

# **User's Manual**

# 1200Mbps 802.11ac Dual-Band Wireless Gigabit Router

WDRT-1200AC





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#### Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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 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. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- 4. Consult the dealer or an experienced radio technician for help.

#### **FCC Caution:**

To assure continued compliance, (example-use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions:

- (1) This device may not cause harmful interference
- (2) This Device must accept any interference received, including interference that may cause undesired operation.

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

#### Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

#### **R&TTE Compliance Statement**

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE).

The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

#### Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

#### **National Restrictions**

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/remark
Bulgaria	None	General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy	None	If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian	None	Only for indoor applications
Federation		

Note: Please don't use the product outdoors in France.

#### **WEEE Regulations**



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

### Revision

User Manual for PLANET 1200Mbps 802.11ac Dual-Band Wireless Gigabit Router

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# **Chapter 1. Product Introduction**

# **1.1 Package Contents**

Thank you for choosing PLANET WDRT-1200AC. Before installing the router, please verify the contents inside the package box.



Quick Installation Guide



Ethernet Cable

**RJ-45** Cable



Power Adapter

12V/2A DC output 100~240V AC input



If there is any item missing or damaged, please contact the seller immediately.

# **1.2 Product Description**

#### Brand-new 11ac Wireless Technology for Incredibly 1200Mbps High-Speed Connection

The WDRT-1200AC supports IEEE 802.11a/b/g/n/ac dual band standard technology; therefore, it can provide the wireless speed up to 300 + 867Mbps which is 16X faster than the 11a access point at 5GHz frequency and 5.5X faster than the 11g access point at 2.4GHz frequency. Compared with general wireless routers, the WDRT-1200AC offers faster transmission speed and more convenient method to enable or disable wireless signal.



WDRT-1200AC Data Transmission Rates 1200 Mag



#### 2.4G & 5G Simultaneous Dual Band Wireless Connectivity

Since there are more and more wireless applications and electric devices using the radio frequency of 2.4GHz, the wireless channel of 2.4GHz has been already too crowded for clients to enjoy the high-speed wireless connection. In order to avoid the wireless interference between each other, PLANET WDRT-1200AC provides users with the radio frequency of 5GHz for watching HD videos or playing online games additionally. At the same time, it enables other users to still surf the Internet via the original radio frequency of 2.4 GHz. The WDRT-1200AC is just like two totally independent access points in one device for you.



#### 11ac Innovations Bring Excellent Data Link Speed

The WDRT-1200AC has a built-in high power amplifier and 4 highly-sensitive antennas which provide stronger signal and excellent coverage even in the wide-ranging or bad environment. With adjustable transmit power option, the administrator can flexibly reduce or increase the output power for various environments, thus reducing interference to achieve maximum performance. To provide extremely high-speed user experience, the WDRT-1200AC adopts IEEE 802.11ac technology to extend the 802.11n 40MHz channel binding to 80MHz and the implementation of 256-QAM modulation where higher transmission/receiving rates go up to 867Mbps in the 5GHz less interference frequency band. In addition, the WDRT-1200AC is equipped with gigabit LAN port to eliminate the restriction of 100Mbps Fast Ethernet wired connection to let users fully enjoy the high speed provided by wireless. The IEEE 802.11ac also optimizes MU-MIMO (Multi-User MIMO) mechanism to serve multiple devices simultaneously.



# Go faster in wired & wireless

Take Advantage of 11ac to Optimize Data Link Speed

#### **Full Support of Wireless Security Encryption**

To secure the wireless communication, the WDRT-1200AC supports up-to-date encryption technology, WPA / WPA2 and WPA-PSK / WPA2-PSK with TKIP/AES. The WDRT-1200AC supports Wi-Fi Protected Setup (WPS) configuration with PBC/PIN methods to simplify the wireless security settings. By just clicking the WPS button, the secure connection between the wireless AP and wireless client will be built immediately.

WPS (Wi-Fi Protected Setup) Quick & Easy Wireless Connection







#### **Powerful Firewall and Complete Access Control Functions**

The WDRT-1200AC supports NAT function allowing multiple users to access Internet via a single legal IP. It also provides Virtual Server for the specific LAN PC to act as an application server and offer certain service to the clients on the Internet. In addition, the powerful firewall protects your Intranet clients from unauthorized accesses and various kinds of DoS attacks from the Internet. In the aspect of firewall, the WDRT-1200AC supplies MAC-based access control to prevent possible hackers attack.

#### Easy Setup for Multiple Wireless Modes

The WDRT-1200AC supports multiple wireless modes including AP, and Repeater, for different network applications. Furthermore, with the built-in Quick Setup function, users can configure the WDRT-1200AC easily and quickly through a couple of simple steps. It is so easy to apply the WDRT-1200AC to the existing wired network. The WDRT-1200AC definitely provides a total network solution for the home and the SOHO users.



#### Home DLNA Media Server over USB File Sharing

The WDRT-1200AC has one built-in USB port which can be connected to an external USB storage devices for file sharing. Moreover, the DLNA (Digital Living Network Alliance) compliant media server feature allows multimedia contents, such as stream videos, music and photos, to be easily shared among Smart TVs, tablets, mobile phones and laptops on a home network. Thus, all clients on the network can share mass storage through the WDRT-1200AC without complicated network configuration. Via the USB port, it also can output 5V DC power to charge any USB compliant devices.



# **1.3 Product Features**

#### IEEE Compliant Wireless LAN & Wired LAN

- Compliant with IEEE 802.11a/b/g/n/ac dual-band (2.4G&5G) wireless technology capable up to 300+867Mbps data rate
- Auto MDI/MDI-X supported

#### Fixed-network Broadband Router

- Supported WAN connection types: DHCP / Static IP / PPPoE / PPTP / L2TP
- Supports Dynamic DNS and DHCP Server

#### Secure Network Connection

- Supports Wi-Fi Protected Setup (WPS)
- Advanced security: 64/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK (TKIP/AES encryption)
- Supports NAT firewall, Port / URL-based access control and MAC address filtering
- Support Dual-SSID to allow users to access different networks through a single AP

#### Advanced Networking Function for Specific Application

- Supports Bandwidth Control (QoS) based on different local IP addresses
- Supports NTP, Virtual Server, UPnP, and DMZ for various networking applications

#### Easy Installation & Management

- User-friendly, Web-based UI with On-line Help
- Remote Management allows configuration from a remote site
- System status monitoring includes DHCP Client List and System Log

# **1.4 Product Specifications**

Dreduct	WDRT-1200AC				
Product	1200Mbps 802.11ac Dual-Band Wireless Gigabit Router				
Hardware Specifications					
	WAN Port:	WAN Port: 1 x 10/100/1000 Mbps Auto MDI/MDI-X RJ45			
		4 x 10/100/1000 Mbps Auto MDI/MDI-X RJ45 ports			
Interface	LAN Port:	(LAN1~4)			
	USB Port:	USB Port: 1 x USB 3.0, Type A, 5V 900mA			
		2.4GHz : 2 x 1.8dBi Inf	ernal Antenna		
Antenna	Gain:	5GHz: 2 x 3.8dBi In	ternal Antenna		
	1 x Reset but	tton (Press for about 10	seconds to reset the device to factory		
Button	default.)				
	1 x WPS but	ton (Press for 1 second t	to activate WPS function.)		
	PWR x1				
LED Indiactore	WLAN (2.4G	Hz & 5GHz) x 2			
LED Indicators	WAN x1				
	WPS x1				
Material	Plastic				
Dimensions (H x W x D)	192x 115 x 90 mm (H x W x D)				
Weight	308g				
Power Requirements	12V DC, 2A				
Power Consumption	12W maximum				
Wireless Interface Specif	ications				
Wireless Interface Specif Standard	Compliant wi	th IEEE 802.11a/b/g/n/a	c		
Wireless Interface Specif Standard Frequency Band	Compliant wi Simultaneous	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz	c		
Wireless Interface Specif Standard Frequency Band	Compliant wi Simultaneous DSSS(DBPS	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz sK/DQPSK/CCK)	C		
Wireless Interface Specif Standard Frequency Band Modulation Type	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSk	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM	c		
Wireless Interface Specif Standard Frequency Band Modulation Type	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSk MIMO	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM	c)		
Wireless Interface Specif Standard Frequency Band Modulation Type	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSk MIMO 2.4GHz up to	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz sK/DQPSK/CCK) K/QPSK/16QAM/64QAM	c )		
Wireless Interface Specif Standard Frequency Band Modulation Type Data Rates	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz sK/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps	c )		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps	c )		
Wireless Interface Specif Standard Frequency Band Modulation Type Data Rates	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8 2.4GHz America / I	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz sK/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz (	c ) 11 Channels)		
Wireless Interface Specif Standard Frequency Band Modulation Type Data Rates	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz (1 TSI: 2.412~2.472GHz (1	c ) 11 Channels) I3 Channels)		
Wireless Interface Specif Standard Frequency Band Modulation Type Data Rates	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8 2.4GHz up to 8 2.4GHz America / I Europe / E Japan / TE	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz (	c ) 11 Channels) I3 Channels) (14 Channels)		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8 2.4GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM 0 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz (	c ) 11 Channels) I3 Channels) (14 Channels)		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz (	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels)		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM 0 300Mbps 867Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz ( 0GHz, 5.745-5.825GHz nannels in application wi	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in		
Wireless Interface Specif Standard Frequency Band Modulation Type Data Rates Channel	Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch different regio	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM 0 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz ( 0GHz, 5.745-5.825GHz nannels in application wi ons and countries.	c ) 11 Channels) I3 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel         Channel Width	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch different regin 20/40/80 MH	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz ( OGHz, 5.745-5.825GHz nannels in application wi ons and countries. z	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel         Channel Width	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch different regin 20/40/80 MH 2.4GHz:	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM 0 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz ( 0GHz, 5.745-5.825GHz nannels in application wi ons and countries. z	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in 5GHz:		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel         Channel Width         RF Power / EIRP	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch different regio 20/40/80 MH 2.4GHz: 11b: 17±1.4	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM o 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz ( ELEC: 2.412~2.484GHz ( OGHz, 5.745-5.825GHz nannels in application wi ons and countries. z	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in 5GHz: 11a: 14±1.5dBm		
Wireless Interface Specif         Standard         Frequency Band         Modulation Type         Data Rates         Channel         Channel Width         RF Power / EIRP	Cations Compliant wi Simultaneous DSSS(DBPS OFDM(BPSK MIMO 2.4GHz up to 5GHz up to 8 2.4GHz America / I Europe / E Japan / TE 5GHz 5.180-5.24 The actual ch different regio 20/40/80 MH 2.4GHz: 11b: 17±1.4 11g: 14±1.4	th IEEE 802.11a/b/g/n/a s 2.4 GHz and 5 GHz K/DQPSK/CCK) K/QPSK/16QAM/64QAM 0 300Mbps 367Mbps FCC: 2.412~2.462GHz ( TSI: 2.412~2.472GHz (1 ELEC: 2.412~2.484GHz (1 ELEC: 2.412~2.484GHz (1 COGHz, 5.745-5.825GHz nannels in application withons and countries. z 5dBm 5dBm	c ) 11 Channels) 13 Channels) (14 Channels) (Up to 9 channels) Il vary depending on the regulation in 5GHz: 11a: 14±1.5dBm 11n: 14±1.5dBm		

	2.4GHz	5GHz				
	11b (11Mbps): -79dBm 11a: -70dBm					
	11g (54Mbps): -70dBm 11n (20M)mode: -67dBm					
Receive Sensitivity	11n (20M)mode: -67dBm 11n (40M)mode: -64dBm					
	11n (40M)mode: -64dBm 11ac (20M)mode: -57dBr					
		11ac(40M)mode: -54dBm				
		11ac(80M)mode: -51dBm				
Wireless Management Fe	atures					
Million Income Billion Incom	AP/ Router					
	WDS Repeater					
	WEP (64/128-bit)					
Encryption Security	WPA / WPA2					
	WPA-PSK/ WPA2-PSK encryption					
	Provides Wireless LAN ACL (Access	Control List) filtering				
Wireless Security	Wireless MAC address filtering					
	Supports WPS (Wi-Fi Protected Setu	p)				
Wireless Advanced	Supports Dual-SSID (2.4G & 5G)					
Max Supported Clients	Wired: 64					
Max. Supported Orients	Wireless: 32					
Router Features						
	Shares data and Internet access	for users, supporting the following				
	internet accesses:					
Internet Connection	DHCP					
Type	Static IP					
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	PPPoE					
	PPTP					
	L2TP					
	NAT firewall, SPI firewall					
Firewall	Built-in NAT server which supports Virtual Server, and DMZ					
	Built-in firewall with URL filtering, and MAC address filtering					
	Built-in DHCP server supporting static IP address distribution					
LAN	Supports UPnP, Dynamic DNS					
	Supports Packets Statistics					
	Session Number: Max. 7776					
	Samba					
USB Sharing	FTP Server					
	DLNA Media Server					
	Web-based (HTTP) management inte	erface				
System Management	Remote management (WAN Access	Control)				
,	SNTP time synchronization					
	System Log					
OS Compatibility	Windows 7					
	Windows Vista					

	Windows XP
	Mac OS X 10.4 and higher
Standards Conformance	
	IEEE 802.11ac
	IEEE 802.11n
	IEEE 802.11a
	IEEE 802.11g
IEEE Standards	IEEE 802.11b
	IEEE 802.11i
	IEEE 802.3 10Base-T
	IEEE 802.3u 100Base-TX
	IEEE 802.3ab 1000Base-T
Other Protocols and Standards	CSMA/CA, CSMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPoE, SNTP
Regulatory	CE, RoHS, WEEE
Environments	
Townstein	Operating: 0 ~ 45 degrees C
Temperature	Storage: -40 ~ 70 degrees C
	Operating: 10 ~ 90% (non-condensing)
Humidity	Storage: 5 ~ 90% (non-condensing)

# **Chapter 2. Hardware Installation**

Please follow the instructions below to connect the WDRT-1200AC to the existing network devices and your computers.

### 2.1 Hardware Description

- Dimensions: 192x 115 x 90mm (W x D x H)
- Diagram :





Figure 2-1

Figure 2-2

#### 2.1.1 Front Panel

The front panel provides a simple interface monitoring the router. Figure 2-3 shows the front panel of the WDRT-1200AC.

#### Front Panel



Figure 2-3 WDRT-1200AC Front Panel

### 2.1.2 LED Indications

The LEDs on the front panel indicate instant status of port links, wireless data activity and system power, and help monitor and troubleshoot when needed. Figure 2-3 and Table 2-1 show the LED indications of the Wireless Router.

LED	STATE	FUNCTION
DW/D	On	Device power on
FVVR	Off	Device power off
	On	The 2.4GHz Wi-Fi is activated.
2.4GHz	Flash	Device is transmitting data wirelessly over 2.4GHz.
	Off	The 2.4GHz Wi-Fi is disabled.
	On	The 5GHz Wi-Fi is activated.
5GHz	Flash	Device is transmitting data wirelessly over 5GHz.
	Off	The 5GHz Wi-Fi is disabled.
WAN	On	Link is established.

	Flash	Packets are transmitting or receiving.
	Off	WAN port is not connected.
	On	WPS is under progress.
WPS	Flash	Data is being transmitted.
	Off	WPS is disabled.
	On	USB connection is established.
USB	Flash	Data is being transmitted.
	Off	USB connection is not established.

#### Table 2-1 LED Indications

#### 2.1.3 Rear Panel

The rear panel provides the physical connectors connected to the power adapter and any other network device. Figure 2-4 shows the rear panel of the WDRT-1200AC.

#### Rear Panel



Figure 2-4 Rear Panel of the WDRT-1200AC

Interface	Description
WPS	Press the Reset button gently for 1 second and then release it. The system starts the WPS connection.
Reset	Press the Reset button gently for 10 seconds and then release it. The system restores to the factory default settings
WAN	Connect to the Cable/xDSL Modem or the Ethernet
LAN1-4	Connect to the user's PC or network devices
Power	Connect to the power adapter provided in the package

Table 2-2 Interface Indications

# **Chapter 3. Connecting to the Router**

### 3.1 System Requirements

- Broadband Internet Access Service (Cable/xDSL/Ethernet connection)
- One Cable/xDSL Modem that has an RJ45 connector (not necessary if the Router is connected directly to the Ethernet.)
- PCs with a working Ethernet Adapter and an Ethernet cable with RJ45 connectors
- PC subscribers use Windows 98/ME, NT4.0, 2000/XP, Windows Vista / Win 7, MAC OS 9 or later, or Linux, UNIX or other platforms compatible with TCP/IP protocols
- The above PC is installed with a Web browser



The Router in the following instructions means PLANET WDRT-1200AC.
 It is recommended to use Internet Explore 7.0 or above to access the Router.

### 3.2 Installing the Router

Before installing the Router, make sure your PC is connected to the Internet through the broadband service successfully at this moment. If there is any problem, please contact your local ISP. After that, please install the Router according to the following steps. Don't forget to pull out the power plug and keep your hands dry.

Step 1. Power off your PC, Cable/xDSL Modem and the Router.

Step 2. Locate an optimum location for the Router. The best place is usually at the center of your wireless network.

**Step 3.** Connect the PC or Switch/Hub in your LAN to the LAN Ports of the Router with Ethernet cable, shown in Figure 3-1.



Figure 3-1 Hardware Installation of the WDRT-1200AC Wireless Router

- **Step 4.** Connect the power adapter to the power socket on the Router, and the other end into an electrical outlet. Then power on the Router.
- **Step 5.** Power on your PC and Cable/xDSL Modem.

# Chapter 4. Quick Installation Guide

This chapter will show you how to configure the basic functions of your Wireless Router using **Quick Setup** within minutes.



A computer with wired Ethernet connection to the Wireless Router is required for the first-time configuration.

# 4.1 Manual Network Setup - TCP/IP Configuration

The default IP address of the Wireless Router is **192.168.1.1** and the default Subnet Mask is **255.255.255.0**. These values can be changed as you desire in the web UI of the Wireless Router. In this section, we use all the default values for description.

Whether the Wireless Router is configured via wired or wireless connection, the PC needs to be assigned an IP address first. Before you connect the local PC to the Wireless Router via wired or wireless connection, please configure the IP address for your PC in the following two ways first.

- Obtaining an IP address automatically
- **Configuring the IP address manually**

In the following sections, we'll introduce how to install and configure the TCP/IP correctly in **Windows 7**. And the procedures in other operating systems are similar. First, make sure your Ethernet Adapter is working, and refer to the Ethernet adapter's manual if needed.

### 4.1.1 Obtaining an IP Address Automatically

#### Summary:

- 1. Set up the TCP/IP Protocol in "Obtain an IP address automatically" mode on your PC.
- 2. Then the Wireless Router built-in DHCP server will assign IP address to the PC automatically.

If you are sure the DHCP server of Wireless Router is enabled (the default setting of Router Mode), you can set up the TCP/IP Protocol in **"Obtain an IP address automatically**" mode on your PC. And then the Wireless Router built-in DHCP server will assign an IP address to the PC automatically.

#### 1. Installing TCP/IP Component

1) On the Windows taskbar, click the Start button, point to Control Panel, and then click it.

2) Under the Network and Internet icon, click on the View network status and tasks. And then click Change adapter settings.



Figure 4-1 Change Adapter Settings

(2) ▼	Net	work and Internet 🕨 Net	work Cor	nnections 🕨	<b>- - 4 - - →</b>	Sea	rch Ne	•t <b>P</b>
Organize 🗸	Con	nect To Disable this i	network	device »	=	-		0
Local A Network Realtek	Area ( rk ca c PCI	Connection ble unplugged e FE Family Controller	<b>S</b>	VPN Connection Disconnected WAN Miniport (PPTP)				
Wireles Not co	ss Ne	twork Connection ted						
🗙 📶 Athen	۲	Disable						
		Connect / Disconnect						
		Status						
		Diagnose						
	0	Bridge Connections						
		Create Shortcut						
		Delete						
	۲	Rename						
	۲	Properties						

#### 3) Right-click on the **Wireless Network Connection**, and select **Properties** in the appearing window.

Figure 4-2 Network Connection Properties

4) In the prompt window shown below, double-click on the Internet Protocol Version 4 (TCP/IPv4).

UVIT Wireless Network Connection Properties
Networking
Connect using:
Intel(R) Wireless WiFi Link 4965AGN
Configure
This connection uses the following items:
<ul> <li>Client for Microsoft Networks</li> <li>QoS Packet Scheduler</li> <li>File and Printer Sharing for Microsoft Networks</li> <li>Reliable Multicast Protocol</li> <li>Internet Protocol Version 6 (TCP/IPv6)</li> <li>Internet Protocol Version 4 (TCP/IPv4)</li> <li>Link-Layer Topology Discovery Mapper I/O Driver</li> <li>Interl Protocol Version 4 (TCP/IPv4)</li> </ul>
Install Uninstall Properties
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
OK Cancel

Figure 4-3 TCP/IP Setting

5) Choose **Obtain an IP address automatically**, and **Obtain DNS server address automatically** as shown in the figure below. Then click **OK** to save your settings.

ternet Protocol Version 4 (TCP/IPv4) P	roperties	5		? ×
General Alternate Configuration				
You can get IP settings assigned autom this capability. Otherwise, you need to for the appropriate IP settings.	atically if y ask your r	your n networ	etwork : k admin	supports istrator
Obtain an IP address automatically	,			
Use the following IP address:				
IP address:				
S <u>u</u> bnet mask:				
Default gateway:				
Obtain DNS server address autom	atically			
Use the following DNS server addr	esses:			
Preferred DNS server:				
Alternate DNS server:				
Validate settings upon exit			Adva	anced
		ОК		Cancel

Figure 4-4 Obtain an IP Address Automatically

#### 4.1.2 Configuring the IP Address Manually

Summary:

- Set up the TCP/IP Protocol for your PC.
- Configure the network parameters. The IP address is 192.168.1.xxx ("xxx" is any number from 2 to 254), Subnet Mask is 255.255.255.0, and Gateway is 192.168.1.1 (The Router's default IP address)

If you are sure the DHCP server of Wireless Router is disabled (the default setting of AP Mode and Client Mode), you can configure the IP address manually. The IP address of your PC should be 192.168.1.xxx (the same subnet of the IP address of the Wireless Router, and "xxx" is any number from 2 to 254), Subnet Mask is 255.255.255.0, and the Gateway is 192.168.1.1 (The default IP address of the Wireless Router)

1) Continue the settings from the last figure. Select **Use the following IP address** radio button.

- If the LAN IP address of the Wireless Router is 192.168.1.1, enter IP address 192.168.1.x (x is from 2 to 254), and Subnet mask 255.255.255.0.
- 3) Enter the LAN IP address of the Wireless Router (the default IP is 192.168.1.1) into the default gateway field.
- 4) Select **Use the following DNS server addresses** radio button. In the preferred DNS Server field, you can enter the DNS server IP address provided by your local ISP. Then click OK to save your settings.

ternet Protocol Version 4 (TCP/IP)	v4) Properties
General	
You can get IP settings assigned at this capability. Otherwise, you need for the appropriate IP settings.	itomatically if your network supports I to ask your network administrator
Obtain an IP address automati	cally
Ose the following IP address:	
IP address:	192.168.1.200
Subnet mask:	255.255.255.0
Default gateway:	192.168.1.1
Obtain DNS server address aut	omatically
— Ose the following DNS server a	addresses:
Preferred DNS server:	8.8.8.8
<u>A</u> lternate DNS server:	8.8.4.4
🔲 Validate settings upon exit	Ad <u>v</u> anced
	OK Cancel

Figure 4-5 IP and DNS Server Addresses

Now, you can run the Ping command in the **command prompt** to verify the network connection between your PC and the Router. The following example is in **Windows 7** OS. Please follow the steps below:

- 1. Click on Start
- 2. Type "cmd" in the Search box.



Figure 4-6

- 3. Open a command prompt, and type ping **192.168.1.1**, and then press Enter.
  - If the result displayed is similar to Figure 4-7, it means the connection between your PC and the Router has been established well.



Figure 4-7 Successful Ping Command

If the result displayed is similar to Figure 4-8, it means the connection between your PC and the Router has failed.



Figure 4-8 Failed Ping Command

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.



If the Router's IP address is 192.168.1.1, your PC's IP address must be within the range of 192.168.1.2  $\sim$  192.168.1.254.

# 4.2 Starting Setup in the Web UI

It is easy to configure and manage the WDRT-1200AC with the web browser.

```
Step 1. To access the configuration utility, open a web-browser and enter the default IP address <u>http://192.168.1.1</u> in the web address field of the browser.
```



Figure 4-9 Login the Router

After a moment, a login window will appear. Enter **admin** for the User Name and Password, both in lower case letters. Then click the **OK** button or press the **Enter** key.

PLANET Networking & Communication		
username:	admin	
Password:	••••	•
	Login Reset	

Figure 4-10 Login Window

Default IP Address: 192.168.1.1

Default User Name: admin

Default Password: admin



If the above screen does not pop up, it may mean that your web-browser has been set to a proxy. Go to Tools menu>Internet Options>Connections>LAN Settings in the screen that appears, cancel the Using Proxy checkbox, and click OK to finish it.

After entering the user name and password, the **Wizard Setup** page screen appears as Figure 4-11.

The Smart Setup Wizard can detect the type of Internet connection that you have.Do you want the Smart Setup Wizard to try and detect the connection type now? <ul> <li>Yes.</li> </ul>	Setup Wizard	
• Yes.	The Smart Setup Wizard can detect the type of Internet connect connection type now?	ion that you have.Do you want the Smart Setup Wizard to try and detect the
	• Yes.	
Violation in the configure the router myself.	O No. I want to configure the router myself.	

Figure 4-11 WDRT-1200AC Web UI Screenshot

# Step 2. Choose "Yes" and the Smart Wizard will try to detect the connection type. Or you can configure the router by yourself.

Setup Wizard		
Static (fixed) IP detected		
Internet IP Address		
IP Address	-	]
IP Subnet Mask		
Gateway IP Address		]
Domain Name Server (DNS) Address		
Primary DNS	-	]. [
Secondary DNS		]
	Cance	Apply

Figure 4-12 Configure the WAN setting.

Step 3. Please enter the Security key. Then click Take me to the Internet button to check if the configuration takes effect.

2.4G	
Wireless Network Name (SSID)	WDRT-1200AC_2.4G
Network Key (Password)	12345678
5G	
Wireless Network Name (SSID)	WDRT-1200AC_5G
Network Key (Password)	12345678

#### Figure 4-13 Take me to the Internet

# Chapter 5. Configuring the Router

This chapter delivers a detailed presentation of router's functions and features under 9 main menus below, allowing you to manage the router with ease.

Running Status	
Setup Wizard	
Network Setup	
🕀 Wireless Setup	
🕀 Media Features	
Advanced Setup	
Security Options	
🕁 Utilities	
Downloader	
	Logout

Figure 5-1 Router's Functions

During operation, if you are not clear about a certain feature, you can simply check the Help page to read all the related helpful information.

## 5.1 Running Status

#### 5.1.1 Router Status

On this page, you can view information about the current running status of the WDRT-1200AC, including WAN interface, LAN interface, wireless interface settings and status, and firmware version information.

System Info	
Hardware Version	V 1.0.0
Firmware Version	V 1.0.0
Boot Version	V 1.0.0
Serial No.	0123456789
Time and Date	2013/1/1 0:06:05AM Tuesday
Internet Port	
MAC Address	A8:F7:E0:1C:7E:E3
Internet Access Mode	DHCP
IP Address	0.0.0.0
IP Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
Domain Name Server	0.0.0.0
LAN Port	
MAC Address	A8:F7:E0:1C:7E:E2
IP Address	192.168.1.1
IP Subnet Mask	255.255.255.0
DHCP Server	Enabled
Wireless Port(2G)	
Wireless Network Name (SSID)	WDRT-1200AC_2.4G
Region	United States
Wireless Channel	Auto
802.11 Mode	802.11b/g/n
Wireless Radio	Enabled

### Figure 5-1-1 Router Status

The page includes the following information:

Object	Description
Hardware Version:	The router model.
Firmware Version:	This is the current software the router is using. This will change if you upgrade your router.
Internet Port:	These are the current settings that you set in the Setup Wizard or Basic Settings screens.
MAC Address:	The physical address of the router, as seen from the Internet.
IP Address:	The current Internet IP address. If assigned dynamically, and no Internet connection exists, this will be blank or 0.0.0.0.
Internet Access Mode:	Indicate either DHCP, PPPoE or Fixed IP.
IP Subnet Mask:	The subnet mask associated with the Internet IP address.

Domain Name Server:	Displays the address of the current DNS.
LAN Port:	These are the current settings, as set in the LAN IP Setup screen.
MAC Address:	The physical address of the router, as seen from the LAN.
IP Address:	The LAN IP address of the router.
IP Subnet Mask:	The subnet mask associated with the LAN IP address.
DHCP Server:	Indicates if the router is acting as a DHCP server for devices on your LAN.
Wireless Port:	These are the current settings, as set in the Wireless Settings screen.
Name (SSID):	SSID of the router.
Region:	The location (country).
Channel:	The current channel in use.
• Mode:	Indicates the current mode (802.11b   802.11g   802.11n   802.11b/g/n   802.11a   802.11a/n/ac).
Wireless Radio:	Indicates if the access point feature of the router is enabled or not. If not enabled, the Wireless LED on the front panel is off.
Broadcast Name:	Indicates if the router is broadcasting its SSID.
Wireless Isolation:	Indicates if wireless isolation is enabled.
• Wi-Fi Protected Setup:	Indicates if the router's wireless settings are configured.
• Wireless Security Mode:	The current security mode in use.

Click **Show Statistics** to see router performance statistics such as the number of packets sent and the number of packets received for each port.

### 5.1.2 Client List

This page shows the IP addresses, host names and MAC addresses of all the PCs in your network

Host Name	IP Address	MAC Address
ACER6292-PC	192.168.1.100	00:1E:68:6A:5D:5

Figure 5-1-2 Client List

## 5.2 Setup Wizard

"Setup Wizard" includes the following steps. Click Next for configuration. Below explains, in details, each such feature.

PLANET Networking & Communication	WDRT-1200AC 1200Mbps 802.11ac Dual-Band Wireless Gigabit Router	
	Setup Wizard	
♣ Running Status	The Smart Setup Wizard can detect the type of Internet connection that you have.Do you want the Smart Setup Wizard to try and detect the	
😑 Setup Wizard	connection type now?	
P Network Setup	Yes.     No. I want to configure the router myself.	
🕁 Wireless Setup		
🕆 Media Features	Next	
Advanced Setup		
Security Options		
🕹 Utilities		
= Downloader		
Logout		

Figure 5-2-1 Setup Wizard Page Screenshot

Or you can choose No. I want to configure the router myself.

PLANET Networking & Communication	WDRT-1200AC 1200Mbps 802.11ac Dual-Band Wireless Gigabit Router
22	Setup Wizard
🖗 Running Status	The Smart Setup Wizard can detect the type of Internet connection that you have.Do you want the Smart Setup Wizard to try and detect the
= Setup Wizard	connection type now?
Network Setup	<ul> <li>Yes.</li> <li>No. I want to configure the router myself.</li> </ul>
Wireless Setup	
🕆 Media Features	Next
Advanced Setup	
Security Options	
🕁 Utilities	
😑 Downloader	
Logou	t i i i i i i i i i i i i i i i i i i i



The page includes the following fields:

Object	Description
• DHCP:	Select this option to let router obtain IP settings automatically from
	your ISP, if your ISP does not give you any IP information or

	account information. You don't need to configure any settings for
	this connection.
• Static IP Address:	If your ISP offers you static IP Internet connection type, select
	"Static IP" from corresponding drop-down menu and then enter IP
	address, subnet mask, primary DNS and secondary DNS
	information provided by your ISP in the corresponding fields.
• PPPoE:	Select PPPoE, if your ISP is using a PPPoE connection and provide
	you with PPPoE user name and password info.



WAN IP, whether obtained automatically or specified manually, should NOT be on the same IP net segment as the LAN IP; otherwise, the router will not work properly. In case of emergency, press the hardware "Reset" button.

#### DHCP

Select this option to let the router obtain IP settings automatically from your ISP, if your ISP does not give you any IP information or account information. You don't need to configure any settings for this connection.

Setup Wizard	
Dynamic IP (DHCP) detected	
Account Name (If Required)	
	Cancel Apply

Figure 5-2-3



**DO NOT** change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

#### Static IP Address

If your ISP offers you static IP Internet connection type, select "**Static IP**" from corresponding drop-down menu and then enter IP address, subnet mask, primary DNS and secondary DNS information provided by your ISP in the corresponding fields.

Setup Wizard	
Static (fixed) IP detected	
Internet IP Address	
IP Address	
IP Subnet Mask	
Gateway IP Address	· · · · · · · · · · · · · · · · · · ·
Domain Name Server (DNS) Address	
Primary DNS	,,
Secondary DNS	

Figure 5-2-4 Setup Wizard

The page includes the following fields:

Object	Description
• IP Address:	Enter the WAN IP address provided by your ISP. Inquire your ISP if
	you are not clear.
IP Subnet Mask:	Enter WAN Subnet Mask provided by your ISP.
<ul> <li>Gateway IP Address:</li> </ul>	Enter the WAN Gateway address provided by your ISP.
Primary DNS:	Enter the necessary DNS address provided by your ISP.
Secondary DNS:	Enter the other DNS address if your ISP provides you with 2 such
	addresses, and it is optional.



**DO NOT** change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

#### PPPoE

Select PPPoE, if your ISP is using a PPPoE connection and provide you with PPPoE user name and password info.
Setup Wizard	
PPPoE detected	
Login :	
Password :	
	Cancel Apply

Figure 5-2-5

The page includes the following fields:

Object	Description
• Login:	Enter the User Name provided by your ISP.
Password:	Enter the password provided by your ISP.



**DO NOT** change the factory default MTU value unless necessary as an improper MTU value may degrade your network performance or even lead to network malfunction.

After configuring the WAN type, enter a network key of 8 to 63 characters, including spaces and symbol or 64 Hex (O~F) only for Wireless LAN.

	2.4GHz	
Wireless Network Name (SSID)	WDRT-1200AC_2.4G	
Network Key (Password)	12345678	8 to 63 characters
	5GHz	
Wireless Network Name (SSID)	WDRT-1200AC_5G	
Network Key (Password)	12345678	8 to 63 characters

Figure 5-2-6 Setup Wizard

Click Take me to the Internet to start surfing on the Internet

2.4G	
Wireless Network Name (SSID)	WDRT-1200AC_2.4G
Network Key (Password)	12345678
5G	
Wireless Network Name (SSID)	WDRT-1200AC_5G
Network Key (Password)	12345678

Figure 5-2-7 Setup Wizard

# 5.3 Network Setup

# 5.3.1 LAN Setup

Click "Network Setup"  $\rightarrow$  "LAN Setup" and the following page will be displayed.

LAN TCP/IP Setup			
IP Address >			192 168 1
Subnet Mask >			255 . 255 . 255 . 0
Use Router as	DHCP Server		
IP Pool Starting Add	Iress >		192 . 168 . 1 . 100
IP Pool Ending Addr	ress >		192 . 168 . 1 . 150
Lease Time >			One Day 🗸
Local Domain Name	) >		
Address Reservati	on		
#	IP Address	Device Name	MAC Address
		Add Edit Delete	

Figure 5-3-1 LAN Setup

Object	Description
	Router's LAN IP.
IP Address:	The default is <b>192.168.1.1</b> . You can change it according to your
	needs.
Subnet Mask:	Router's LAN subnet mask.
Use Router as DHCP	If it is selected, the router serves as the DHCP server and
Server:	automatically assigns IP addresses for all computers in the LAN.
IP Pool Starting Address:	The start IP address of all the available successive IPs.
IP Pool Ending Address:	The end IP address of all the available successive IPs.
	Select the time for using one assigned IP from the dropdown list.
Lease Time:	After the lease time, the AP automatically assigns new IP addresses
	to all connected computers.
Local Domain Name:	Set the domain name of the server.
Address Reservation:	Select Add to enable DHCP Reserved Address service.



If you change the device's LAN IP address, you must enter the new one in your browser to get back to the web-based configuration utility. And LAN PCs' gateway must be set to this new IP for successful Internet connection.

## 5.3.2 WAN Setup

On this page, you can configure the parameters of the WAN interface.



If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select Yes. After selecting Yes and configuring your router, you will not need to run the PPP software on your PC to connect to the Internet.

Does your Internet Connection Require A Login?	○ Yes ● No
Account Name (If Required)	
Internet IP Address	1.2 220
Get Dynamically From ISP	
O Use Static IP Address	
IP Address	
IP Subnet Mask	
Gateway IP Address	
Domain Name Server (DNS) Address	
<ul> <li>Get Automatically From ISP</li> </ul>	
O Use These DNS Servers	
Primary DNS	0.0.0.0
Secondary DNS	
Router MAC Address	
<ul> <li>Use Default Address</li> </ul>	
O Use Computer MAC Address	
O Use This MAC Address	A8:F7:E0:1c:7e:e3

Figure 5-3-2 WAN Setup

#### DHCP

Choose "Get Dynamically From ISP" and the router will automatically obtain IP addresses, subnet masks and gateway addresses from your ISP.

Internet IP Address	
Get Dynamically From ISP	
O Use Static IP Address	
IP Address	· · · · · · · · · · · · · · · · · · ·
IP Subnet Mask	
Gateway IP Address	
Domain Name Server (DNS) Address	
<ul> <li>Get Automatically From ISP</li> </ul>	
○ Use These DNS Servers	
Primary DNS	0.0.0.0
Secondary DNS	· · · · · · · · · · · · · · · · · · ·
Router MAC Address	
Use Default Address	
O Use Computer MAC Address	
O Use This MAC Address	A8:F7:E0:1c:7e:e3

#### Figure 5-3-3 DHCP

#### Static IP

If your ISP offers you static IP Internet connection type, select "**Use Static IP Address**" and then enter IP address, subnet mask, primary DNS and secondary DNS information provided by your ISP in the corresponding fields.

Internet IP Address	
O Get Dynamically From ISP	
<ul> <li>Use Static IP Address</li> </ul>	
IP Address	
IP Subnet Mask	
Gateway IP Address	
Domain Name Server (DNS) Address	
Get Automatically From ISP	
• Use These DNS Servers	
Primary DNS	
Secondary DNS	
Router MAC Address	
<ul> <li>Use Default Address</li> </ul>	
O Use Computer MAC Address	
$\bigcirc$ Use This MAC Address	A8:F7:E0:1c:7e:e3
	Cancel Apply

#### Figure 5-3-4 Static IP

Object	Description
	Enter the WAN IP address provided by your ISP. Inquire your ISP if
• IP Address:	you are not clear.
IP Subnet Mask:	Enter WAN Subnet Mask provided by your ISP.
Gateway IP Address:	Enter the WAN Gateway address provided by your ISP.
Primary DNS:	Enter the necessary DNS address provided by your ISP.
	Enter the other DNS address if your ISP provides you with 2 such
Secondary DNS:	addresses, and it is optional.

#### PPPoE

- Step 1. Select "Does Your Internet Connection Require A Login?" the option based on the type of account you have with your ISP. If you need to enter login information every time you connect to the Internet or you have a PPPoE account with your ISP, select Yes. Otherwise, select No.
- Step 2. Choose "Yes" and you can select PPPoE, PPTP or L2TP.

**Step 3.** Select **PPPoE**, if your ISP is using a PPPoE connection and provide you with PPPoE user name and password info.

Does your Internet Connection Require A Login?	● Yes ○ No
Internet Service Provider	PPPoE V
Login	
Password	
Service Name (If Required)	
Connection Mode	Always On 🗸 🗸
Idle Timeout (In minutes)	1
MTU Size(616~1492 bytes)	1480
Domain Name Server (DNS) Address	
O Get Automatically From ISP	
Use These DNS Servers	
Primary DNS	8 8 8
Secondary DNS	
Router MAC Address	
Use Default Address	
O Use Computer MAC Address	
O Use This MAC Address	A8:F7:E0:1c:7e:e3

#### Figure 5-3-5 WAN Setup

Object	Description
• Login:	Enter the User Name provided by your ISP.
Password:	Enter the password provided by your ISP.
Service Name:	Type the name of this router.
Connection Mode:	Select "Always On" or "Dial On Demand".
Idle Timeout	If you select "Dial On Demand", you can configure the time which is auto disconnecting to ISP.
• MTU:	The maximum transmission unit. You can keep it as default.
Primary DNS Address:	Enter the necessary DNS address provided by your ISP.
Secondary DNS Address:	Enter the other DNS address if your ISP provides you with 2 such addresses, and it is optional.

## PPTP

The Point-to-Point Tunneling Protocol (PPTP) is a method for implementing virtual private networks (VPN).

Does your Internet Connection Require A Login?	● Yes ○ No
nternet Service Provider	PPTP V
ogin	
assword	
onnection Mode	Always On 🗸
dle Timeout (In minutes)	1
MTU Size(616~1436 bytes)	1436
My IP Address	
Subnet Mask	
Server Address	
Bateway IP Address	
omain Name Server (DNS) Address	
Get Automatically From ISP	
Use These DNS Servers	
Primary DNS	8.8.8.8
Secondary DNS	,
outer MAC Address	
Use Default Address	
O Use Computer MAC Address	

#### Figure 5-3-6 PPTP

Object	Description
• Login:	Enter the user name provided by your ISP.
Password:	Enter the password provided by your ISP.
Service Name:	Type the name of this router.
Connection Mode:	Select "Always On" or "Dial On Demand".
Idle Timeout	If you select "Dial On Demand", you can configure the time which is auto disconnecting to ISP.
• MTU:	The maximum transmission unit. You can keep it as default.
• My IP Address:	Enter the IP Address.

Subnet Mask:	Enter the subnet mask.
Server Address:	Enter the Domain Name Server (DNS) address.
Gateway IP Address:	Enter the gateway address provided by your ISP.
Primary DNS Address:	Enter the necessary DNS address provided by your ISP.
Secondary DNS Address:	Enter the other DNS address if your ISP provides you with 2 such
	addresses, and it is optional.

#### ■ L2TP

Layer 2 Tunneling Protocol (L2TP) is a tunneling protocol used to support virtual private networks (VPN) or as part of the delivery of services by ISPs.

Does your Internet Connection Require A Login?	● Yes ○ No
Internet Service Provider	L2TP 🗸
Login	
Password	
Connection Mode	Always On 🗸
Idle Timeout (In minutes)	1
MTU Size(616~1430 bytes)	1430
My IP Address	
Subnet Mask	
Server Address	
Gateway IP Address	
Domain Name Server (DNS) Address	
O Get Automatically From ISP	
Use These DNS Servers	
Primary DNS	8.8.8.8
Secondary DNS	
Router MAC Address	antore entry entries and a
Use Default Address	
O Use Computer MAC Address	

Figure 5-3-8 L2TP

Object	Description
• Login:	Enter the user name provided by your ISP.
Password:	Enter the password provided by your ISP.
Service Name:	Type the name of this router.
Connection Mode:	Select "Always On" or "Dial On Demand".
Idle Timeout	If you select "Dial On Demand", you can configure the time which is auto disconnecting to ISP.
• MTU:	The maximum transmission unit. You can keep it as default.
• My IP Address:	Enter the IP Address.
Subnet Mask:	Enter the subnet mask.
Server Address:	Enter the Domain Name Server (DNS) address.
Gateway IP     Address:	Enter the gateway address provided by your ISP.
Primary DNS     Address:	Enter the necessary DNS address provided by your ISP.
Secondary DNS	Enter the other DNS address if your ISP provides you with 2 such
Address:	addresses, and it is optional.

# 5.4 Wireless Setup

Click **Wireless Setup** on the left pane and its submenu comes out. In this section, you can configure the wireless network of 2.4G and 5G.

## 5.4.1 Basic Setup

On the coming page, you can configure the basic wireless parameters of 2.4G and 5G.

Region Selection	
Adapter >	2.4G 🗸
Region >	United States V
Wireless Network	
Enable Wireless Network	
Enable SSID Broadcast	
Enable Wireless Isolation	
SSID >	WDRT-1200AC_2.4G
Wireless Mode >	802.11n 🗸
Wireless Channel >	Auto 🗸
Extension Channel >	Auto 🗸
Bandwidth >	20/40MHz 🗸
Protected Mode >	On 🗸
802.11e/WMM QoS >	On 🗸
Security OptionsProfile	
Security Options :	WPA-PSK[TKIP]+WPA2-PSK[AES] V
Security Options(WPA-PSK+WPA2-PSK	0
PassPhrase :	12345678 (8-63 characters or 64 hexdigits)

Figure 5-4-1 Basic Setup

The page includes the following fields:

## 2.4GHz Basic Setup

Object	Description	
Adapter:	Choose 2.4G or 5G.	
Region:	You may select the country close to you.	
Enable Wireless	You may choose to enable or disable Wireless function.	

Network:		
	You may choose to enable or disable SSID broadcast. When it is enabled,	
Enable SSID	the router SSID will be broadcast in the wireless network, so that it can be	
Broadcast:	scanned by wireless clients and they can join the wireless network with	
	this SSID.	
Enable Wireless		
Isolation:	Enable or disable Wireless Isolation function.	
	Set a name (SSID) for your wireless network. The ID of the wireless	
	network. User can access the wireless network through it only. However,	
• SSID:	if you switch to Client Mode, this field becomes the SSID of the AP you	
	want to connect with.	
	Default: WDRT-1200AC_2.4G	
	Set the wireless mode to which you need. Default is "802.11b/g/n". It is	
	strongly recommended that you set the Band to "802.11b/g/n", and all of	
	802.11b, 802.11g, and 802.11n wireless stations can connect to the	
	WDRT-1200AC.	
Wireless Mode:	■ 802.11b: 802.11b mode, rate is up to 11Mbps	
	■ 802.11g: 802.11g mode, rate is up to 54Mbps	
	802.11n: 802.11n mode, rate is up to 300Mbps(2T2R)	
	■ 802.11b/g/n: 802.11b/g/n mode, rate is up to 11Mbps, 54Mbps, or	
	300Mbps	
	For an optimal wireless performance, you may select the least	
	interferential channel. It is advisable that you select an unused channel or	
• Wireless Channel:	"Auto" to let device detect and select the best possible channel for your	
	wireless network to operate on from the drop-down list.	
Extension Channel:	The extension Channel is over or under the primary Channel.	
	Select a proper channel bandwidth to enhance wireless performance.	
Bandwidth:	When there are 11b/g and 11n wireless clients, please select the 802.11n	
	mode of 20/40M frequency band.	
Protected Mode:	Protected mode is used when lots of 802.11b traffic is nearby.	
• 802.11e/WMM QoS:	Enable or disable QoS features.	
	Select the security mode from the Security Options dropdown list. There	
	are 5 options in the Security Mode dropdown list:	
	■ None,	
Security Options:	■ WEP	
	WPA-PSK[TKIP]	
	WPA2-PSK[AES]	
	WPA-PSK[TKIP] + WPA2-PSK[AES]	

# 5GHz Basic Setup

Region Selection		
Adapter >	5G 🗸	
Region >	United States 🗸	
Wireless Network		
Enable Wireless Network		
Broadcast SSID >		
Enable Wireless Isolation		
SSID >	WDRT-1200AC_5G	
Wireless Mode >	802.11a/n/ac 🗸	
Wireless Channel >	Auto 🗸	
Extension Channel >	Auto 🗸	
Bandwidth >	20/40/80MHz 🗸	
Protected Mode >	On 🗸	
802.11e/WMM QoS >	/MM QoS > On V	
Security OptionsProfile		
Security Options :	WPA2-PSK[AES]	
Security Options(WPA2-PSK)		
PassPhrase :	12345678 (8-63 characters or 64 hexdigits)	

## Figure 5-4-2 Basic Setup

Object	Description	
Adapter:	Choose 2.4G or 5G.	
Region:	You may select the country close to you.	
Enable Wireless	You may choose to enable or disable Wireless function.	
Network:		
	You may choose to enable or disable SSID broadcast. When it is	
Enable SSID	enabled, the router SSID will be broadcast in the wireless network, so	
Broadcast:	that it can be scanned by wireless clients and they can join the wireless	
	network with this SSID.	
Enable Wireless	Enable or disable Wireless Isolation function	
Isolation:		

	Set a name (SSID) for your wireless network. The ID of the wireless	
	network. User can access the wireless network through it only.	
• SSID:	However, if you switch to Client Mode, this field becomes the SSID of	
	the AP you want to connect with.	
	Default: WDRT-1200AC_5G	
	Set the wireless mode to which you need. Default is "802.11a/n/ac". It	
	is strongly recommended that you set the Band to "802.11a/n/ac", and	
	all of 802.11a, 802.11n, and 802.11ac wireless stations can connect to	
• Wireless Mode:	the WDRT-1200AC.	
	■ 802.11a: 802.11a mode, rate is up to 54Mbps	
	■ 802.11n: 802.11n mode, rate is up to 300Mbps(2T2R)	
	■ 802.11a/n/ac: 802.11a/n/ac mode, rate is up to 867Mbps	
	For an optimal wireless performance, you may select the least	
	interferential channel. It is advisable that you select an unused channel or	
Wireless Channel:	"Auto" to let device detect and select the best possible channel for your	
	wireless network to operate on from the drop-down list.	
	Select a proper channel bandwidth to enhance wireless performance.	
Bandwidth:	When there is 11a/n/ac, please select 20/40/80MHz frequency band.	
Protected Mode:	Protected mode is used when lots of 802.11b traffic is nearby.	
• 802.11e/WMM QoS:	Enable or disable QoS features.	
	Select the security mode from the Security Options dropdown list.	
	There are 5 options in the Security Mode dropdown list:	
	■ None	
Security Options:	■ WEP	
	■ WPA-PSK[TKIP]	
	WPA2-PSK[AES]	
	WPA-PSK[TKIP]+WPA2-PSK[AES]	

## 5.4.2 WPS Setup

**WPS** (**Wi-Fi Protected Setup**) is designed to ease setup of security Wi-Fi networks and subsequently network management. The WPS enables the PC with WPS function to connect to the wireless network of the AP without setting any parameters, such as SSID, security mode, or password.



Simply enter a PIN code or press the software PBC button or hardware WPS button (if any) and a secure wireless connection is established.

- PIN : To use this option, you must know the PIN code from the wireless client and enter it in corresponding field on your device while using the same PIN code on client side for such connection.
- PBC: If you press the hardware WPS button on the device, it means that PBC encryption method is successfully enabled. And an authentication will be performed between your router and the WPS/PBC-enabled wireless client device during this time; if it succeeds, the wireless client device connects to your device. Repeat steps mentioned above if you want to connect more wireless client devices to the device.

Choose **Wireless Setup** > **WPS Setup** and the following page appears.

Wireless Setup > WPS Setup	-
Adapter >	2.4G 🗸
Wi-Fi Protected Setup (WPS)	Enabled V
WPS hardware button	Enabled V
	Apply
1) Personal Information Number (PIN) Method	
Enter Client Device PIN	Enroll
Router PIN: 01234567	Generate New PIN
2) Push Button Configuration (PBC) Method	
	Start PBC
3) Manual Configuration Method	
Network Name (SSID):	WDRT-1200AC_2.4G
Wireless Security:	Configured
Network Authentication:	WPA-PSK[TKIP]+WPA2-PSK[AES]
Data Encryption:	TKIP+AES
Network Key (PSK):	12345678

Figure 5-4-3 WPS Setup

The page includes the following fields:

Object	Description
• Wi-Fi Protected Setup (WPS):	Enable or disable WPS function.
WPS hardware button:	Enable or disable WPS hardware button.



The WPS encryption can be implemented only between your Router and another WPS-capable device.

## 5.4.3 Guest Network

By enabling this function, a guest may access the Internet at your home without knowing your wireless password.

Adapter			2.40	· ~		
Network	Profiles					
	Scheme	S	SID	Security	Apply	SSID Broadcas
۲	1	WDRT-1200	AC_2.4G_002	None	No	Yes
0	2	WDRT-1200	AC_2.4G_003	None	No	Yes
Enabl	e SSID Broadcast e Wireless Isolation e Broadcom WMF reless Network Name(S	SSID):	WDRT-1200AC	_2.4G_0(		
Guest Wi						
Guest Wi Security	OptionsProfile					

Figure 5-4-4 Guest Network

Object	Description
Enable Guest Network:	Enable or disable Guest Network.
	You may choose to enable or disable SSID broadcast. When it is
Enable SSID Broadcast:	enabled, the router SSID will be broadcast in the wireless network,
	so that it can be scanned by wireless clients and they can join the

	wireless network with this SSID.	
Enable Wireless     Isolation:	Enable or disable Wireless Isolation function.	
• Enable Broadcom WMF:	When this function is enabled, wireless multicast will be more fluent.	
<ul> <li>Guest Wireless Network Name (SSID):</li> </ul>	Set a name (SSID) for your wireless network. User can access the wireless network through it only. However, if you switch to Client Mode, this field becomes the SSID of the AP you want to connect with.	
Security Options:	Select the security mode from the Security Options dropdown list. There are 5 options in the Security Mode dropdown list: None WEP WPA-PSK[TKIP] WPA2-PSK[AES] WPA-PSK[TKIP]+WPA2-PSK[AES]	

## 5.4.4 Advanced Setup

On this page, you can configure the 2.4G and 5G wireless advanced parameters. It is recommended to use the default parameters.

Wireless Setup > Advanced	Setup
Adapter :	2.4G 🗸
C Enable Broadcom WMF	
☑ Enable Broadcom XPress <sup>™</sup> Technology	
Enable Broadcom PHY Watchdog	
Fragmentation Length (256-2346)	2346
CTS/RTS Threshold (1-2347)	2347
Preamble Mode	Long preamble 🗸
Transmit Power Control	100% 🗸
Wireless Card Access List	
Setup Access List	

Figure 5-4-5 Advanced Setup

The page includes the following fields:

Object	Description
Adapter:	Choose 2.4G or 5G.
Enable Broadcom     WMF:	When this function is enabled, wireless multicast will be more fluent.
<ul> <li>Enable Broadcom</li> <li>Xpress Technology:</li> </ul>	Xpress Technology is a proprietary frame bursting technology that improves throughput by repackaging data so that more data can be sent in each frame.
<ul> <li>Enable PHY Watchdog:</li> </ul>	The output power will be more precise if it is enabled.
<ul> <li>Fragmentation Length (256-2346):</li> </ul>	A data packet that exceeds this value in length will be divided into multiple packets. The number of packets influences wireless network performance. Avoid setting this value low. Default at 2346.
• CTS/RTS Threshold (1-2347)	When the length of a data packet exceeds this value, the router will send an RTS frame to the destination wireless node, and the latter will reply with a CTS frame, and thus they are ready to communicate. The default value is 2347.
• Preamble Mode:	The preamble defines the length of CRC in wireless device communication. It is defined by the 802.11b High Rate/DSSS PHY. A short preamble adopts a 56-bit synchronization field, and is suitable for a high-traffic network. A long preamble is mainly for improving the efficiency of a wireless network on real-time applications like streaming video and VoIP telephone.
Transmit Power	Set the transmit power of router.
Control:	The default is 100%.

Click Setup Access List and the following page will be displayed.

Wireless Setup > Advanced Setup > Wireless Card Access List				
Turn Access Cont	ol On			
#	Device Name	Mac Address		
	Add Edit Delete			
	Cancel Apply			

Figure 5-4-6 Access List Setup

The page includes the following fields:

Object	Description
Turn Access	After enabling this function, you can limit wireless NIC from accessing
Control On:	the router based on their MAC addresses.
• Add:	Click it to add a wireless NIC.
• Edit:	Select a wireless NIC and click this button to edit its name or MAC
	address.
• Delete:	Select a wireless NIC and click this button to delete it.

Click **Add** and the following page will be displayed.

Available Wireless Card	s		
	Device Name		Mac Address
Wireless Card Entry(Ma	x of terms:16)		
Device Name			
Mac Address			

## Figure 5-4-7 Wireless Card Access Setup

Object	Description	
Available Wireless	All available wireless NICs and their MAC addresses are listed here	
Cards:		
Device Name:	You can define a name for the wireless NIC.	
• MAC Address:	Input the physical address of a wireless NIC. A MAC address is a	
	12-character string.	

## 5.4.5 Repeater Function

To do this, you must set these APs in the **same channel** and **set MAC address of other APs** which you want to communicate with in the table and then enable the WDS.



Click Wireless Setup  $\rightarrow$  Repeater Function and the following page will be displayed.

Adapter:	2.4G 🗸
Enable Wireless Repeating Function	
Disable Wireless Clients Association	
Wireless MAC of this router: A8:F7:E0:1C:7	E:E4
Wireless Repeater	
Repeater IP Address:	
Basic Station MAC Address:	
O Wireless Basic Station	
Repeater MAC Address 1:	
Repeater MAC Address 2:	
Repeater MAC Address 3:	
Repeater MAC Address 4:	

Figure 5-4-8 Wireless Repeater

Object	Description
Adapter:	Choose 2.4G or 5G.
Enable Wireless     Repeating Function:	While enabling this function, the wireless channel <b>cannot</b> be set to <b>Auto</b>
Disable Wireless     Clients Association:	When this function is enabled, clients cannot access the LAN
• Wireless Repeater:	In this mode, the router communicates with the central base station as a repeater.
Repeater IP Address:	Input an IP address for the repeater. It should be in the same network segment as the central base station.
Basic Station MAC     Address:	Input the physical address of the central base station.
Wireless Basic	In this mode, the router communicates with a repeater as the central
Station:	base station. Maximum of 4 repeaters can be added.
<ul> <li>Repeater MAC Address 1~4:</li> </ul>	Input the physical addresses of repeaters.

## 5.5 Media Features

The WDRT-1200AC has one built-in USB port which can be connected to a USB printer or external USB storage devices for file sharing. Moreover, the DLNA (Digital Living Network Alliance) compliant media server feature allows multimedia contents, such as stream videos, music and photos, to be easily shared among Smart TVs, tablets, mobile phones and laptops on a home network. Thus, all clients on the network can share mass storage through the WDRT-1200AC without complicated network configuration.



## 5.5.1 Samba Setup

Click **Media Features**  $\rightarrow$  **Samba Setup** and the following page will be displayed. You can upload and download files.

Samba Mode >	Disabled V
User Name >	admin
Password >	

Figure 5-5-1 Samba Setup

Object	Description	
• Samba Mode:	<b>Disabled:</b> When this option is selected, the function is disabled.	
	User: When this option is selected, you need to input a password in the	
	field.	

Share: When this option is selected, no password is required to access the
storage device.

Connect a USB device to the USB port of the router. Click **Run** in the **Start Menu** of your PC and input the address of the router 192.168.1.1.

📼 Run	
	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	√\192.168.1.1
	OK Cancel <u>B</u> rowse

Figure 5-5-2 Run

Click **OK** to enter the following page. If you login under user mode, you need to enter the user name and password.



Figure 5-5-3

Find your storage device, and upload or download files.

## 5.5.2 FTP Setup

Click **Media Features**  $\rightarrow$  **FTP Setup** and the following page will be displayed. You can upload and download files after plugging a USB storage device into the router.

Media	Features	> FTP Setup				
Ftpd Setti	ing					
Enable	e FTP Server					
FTP Server Port		21	21			
			[	Cancel Ap	ply	
FTP Serve	er Account Man	ager				
User Nam	e					
Password						
Rights				View 🗌 Uplo	ad 🗌 Download	
				Refresh Appe	end	
Account <sup>-</sup>	Table					
No.	No User Password			Rights		Operation
			View	Upload	Download	
1	admin	admin	Y	Y	Y	Edit Delete

#### Figure 5-5-4 FTP Setup

The page includes the following fields:

Object	Description	
Enable FTP     Server:	Enable or disable FTP service.	
• FTP Server Port:	Set an FTP service port.	
FTP Server     Account     Manager:	You can configure a username, password and assign rights (upload, download and view) for all users.	

Right-click **Computer**, and select **Open** in the prompt menu to go to the following page. Type <u>ftp://192.168.1.1</u> in the address bar.

← ← Search 192.168.1.1
i= ▼ (

Figure 5-5-5

Enter the username and password and then Click Log On to access the files in the USB device.

Log On A	s	
90	Either the serv accepted.	er does not allow anonymous logins or the e-mail address was not
	FTP server:	192.168.1.1
	User name:	admin 👻
	Password:	
	After you log o	on, you can add this server to your Favorites and return to it easily.
	FTP does not e server. To pro	encrypt or encode passwords or data before sending them to the stect the security of your passwords and data, use WebDAV instead.
	C Log on <u>a</u> no	nymously Save password

Figure 5-5-6

## 5.5.3 HTTP Access Storage

Click **Media Features**  $\rightarrow$  **HTTP Access Storage** and the following page will be displayed. You can upload and download files after connecting a USB storage device to the router.

Media Fe	eatures > HTTP Acco	ess Storage	
Enable	Access Method	Link	Port
	HTTP	readyshare.routerlogin.net	80
		http://readyshare.routerlogin.net/shares	
		http://readyshare.routerlogin.net/shares	

#### Figure 5-5-7 HTTP Access Storage

Plug the USB device into the USB port of the WDRT-1200AC and click on <u>http://readyshare.routerlogin.net/shares</u> to view and download files via your USB device.

The page includes the following fields:

Object	Description	
• Enable:	Enable or disable HTTP Access Storage.	
• Link:	It shows the domain name of HTTP access storage server. You can appoint one name and add it to the Favorites of your browser.	

### 5.5.4 DLNA

Click **Media Features**  $\rightarrow$  **DLNA** and the following page will be displayed. After enabling this function, media files in the USB device connected to the router can be found by a player supporting DLNA protocol.

Media Features > DLNA		
Enable DLNA		
***************************************	Cancel	Apply

#### Figure 5-5-8 DLNA

#### 5.5.5 QoS Setup

Click **Media Features**  $\rightarrow$  **QoS Setup** and the following page will be displayed. After enabling this function, you can optimize network traffic according to the set QoS priority rule.

Media Features > QoS S	etup
Enable Qos >	Disable 🗸
Prioritize ACK >	Enabled 🗸
Prioritize ICMP >	Disabled 🗸
Default Traffic Class >	Low 🗸
Inbound classes	
Max Downlink bandwidth >	15000 Kbit/s
Highes >	60 (%min) - 100 (%max) (9000 - 15000 Kbit/s)
High >	30 (%min) - 100 (%max) (4500 - 15000 Kbit/s)
Medium >	5 (%min) - 100 (%max) (750 - 15000 Kbit/s)
Low >	3 (%min) - 100 (%max) (450 - 15000 Kbit/s)
Lowest >	2 (%min) - 95 (%max) (300 - 14250 Kbit/s)
Outbound classes	
Max Uplink bandwidth >	15000 Kbit/s
Highest >	60 (%min) - 100 (%max) (9000 - 15000 Kbit/s)
High >	30 (%min) - 100 (%max) (4500 - 15000 Kbit/s)
Medium >	5 (%min) - 100 (%max) (750 - 15000 Kbit/s)
Low >	3 (%min) - 100 (%max) (450 - 15000 Kbit/s)
Lowest >	2 (%min) - 95 (%max) (300 - 14250 Kbit/s)

Figure 5-5-9 QoS Setup

The page includes the following fields:

Object	Description
• Enable:	Enable or disable QoS function.
Prioritize ACK:	Accelerate TCP ACK message. You are suggested to enable it.
• Prioritize ICMP:	Accelerate ICMP message. You are suggested to enable it.
Default Traffic Class:	Choose a default queue for matching QoS rules.
• Max Downlink / Set the maximum downlink/ uplink bandwidth permitted by the QoS	
Uplink Bandwidth:	priority rule.
Set up QoS rule:	Click this button to set up a QoS rule.

Click Setup QoS Rule and the following page will be displayed. You can edit, add or delete a priority rule.

¥	Rule Type	Address Type	Address	Protocol	Port Filter	Port Number	Class	Description
			- Pr.	A1101 1				
			Edit	Add Priority	Rule Delete			

Figure 5-5-10 QoS List

The page includes the following fields:

Object	Description
• Edit:	Select a rule from the QoS priority rule list, and click this button to edit it.
Add Priority	Click this button to open the page QoS Priority Rules to customize your
Rule:	priority strategy.
• Delete:	Click this button to delete a rule from the QoS priority rule list.

Click Add Priority Rule and the following page will be displayed.

Rule Type	UpLoad 🗸
IP/MAC Address Filter >	Any 🗸
Address >	
Port Protocol Filter >	Any 🗸
Port Filter >	Any
Port List >	
Class Assigned >	Highest 🗸
Description >	

#### Figure 5-5-11 QoS Priority Rules

Object	Description
Rule Type:	Select Upload or Download.
IP/MAC Address     Filter:	You may choose Any, Destination IP, Source IP or Source MAC.

• Address	When you choose the address filter to be <b>Any</b> , you may leave this field
• Address.	blank.
- Dort Protocol Filtory	Choose a protocol applied at the port. You may choose TCP/UDP, TCP or
• Port Protocor Piller.	UDP.
B ( F'')	Choose a type of action port. You may choose Any, Destination Port,
• Port Filter:	Source Port, or Source or Destination.
- Class Assigned	Choose a priority. You may choose Highest, High, Medium, Low or
• Class Assigned:	Lowest.
Description:	Enter the description of the QoS rule.

-

# 5.6 Advanced Setup

# 5.6.1 UPnP Setup

With the UPnP (Universal Plug and Play) protocol, a host on the LAN side may request the router of port conversion, so that a host outside the LAN may access the resources on the hosts in the LAN.

Click Advanced Setup  $\rightarrow$  UPnP Setup and the following page will be displayed.

Advanced S	Setup > UPnP					
Turn UPnP	On					
Advertisement Pe	riod(in minutes)	30	(1-1440)			
Advertisement Time To Live(in hops)		4	(1-255)	(1-255)		
UPnP Portmap T	able					
Active	Protocol	Int. Port	Ext. Port	IP Address	Description	
		Can	cel Apply Refree	sh		



Object	Description
	Enable or Disable UPnP function.
	UPnP can be enabled or disabled for automatic device configuration.
• Turn UPnP On:	The default setting for UPnP is enabled. If disabled, the router will not
	allow any device to automatically control the resources, such as port
	forwarding (mapping), of the router.
	It is the period the router broadcasts its UPnP information.
	The Advertisement Period is how often the router will advertise
	(broadcast) its UPnP information. This value can range from 1 to 1440
Advertisement	minutes.
Period(in minutes):	The default period is for 30 minutes. Shorter durations will ensure that
	control points have current device status at the expense of additional
	network traffic. Longer durations may compromise the freshness of the
	device status but can significantly reduce network traffic.
	It is the hop count of an UPnP data packet sent.
• Advortigement Time	The time to live for the advertisement is measured in hops (steps) for
• Advertisement Time	each UPnP packet sent. A hop is the number of steps allowed to
To Live(in hops).	propagate for each UPnP advertisement before it disappears. The
	number of hops can range from 1 to 255.

	The default value for the advertisement time to live is 4 hops, which
	should be fine for most home networks. If you notice that some devices
	are not being updated or reached correctly, then it may be necessary to
	increase this value a little.
	The table shows the IP addresses of all current UPnP devices
	accessing the router, and the opened ports (internal and external) of
	such devices.
. UBnB Bortman Tables	The UPnP Port Mapping Table displays the IP address of each UPnP
• OFIF Forunap Table.	device that is currently accessing the router and which ports (Internal
	and External) that device has opened. The UPnP Port Mapping Table
	also displays what type of port is opened and if that port is still active for
	each IP address.



Only applications supporting the UPnP protocol may use this function.

Your operating systems and application software should support UPnP, such as Windows XP, Windows Vista and Windows 7.

## 5.6.2 Virtual Servers

Click Advanced Setup  $\rightarrow$  Virtual Servers and the following page will be displayed.

Adv	dvanced Setup > Virtual Servers					
			Canc	el Apply		
Add		Active Worlds		► Add		
Clear	r entry	1 V Clear				
	enable	Description	Inbound port	Туре	Private IP address	Private port
1			-	BOTH 🗸	192.168.1.	-
2			-	BOTH 🗸	192.168.1.	
3				BOTH 🗸	192.168.1.	
4			-	BOTH 🗸	192.168.1.	-
5				BOTH 🗸	192.168.1.	

Figure 5-6-2 Virtual Servers

To add a virtual server, select a service from the **Add** dropdown list, click **Add** to add it to the list below, and input private IP addresses manually.

٨d	anced S	etup > Virtual Servers			
		Cancel	Apply		
Add		Active Worlds	Add		
Clea	r entry	Age of Empires Age of Empires Expansion: The Rise of Rome			
	enable	Age of Empires II: The Age of Kings	rpe	Private IP address	Private port
1		Age of Kings	Н∨	192.168.1.	-
2		Aliens vs. Predator	ΉΥ	192.168.1.	
3		AOL Instant Messenger	Н∨	192.168.1.	
4		Baldurs Gate	Н∨	192.168.1.	
5		BattleCom Battlefield Communicator	Н∨	192.168.1.	
6		Black and White Blizzard Battle.net	Н∨	192. <mark>1</mark> 68.1.	-

Figure 5-6-3

To delete an entry, you may select an entry from the Clear entry dropdown list. After setting, click Apply.

## 5.6.3 DDNS

The Wireless Router supports **Dynamic Domain Name Service** (**DDNS**). The dynamic DNS service allows a dynamic public IP address to be associated with a static host name in any of the many domains, and allows access to a specified host from various locations on the Internet. Click a hyperlinked URL in the form of hostname.dyndns.org and allow remote access to a host. Many ISPs assign public IP addresses using DHCP, so locating a specific host on the LAN using the standard DNS is difficult. For example, if you are running a public web server or VPN server on your LAN, DDNS ensures that the host can be located from the Internet even if the public IP address changes. DDNS requires that an account be set up with one of the supported DDNS service providers

Click Advanced Setup  $\rightarrow$  DDNS and the following page will be displayed.

Advanced Setup > DDN	IS	
DDNS Service >	Disabled V	Web Site
	Cancel Apply	

Figure 5-6-4 DDNS

Advanced Setup > DDNS		
DDNS Service >	Disabled DynDNS PlanetDDNS PlanetEasyDDNS	Web Site

Figure 5-6-5 DDNS

On this page, you are allowed to modify the DDNS settings.

Advanced Setup > DDN	15
DDNS Service >	PlanetDDNS 🗸 Web Site
User Name >	username
Password >	•••••
Domain Name >	
	Cancel Apply
	Cancer Apply

Figure 5-6-6 DDNS

Object	Description
DDNS Service :	Select a server provider or disable the existing server.
User Name:	Enter the DDNS user name of the DDNS account.

• Password:	Enter the DDNS password of the DDNS account.
Domain Name:	Enter the host name or domain name provided by DDNS provider.

### 5.6.4 Static Routes

Static Route reduces route selection problems and corresponding data overload and accelerates data packet forwarding.

Click **Advanced Setup**  $\rightarrow$  **Static Routes** and the following page will be displayed. On this page, you can add, edit or delete static route rules, and view the current static routing table of the router.

Advanced Setup > Static Routes					
#	Name	Destination	Gateway		
		Add Edit Delete	******		

Figure 5-6-7 Static Routes

To add a routing rule, click Add and the following page will display.

Advanced Setup > Static F	loutes
Route Name	
Destination IP Address	· · · · · · · · · · · · · · · · · · ·
IP Subnet Mask	
Gateway IP Address	
Metric	(2-15)

#### Figure 5-6-8

Object	Description
Route Name :	Enter a name for the current static route.
Destination IP     Address:	Enter the destination IP address or destination network.
IP Subnet Mask:	Enter the subnet mask of the destination IP address.
Gateway IP     Address:	Enter an IP address of the router or host to which data packets are sent.
• Metric:	It is the number of other routers on the user network. Set a value between 2 and 15. If the router is connected directly, set the value to 2

## 5.6.5 Port Triggering

Some applications need multiple connections, for example, WAN, online games, video conferences and VoIP. With firewall, such applications cannot work under a simple NAT router, while a special application enables them to do so. When an application program initiates connection to a trigger port, all corresponding ports will be opened.

Click Advanced Setup  $\rightarrow$  Port Triggering and the following page will be displayed.

A	lvan	ced Setup > Port	Trigge	ring			
E	Enabl	e Port Triggering					
Po	rt Trigg	ering Timeout(in minutes)	20		(1-9999)		
Ma	ax of rul	es: 32					
	#	Server Name	Service	Туре	Requ	ired Inbound Connection	Service User
			A	Add Service	Edit Service	Delete Service	
					Cancel Ap	ply	

Figure 5-6-9 Port Triggering

The page includes the following fields:

Object	Description
Enable Port Triggering:	Enable or disable Port Triggering function.
<ul> <li>Port Triggering Timeout(in minutes):</li> </ul>	Input a value between 1 and 9999. This value controls the inactivity timer of inbound port.
Add Service:	Click this button to add a new rule.
Edit Service:	Click this button to edit a selected rule.
Delete Service:	Click this button to delete a selected rule.

Click Add Service and the following page will be displayed.

Service Name	
Service User	Any 🗸
Service Type	TCP 🗸
Triggering Starting Port	(1~65535)
Triggering Ending Port	(1~65535)
Required Inbound Connection	
Connection Type	TCP 🗸
Starting Port	(1~65535)
Ending Port	(1~65535)

Figure 5-6-10

Object	Description
Service Name:	Enable or disable Port Triggering function.
Service User:	You may select <b>Any</b> or <b>Single Address</b> . <b>Any</b> : All users in the network are allowed to use the service. <b>Single Address</b> : Input the NIC IP address of the PC to limit the
	service to this NIC.
Service Type:	Choose a protocol used on the triggering port. You may choose <b>TCP/UDP</b> , <b>TCP</b> or <b>UDP</b> .
Triggering Starting Port:	Set a port on which connection is initiated.
Triggering Ending Port:	Set an ending trigger port.
Connection Type:	Choose a trigger protocol from <b>TCP&amp;UDP</b> , <b>TCP</b> and <b>UDP</b> .
• Starting Port:	When an open port is opened after connection is initiated at the trigger port, connection can be initiated at the open port.
Ending Port:	Set an ending triggered port.
## 5.7 Security Options

## 5.7.1 Parental Control

The router provides convenient parental controls to control children's online behavior, so that the children can only access certain sites, and at the same time limit Internet time

#### Click Security Options → Parental Controls and the following page will be displayed.

Parental Contr	rols	○ Enab	le 🖲 Disable		
Parental Cont	trol list >				
#	MAC Address	Sites	Sites List		Status
		Add Ed	it Delete		
		Enable all entries	Disable all entries		

**Figure 5-7-1 Parental Controls** 

Choose Enable to run parental controls. Click Add to display the following page.

Security Options > Parental	Controls
The child PC's MAC address >	
MAC address of the LAN PC >	Please select V
Description of the refused sites >	
Refuse children access to the Domain Nam	ie >
Domain Name 1 >	
Domain Name 2 >	
Domain Name 3 >	
Domain Name 4 >	
Domain Name 5 >	
Domain Name 6 >	
Domain Name 7 >	
Domain Name 8 >	
Effect at which time >	
Schedule Description >	
Week	Every day     O Select the day of the week
	MON TUE WED THU FRI
Start time	00:00 AM 🗸
End Time	00:00 AM 🗸

Figure 5-7-2

The page includes the following fields:

Object	Description	
The child's PC's	Set the wireless mode to which you need.	
MAC address:		
<ul> <li>Description of the refused sites:</li> </ul>	Enter a description name for convenient future management.	
Domain Name:	Enter domain names for children not to access.	
Effect at which time:	Set the effective time for the restrictions set above.	

## 5.7.2 WAN Setup

Using this page, you can set up a Default DMZ Server and allow the router to respond to a `ping` from the Internet. Both of these options have security issues, so use them carefully.

Click Security Options  $\rightarrow$  WAN Setup and the following page will be displayed.

On this page, you can set a default DMZ server, and enable the router to respond to Ping commands from the Internet.

Disable Port Scan and DOS P	rotection
Disable SPI Firewall	
Respond to Ping on Internet P	ort
Default DMZ Server	192 . 168 . 1 .
ALG Setup	
Enable SIP ALG	
Enable L2TP ALG	
Enable PPTP ALG	
Enable IPSEC ALG	

## Figure 5-7-3 WAN Setup

The page includes the following fields:

Object	Description
Disable Port Scan	When this function is enabled, your LAN will be protected from DOS
and DOS	attack. Please keep this function enabled.

Protection:	
Disable SPI     Firewall:	Enable or disable SPI Firewall.
Domain Name:	Enter domain names for children not to access.
Respond to Ping     on Internet Port:	Ping commands can be used as a diagnosis tool, you can disable it.
Default DMZ     Server:	Enter the IP address of a PC or server to be the DMZ server.
Enable SIP ALG:	Some SIP applications have specific schemes for firewall penetration, which may conflict with the SIP ALG. In most cases, keep SIP ALG enabled.
• Enable L2TP ALG:	Enable or disable L2TP ALG to pass through L2TP communication data.
Enable PPTP ALG:	Enable or disable PPTP ALG to pass through PPTP communication data.
Enable IPSEC     ALG:	Enable or disable IPSEC ALG to pass through IPSEC communication data.

## 5.7.3 Block Sites

Click Security Options  $\rightarrow$  Block Sites and the following page will be displayed.

Never			
⊃ Always			
ype Keyword or Domain Name Here.			
laa Keywora			
lock Sites Containing these Keywords	or Domain	Names	
Velete Keyword Clear List			

Figure 5-7-4 Block Sites

On this page, you can add or delete rules of keyword or domain name blocking to restrict LAN users from visiting some websites.

The page includes the following fields:

Object	Description		
Keyword	Choose Never to disable site blocking, or choose Always to enable site		
Blocking:	blocking.		
Type Keyword or			
Domain Name	Input keyword or domain name you want to block.		
Here:			
Add Keyword:	Press this button to add the input keywords or domain names to the list.		
Block Sites			
Containing these	You may input 32 itoms at most		
Keywords or	Tou may input 52 items at most.		
Domain Names			
Delete Keyword:	Select an item from the blocking list, and click this button to delete it.		
Clear List:	Press this button to clear all the items in the above list.		

## 5.7.4 MAC Address Filtering

Click Security Options  $\rightarrow$  MAC Address Filtering and the following page will be displayed.

Security Opt	tions > MAC Address Filtering	
Enable MAC A	Idress Filtering	
MAC Address Filte	ring List >	
#	MAC Address	
		<< Add
	Cancel Apply	

Figure 5-7-5 MAC Address Filtering

To enable this function, you need to input the MAC addresses of all the users in your network, so that they can access the information in the network.

## 5.8 Utilities

This section focuses on how to maintain Router, including Reboot, Backup/Restore, Restore to Factory Default Setting, Firmware Upgrade, System log and Password Change,



## 5.8.1 Router Reboot

Sometimes it may be necessary to Restart or Reboot the Router if it begins working improperly. Restarting or Rebooting the Router will not delete any of your configuration settings. Click the "**Restart Router**" button below to restart the Router.

Click **Utilities**  $\rightarrow$  **Router Reboot** and the following page will be displayed.

Utilities > Router Reboot	
Restart Router	
	Restart Router

#### Figure 5-8-1 Router Reboot

Click **Restart Router** to reboot the router.

## 5.8.2 Backup Setup

This screen allows you to back up, restore, and erase the router's current settings. Once you have the router working correctly, you should back up the information to have it available if something goes wrong. When you back up the settings, they are saved as a file on your computer. You can restore the router's settings from this file.

Click **Utilities**  $\rightarrow$  **Backup Setup** and the following page will be displayed.

Utilities > Backup S	etup
Save a Copy of Current Setting	s
	Save
restore a previously saved con	figuration
	Browse
	Restore
Revert to Factory Default Settin	ngs
	Restore Defaults

Figure 5-8-2 Backup Setup

To restore the router to the factory defaults, click **Restore Defaults**. This is identical with pressing down the Reset button on the back panel and holding for 3 seconds. To export the current settings of router to the local PC for future use, click **Save**, select an address and save the settings.

To load a file to the router, click **Browse** to choose a configuration file on your PC and click **Restore**.



When you load new configuration, the original configuration will be lost. Please back up the current configuration before loading a new one. In this way, if the new configuration file has an error, you can load the backup file.



**DO NOT** shut down your router when loading a configuration file. Otherwise, the router may be damaged.

## 5.8.3 Firmware Update

You install new versions of the router's software using this page. From time to time, we may release new versions of the Router's firmware. Firmware updates contain improvements and fixes to problems that may have existed. Click the link below to see if there is a new firmware update available for this Router.

Click Utilities -	Firmware	Update and t	he following	page will be c	lisplayed.
-------------------	----------	--------------	--------------	----------------	------------

Firmware Version >	V 0.00.01	
Update Firmware >		Browse.

Figure 5-8-3 Firmware Update

On this page, you can update the router software. To update the software, click **Browse** to choose a software file, and then click **Update**.



**DO NOT** turn off the power or press the Reset button when updating the firmware. Otherwise, the router may be damaged.

## 5.8.4 System Log

Click **Utilities**  $\rightarrow$  **System Log** and the following page will be displayed.

system log.				
2014-06-09 10:10:03	User 192.168.1.100 login	system		
2014-06-09 10:14:19	User 192.168.1.100 logo	ut system		
2014-06-09 10:14:54	User 192.168.1.100 login	system		
2014-06-09 11:01:01	User 192.168.1.100 logo	ut system		
.014-00-03 11.01.03	0361 132.100.1.100 login	system		
Firewall log:				
6				

Figure 5-8-4 System Log

On this page, you can view the system log. Click **Save** to save the system log to the local device. Click **Clear** to clear the system log. Click **Refresh** to refresh the system log.

## 5.8.5 E-mail

Alerts can be sent when someone on your LAN (Local Area Network) tries to visit a blocked site. Logs are lists of all the URLs that have been visited. If you'd like to have alerts and logs sent to you by e-mail, fill out the settings on this form. You can always check the logs manually by viewing the Logs page. If you don't want to receive e-mails, leave the boxes blank.

Click **Utilities**  $\rightarrow$  **E-mail** and the following page will be displayed.

Turn E-mail Notification On	
Send Alerts and Logs via E-mail	
Your outgoing E-mail Server	
Send to this E-mail address	
Vour E-mail server requires authen	tication
User Name	
Password	
Send logs according to this schedule	
Send Email :	None 🗸
Day:	Monday 🗸
Hour	01:00AM 🗸

Figure 5-8-5 E-mail

The page includes the following fields:

Object	Description
• Turn E-mail Notification On:	Enable or disable this function.
Your outgoing E-mail Server:	Define a server to send emails.
Send to this E-mail address:	Define an E-mail address to which log messages are sent.
User Name:	Enter your mailbox username.
Password:	Enter your mailbox password.
Send logs according to this schedule:	Set a time to send logs to the email address.

#### ■ To receive alerts and logs by e-mail:

Step 1. Select the Turn E-mail Notification On check box.

Step 2. In the Outgoing Mail Server box, type the outgoing SMTP mail server of your ISP (for example, smtp.myISP.com).

If you leave this box blank, no alerts or logs will be sent to you.

**Tip**: You use this information when you set up your e-mail program. If you can't remember it, check the settings in your e-mail program.

Step 3. In the Send To This E-mail Address box, type an e-mail address to have alerts and logs sent to you or someone else.

Use a full e-mail address (for example, Jackie@myISP.com).

Step 4. In the Your E-mail Address box, type an e-mail address you want to use to send the alerts and logs.

Use a full e-mail address (for example, Jackie@myISP.com).

- Step 5. If you want an e-mail alert sent whenever someone on your network tries to connect to a blocked URL, select the Send Alert Immediately check box.
- Step 6. If you don't want logs sent, select None from the first list in the Send Logs According To This Schedule area.

Or

If you want logs sent, select one of the other options.

If you selected Weekly, then select which day of the week.

If you selected Weekly or Daily, select the time of day for the e-mail to be sent.

Step 7. Click Apply to have your changes take effect.

## 5.8.6 System Settings

Click **Utilities**  $\rightarrow$  **System Settings** and the following page will be displayed.

Utilities > System Settings	
Administrator Password	
Type in current Password>	
Type in new Password>	
Confirm new Password>	
Login Timeout>	10 1-99 minutes
Time and Time Zone	
Time Zone >	(GMT-00:00) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London $\checkmark$
Daylight Savings >	Automatically Adjust Daylight Saving
Primary NTP Server >	132.163.4.102-North America 🗸
Secondary NTP Server >	132.163.4.102-North America 🗸
Remote Management	
$\Box$ Any IP address can remotely manage the router.	
Only this IP address can remotely manage the router	
Remote Access Port>	
Eco Mode	
Disable radio from	00:00 AM V To 00:30 AM V
	Su Mo Tu We Th Fr Sa
	Cancel Apply

Figure 5-8-6 System Settings

### Administrator Password

The Router is shipped with a default password. If you wish to change the password for more security, you can set a password here. Keep your password in a safe place, as you will need this password if you need to log into the router in the future. It is also recommended that you set a password if you plan to use the remote management feature of this Router.

The page includes the following fields:

Object	Description
• Type in current Password:	Type in the password to login the router.
Type in new Password:	Type in a new password.
Confirm new Password:	Type in a new password again.
Login Timeout:	Set the login timeout duration.

The login timeout option allows you to set the period of time that
you can be logged into the Router's advanced setup interface. The
timer starts when there has been no activity. For example, you
have made some changes in the advanced setup interface, then
leave your computer alone without clicking "Logout". Assuming the
timeout is set to 10 minutes, then 10 minutes is the timeout after
you leave, meaning the login session will expire. You will have to
login to the router again to make any more changes. The login
timeout option is for security purposes and the default is set to 10
minutes. As a note, only one computer can be logged into the
Routers advanced setup interface at one time.



For security, you are suggested to change the initial username and password for the administrator. If you forget the password, please reset the router. The default username and password are both **admin**.

## Time and Time Zone

The Router keeps time by connecting to a **Simple Network Time Protocol (SNTP)** server. This allows the Router to synchronize the system clock to the global Internet. The synchronized clock in the Router is used to record the security log and control client filtering.

- **Step 1.** Select the time zone that you reside in.
- Step 2. If you reside in an area that observes Daylight Saving, then place a checkmark in the box next to "Automatically Adjust Daylight Savings".

Allow at least 15 minutes for the router to contact the time servers on the Internet and get a response.



#### Remote Management

Remote management enables the user to configure the router on a remote host in WAN via Web browser. The page includes the following fields:

Object	Description	
Any IP address can remotely manage the router:	All IP addresses on the Internet can manage the router.	
Only this IP address can remotely manage the router:	Define a specific IP address to manage the router.	
Remote Access Port:	Set a web port number for router management.	

While both Any IP address can remotely manage the router and Only this IP address can remotely manage the router are not configured, remote management is disabled.

#### ECO Mode

Wireless ECO (Energy Companies Obligation) Mode will enable or disable your wireless access at a set time based on your predefined schedule. This feature is often used for restricting access to all users, such as children, employees and guests, during specific times of the day for parental control or security reasons.



## Schedulable Wireless ON/OFF Control

When this function is enabled, wireless function is disabled during the setting time.

## 5.8.7 Self Healing

This Self Healing function allows you to enable and configure system reboot schedule. The device can regularly reboot according to the reserved time when connecting to the Internet.



# Self-healing: Auto-Reboot by Schedule

Click **Utilities**  $\rightarrow$  **Self Healing** and the following page will be displayed.

Auto initialize my routers	
	C Enabled C Disabled
Set days>	
SUN	
MON	
TUE	
WED	
THU	
FRI	
SAT	
Orthings	12:00 PM V

Figure 5-8-7 Self Healing

When the function is enabled, the router will be restarted at the fixed time. This is helpful to maintain the router performance.

## 5.9 Downloader

With offline download, the user may access the router, and download Internet resources to a USB storage device, using only a computer or other terminal (for example, a cell phone). During download, the computer or terminal can be powered down.

**Downloader** supports HTTP, FTP, BT download protocols. With Downloader function, user can use Router to download Internet files and save them to a USB storage device without keeping a computer switched on.

Take the following steps to download.

- **Step 1.** Plug a USB storage device into the USB port of the router, for example, a USB disk or mobile hard disk.
- Step 2. On the navigation bar, click Downloader and the following page will be displayed.



#### Figure 5-9-1 Downloader

The page includes the following fields:

Object	Description
Ð	Click it to create a download task.
	Click it and the selected task will begin, or wait for download.
Ū	Click it to pause the selected task.
$\overline{\mathbf{x}}$	The chosen task will be deleted, but the resources stored in the USB device will not be deleted. Please clear resources on the USB device regularly to leave space.
$\bigcirc$	Click it to refresh the status of all the tasks.

**Step 3.** Click **(**) to create a download task and then select a download type.

Smart Internet	
Switch Of Smart Internet apply	
Add Tasks • Add seeds (support BT seeds)	
O Paste the address (support http / https / ftp	resources)
	Browse

Figure 5-9-2 Download Offline

The page includes the following fields:

Object	Description
Switch of Smart	When this function is enabled, you can control dynamically offline
Internet:	download speed to save bandwidth.
Add seeds:	Add a BT seed and originate a task of BT resources download.
Paste the address:	Paste an http, https or ftp address and originate a download task.

**Step 4.** Click **C** and the selected task will begin, or wait for download.

**Step 5.** After download, unplug the USB device.

# Chapter 6. Quick Connection to a Wireless Network

## 6.1 Windows XP (Wireless Zero Configuration)

Step 1: Right-click on the wireless network icon displayed in the system tray



Figure 6-1

Step 2: Select [View Available Wireless Networks]

Step 3: Highlight and select the wireless network (SSID) to connect

- (1) Select SSID (Here is taking PLANET for example)
- (2) Click the [Connect] button



**Figure 6-2 Wireless Network Connection** 

Step 4: Enter the encryption key of the Wireless Router

- (1) The Wireless Network Connection box will appear
- (2) Enter the encryption key that is configured in section 5.7.3
- (3) Click the [Connect] button

Wireless Network Connection			
The network 'PLANET' requires a network key (also called a WEP key or WPA key). A network key helps prevent unknown intruders from connecting to this network.			
Type the key, and then click Connect.			
Network <u>k</u> ey:	•••••		
C <u>o</u> nfirm network key:	••••••		
	Cancel		

Figure 6-3

Step 5: Check if "Connected" is displayed



Figure 6-4



Some laptops are equipped with a "Wireless ON/OFF" switch for the internal wireless LAN. Make sure the hardware wireless switch is switched to "ON" position.

## 6.2 Windows 7 (WLAN AutoConfig)

WLAN AutoConfig service is built-in in Windows 7 that can be used to detect and connect to wireless network. This built-in wireless network connection tool is similar to wireless zero configuration tool in Windows XP.





Step 2: Highlight and select the wireless network (SSID) to connect

- (1) Select SSID (Here is taking default\_2.4G for example)
- (2) Click the [Connect] button

Not connected	69	•
Connections are available		
Wireless Network Connection	^	=
default_2.4G	llee	1
Connect automatically	nect	
default_5G	llee	
link	llee	
juntion_wap	Il	Ŧ
Open Network and Sharing Center		





If you will be connecting to this Wireless Router in the future, check [Connect automatically].

## Step 4: Enter the encryption key of the Wireless Router

(1) Connect to a Network box will appear

- (2) Enter the encryption key that is configured in section 5.7.3
- (3) Click the [OK] button

Connect to a Network	×
Type the network security key	
Security key:	
Hide characters	
You can also connect by push button on the router.	ning the
	OK Cancel

Figure 6-7 Connect to a Network

P Connect to a Network	
Connecting to default_2.4G	
	Cancel

Figure 6-8 Connecting

### Step 5: Check if "Connected" is displayed



Figure 6-9

## 6.3 Mac OS X 10.x

Step 1: Right-click on the network icon displayed in the system tray

The AirPort Network Connection menu will appear



Figure 6-10

### Step 2: Highlight and select the wireless network (SSID) to connect

- (1) Select and SSID (Here is taking PLANET for example)
- (2) Double-click on the selected SSID



Figure 6-11

Step 4: Enter the encryption key of the Wireless Router

- (1) Enter the encryption key that is configured in section 5.7.3
- (2) Click the [OK] button

The n	etwork "PLANET" requires a WPA password
Pas	sword:
	Show password
	Remember this network
	Cancel OK

Figure 6-12



If you want to connect this Wireless Router in the future, check [Remember this network].

**Step 5**: Check if the AirPort is connected to the selected wireless network.

If "Yes", then there will be a "check" symbol in the front of the SSID.



Figure 6-13

## 6.4 iPhone / iPod Touch / iPad

### Step 1: Tap the [Settings] icon displayed in the home screen



Figure 6-14

Step 2: Check Wi-Fi setting and select the available wireless network

- (1) Tap [General] \ [Network]
- (2) Tap [Wi-Fi]

If this is the first time to connect to the Wireless Router, it should show "Not Connected".

iPad	10:35 AM	@ 100% ■
Settings	General	
Airplane Mode OFF		
SWI-FI Not Connected	About	>
Notifications     On	Usage	>
Carrier	Sounds	>
😰 Cellular Data		
🙀 Brightness & Wallpaper	Network	>
Picture Frame	Bluetooth	Off >
General	Location Services	On 👂
Mail, Contacts, Calendars	Spotlight Search	>
Safari		

Figure 6-15

iPad		10:35 AM		🕒 100% 📼
Set	ings	General	Network	
Airplane Mo	de OFF			
🛜 Wi-Fi	Not Connected	VPN	Not Co	nnected >
Notifications	on On	Wi-Fi	Not Co	nnected >
Carrier				
Cellular Data	1			
Brightness &	& Wallpaper			
Picture Fran	ne			
General				
Mail, Contac	ts, Calendars			
Mafari Safari				

Figure 6-16

Step 3: Tap the target wireless network (SSID) in "Choose a Network..."

- (1) Turn on Wi-Fi by tapping "Wi-Fi"
- (2) Select SSID (Here is taking PLANET for example)

iPad	10:35 AM	@ 100% <b>=</b>
Settings	Notwork Wi-Fi Netwo	rks
Airplane Mode	1	
Wi-Fi Not Connected	Wi-Fi	ON
Notifications     On	Choose a Network	
Carrier	PLANET	₽ 🇢 🧿
🔀 Cellular Data	Other	>
🙀 Brightness & Wallpaper	Ask to Join Networks	ON
Picture Frame	Known networks will be joined a	automatically. If no
Seneral	before joining a new network.	
Mail, Contacts, Calendars		

Figure 6-17

### Step 4: Enter the encryption key of the Wireless Router

- (1) The password input screen will be displayed
- (2) Enter the encryption key that is configured in section 5.7.3
- (3) Tap the [Join] button

i <b>₽</b> ad	10:36 AM			100%
Settings		Wi-Fi Netw	orks	
Airplane Mode	DEE			_
WI-FI Not Conne	wi-Fi		01	
Notifications	On Choose a Ne	ntwork		
Carrier	PLANET	WNRT-617		. 0
Cellular	Enter Passwo	rd	_	5
Brightne			201	
Picture   Password				NG:
General				
Mail, Co			_ 1	
Salari				
iPod				
Video				
Photos				
Notes				
Store				
Apps				
QWER	ТҮ	UI	0 P	G
ASD	FGH	ЈК	L	Join
∲ Z X C	V B 1	M	! ?	¢
.7123			.?123	ē

Figure 6-18

**Step 5**: Check if the iDevice is connected to the selected wireless network.

If "Yes", then there will be a "check" symbol in the front of the SSID.

iPad ᅙ	10:36 AM	100%
Settings	Network Wi-Fi Netwo	orks
Airplane Mode	-	
WI-FI PLANET_WNRT-617	Wi-Fi	ON
Notifications On	Choose a Network	
Carrier	✓ PLANET	<b>≜</b> ≈ <b>0</b>
🔀 Cellular Data	Other	>
Brightness & Wallpaper	Ask to Join Networks	ON
Picture Frame	Known networks will be joined automatically. If no known networks are available, you will be asked before joining a new network.	
Seneral		
Mail, Contacts, Calendars		

Figure 6-19

# **Appendix A: Troubleshooting**

If you found the router is working improperly or stop responding to you, please read this troubleshooting first before contacting the dealer for help. Some problems can be solved by yourself within a very short time.

Scenario	So	lution
The router is not responding to me when I want to access	a.	Please check the connection of the power cord and the Ethernet cable of this router. All cords and cables should be correctly and firmly inserted to the router.
it via web browser.	b.	If all LEDs on this router are off, please check the status
		of power adapter, and make sure it is correctly powered.
	C.	You must use the same IP address section as the router uses.
	d.	Are you using MAC or IP address filter? Try to connect
		the router by another computer and see if it works; if not,
		please reset the router to the factory default settings
		(pressing 'reset' button for over 10 seconds).
	e.	Set your computer to obtain an IP address automatically
		(DHCP), and see if your computer can get an IP
		address.
	f.	If you did a firmware upgrade and this happens, contact
		your dealer of purchase for help.
	g.	If all the solutions above don't work, contact the dealer
		for help.
I can't get connected to the	a.	Go to 'Status' -> 'Internet Connection' menu, and check
Internet.		Internet connection status.
	b.	Please be patient, sometimes Internet is just that slow.
	C.	If you connect a computer to Internet directly before, try
		to do that again, and check if you can get connected to
		Internet with your computer directly attached to the
		device provided by your Internet service provider.
	d.	Check PPPoE / L2TP / PPTP user ID and password
		again.
	e.	Call your Internet service provide and check if there's
		something wrong with their service.
	f.	If you just can't connect to one or more website, but you
		can still use other internet services, please check
		URL/Keyword filter.
	g.	I ry to reset the router and try again later.
	h.	Reset the device provided by your Internet service
		provider too.
	1.	I ry to use IP address instead of host name. If you can
		use IP address to communicate with a remote server,
I can't get connected to the Internet.	a. b. c. d. e. f. g. h. i.	Go to 'Status' -> 'Internet Connection' menu, and check Internet connection status. Please be patient, sometimes Internet is just that slow. If you connect a computer to Internet directly before, try to do that again, and check if you can get connected to Internet with your computer directly attached to the device provided by your Internet service provider. Check PPPoE / L2TP / PPTP user ID and password again. Call your Internet service provide and check if there's something wrong with their service. If you just can't connect to one or more website, but you can still use other internet services, please check URL/Keyword filter. Try to reset the router and try again later. Reset the device provided by your Internet service provider too. Try to use IP address instead of host name. If you can use IP address to communicate with a remote server, but can't use host name, please check DNS setting.

I can't locate my router by my	a.	'Broadcast ESSID' set to off?
wireless device.	b.	All two antennas are properly secured.
	c.	Are you too far from your router? Try to get closer.
	d.	Please remember that you have to input ESSID on your
		wireless client manually, if ESSID broadcast is disabled.
File download is very slow or	a.	Are you using QoS function? Try to disable it and try
breaks frequently.		again.
	b.	Internet is slow sometimes, so be patient.
	c.	Try to reset the router and see if it's better after that.
	d.	Try to know what computers do on your local network. If
		someone's transferring big files, other people will think
		Internet is really slow.
	e.	If this never happens before, call you Internet service
		provider to know if there is something wrong with their
		network.
I can't log into the web	a.	Make sure you're connecting to the correct IP address of
management interface; the		the router!
password is wrong.	b.	Password is case-sensitive. Make sure the 'Caps Lock'
pacente le mong.		light is not illuminated.
	C.	If you really forget the password, do a hard reset.
The router becomes hot.	a.	This is not a malfunction, if you can keep your hand on
		the router's case.
	b.	If you smell something wrong or see the smoke coming
		out from router or A/C power adapter, please disconnect
		the router and A/C power adapter from utility power
		(make sure it's safe before you're doing this!), and call
		your dealer of purchase for help.

# **Appendix B: PLANET DDNS**

First of all, please go to <u>http://www.planetddns.com</u> to register a Planet DDNS account, and refer to the FAQ (<u>http://www.planetddns.com/index.php/faq</u>) for how to register a free account.

	PLANET Networking & Communication
LI FLANET DDN3	PLANET Website FAQ Support
Sign in ID / Email  Sign in Forgotten Password / Create A New Account	

#### To select Advanced Setup > DDNS

Advanced Setup > DDN	S	
DDNS Service >	Disabled V	Web Site
	Cancel Appl	у

#### Step 1. Select Planet DDNS

Advanced Setup > DDN	S	
DDNS Service >	Disabled DynDNS	Web Site
	PlanetDDNS PlanetEasyDDNS	

Step 2. Type the User Name for your DDNS account.

Step 3. Type the Password for your DDNS account.

DDNS Service >	PlanetDDNS V Web Site
User Name >	username
Password >	•••••
Domain Name >	

Apply the settings and ensure you have connected the WAN port to the Internet. In a remote device, enter the Domain Name to the internet browser's address bar.

$\leftarrow$	limite://username.planetddns.com/	D-0

You can go to My Devices page of Planet DDNS website to check if the "Last Connection IP" is displayed. This indicates your DDNS service is working properly.

🔓 PL	ANET DDN	15		1	DI ANE	(		ANET g & Communication
Home	My Devices	Profile			W	/elcome, irelesstest	t ( <u>Sign ou</u>	<u>tt</u> )
My	Device							
A	ld Device 🕂							
N 1	o. Your Device ICA-HM316	Registered Domain wirelesstest	Name of Your Device device	Last Connection IP 210.61.134.92	Ping Status	Modify	Delete	

# **Appendix C: Specifications**

Due du et	WDRT-1200AC			
Product	1200Mbps 802.11ac Dual-Band Wireless Gigabit Router			
Hardware Specifications				
	WAN Port:	1 x 10/100/1000 Mbps	Auto MDI/MDI-X RJ45 port	
Interface		4 x 10/100/1000 Mbps Auto MDI/MDI-X RJ45 ports		
Interface	LAN Port:	(LAN1~4)		
	USB Port:	1 x USB 3.0, Type A, 5	V 900mA	
	Quint	2.4GHz : 2 x 1.8dBi Int	ernal Antenna	
Antenna	Gain:	5GHz: 2 x 3.8dBi In	ternal Antenna	
	1 x Reset button (Press for about 10 seconds to reset the device to			
Button	default.)			
	1 x WPS but	ton (Press for 1 second t	o activate WPS function.)	
	PWR x1			
LED Indiantana	WLAN (2.4G	Hz & 5GHz) x 2		
LED Indicators	WAN x 1			
	WPS x1			
Material	Plastic			
Dimensions (H x W x D)	192 x 115 x 9	90mm (H x W x D)		
Weight	308g			
Power Requirements	12V DC, 2A			
Power Consumption	12W maximum			
Wireless interface Specif	ications			
Standard	Compliance with IEEE 802.11a/b/g/n/ac			
Frequency Band	Simultaneous 2.4 GHz and 5 GHz			
	DSSS(DBPSK/DQPSK/CCK)			
Modulation Type	OFDM(BPSk	K/QPSK/16QAM/64QAM	)	
	МІМО			
Data Rates	2.4GHz up to	o 300Mbps		
	5GHz up to 8	367Mbps		
	2.4GHz			
	America / I	FCC: 2.412~2.462GHz (	11 Channels)	
	Europe / E	TSI: 2.412~2.472GHz (1	3 Channels)	
Channel	Japan / TE	LEC: 2.412~2.484GHz (	14 Channels)	
	5GHz			
	5.180-5.24	0GHz, 5.745-5.825GHz	(Up to 9 channels)	
	The actual channels in application will vary depending on the regulation in			
	different regio	ons and countries.		
Channel Width	20/40/80MHz			
RF Power / EIRP	2.4GHz:		5GHz:	
	11b: 17±1.	5dBm	11a: 14±1.5dBm	

	11g: 14±1.5dBm	11n: 14±1.5dBm		
	11n: 14±1.5dBm	11ac: 13±1.5dBm		
	2.4GHz	5GHz		
	11b (11Mbps): -79dBm	11a: -70dBm		
	11g (54Mbps): -70dBm	11n (20M)mode: -67dBm		
Receive Sensitivity	11n (20M)mode: -67dBm	11n (40M)mode: -64dBm		
	11n (40M)mode: -64dBm	11ac (20M)mode: -57dBm		
		11ac(40M)mode: -54dBm		
		11ac(80M)mode: -51dBm		
Wireless Management Fe	atures			
	AP/ Router			
Wireless Modes	WDS Repeater			
	WEP (64/128-bit)			
Encryption Security	WPA / WPA2			
	WPA-PSK/ WPA2-PSK encryption			
	Provide Wireless LAN ACL (Access (	Control List) filtering		
Wireless Security	Wireless MAC address filtering			
	Support WPS (WiFi Protected Setup	)		
Wireless Advanced	Support Dual-SSID (2.4G & 5G)			
	Wire: 64			
Max. Supported Clients	Wireless: 32			
Router Features				
Router Features	Shares data and Internet access	for users, supporting the following		
Router Features	Shares data and Internet access Internet accesses:	for users, supporting the following		
Router Features	Shares data and Internet access Internet accesses: DHCP	for users, supporting the following		
Router Features	Shares data and Internet access Internet accesses: DHCP Static IP	for users, supporting the following		
Router Features Internet Connection Type	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE	for users, supporting the following		
Router Features Internet Connection Type	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP	for users, supporting the following		
Router Features Internet Connection Type	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP	for users, supporting the following		
Router Features Internet Connection Type	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall	for users, supporting the following		
Router Features Internet Connection Type Firewall	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V	for users, supporting the following		
Router Features         Internet Connection         Type         Firewall	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and	for users, supporting the following rtual Server, and DMZ		
Router Features Internet Connection Type Firewall	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and Built-in DHCP server supporting stati	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features Internet Connection Type Firewall	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports Vi Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports Vi Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN         USB Sharing	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports Vi Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba FTP Server	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN         USB Sharing	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports Vi Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba FTP Server DLNA Media Server	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution		
Router Features         Internet Connection         Type         Firewall         LAN         USB Sharing	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba FTP Server DLNA Media Server Web-based (HTTP) management inter	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution erface		
Router Features         Internet Connection         Type         Firewall         LAN         USB Sharing	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports Vi Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba FTP Server DLNA Media Server Web-based (HTTP) management inter Remote management (WAN Access	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution erface Control)		
Router Features         Internet Connection         Type         Firewall         LAN         USB Sharing         System Management	Shares data and Internet access Internet accesses: DHCP Static IP PPPoE PPTP L2TP NAT firewall, SPI firewall Built-in NAT server which supports V Built-in firewall with URL filtering, and Built-in DHCP server supporting stati Support UPnP, Dynamic DNS Support UPnP, Dynamic DNS Support Packets Statistics Session Number: Max. 7776 Samba FTP Server DLNA Media Server Web-based (HTTP) management inter Remote management (WAN Access SNTP time synchronization	for users, supporting the following rtual Server, and DMZ I MAC address filtering c IP address distribution erface Control)		

	Windows 7				
OS Compatibility	Windows Vista				
05 Compatibility	Windows XP				
	Mac OS X 10.4 and higher				
Standards Conformance					
	IEEE 802.11ac				
	IEEE 802.11n				
	IEEE 802.11a				
	IEEE 802.11g				
IEEE Standards	IEEE 802.11b				
	IEEE 802.11i				
	IEEE 802.3 10Base-T				
	IEEE 802.3u 100Base-TX				
	IEEE 802.3ab 1000Base-T				
Others Protocols and					
Standards	CSIMA/CA, CSIMA/CD, TCP/IP, DHCP, ICMP, NAT, PPPOE, SNTP				
Regulatory	CE, RoHS, WEEE				
Environments					
Townstein	Operating: 0 ~ 45 degrees C				
Temperature	Storage: -40 ~ 70 degrees C				
11	Operating: 10 ~ 90% (non-condensing)				
Humidity	Storage: 5 ~ 90% (non-condensing)				

# **Appendix D: Glossary**

- 802.11ac 802.11ac is a wireless networking standard in the 802.11 family (which is marketed under the brand name Wi-Fi), developed in the IEEE Standards Association process, providing high-throughput wireless local area networks (WLANs) on the 5 GHz band.
- 802.11n 802.11n builds upon previous 802.11 standards by adding MIMO (multiple-input multiple-output). MIMO uses multiple transmitter and receiver antennas to allow for increased data throughput via spatial multiplexing and increased range by exploiting the spatial diversity, perhaps through coding schemes like Alamouti coding. The Enhanced Wireless Consortium (EWC) [3] was formed to help accelerate the IEEE 802.11n development process and promote a technology specification for interoperability of next-generation wireless local area networking (WLAN) products.
- 802.11a 802.11a was an amendment to the IEEE 802.11 wireless local network specifications that defined requirements for an orthogonal frequency division multiplexing (OFDM) communication system. It was originally designed to support wireless communication in the unlicensed national information infrastructure (U-NII) bands (in the 5–6 GHz frequency range) as regulated in the United States by the Code of Federal Regulations, Title 47, Section 15.407.
- 802.11b The 802.11b standard specifies a wireless networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.
- 802.11g specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 802.11b devices, and WEP encryption for security.
- DDNS (Dynamic Domain Name System) The capability of assigning a fixed host and domain name to a dynamic Internet IP Address.
- DHCP (Dynamic Host Configuration Protocol) A protocol that automatically configure the TCP/IP parameters for the all the PC(s) that are connected to a DHCP server.
- DMZ (Demilitarized Zone) A Demilitarized Zone allows one local host to be exposed to the Internet for a special-purpose service such as Internet gaming or videoconferencing.
- DNS (Domain Name System) An Internet Service that translates the names of websites into IP addresses.
- > Domain Name A descriptive name for an address or group of addresses on the Internet.
- DSL (Digital Subscriber Line) A technology that allows data to be sent or received over existing traditional phone lines.

- > **ISP** (Internet Service Provider) A company that provides access to the Internet.
- > MTU (Maximum Transmission Unit) The size in bytes of the largest packet that can be transmitted.
- NAT (Network Address Translation) NAT technology translates IP addresses of a local area network to a different IP address for the Internet.
- PPPoE (Point to Point Protocol over Ethernet) PPPoE is a protocol for connecting remote hosts to the Internet over an always-on connection by simulating a dial-up connection.
- SSID A Service Set Identification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name.
- WEP (Wired Equivalent Privacy) A data privacy mechanism based on a 64-bit or 128-bit or 152-bit shared key algorithm, as described in the IEEE 802.11 standard.
- Wi-Fi A trade name for the 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see http://www.wi-fi.net), an industry standards group promoting interoperability among 802.11b devices.
- WLAN (Wireless Local Area Network) A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.

## EC Declaration of Conformity

English	Hereby, <b>PLANET Technology Corporation</b> , declares that this <b>802.11ac Wireless Broadband</b> <b>Router</b> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	Lietuviškai	Šiuo <b>PLANET Technology Corporation</b> ,, skelbia, kad <b>802.11ac Wireless Broadband Router</b> tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost <b>PLANET Technology Corporation,</b> tímto prohlašuje, že tato <b>802.11ac Wireless</b> <b>Broadband Router</b> splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	Magyar	A gyártó <b>PLANET Technology Corporation</b> , kijelenti, hogy ez a <b>802.11ac Wireless Broadband Router</b> megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	PLANET Technology Corporation, erklærer herved, at følgende udstyr 802.11ac Wireless Broadband Router overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	Malti	Hawnhekk, <b>PLANET Technology Corporation</b> , jiddikjara li dan <b>802.11ac Wireless Broadband</b> <b>Router</b> jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC
Deutsch	Hiermit erklärt <b>PLANET Technology Corporation</b> , dass sich dieses Gerät <b>802.11ac Wireless</b> <b>Broadband Router</b> in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)	Nederlands	Hierbij verklaart , <b>PLANET Technology orporation,</b> dat <b>802.11ac Wireless Broadband Router</b> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eestikeeles	Käesolevaga kinnitab <b>PLANET Technology</b> <b>Corporation,</b> et see <b>802.11ac Wireless</b> <b>Broadband Router</b> vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	Polski	Niniejszym firma <b>PLANET Technology Corporation</b> , oświadcza, że <b>802.11ac Wireless Broadband</b> <b>Router</b> spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie "Directive 1999/5/EC".
Ελληνικά	ME THN ΠΑΡΟΥΣΑ, PLANET Technology Corporation, ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ802.11ac Wireless Broadband Router ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ	Português	PLANET Technology Corporation, declara que este 802.11ac Wireless Broadband Router está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Español	Por medio de la presente, <b>PLANET Technology</b> <b>Corporation,</b> declara que <b>802.11ac Wireless</b> <b>Broadband Router</b> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE	Slovensky	Výrobca <b>PLANET Technology Corporation,</b> týmto deklaruje, že táto <b>802.11ac Wireless Broadband</b> <b>Router</b> je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 1999/5/EC.
Français	Par la présente, <b>PLANET Technology</b> <b>Corporation,</b> déclare que les appareils du <b>802.11ac Wireless Broadband Router</b> sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	Slovensko	PLANET Technology Corporation, s tem potrjuje, da je ta 802.11ac Wireless Broadband Router skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente, <b>PLANET Technology</b> <b>Corporation,</b> dichiara che questo <b>802.11ac</b> <b>Wireless Broadband Router</b> conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	Suomi	PLANET Technology Corporation, vakuuttaa täten että 802.11ac Wireless Broadband Router tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Latviski	Ar šo <b>PLANET Technology Corporation,</b> apliecina, ka šī <b>802.11ac Wireless Broadband</b> <b>Router</b> atbilst Direktīvas 1999/5/EK pamatprasībām un citiem atbilstošiem noteikumiem.	Svenska	Härmed intygar, <b>PLANET Technology Corporation</b> , att denna <b>802.11ac Wireless Broadband Router</b> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.