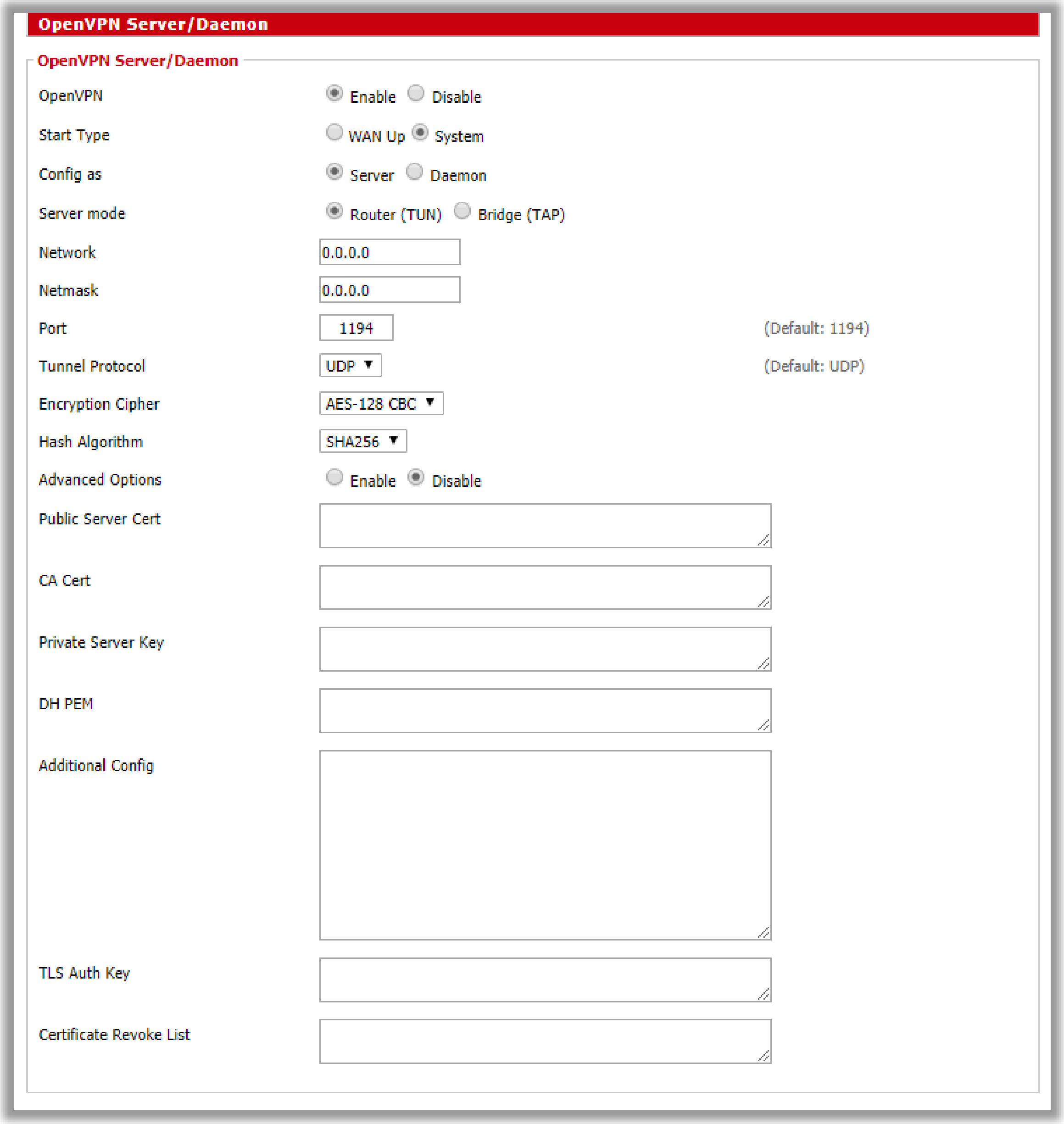
Services > VPN > PPTP Client

PPTP Client	Description
PPTP Client Options	Enable or disable PPTP Client options.
Server IP or DNS Name	The IP address of the VPN server.
Remote Subnet	Use the Network Address for the Remote Network *(10.20.1.0 for example).*
Remote Subnet Mask	Use the Subnet Mask appropriate for the Remote Network *(255.255.255.0 for example).*
MPPE Encryption	The type of security to use for the connection. If you are connecting to another router, you need *(Example: mppe required)*. But if you are connecting to a Windows VPN server you need *(Example: mppe required, no40, no56, stateless)* or *(Example: mppe required, no40, no56, stateful).*
MTU/MRU	Needs to match the server's MTU/MRU settings.
NAT	Recommended to leave enabled.

Username	Your Remote PPTP Network Domain/Username. *(Example: YOURCOMPANY\\johndoe*)
Password	Your Remote PPTP Network Password.
Additional PPTP Options	Additional options for PPTP connections.

4.4.3 OpenVPN Server

OpenVPN is a full-features SSL VPN solution which can accommodate a wide range of configurations. This page allows you to setup an OpenVPN Server.



OpenVPN Server/Daemon

OpenVPN Server/Daemon

OpenVPN	● Enable ○ Disable	
Start Type	○ WAN Up ● System	
Config as	● Server ○ Daemon	
Server mode	● Router (TUN) ○ Bridge (TAP)	
Network	0.0.0.0	
Netmask	0.0.0.0	
Port	1194	(Default: 1194)
Tunnel Protocol	UDP ▼	(Default: UDP)
Encryption Cipher	AES-128 CBC ▼	
Hash Algorithm	SHA256 ▼	
Advanced Options	○ Enable ● Disable	
Public Server Cert		
CA Cert		
Private Server Key		
DH PEM		
Additional Config		
TLS Auth Key		
Certificate Revoke List		

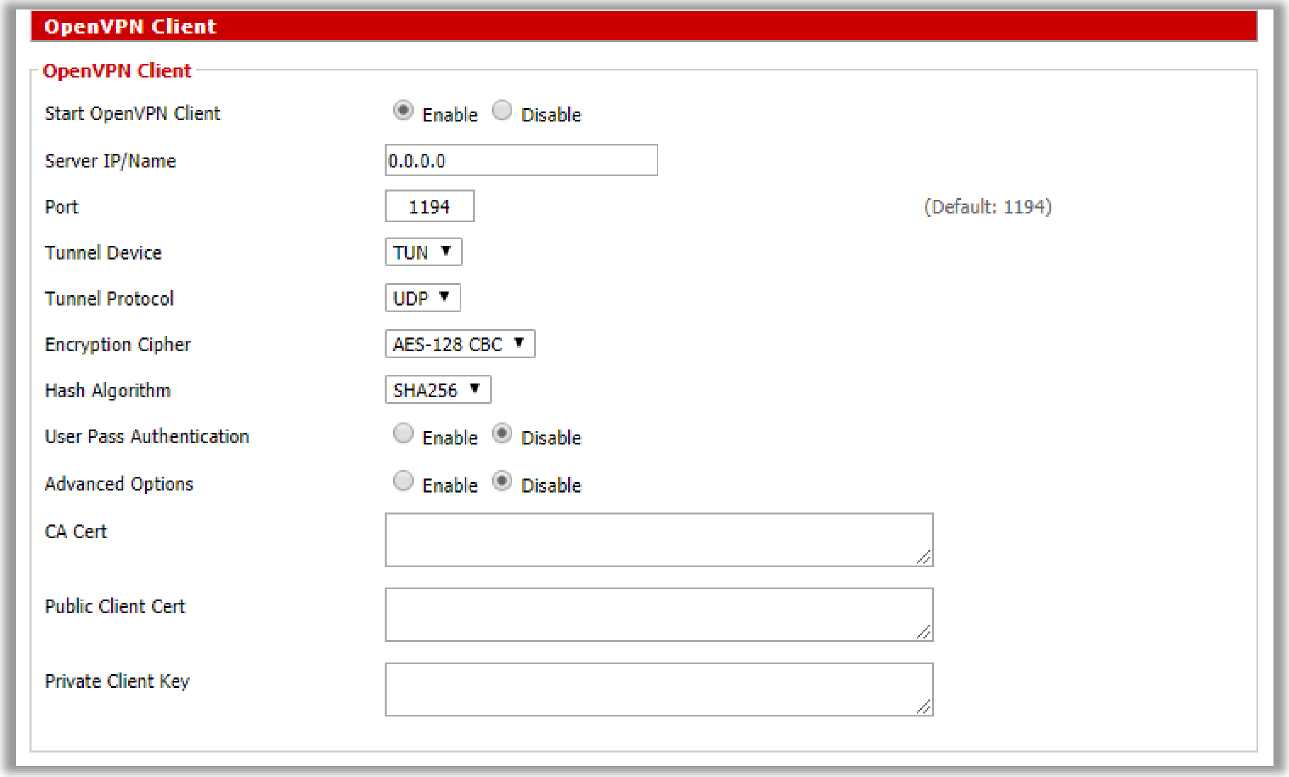
Services > VPN > OpenVPN Server

OpenVPN	Description
OpenVPN	Start OpenVPN server/daemon service.
Start Type	Select System for start type.
Config as	Choose to configure via GUI or config file.
Server Mode	The mode of tunneling. **TUN**: Routing (layer 3) **TAP**: Bridging networks (Layer 2, can be used for routing, but not common)
Network	Network to use for the tunnel (Only in routing mode).
Netmask	Netmask of the network for the tunnel.
Port	The port which OpenVPN server listens on. Default is port 1194.
Tunnel Protocol	The sub-protocol the connection will use. Default is UDP.
Encryption Cipher	The encryption algorithm that will be used for the tunnel. Blowfish: fastest to AES512: safest.
Hash Algorithm	The hash algorithm that will be used. MD4: fastest to SHA512.
Advanced Options	Refer to the Advanced Options table below.
Public Server Cert	Server certificate issued by CA for this particular router (usually server.crt). Only part between 'BEGIN' and 'END' is required.
CA Cert	Certificate of OpenVPN CA in pem form (usually ca.crt). Only part between (and including) -----BEGIN CERTIFICATE----- and -----END CERTIFICATE----- is necessary.
Private Server Key	Key associated with Public Server Cert (usually server.key). This should be kept secret as anyone with this key can successfully authenticate client certificates.
DH PEM	Diffie Hellman parameters generated for the OpenVPN server (usually dh1024.pem).
Additional Config	Any additional configurations you want to define for the VPN connection.
TLS Auth Key	The static key OpenVPN should use for generating HMAC send/receive Keys.
Certificate Revoke List	Enter certificates to be revoked, if desired.

Advanced Options (Server Side)	Description
TLS Cipher	What encryption algorithm OpenVPN should use for encrypting its control channel. Default is disabled.
LZO Compression	Enables compression over VPN. This may speed up the connection.
Redirect Default Gateway	Force the clients to use the tunnel as the default gateway. Default is disabled.
Allow Client to Client	Allows clients to see each other. Default is disabled.
Allow Duplicate cn	Allow the use of one client certification for multiple clients. (This poses a security risk of sharing certifications). Default is disabled.
Tunnel MTU Setting	Set the mtu of the tunnel. Default is 1500.
Tunnel UDP Fragment	Set mss-fix and fragmentation across the tunnel.
Tunnel UDP MSS-Fix	Equal to value of Fragment. Only used with udp. Should be set on one side of the connection only.
CCD-Dir DEFAULT File	Enter CCD-dir default file here.
Client Connect Script	Enter a client connect script here.
Static Key	Enter the static key here.
PKCS12 Key	Used for peer-to-peer links. No pki needed.

4.4.4 OpenVPN Client

OpenVPN is a full-features SSL VPN solution which can accommodate a wide range of configurations. This page allows you to setup the router as an OpenVPN Client.



OpenVPN Client

OpenVPN Client

Start OpenVPN Client	● Enable ○ Disable	
Server IP/Name	0.0.0.0	
Port	1194	(Default: 1194)
Tunnel Device	TUN ▼	
Tunnel Protocol	UDP ▼	
Encryption Cipher	AES-128 CBC ▼	
Hash Algorithm	SHA256 ▼	
User Pass Authentication	○ Enable ● Disable	
Advanced Options	○ Enable ● Disable	
CA Cert		
Public Client Cert		
Private Client Key		

Services > VPN > OpenVPN Client

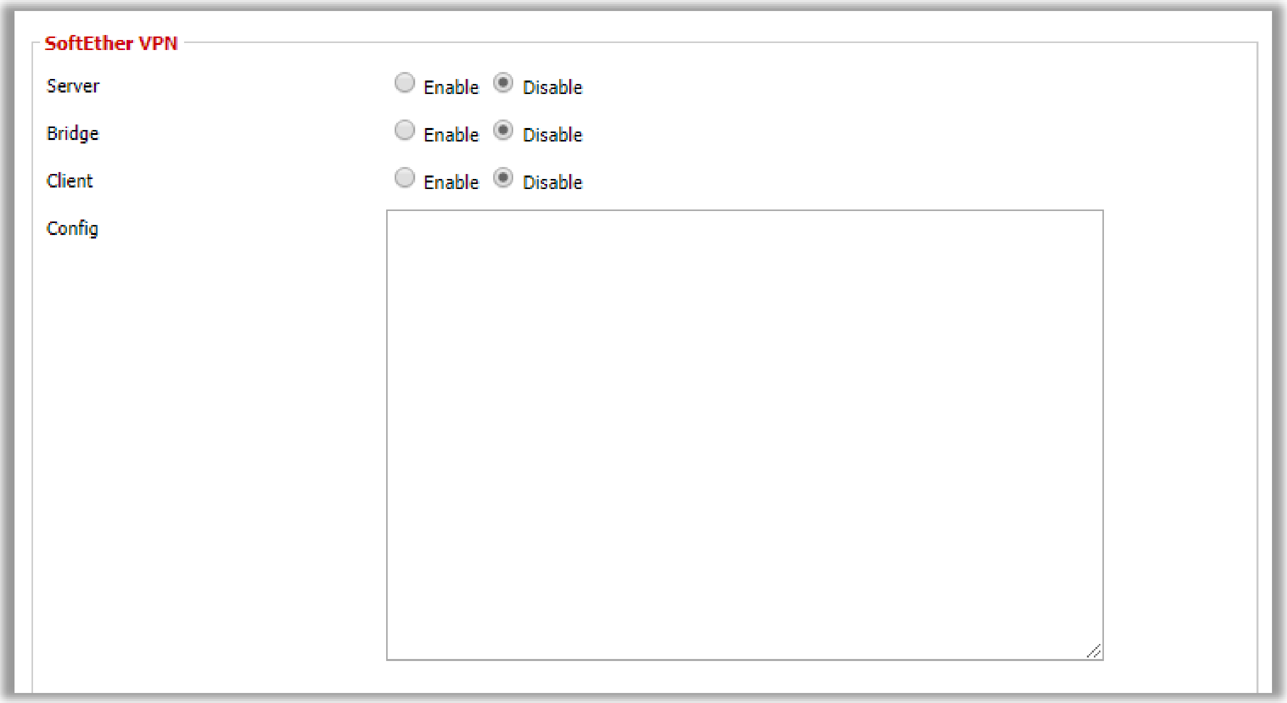
OpenVPN	Description
Start OpenVPN Client	Enable or disable OpenVPN client options.
Server IP/Name	IP address/hostname of the OpenVPN server you wish to connect to.
Port	The port which OpenVPN server is listening on. Default is port 1194.
Tunnel Device	The mode of tunneling. **TUN**: Routing (layer 3). **TAP**: Bridging (layer 2, can be used for routing, but not common).
Tunnel Protocol	The sub-protocol the connection will use. Default is UDP.
Encryption Cipher	The encryption algorithm that will be used for the tunnel. Blowfish is fastest, while AES512 is safest.
Hash Algorithm	The hash algorithm that will be used. MD4: fastest to

	SHA512.
User Pass Authentication	Enable or Disable this feature.
Advanced Options	Refer to the Advanced Options table below.
CA Cert	CA certificate. Only part between 'BEGIN' and 'END' is required.
Public Client Cert	Client certificate issued by CA.
Private Client Key	Key associated with the Public Client Cert. This should be kept secret because anyone with this key can successfully authenticate as this client.

Advanced Options (Client Side)	Description
TLS Cipher	What encryption algorithm OpenVPN should use for encrypting its control channel. Default is disabled.
LZO Compression	Enables compression over VPN. This may speed up the connection. Must be the same value as the server.
NAT	Enables network address translation on the client side of the connection. Enabling it gives you the Firewall Protection option. Default is disabled.
IP Address	Enter an IP address in case you do not get an IP address from the server. Not very common.
Subnet Mask	Subnet mask for the IP address above.
Tunnel MTU Setting	Set the mtu of the tunnel. Default is 1500.
Tunnel UDP Fragment	Set mss-fix and fragmentation across the tunnel.
Tunnel UDP MSS-Fix	Equal to value of Fragment. Only used with udp. Should be set on one side of the connection only.
neCertType Verification	Checks to see if the remote server is using a valid type of certificate meant for OpenVPN connections.
TLS Auth Key	The static key OpenVPN should use for generating HMAC send/receive keys.
Additional Config	Any additional configurations you want to define for the VPN connection.
Policy Based Routing	Allow only special clients to use the tunnel. Add IP address in the form of: 0.0.0.0/0 to force clients to use the tunnel as the default gateway. Type one IP per line.
PKCS12 Key	Enter the PKCS12 key here.
Static Key	Used for peer-to-peer links. No pki needed.

4.4.5 SoftEther VPN

An alternative VPN service to OpenVPN.



SoftEther VPN

Server ○ Enable ● Disable

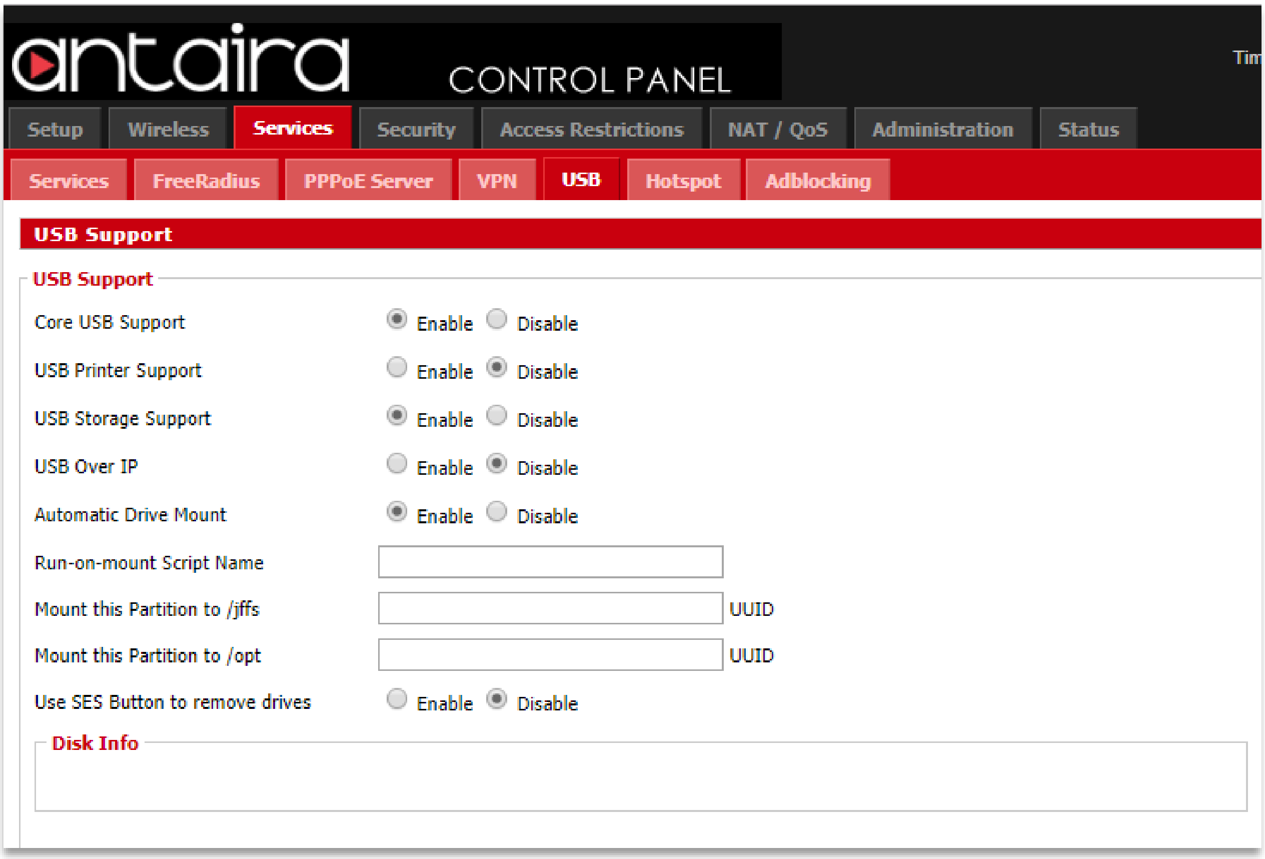
Bridge ○ Enable ● Disable

Client ○ Enable ● Disable

Config

Services > VPN > SoftEther VPN

4.5 USB



USB Support

USB Support

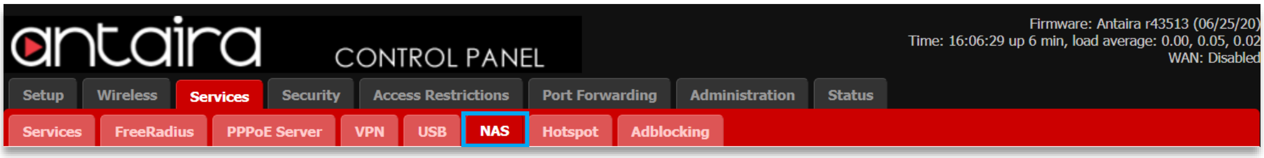
Core USB Support	● Enable ○ Disable
USB Printer Support	○ Enable ● Disable
USB Storage Support	● Enable ○ Disable
USB Over IP	○ Enable ● Disable
Automatic Drive Mount	● Enable ○ Disable
Run-on-mount Script Name	
Mount this Partition to /jffs	UUID
Mount this Partition to /opt	UUID
Use SES Button to remove drives	○ Enable ● Disable

Disk Info

Services > USB

USB	Description
Core USB Support	Enable or disable USB support.
USB Printer Support	Enable or disable printer support.
USB Storage Support	Enable or disable support for external drives.
USB Over IP	Enable or disable USB over IP.
Automatic Drive Mount	Auto mount connected drives.
Use SES Button to Remove drives	Use SES Button to un-mount drives before disconnecting them.
Disk Info	Displays disk info e.g. partition size, volume name if set, as well as UUID for all connected drives.

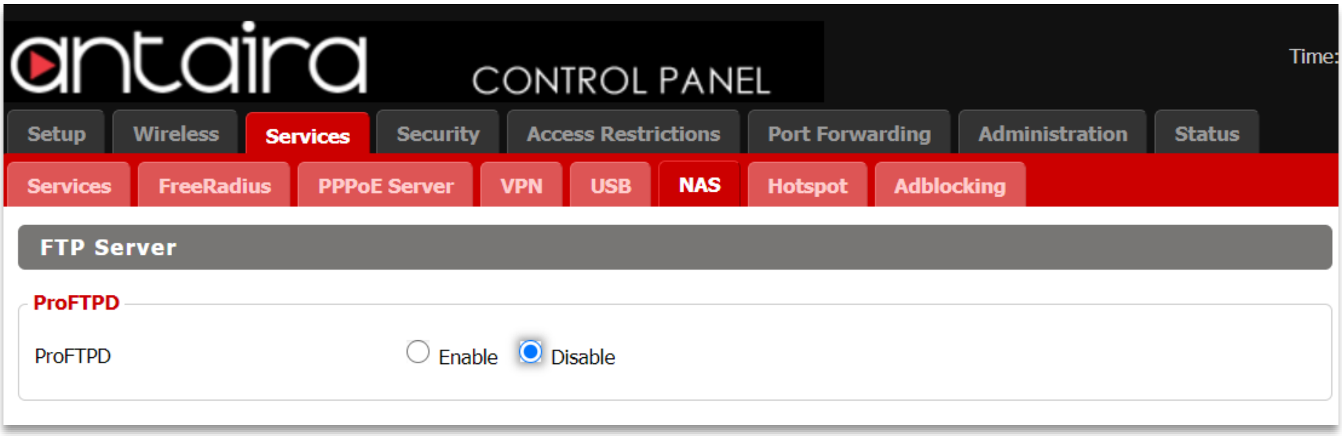
4.6 NAS



Firmware: Antaira r43513 (06/25/20)
Time: 16:06:29 up 6 min, load average: 0.00, 0.05, 0.02
WAN: Disabled

Services > NAS

4.6.1 FTP Server



FTP Server

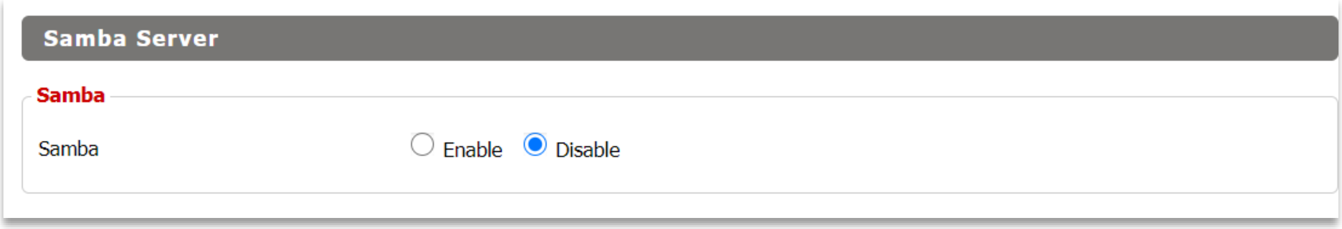
ProFTPD

ProFTPD ○ Enable ● Disable

NAS > FTP Server

FTP	Description
ProFTPD	Enable or disable ProFTPD services.
Server Port	Enter a server port number.
WAN Access	Enable or disable WAN access.
Anonymous Login	Enable or disable anonymous login.
Anonymous Home Directory	Enter a home directory.
Authentication	Select between Radius or User Password List for authentication.

4.6.2 Samba Server


Samba Server

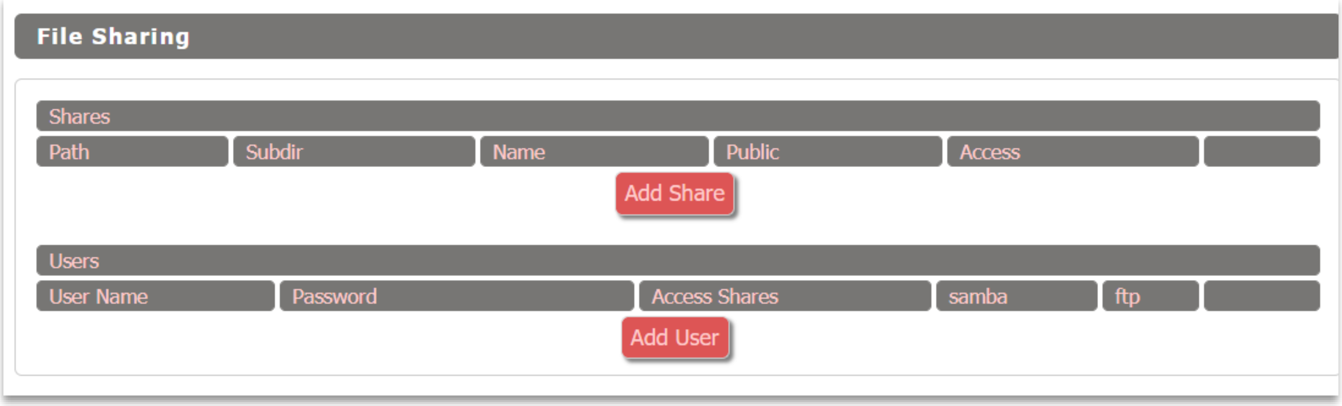
Samba

Samba ○ Enable ● Disable

NAS > Samba Server

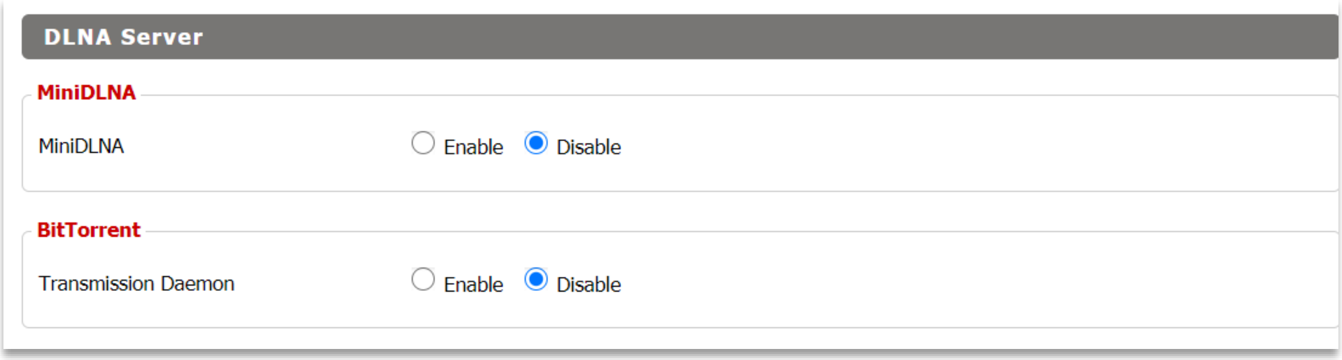
Samba	Description
Samba	Enable or disable Samba server services.
Server String	Enter a server string.
Workgroup	Enable a workgroup.
Minimum Protocol Version	Select a minimum protocol version.
Maximum Protocol Version	Select a maximum protocol version.

4.6.3 File Sharing



NAS > File Sharing

4.6.4 DLNA Server



DLNA Server

MiniDLNA

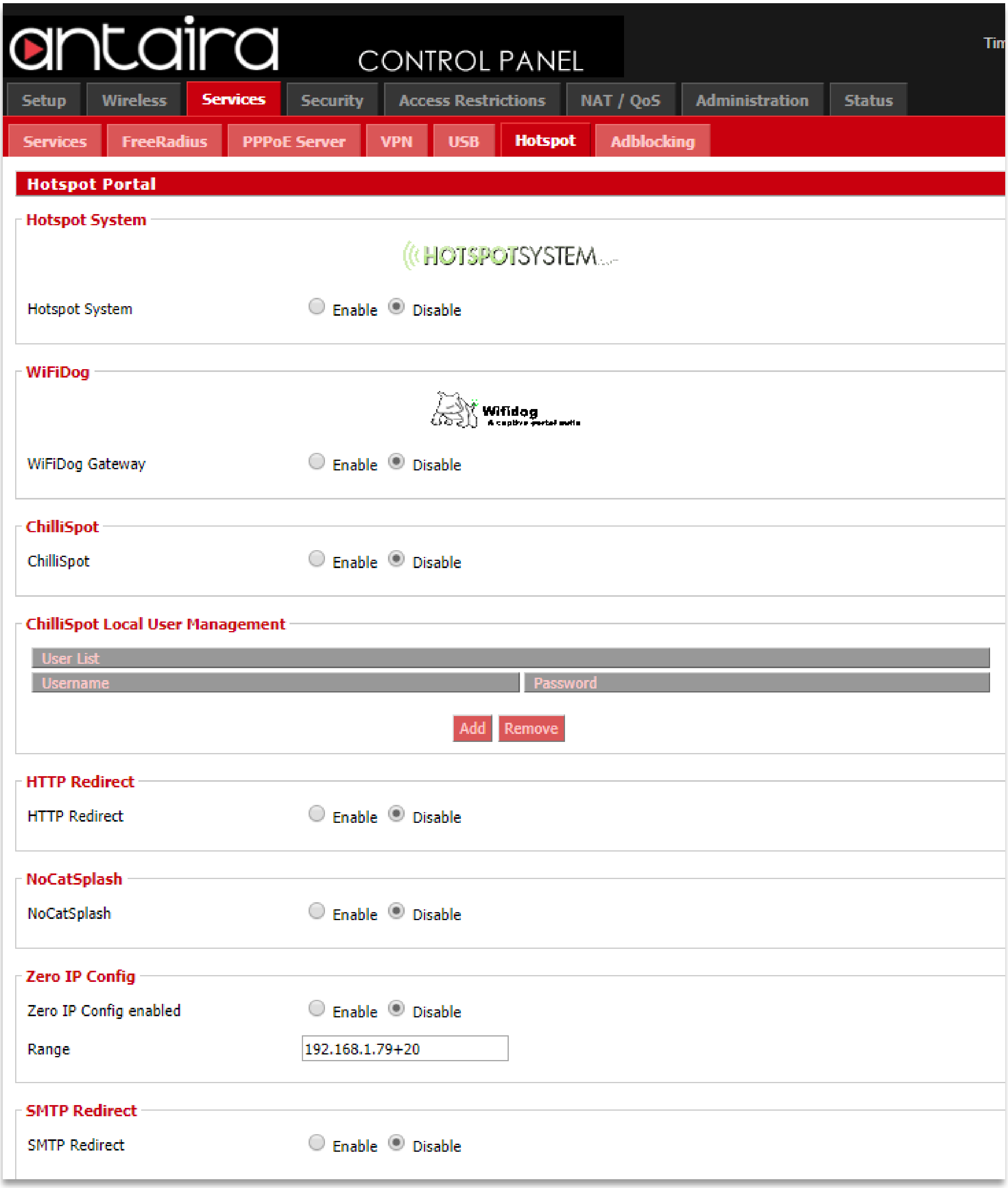
MiniDLNA ○ Enable ● Disable

BitTorrent

Transmission Daemon ○ Enable ● Disable

NAS > DLNA Server

4.7 Hotspot



Hotspot Portal

Hotspot System

Hotspot System ○ Enable ● Disable

WiFiDog

WiFiDog Gateway ○ Enable ● Disable

ChilliSpot

ChilliSpot ○ Enable ● Disable

ChilliSpot Local User Management

User List	
Username	Password

HTTP Redirect

HTTP Redirect ○ Enable ● Disable

NoCatSplash

NoCatSplash ○ Enable ● Disable

Zero IP Config

Zero IP Config enabled ○ Enable ● Disable

Range 192.168.1.79+20

SMTP Redirect

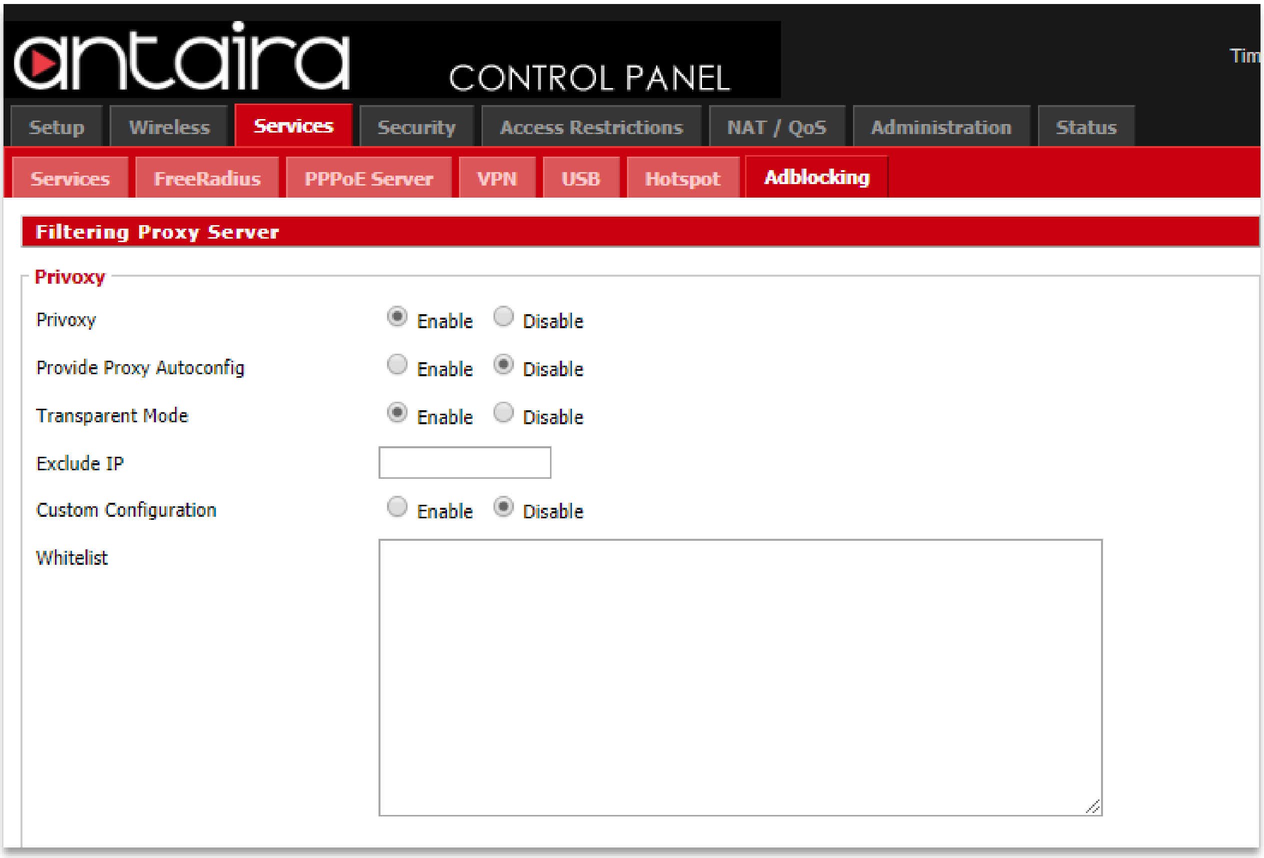
SMTP Redirect ○ Enable ● Disable

Services > Hotspot

You can use the router as a Hotspot gateway with authentication and accounting. (Radius). ChilliSpot is an open source captive portal or wireless LAN access point controller. It is used for authenticating users of a wireless LAN. It supports web-based login which is today’s standard for public hotspots and it supports WPA.

4.8 Adblocking

Privoxy enables you to filter common ads.



Filtering Proxy Server

Privoxy

Privoxy ● Enable ○ Disable

Provide Proxy Autoconfig ○ Enable ● Disable

Transparent Mode ● Enable ○ Disable

Exclude IP

Custom Configuration ○ Enable ● Disable

Whitelist

Services > Adblocking

Adblocking	Description
Privoxy	Enables you to filter common ads.
Provide Proxy Autoconfig	Publishes a WPAD/PAC file that clients use to automatically setup proxy details.
Transparent Mode	Traffic to port 80 is intercepted by Privoxy even if the client did not configure any proxy settings, thus allowing you to enforce filtering. Transparent mode cannot

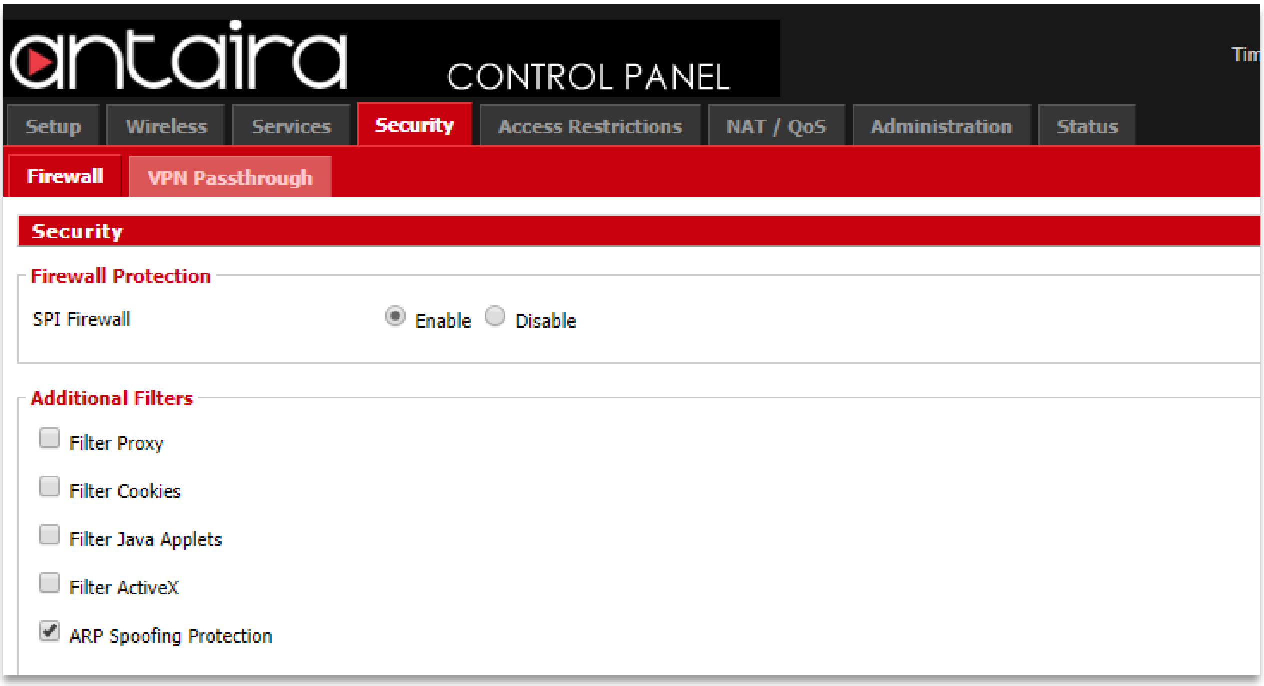
	intercept HTTPS connections. All HTTPS traffic will not be filtered by Privoxy unless added to the autconfig.
Exclude IP	Exclude an IP address.
Custom Configuration	Allows you to specify custom settings and paths to custom filters on external media. e.g. A USB.
Whitelist	Enter items to be whitelisted from the filter.

5. Security

5.1 Firewall

5.1.1 Security

The purpose of the Firewall is to moderate traffic and/or log it.



Security

Firewall Protection

SPI Firewall ● Enable ○ Disable

Additional Filters

□ Filter Proxy

□ Filter Cookies

□ Filter Java Applets

□ Filter ActiveX

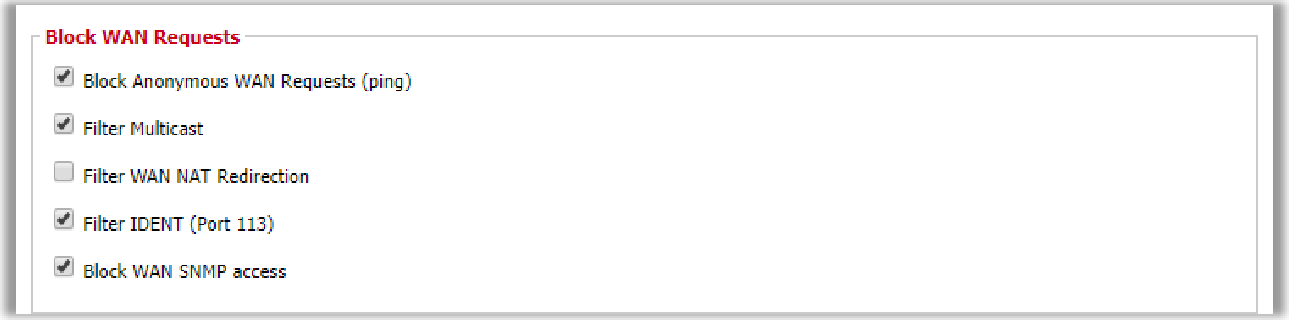
☑ ARP Spoofing Protection

Security > Firewall > Security

Security	Description
SPI Firewall	Enable or disable the SPI Firewall.
Filter Proxy	Blocks HTTP requests containing the “*Host:*” string.
Filter Cookies	Identifies HTTP requests that contain the “*Cookie*:” string and mangle the cookie. Attempts to stop cookies from being used.
Filter Java Applets	Blocks HTTP requests containing a URL ending in “*.js*” or “*.class*”.

Filter ActiveX	Blocks HTTP requests containing a URL ending in "*.ocx*" or "*.cab*".
ARP Spoofing Protection	Enable protection against ARP spoofing.

5.1.2 Block WAN Request



Block WAN Requests

☑ Block Anonymous WAN Requests (ping)

☑ Filter Multicast

☐ Filter WAN NAT Redirection

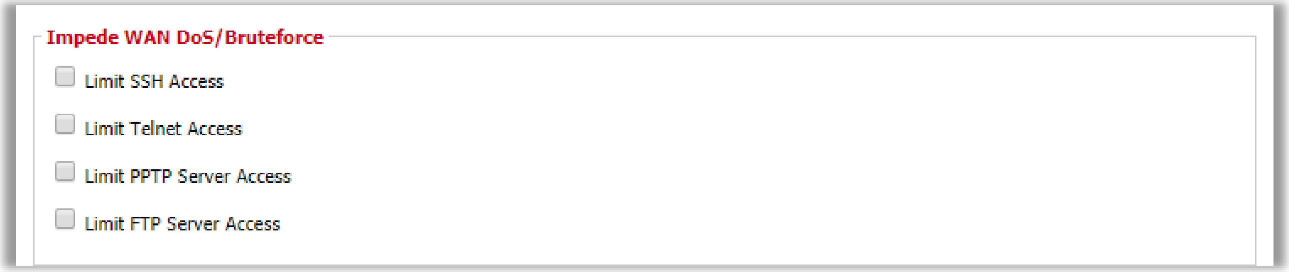
☑ Filter IDENT (Port 113)

☑ Block WAN SNMP access

Security > Firewall > Block WAN Request

Block WAN Requests	Description
Block Anonymous WAN Requests	Stops the router from responding to pings from the WAN.
Filter Multicast	Prevents multicast packets from reaching the LAN.
Filter WAN NAT Redirection	Prevents hosts on the LAN from using WAN address of the router to contact servers on the LAN which may have been configured using port redirection.
Filter IDENT (port 113)	Prevents WAN access to port 113.
Block WAN SNMP Access	Prevents the WAN from reaching SNMP.

5.1.3 Impede WAN DoS/Bruteforce



Impede WAN DoS/Bruteforce

□ Limit SSH Access

□ Limit Telnet Access

□ Limit PPTP Server Access

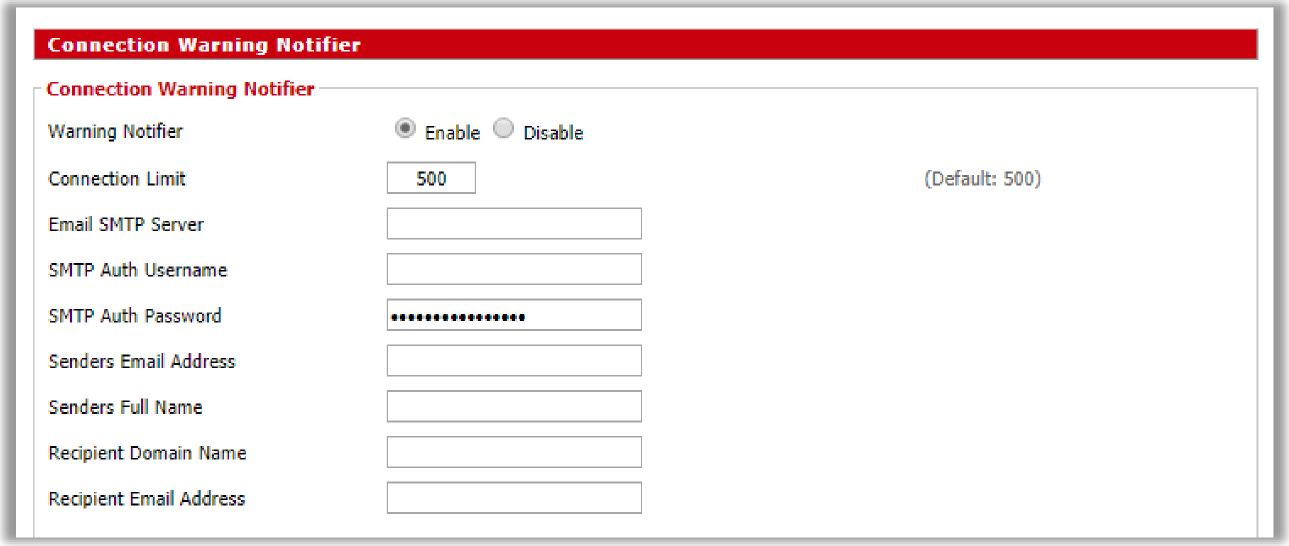
□ Limit FTP Server Access

Security > Firewall > Impede WAN DoS/Bruteforce

Impede WAN DoS/Bruteforce	Description
Limit SSH Access	Enable or disable this feature.
Limit Telnet Access	Enable or disable this feature.
Limit PPTP Server Access	Enable or disable this feature.
Limit FTP Server Access	Enable or disable this feature.

5.1.4 Connection Warning Notifier

Set a connection limit to the router. If the limit is exceeded, you can configure an SMTP alert to be sent.



Connection Warning Notifier

Connection Warning Notifier

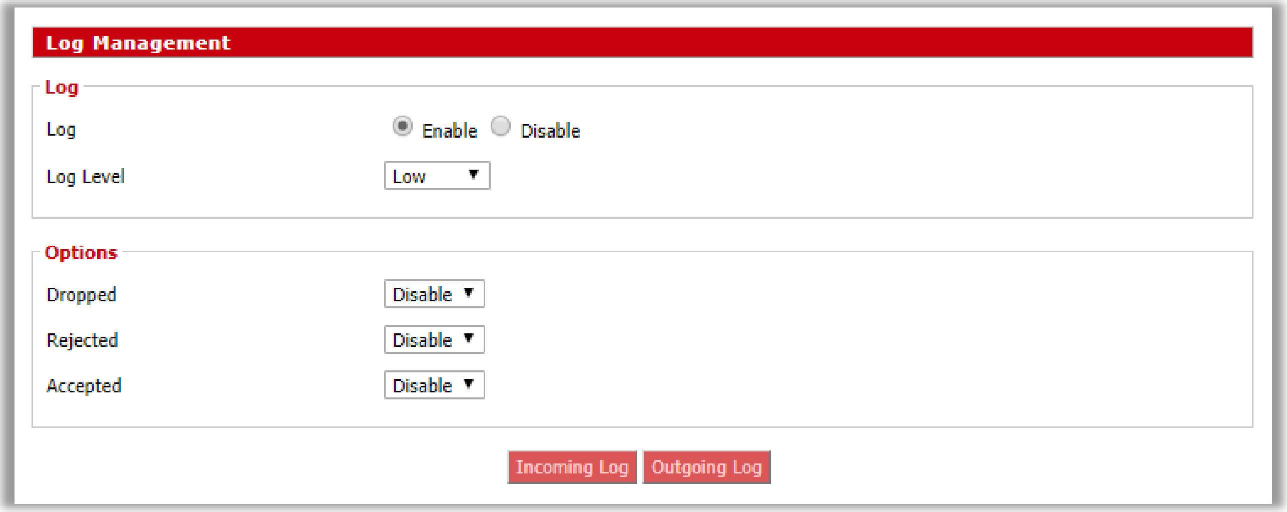
Warning Notifier	● Enable ○ Disable	
Connection Limit	500	(Default: 500)
Email SMTP Server		
SMTP Auth Username		
SMTP Auth Password	••••••••••••••••	
Senders Email Address		
Senders Full Name		
Recipient Domain Name		
Recipient Email Address		

Security > Firewall > Connection Warning Notifier

Connection Warning Notifier	Description
Warning Notifier	Enable or disable the Warning Notifier feature.
Connection Limit	Limit amount of connections. Default is 500.
Email SMTP Server	Email SMTP server.
SMTP Auth Username	The SMTP username.
SMTP Auth Password	The SMTP password.
Senders Email Address	The sender’s email address.
Senders Full Name	The sender’s name.
Recipient Domain Name	Enter recipient’s domain name.
Recipient Email Address	Enter recipient’s email address.

5.1.5 Log Management

The router can keep logs of all incoming or outgoing traffic for Internet connections.



Log Management

Log

Log ● Enable ○ Disable

Log Level: Low

Options

Dropped: Disable

Rejected: Disable

Accepted: Disable

Security > Firewall > Log Management

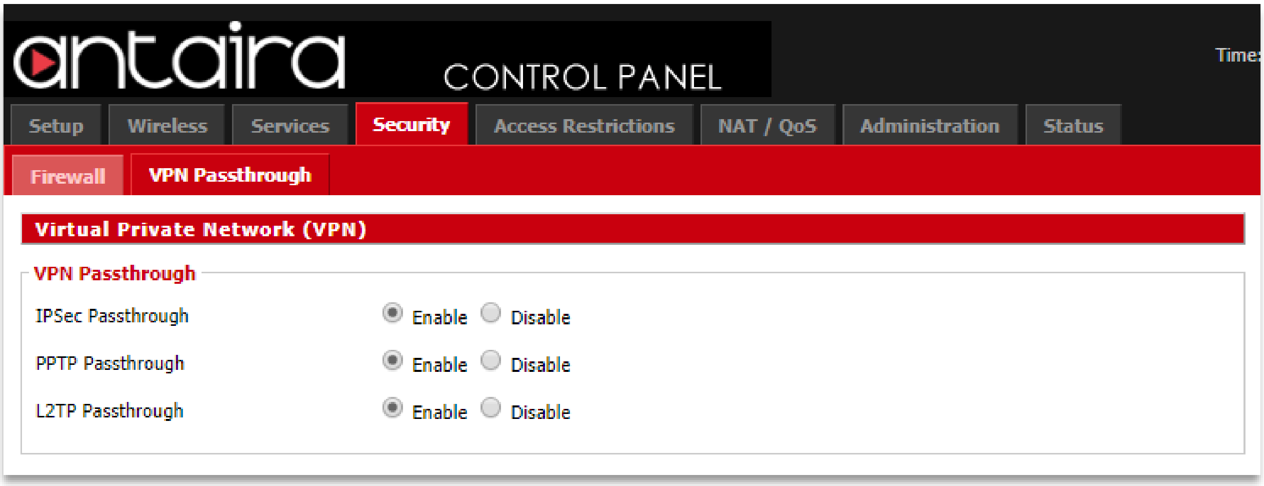
Log Management	Description
Log	To keep activity logs, select **Enable.**
Log Level	Set this to the required amount of information. Set Log Level higher to log more actions.
Dropped	Log Dropped items
Rejected	Log Rejected items
Accepted	Log Accepted items.

Incoming Log: To see a temporary log of the router's most recent incoming traffic, click the *Incoming Log* button.

Outgoing Log: To see a temporary log of the router's most recent outgoing traffic, click the *Outgoing Log* button.

5.2 VPN Passthrough

The router allows you to run VPN services on your network.



Virtual Private Network (VPN)

VPN Passthrough

IPSec Passthrough ● Enable ○ Disable

PPTP Passthrough ● Enable ○ Disable

L2TP Passthrough ● Enable ○ Disable

Security > Firewall > VPN Passthrough

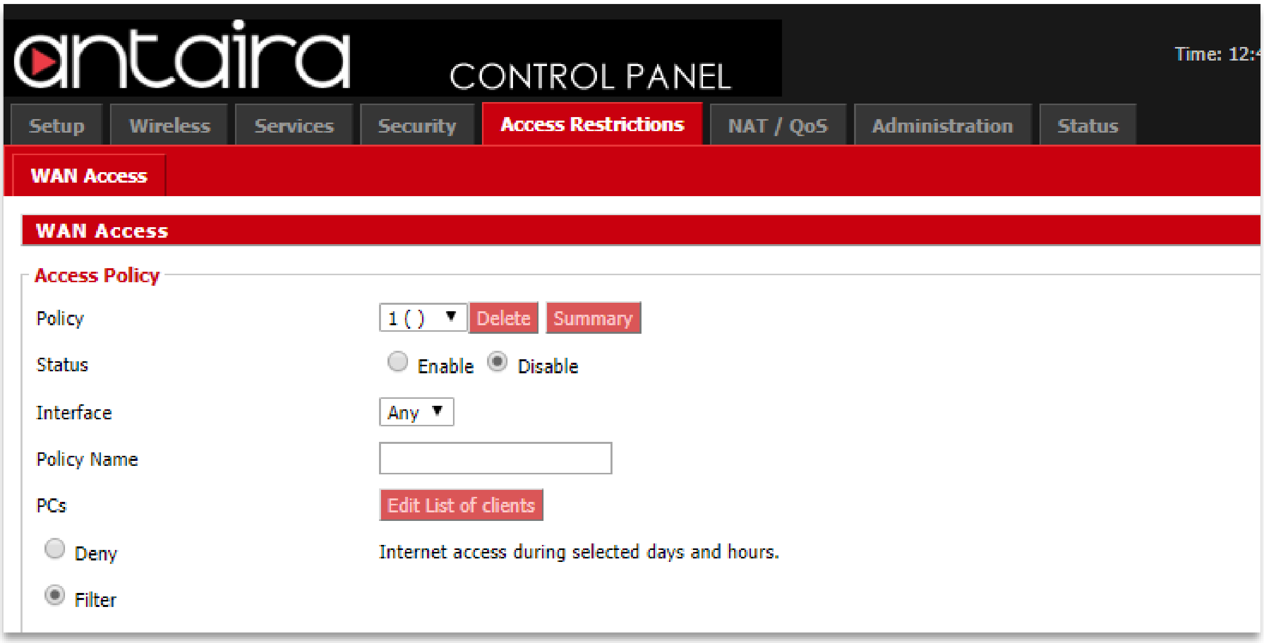
VPN Passthrough	Description
IPSec Passthrough	Allow IPSec.
PPTP Passthrough	Allow PPTP.
L2TP Passthrough	Allow P2TP.

6. Access Restrictions

6.1 WAN Access

6.1.1 Access Policy

Access Policy allows you to restrict access on the basis of time, protocol, or destination. You can create up to 10 sets of rules with each set of rules being referred to as a policy. A policy can contain multiple individual rules, such as filtering a specific machine access to a particular web site, and/or filtering access to certain unwanted P2P protocols. Does not work with Client Bridge Mode.



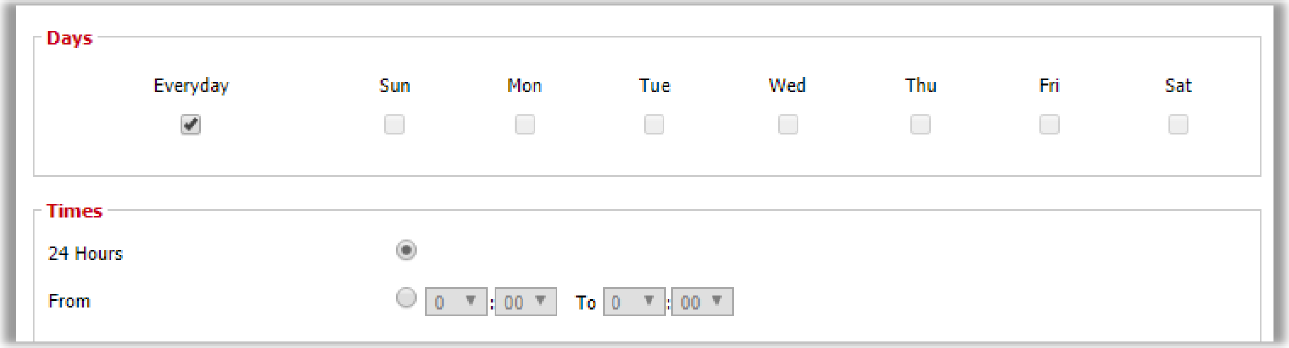
Policy: 1 ( )
Status: ○ Enable ● Disable
Interface: Any
Policy Name:
PCs
○ Deny — Internet access during selected days and hours.
● Filter

Access Restriction > WAN Access > Access Policy

Access Policy	Description
Policy	Select a policy number to use.
Status	Enable or disable this particular policy.
Interface	Select an interface that this policy will affect.
Policy Name	Enter a name for the policy.
PC's	Specify clients by IP address or MAC address to **Filter** or **Deny**.

6.1.2 Days and Times

Set the days and time when Internet access will be denied.



Days

Everyday	Sun	Mon	Tue	Wed	Thu	Fri	Sat
☑	□	□	□	□	□	□	□

Times

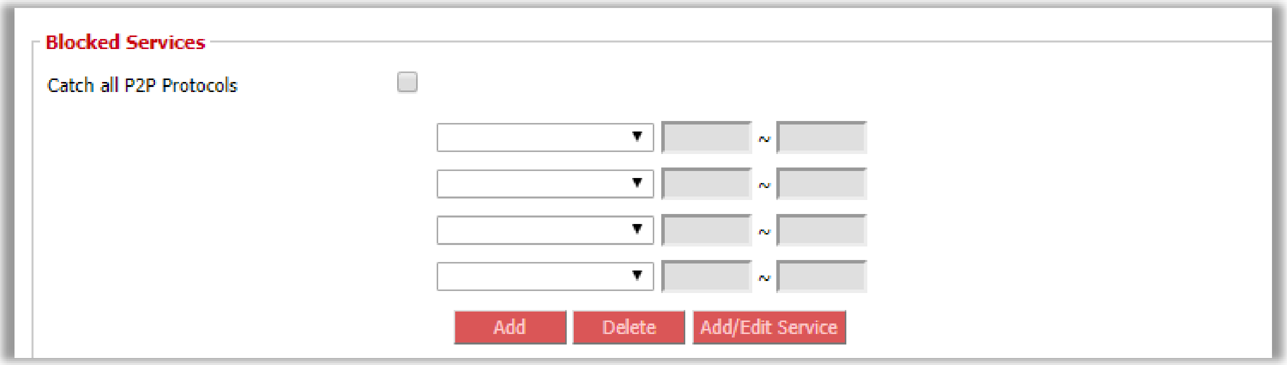
24 Hours ●

From ○ 0 : 00 To 0 : 00

Access Restriction > WAN Access > Days and Times

6.1.3 Blocked Services

Enter the services you wish to block (if any).



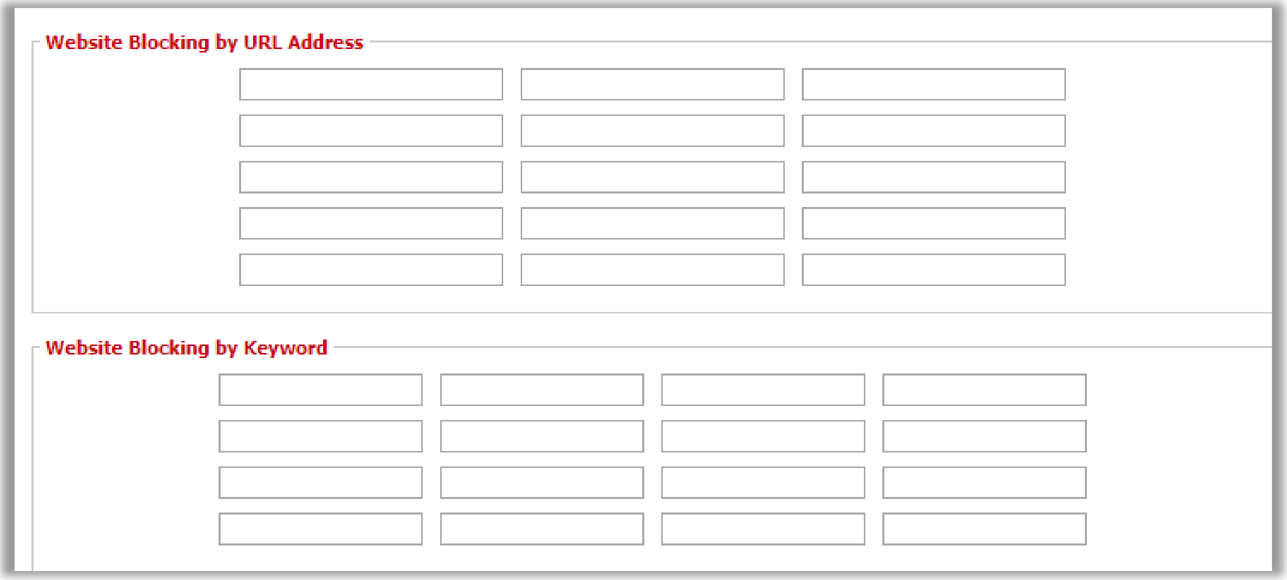
Blocked Services

Catch all P2P Protocols □

Access Restriction > WAN Access > Blocked Services

6.1.4 Website Blocking

Block specific websites by URL or keyword.



Website Blocking by URL Address

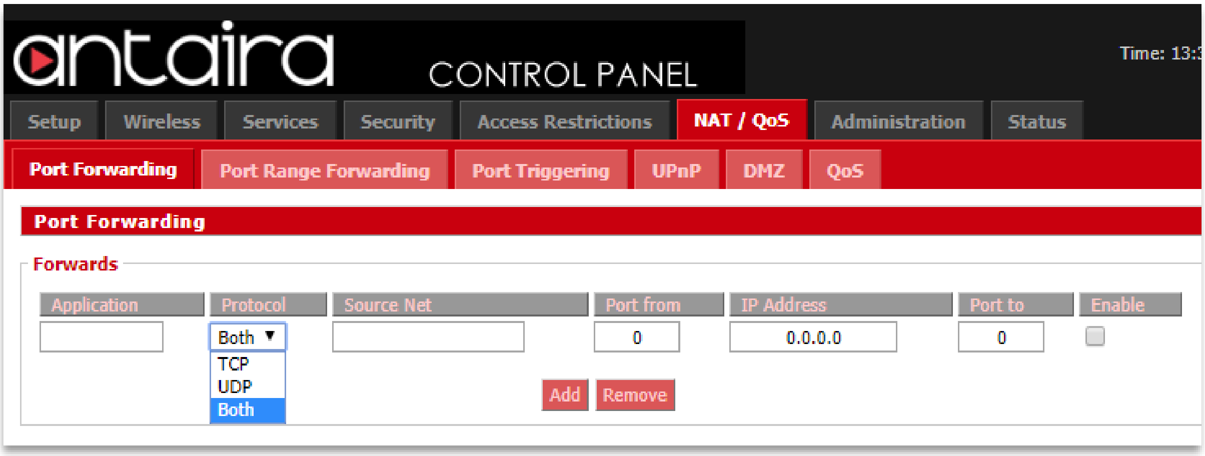
Website Blocking by Keyword

Access Restriction > WAN Access > Website Blocking

7. NAT/QoS

7.1 Port Forwarding

Port Forwarding allows you to set up public services on your network, such as a web server, FTP server, or other specialized Internet applications. Any PC whose port is being forwarded must have a static IP address assigned.



Port Forwarding

Forwards

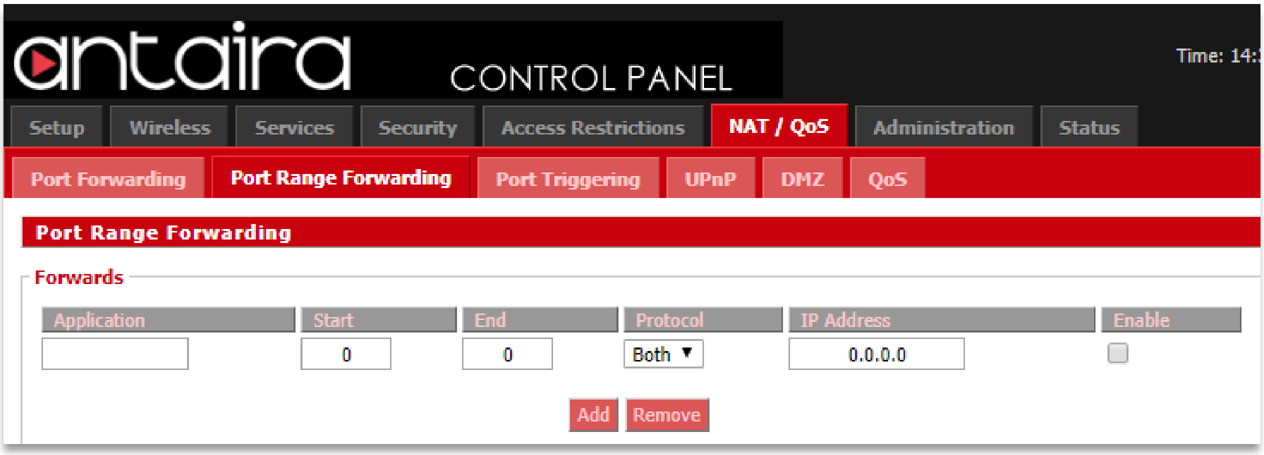
Application	Protocol	Source Net	Port from	IP Address	Port to	Enable
	Both		0	0.0.0.0	0	□

NAT/QoS > Port Forwarding

Port Forwarding	Description
Application	Enter the name of the application in the file provided.
Protocol	Choose the right protocol TCP, UDP, or Both. Set this to what the application requires.
Source Net	Forward only if sender matches this IP/Net *(example: 192.168.1.0/24)*.
Port From	Enter the number of the external port (the port number seen by users on the Internet).
IP Address	Enter the IP address of the PC running the application.
Port To	Enter the number of the internal port (the port number used by the application).
Enable	Enable port forwarding for the application.

7.2 Port Range Forwarding

Port Range Forwarding allows you to set up public services on your network, such as a web server, FTP server, or other specialized Internet applications. Any PC whose port is being forwarded must have a static IP address assigned.



Port Range Forwarding

Forwards

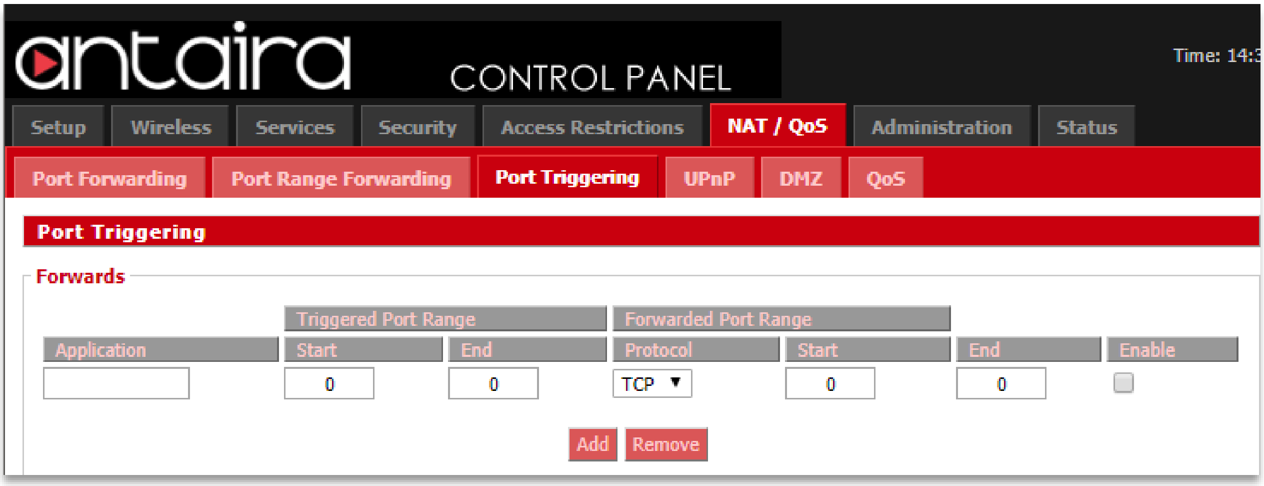
Application	Start	End	Protocol	IP Address	Enable
	0	0	Both ▼	0.0.0.0	□

NAT/QoS > Port Range Forwarding

Port Range Forwarding	**Description**
Application	Enter the name of the application in the field provided.
Start	Enter the number of the first port of the range you want to be seen by users on the Internet and forwarded.
End	Enter the number of the last port of the range you want forwarded.
Protocol	Choose the right protocol *TCP*, *UDP*, or *Both*. Set this to what the application requires.
IP Address	Enter the IP address of the PC running the application.
Enable	Enable port forwarding for the application.

7.3 Port Triggering

Port triggering is a configuration option on a NAT-enabled router which allows a host machine to dynamically and automatically forward a specific port back to itself. Port triggering opens an incoming port when your computer is using a specifed outgoing port for specific traffic.



Port Triggering

Forwards

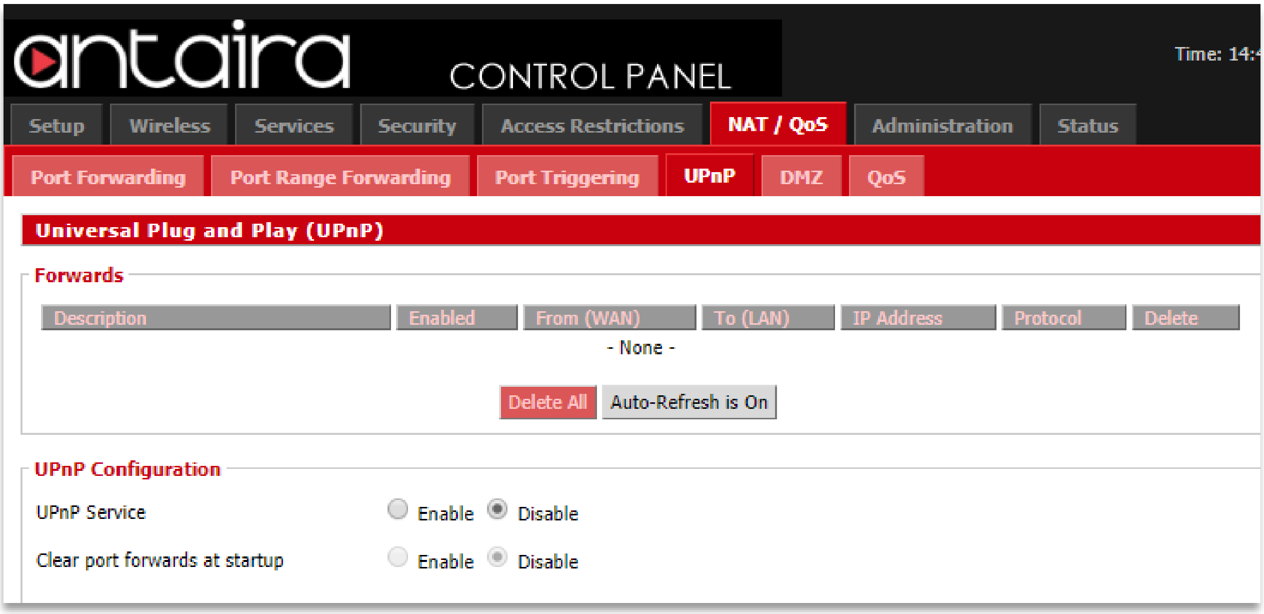
	Triggered Port Range		Forwarded Port Range			
Application	Start	End	Protocol	Start	End	Enable
	0	0	TCP ▼	0	0	□

NAT/QoS > Port Triggering

Port Triggering	Description
Application	Enter the name of the application in the field provided.
Triggered Port Range	Enter the number of the first and the last port of the range which should be triggered. If a PC sends outbound traffic from those ports, incoming traffic on the *Forwarded Port Range* will be forwarded to that PC.
Protocol	Choose the right protocol *TCP*, *UDP*, or *Both*. Set this to what the application requires.
Forwarded Port Range	Enter the number of the first and last port of the range which should be forwarded from the Internet to the PC and has triggered the *Triggered Port Range*.
Enable	Enable port triggering for the application.

7.4 UPnP

Universal Plug and Play (UPnP) is a set of computer network protocols. This allows devices to connect seamlessly and to simplify the implementation of networks. UPnP achieves this by defining and publishing UPnP device control protocols built upon open, Internet-based communication standards.



Universal Plug and Play (UPnP)

Forwards

Description	Enabled	From (WAN)	To (LAN)	IP Address	Protocol	Delete
- None -						

UPnP Configuration

UPnP Service ○ Enable ● Disable

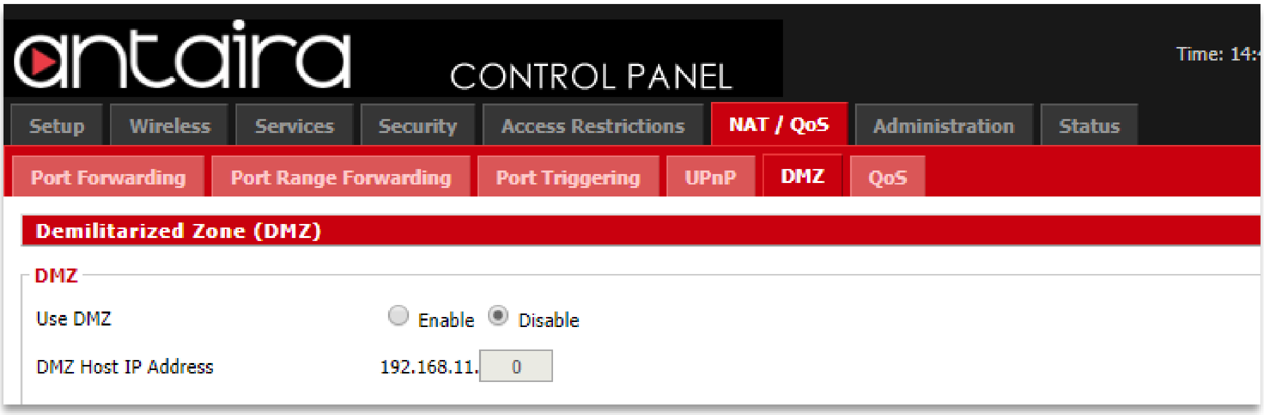
Clear port forwards at startup ○ Enable ● Disable

NAT/QoS > UPnP

Universal Plug and Play (UPnP)	Description
Forwards	The UPnP forwards table shows all open ports forwarded automatically by the UPnP process.
UPnP Service	Enables UPnP service.
Clear Port Forwards at Startup	If enabled, a presentation URL tag is sent with the device description. This allows the router to show up in *Window's My Network Places*. You may need to reboot your PC when enabling this option.

7.5 DMZ

The Demilitarized Zone (DMZ) hosting feature allows one local user to be exposed to the Internet for use of a service. DMZ hosting forwards all the ports at the same time to one PC. The Port Forwarding feature is more secure since it only opens a designated port.



Demilitarized Zone (DMZ)

DMZ

Use DMZ ○ Enable ● Disable

DMZ Host IP Address 192.168.11. 0

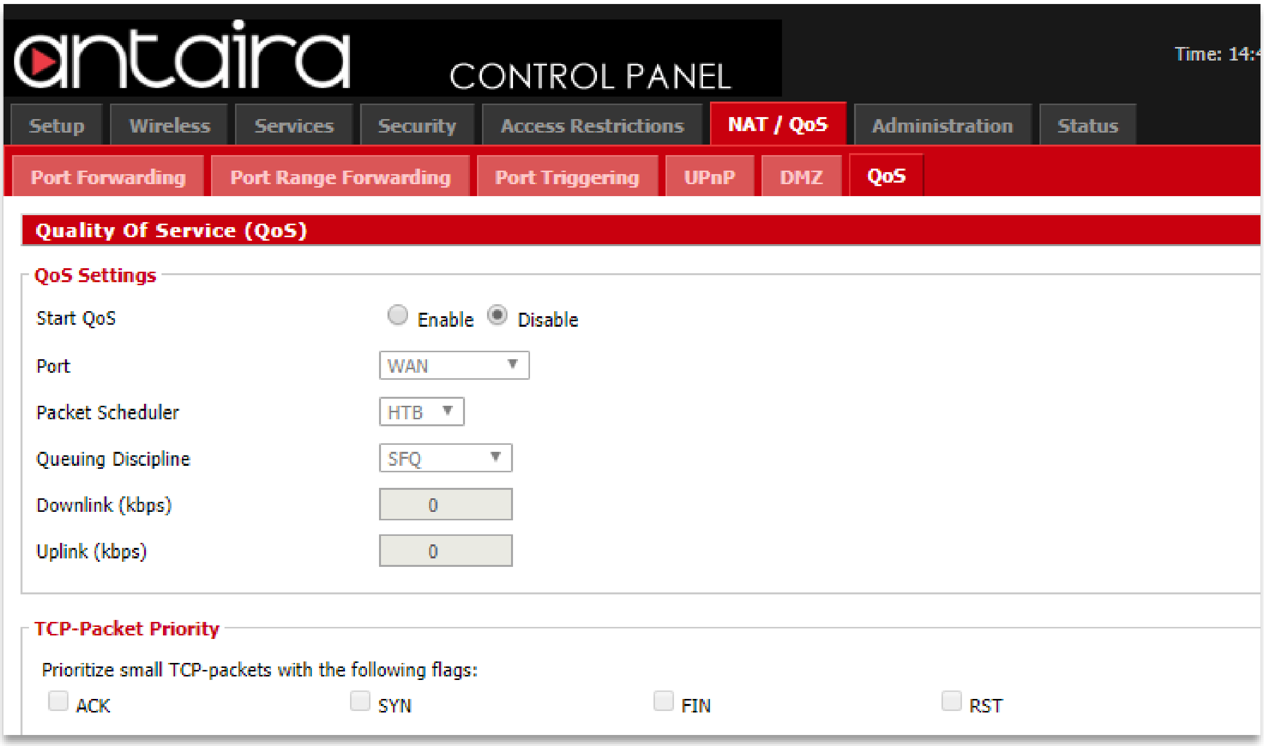
NAT/QoS > DMZ

Demilitarized Zone (DMZ)	Description
Use DMZ	Enable or disable DMZ.
DMZ Host IP Address	Enter the IP address of the PC you wish to expose.

7.6 QoS

7.6.1 QoS Settings

Bandwidth management prioritizes the traffic on your router. Interactive traffic (telephony, browsing, telent, etc) gets priority and bulk traffic (file tranfers, P2P) gets low priority. The main goal is to allow both types to live side-by-side without unimportant traffic disturbing more ciritical things. Quality of Service (QoS) allows control of the bandwidth allocation to different services, netmasks, MAC addresses, and the ports. QoS is divided into five bandwidth classes: Maximum, Premium, Express, Standard, and Bulk. Unclassified services will use the Standard bandwidth class.



Quality Of Service (QoS)

QoS Settings

Start QoS ○ Enable ● Disable

Port WAN

Packet Scheduler HTB

Queuing Discipline SFQ

Downlink (kbps) 0

Uplink (kbps) 0

TCP-Packet Priority

Prioritize small TCP-packets with the following flags:

□ ACK □ SYN □ FIN □ RST

NAT/QoS > QoS > QoS Settings

Quality of Service (QoS)	Description
Start QoS	Enable or disable QoS services.
Port	You must choose whether to apply QoS to the WAN or LAN & WLAN port *(LAN and WLAN are bonded internally into a single virtual device)*.

Packet Scheduler	**HFSC:** Hierarchical Fair Service Curve. Queues attached to an interface build a tree, thus each queue can have further child queues. Each queue can have a priority and bandwidth assigned. Priority controls the how long time packets take to get sent out, while bandwidth effects throughput. HTB is a little more resource demanding than HFSC. **HTB:** Hierarchical Token Bucket. HTB helps in controlling the use of the outbound bandwidth on a given link. HTB allows you to use one physical link to simulate several slower links and to send different kinds of traffic on different simulated links. HTB is useful for limiting a client's download/upload rates, preventing their monopolization of the available bandwidth.
Queuing Discipline	Choose between **SFQ** or **FQ_CODEL** as the queuing discipline method.
Downlink (kbps)	In order to use QoS, you must enter bandwidth values for your uplink and downlink. These are generally 85% to 95% of your maximum bandwidth. If you only want QoS to apply to uplink bandwidth, enter 0 (no limit) for downlink. Do not enter 0 for uplink.
Uplink (kbps)	In order to use QoS, you must enter bandwidth values for your uplink and downlink. These are generally 85% to 95% of your maximum bandwidth. If you only want QoS to apply to uplink bandwidth, enter 0 (no limit) for downlink. Do not enter 0 for uplink.
TCP Packet Priority	Prioritize small TCP-packets with the following flags: *ACK, STN, FIN, RST.*

Priority: Bandwidth classification based on the four categories will be enabled first on the hardware ports, then on MAC addresses, then netmasks and finally services. For example, if you enable classification based on a MAC address, this will override netmask and service classifications. However, the LAN port-based classification will work together with MAC, netmask and service classifications, and will not override them.

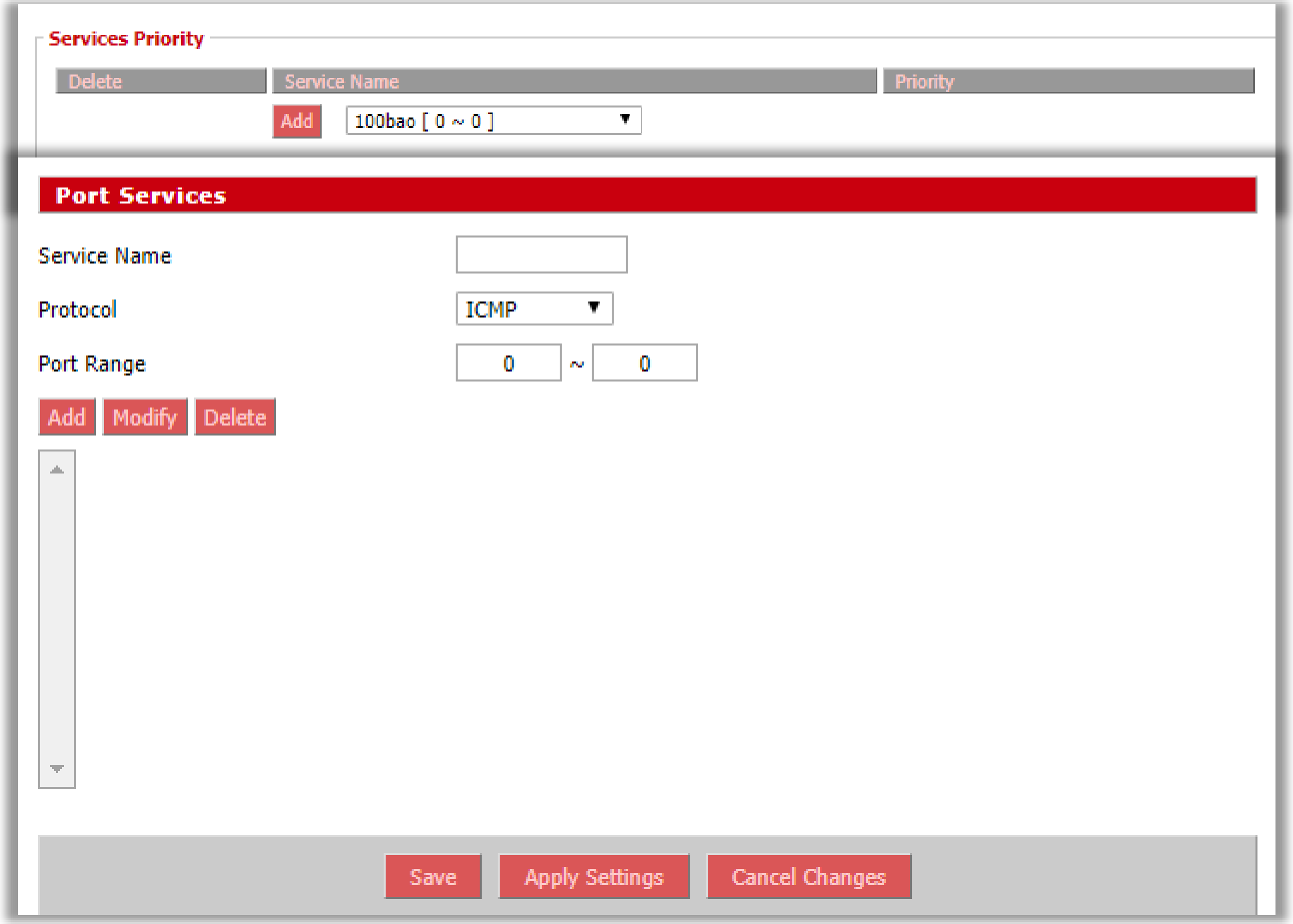
- Maximum – (75% - 100%) This class offers maximum priority and should be used sparingly.
- Premium – (50% - 100%) Second highest bandwidth class. By default,

handshaking and ICMP packets fall into this class. Most VoIP and video services will function well in this class if Express is not sufficient.

- Express – (25% - 100%) The Express class is for interactive applications that require bandwidth above standard services so that interactive apps run smoothly.
- Standard – (15% - 100%) All services that are not specifically classed will fall under standard class.
- Bulk – (5% - 100%) The bulk class is only allocated remaining bandwidth when the remaining classes are idle. If the line is full of traffic from other classes, bulk will only be allocated 1% of total set limit. Use this class for P2P and downloading services like FTP.

7.6.2 Services Priority

You may control your data rate with respect to the application that is consuming bandwidth.



Services Priority

Delete	Service Name	Priority
Add	100bao [0 ~ 0]	

Port Services

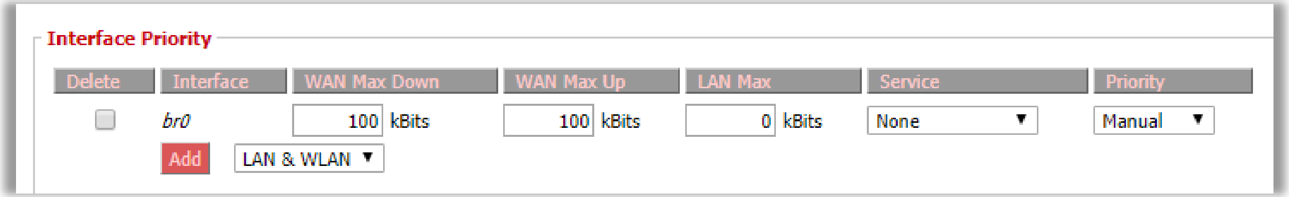
Service Name:
Protocol: ICMP
Port Range: 0 ~ 0

NAT/QoS > QoS > Services Priority

Services Priority	Description
Service Name	Enter a service name.
Protocol	Select the appropriate protocol.
Port Range	Enter a port range.

7.6.3 Interface Priority

You may specifiy the priority for all traffic from a interface on the router.



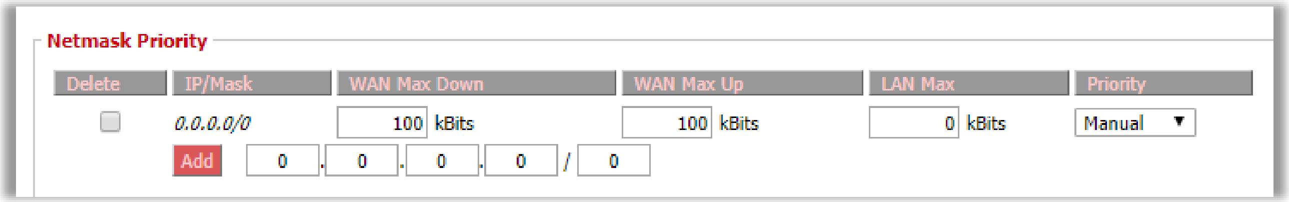
Interface Priority

Delete	Interface	WAN Max Down	WAN Max Up	LAN Max	Service	Priority
☐	*br0*	100 kBits	100 kBits	0 kBits	None ▼	Manual ▼
	Add	LAN & WLAN ▼				

NAT/QoS > QoS > Interface Priority

7.6.4 Netmask Priority

You may specifiy priority for all traffic from a given IP addresss or IP range.



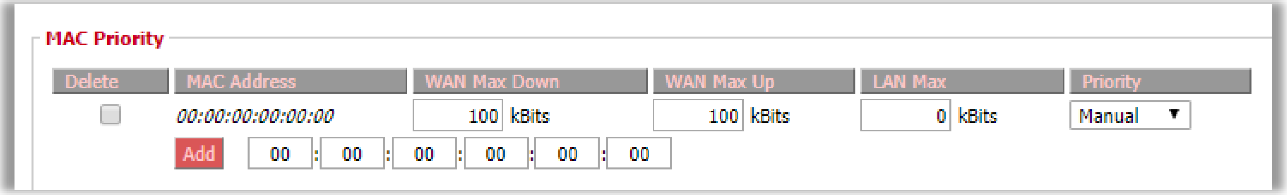
Netmask Priority

Delete	IP/Mask	WAN Max Down	WAN Max Up	LAN Max	Priority
☐	*0.0.0.0/0*	100 kBits	100 kBits	0 kBits	Manual ▼
Add	0 . 0 . 0 . 0 / 0				

NAT/QoS > QoS > Netmask Priority

7.6.5 MAC Priority

You may specify priority for all traffic from a device on your network by giving the device a device name, specifiying priority, and entering its MAC address.



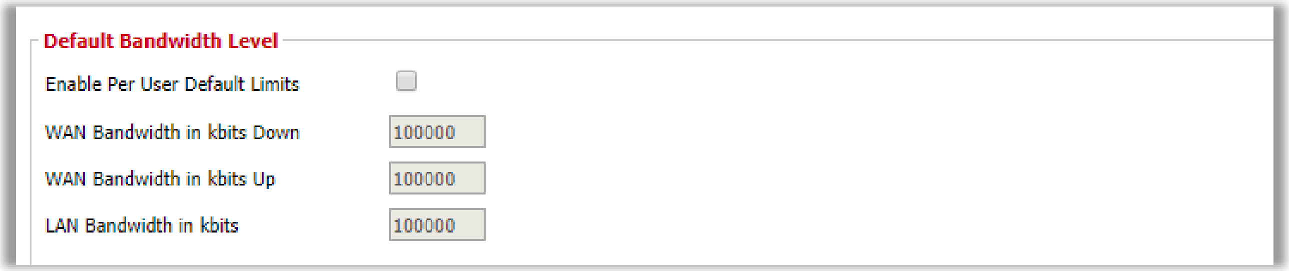
MAC Priority

Delete	MAC Address	WAN Max Down	WAN Max Up	LAN Max	Priority
□	00:00:00:00:00:00	100 kBits	100 kBits	0 kBits	Manual ▼
	Add 00 : 00 : 00 : 00 : 00 : 00				

NAT/QoS > QoS > MAC Priority

7.6.6 Default Bandwidth Level

Enable per WAN or LAN default Bandwidth limits.



Default Bandwidth Level

Enable Per User Default Limits	□
WAN Bandwidth in kbits Down	100000
WAN Bandwidth in kbits Up	100000
LAN Bandwidth in kbits	100000

NAT/QoS > QoS > Default Bandwidth Level

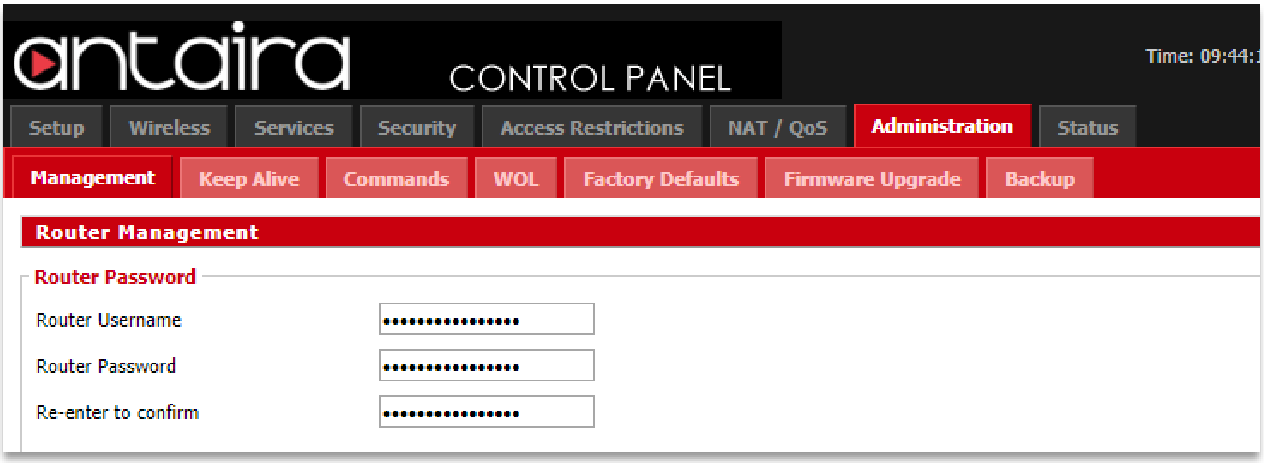
Default Bandwidth Level	Description
Enable Per User Default Limits	Enable per user default limits.
WAN Bandwidth in kbits Down	Set WAN bandwidth down.
WAN Bandwidth kbits Up	Set WAN bandwidth up.
LAN Bandwidth in kbits	Set LAN bandwidth.

8. Administration

The Administration tab allows you to change the router's settings. On this page you will find most of the configurable items of the router code.

8.1 Management

8.1.1 Router Password



Router Management

Router Password

Router Username ••••••••••••••••

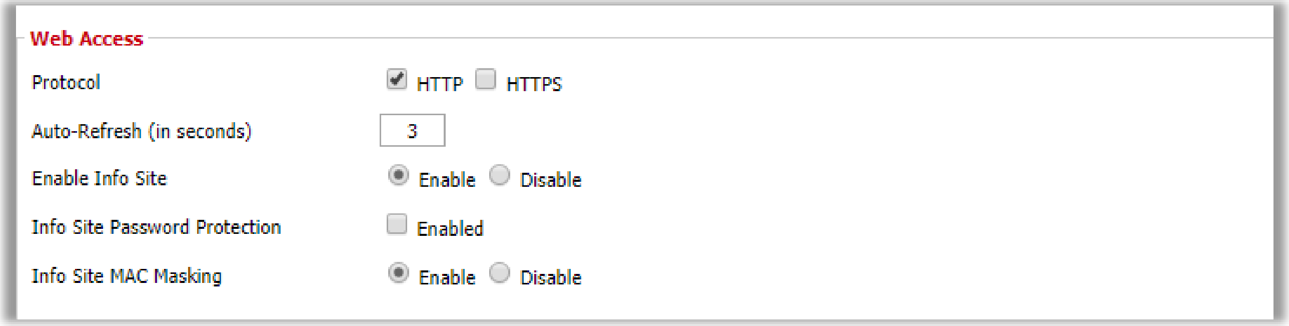
Router Password ••••••••••••••••

Re-enter to confirm ••••••••••••••••

Administration > Management > Router Password

Router Password	Description
Router Username	Enter the router's username.
Router Password	Enter the router's password. New password must not exceed 32 characters in length and must not include any spaces.
Re-enter to Confirm	Enter the new password to confirm it.

8.1.2 Web Access



Web Access

Protocol ☑ HTTP □ HTTPS

Auto-Refresh (in seconds) 3

Enable Info Site ● Enable ○ Disable

Info Site Password Protection □ Enabled

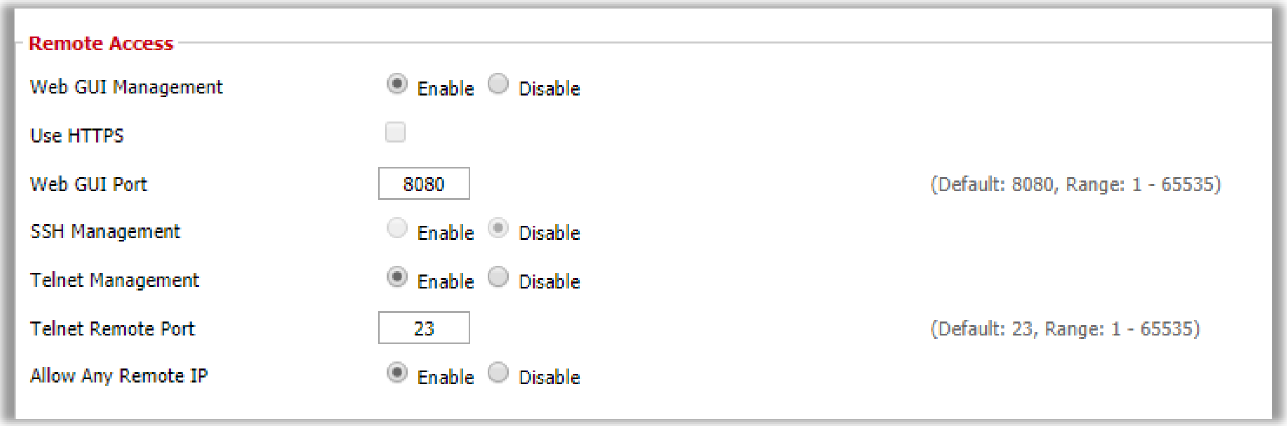
Info Site MAC Masking ● Enable ○ Disable

Administration > Management > Web Access

Web Access	Description
Protocol	Manage the router using either HTTP protocol or HTTPS protocol. If you choose to disable this feature, a manual reboot will be required.
Auto-Refresh (seconds)	Set the auto-refresh time of the web page.
Enable Info Site	Activate the router information web page.
Info Sie Password Protection	Password protect the router information web page.
Info site MAC Masking	Allows you to truncate MAC addresses in the web interface.

8.1.3 Remote Access

This feature allows you to manage the router from a remote location, via the Internet. When enabled, use the specified port *(default is 8080).*



Remote Access

Web GUI Management ● Enable ○ Disable

Use HTTPS □

Web GUI Port 8080 (Default: 8080, Range: 1 - 65535)

SSH Management ○ Enable ● Disable

Telnet Management ● Enable ○ Disable

Telnet Remote Port 23 (Default: 23, Range: 1 - 65535)

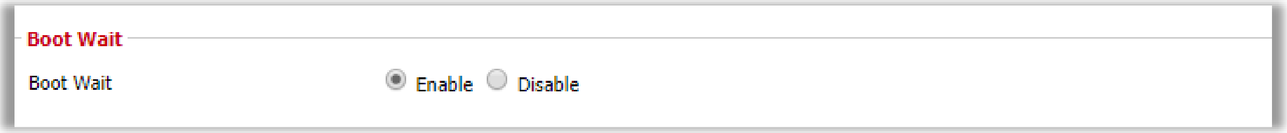
Allow Any Remote IP ● Enable ○ Disable

Administration > Management > Remote Access

Remote Access	Description
Web GUI Management	Enable or disable remote access the web interface.
Use HTTPS	Use HTTPS, otherwise default is HTTP.
Web GUI Port	To remotely manage the router, enter http://xxxx.xxxx.xxxx.xxxx:8080 *(the 's represents the router's IP address, and 8080 represents the specified port)* in your web browser's address field.
SSH Management	Enable SSH remote access. Note that the SSH daemon needs to be enabled in the *Services* page.
Telnet Management	Enable Telent remote access.
Telnet Remote Port	Telnet port. Default is port 23.
Allow Any Remote IP	Allow any remote IP access or specify a range or IPs.

8.1.4 Boot Wait

Boot Wait is a feature that introduces a short delay while booting (5 seconds). During this delay you can initiate the download of a new firmware if the one in flash rom is not broken. This is only necessary if you can no longer reflash using the web interface because the installed firmware will not boot.



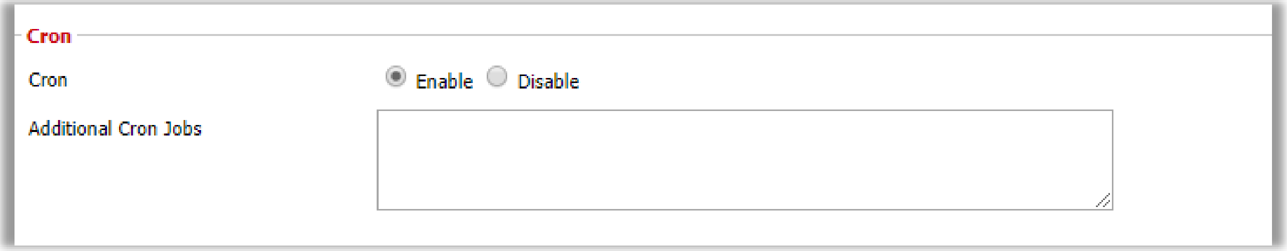
Boot Wait

Boot Wait ● Enable ○ Disable

Administration > Management > Boot Wait

8.1.5 Cron

The cron subsystem schedules execution of Linux commands. You will need to use the command line or startup scripts to do this.



Cron

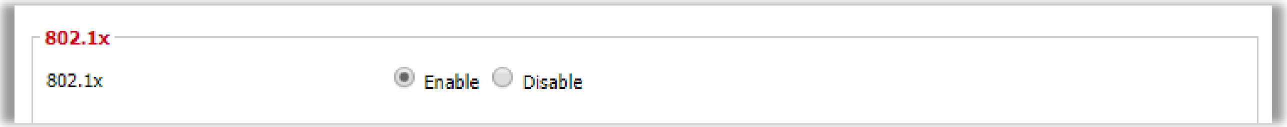
Cron ● Enable ○ Disable

Additional Cron Jobs

Administration > Management > Cron

8.1.6 802.1x

A limited 802.1x server needed to fulfil WPA handshake requirements to allow Windows XP clients to work with WPA.

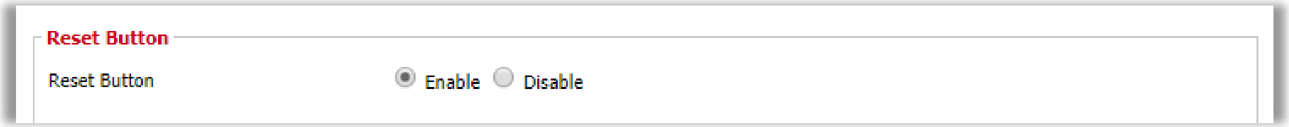

802.1x

802.1x ● Enable ○ Disable

Administration > Management > 802.1x

8.1.7 Reset Button

This feature controls the reset buttton process. The reset button initiates actions depending on how long you press it.


Reset Button

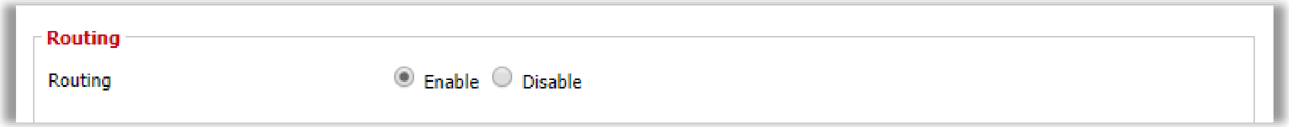
Reset Button ● Enable ○ Disable

Administration > Management > Reset Button

- Short press – Reset the router (reboot)
- Long press (>5s) – Reboot and restore the factory default configuration.

8.1.8 Routing

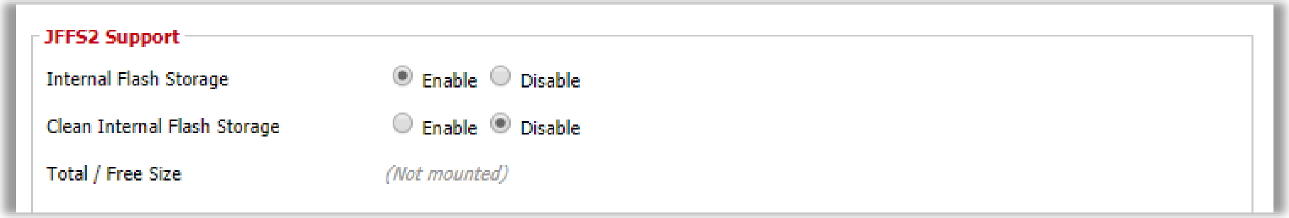
Routing enables the OSPF and RIP routeing daemons if you have set up OSPF or RIP in the *Advanced Routing* page.


Routing

Routing ● Enable ○ Disable

Administration > Management > Routing

8.1.9 JFFS2 Support



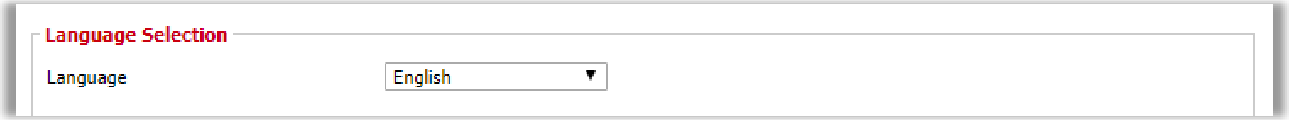
JFFS2 Support

Internal Flash Storage	● Enable ○ Disable
Clean Internal Flash Storage	○ Enable ● Disable
Total / Free Size	*(Not mounted)*

Administration > Management > JFFS2 Support

8.1.10 Language Selection

Select the language presented on the router.



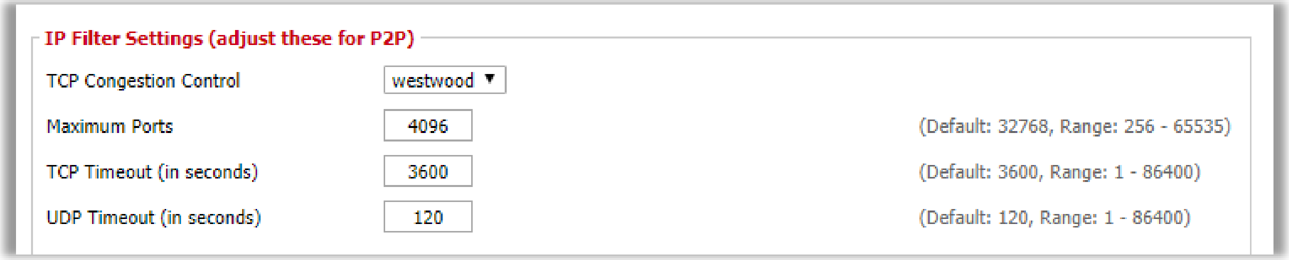
Language Selection

Language	English ▼

Administration > Management > Language Selection

8.1.11 IP Filter Settings

If you have any peer-to-peer applciations running on your network, please increase the maximum ports and lower the TCP/UDP timeouts. This is necessary to maintain router stability because peer-to-peer applications open many connections and do not close them properly.



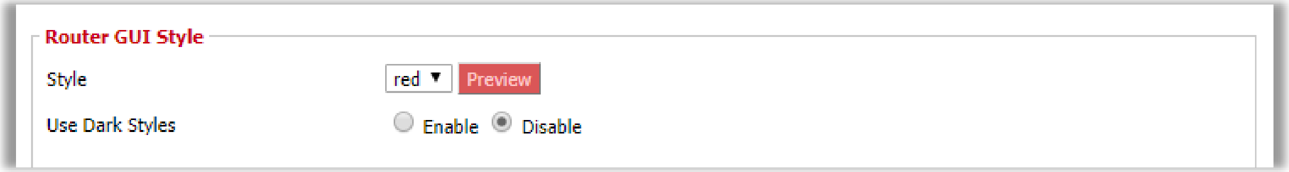
IP Filter Settings (adjust these for P2P)

TCP Congestion Control	westwood ▼	
Maximum Ports	4096	(Default: 32768, Range: 256 - 65535)
TCP Timeout (in seconds)	3600	(Default: 3600, Range: 1 - 86400)
UDP Timeout (in seconds)	120	(Default: 120, Range: 1 - 86400)

Administration > Management > IP Filter Settings

8.1.12 Router GUI Style

Select the graphical style of the router.



Router GUI Style

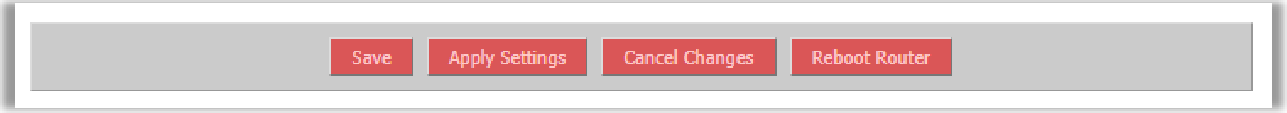
Style: red ▼

Use Dark Styles: ○ Enable ● Disable

Administration > Management > Router GUI Style

8.1.13 Router Reboot

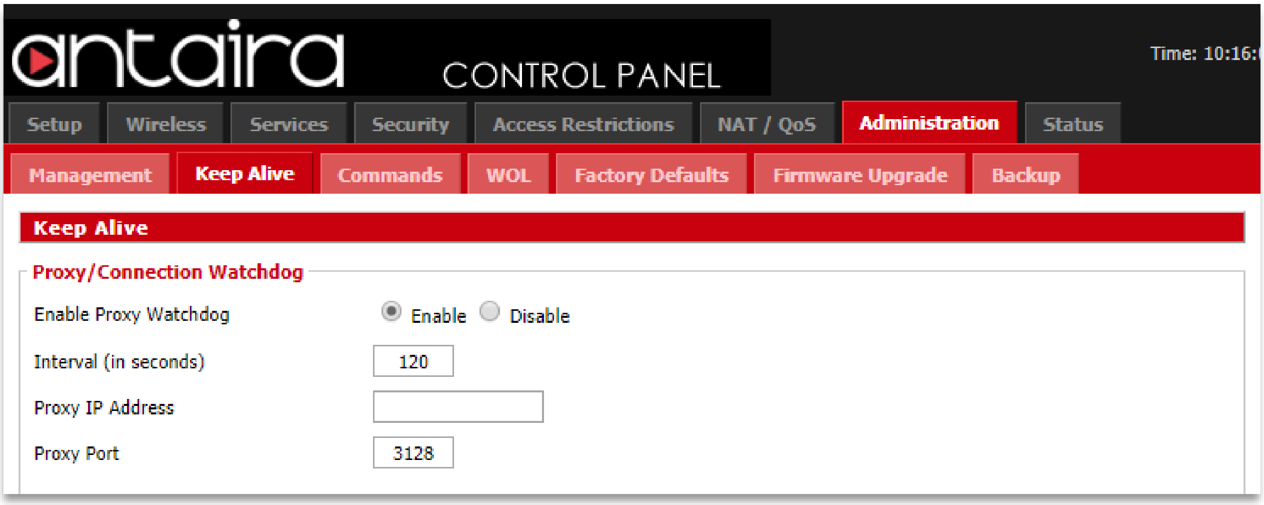
You may reboot the router under this page as well.



Administration > Management > Router Reboot

8.2 Keep Alive

8.2.1 Proxy/Connection Watchdog



Keep Alive

Proxy/Connection Watchdog

Enable Proxy Watchdog: ● Enable ○ Disable

Interval (in seconds): 120

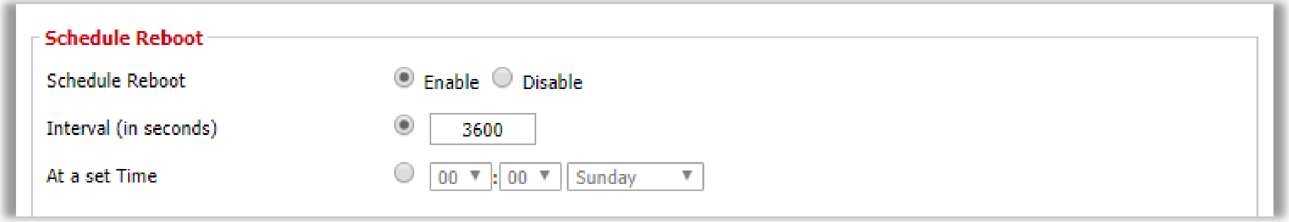
Proxy IP Address:

Proxy Port: 3128

Administration > Keep Alive > Proxy/Connection Watchdog

8.2.2 Schedule Reboot

You can schedule regular reboots for the router after a certain amount of seconds or at a specific date and time each week or everyday.

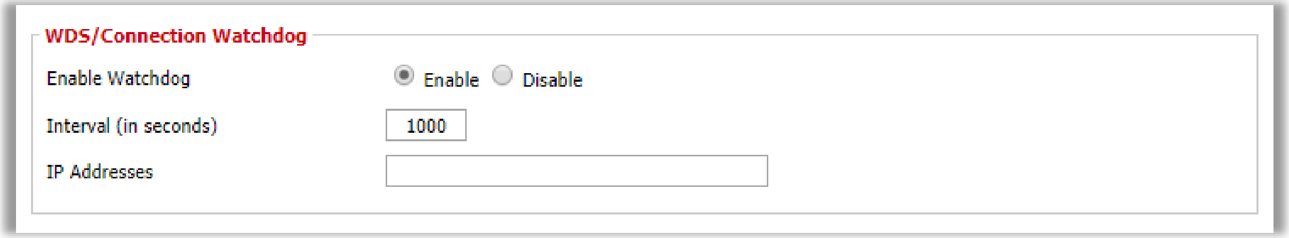


Schedule Reboot

Schedule Reboot	● Enable ○ Disable
Interval (in seconds)	● 3600
At a set Time	○ 00 : 00 Sunday

Administration > Keep Alive > Schedule Reboot

8.2.3 WDS/Connection Watchdog



WDS/Connection Watchdog

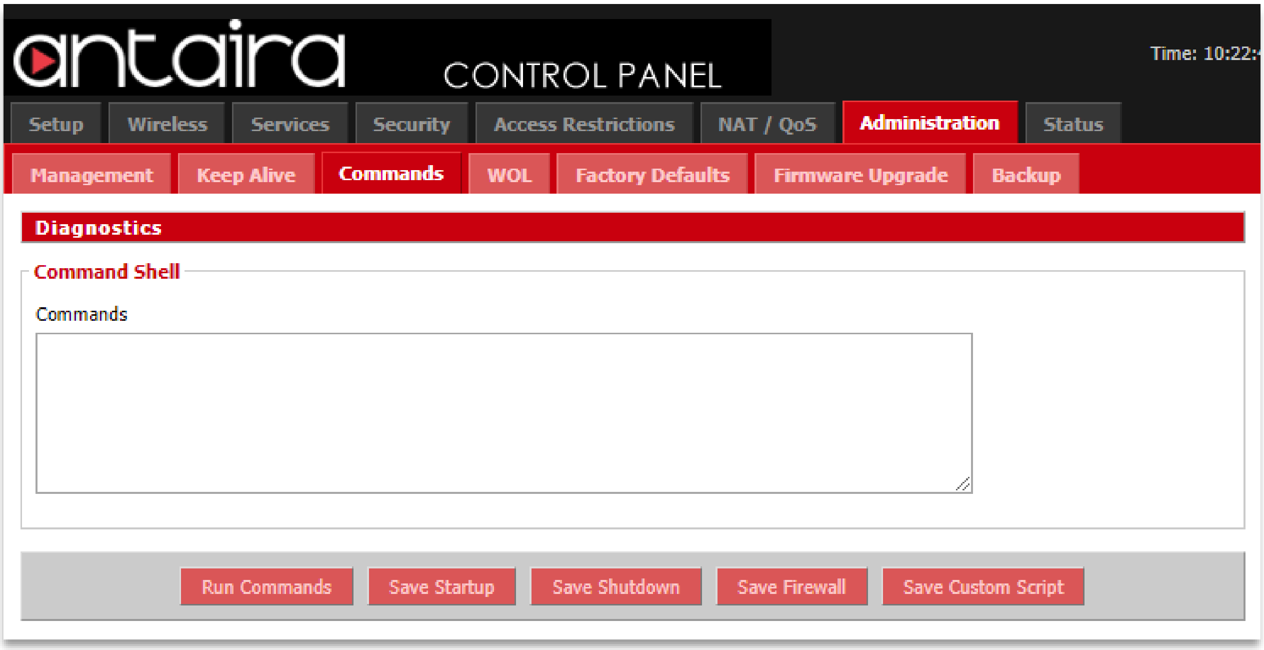
Enable Watchdog	● Enable ○ Disable
Interval (in seconds)	1000
IP Addresses	

Administration > Keep Alive > WDS/Connection Watchdog

8.3 Commands

You can run commands directly via the web interface. Fill the text area with your commands and click **Run Commands** to run them. You can also specifiy commands to be executed during the router startup. Fill the text area with commands *(only one command per row)* and click **Save Startup**.

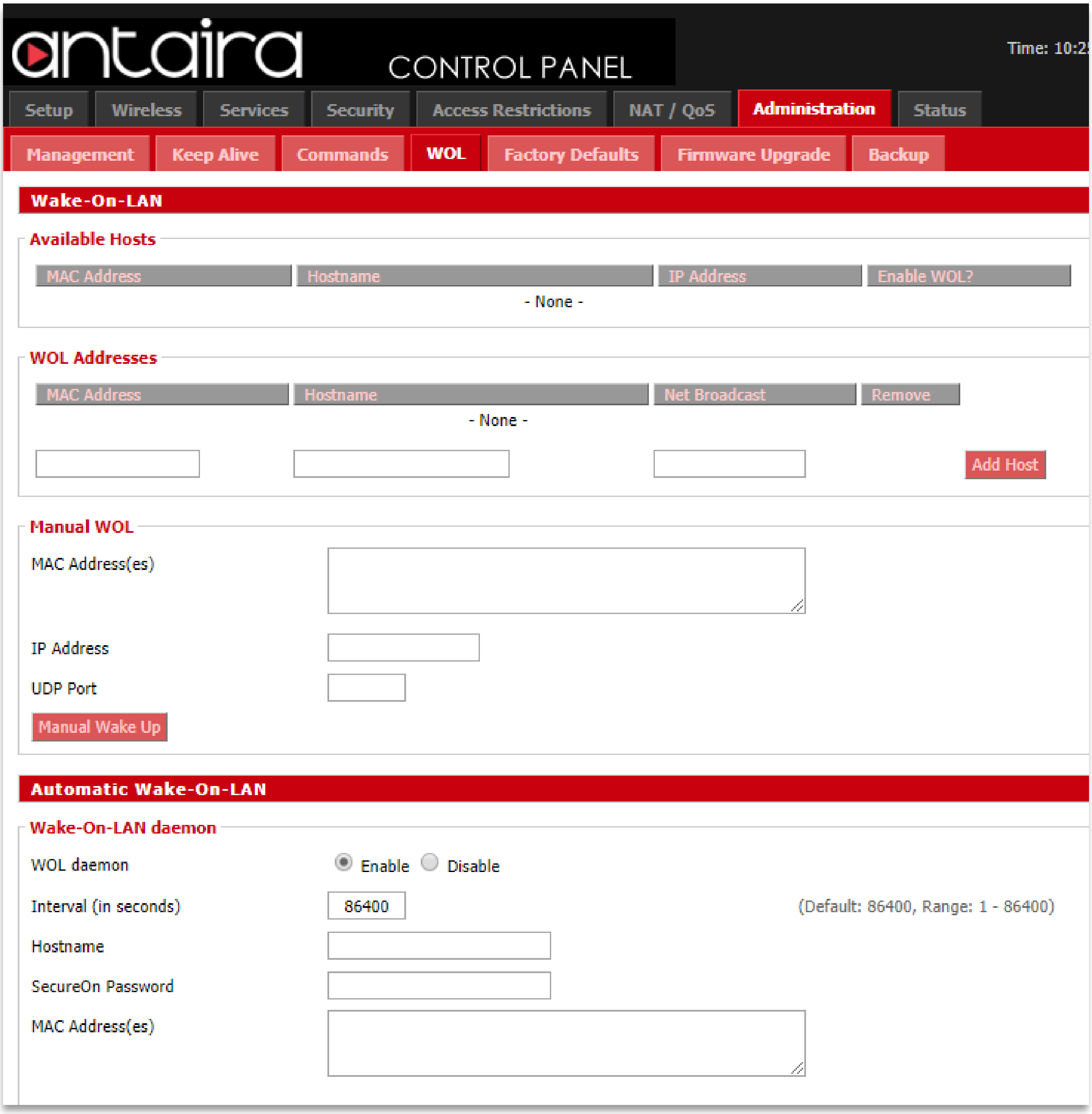
Each time the firewall is started, custom firewall rules can be added to the chain. Fill the text area with additional iptables/ip6tables *commands (only one command per row)* and click **Save Firewall**.



Administration > Commands

8.4 Wake on LAN (WOL)

This page allows you to Wake Up hosts on your local network.



Wake-On-LAN

Available Hosts

MAC Address	Hostname	IP Address	Enable WOL?
- None -			

WOL Addresses

MAC Address	Hostname	Net Broadcast	Remove
- None -			

Manual WOL

MAC Address(es)

IP Address

UDP Port

Automatic Wake-On-LAN

Wake-On-LAN daemon

WOL daemon ● Enable ○ Disable

Interval (in seconds) 86400 (Default: 86400, Range: 1 - 86400)

Hostname

SecureOn Password

MAC Address(es)

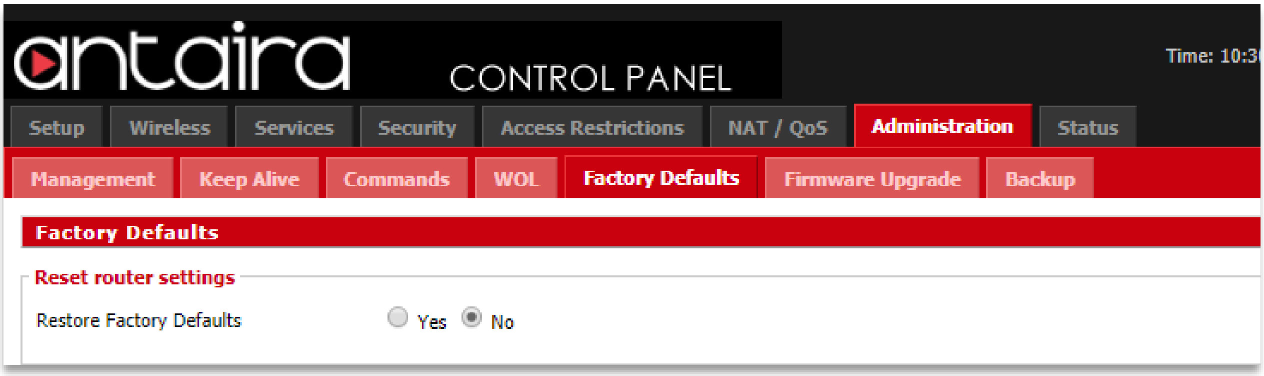
Administration > WOL

Wake on LAN	Description
Available Hosts	The available hosts section provides a list of hosts to add/remove from the WOL address list. This list is a combination of any defined static hosts or discovered

	DHCP clients.
WOL Addresses	The WOL addresses section allows individual hosts in the WOL list *(stored in the wol_hosts NVRAM variable)* to be Woken Up. The list is a combination of selected *(enabled)* available hosts and manually added WOL hosts.
Manual WOL	The manila WOL section allows individual or a list of hosts to be woken up by clicking Wake Up to send it the WOL magic packet.
WOL daemon	Besides attempting to Wake Up the manually specified hosts, clicking the **WOL daemon** button will save the MAC addresses, Network Broadcast, and UDP port values into the manual_wol_mac, manual_wol_network, and manual_wol_port NVRAM variables and commits them to memory.
Hostname	Enter a hostname for the WOL daemon.
SecureOn Password	Enter a password.
MAC Addresses	Fill the MAC address(es) *(either separated by spaces or one per line)* of the computer(s) you would like to wake up.

8.5 Factory Defaults

If you are having problems with your router, you can restore the factory default configurations here. Any settings you have saved will be lost when the default settins are restored. After restoring the router, it will be accesible under the default IP address **192.168.1.1** and the default password **admin**.



Factory Defaults

Reset router settings

Restore Factory Defaults ○ Yes ● No

Administration > Factory Defaults

8.6 Firmware Upgrade

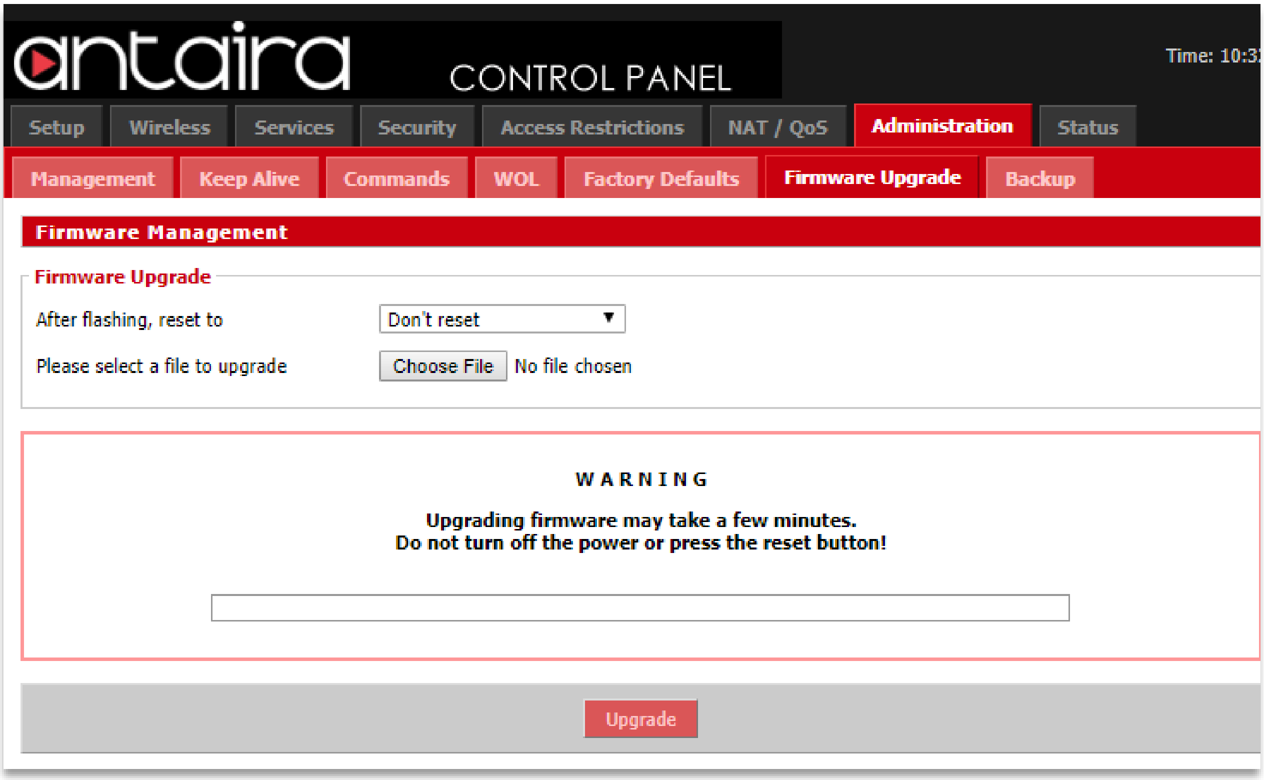
New firmware versions are available at www.antaira.com. When you upgrade the router's firmware, you may lose its configuration settings, so make sure you write down the router settings before you updgrade its firmware.

To upgrade the router's firmware:

1. Download the firmware upgrade file from the website.
2. Click the **Choose File** button and choose the firmware to upgrade.
3. Click the **Upgrade** button and wait until the upgrade is finished and the router has rebooted.

Do not power off the router, press the reset button, or interrput the browser window while the firmware is being upgraded.

If you want to reset the router to the default settings for the firmware version you are upgrading to, select the **Reset to default settings** option.



Firmware Management

Firmware Upgrade

After flashing, reset to: Don't reset

Please select a file to upgrade: Choose File No file chosen

WARNING

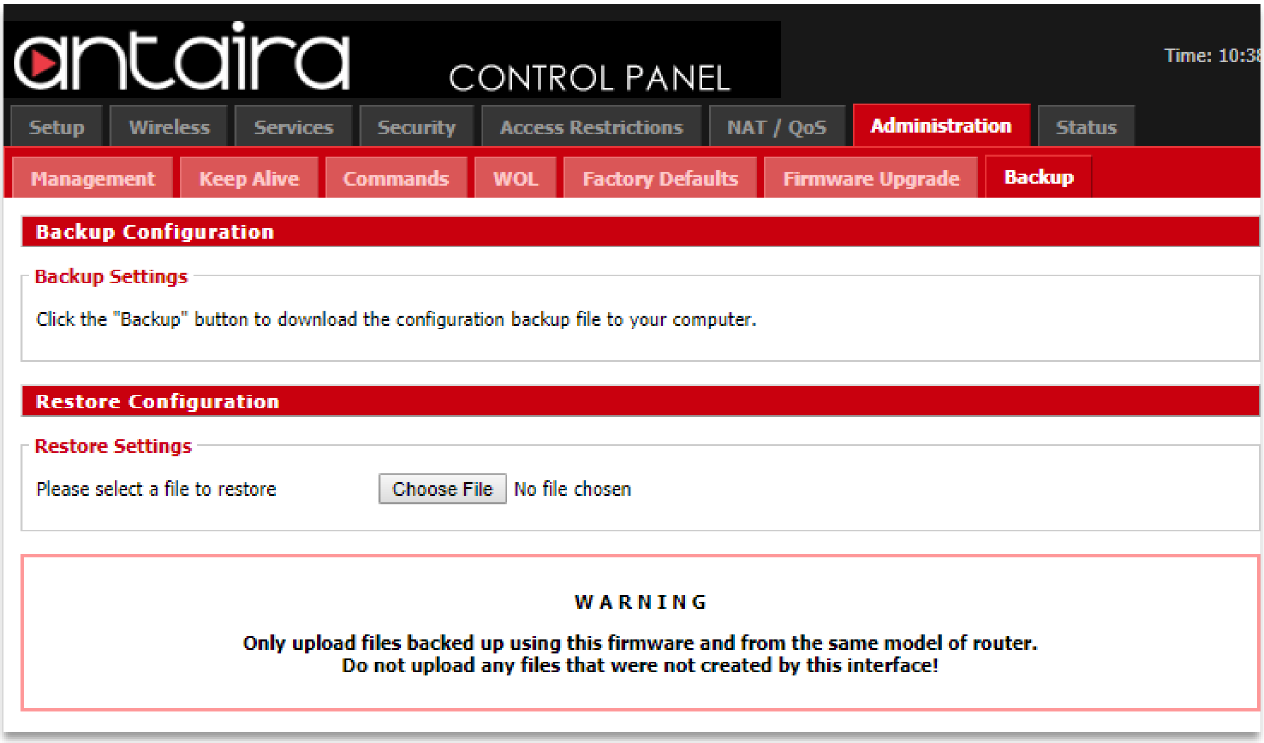
Upgrading firmware may take a few minutes.
Do not turn off the power or press the reset button!

Administration > Firmware Upgrade

8.7 Backup

You may backup your current configurations in case you need to reset the router back to its factory default settings. Click the **Backup** button to download your current router configurations to your PC.

To restore settings, click the **Choose File** button to browse for the configuration file that you saved on your PC. Click **Restore** to overwrite all current configurations with the ones in the configuration file.



Backup Configuration

Backup Settings

Click the "Backup" button to download the configuration backup file to your computer.

Restore Configuration

Restore Settings

Please select a file to restore — No file chosen

WARNING

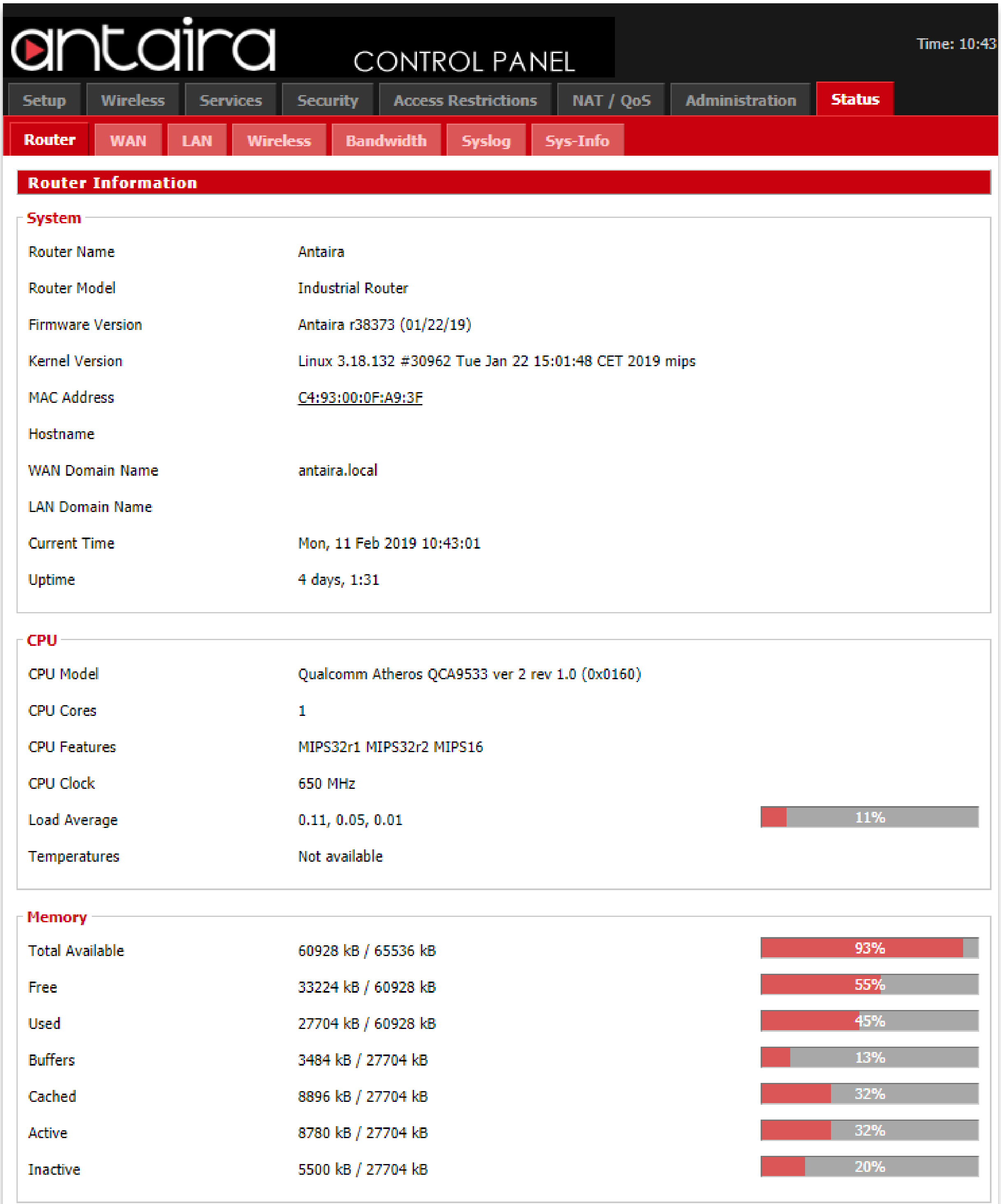
Only upload files backed up using this firmware and from the same model of router.
Do not upload any files that were not created by this interface!

Administration > Backup

9. Status

9.1 Router

The Status screen displays the router's current status and configuration. All information is read-only.



Router Information

System

Router Name	Antaira
Router Model	Industrial Router
Firmware Version	Antaira r38373 (01/22/19)
Kernel Version	Linux 3.18.132 #30962 Tue Jan 22 15:01:48 CET 2019 mips
MAC Address	C4:93:00:0F:A9:3F
Hostname	
WAN Domain Name	antaira.local
LAN Domain Name	
Current Time	Mon, 11 Feb 2019 10:43:01
Uptime	4 days, 1:31

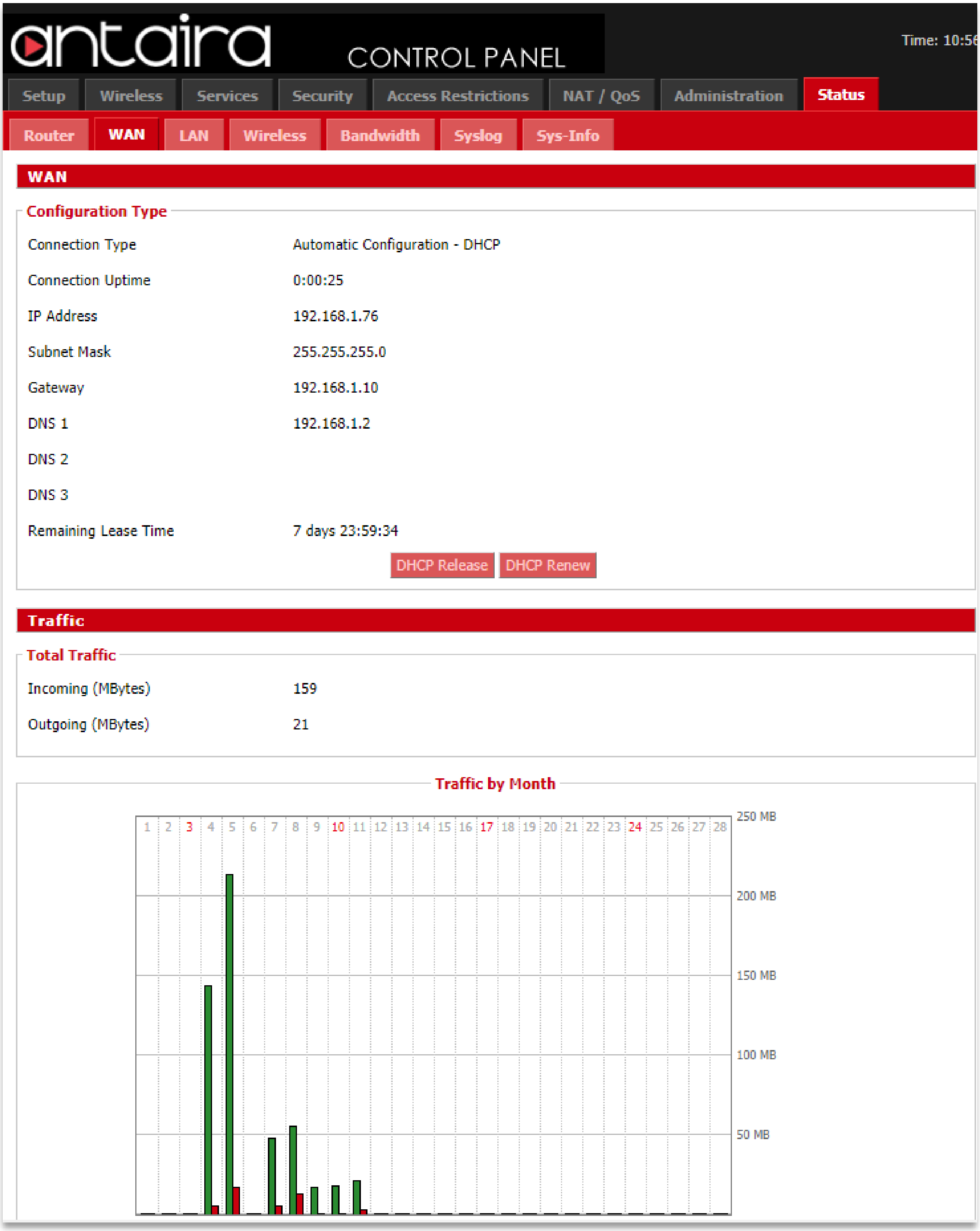
CPU

CPU Model	Qualcomm Atheros QCA9533 ver 2 rev 1.0 (0x0160)	
CPU Cores	1	
CPU Features	MIPS32r1 MIPS32r2 MIPS16	
CPU Clock	650 MHz	
Load Average	0.11, 0.05, 0.01	11%
Temperatures	Not available	

Memory

Total Available	60928 kB / 65536 kB	93%
Free	33224 kB / 60928 kB	55%
Used	27704 kB / 60928 kB	45%
Buffers	3484 kB / 27704 kB	13%
Cached	8896 kB / 27704 kB	32%
Active	8780 kB / 27704 kB	32%
Inactive	5500 kB / 27704 kB	20%

9.2 WAN



WAN

Configuration Type

Connection Type	Automatic Configuration - DHCP
Connection Uptime	0:00:25
IP Address	192.168.1.76
Subnet Mask	255.255.255.0
Gateway	192.168.1.10
DNS 1	192.168.1.2
DNS 2	
DNS 3	
Remaining Lease Time	7 days 23:59:34

Traffic

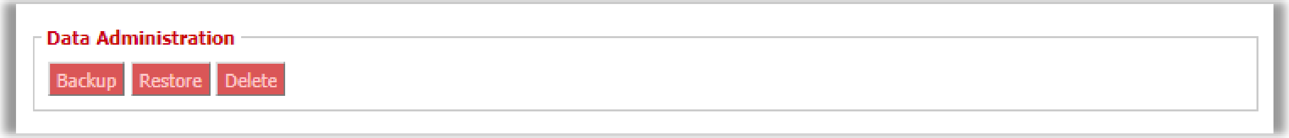
Total Traffic

Incoming (MBytes)	159
Outgoing (MBytes)	21

Traffic by Month

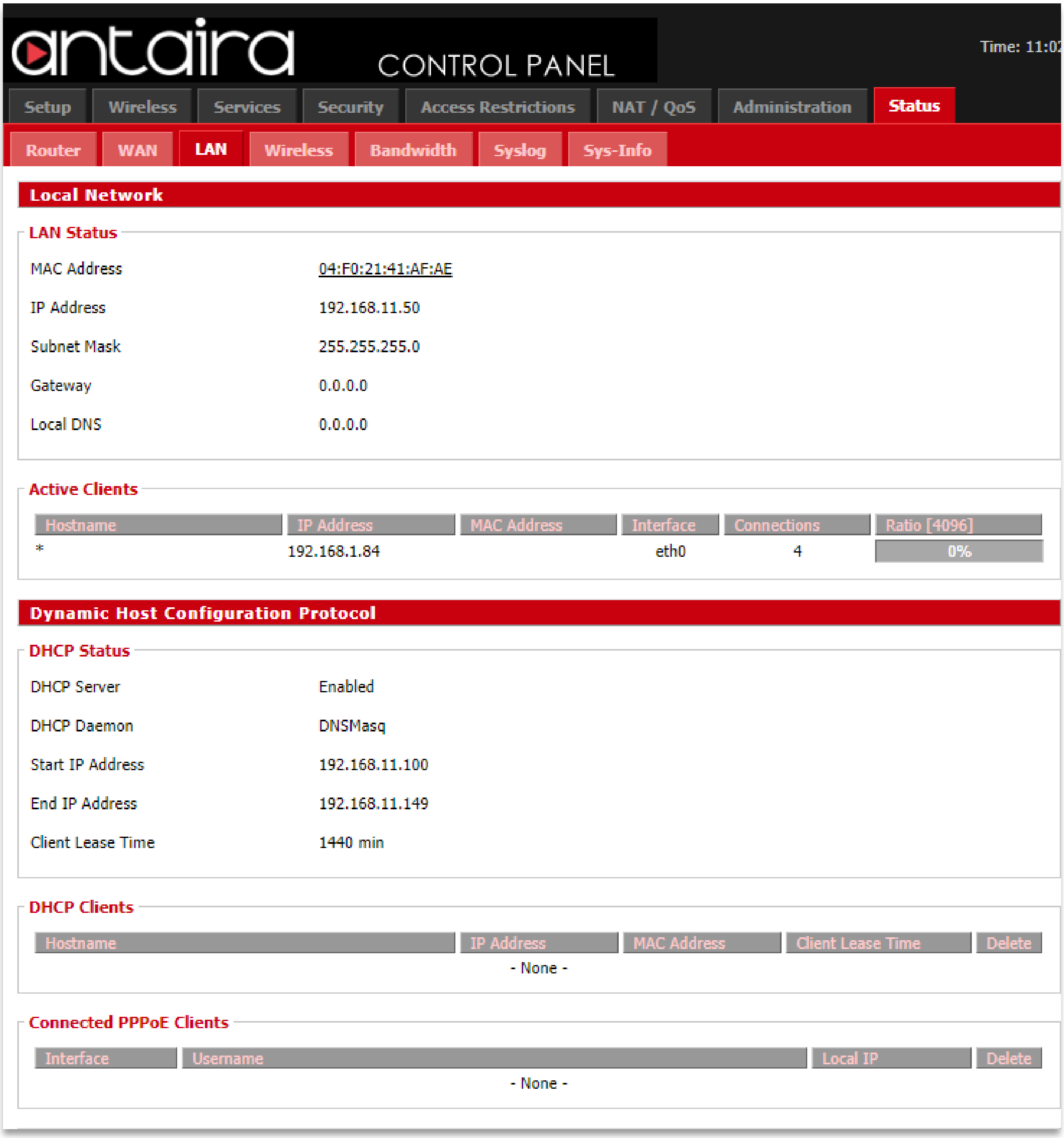
Status > WAN

Data Administration



Status > WAN > Data Administration

9.3 LAN



Local Network

LAN Status

MAC Address	04:F0:21:41:AF:AE
IP Address	192.168.11.50
Subnet Mask	255.255.255.0
Gateway	0.0.0.0
Local DNS	0.0.0.0

Active Clients

Hostname	IP Address	MAC Address	Interface	Connections	Ratio [4096]
*	192.168.1.84		eth0	4	0%

Dynamic Host Configuration Protocol

DHCP Status

DHCP Server	Enabled
DHCP Daemon	DNSMasq
Start IP Address	192.168.11.100
End IP Address	192.168.11.149
Client Lease Time	1440 min

DHCP Clients

Hostname	IP Address	MAC Address	Client Lease Time	Delete

- None -

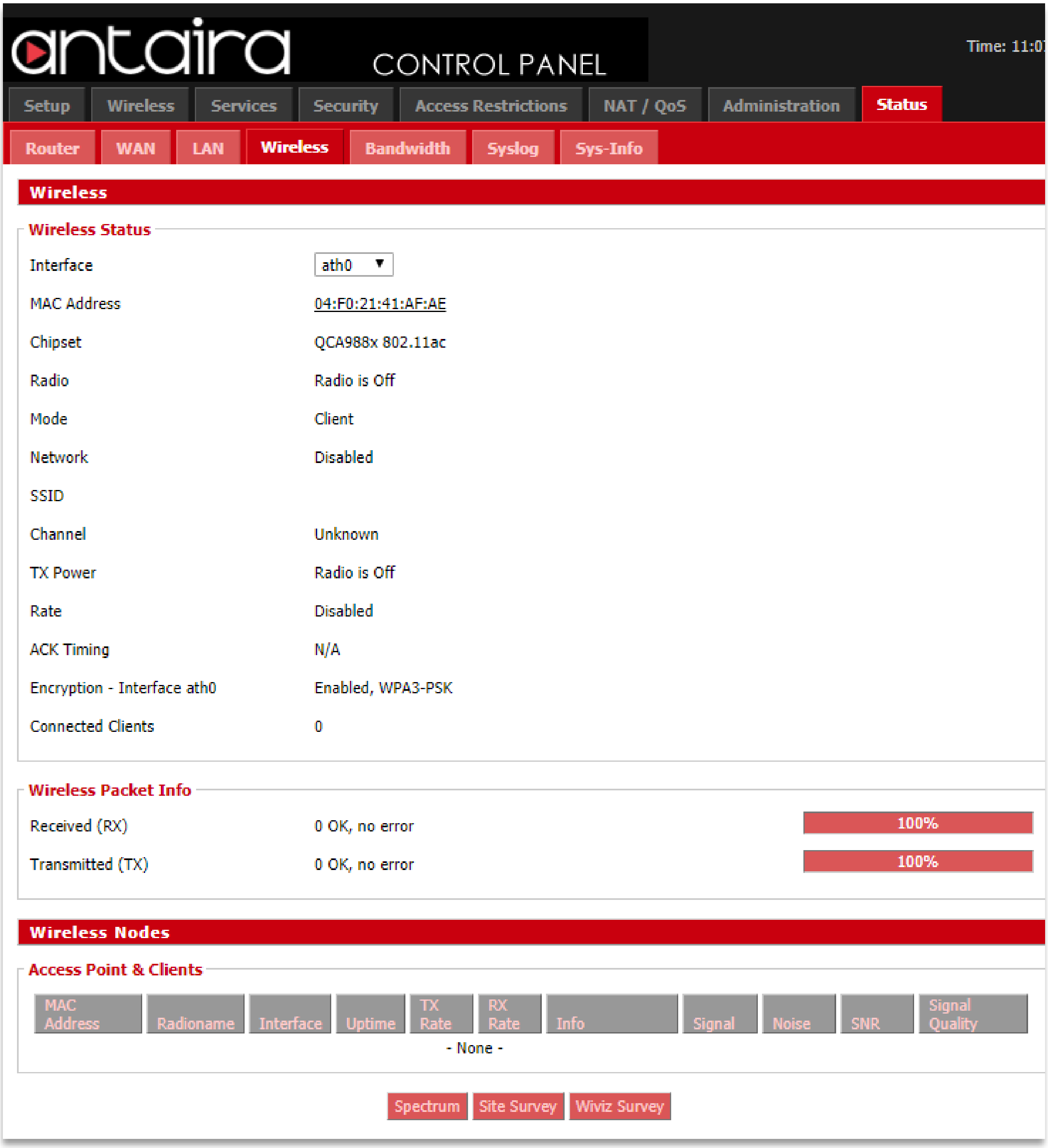
Connected PPPoE Clients

Interface	Username	Local IP	Delete

- None -

Status > LAN

9.4 Wireless



Wireless

Wireless Status

Interface	ath0 ▼
MAC Address	04:F0:21:41:AF:AE
Chipset	QCA988x 802.11ac
Radio	Radio is Off
Mode	Client
Network	Disabled
SSID	
Channel	Unknown
TX Power	Radio is Off
Rate	Disabled
ACK Timing	N/A
Encryption - Interface ath0	Enabled, WPA3-PSK
Connected Clients	0

Wireless Packet Info

Received (RX)	0 OK, no error	100%
Transmitted (TX)	0 OK, no error	100%

Wireless Nodes

Access Point & Clients

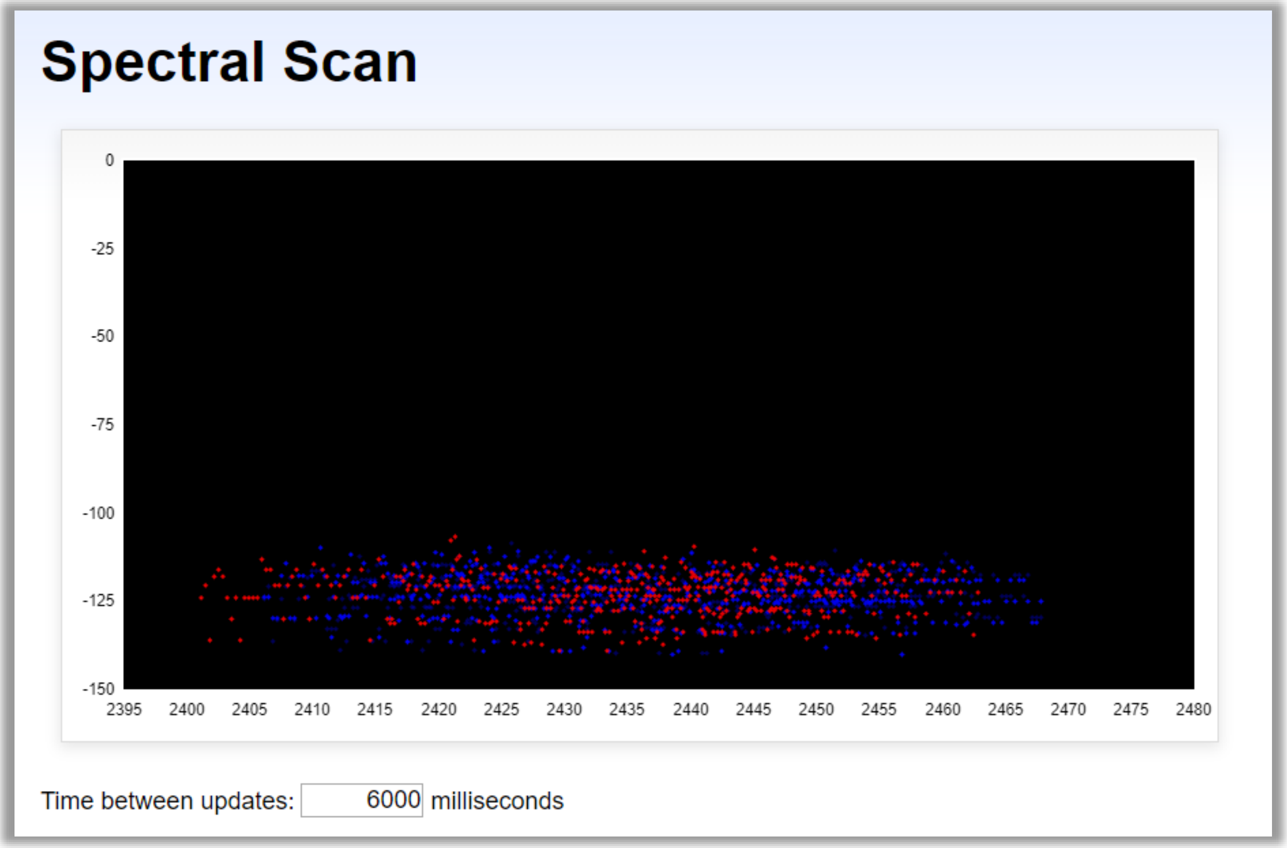
MAC Address	Radioname	Interface	Uptime	TX Rate	RX Rate	Info	Signal	Noise	SNR	Signal Quality

- None -

Status > Wireless

Spectrum

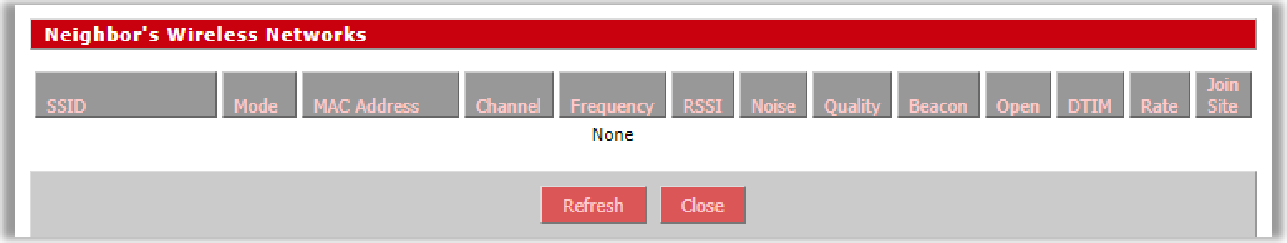
The spectral scan will show which frequencies have a lot of interference across either the 2.4GHz or 5GHz. No channel numbers are provided in the scan window. The x-axis represents frequencies in Hertz (Hz). The y-axis represents power drop in dB for noise. The higher numbers are better. Blue dots represent all of the samples taken while the red dots are averaged out over a certain time.



Time between updates: 6000 milliseconds

Status > Wireless > Spectral Scan

Site Survey

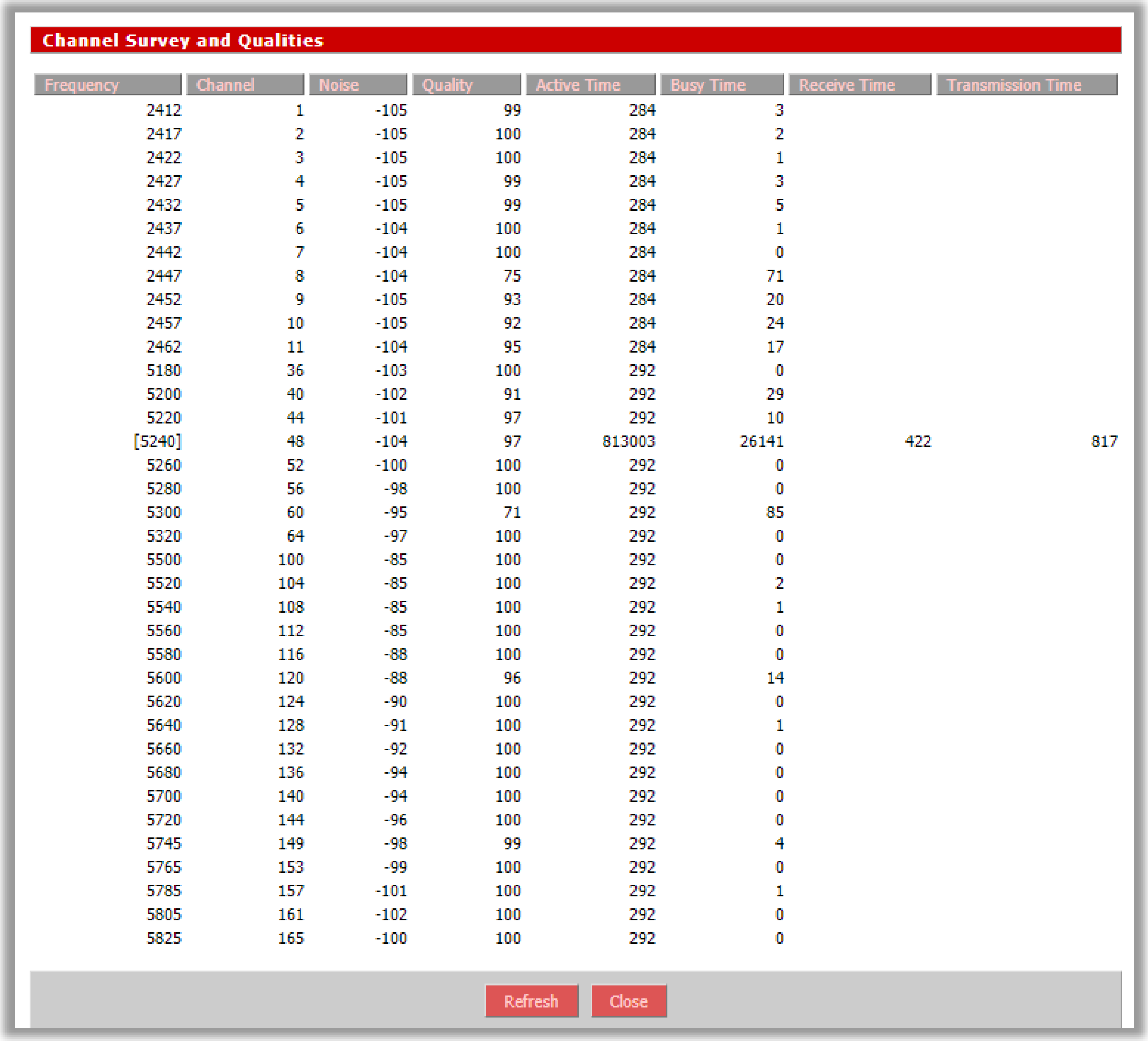


Neighbor's Wireless Networks

SSID	Mode	MAC Address	Channel	Frequency	RSSI	Noise	Quality	Beacon	Open	DTIM	Rate	Join Site
				None								

Status > Wireless > Site Survey

Channel Survey



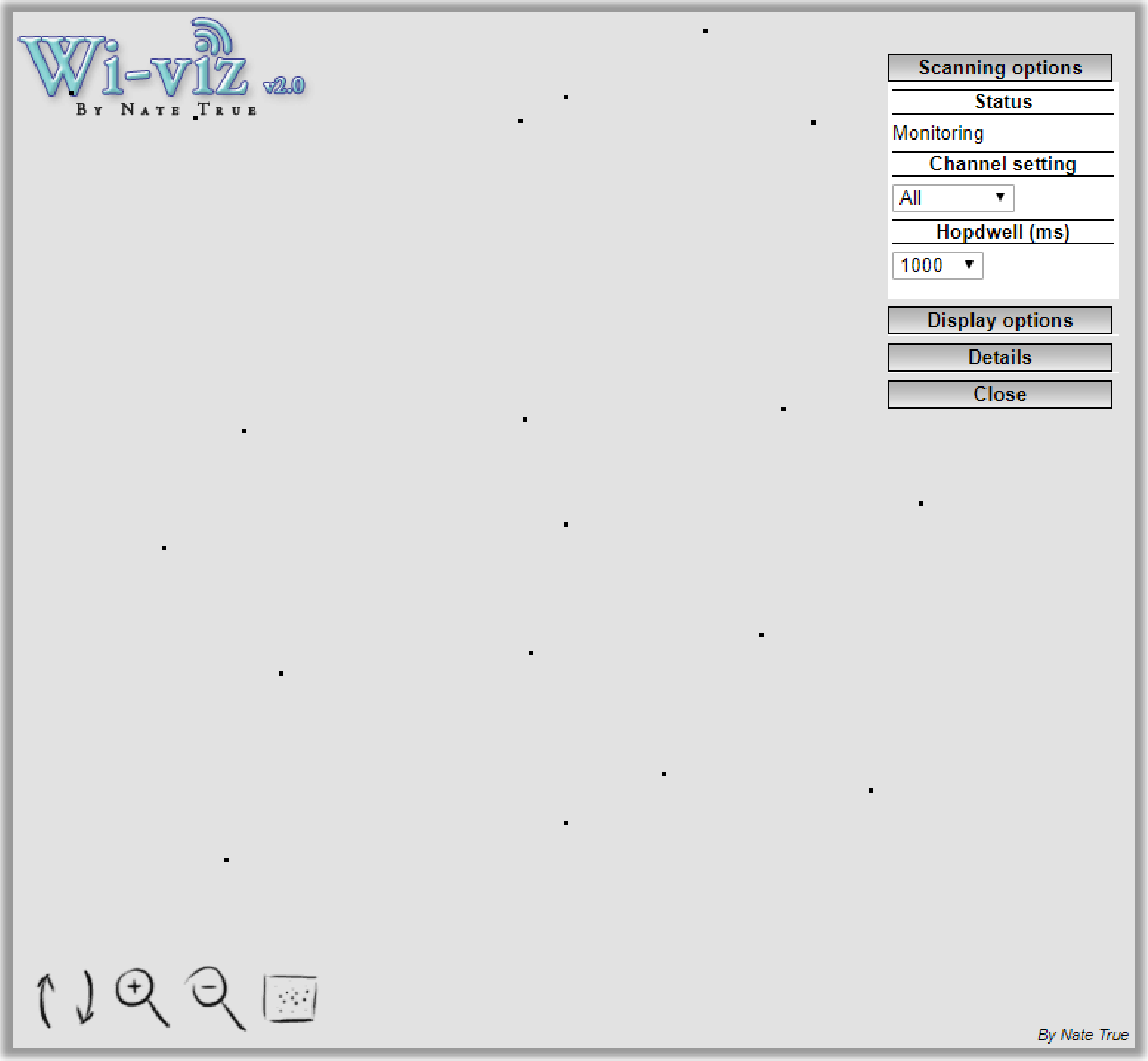
Channel Survey and Qualities

Frequency	Channel	Noise	Quality	Active Time	Busy Time	Receive Time	Transmission Time
2412	1	-105	99	284	3		
2417	2	-105	100	284	2		
2422	3	-105	100	284	1		
2427	4	-105	99	284	3		
2432	5	-105	99	284	5		
2437	6	-104	100	284	1		
2442	7	-104	100	284	0		
2447	8	-104	75	284	71		
2452	9	-105	93	284	20		
2457	10	-105	92	284	24		
2462	11	-104	95	284	17		
5180	36	-103	100	292	0		
5200	40	-102	91	292	29		
5220	44	-101	97	292	10		
[5240]	48	-104	97	813003	26141	422	817
5260	52	-100	100	292	0		
5280	56	-98	100	292	0		
5300	60	-95	71	292	85		
5320	64	-97	100	292	0		
5500	100	-85	100	292	0		
5520	104	-85	100	292	2		
5540	108	-85	100	292	1		
5560	112	-85	100	292	0		
5580	116	-88	100	292	0		
5600	120	-88	96	292	14		
5620	124	-90	100	292	0		
5640	128	-91	100	292	1		
5660	132	-92	100	292	0		
5680	136	-94	100	292	0		
5700	140	-94	100	292	0		
5720	144	-96	100	292	0		
5745	149	-98	99	292	4		
5765	153	-99	100	292	0		
5785	157	-101	100	292	1		
5805	161	-102	100	292	0		
5825	165	-100	100	292	0		

Status > Wireless > Channel Survey

Wiviz Survey

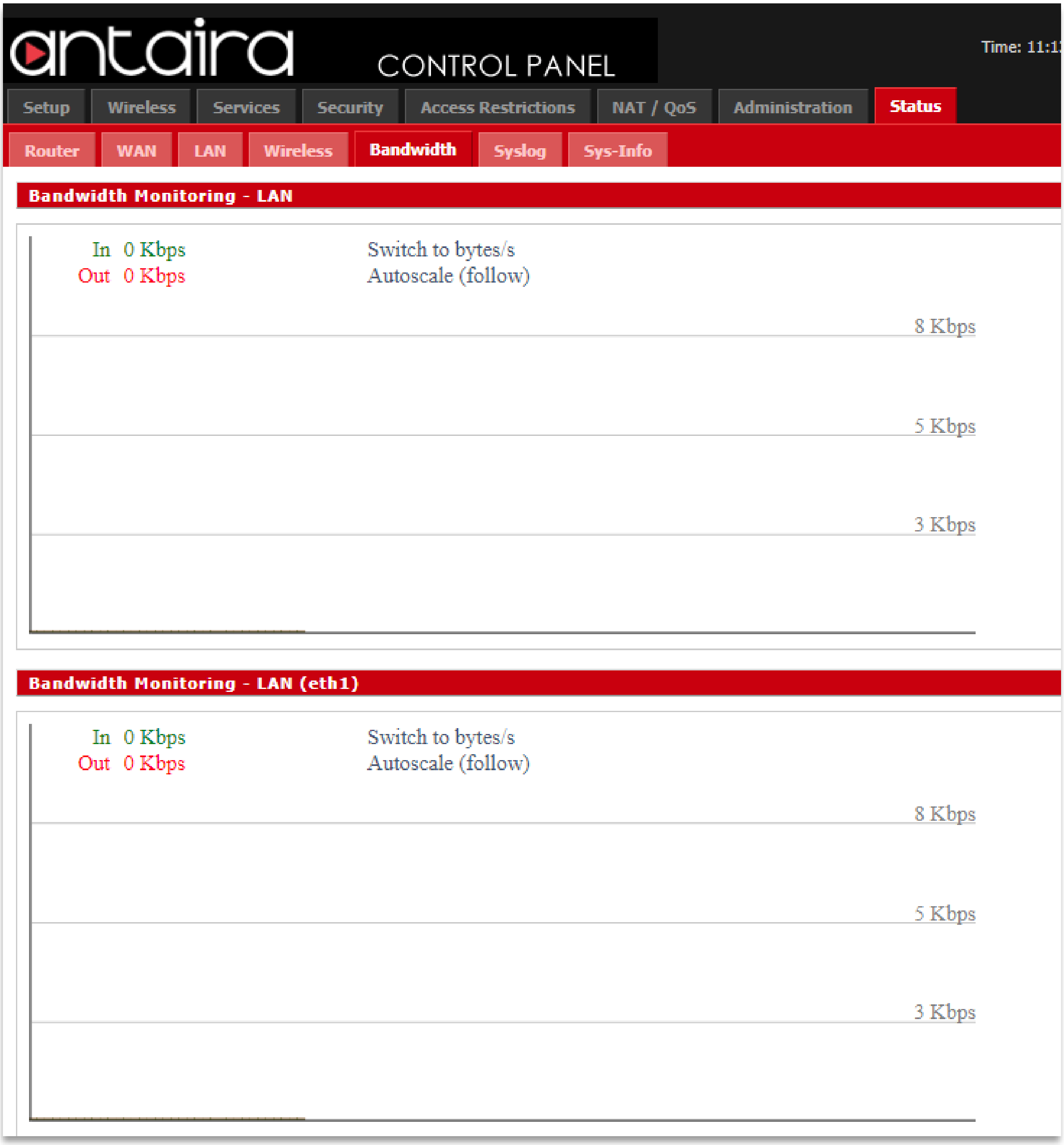
Wiviz is an open source GPL project that allows you to use your router to see other networks. The interface scans for networks and shows signal strength and effects of antenna adjustment in real time.



Status
Monitoring
Channel setting
All
Hopdwell (ms)
1000

Status > Wireless > Wiviz Survey

9.5 Bandwidth



Bandwidth Monitoring - LAN

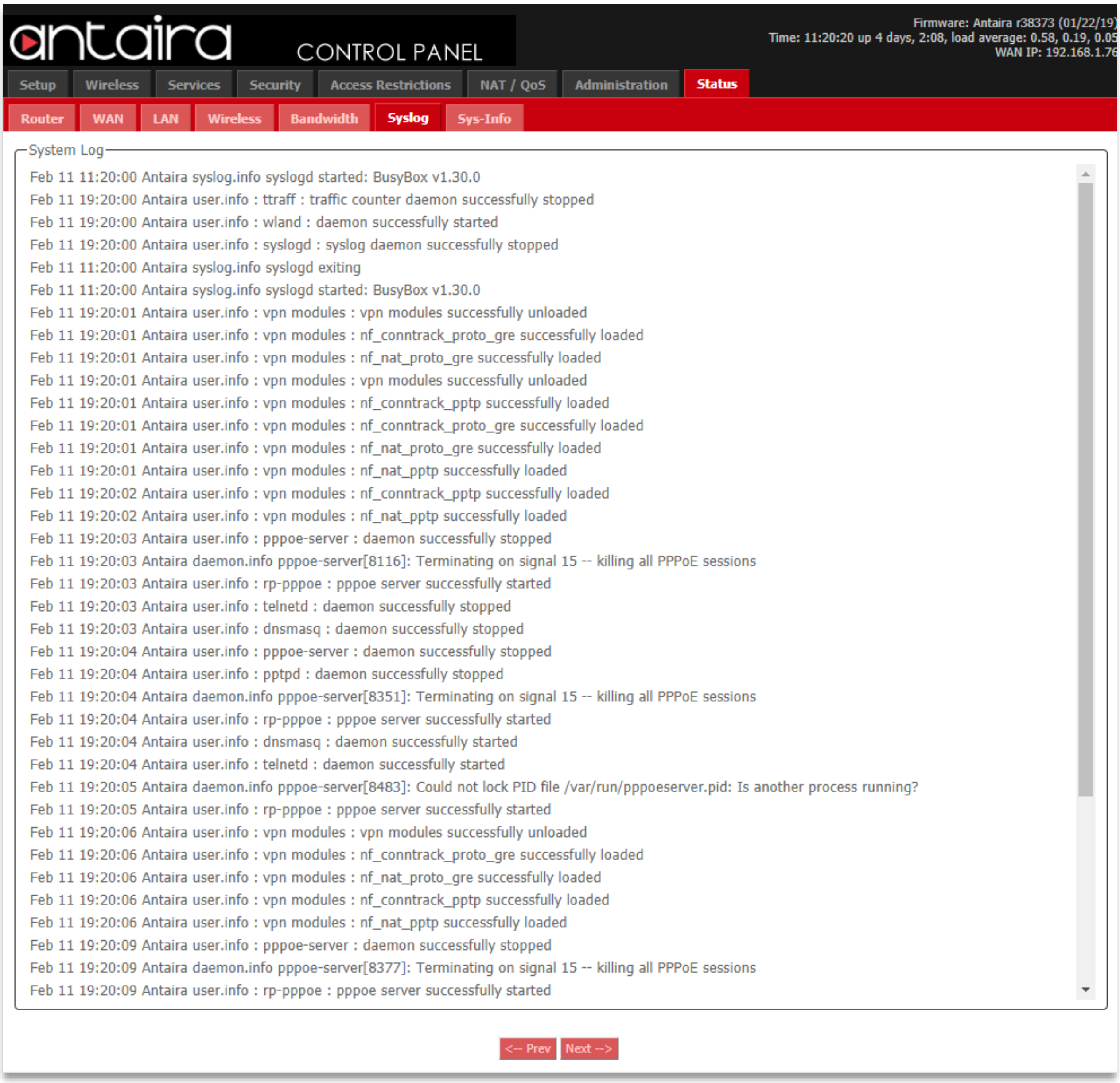
In 0 Kbps
Out 0 Kbps

Bandwidth Monitoring - LAN (eth1)

In 0 Kbps
Out 0 Kbps

Status > Bandwidth

9.6 Syslog

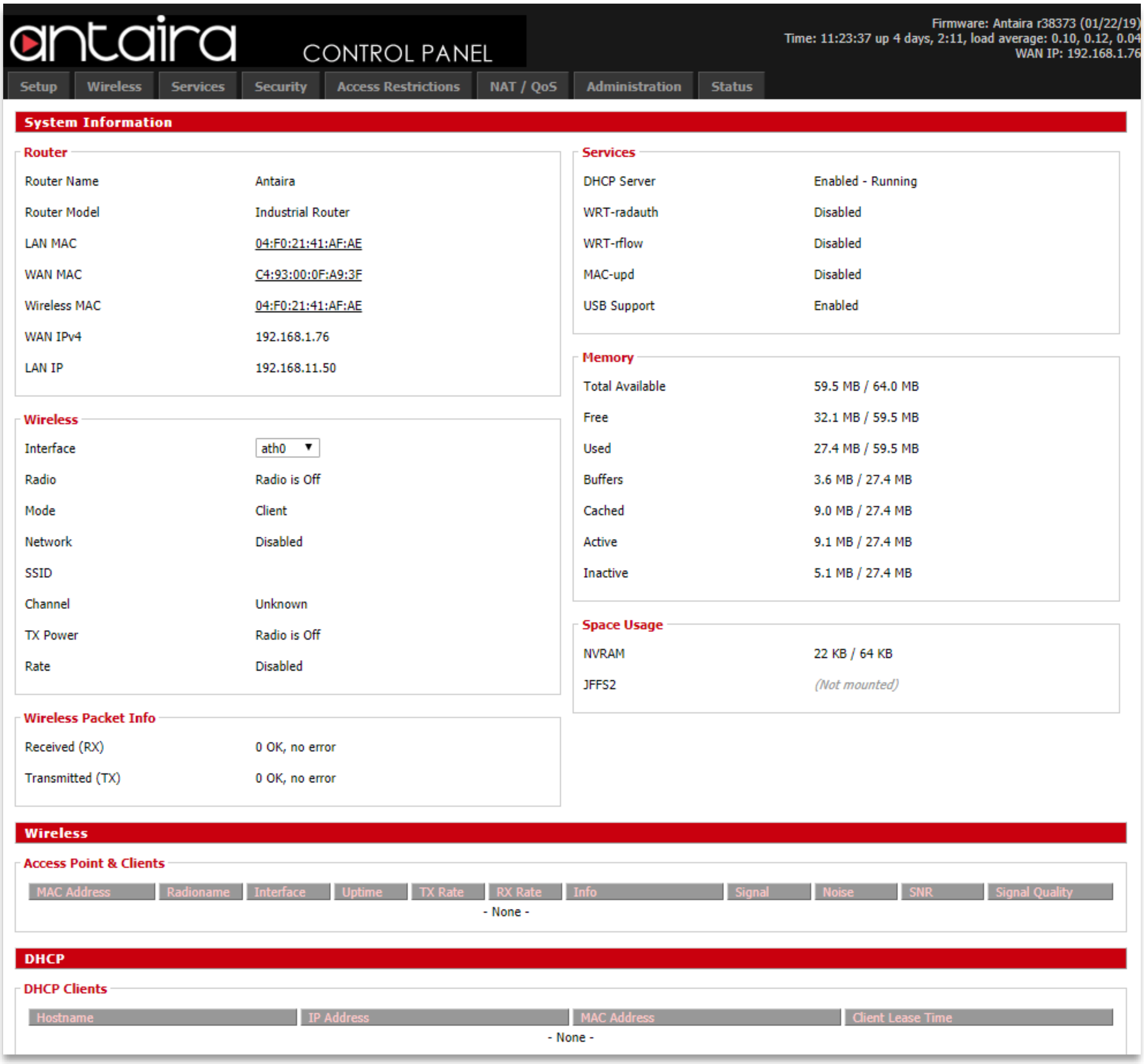


Firmware: Antaira r38373 (01/22/19)
Time: 11:20:20 up 4 days, 2:08, load average: 0.58, 0.19, 0.05
WAN IP: 192.168.1.76

```
Feb 11 11:20:00 Antaira syslog.info syslogd started: BusyBox v1.30.0
Feb 11 19:20:00 Antaira user.info : ttraff : traffic counter daemon successfully stopped
Feb 11 19:20:00 Antaira user.info : wland : daemon successfully started
Feb 11 19:20:00 Antaira user.info : syslogd : syslog daemon successfully stopped
Feb 11 11:20:00 Antaira syslog.info syslogd exiting
Feb 11 11:20:00 Antaira syslog.info syslogd started: BusyBox v1.30.0
Feb 11 19:20:01 Antaira user.info : vpn modules : vpn modules successfully unloaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_conntrack_proto_gre successfully loaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_nat_proto_gre successfully loaded
Feb 11 19:20:01 Antaira user.info : vpn modules : vpn modules successfully unloaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_conntrack_pptp successfully loaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_conntrack_proto_gre successfully loaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_nat_proto_gre successfully loaded
Feb 11 19:20:01 Antaira user.info : vpn modules : nf_nat_pptp successfully loaded
Feb 11 19:20:02 Antaira user.info : vpn modules : nf_conntrack_pptp successfully loaded
Feb 11 19:20:02 Antaira user.info : vpn modules : nf_nat_pptp successfully loaded
Feb 11 19:20:03 Antaira user.info : pppoe-server : daemon successfully stopped
Feb 11 19:20:03 Antaira daemon.info pppoe-server[8116]: Terminating on signal 15 -- killing all PPPoE sessions
Feb 11 19:20:03 Antaira user.info : rp-pppoe : pppoe server successfully started
Feb 11 19:20:03 Antaira user.info : telnetd : daemon successfully stopped
Feb 11 19:20:03 Antaira user.info : dnsmasq : daemon successfully stopped
Feb 11 19:20:04 Antaira user.info : pppoe-server : daemon successfully stopped
Feb 11 19:20:04 Antaira user.info : pptpd : daemon successfully stopped
Feb 11 19:20:04 Antaira daemon.info pppoe-server[8351]: Terminating on signal 15 -- killing all PPPoE sessions
Feb 11 19:20:04 Antaira user.info : rp-pppoe : pppoe server successfully started
Feb 11 19:20:04 Antaira user.info : dnsmasq : daemon successfully started
Feb 11 19:20:04 Antaira user.info : telnetd : daemon successfully started
Feb 11 19:20:05 Antaira daemon.info pppoe-server[8483]: Could not lock PID file /var/run/pppoeserver.pid: Is another process running?
Feb 11 19:20:05 Antaira user.info : rp-pppoe : pppoe server successfully started
Feb 11 19:20:06 Antaira user.info : vpn modules : vpn modules successfully unloaded
Feb 11 19:20:06 Antaira user.info : vpn modules : nf_conntrack_proto_gre successfully loaded
Feb 11 19:20:06 Antaira user.info : vpn modules : nf_nat_proto_gre successfully loaded
Feb 11 19:20:06 Antaira user.info : vpn modules : nf_conntrack_pptp successfully loaded
Feb 11 19:20:06 Antaira user.info : vpn modules : nf_nat_pptp successfully loaded
Feb 11 19:20:09 Antaira user.info : pppoe-server : daemon successfully stopped
Feb 11 19:20:09 Antaira daemon.info pppoe-server[8377]: Terminating on signal 15 -- killing all PPPoE sessions
Feb 11 19:20:09 Antaira user.info : rp-pppoe : pppoe server successfully started
```

Status > Syslog

9.7 Sys-Info



Firmware: Antaira r38373 (01/22/19)
Time: 11:23:37 up 4 days, 2:11, load average: 0.10, 0.12, 0.04
WAN IP: 192.168.1.76

System Information

Router

Router Name	Antaira
Router Model	Industrial Router
LAN MAC	04:F0:21:41:AF:AE
WAN MAC	C4:93:00:0F:A9:3F
Wireless MAC	04:F0:21:41:AF:AE
WAN IPv4	192.168.1.76
LAN IP	192.168.11.50

Services

DHCP Server	Enabled - Running
WRT-radauth	Disabled
WRT-rflow	Disabled
MAC-upd	Disabled
USB Support	Enabled

Memory

Total Available	59.5 MB / 64.0 MB
Free	32.1 MB / 59.5 MB
Used	27.4 MB / 59.5 MB
Buffers	3.6 MB / 27.4 MB
Cached	9.0 MB / 27.4 MB
Active	9.1 MB / 27.4 MB
Inactive	5.1 MB / 27.4 MB

Wireless

Interface	ath0 ▼
Radio	Radio is Off
Mode	Client
Network	Disabled
SSID	
Channel	Unknown
TX Power	Radio is Off
Rate	Disabled

Space Usage

NVRAM	22 KB / 64 KB
JFFS2	*(Not mounted)*

Wireless Packet Info

Received (RX)	0 OK, no error
Transmitted (TX)	0 OK, no error

Wireless

Access Point & Clients

MAC Address	Radioname	Interface	Uptime	TX Rate	RX Rate	Info	Signal	Noise	SNR	Signal Quality
- None -										

DHCP

DHCP Clients

Hostname	IP Address	MAC Address	Client Lease Time
- None -			

Status > Sys-Info

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Any changes to this material will be announced