

Setup guide for OLT and ONU in default configuration

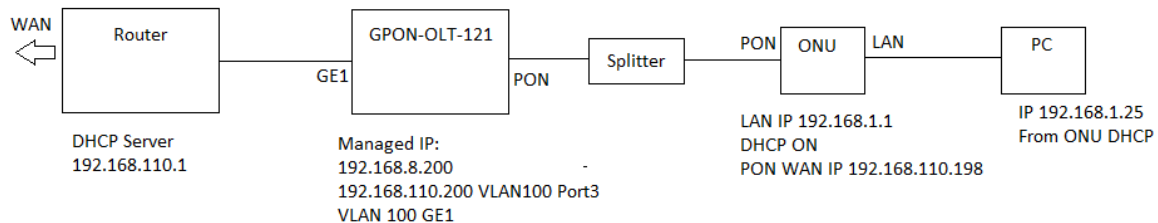
AirLive GPON OLT-121 and XPON ONU



How to setup the OLT and ONU in combination with a Router.

For the setup an AirLive GPON OLT-121 and AirLive 2.5GE XPON ONU was used.

The setup is following the below diagram, please do **not** use VLAN: 0, 1, 2, 9, 8, 10, 4000, 4005, 4012-4017, 4095.



Do **not** use vlan : 0 , 1 , 2 , 9 , 8 , 10 , 4000 , 4005 , 4012-4017 , 4095

Setup Steps:

- 1: Login to the OLT management web interface. The default IP is 192.168.8.200
- 2: If we want to configure ONU access the Internet, we need to create a VLAN in OLT first.
- 3: Create a VLAN 100 (for this example) for Internet.
- 4: VLAN bindings for uplink GE port
please note: If the uplink port is in the untag mode, PVID (default vlan id) needs to be configured (100 in this example).
- 5: Open ONU list page, Select the PON port where ONU is located. Find out what ONU you want to configure. Check the ONU status and ensure the ONU is in Online state.
- 6: Click on the ONU configuration page to configure "tcont", "gemport", "Service", "Service Port" and other parameters.
- 7: On the "port vlan" page, for ONU, the Mode needs to be configured for "transparent", Port Type needs to be configured for "veip" and Port Id needs to be configured for "1".
- 8: Then we need to create an Internet WAN connection for it, click on "WAN" page.
Mode is Route, enable NAT, you can also choose three modes for Internet Wan connection. Here we use the DHCP mode. Then select the VLAN mode and fill in the VLAN information (100 in this example). And choose service mode is "Internet".
Please note: When the configuration is complete, you need to click "Submit" button. At this point, the configuration is added to running-config list. Finally click the "submit" button.
- 9: You can configure ONU DHCP Server on "DHCP server" page, configure the LAN IP and DHCP address pool you need.
- 10: Press "SAVE" in the top bar of the OLT so save the complete configuration.

1: In the OLT Configuration select “VLAN” and make a VLAN ID in this example we make VLAN 100.

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VLAN | VLAN Port

Edit VLAN

VLAN ID: 100 (1-4094)

Description: vlan100

[Edit](#) [Reset](#)

VLAN Table

Maximum: 512 vlans
Used: 2 vlans

| VLAN ID | Description | Edit | Delete |
|---------|-------------|------|--------|
| 1 | vlan_1 | | |
| 100 | vlan100 | | |

OLT Information
OLT Configuration
VLAN
Uplink Port
PON
MAC
IGMP
Loopback
DHCP
IP Route
ONU Configuration
Profile Configuration
System Configuration

2: Bind the Uplink GE port go the “VLAN” >> “VLAN Port”, in this example all ports were binded to the VLAN100. Make sure the Uplink is in “Untag” mode.

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VLAN | **VLAN Port**

Port VLAN Configuration

VLAN ID: 100

| Port ID | Mode | Forbidden | Tag | Untag |
|---------|--------|-----------------------|-----------------------|----------------------------------|
| GE1 | Hybrid | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| GE2 | Hybrid | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| GE3 | Hybrid | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |

[Submit](#) [Reset](#)

Port VLAN Table

| VLAN ID | Tag Ports | Untag Ports |
|---------|-----------|-------------|
| 1 | | GE1 GE2 GE3 |
| 100 | | GE1 GE2 GE3 |

OLT Information
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3: When the Uplink port is in “Untag” mode, the PVID (default VLAN id) needs to be configured. Go to “Uplink Port” >> “Configuration”. Change the PVID for the uplink to 100 (in this example).

airlive® [Save](#) [Log](#) [Status](#)

Information | **Configuration** | Optical Information

GE Configuration

[Submit](#) [Reset](#)

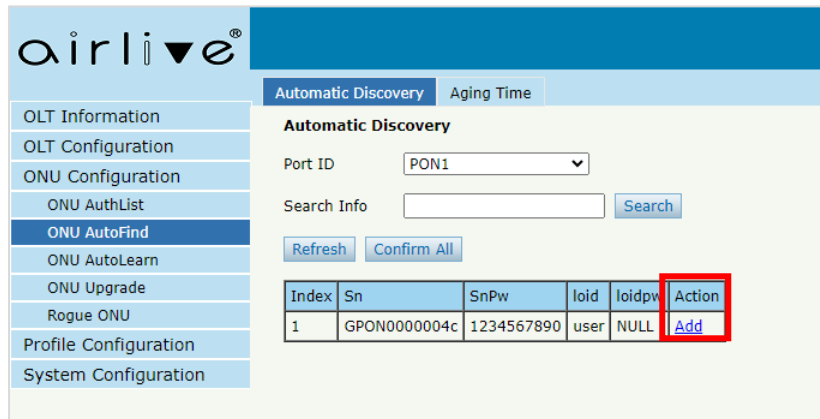
| Port ID | Description | Admin Status | Speed | Flow Control | PVID | Storm(0/64-13000kbps) | Rate(0/64-1000000kbps) | MAC Limit(0-16384) | |
|---------|-------------|-------------------------------------|----------|--------------------------|------|-----------------------|------------------------|--------------------|--------|
| | | | | | | Broadcast | Unicast | Ingress | Egress |
| GE1 | | <input checked="" type="checkbox"/> | Auto | <input type="checkbox"/> | 100 | 1496 | 1496 | 0 | 0 |
| GE2 | | <input checked="" type="checkbox"/> | Auto | <input type="checkbox"/> | 1 | 1496 | 1496 | 0 | 0 |
| GE3 | | <input checked="" type="checkbox"/> | 10G Full | <input type="checkbox"/> | 1 | 1496 | 1496 | 0 | 0 |

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4: Adding the ONU to the OLT.

Make sure the ONU has been connected to the OLT via its PON ports and a Splitter.

Click on “ONU Configuration” and select “ONU Autofind” when your ONU has been connected correctly. It will show up here. Select the ONU you want to add (when there are several) and click on “Add”.



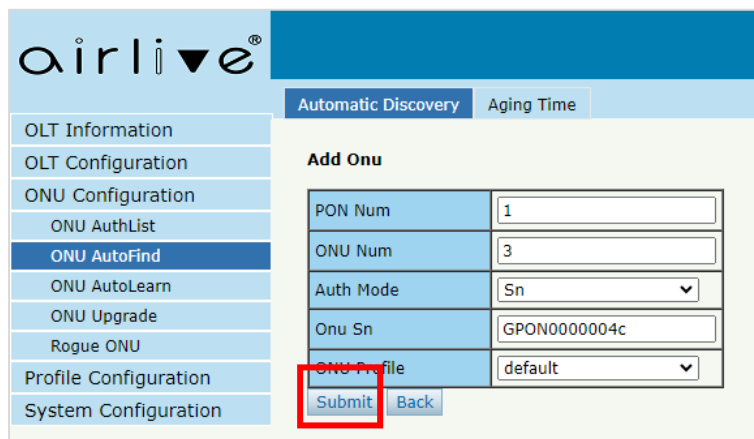
Automatic Discovery

Port ID:

Search Info:

| Index | Sn | SnPw | loid | loidpw | Action |
|-------|--------------|------------|------|--------|---------------------|
| 1 | GPON0000004c | 1234567890 | user | NULL | Add |

Click on “Submit” on the next page which will automatically appear.



Add Onu

PON Num:

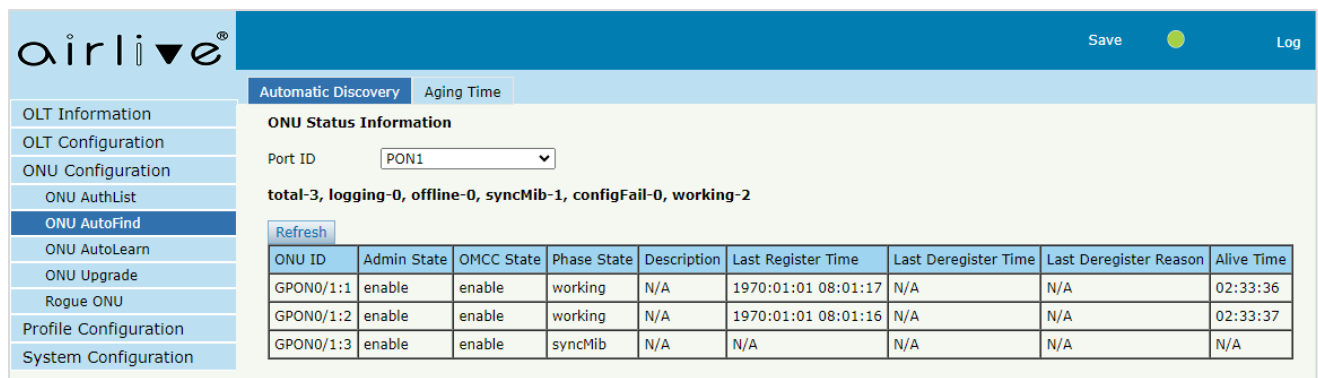
ONU Num:

Auth Mode:

Onu Sn:

ONU Profile:

The ONU will now be shown and when connected correctly will show “Enable”



ONU Status Information

Port ID:

total-3, logging-0, offline-0, syncMib-1, configFail-0, working-2

| ONU ID | Admin State | OMCC State | Phase State | Description | Last Register Time | Last Deregister Time | Last Deregister Reason | Alive Time |
|-----------|-------------|------------|-------------|-------------|---------------------|----------------------|------------------------|------------|
| GPON0/1:1 | enable | enable | working | N/A | 1970:01:01 08:01:17 | N/A | N/A | 02:33:36 |
| GPON0/1:2 | enable | enable | working | N/A | 1970:01:01 08:01:16 | N/A | N/A | 02:33:37 |
| GPON0/1:3 | enable | enable | syncMib | N/A | N/A | N/A | N/A | N/A |

5: Configure the ONU, Click on the “ONU List” in the top right corner of the OLT menu bar.

The active ONU’s will now be shown, select the ONU you want to configure (make sure the status is “Online”) and click on the “Config” button.

The screenshot shows the AirLive OLT web interface. The top right corner has a navigation bar with 'Save', 'Log', 'Status', and 'ONU list' (highlighted with a red box). Below this is a sub-menu with 'ONU list', 'ONU Status', 'ONU Optical Information', 'ONU Version Information', 'ONU Manual Add', 'ONU Allowlist', and 'ONU Statistics'. The 'ONU list' sub-menu is selected. The left sidebar contains a list of configuration options: OLT Information, OLT Configuration, ONU Configuration, Profile Configuration, and System Configuration. The main content area is titled 'ONU Authentication Information'. It includes a 'Port ID' dropdown set to 'PON1', a 'Search Mode' dropdown set to 'All', a 'Search Info' input field, and a 'Search' button. Below these are 'Delete All', 'Delete Offline', and 'Refresh' buttons. A table lists three ONUs: GPON0/1:1, GPON0/1:2, and GPON0/1:3. The 'Action' column for the first ONU is highlighted with a red box, showing a 'Config' button. The table columns are: ONU ID, Status, Description, Model, Profile, Mode, Info, and Action.

| ONU ID | Status | Description | Model | Profile | Mode | Info | Action |
|-----------|--------|-------------|-------|---------|------|--------------|--|
| GPON0/1:1 | Online | GPON0/1:1 | V802 | default | Sn | GPON00dc7aa | Config Deactivate Delete Optical Info Detail Info Reboot |
| GPON0/1:2 | Online | GPON0/1:2 | V802 | default | Sn | GPON00000124 | Config Deactivate Delete Optical Info Detail Info Reboot |
| GPON0/1:3 | Online | GPON0/1:3 | V601 | default | Sn | GPON0000004c | Config Deactivate Delete Optical Info Detail Info Reboot |

6: Setup the "tcont", "gemport", "Service", "Service Port" and other parameters.

Setup the “tcon” default value is 1, in this example for name, the name test was used.

The screenshot shows the AirLive OLT web interface. The top right corner has a navigation bar with 'Save', 'Log', 'Status', and 'ONU list'. Below this is a sub-menu with 'ONU list', 'ONU Status', 'ONU Optical Information', 'ONU Version Information', 'ONU Manual Add', 'ONU Allowlist', and 'ONU Statistics'. The 'ONU list' sub-menu is selected. The left sidebar contains a list of configuration options: OLT Information, OLT Configuration, ONU Configuration, ONU AuthList, ONU AutoFind, ONU AutoLearn, ONU Upgrade, Rogue ONU, Profile Configuration, and System Configuration. The main content area is titled 'ONU Tcont Information (PON:1 ONU:2)'. It includes a table with columns: Tcont ID, Name, DBA Profile, and Action. The 'Action' column for the first Tcont (ID 1) is highlighted with a red box, showing a 'Delete' button. Below the table is an 'Add ONU Tcont' form with fields for 'Tcont ID', 'Tcont Name', and 'DBA Profile Name', and a 'Commit' button.

| Tcont ID | Name | DBA Profile | Action |
|----------|------|-------------|------------------------|
| 1 | test | default1 | Delete |

Setup the “gemport” the default value is 1, make sure the TcontID select is 1 (the one previously made. The name used in this example is test.

The screenshot shows the AirLive OLT web interface. The top right corner has a navigation bar with 'Save', 'Log', 'Status', and 'ONU list'. Below this is a sub-menu with 'ONU list', 'ONU Status', 'ONU Optical Information', 'ONU Version Information', 'ONU Manual Add', 'ONU Allowlist', and 'ONU Statistics'. The 'ONU list' sub-menu is selected. The left sidebar contains a list of configuration options: OLT Information, OLT Configuration, ONU Configuration, ONU AuthList, ONU AutoFind, ONU AutoLearn, ONU Upgrade, Rogue ONU, Profile Configuration, and System Configuration. The main content area is titled 'ONU Gemport Info (PON:1 ONU:2)'. It includes a table with columns: Gemport ID, Name, Tcont, and Action. The 'Action' column for the first Gemport (ID 1) is highlighted with a red box, showing a 'Delete' button. Below the table is an 'Add ONU Gemport' form with fields for 'Gemport ID', 'TcontID', and 'Gemport Name', and a 'Commit' button.

| Gemport ID | Name | Tcont | Action |
|------------|------|-------|------------------------|
| 1 | test | 1 | Delete |

Setup the "Service", make sure to select Gemport ID 1 (the one just made) and for VLAN mode select "Tag" for "Vlan List" enter the value 100, this is the VLAN id made in the OLT previously.

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ONU list | ONU Status | **Service** | PortVlan | Multicast | Port | Ip Host | IGMP | MAC

OLT Information
OLT Configuration
ONU Configuration
ONU AuthList
ONU AutoFind
ONU AutoLearn
ONU Upgrade
Rogue ONU
Profile Configuration
System Configuration

ONU Service Information (PON:1 ONU:2)
pon untagged vlan : -

| ServiceName | Gemport | Vlan Mode | Vlan List | Port | Action |
|-------------|---------|-----------|-----------|------|------------------------|
| ser_1 | 1 | Tag | 100 | N/A | Delete |

Add ONU Service

ServiceName:

Gemport ID:

Vlan Mode:

Vlan List: (X,X or X-X;0 for all;max 12 vlans)

PortType:

[Commit](#)

Setup the "PortVlan" On the "PortVlan" page, for HGU the mode needs to be configured for "transparent", the Port Type needs to be configured for "veip" and Port Id needs to be configured for "1".

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Save | Log | Status | ONU list | Logout

ONU list | ONU Status | ONU Optical Information | ONU Version Information | ONU Manual Add | ONU Allowlist | ONU Statistics

Tcont | Gemport | Service | **PortVlan** | Multicast | Port | Ip Host | IGMP | MAC | WAN | DHCP Server | Bind Mode | Misc | TR069 | Security | Loopback Detection

ONU PortVlan Info (PON:1 ONU:2)

| PortName | Mode | Vlan | Vlan Priority(tag) | Default Vlan(hybrid) | Default Priority(hybrid) | CVlan(translate) | CVlan Priority(translate) | SVlan(translate) | SVlan Priority(translate) | Action |
|----------|-------------|------|--------------------|----------------------|--------------------------|------------------|---------------------------|------------------|---------------------------|------------------------|
| veip_1 | Transparent | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | Delete |

Add ONU PortVlan

Mode:

PortType:

Port Id:

[Commit](#)

7: Setting up the WAN port information, click on the "WAN" page. Mode is Route, enable NAT, you can also choose three modes for Internet WAN connection. Here we use the DHCP mode. Then select the VLAN mode "Tag" in this example and fill in the VLAN information in this example 100. And choose service mode is "Internet".

Please note: When the configuration is complete, you need to click "Submit" button. At this point, the configuration is added to running-config list. Finally click the "submit" button to send the configuration to the ONU. Refresh the OLT page and in a few seconds the configuration will be shown it can take 1 min before it will show "connected" when the configuration has been setup up correctly.

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ONU list | ONU Status | ONU Optical Information | ONU Version Information | ONU Manual Add | ONU Allowlist

Tcont | Gempport | Service | PortVlan | Multicast | Port | Ip Host | IGMP | MAC | **WAN** | DHCP Server | Bir

WAN Connect Table (PON:1 ONU:1)

WAN Connect Parameter Configuration

WAN Index: NEW

Mode: route

IP Version: ipv4/ipv6

Connect Mode: DHCP

DNS: Disable

Master DNS: (A.B.C.D)

Slave DNS: (A.B.C.D)

Nat Enable: Enable

IPv6 DNS: Enable

DNSv6 Master: :: (X:X::X:X)

DNSv6 Slave: :: (X:X::X:X)

slaac: Enable (While disable,Dhcpv6 open automatically)

Client Address: Disable

Client Prefix(DHCP PD): Disable

VLAN Mode: Tag

VLAN ID: 100 (Tag:0-4095;Transparent:1-4095)

VLAN Cos: 0 (0-7)

QinQ Enable: Disable

QinQ TPID: 0 (1-65534)

SVLAN ID: 0 (1-4095)

SVLAN Cos: 0 (0-7)

MTU: 1500 (576-1500)

QoS Enable: Disable

Service Mode: Internet

Port Binding: ☐ Lan1 ☐ Lan2

Submit

Important after pressing “Submit” your configuration is made but not yet sent to the ONU.

After pressing “Submit” the configuration will be shown as in the below example. Click “Submit” again on the second “Submit” button and the configuration will be sent to the ONU.

MTU: 1500 (576-1500)
 QoS Enable: Disable
 Service Mode: Internet
 Port Binding: ☐ Lan1 ☐ Lan2
 Submit

WAN Connect running-config
 Submit

| Index | onu running-config | Delete |
|-------|--|--------|
| 1 | Connect Type:route,IP Version:ipv4/ipv6,Service Mode:internet,QoS Enable:disable,MTU:1500,Connect Mode:DHCP, Nat:enable, DNSv6 Master: ::, DNSv6 Slave: ::, SLAAC:enable, Client Address:disable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN Cos:0, QinQ Enable:disable, | |

The configuration will now be sent to the ONU and the ONU will make an Internet connection. When the setup was done correctly the words “Connected” will be shown.

Note it can take 1 or 2 minutes before the correct information is shown, please refresh the page.

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ONU list | ONU Status | ONU Optical Information | ONU Version Information | ONU Manual Add | ONU Allowlist | ONU Statistics

OLT Information | OLT Configuration | ONU Configuration | **ONU AuthList** | ONU AutoFind | ONU AutoLearn | ONU Upgrade | Rogue ONU | Profile Configuration | System Configuration

Tcont | Gempport | Service | PortVlan | Multicast | Port | Ip Host | IGMP | MAC | **WAN** | DHCP Server | Bind Mode | Misc | TR069 | Sec

WAN Connect Table (PON:1 ONU:2)

| Index | Mode | IP Version | Service Mode | Status | MAC Address | Configuration Information |
|-------|-------|------------|--------------|-----------|-------------------|--|
| 1 | route | ipv4/ipv6 | internet | Connected | 00:4F:5B:00:01:25 | QoS Enable:disable,MTU:1500,Connect Mode:DHCP, Nat:enable, IPv6 addr: ::/0, Gateway: ::, DNSv6 Master: ::, DNSv6 Slave: ::, SLAAC:enable, Client Address:enable, Client Prefix:enable, VLAN Mode:Tag,VLAN ID:100, VLAN Cos:0, QinQ Enable:disable, |

WAN Connect Parameter Configuration

WAN Index: NEW
 Mode: bridge
 VLAN Mode: Disable
 QoS Enable: Disable
 Service Mode: Internet
 Port Binding: ☐ Lan1 ☐ Lan2
 Submit

WAN Connect running-config
 Submit

| Index | onu running-config | Delete |
|-------|--|--------|
| 1 | Connect Type:route,IP Version:ipv4/ipv6,Service Mode:internet,QoS Enable:disable,MTU:1500,Connect Mode:DHCP, Nat:enable, DNSv6 Master: ::, DNSv6 Slave: ::, SLAAC:enable, Client Address:disable, Client Prefix:disable, VLAN Mode:Tag,VLAN ID:100, VLAN Cos:0, QinQ Enable:disable, | |

The Setup is now complete, and the ONU is connected to Internet.

To see the settings of the ONU (which the OLT sent to the ONU), please connect to the ONU with a PC, and enter the default IP address of the ONU in a browser. The default IP address is 192.168.1.1

Note: to see and change the WAN port setup please login as Administrator and not as User. Click on “Setup” and Select “WAN” scroll down to the bottom of the page and select your active setup, ones check marked your configuration will be shown, which is the same as which was setup in the OLT.

Select Language: English

Status | Setup | Advanced | Service | Firewall | Maintenance

> WAN

> WAN

> GPON Settings

> OMCI Information

< LAN

WAN Configuration

This page is used to configure the parameters for the WAN interface of your ADSL and(or) Ethernet Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.

Default Route Selection: ☒ Auto ☐ Specified

Channel Mode: IPoE

Enable NAPT: ☒

Enable IGMP: ☐

VLAN: ☐ Disable ☒ Enable

VLAN ID(1-4095):

VLAN Cos(0-7):

Multicast VLAN ID(1-4095):

IP Protocol: Ipv4/Ipv6

Application Mode: INTERNET

PPP Settings:

User Name:

Password:

Service Name:

Type: Continuous

Idle Time (min):

WAN IP Settings:

Type: ☐ Fixed IP ☒ DHCP

Local IP Address:

Gateway:

NetMask:

Request DNS: ☒ Enable ☐ Disable

DNS Server1:

DNS Server2:

Default Route: ☐ Disable ☐ Enable ☒ Auto

Unnumbered: ☐

IPv6 WAN Setting:

Address Mode: Slaac

IPv6 DNS Mode: Auto

DHCPv6 Mode: Auto

Request DHCPv6 PD: ☒

LAN : ☐ LAN1 ☐ LAN2

Connect Disconnect Add Modify Delete Undo Refresh

WAN Interfaces Table:

| Select | Inf | Mode | NAPT | IGMP | DRoute | IP Addr | Gateway | NetMask | User Name | Status | Edit |
|----------------------------------|------|------|------|------|--------|-----------------|---------------|---------------|-----------|--------|------|
| <input checked="" type="radio"/> | WAN0 | IPoE | On | Off | Off | 192.168.110.224 | 192.168.110.1 | 255.255.255.0 | --- | up | |

