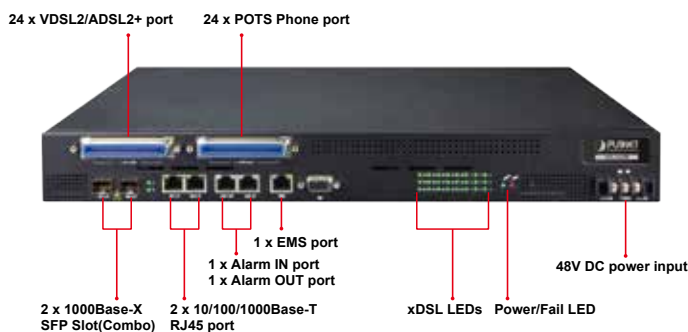


24-Port VDSL2/ADSL2+ with 2-Port Gigabit TP/SFP Combo IP DSLAM



Perfectly Designed for FTTx Last Mile Applications

PLANET XDL-2420R is a telecom-level, high-performance **IP-DSLAM** (Digital Subscriber Line Access Multiplexer) with **24-port VDSL2/ADSL2+** and **2-port Gigabit TP/SFP** combo interfaces, and **AC plus DC Redundant Power System**. The XDL-2420R is fully compliant with ITU-T G.993.2 VDSL2 standard band plan up to profile 30a. It offers maximum download and upload line rate up to **100/100Mbps** on the existing twisted pair lines. For ADSL connectivity, the XDL-2420R supports high interoperability and backward compatibility with ATU-R, and ADSL2/ADSL2+ line mode. It is an ideal CO solution for **FTTx last mile** applications of broadband access by ISPs and Telecoms.



Delivering High-demand Service Connectivity for ISP/Triple Play Devices

The XDL-2420R provides excellent bandwidth to meet the requirement of the triple play devices for home entertainment and communications. With the capability of **100/100Mbps** symmetric data transmission, the XDL-2420R enables many multi-media services to work on the Internet, such as **VOD (Video on Demand)**, Voice over IP, **Video phone**, **IPTV**, Internet caching server, **distance education**, and so on.

ADSL2+ Fallback

For those ISPs that still provide ADSL broadband service, the XDL-2420R supports transmission rates up to **24Mbps downstream and 3.5Mbps upstream** with ADSL 2+ technology. The XDL-2420R supports PPPoE relay to establish connection with ISP, and it is switched over to VDSL2 after the network upgrade.

Comprehensive and Advanced VDSL2/ADSL2+ Configuration

For the bandwidth and distance of broadband access, the XDL-2420R IP-DSLAM supports multiple selective VDSL2 profiles (8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a), 997/998 band plan and ADSL/ADSL2/ADSL2+ ITU-T G.993.1, ITU-T G.992.3, ITU-T G.992.5, Annex A/B/L/M transmit modes to each subscriber line. Furthermore, it can be configured on a per-link basis for transmission mode, rate limitation, INP (impulse noise protection) and SNR (signal-to-noise) margin. These advanced xDSL functionalities help service providers to adjust the line performance and build a stable and reliable IP-DSLAM solution.

DSL Interfaces

- 24 full-duplex VDSL2/ADSL2+ links via RJ21 (Telco-50) connector
- 24 corresponding POTS lines via RJ21 (Telco-50) connector
- Built-in POTS splitter for each VDSL/ADSL port
- Compatible with PLANET's VDSL2 CPE devices: VC-231, VC-234, VDR-300NU
- Compatible with PLANET's ADSL2/2+ router: ADN-4101, ADE-3400, ADE-3410, ADE-4400, VDR-300NU
- Auto-speed function for DSL link (by distance and cable quality)

Ethernet Interfaces

- 2 10/100/1000Mbps TP and 2 1000Mbps SFP shared combo interfaces
- 1 alarm in and 1 alarm out copper ports
- Auto-MDI/MDI-X detection on Gigabit RJ-45 port

VDSL2 Features

- Cost-effective VDSL2 link and central management solution
- Compliant with ITU-T G.993.2 VDSL2 standard (8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a Profiles)
- Configurable xDSL line profile and alarm profile
- DMT (discrete multi-tone) line coding VDSL
- Up to profile 30a 100/100Mbps symmetric data rate for VDSL2
- Selectable target data rate and target SNR margin
- Built-in surge protection against surge damage from high energy spike
- Voice and data communication can be shared on the existing telephone wire simultaneously
- Supports downstream / upstream rate control on each port
- UPBO / DPBO Supported

ADSL2/2+ Features

- Compliant with ADSL2/2+ standard
 - ITU-T G.992.1 Annex A/B
 - ITU-T G.992.3 Annex A/B, Annex L mode1 and mode2
 - ITU-T G.992.5 Annex A/B/M

Extremely-reliable Design to Ensure Continuous Operation

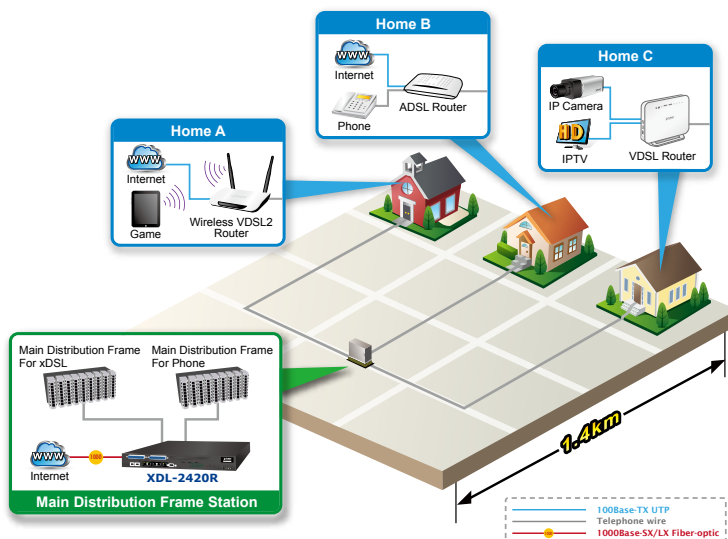
The XDL-2420R supports the SELT (Single-end Loop Testing) and dual power inputs system for continuous network operation. SELT simplifies the testing of a DSL loop from one end to the line to be completed easily from the central office (CO) without having to require a technician or any equipment to be employed at the subscriber site. SELT makes line maintenance easily and reduces device shutdown time. The XDL-2420R is also equipped with one 90~240V AC unit and one DC -48V power supply unit for power redundancy. The **Redundant Power System** offers more reliability and reduces the possibility of device shutdown. The -48V DC power supply implemented makes the XDL-2420R IP-DSLAM as a telecom level device that can be located at the electronic room.

Applications

High-speed Broadband Communications for Home Triple Play Application

Nowadays, higher speed home broadband connections are in great demand, but most of the last mile solutions in the market are not easily to be deployed or cost very much. The XDL-2420R will be the perfect solution to the last mile deployment for ISP and Telecom service providers as it applies the EoVDSL (Ethernet over VDSL) to providing up to 100Mbps speed transmission capability with the current telephone wire (RJ11), and thus it does not cost too much for re-wiring and can make many multi-media services come true. The XDL-2420R not only gives the excellent bandwidth for the triple-play home entertainment and communications, but also supports ADSL2/ADSL2+ technology for users to conveniently utilize the current ADSL/ADSL2+ device.

The Best Last Mile Solution



- Configurable xDSL line profile and alarm profile
- Supports upstream 3.5Mbps and downstream 24Mbps at the maximum
- Supports PPPoE relay

Layer 2 Features

- Destination Lookup Fail (DLF)/Broadcast Rate Limit
- Q-in-Q VLAN
- Supports Redundancy/Static Link Aggregation/ Daisy Chain uplink application mode
- 8 queues priority for SP-priority and WRR-weight QoS
- ToS to VLAN priority remark mapping

Quality of Service

- 8 queues priority for all xDSL ports
- SP-priority/WRR-weight QoS
- ToS to VLAN priority remark mapping

Multicast

- IGMP v2
- IGMP Fast Leave

Security

- 8 groups Layer2/3/4 Access Control List
- DHCP Option82

Management

- PPPoE packet pass-through
- System date and time control
- Single-end loop testing
- Lamp test
- User management account
- Out-band management
- Remote management control
- SNMP trap

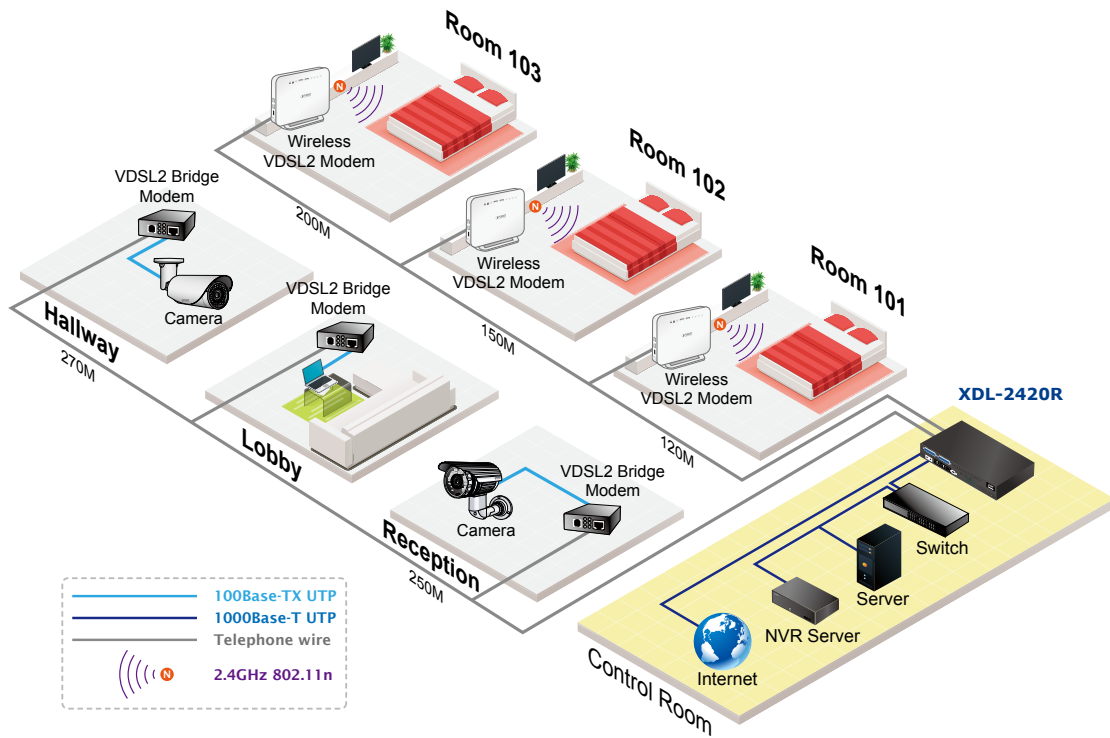
Power System

- 90~240V AC and -48V DC dual power input interfaces
- Supports power redundancy

VDSL2 in Hotel Deployment

The XDL-2420R can support the ISP and Telecom service providers in long-distance network deployment. By Ethernet standard, the length of cable can only reach up to 100 meters, and thus, the Ethernet network cannot meet the requirement when the deployment needs a longer cable. To solve this issue, the XDL-2420R complies with the VDSL2/ADSL2+ standard where up to 1.4km in cable length through existing phone wires can be supported. Thus, in the Hotel network, for example, the IPTV, Internet and wireless facilities can be installed in each room even though the central office or control room is over 100 meters away.

Hotel Application



Specifications

Product	XDL-2420R	
Hardware Specifications		
DSL Interface	24-Port VDSL2/ADSL2+ Line via 1 RJ-21 (Telco-50) connector 24-Port POTS/Telephone via 1 RJ-21 (Telco-50) connector	
1000Mbps Copper Ports	2-port 10/100/1000Mbps RJ45 auto-negotiation, auto MDI/MDI-X	
SFP/mini-GBIC Slots	2 1000Base-SX/LX/BX, shared with GE1 and GE2 port	
Totally Fabric	8.8Gbps/non-blocking maximum	
Throughput	6.547Mpps @64Bytes maximum	
MAC Address Table	16K entries	
LED	System: ACTV (Power LED, Green) Alarm: FAIL (Red) VDSL2/ADSL2+ Link/Sync. Gigabit Port: 1000 Link/Active (Green), 100 Link/Active (Orange)	
Dimensions (W x D x H)	436 x 320 x 50.5 mm	
Weight	4.8kg	
Power Requirements	AC Input	90~240V AC, 50-60 Hz, 1.3A
	DC Input	-48V DC, 1.62A
Power Consumption / Dissipation	75 watts maximum or 257 BTU/hr maximum	
Standard Accessory	<ul style="list-style-type: none"> ■ 1.4 meter Telco-50 cable x 2 ■ 19" rack mount kit x 1 ■ AC power cord x 1 	
xDSL		
VDSL2 Standard	ITU-T G.993.2	
Encoding	VDSL-DMT	
VDSL2 Profile	8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a 8a, 8b, 8c, 8d and 12a,12b 25K to 138K Hz (U0) optional band used Dynamic rate adaptation	
Band Plan	Selectable band plan for each VDSL line on a per port basis Band plan A: - Profile 998, Annex A of G.993.2; Optimized for symmetric services Band plan B: - Profile 997, Annex B of G.993.2; Optimized for asymmetric services	
ADSL2 Standard	ANSI T1.413 Issue 2 ITU-T G.992.1, Annex A/B ITU-T G.992.3 (ADSL2) Annex A/B, Annex L mode 1 and mode 2 ITU-T G.992.5 (ADSL2+) Annex A/B/M	
PPPoE	PPPoE relay	
xDSL Features	Selectable rate limit control Selectable target SNR (signal to noise ratio) mode POTS voices pass-through UPBO / DPBO supported (VDSL only)	
POTS Splitter	Compliant with ETSI TS 101 952-1-1 option A for European deployment The splitter is a passive element.	
Layer 2 Functions		
Management Interface	Web browser, Telnet	
IGMP Snooping	IGMP v2, Fast Leave	
Multicast	Supports up to 256 multicast groups	
VLAN	IEEE 802.1ad QinQ VLAN	
Link Aggregation	Static port trunk with 1 groups of 2-port trunk	
QoS	8 priority queue Traffic classification based on - Port priority - TOS to QinQ VLAN priority	
Access Control List	Layer 2/3/4 ACL	
Security	User Management DHCP Option82	
SNMP MIBs	Private SNMP MIBs	

Standards Conformance																																			
Regulation Compliance	FCC Part 15 Class A, CE																																		
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Cables	<ul style="list-style-type: none"> • VDSL2: twisted-pair telephone wires (AWG24 or better) up to 1.4km • 10/100Base-TX: 2-pair UTP Cat.5, up to 100m (328ft) • 1000Base-T: 4-pair UTP Cat.5E, up to 100m • 1000Base-SX: 50/125µm and 62.5/125µm fiber-optic cable, up to 550m • 1000Base-LX: 9/125µm fiber-optic cable, up to 10km 50/125µm and 62.5/125µm fiber-optic cable, up to 550m 																																		
Environment																																			
Temperature	0~50 degrees C																																		
Humidity	5~90% (non-condensing)																																		

Ordering Information

XDL-2420R	24-Port VDSL2/ADSL2+ + 2-Port Gigabit TP/SFP Combo IP-DSLAM
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Related Products

VC-231	Ethernet over VDSL2 Converter (1 x RJ45, 1 x VDSL2 / RJ11, 1 x 17a/30a)
VC-234	Ethernet over VDSL2 Converter (4 x RJ45, 1 x VDSL2 / RJ11, 1 x 17a/30a)
VDR-300NU	300Mbps Dual Band Wireless VDSL2 Router