



## R1P-VD Symmetric VDSL2 IP DSLAM



### Product Overview

R1P-VD is high quality broadband VDSL solution which supplies DMT based service interface for 100/100Mbps up/down speed.

R1P-VD, 1RU Pizza-box type, is the best choice for limited space and demanding subscribers such as basement or cabinet. R1P-VD has built-in splitter and comes in 2 models: 16ports and 24 ports. R1P-VD basically uses AC power and all connection supports full front access. The power, network connection, and management interfaces are located in the front side for easy access and effective for small space installation.

R1P-VD provides 802.1q tagged VLAN, 802.1w RSTP, 802.1p CoS, 802.3ad Link Aggregation, 802.3x flow control, Ingress/egress port mirroring technology and powerful QoS such as MFC, CoS, DSCP, ToS marking/remarking, Policing/ Shaping/ Rate control, Congestion Control, Scheduling for the Triple Play Service (TPS). Moreover, it provides network protection technology such as MAC filtering, IGMP/DHCP/ARP Snoop filtering, DHCP filtering, NetBEUI/NetBIOS/NBT filtering, ACL and Multicast function like IGMP snooping, Fast leave .

R1P-VD is composed of 2 Gigabit Ethernet ports, and can be applied optionally one of Fast/Gigabit Ethernet, Gigabit EPON and Gigabit WDM-PON for uplink, selectable in case by case. It can be adopted to variable network configurations for service providers. The pluggable module makes R1P-VD easily to adapt, and the Gigabit interface offers more scalable connecting in cascade formation.



## Key Features

- **DSLAM for variable environment**
  - 1RU, 290mm depth standard size
  - Full Front Access for connector location
  - Excellent environment conditions
- **Standard based support**
  - Max down/up speed: 100Mbps
  - VDSL2 standard
- **L2 functions**
  - Full Wire-speed performance by design based on H/W
  - Tag VLAN supports based on port and IEEE 802.1q
  - Network fault backup function using RSTP
- **QoS and IGMP snooping for IP multicast video and IP voice service**
  - Provide MAC filtering, DHCP filtering, NetBEUI/NetBIOS/NBT filtering, ARP spoofing protection
  - Multi Field Classification, Marking/Remarkin
  - Policing, Shaping, Rate control
  - Congestion and Scheduling control
  - IGMP snooping and quick channel conversion
- **Provide uplink for variable network environment: FE/Gigabit Ethernet, Gigabit EPON, Gigabit WDM-PON**
- **Provide multiple gigabit Ethernet uplink : Provide 4 Gigabit Ethernet ports**
- **Cascading scalability through Gigabit interface connection.**
- **Remote upgrade, provisioning management function through TFTP, FTP, CLI, SNMP, RMON, Telnet or ViewlinX™ EMS**



## Specifications

### INTERFACES

- R1P-VD16 : 16 port VDSL/RJ21, Built-in POTS Splitter/RJ21, 2 port 10/100/100Base-TX/RJ45
- R1P-VD24 : 24 port VDSL/RJ21, Built-in POTS Splitter/RJ21, 2 port 10/100/100Base-TX/RJ45
- R1P-VD16J: 16 port VDSL/RJ21, Built-in TCM-ISDN Splitter/RJ21, 2 port 10/100/100Base-TX/RJ45
- Optional uplink module (OPT-P series)
  - 2 port 100/1000BaseFX/TX COMBO module
  - 1 port 1000Base-PX for GEAPON ONT & 1 port 100/1000BaseFX/TX COMBO module
  - Giga WDM-PON uplink for R1P-VD, 1 port SC/APC

### VDSL STANDARD

- Modulation/Demodulation: Discrete Multi-Tone(DMT)
- Standards: ANSI(T1.424-2004), ITU-T(G.993.1-2004, G.993.2), ETSI(TS101 270-1, 270-2, T1.424-2004)
- Performance (downstream/upstream) : 100Mbps/100Mbps

### LAYER 2 FUNCTION

- Full wire-speed performance, duplex switching
- IEEE 802.1q tagged VLAN, 802.1p CoS, 802.1w RSTP, 802.3ad Link aggregation, 802.3x Flow control
- Ingress/Egress port mirroring
- FlexLink
- Q-in-Q

### MULTICAST

- IGMP snooping
- Fast leave support

### QoS & Filtering FUNCTION

- MFC, CoS, DSCP, ToS marking/remarking,
- Policing, Shaping, Rate control
- Scheduling (SP, WRR, WFQ)
- MAC filtering, IGMP/DHCP/ARP Snoop filtering, ARP spoofing protection
- DHCP filtering, NetBEUI/NetBIOS/NBT filtering
- Broadcast storming control

### SUBSCRIBER MANAGEMENT

- DHCP relay, DHCP option 82
- PPPoE Plus
- Authentication : 802.1x
- Radius client

### MANAGEMENT

- SNMP v1 and v2c, RMON 4 Groups
- Console, Telnet, FTP, TFTP
- ViewlinX EMS



## PHYSICAL SPECIFICATIONS

- R1P-VD (W x H x D): 440mm(17.3 inch) x 44mm(1.73 inch, 1 RU) x 290mm(9.45 inch)
- Power: Support AC or DC Types
  - AC Type: 100 to 240 VAC (auto-ranging), 50 to 60 Hz
  - DC Type: -48VDC (range -72 to -40VDC)
- Weight: R1P-VD24 = 4.9Kg, R1P-VD16/16J = 4.2Kg
- Slot composition: Provide 1 extension slot (For uplink)
- Power consumption (Maximum): R1P-VD24 =95watt (AC), R1P-VD16/16J = 80watt (AC)

## ENVIRONMENTAL & REGULATORY COMPLIANCE

- Operating Temperature
  - Extended commercial version (Default): -20 to 60 °C
  - Temperature hardened version (Option): -40 to 65 °C
- Operating Relative Humidity: 10 ~ 95% @40 °C, Non-condensing
- Certifications : MIC, CE, FCC



## Product Ordering

### R1P-VD

- R1P-VD16 : 16 port VDSL2 , 2 port 10/100/1000BaseTX, 1 optional uplink slot, Built-in POTS splitter
- R1P-VD16J : 16 port VDSL2, 2 port 10/100/1000BaseTX, 1 optional uplink slot, Built-in TCM-ISDN splitter
- R1P-VD24 : 24 port VDSL2, 2 port 10/100/1000BaseTX, 1 optional uplink slot, Built-in POTS splitter

### OPT-P SERIES EXTENSION MODULES for R1P-VD UPLINK

- OPT-P2CD: 2 port 100/1000BaseFX/TX COMBO module;  
100/1000BaseFX SFP requires additional FE or GbE SFP adapter
- OPT-P1ES1CD : 1 port 1000BasePX/10Km ONT & 1 port 100/1000BaseFX/TX COMBO module;  
1000BasePX(10Km) SC/PC connector for GEAPON;  
100/1000BaseFX SFP requires additional FE or GbE SFP adapter
- OPT-P1EL1CD : 1 port 1000BasePX/20Km ONT & 1 port 100/1000BaseFX/TX COMBO module;  
1000BasePX(20Km) SC/PC connector for GEAPON;  
100/1000BaseFX SFP requires additional FE or GbE SFP adapter
- OPT-P1W : Giga WDM-PON uplink for R1P-Series, 1 SC/APC