VRG5-31412SFP-CW-AC-DR Series
Triple Play Gateway

4 Ports 10/100/1000Mbps RJ-45, 2 Ports VoIP FXS and 1 Combo Uplink Port (10/100/1000Mbps RJ-45 and 100/1000 Mbps SFP slot) VoIP Residential Gateway with Dual Band IEEE 802.11b/g/n/ac Wi-Fi

DHCP auto provision | Dual rate fiber | TR-069 | Cable tray

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Description

Connection Technology Systems (CTS) VRG5-31412SFP-CW-AC-DR 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. VRG5-31412SFP-CW-AC-DR provides one (SFP slot / TP) combo WAN port for broadband internet connections, four 10/100/1000base-T RJ-45 ports for LAN application and two FXS ports for VoIP telephony service as well as IEEE 802.11b/g/n/ac Wi-Fi module for wireless access application.

Aimed at the operators or service providers who deliver the multiple services for residential users, the VRG5-31412SFP-CW-AC-DR allows the triple play services in a Fiber-to-the-home deployed infrastructure in a single device. The four 10/100/1000Base-T RJ-45 ports and IEEE 802.11b/g/n/ac Wi-Fi 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.
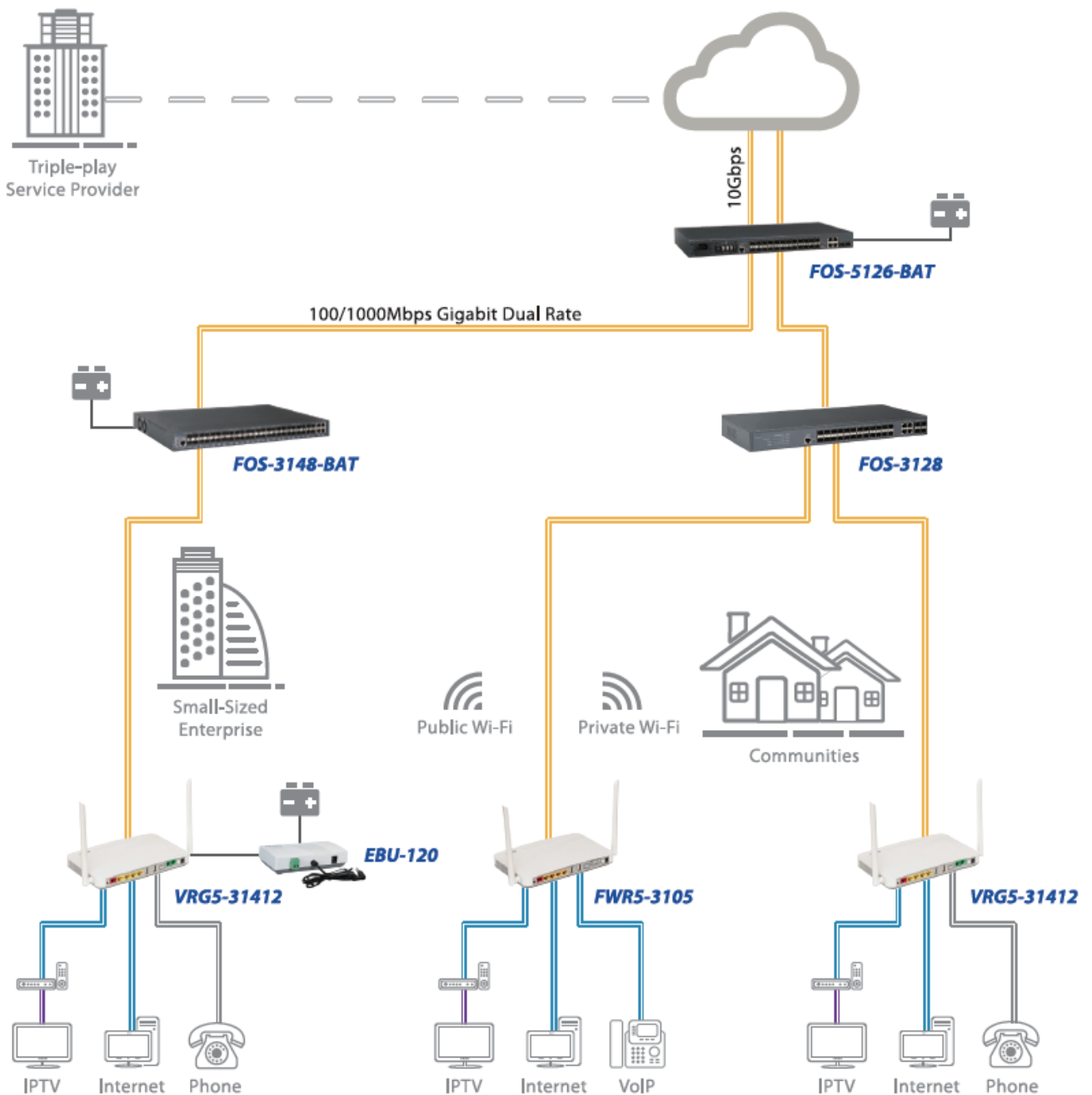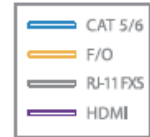
The combo WAN port of VRG5-31412SFP-CW-AC-DR can support both short & long-distance connections for the deployments to the household, apartment or campus. The device management is based on CLI, Web and SNMP interfaces. To fulfill the requirement of mass deployments, the device also supports auto provisioning mechanism 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.

Features

- **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 both DHCP auto provision and 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.

- **Combo WAN Port Technology**
  Support both SFP slot and TP WAN port for various kinds of deployment and saving manual setting efforts.

- **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 ber inside the cable tray to have extra protection for the sensitive fiber.

- **CLI Management**
  It supports Command Line Interface (CLI) which requires fewer resources and is easier to configure multiple devices at a time. For experts, it would be more concise and powerful to manage the gateway.

Target Applications

- Managed triple play CPE with built-in IEEE 802.11b/g/n/ac Wi-Fi for FTTH deployment applications to deliver high speed internet, VoIP and IPTV triple play services.

* TR-069 Customization of SW may be required for the interoperability of the ACS and VRG5-31412SFP-CW-AC-DR.

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Application Diagram

CAT 5/6
F/O
RJ-11 FXS
HDMI

Triple-play
Service Provider

10Gbps

FOS-5126-BAT

100/1000Mbps Gigabit Dual Rate

FOS-3148-BAT

FOS-3128

Small-Sized
Enterprise

Public Wi-Fi

Private Wi-Fi

Communities

EBU-120

VRG5-31412

FWR5-3105

VRG5-31412

IPTV   Internet   Phone

IPTV   Internet   VoIP

IPTV   Internet   Phone

Specification

Interface
- LAN:10/100/1000Base-T RJ-45 x 4
- Combo WAN:100/1000Base-X SFP and
  10/100/1000Base-T RJ-45 x 1
- VoIP FXS: RJ-11 x 2
- USB 2.0 (Type-A) x 2
- IEEE 802.11b/g/n/ac Wi-Fi

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
IEEE 802.11b/g/n/ac

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

Forward / Filter Rate
10M: 14,880/14,880pps
100M: 148,800/148,800pps
1000M:1,488,000/1,488,000pps

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

Layer 2 Switching
- IEEE802.1p Priority/ 802.1Q Tag VLAN
- QoS
- Priority Queues: 4 Queues
- CoS, 802.1p, DSCP
- Weighted Round-Robin(WRR)/
  Strict-Priority Queuing (SPQ) Scheduling
  Algorithm
- Policy and Shaping Rate Limit
- IGMP Snooping v1 & v2
- IGMP Fast Leave

Layer 3 Routing
PPPoE Client
NAT/Bridge Hybrid Mode
Static Route
DHCP Client & Server
DNS Client & DDNS
IGMP Proxy
DMZ Host

Security
Firewall
Packet / URL Filter
VPN Pass Through (IPSec., PPTP, L2TP)
DDoS Attack Detection & Blocking
UPnP

VoIP Function
SIP Protocol (RFC3261)
VAD & CNG
Echo Cancellation (G.165/G.168)
DTMF Tone Generation
T.38 Fax/Modem Relay
T.38/G.711 Fax Pass Through
G.711 a/u, G.723, G.726, G.729 a/b Codec
Adaptive Jitter Buffer
Dialing Plan
Caller ID Display
Call Forward(Unconditional/Busy/No Answer)
Call Hold
Call Transfer
3-way Conference

Wi-Fi
Wireless AP mode
NAT/Bridge Mode by SSID
IEEE 802.11b/g/n/ac
Wi-Fi Protected Setup (WPS)
64/128-bit WEP, WPA, WPA2 Data Encryption
MAC Access Control for Wi-Fi Link
8 SSID
2.4GHz/5GHz Dual Band

Network Management
IPv4/IPv6 Dual Stack
Web/Telnet/CLI Management
SNMP v1/v2c
HTTP/FTP/TFTP Firmware Upgrade
DHCP Auto Provision
TR-069**
Event Log
Power Down Trap

Power Requirement
External Power Adaptor
AC Input: 100VAC~240VAC
Frequency Range: 50~60Hz
DC Output : 12V

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

Dimension & Weight
- Size: 273 x 197 x 30.8mm (W x D x H)
- Weight: 0.46Kg

EMC/Safety
FCC Class A, CE

"**" Customizations may be required for the
interoperability between the ACS server and
the device.

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Order Information

VRG5-31412SFP-CW-AC-DR

MODEL	FIBER PORT					TP PORT		WLAN	VoIP	CATV RF	
	Speed (Mbps)	Type	Connector	Distance	Port	Speed (Mbps)	Port	Type	FXS Port	Fiber	Coaxial
VRG5-31412SFP-CW-AC-DR	100/1000	SFP	-	-	1	10/100/1000	5	802.11 b/g/n/ac	2	-	-
VRG5-31412TP-AC	-	-	-	-	-	10/100/1000	5	802.11 b/g/n/ac	2	-	-

SFP-31

MODEL	FIBER PORT					
	Speed (Mbps)	Type	Connector	Distance	Wavelength	Temperature
SFP-31FC	1000	MM	LC	550M	850nm	0℃ to 70℃
SFP-31FC(SM-10/20/40/50/80/120)	1000	SM	LC	10/20/40/50/80/120KM	1310nm/1310nm/1310nm/1550nm/1550nm/1550nm	0℃ to 70℃
SFP-31W2A(SM-10/20/40/80)	1000	WDM	LC	10/20/40/80KM	TX:1310nm/1310nm/1310nm/1510nm RX:1550nm/1550nm/1550nm/1570nm	0℃ to 70℃
SFP-31W2B(SM-10/20/40/80)	1000	WDM	LC	10/20/40/80KM	TX:1550nm/1550nm/1550nm/1570nm RX:1310nm/1310nm/1310nm/1510nm	0℃ to 70℃
SFP-31FC-C11	1000	CWDM	LC	80KM	1470nm	0℃ to 70℃
SFP-31FC-C12	1000	CWDM	LC	80KM	1490nm	0℃ to 70℃
SFP-31FC-C13	1000	CWDM	LC	80KM	1510nm	0℃ to 70℃
SFP-31FC-C14	1000	CWDM	LC	80KM	1530nm	0℃ to 70℃
SFP-31FC-C15	1000	CWDM	LC	80KM	1550nm	0℃ to 70℃
SFP-31FC-C16	1000	CWDM	LC	80KM	1570nm	0℃ to 70℃
SFP-31FC-C17	1000	CWDM	LC	80KM	1590nm	0℃ to 70℃
SFP-31FC-C18	1000	CWDM	LC	80KM	1610nm	0℃ to 70℃

SFP-31-DR

MODEL	FIBER PORT					
	Speed (Mbps)	Type	Connector	Distance	Wavelength	Temperature
SFP-31FC-DR	100/1000	MM	LC	2KM/550M	1310nm	0℃ to 70℃
SFP-31FC(SM-10)-DR	100/1000	SM	LC	10KM	1310nm	0℃ to 70℃
SFP-31W2A(SM-10)-DR	100/1000	WDM	LC	10KM	TX:1310nm RX:1550nm	0℃ to 70℃
SFP-31W2B(SM-10)-DR	100/1000	WDM	LC	10KM	TX:1550nm RX:1310nm	0℃ to 70℃