ALL-BM310/ ALL-BM300

Managed G.fast Master/Slave Modem

USER MANUAL

Safety Warnings

For your safety, be sure to read and follow all warning notices and instructions before using the device.

- **DO NOT** open the device or unit. Opening or removing the cover may expose you to dangerous high voltage points or other risks. ONLY qualified service personnel can service the device. Please contact your vendor for further information.
- **Use ONLY** the dedicated power supply for your device. Connect the power to the right plug type (AC support full range between 100Vac and 240Vac input. 12 Vdc / 2A or above output).
- **Place** connecting cables carefully so that no one will step on them or stumble over them. DO NOT allow anything to rest on the power cord and do NOT locate the product where anyone can work on the power cord.
- **DO NOT** install nor use your device during a thunderstorm. There may be a remote risk of electric shock from lightning.
- **DO NOT** expose your device to dampness, dust or corrosive liquids.
- **DO NOT** use this product near water, for example, in a wet basement or near a swimming pool.
- **Connect ONLY** suitable accessories to the device.
- **Make sure** to connect the cables to the correct ports.
- **DO NOT** obstruct the device ventilation slots, as insufficient air flow may harm your device.
- **DO NOT** place items on the device.
- **DO NOT** use the device for outdoor applications directly, and make sure all the connections are indoors or have waterproof protection place.

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- **Be careful** when unplugging the power, because it may produce sparks.
- **Keep** the device and all its parts and accessories out of the reach of children.
- **Clean** the device using a soft and dry cloth rather than liquid or atomizers. Power off the equipment before cleaning it.
- This product is **recyclable**. Dispose of it properly.

Attention:

Be sure to read this manual carefully before using this product. Especially Legal Disclaimer, Statement of Conditions and Safety Warnings.

ALL-BM310/ ALL-BM300 is a Managed Single Master/Slave LAN Extender that leverages the extraordinary bandwidth promise of G.fast technology (max. 1000Mbps), the next step in the delivery of new high-speed Internet applications in commercial environments. Quick, easy, economical to install and maintain, the ALL-BM310/ALL-BM300 works over existing copper wire infrastructure. ALL-BM310 is a Master(CO side) device. And ALL-BM300is as Slave(CPE side).
ALL-BM310/ALL-BM300 will allow operators worldwide to compete with cable andsatellite operators by offering services such as HDTV, VOD, videoconferencing, high speed Internet access and advanced voice services including VoIP, over a standard copper
telephone cable. ALL-BM310/ ALL-BM300 is seen by many operators as an ideal accompaniment to a FTTP rollout, where for instance fiber optic is supplied direct to an apartment block and from there copper cable is used to supply residents with high-speed G.fast.

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Caution:

The ALL-BM310/ ALL-BM300 is for **indoor** applications only. This product does not have waterproof protection, please do not use in outdoor applications.

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Chapter 1. Unpacking Information

1.1 Check List

Thank you for choosing Allnet ALL-BM310/ALL-BM300 Before installing the router, please verify the contents inside the package.

Package Contents:

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1 x Modem	Accessory Kit : 1 x Ethernet Cable, 1 x Phone wire , 1 x DC12V Power Adapter	

Notes:

1. Please inform your dealer immediately for any missing or damaged parts. If possible, retain the carton including the original packing materials. Use them to repack the unit in case there is a need to return for repair.
2. Do not use sub-standard power supply. Before connecting the power supply to the device, be sure to check compliance with the specifications. The ALL-BM310/ALL-BM300 uses a DC12V/2A or above Switching power supply.

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Chapter 2. Installing the Modem

2.1 Hardware Installation

This chapter describes how to install the modem, and establish the network connections. The ALL-BM300 may be installed on any level surface (e.g. a table or shelf). However, please take note of the following minimum site requirements before you begin. **The ALL-BM310/ALL-BM300 has 2 pre-installed rubber feet.**

2.2 Pre-installation Requirements

Before you start the actual hardware installation, make sure you can provide the right operating environment, including power requirements, sufficient physical space, and proximity to other network devices that are to be connected.

Verify the following installation requirements:

- Power requirements: **DC 12 V / 2A or above**
- The modem should be located in a cool dry place, with at least **10cm/4in** of space at the front and back for ventilation.
- Place the modem away from direct sunlight, heat sources, or areas with a high amount of electromagnetic interference.

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- Check if the network cables and connectors needed for installation are available.
- Do not install phone lines strapped together with AC power lines, or telephone office line with voice signal.
- Avoid installing this device with radio amplifying stations nearby or transformer stations nearby.

2.3 General Rules

Before making any connections to the modem, please note the following rules:

- **Ethernet Port interface : RJ-45**

  All network connections to the modem Ethernet port must be made using Cat. 5e UTP/STP or above for 1000 Mbps, Cat. 5 UTP/STP or above for 100 Mbps, Cat. 3, 4 UTP or above for 10Mbps.

  No more than 100 meters of cabling may be use between the MUX or HUB and an end node.

- **G.fast Port interface : RJ-11 & Terminal block combo**

  All network connections to the RJ-11/ terminal block(sharing port) must use **24~26** gauge with single **twisted pair** phone wire.

  We **do not recommend** the use of the 28 gauge phone wire or above.

  The RJ-11 is an 6P4C connector, two of which are wired. The modem uses the center two pins. The pin out assignment for these connectors is presented below.

  Please note that the line port is no polarity, therefore user can reverse the two wires of the phone cable when installed.

RJ-11 Pin out Assignments

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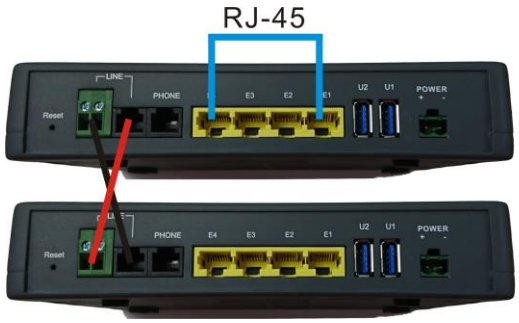
Pin#	MNEMONIC	FUNCTION
1	NC	Unused
2	2a	Pass through
3	**1a**	**G.fast / xDSL**
4	**1b**	**G.fast / xDSL**
5	2b	Pass through
6	NC	Unused

2.4 Connecting the RJ-11 / RJ-45 Ports

The line port have 1 connector: RJ-11. It is used to connect with ALL-BM310 Master side over a single pair phone wire to ALL-BM300 Slave side (point to point application). (Figure 2.1)



Black line : Valid
Red line : Valid

- When inserting a RJ-11 plug, make sure the tab on the plug clicks into position to ensure that it is properly seated.
- **Do not** plug a RJ-11 phone jack connector into the Ethernet port (RJ-45 port). This may damage the modem. Instead, use only twisted-pair cables with RJ-45 connectors that conform to Ethernet standard.

Notes:

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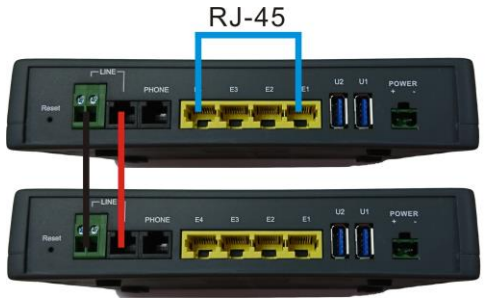

Figure 2.1 ALL-BM310/ALL-BM300 line ports straight connection

1. Be sure each twisted-pair cable (RJ-45 Ethernet cable) does not exceed 100 meters (333 feet).
2. We advise using Category 5~7 UTP/STP cables for making Ethernet connections to avoid any confusion or inconvenience in the future when you attach high bandwidth devices.
3. Use **24 ~ 26** gauge twisted pair phone wiring, we do not recommend 28 gauge or above.
4. Be sure phone wire has been installed before the ALL-BM310/ ALL-BM300 boot.
5. Do not connect Line port with RJ-11 and Terminal block to two Master / Slave device

2.5 Point to Point Application

First a quick overview on a complete setup of LAN extender Master/Slave LAN extender.
ALL-BM310/ALL-BM300 is a LAN extender leverages the extraordinary bandwidth promise of G.fast technology (max. 1000Mbps) (Figure 2.2)

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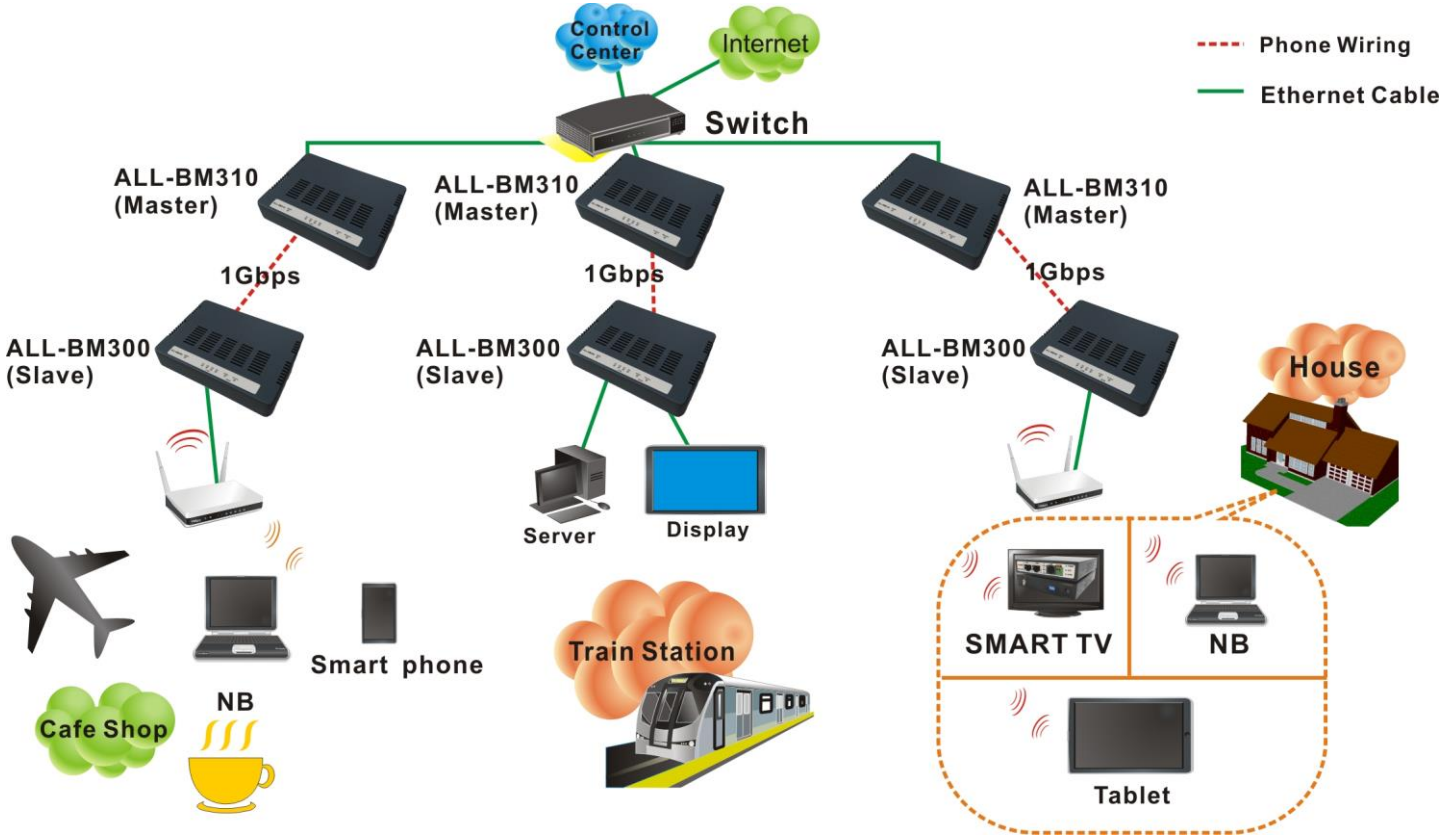

Figure 2.2 ALL-BM310/ALL-BM300 Point to Point application

◆ 2.5.1 Connect the ALL-BM310(Master) and the ALL-BM300(Slave) to the Line

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The objective for LAN extender is to pass high speed data over a twisted pair cable. In the setup, connect ALL-BM310(Master) to ALL-BM300 (Slave) through phone wire(24~26 AWG) or line simulator or any other hardware representation of a cable network, with or without noise injection and crosstalk simulations.

◆ 2.5.2 Connect the ALL-BM310(Master) and the ALL-BM300(Slave) to LAN Devices

In the setup, usually an Ethernet tester serves as a representation of the LAN side as well as a representation of the WAN(Line) side.

◆ 2.5.3 Run Demos and Tests

The Ethernet tester may send data downstream as well as upstream. It also receives the data in order to check the integrity of the data transmission. Different data rates can be tested under different line conditions

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Chapter 3. Hardware Description

This section describes the important parts of the ALL-BM300. It features the front panel and rear panel.

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ALL-BM310 (Master)

ALL-BM300 (Slave)

ALL-BM310 Outward

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3.1 Front Panel

The figure shows the front panel. (Figure 3.1)

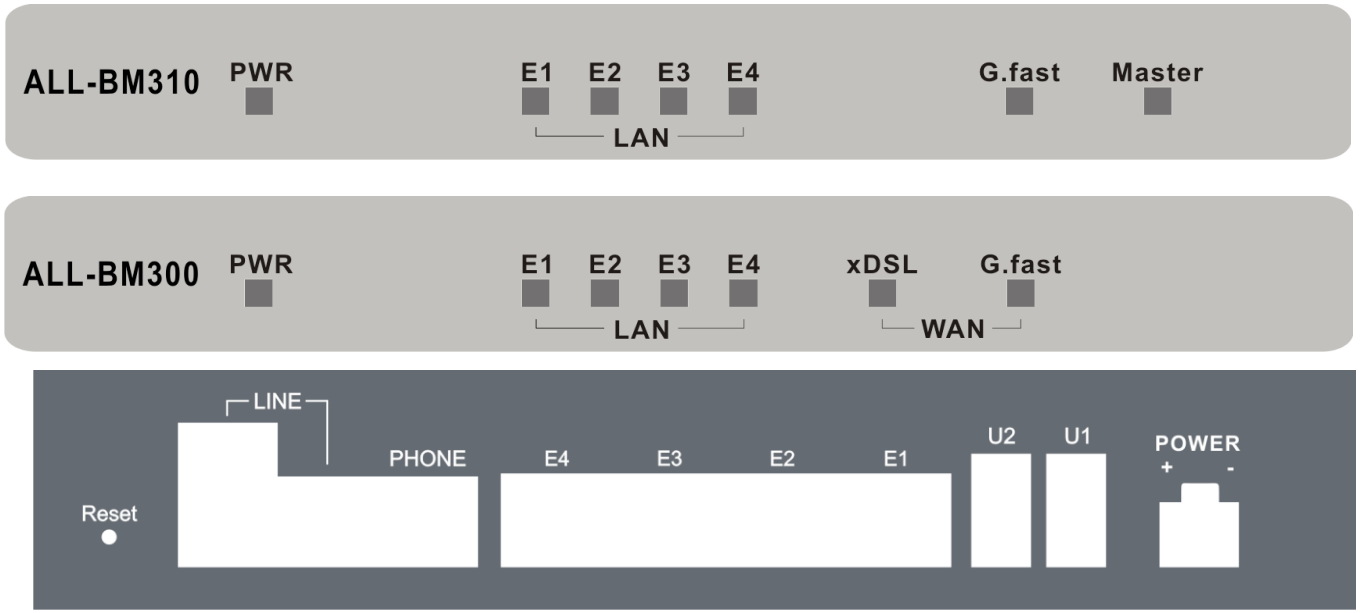

Figure 3.1 Front Panel(ALL-BM310/ALL-BM300)

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3.2 Front Indicators

The Modem has **Seven** LED indicators. The following Table shows the description. (Table 3-1)

Table 3-1 LED Indicators Description and Operation

LED	Color	Status	Descriptions
PWR (Power LED)	Green	On(Steady)	Lights to indicate that modem has power good
		Off	The device is not ready or has malfunctioned.
LED	**Color**	**Status**	**Descriptions**
E1 ~ E4 (Ethernet LED)	Green	On(Steady)	The device has a good Ethernet connection.
		Blinking	The device is sending or receiving data.
		Off	The LAN is not connected or has malfunctioned.
G.fast (G.fast LED)	Green	On(Steady)	The G.fast connection is up.
		Fast Blinking	The Master device has detected a Slave device and ready to connect.

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		Off	The Internet or network connection is down.
xDSL (xDSL LED / BM300 only)	Green	On(Steady)	The xDSL connection is up.
		Fast Blinking	The Master device has detected a Slave device and ready to connect.
		Off	The Internet or network connection is down.
Master LED	Green	On (Steady)	Device firmware on Master mode.
		Off	Device firmware on Slave mode

Note:

It is normal for the connection between two ALL-BM310 & ALL-BM300 to take up to 3 minutes, due to ALL-BM310(Master) connect ALL-BM300(Slave) to establish a link mechanism in auto-speed, with detects and calculates Master and Slave both PBO and PSD level, noise levels and other arguments for getting a better connection.

3.3 Rear Panel

The following figure shows the rear panel. (Figure 3.2)

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Figure 3.3 Rear Panel

And the table shows the description. (Table 3-2)

Table 3-2 Description of the modem rear connectors

Type	Connector	Description
Reset	Tact Switch Button	The reset buttons allows users to reboot the LAN ALL-BM310/ ALL-BM300 or load the default settings. **Press and hold for 1-5 seconds: Reboot the device** **Press over 5 seconds: Load the default settings**
Power	Phoenix type connector	External switching Power Adapter: Input: AC 85~240Volts/50~60Hz. Output: DC 12V/2A.
Line	RJ-11	For connecting to a Master/Slave device.

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Type	Connector	Description
phone	RJ-11	For connecting to the POTS equipment or ISDN.
Ethernet (E1-E4)	RJ-45	For connecting to an Ethernet equipped device.
USB 3.0	USB3.0 Type A	For connecting to the USB dongle.

Before user installed power and device, please read and follow these essentials:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

Note:

Do not run signal or communications wiring and power wiring through the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.

- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring sharing similar electrical characteristics can be bundled together.
- You should separate input wiring from output wiring.
- We recommend that you mark all equipment in the wiring system.

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Chapter 4. Configure the modem via Web management menu

The ALL-BM310/ ALL-BM300 provides a built-in HTML based management interface that allows configuration of the ALL-BM300 via Internet Browser. Best viewed using Chrome or Firefox browsers.

In order to use the web browser to configure the device, you may need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in windows XP SP2 or above.
- Java Scripts. (Enabled by default)
- Java permissions. (Enabled by default)

Launch your web browser and input the default IP address 192.168.16.249 (ALL-BM310) / 192.168.16.254 (ALL-BM300) in the Web page.
Following section user can find default username and password.

4.1 BASIC Setup

4.1.1 Login Webpage

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The default username and password are “admin”.

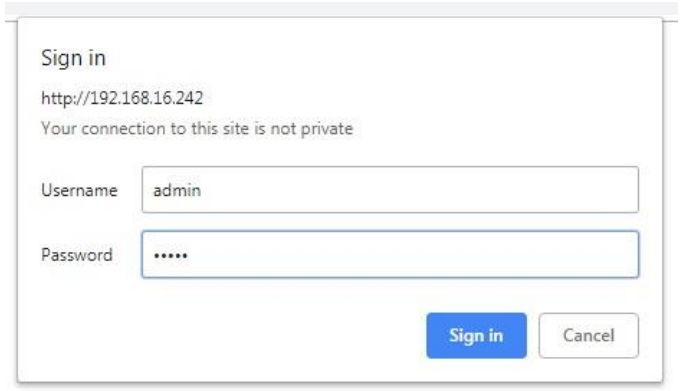

Figure 4.1.1 Login Webpage

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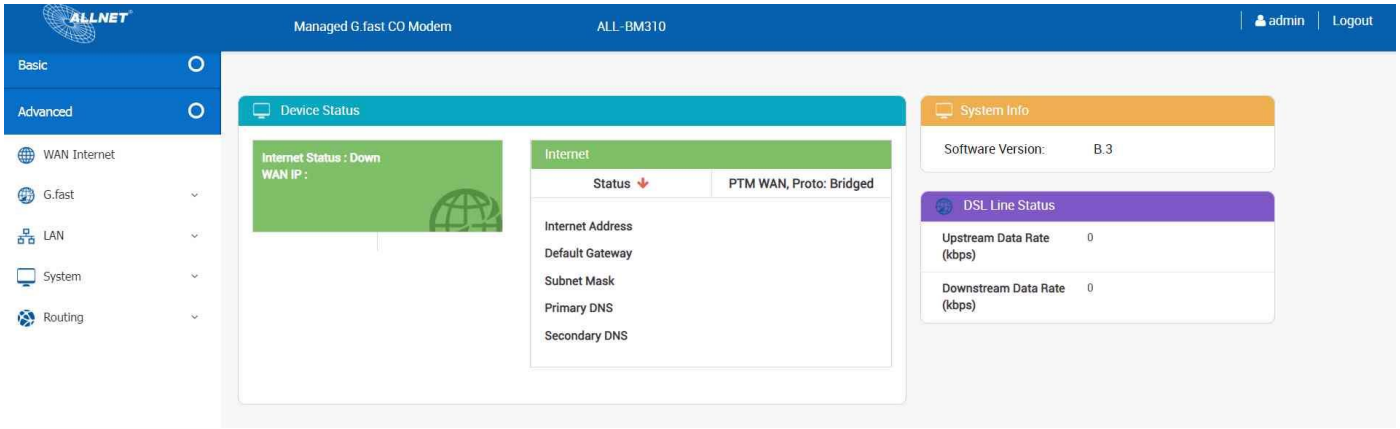
4.1.2 Display status

When the device is running, the status page will display the device informations (Hardware/Software Version, MAC Address, and System Up Time), as shown in Figure 4.1.2.

All-BM310



All-BM300

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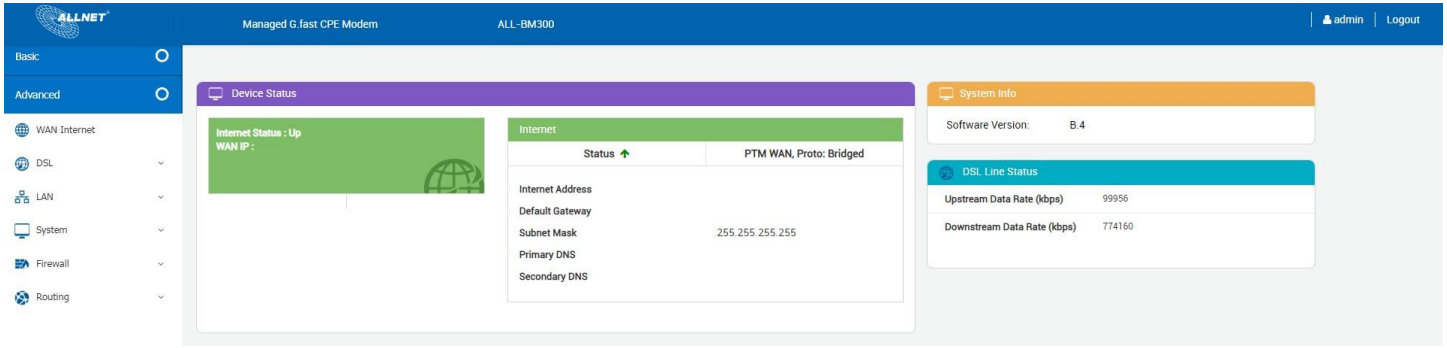

Figure 4.1.2 Device Info

4.2 Select the Menu Basic

There is an easy Setup for end users at the setup of ALL-BM310 with **G.fast, LAN, System, Routing** ALL-BM300 with **WAN Internet, DSL, LAN, System, Firewall, Routing** for more detail configurations.

ALL-BM310

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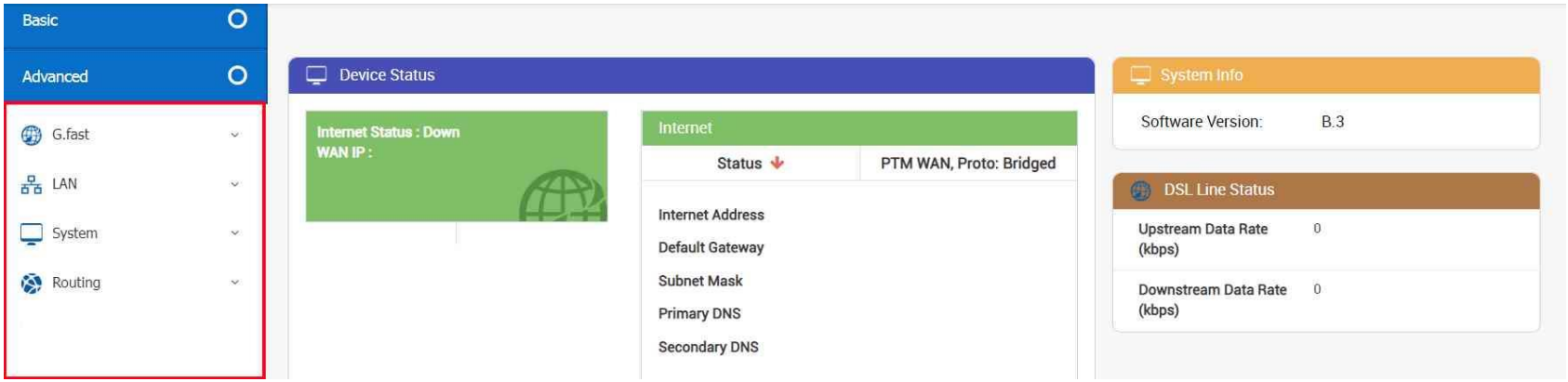
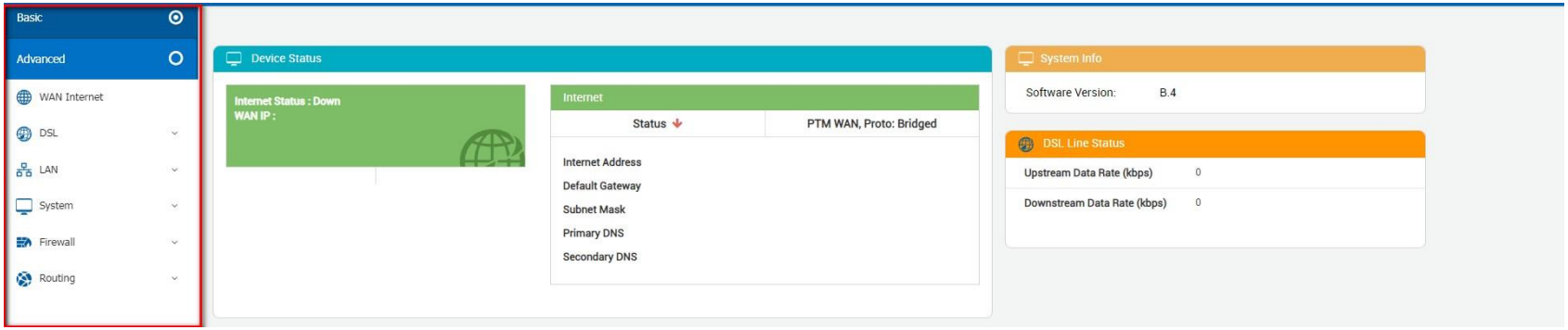


ALL-BM300



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4.2.1 WAN Internet

This page allows you to view and configure various Internet connections

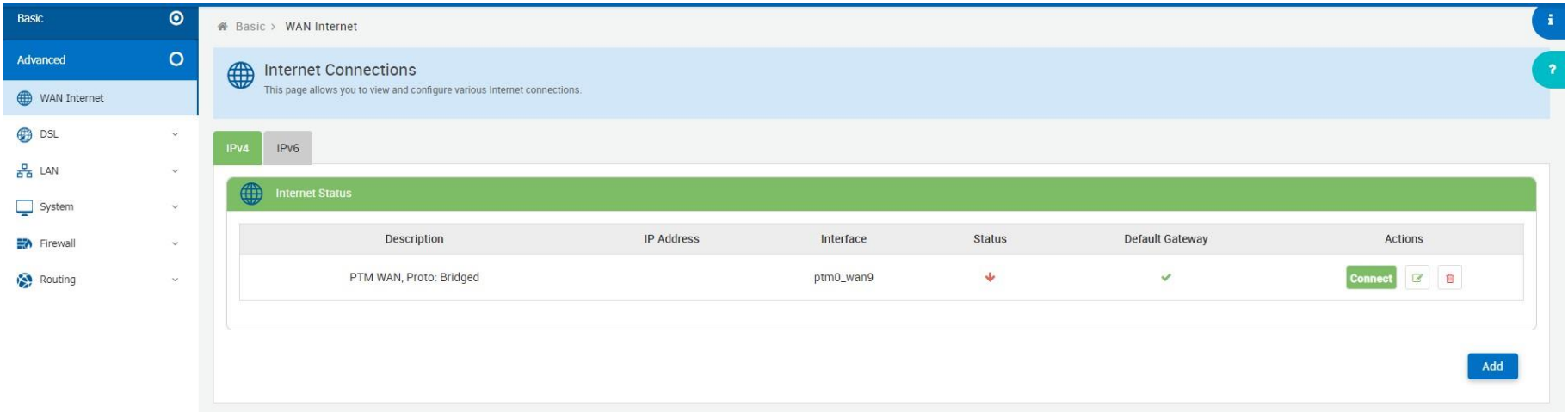

Figure 4.2.1 WAN Internet information

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4.2.2 G.fast / DSL

4.2.2.1 Mode Setting

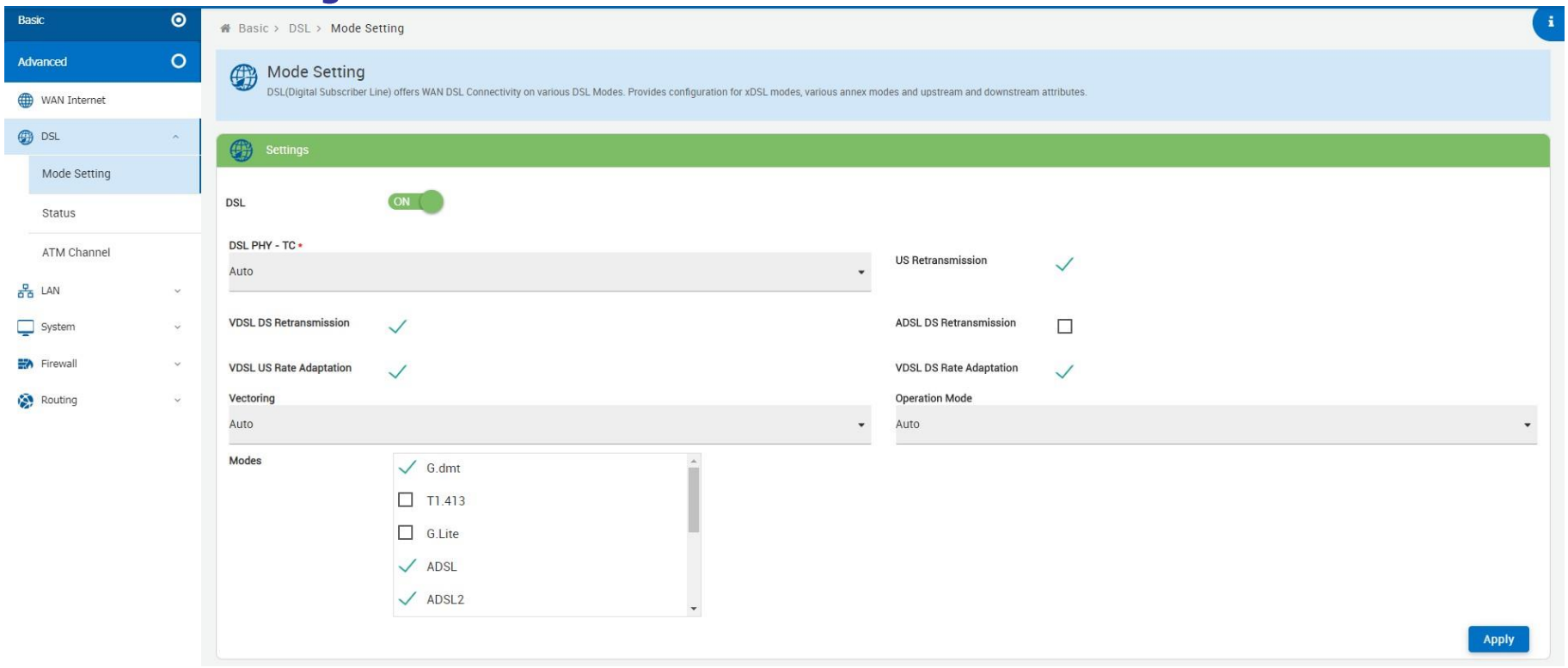

Figure 4.2.2.1 Mode Setting

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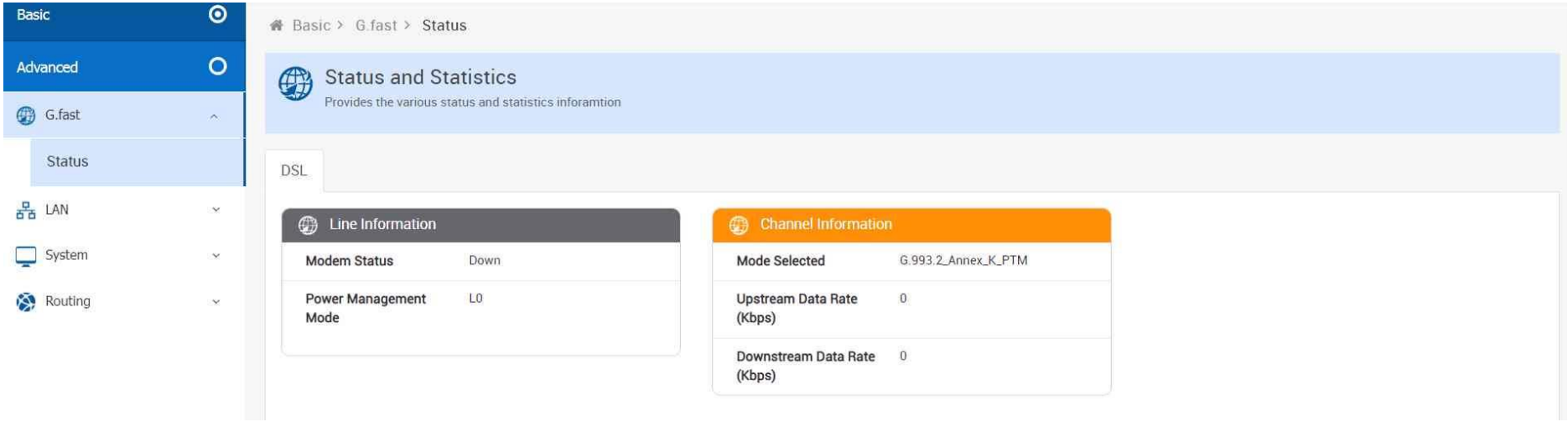
4.2.2.2 Status

This page provides the various status and statistics information



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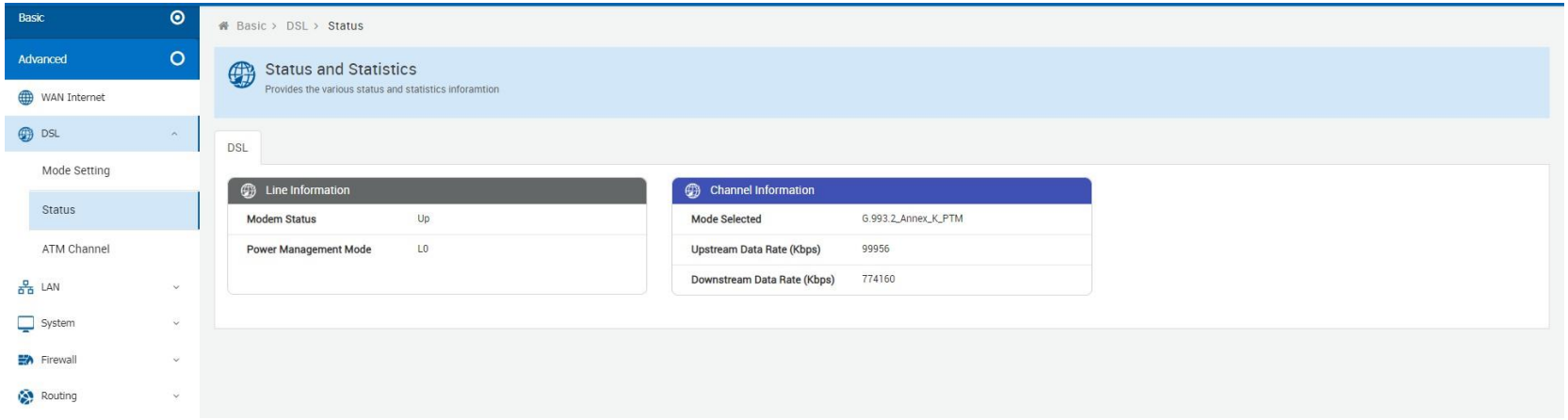

Figure 4.2.2.2 Status

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4.2.2.3 ATM Channel

This page Displays all ATM channels configured and allows users to delete configured channels.Please avoid deleting ATM channels on which Internet connections are configured.

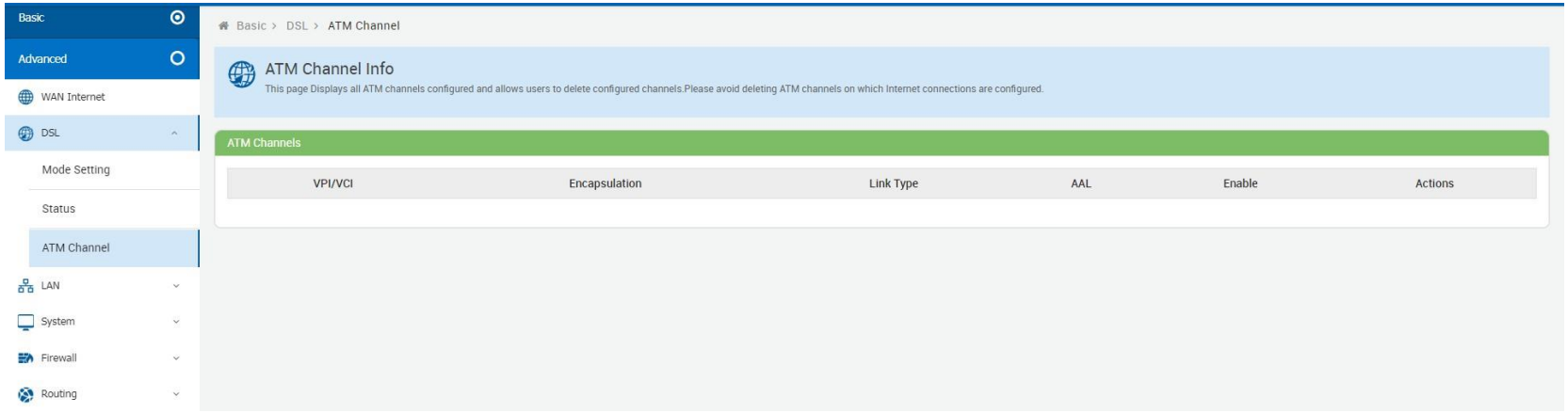

Figure 4.2.2.3 ATM Channel

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4.2.3 LAN

4.2.3.1 Configuration

Configuration support to provide IP address to devices connected on the LAN side of the CPE. Applicable for all wired and wireless devices that requests for dynamic IP address

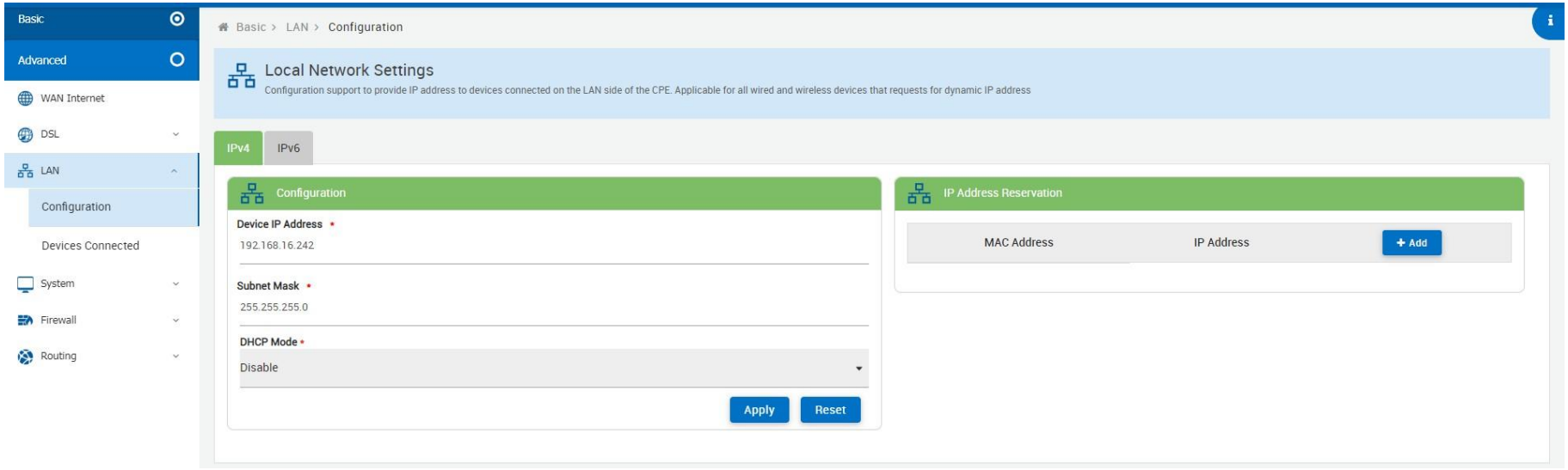

Figure 4.2.3.1 Configuration

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4.2.3.2 Devices Connected

List of Clients Connected on the LAN Side of the device

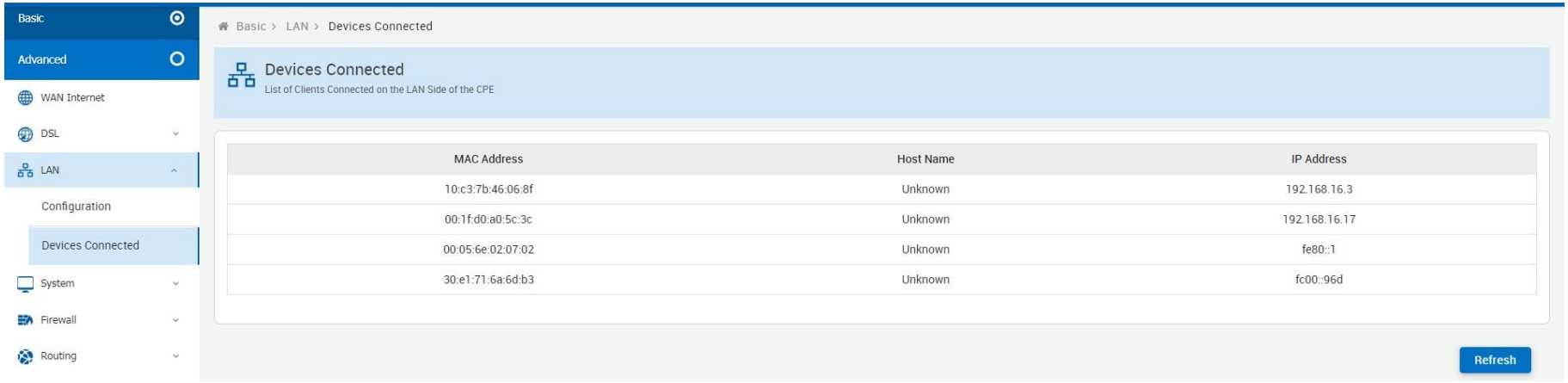

Figure 4.2.3.2 Devices Connected

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4.2.4 System

4.2.4.1 Administration

This page allows users to take configuration backup, restore to previous configuration or to factory settings, upgrade firmware and reboot device.

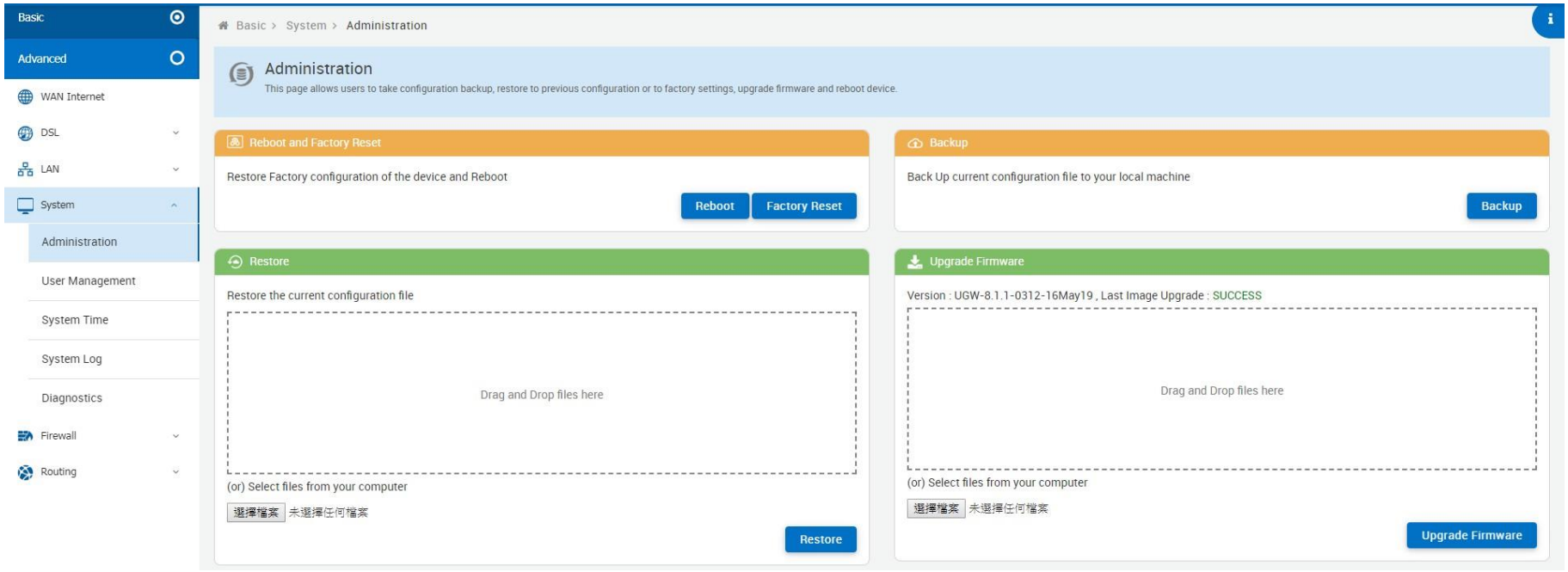

Figure 4.2.4.1 Administration

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4.2.4.2 User Management

Configure new users with add delete and modify options

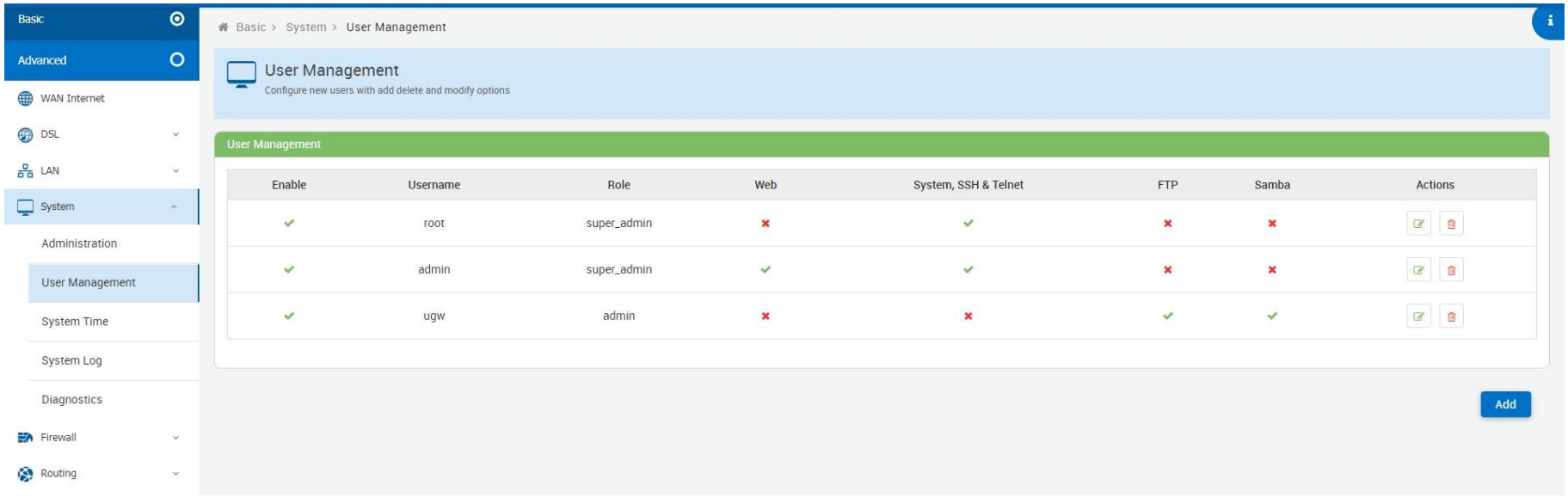

Figure 4.2.4.2 User Management

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4.2.4.3 System Time

Configuration to enable the device to sychronize the system time with the time servers.

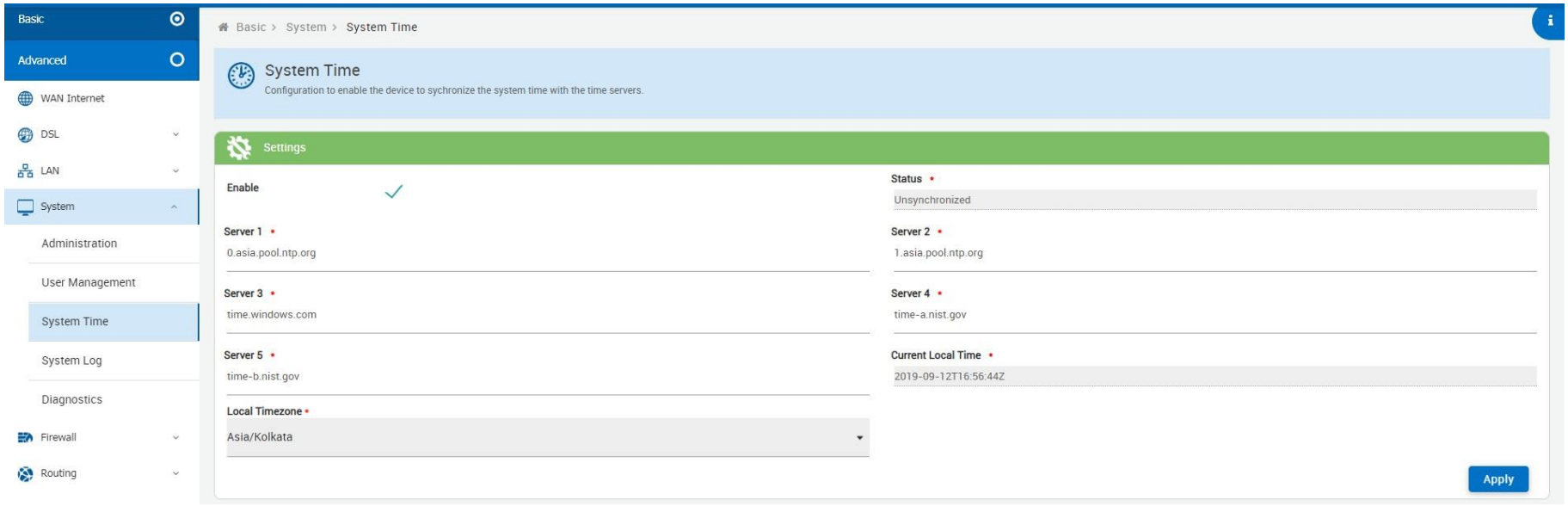

Figure 4.2.4.3 System Time

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4.2.4.4 System Log

The device provides customized logging the messages to File, Remote.

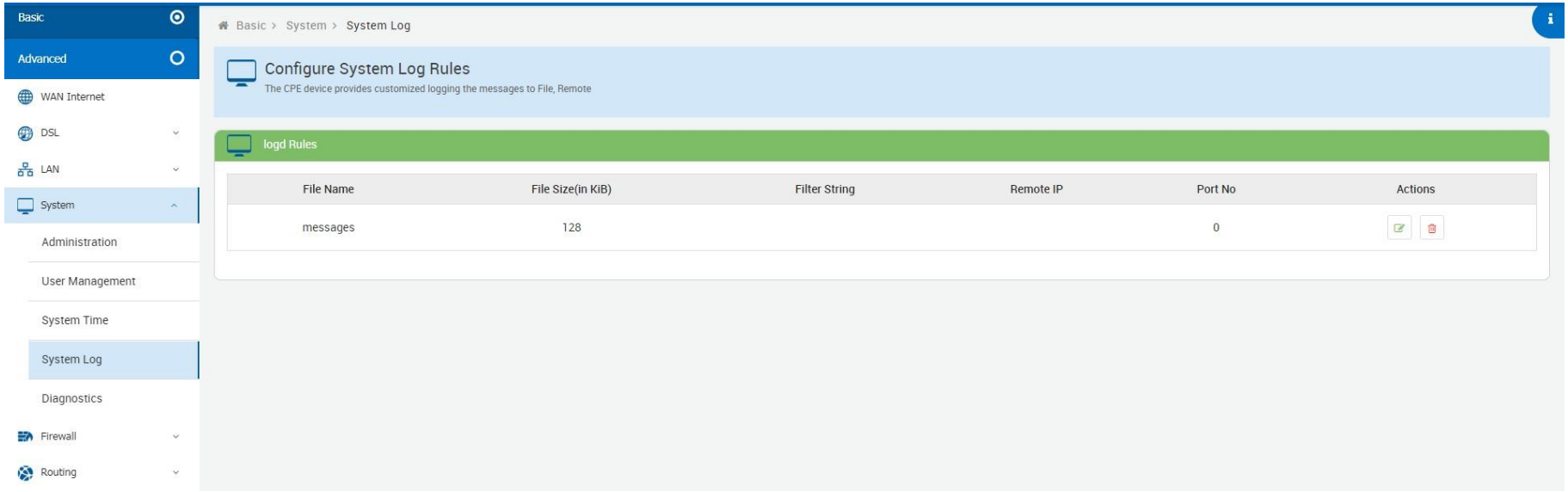

Figure 4.2.4.4 System Log

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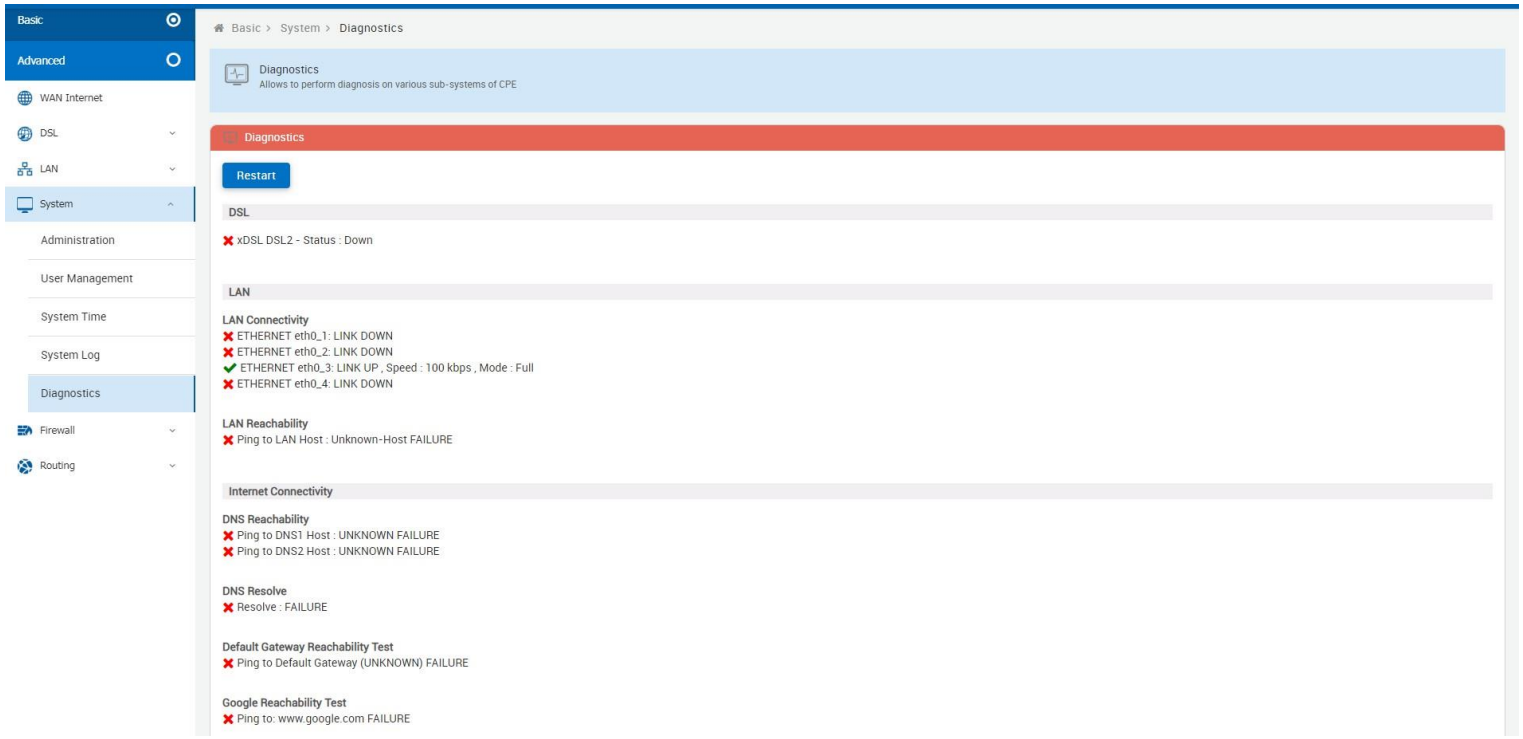
4.2.4.5 Diagnostics

Allows to perform diagnosis on various sub-systems of this device



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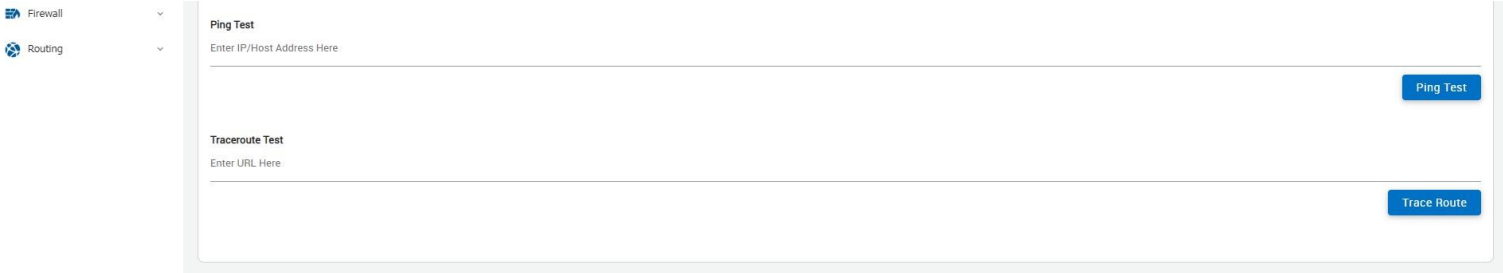

Figure 4.2.4.5 Diagnostics

4.2.5 Firewall

4.2.5.1 Main Firewall

The device provides extensive firewall protection against a wide array of common hacker attacks. This is done by restricting connection parameters to limit the risk of intrusion. Application layer protocol services can be enabled/disabled from this page.

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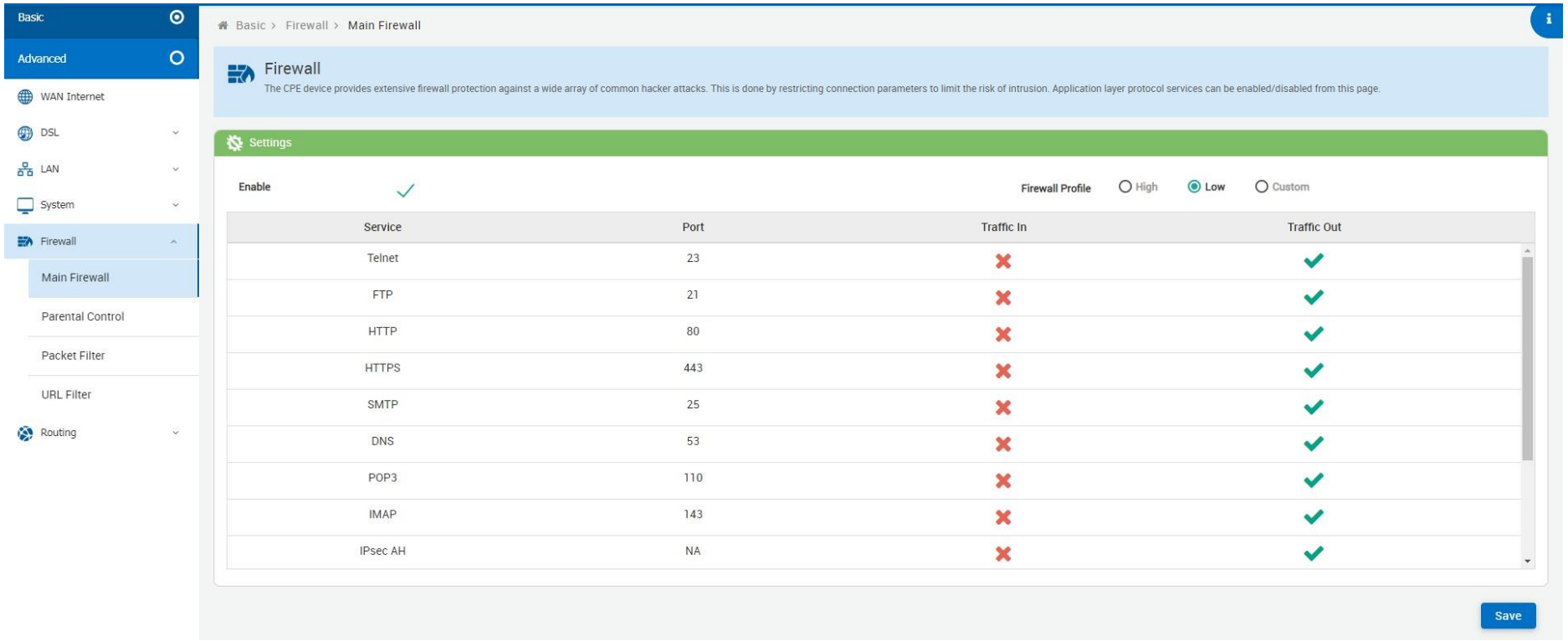

Figure 4.2.5.1 Main Firewall

4.2.5.2 Parental Control

Access to the internet from LAN Host PCs can be controlled based on MAC addresses and Time of

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Day.

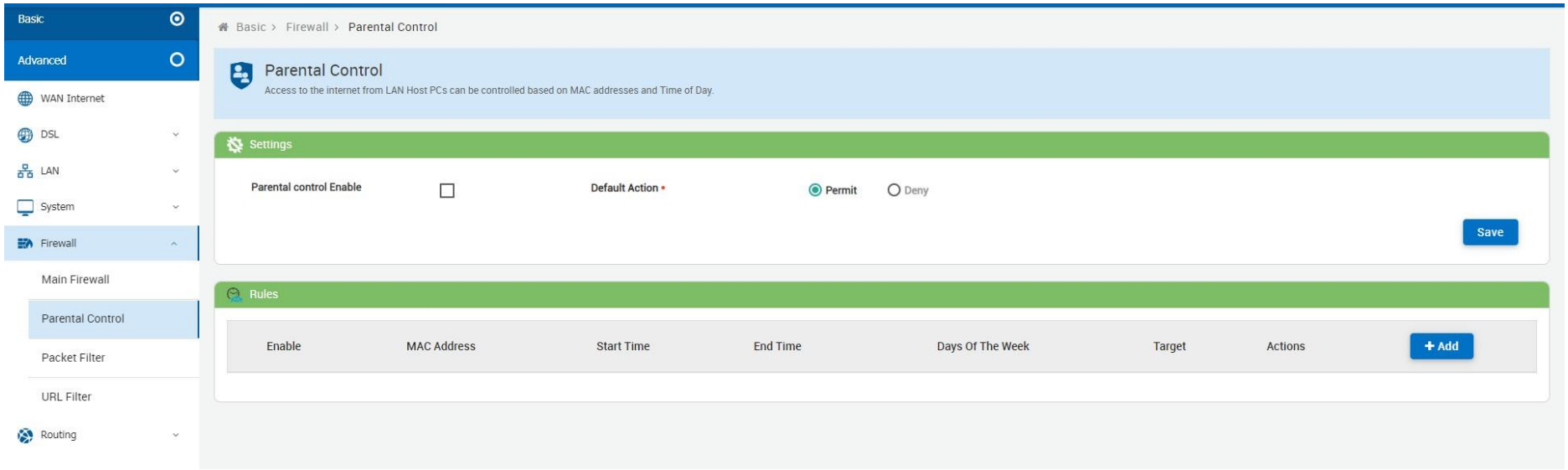

Figure 4.2.5.2 Parental Control

4.2.5.3 Packet Filter

This page allows the user to view and configure rules. Please make sure to enable Firewall and Packet filter feature. Note: New rules configured will not be applicable to existing running sessions !! Warning !!: Use this feature judiciously. Incorrect configuration may render device inaccessible.

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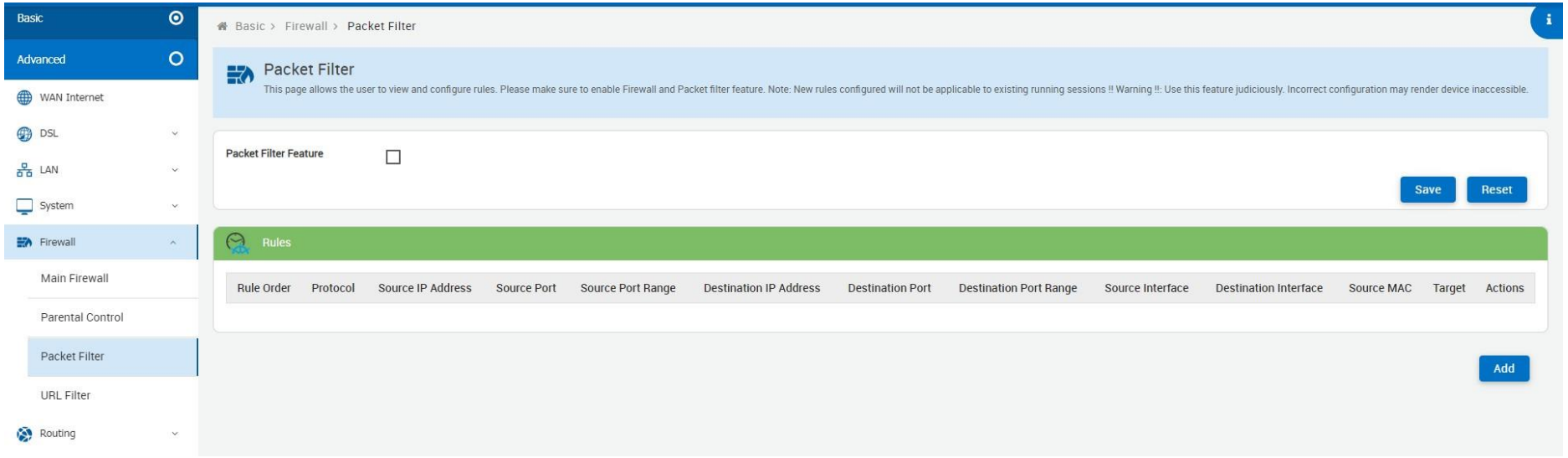

Figure 4.2.5.3 Packet Filter

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4.2.5.4 URL Filter

This page allows the user to configure URL Filter feature.

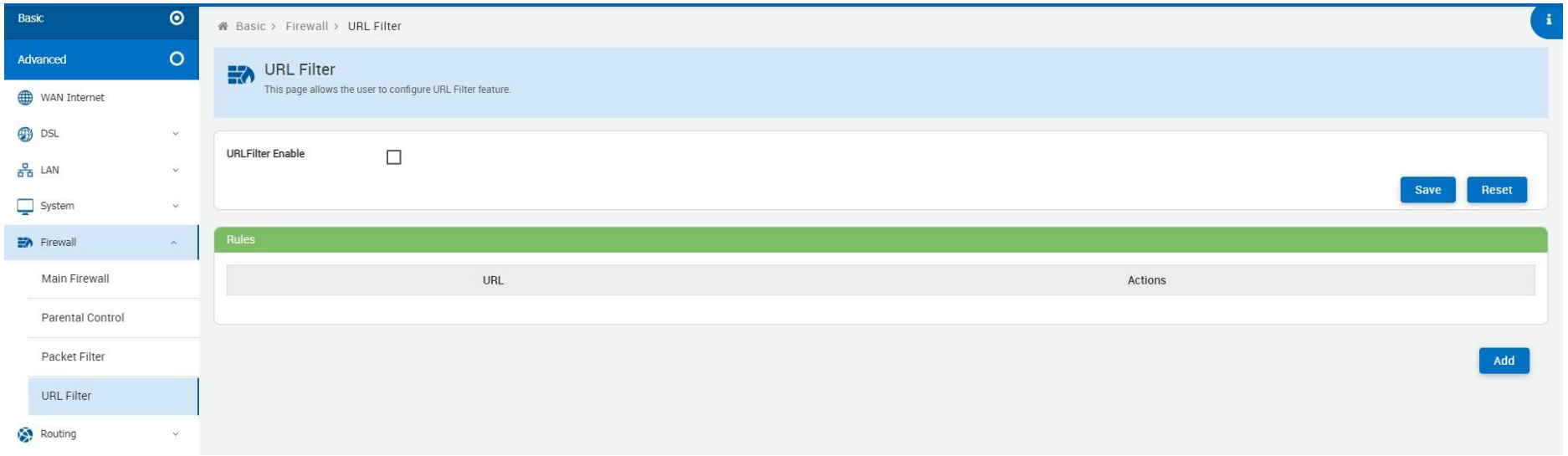

Figure 4.2.5.4 URL Filter

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4.2.6 Routing

4.2.6.1 Static Routing

Web Page to Add/Delete Static Route in the System

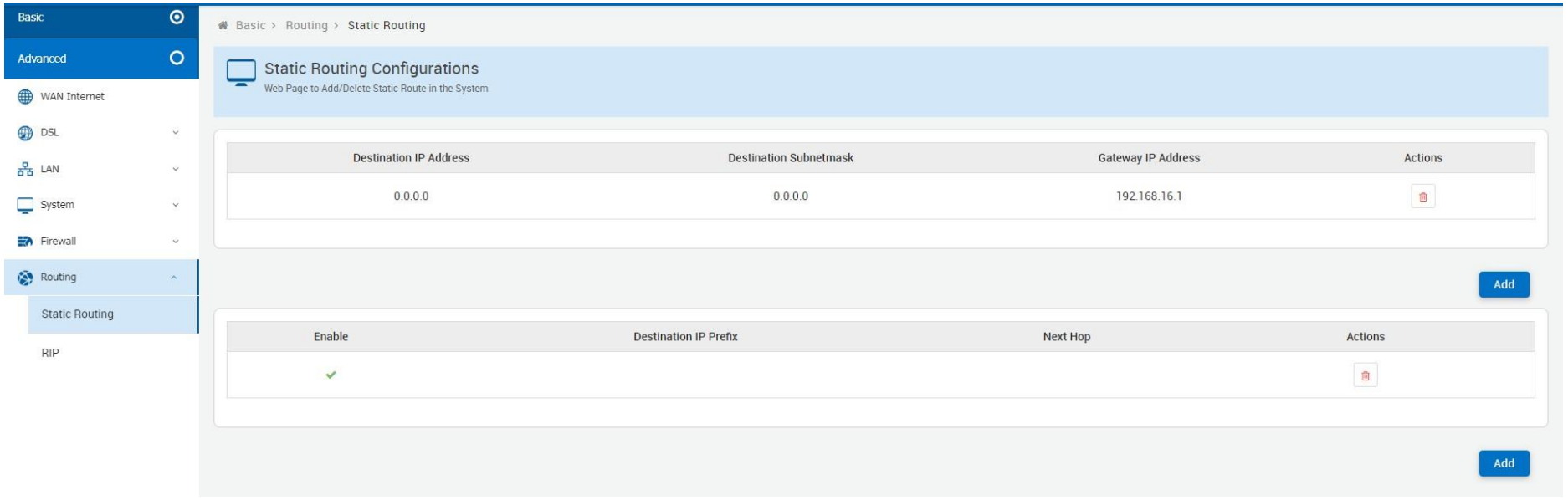

Figure 4.2.6.1 Static Routing

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4.2.6.2 RIP

This page allows to enable or disable RIP and set mode of operation.

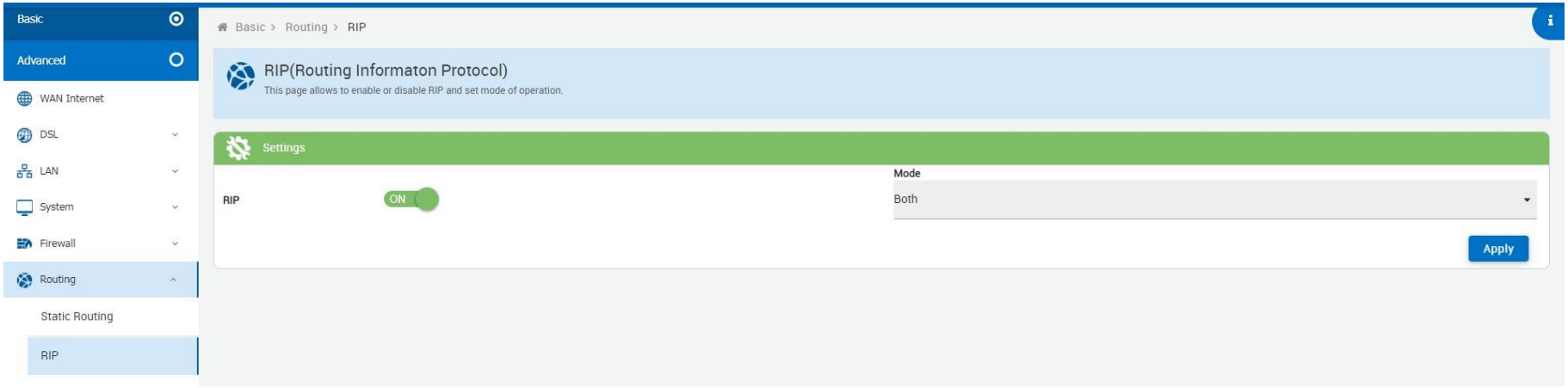

Figure 4.2.6.2 RIP

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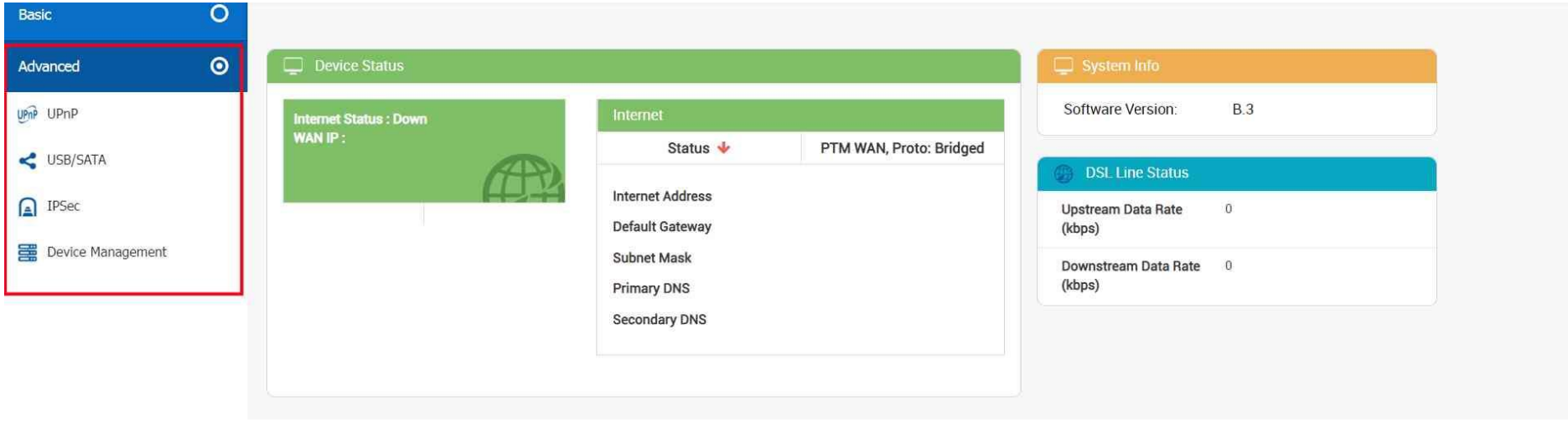
4.3 Select the Menu Advanced

Select “Advanced”. The menu below will be used frequently. ALL-BM310 includes the sub-menus of **UPnP**、**USB/SATA**、**IPSec**、**Device Management**. ALL-BM300 includes the sub-menus of **NAT**、**Multicast**、**Dynamic DNS**、**UPnP**、**QoS**、**Tunneling**、**USB/SATA**、**OAM Diagnostics**、**IPSec**、**Device Management**. A screen is displayed as shown in Figure 4.3
ALL-BM310



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ALL-BM300

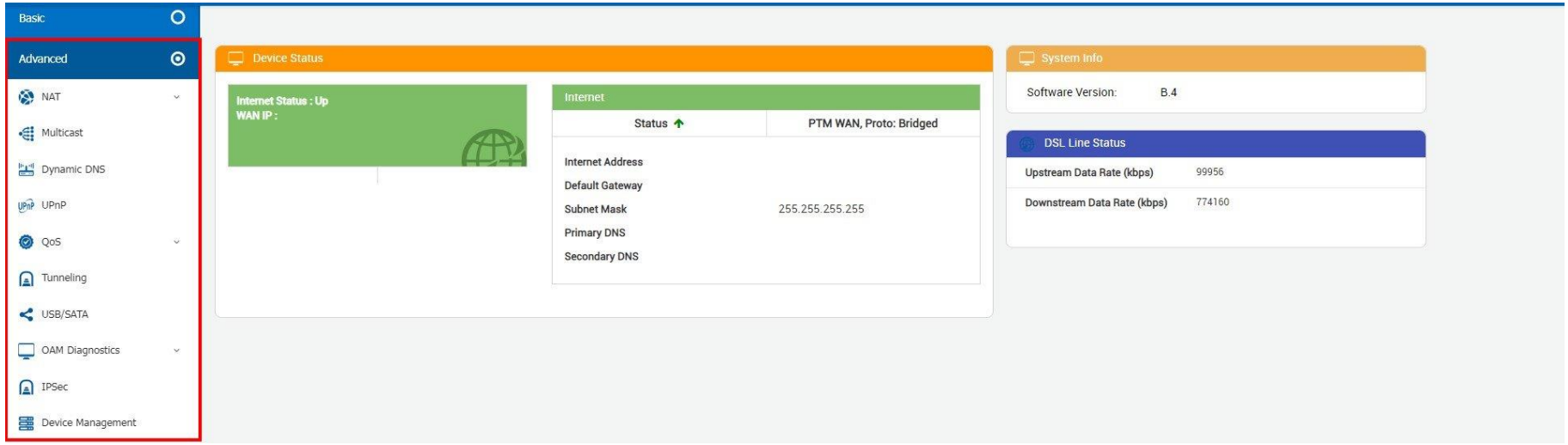

Figure 4.3 Advanced

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4.3.1 NAT

4.3.1.1 DMZ

This page allows the user to view and configure the virtual DMZ Host. Such a configuration opens up the specified host to unrestricted two-way Internet access.

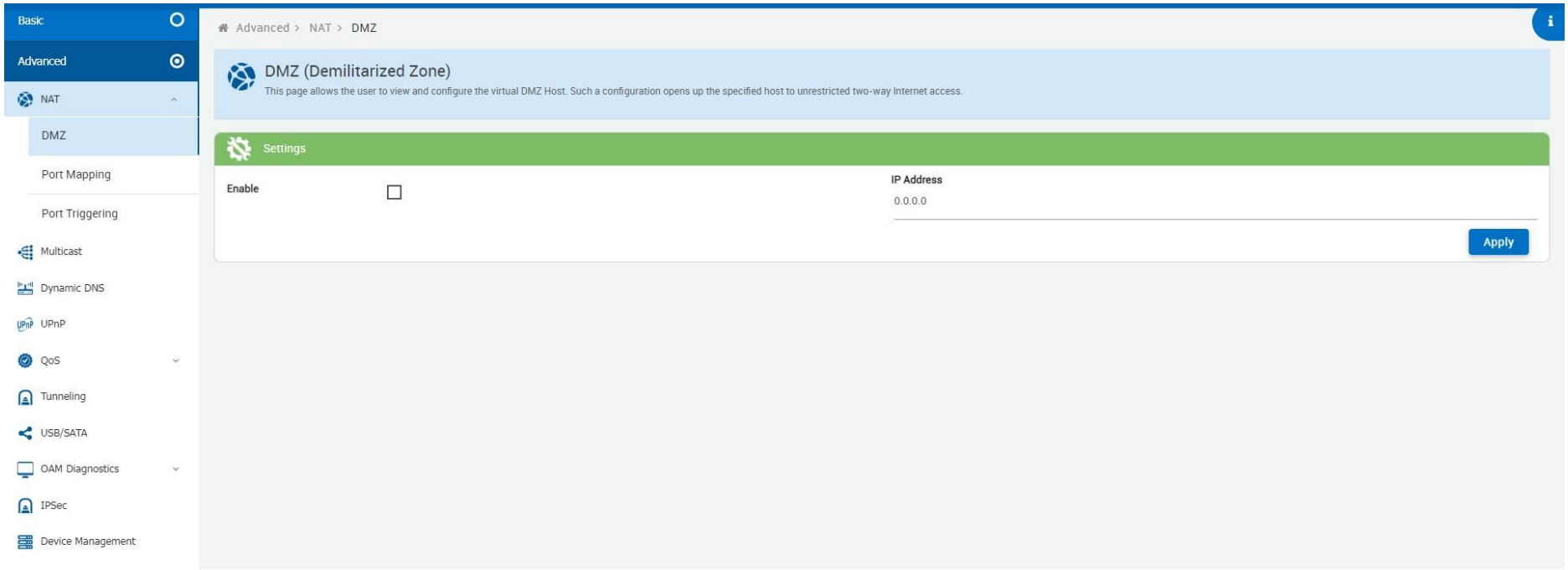

Figure 4.3.1.1 DMZ

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4.3.1.2 Port Mapping

Configure a rule to allow remote computers (for example, computers on the Internet) to connect to a specific computer or service within a LAN.

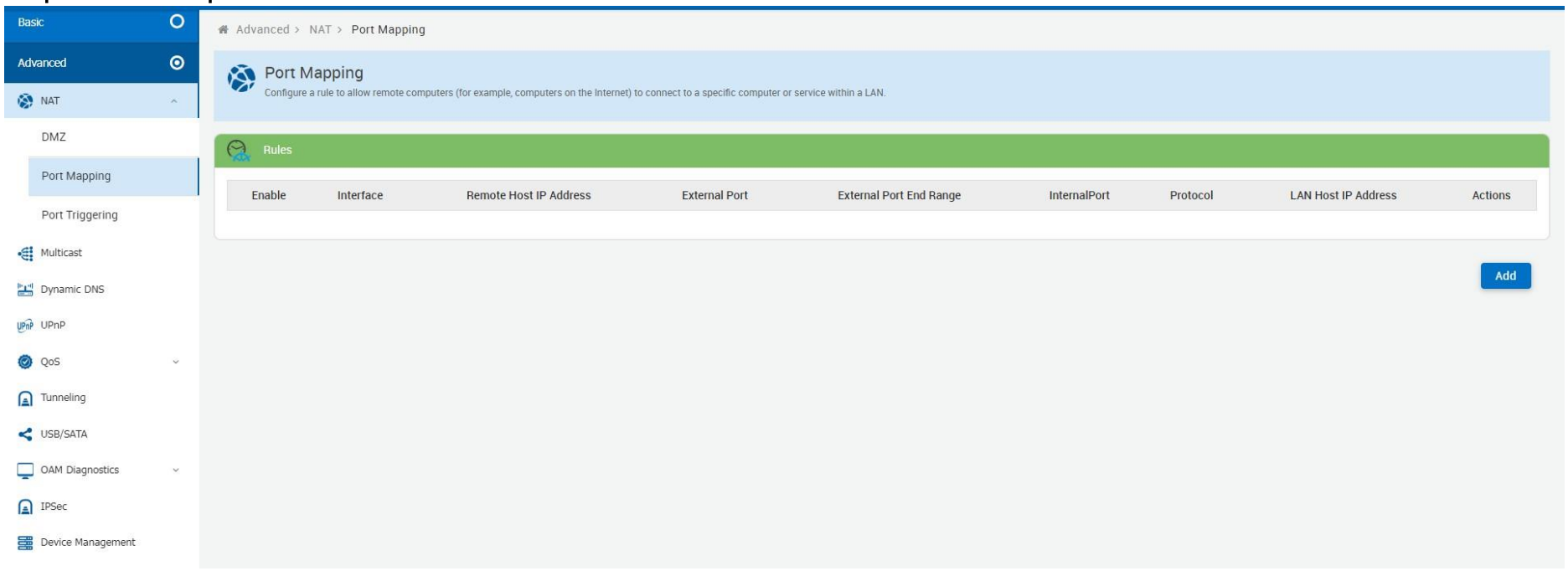

Figure 4.3.1.2 Port mapping

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4.3.1.3 Port Triggering

Port triggering opens an incoming port when the user's computer is using a specified outgoing port(trigger) for specific traffic

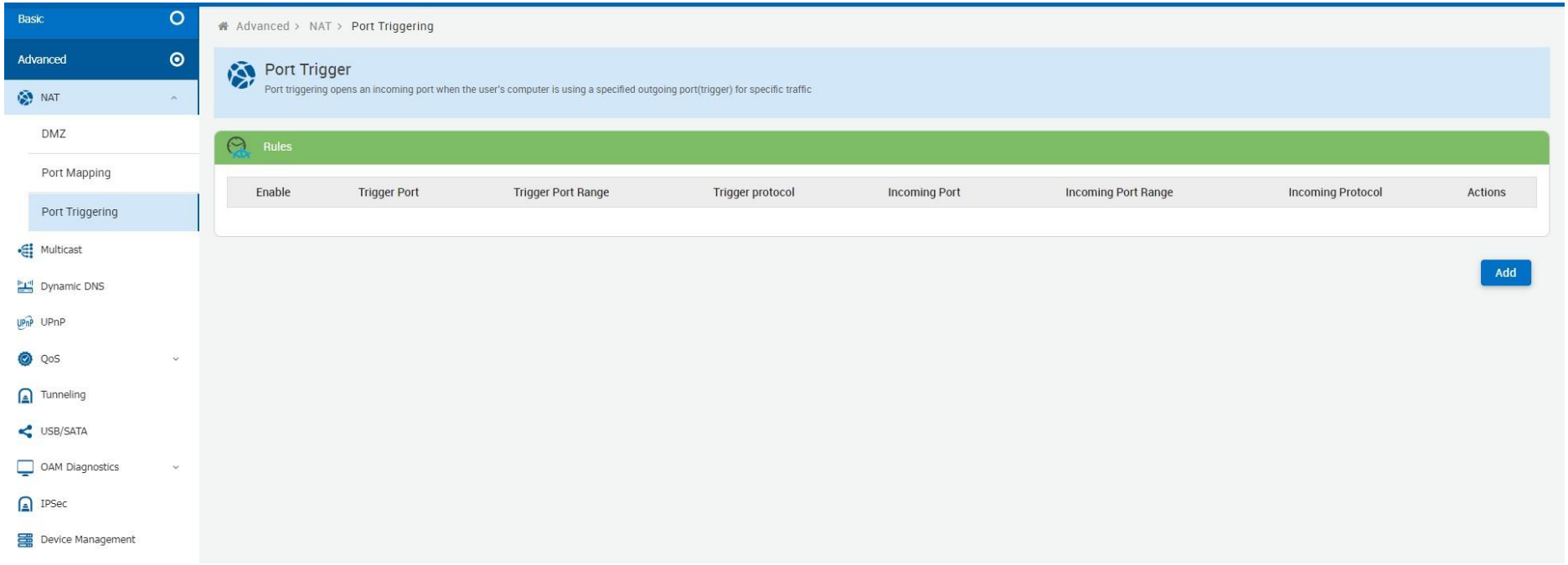

Figure 4.3.1.3 Port Triggering

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4.3.2 Multcast

This page allows to configure the Multicast services

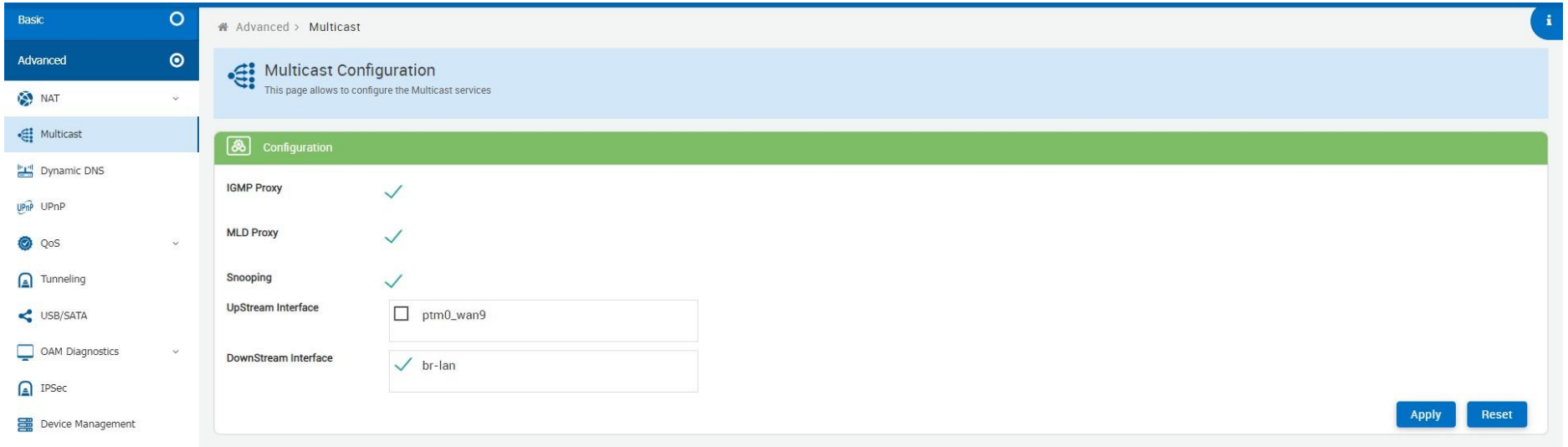

Figure 4.3.2 Multcast

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4.3.3 Dynamic DNS

Dynamic DNS allows the user to update wan IP address with one or many dynamic DNS services. So anyone can access services on computer using DNS-like address.

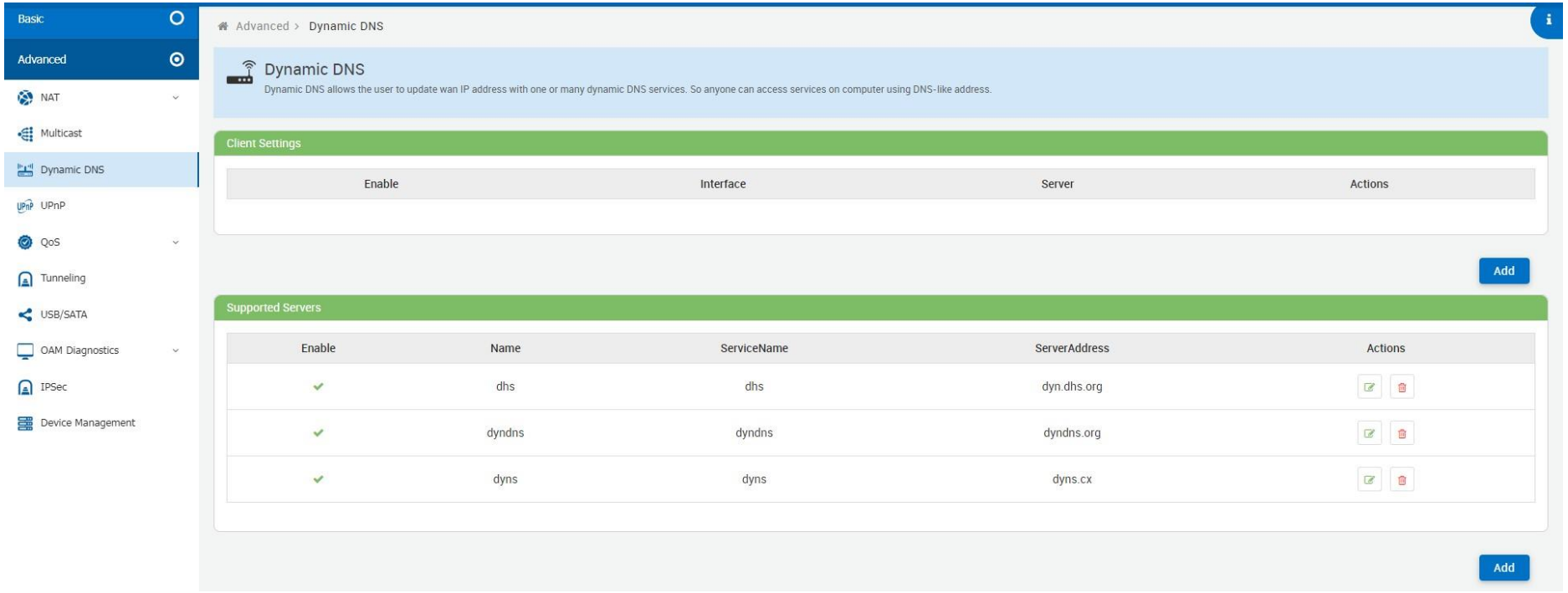

Figure 4.3.3 Dynamic DNS

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4.3.4 UPnP

This page provides UPnP devices & service

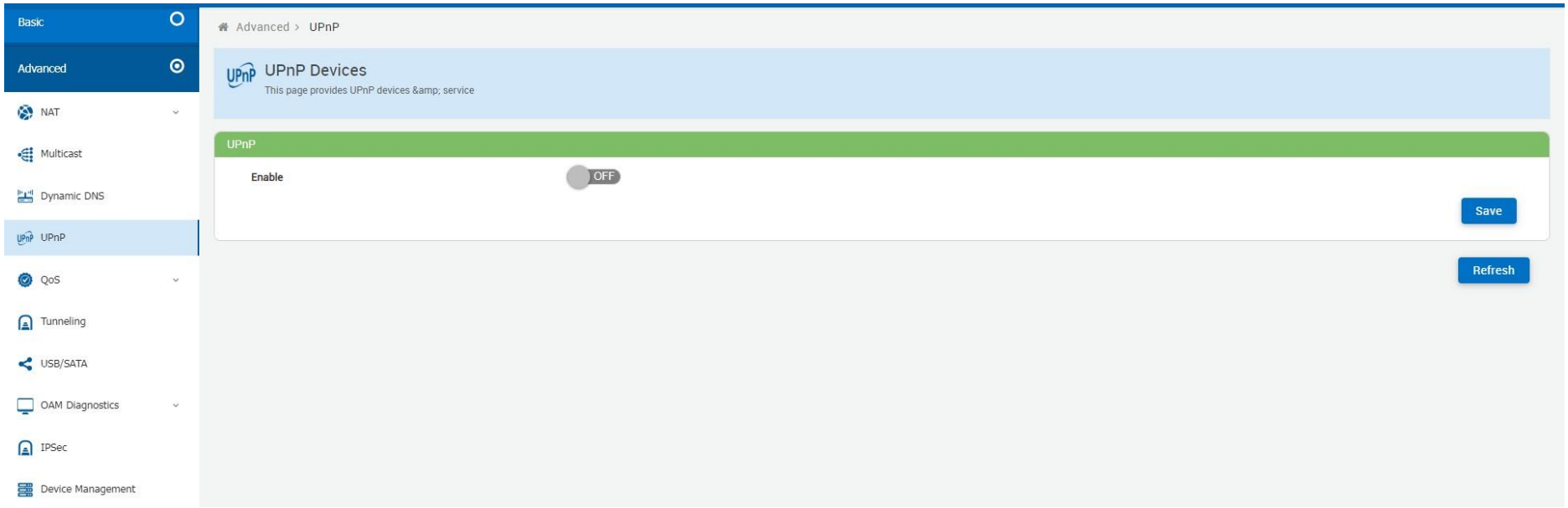

Figure 4.3.4 UPnP

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4.3.5 QoS

4.3.5.1 QoS

Quality of Service (QoS) settings enables you to manage and optimize the performance of the applications. It shapes the network traffic and prioritizes the devices and services by controlling the bandwidth allocation

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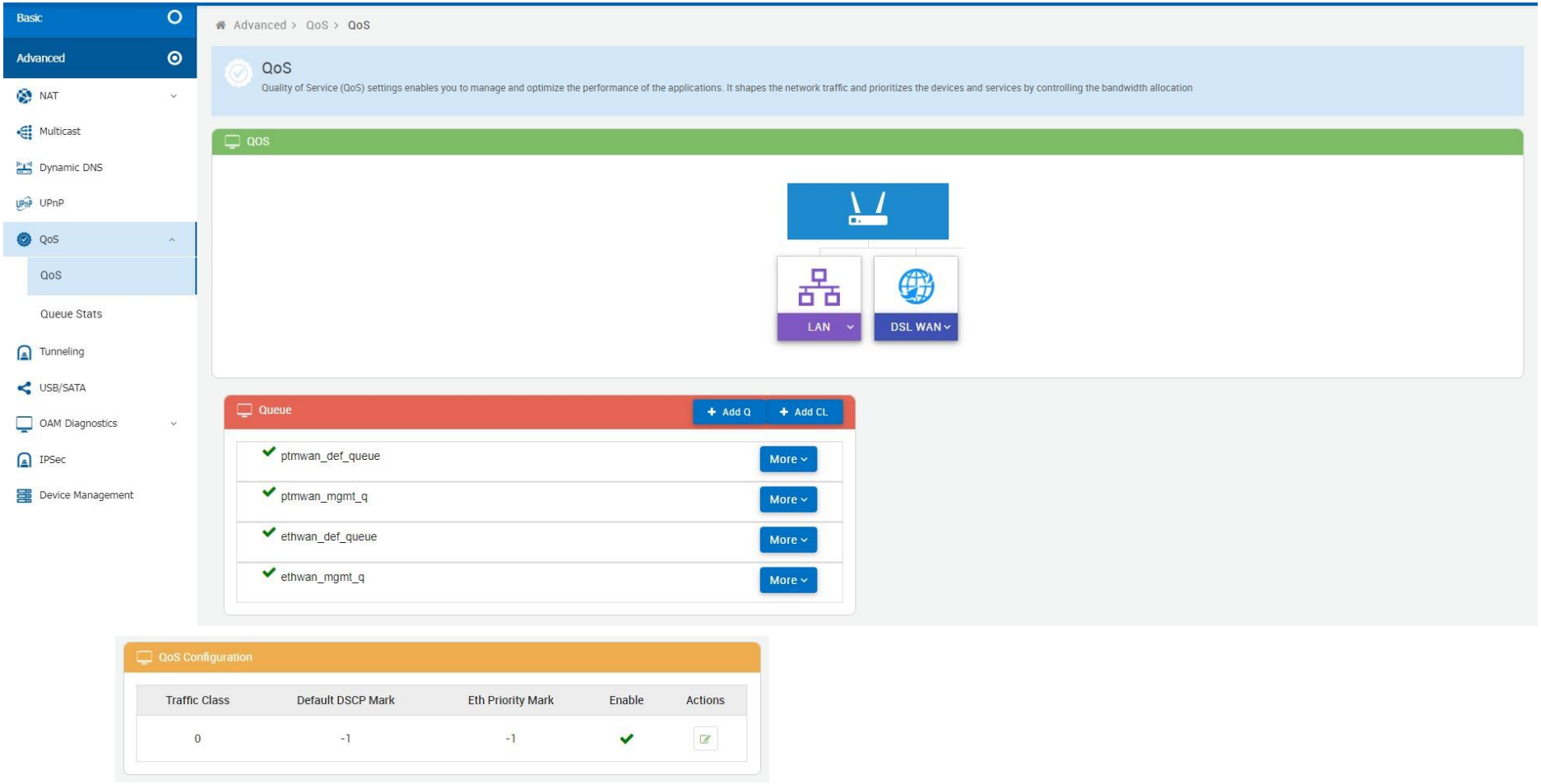

Figure 4.3.5.1 QoS

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4.3.5.2 Queue Stats

Shows statistics of configured queues.

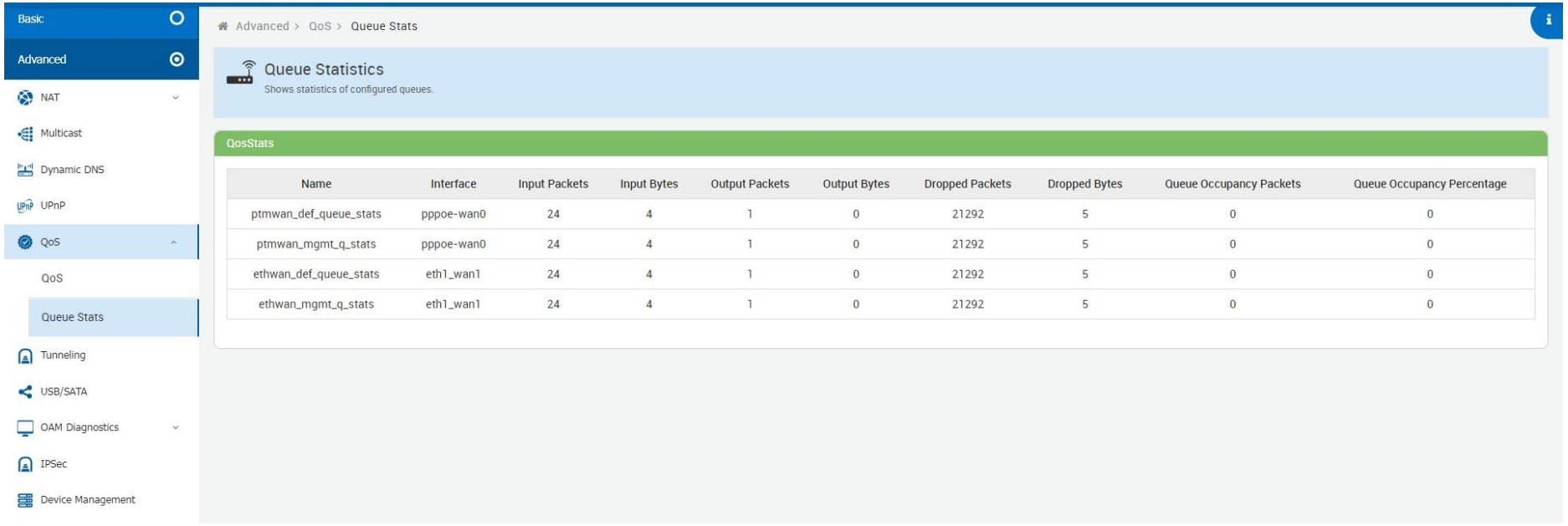

Figure 4.3.5.2 Queue Stats

4.3.6 Tunneling

6rd is a mechanism to facilitate IPv6 rapid deployment across IPv4 infrastructures of Internet service

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providers (ISPs). DSLite is a mechanism to facilitate IPv4 deployment across IPv6 infrastructure.

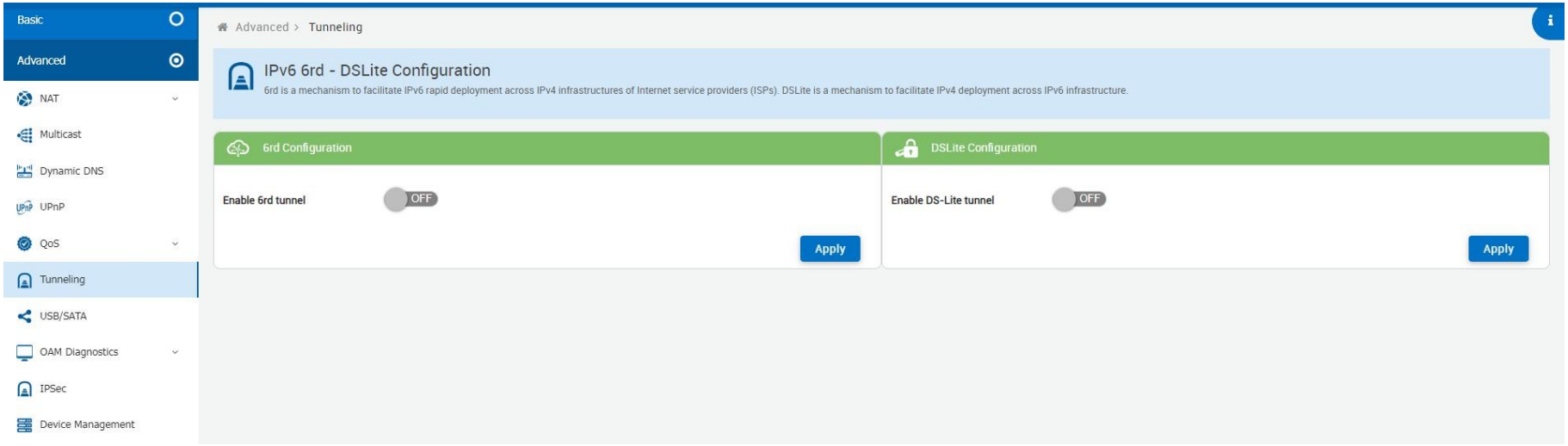

Figure 4.3.6 Tunneling

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4.3.7 USB/SATA

Always ensure that you click on the Safe Remove button to safely remove respective USB/SATA storage devices.

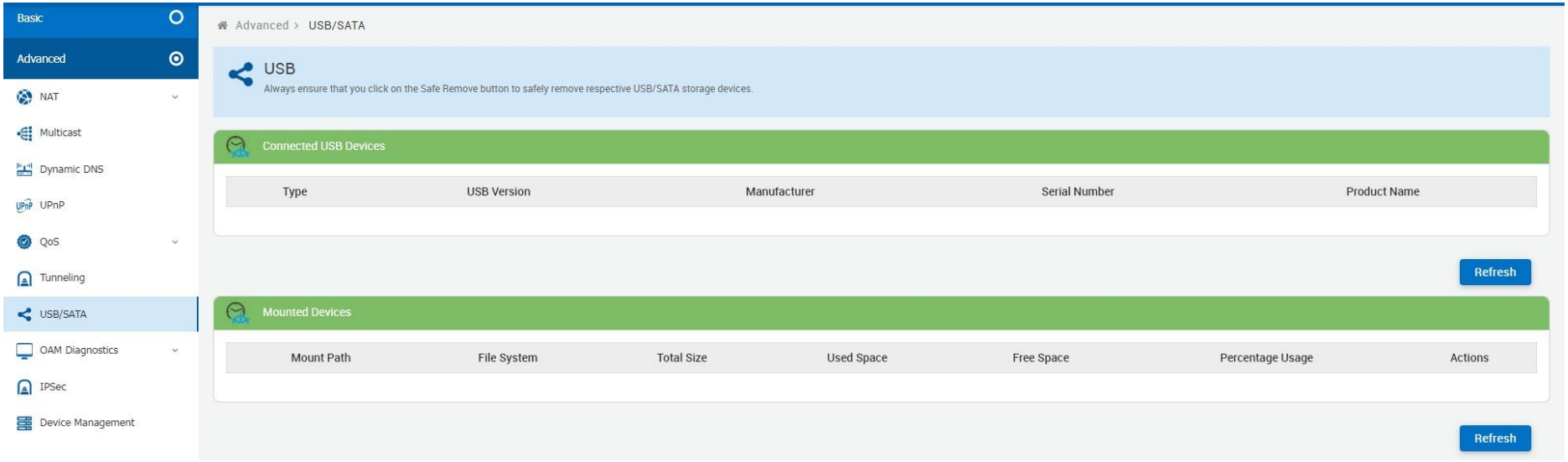

Figure 4.3.7 USB/SATA

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4.3.8 OAM Diagnostics

4.3.8.1 ATM OAM F5 Loopback

This page allows user to Test OAM

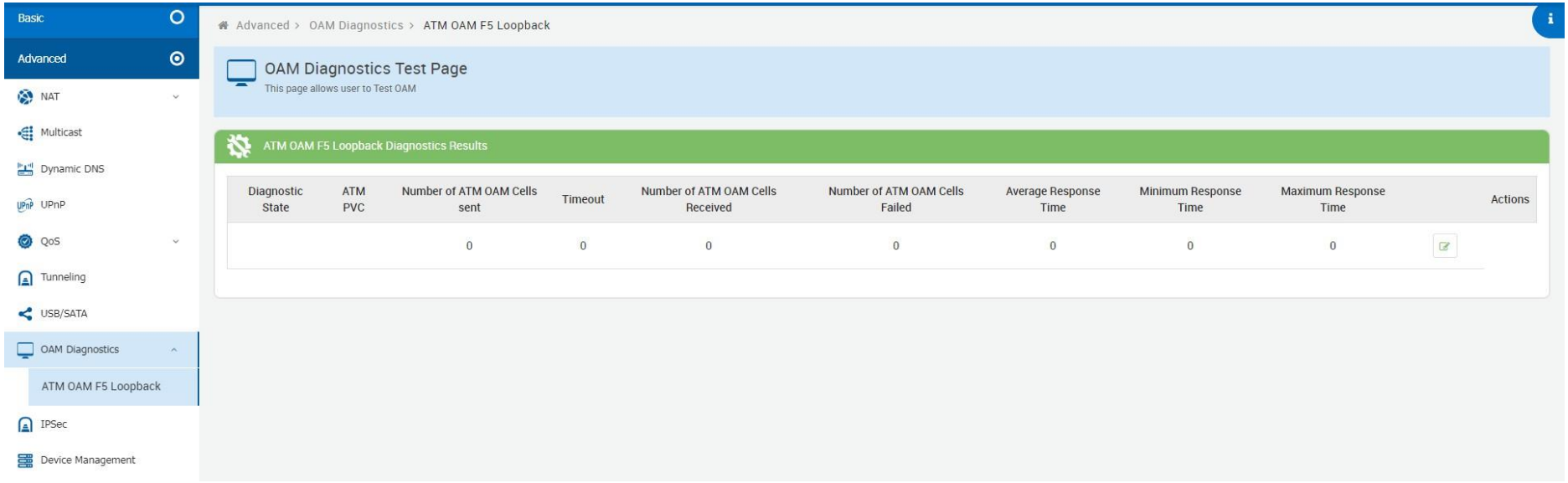

Figure 4.3.8.1 ATM OAM F5 Loopback

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4.3.9 IPSec

IPsec Tunnel Configuration

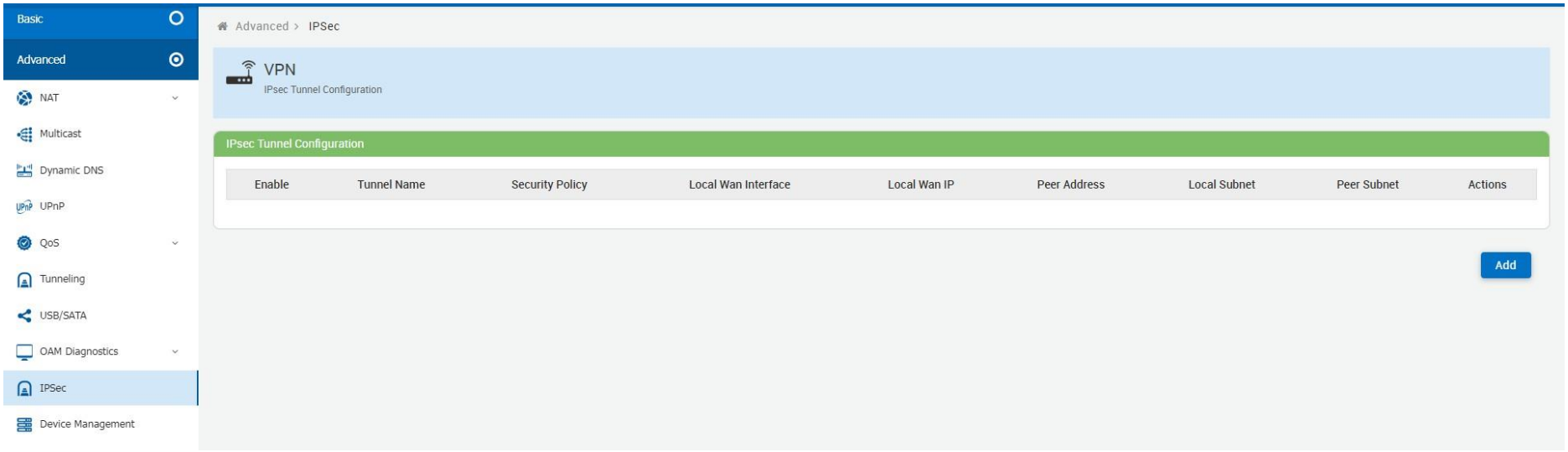

Figure 4.3.9 IPSec

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4.3.10 Device Management

Device Management allows to view and configure parameters relating to the device's association with an ACS

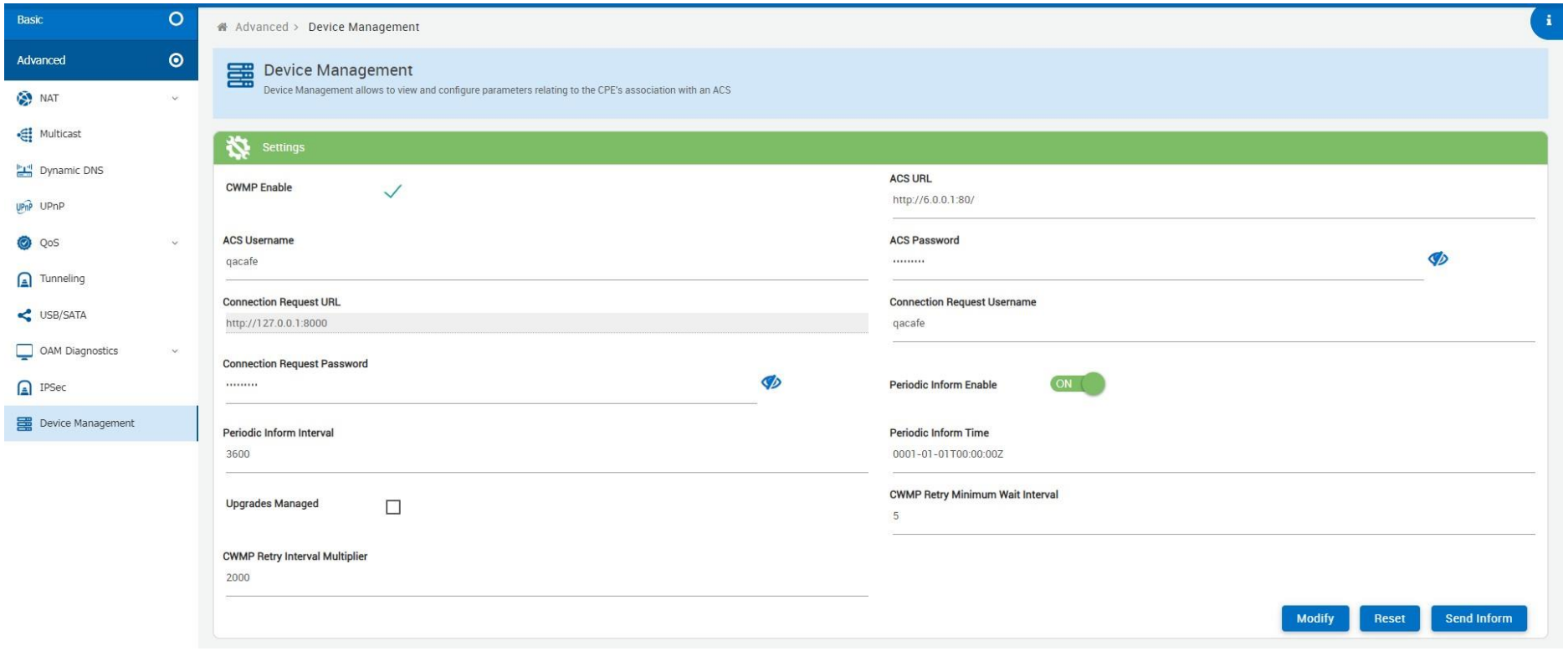

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Figure 4.3.10 Device Management

Appendix A: Cable Requirements

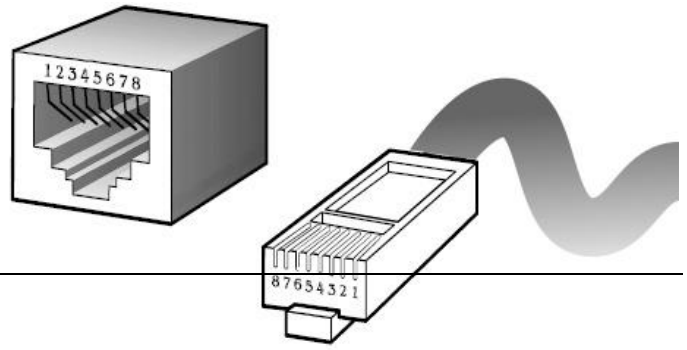
A.1 Ethernet Cable

A CAT 3~7 UTP (unshielded twisted pair) cable is typically used to connect the Ethernet device to the Modem. A 10/100TX cable often consists of four pairs of wires, two of which are used for transmission. The connector at the end of the 10/100TX cable is referred to as an RJ-45 connector and it consists of eight pins. The Ethernet standard uses pins 1, 2, 3 and 6 for data transmission purposes. (Table A-1 10/100TX)

The connector at the end of the 1000TX cable is referred to as an RJ-45 connector and it consists of eight pins. The Ethernet standard uses all pins for data transmission purposes. (Table A-1 1000TX)

Table A-1 RJ-45 Ethernet Connector Pin Assignments

PIN #	10/100TX		1000TX	
	Signal	Media Dependant interface	**Signal**	Media Dependant interface-cross
1	TX+	Transmit Data+	BI_DA+	Bi-directional pair A+
2	TX-	Transmit Data-	BI_DA-	Bi-directional pair A-



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3	RX+	Receive Data+	BI_DB+	Bi-directional pair B+
4	NC	Unused	BI_DC+	Bi-directional pair C+
5	NC	Unused-	BI_DC-	Bi-directional pair C-
6	RX-	Receive Data-	BI_DB-	Bi-directional pair B-
7	NC	Unused	BI_DD+	Bi-directional pair D+
8	NC	Unused	BI_DD-	Bi-directional pair D-

Figure A-1 Standard RJ-45 repectacle/connector

Note:

Please make sure your connected cables have the same pin assignment as the table above before deploying the cables into your network.

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Figure A-2 Pin Assignments and Wiring for an RJ-45 Straight-Through Cable

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Figure A-3 Pin Assignments and Wiring for an RJ-45 Crossover Cable

A.2 Telephone wire

Standard telephone wire of any gauge or type-flat, twisted or quad is used to connect the Modem to the telephone network. A telephone cable typically consists of three pairs of wires, one of which is used for transmission. The connector at the end of the telephone cable is called an RJ-11 connector and it consists of six pins. POTS (plain old telephone services) use pins 3 and 4 for voice transmission. A telephone cable is shown below. (Figure A-4)

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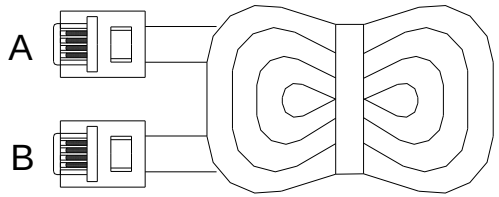

Figure A-4 Telephone cable

The A and B connectors on the rear of the Modem are RJ-11 connectors. These connectors are wired identically. The RJ-11 connectors have six positions, two of which are wired. The Modem uses the center two pins. The pin out assignment for these connectors is presented below. (Table A-2)

Table A-2 RJ-11 Pin out Assignments

Pin#	MNEMONIC	FUNCTION
1	NC	Unused
2	2a	ISDN
3	**1a**	**G.fast/POT/ISDN**
4	**2b**	**G.fast/POT/ISDN**
5	2b	ISDN
6	NC	Unused

Appendix B: Product Specification

Key Features & Benefits

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- Compliant with IEEE 802.3 / 802.3u / 802.3ab Ethernet Standard
- Compliant with ITU-T G993.2 VDSL2 standard (ALL-BM300 only)
- Compliant with ITU-T G998.4 G.INP standard (ALL-BM300 only)
- Compliant with ITU-T G9700/G9701 G.fast standard
- Supports super Vectoring for V35b / G.fast(BM300 only)
- Supports Vectoring for VDSL2(BM300 only)
- Supports High Bandwidth up to 1Gbps
- Support USB 3.0 for connecting USB Dongle
- Supports IPv4/IPv6 NTP Client
- Support static routing for IPv4 and IPv6 forwarding(BM-310 only)
- Mac Address based filtering
- Support IGMP snooping v2/v3
- Support 8 queue MFC/DSCP both type QoS
- Supports HTTP/HTTPS web management
- Support SSL security
- Support remote management and monitor
- Support configuration backup and restore
- On board surge protection for Line port
- Supports bridge mode(BM310 only)
- Supports Dual Firmware Image Backup
- On board POTS/ISDN splitter

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- Supports TR-069
- Supports Jumbo frame(MTU) up to 1600 bytes

Note:

1. Features and specifications in this manual are subject to change without prior notice.
2. (*) Firmware upgradeable for future enhancement.

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Product Specifications

Standard:	IEEE802.3/802.3u/802.3ab 10/100/1000TX standards ITU-T G993.2/G998.4 VDSL2/G.INP standards (ALL-BM300 only) ITU-T G9700/G9701 G.fast standards
Regulatory Compliance:	FCC CE RoHS Compliance
Physical Interface:	4 x RJ-45 10/100/1000 Mbps Ethernet port 1 x RJ-11 / Terminal block combo for line port 1 x RJ-11 connector for POTS/ISDN phone device 1 x Reset Button for resetting to factory default 2 x USB3.0 connector for USB dongle 1 x Phoenix contact pluggable terminal block for DC power
LED Indicators:	1 x Power LED 4 x Link/Active Status for Ethernet port 1 x Link LED for G.fast mode 1 x Link LED for xDSL mode (ALL-BM300 only)

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	1 x Master LED(ALL-BM310 only)
Switch method:	Store and forward
Flow control:	Full duplex: IEEE 802.3x Half duplex: Back pressure
Typical Power Consumption:	6W (Full load, without USB port)
Power Supply:	Input Voltage: DC12V/2A or above(Commerical-grade power adapter)
Operating Temperature:	0°C ~ 50°C (32°F ~ 122°F) Fanless, free air cooling
Storage Temperature:	-20°C ~ 70°C (-4°F ~158°F)
Humidity:	10% to 90% (non-condensing)
Dimensions:	196 x 146 x 40 mm
Weight:	approx.0.4 kg
EMC Certification:	EMI Compliant: FCC EMS Compliant: CE mark

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Appendix C: Troubleshooting

Diagnosing the Modem's Indicators

The modem can be easily monitored through its comprehensive panel indicators. These indicators assist the network manager in identifying problems the hub may encounter. This section describes common problems you may encounter and possible solutions.

1. Symptom:	POWER indicator does not light up (green) after power on.
Cause:	Defective External power supply
Solution:	Check the power plug by plugging in another that is functioning properly. Check the power cord with another device. Check the terminal block make sure to fasten the power cord. If these measures fail to resolve the problem, have the unit power supply replaced by a qualified distributor.
Note:	Please refer to power status table to check power input status. Section 3.3

2. Symptom:	Link indicator does not light up (green) after making a connection.
Cause:	Network interface (ex. a network adapter card on the attached device), network cable, or switch port is defective.
Solution:	2.1 Verify that the switch and attached device are power on. 2.2 Be sure the cable is plugged into both the switch and corresponding device. 2.3 Verify that the proper cable type is used and its length does not exceed specified limits.

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	2.4 Check the modem on the attached device and cable connections for possible defects. 2.5 Make sure that the phone wire must be connecting ALL-BM300 first, when powered on. 2.6 Replace the defective modem or cable if necessary. 2.7 Or try to change band profile as 17a for getting long reach

3. Symptom:	Line Link cannot be established.
Cause:	ALL-BM310/ ALL-BM300 setting failure or phone cable length is over the specification limit.
Solution:	3.1 Please make sure that the phone wire must be connected between ALL-BM310(Master) side and ALL-BM300(Slave) side when both are power on. ALL-BM310 Master side will do link speed function depending on phone wire length, therefore if ALL-BM310 Master side can't detect Slave Side over phone wire while both power on, this will cause the Link to fail. 3.2 Please check phone wire, we recommend use 24-26 gauge with twisted pair and without rust. 3.3 Please reinsert power when change cable length or link time over 3 minutes. 3.4 Or try to change band profile as 17a for getting long reach.
Note:	Phone wire must meet CAT 3 standard or above and twisted pair, otherwise will cause more cross talk issue to reduce Line power driver.

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4. Question:	I just bought a ALL-BM300/ ALL-BM300 to replace my Quest DSL modem for my home. I was told any VDSL2 modem would replace and give me higher communication speeds. It doesn't get me internet when hooked up. All lights come on but no Link light. Is this the complete wrong application for this unit?
Answer:	Re: Please note ALL-BM310 is a Master (CO side), it must be connected to the ALL-BM300 Slave(CPE side) to work.

5. Question:	We need to set up a default gateway on a ALL-BM310/ ALL-BM300 pair which are in Bridge mode, as they want to manage the units from a different network.
Answer:	When the application is used within the LAN, the switch(bridged) mode is not necessary to set up a gateway .However, if the application crosses various network segments (LAN to WAN(Line) or WAN(Line) to LAN), you must set up a gateway to connect different network segment. Regarding how to configure a default gateway at switch(bridged) mode for crossing various

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	network segments . Configuration gateway example from Static Routing: Destination LAN IP: 0.0.0.0 Subnet Mask: 0.0.0.0 Gateway: 192.168.16.1 **Note:** Static Routing functionality is used to define the connected Gateway between the LAN and WAN.

6. Question:	What can I do if I forgot my password.
Answer:	If you forgot your password, you must reset your modem. Unfortunately this process will change all your settings back to the factory defaults. To reset the modem, locate the reset on the rear panel of the unit. With the modem powered on, use a paperclip to hold the button down for over 5 seconds. Release the button and the modem will go through its reboot process. ALL-BM310 default ip is 192.168.16.249. ALL-BM300 default ip is 192.168.16.254.When logging in, the default username and password both are “admin”.

7. Question:	What is the maximum Ethernet frame MTU for these modems?
Answer:	ALL-BM310 / ALL-BM300 maximum Ethernet frame MTU is 1600 bytes.

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System Diagnostics

Power and Cooling Problems

If the POWER indicator does not turn on when the power cord is plugged in, you may have a problem with the power outlet, power cord, or internal power supply as explained in the previous section. However, if the unit power is off after running for a while, check for loose power connections, power losses or surges at the power outlet. If you still cannot isolate the problem, then the internal power supply may be defective. In this case, please contact your local dealer.

Installation

Verify that all system components have been properly installed. If one or more components appear to be malfunctioning (e.g. the power cord or network cabling), test them in an alternate environment where you are sure that all the other components are functioning properly.

Transmission Mode

The default method of selecting the transmission mode for RJ-45 ports is 10/100/1000 Mbps ETHERNET, for RJ-11 line port are auto-speed G.fast / VDSL2 PTM transmission. Therefore, if the Link signal is disrupted (e.g. by unplugging the network cable and plugging it back in again, or by resetting the power), the port will try to reestablish communications with the attached device via auto-negotiation. If auto-negotiation fails, then communications are set to half duplex by default. Based on this type of commercial-standard connection policy, if you are using a full-duplex device that does not support auto-negotiation, communications can be easily lost

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(i.e. reset to the wrong mode) whenever the attached device is reset or experiences a power fluctuation. The best way to resolve this problem is to upgrade these devices to a version that support Ethernet auto-negotiation.

Physical Configuration

If problems occur after altering the network configuration, restore the original connections, and try to track the problem down by implementing the new changes, one step at a time. Ensure that cable distances and other physical aspects of the installation do not exceed recommendations.

System Integrity

As a last resort verify the switch integrity with a power-on reset. Turn the power to the switch off and then on several times. If the problem still persists and you have completed all the preceding diagnoses, then contact your dealer.

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Appendix E: Compliance Information

FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a computing device, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. The equipment and the receiver should be connected to outlets on separate circuits.
4. Consult the dealer or an experienced radio/television technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If this telephone equipment causes harm to the telephone network, the telephone company will notify you in

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advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance in order for you to make necessary modifications to maintain uninterrupted service.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

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Safety Warnings

For your safety, be sure to read and follow all warning notices and instructions.

- Do not open the device. Opening or removing the device cover can expose you to dangerous high voltage points or other risks. Only qualified service personnel can service the device. Please contact your vendor for further information.
- Do not use your device during a thunderstorm. There may be a risk of electric shock brought about by lightning.
- Do not expose your device to dust or corrosive liquids.
- Do not use this product near water sources.
- Make sure to connect the cables to the correct ports.
- Do not obstruct the ventilation slots on the device.

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CE

ALLNET GmbH Computersysteme declares that the device **ALL-BM300** & **ALL-BM310** is in compliance with the essential requirements and other relevant provisions of Directive 2014/30/EU. The Declaration of conformity can be found under this link: http://ce.allnet.de/

ALLNET GmbH Computersysteme
Maistrasse 2
82110 Germering

Tel.: +49 (0)89 894 222 - 22
Fax: +49 (0)89 894 222 - 33
Email: info@allnet.de

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