VRGIII-31412-N Series Triple Play Gateway

NAT/Bridge hybrid mode | DHCP auto provision | Dual rate fiber ** | TR-069 * | Cable tray

4 Ports 10/100/100Mbps RJ45, 2 Ports VoIP FXS, and 1 Port 1000Mbps Fiber Optics or 100/1000Mbps Fiber Optics Uplink VoIP Residential Gateway with IEEE802.11n WiFi and Optional CATV RF Receiver

Features

- **NAT/Bridge Hybrid Mode**
  Support NAT/Bridge hybrid mode. The NAT/Bridge hybrid mode can optimize the utilization of limited IP resources and the performance for services which require transparent bridging.
- **Dual Rate with Auto-Sensing Function**
  Dual Rate CPE Switch with auto-sensing function can automatically adjust to the speed of the slide-in fiber transceiver. This can save the cost when upgrading the device from 100Mbps to 1000Mbps.
- **Flexible Auto Provision Schemes**
  Provide either DHCP auto provision or TR-069 to fulfill the choice of deployment scale and reduce the OPEX of device maintenance for service providers.
- **IGMP Snooping v1/v2**
  Support IGMP snooping v1/v2 to facilitate the IPTV service deployment.
- **Smart Lighting Control**
  LED Indicators for link activities and status can be quickly. switched ON/OFF by pressing a control button. This Smart Lighting Control can turn off LED blinking indicators especially at night for household users to prevent light pollution.
- **Optional Cable Tray**
  This is a flexible option for FTTH installation. Users can keep excessive fiber inside the cable tray to have extra protection for the sensitive fiber.
- **Support CATV RF Receiver**
  Provide the option of provisioned analog video service to create new subscriber base and revenue for service providers.

Target Applications

- Managed triple play CPE with built-in 802.11n draft WiFi for FTTH deployment applications to deliver high speed internet, VoIP and IPTV triple play services.

** Dual rate fiber — For Specific Model. Please check order information for details.

* TR-069 — means optionally SW upgraded

Description

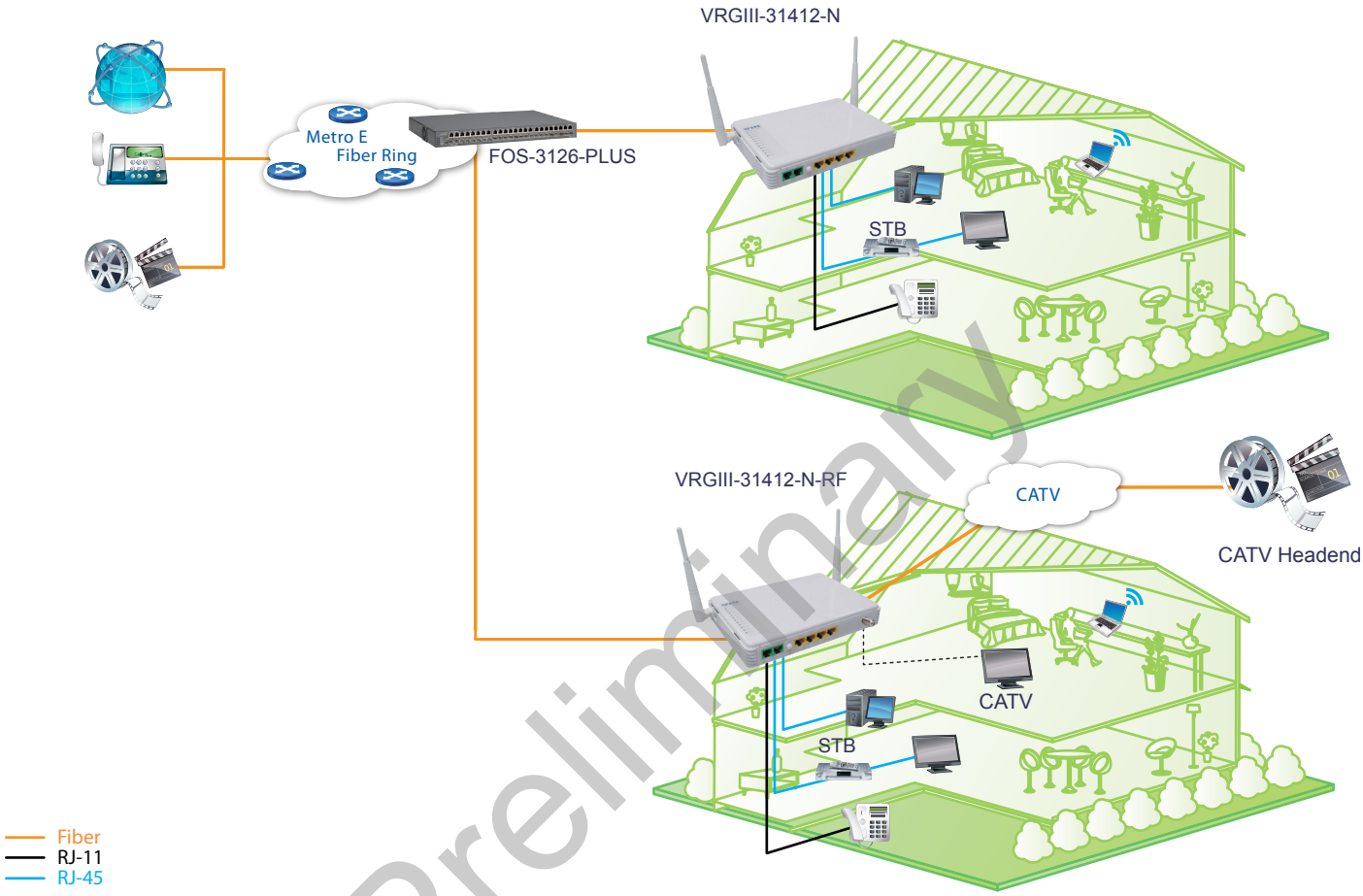
Connection Technology Systems (CTS) VRGIII-31412-N series triple play solution is a Web & SNMP managed fiber optical residential gateway which is designed to meet the FTTH deployment requirements for delivering high speed internet access, VoIP and IPTV services. VRGIII-31412-N provides one fiber optic port for broadband internet connections, four 10/100/1000base-T RJ45 ports for LAN application and two FXS ports for VoIP telephony service as well as IEEE 802.11n WiFi module for wireless access application.

Aimed at the operators or service providers who deliver the multiple services for residential users, the VRGIII-31412-N allows the triple play services in a Fiber-to-the-home deployed infrastructure in a single device. The four 10/100/1000Base-T RJ45 ports and IEEE 802.11n WiFi connection enable users to connect PC or laptop for internet applications such as web surfing, email, file upload/download and online gaming as well as connect a set top box for provisioned video applications like IPTV, VoD, E-learning etc.. The built-in two FXS ports support SIP to enable the service of VoIP telephony with toll quality and can significantly reduce costs for voice communication.

The WAN port of VRGIII-31412-N can support both short-distance and long-distance connections for the deployment to the household, apartment or campus*. The device management is based on Web or SNMP interfaces. To fulfill the requirement of mass deployments, the device also supports the auto provisioning mechanisms to allow the operators or service providers to manage the device configuration automatically and dynamically. Consequently, it can help saving the OPEX (operational cost) for the operators or service providers.

*It depends on what SFP module you use.

Application Diagram



Specification

Interface
LAN:10/100/1000Base-T RJ45 x 4
WAN: 1000Base-X F/O or 100/1000Base-X F/O x 1
VoIP FXS RJ-11 x 2
IEEE 802.11n WiFi x 1
CATV Fiber Optical Input x 1(Optional)
NTSC/PAL CATV Coaxial Output x 1 (Optional)

Standards
IEEE 802.3 10Base-T
IEEE 802.3u 100Base-TX/FX
IEEE 802.3ab 1000Base-T
IEEE 802.3z 1000Base-X
IEEE 802.1p Priority
IEEE 802.1q Tag VLAN

H/W Specification
Store and forward switching mechanism
Auto Crossover for MDI/MDI-X in TP port
Auto Negotiation in TP port
Half/Full Duplex Mode Operation
Jumbo frame up to: 9K
MAC Address Table: 1K
Priority Queues: 4 queues

Forward / Filter Rate
10M: 14,880/14,880pps
100M: 148,800/148,800pps
10000M: 1,488,000/1,488,000pps

LED
Power, Status, WAN, LAN1-4
Wi-Fi
WPS
TEL 1,2
LED ON/OFF control button

L2 Switching
PPPoE Client
IEEE802.1p priority/ 802.1Q tag VLAN
QoS
Bandwidth control

L3 Routing
NAT/Bridge hybrid mode*(1)
RIP v1 & v2**
DHCP Client & server
DNS client & DDNS
IGMP Proxy
IGMP Snooping v1 & v2
DMZ host

Security
Firewall
Packet / URL Filter
VPN Pass Through (IPSec., PPTP, L2TP)
UPnP
SIP ALG

VoIP Function
VAD & CNG
Echo cancellation (G.165/G.168)
DTMF tone generation
T.38 Fax/modem relay
T.38/G.711 Fax pass through
Adaptive jitter buffer
Dialing plan
Caller ID display
Call forward
Call hold
Call transfer
3-way conference

WiFi
IEEE 802.11b/g/n
WiFi Protected Setup (WPS)
WEP 64/128-bits support
WPA/WPA-PSK
WPA2/WPA2-PSK

CATV RF Receiver(for models with RF modules)
Input optic wavelength: 1200 ~ 1620nm
Input fiber optic wavelength: -8 ~ -2dBm
Fiber optic connector: SC/APC
Forward path frequency range: 54 ~ 870MHz
Transmission channel capacity
NTSC:70 Channel
PAL: 60 Channel
Output power level:
24dBmV @-5dBm optical input
CNR: 48dB@-4dBm optical input
CSO: max -65dBc@-4dBm optical input
CTB: max -67dBc@-4dBm optical input
Output Return Loss: max -16 dB
Flatness: ±1dB

Network Management
Web management
SNMP V1/V2**
FTP/TFTP firmware upgrade
DHCP Auto provision
TR-069*(2)

Power Requirement
External Power adaptor
AC input: 100VAC~240VAC
Frequency range: 50~60Hz
DC output rating: 12V/1.5A

Environmental Condition
Operation: 0° ~ 50℃
Storage Temperature: -20° ~ 60℃
Humidity: 5% ~ 90%, non-condensing

Dimension & Weight
Active device:
- Size: 180x 130 x 30 (WxDxH)
- Shipping Weight: 0.75kg
With Cable management:
- Size: 180 x 180 x 42 (WxDxH)

EMC/Safety
FCC class A,
CE

For further reports, please contact us for update

"**" This function will be available in the firmware release in the future.

"*(1)" NAT and Hybrid modes are available in the current firmware. And the pure Bridge mode will be available in the firmware released in the future.

"*(2)" Firmware upgrade by TR069 are available in the current firmware. The other TR-069 functions will be available in the firmware released in the future.

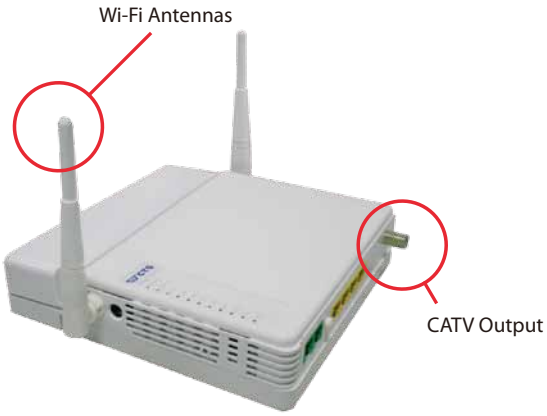
Order Information

VRGIII-31412-N Series

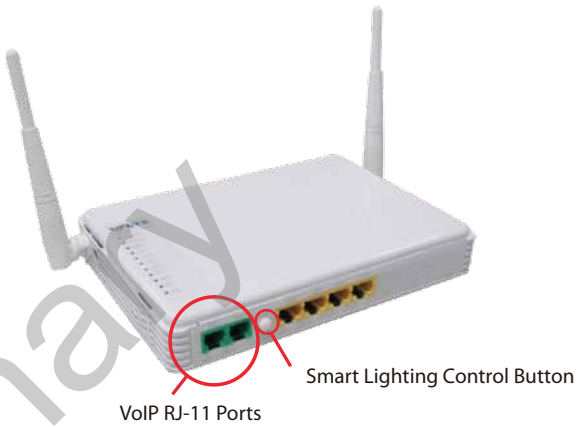
Model	WAN			LAN			WLAN	VoIP	CATV	
	Speed	Type	Distance	Speed	Type	Ports		FXS Port	Fiber	Coaxial
VRGIII-31412FC-N	1000M	MM/SC	2KM	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412FC(SM-10/20/30/50/80)-N	1000M	MM/SC	10/20/30/50/80K	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412W2A(SM-10/20)-N	1000M	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412W2B(SM-10/20)-N	1000M	WDM/SC	20/40KM	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412W2A(SM-10/20)-N-RF	1000M	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	1	1
VRGIII-31412W2B(SM-10/20)-N-RF	1000M	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	1	1
VRGIII-31412W2A(SM-10/20)-N-DR	100/1000	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412W2B(SM-10/20)-N-DR	100/1000	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	-	-
VRGIII-31412W2A(SM-10/20)-N-DR-RF	100/1000	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	1	1
VRGIII-31412W2B(SM-10/20)-N-DR-RF	100/1000	WDM/SC	10/20KM	10/100/1000M	RJ-45	4	802.11n	2	1	1
HES-FCT-S	Fiber Cable Management Tray Unit For VRGIII & HES Series									

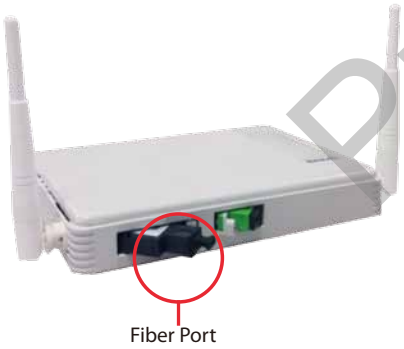
Built-in Cable Tray Overview

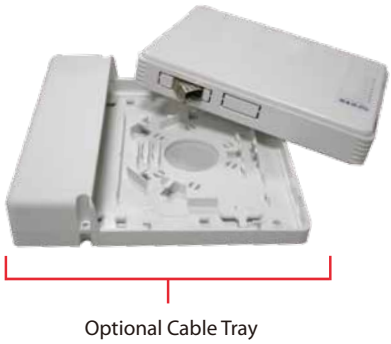
With optional cable tray (HES-FCT-S)



Without cable tray







* This is an overview of CTS VRGIII series and does not represent specific product details.