

Product Specifications

802.11n Wireless Internet Fiber Router

FRT-415N

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2015/10/07	Solo	Initial release

Author	Solo	Editor:	Miki
Approved by:	Tom	Project Leader:	Kent

1. PRODUCT DESCRIPTION



Delivering Highly-demanding Service Connectivity for ISP/Triple Play Devices

With built-in 100BASE-FX fiber interface, the FRT-415N supports different optic types for WAN and the distance can be up to 15~60 km through the fiber connection. The FRT-415N is an ideal solution for FTTH (Fiber-to-the-home) applications with the IPv6 network. It can handle multiple high-throughput services such as **IPTV**, **on-line gaming**, **VoIP**, and **Internet** access, and keep the bandwidth usage smoothly. The FRT-415N also incorporates a 4-port 10/100BASE-TX switching hub, which makes it easily creates or extends your LAN, and prevents the attacks from Internet.

High-speed 802.11n Wireless

With built-in IEEE 802.11b/g and 802.11n wireless network capability, the FRT-415N allows any computer and wireless-enabled network device to connect to it without additional cabling. 802.11n wireless capability brings users the highest speed of wireless experience ever; the data transmission rate can be as high as **300Mbps**. The radio coverage is also doubled to offer high-speed wireless connection even in widely spacious offices or houses.

Secure Wireless Access Control

To secure wireless communication, the FRT-415N supports most up-to-date encryptions including WEP, WPA-PSK and WPA2-PSK. Moreover, the FRT-415N supports WPS configuration with PBC/PIN type for users to easily connect to a secured wireless network.

Providing Superior Function

The FRT-415N provides user-friendly management interface to be managed easily through standard web browsers. For networking management features, the FRT-415N not only provides basic router functions such as DHCP server, virtual server, DMZ, QoS, and UPnP, but also provides full firewall functions including Network Address Translation (NAT), IP/Port/MAC Filtering and Content Filtering. Furthermore, the FRT-415N serves as an Internet firewall to protect your network from being accessed by unauthorized users.

2. Product Features

> Internet Access Features

- **Shared Internet Access:** All users on the LAN can access the Internet through the FRT-415N using only one single external IP address. The local (invalid) IP addresses are hidden from external sources. This process is called NAT (Network Address Translation).
- **IEEE 802.3u 100BASE-FX standard:** The FRT-415N provides long-distance connection based on optical fiber transceiver which supports **FTTH** and **IPTV** applications.
- **Multiple WAN Connections:** Upon the Internet (WAN port) connection, the FRT-415N supports dynamic IP address (IP address is allocated upon connection), fixed IP address, PPPoE and bridge. SFP or RJ45 can be selected to be the default WAN interface.

> Advanced Internet Functions

- **Virtual Servers:** This feature allows Internet users to access Internet servers on your LAN. The setup is quick and easy.
- **Firewall:** The FRT-415N supports simple firewall with NAT technology.
- **Universal Plug and Play (UPnP):** UPnP allows automatic discovery and configuration of the broadband router. UPnP is supported by Windows XP, or later.
- **User Friendly Interface:** The FRT-415N can be managed and controlled through Web UI.
- **DMZ Support:** The FRT-415N can translate public IP addresses into private IP address to allow unlimited 2-way communication with the servers or individual users on the Internet. It provides the most flexibility to run programs smoothly for programs that might be restricted in NAT environment.
- **RIP1/2 Routing:** It supports RIPv1/2 routing protocol for routing capability.
- **IPv6 Support:** The FRT-415N supports IPv6 for new services and higher security.

> LAN Features

- **4-port Switch:** The FRT-415N incorporates a 4-port 10/100BASE-TX switching hub, making it easy to create or extend your LAN.
- **DHCP Server Support:** Dynamic Host Configuration Protocol provides a dynamic IP address to PCs and other devices upon request. The FRT-415N can act as a DHCP Server for devices on your local LAN.

> Wireless Features

- **Supports IEEE 802.11b, g and n Wireless Stations:** The 802.11n standard provides backward compatibility with the 802.11b and 802.11g standard, so 802.11b, 802.11g, and 802.11n can be used simultaneously. IEEE 802.11n wireless technology is capable of having a data rate of up to 300Mbps.
- **Two External Antennas with MIMO Technology:** The FRT-415N provides farther coverage, less dead spaces and higher throughput with 2T2R MIMO technology.
- **WPS Push Button Control:** The FRT-415N supports WPS (Wi-Fi Protected Setup) for users to easily connect to wireless network without configuring the security.

- **WEP Support:** WEP (Wired Equivalent Privacy) is included. Key sizes of 64 bit and 128 bit are supported.
- **WPA-PSK Support:** WPA-PSK_TKIP and WAP-PSK_AES encryption are supported.
- **Wireless MAC Access Control:** The Wireless Access Control feature can check the MAC address (hardware address) of wireless stations to ensure that only trusted wireless stations can access your LAN.

3. PRODUCT SPECIFICATIONS

3.1 MAIN COMPONENTS

CPU chipset	RTL8676S+ RTL8192ER
RAM	32MB
Flash	4MB

3.2 FUNCTIONAL SPECIFICATIONS

Model		FRT-415N
Product Description		300Mbps 802.11n Wireless Internet Fiber Router
Hardware Specifications		
Interface	LAN	4 x 10/100BASE-TX, auto-negotiation, auto MDI/MDI-X RJ45 port
	WAN	1 x 100BASE-FX SFP slot
	Wireless	2x 5dBi fixed antenna
Optic Interface	Connector	SFP (Small form-factor Pluggable)
	Mode	Vary on module
	Distance	Vary on module
LED Indicators		PWR, WAN, Internet, LAN1-4, WLAN, WPS, Security
Button		1 x Reset button 1 x WPS button 1 x Power button
Material		Plastic
Dimensions (W x D x H)		132 x 93 x 25 mm
Power		12V DC, 0.5A
Router Features		
Internet Connection Type		Shares data and Internet access for users, supporting the following internet accesses: <ul style="list-style-type: none"> ■ PPPoE ■ Dynamic IP ■ Static IP ■ Bridge
Max. Session		45659

Fiber-optic cable	<ul style="list-style-type: none"> ■ 50/125µm or 62.5/125µm multi-mode fiber cable, up to 2km. ■ 9/125µm single-mode cable, providing long distance of 15/20/35/50km or longer (vary on SFP module)
Routing Protocol	Static routing RIPv1/2
Security	Built-in NAT firewall MAC/IP/Port filtering Content filtering SPI firewall
Protocol/Feature	WPS DMZ and virtual server 802.1D QoS DHCP server/relay IGMP snooping IGMP proxy and MLD proxy UPnP and DDNS
System Management	Web-based (HTTP) configuration SNTP time synchronization System log supports remote log Password protection for system management TR-069
Wireless Interface Specifications	
Wireless Standard	IEEE 802.11b, g and n
Frequency Band	2.4 to 2.4835GHz (Industrial Scientific Medical Band)
Modulation Type	DBPSK, DQPSK, CCK and OFDM (BPSK/QPSK/16-QAM/64-QAM)
Data Transmission Rates	802.11n (40MHz): 270/243/216/162/108/81/54/27Mbps 135/121.5/108/81/54/40.5/27/13.5Mbps (dynamic)
	802.11n (20MHz): 130/117/104/78/52/39/26/13Mbps 65/58.5/52/39/26/19.5/13/6.5Mbps (dynamic)
	802.11g: 54/48/36/24/18/12/9/6Mbps (dynamic)
	802.11b: 11/5.5/2/1Mbps (dynamic)
Channel	Maximum 13 Channels, depending on regulatory authorities
Antenna Connector	2 x 5dBi fixed antenna
Wireless Data Encryption	64-/128-bit WEP, WPA-PSK, WPA2-PSK, 802.1x encryption, and WPS PBC
Standards Conformance	

Standard	Fiber Interface Complaint with IEEE802.3/802.3u 10/100 BASE-TX, 100BASE-FX standard U0 band support (25KHz to 276KHz) Packet Transfer Mode Ethernet in the first mile(PTM-EFM)
Environment Specifications	
Temperature/Humidity	Operating: 0~40 degrees C, 10%~ 90% (non-condensing), Storage: -10~70 degrees C, 0~95% (non-condensing)
Certification	CE

3.3 PHYSICAL SPECIFICATION

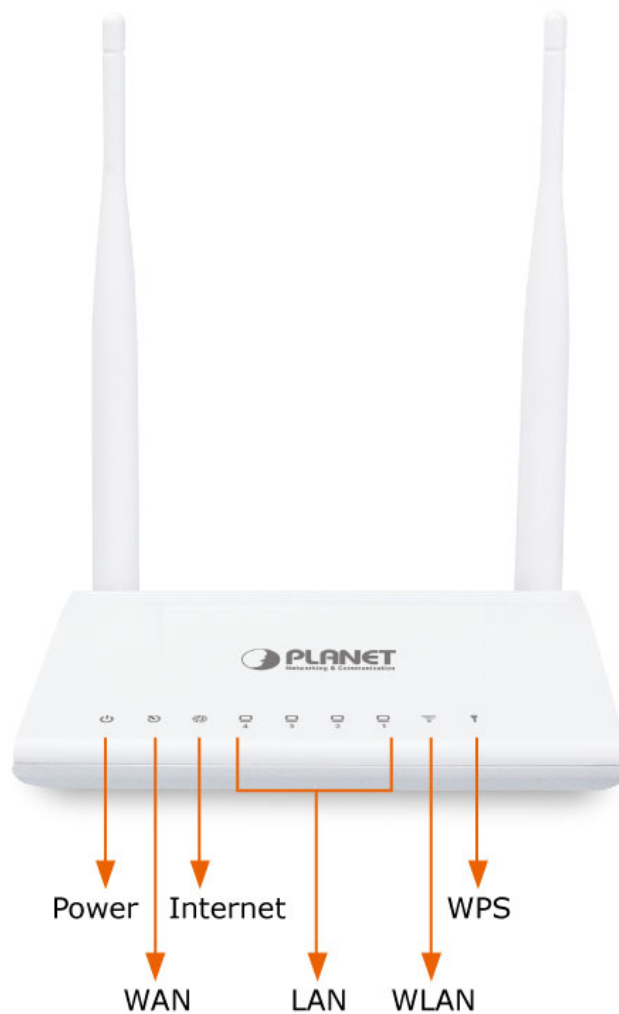
Dimensions

132 x 93 x 25mm (W x D x H)







Weight

161g

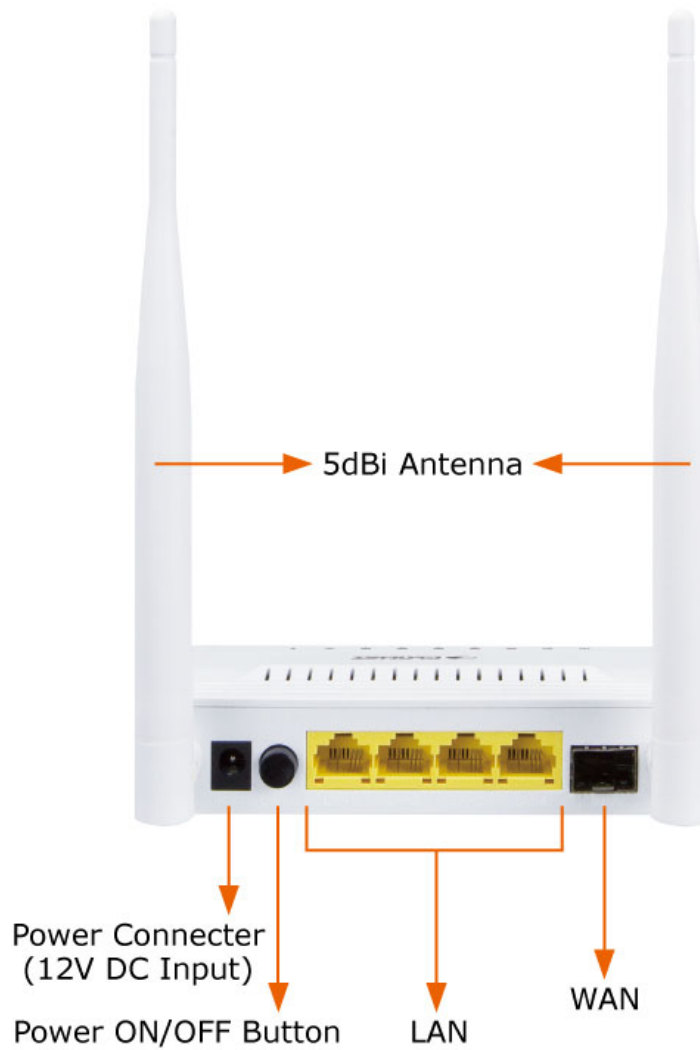
Front Panel



Front Panel LED Definition

LED	State	Description
 Power	On	When the router is powered on, and in ready state.
	Off	When the router is powered off.
 WAN	Flashing	Router is trying to establish a WAN connection to device.
	On	The WAN is connected successfully.
 Internet	Flashing	Router is trying to establish an Internet connection to device.
	On	The Internet is connected successfully.
 LAN1-4	Flashing	Data is being transmitted or received via the corresponding LAN port.
	On	The port is up.
 WLAN	On	WLAN radio is on.
	Flashing	Data is being transmitted through WLAN.
	Of	WLAN radio is off.
 WPS	On	WPS client registration is successful.
	Flashing	WPS client registration window is currently open.
	Of	WPS is not available, or WPS is not enabled or initialized.

Rear Panel



Rear Panel Port and Button Definition

Connector	Description
Power	Power connector with 12V DC, 0.5 A
Power Button	Power on/off button
LAN (1-4)	Router is successfully connected to a device through the corresponding port (1, 2, 3, or 4). If the LED light of LNK/ACT is flashing, the router is actively sending or receiving data over that port.
WAN	The SFP connector allows data communication between the router and the fiber network through an optical fiber cable

3.4 ENVIRONMENTAL SPECIFICATIONS

Operating

Temperature: 0~40 degrees C
Relative Humidity: 10~90 % (non-condensing)

Storage

Temperature: -10~70 degrees C
Relative Humidity: 0~95 % (non-condensing)

Electrical Specification

Input Voltage: 12V DC, 0.5A.

Regulatory Compliance

CE Class B

3.5 BASIC PACKAGING

- FRT-415N Unit x 1
- Power Adapter x 1
- Quick Installation Guide x 1
- RJ45 x 1

APPENDIX A: Default Setting

Default IP Address	192.168.1.1
Default Login User Name	admin
Default Login Password	admin
Default WLAN Mode	2.4GHz (B+G+N)
Default SSID	PLANET_XXXX ("X" means the last 4 digits of the MAC Address)
Default Multiple-SSID	PLANET_XXXX ("X" means the last 4 digits of the MAC Address)
Default Country Code	FCC (1-11)
Default Channel Width	40MHz
Default Channel Number	Auto
Default DHCP Server	Enable
Default DHCP Range	192.168.1.2~192.168.1.254