



Carrier Grade: Beyond Triple Play

- VDSL Downstream/Upstream:
100/100 (VDSL1 Mode),
100/50 (VDSL1 Mode),
50/30 Mbps (VDSL2 Mode)
- Two Build-in Dual-personality (RJ-45 or SFP open slot) Interfaces for Flexible Deployment
- IP QoS support: VLAN, Multicasting, and Priority queue
- 802.1x Service Authentication
- Offer a Rich Set of Advanced Features Such as IGMP Snooping, MVR, MAC Filtering
- SNMP Management Support



16-port DMT VDSL2 Switch

VES-1616F-34

VES-1616F-35

Benefits

DMT Modulation - Standard Compliance and Outstanding Performance

The ZyXEL VES-1616F-34/35 is a DMT (Discrete Multi-Tone)-based VDSL solution, which dynamically adapts the bit rate to conditions on the local loop, offers excellent performance even over noisy lines. Network administrators become free from manually testing lines and constantly adjusting equipment to noise conditions. Both IEEE's 802.3ah Ethernet in the First Mile (EFM) Task Force and T1E1.4 Working Group selected DMT as its worldwide VDSL line-coding standard.

Port Trunking Provides Higher Availability

The ZyXEL VES-1616F-34/35 supports IEEE 802.3ad with load distribution control and fail over recovery, which distributes traffic to each trunk port based on the source and destination MAC addresses, balancing the traffic load.

Traffic Prioritization Streamlines Multi-Services

Administrator can enable IGMP snooping to optimize service quality for IP multicasting applications. This prevents unnecessary forwarding of multicast traffic to all subscribers, thus optimizing bandwidth utilization for bandwidth-consuming applications such as broadcast video. In addition, the Multicast VLAN registration (MVR) feature checks all the VLANs to see if they request the same video stream. Through this exclusive mechanism, the video stream can be reduced significantly, and thus be very advantageous in MoD environment.

Rate Limiting Allows Service Differentiation

Rate limiting on the subscriber ports allows for service in increments of 64Kbps, allowing service providers to offer tiered service.

Excellent Configuration and Management Capability

The ZyXEL VES-1616F-34/35 includes rich management tools to streamline your management effort. The Web-based management interface of the device offers an easy-to-use platform, independent management, and configuration options. The VES-1616F-34/35 supports SNMP and MIBs, both of which can be managed via standard-based management software. In addition to remote management capabilities, a console port is available for local management.

Specifications

Standard Compliance

- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3x Flow control
- IEEE 802.3ad LACP Aggregation
- IEEE 802.1d Spanning Tree
- IEEE 802.1w Rapid Spanning Tree Protocol
- IEEE 802.1Q VLAN tagging
- IEEE 802.1p QoS
- IEEE 802.1x Port Authentication
- IEEE 802.11 MIB

System Features Overview

- Band Plan support (Annex A)
- VDSL2 profile (50/30 only)
- DHCP Server & Relay
- VLAN
- VLAN stacking
- Multicast VLAN Registration (MVR)
- DSCP to 802.1p Mapping
- Classifier and policy rule
- 802.1p
- Queuing
- Port Mirror
- Static Route (Management)
- IGMP Snooping
- STP/RSTP
- Link Aggregation
- Port Authentication and Security
- Access Control List (Management)
- Syslog
- Bandwidth Control

VDSL2 Feature List

- Long Reach support
- High INP support
- Trellis coding
- Custom PSDs and band plans
- Configurable RFI bands
- VDSL2 framing
- EFM encapsulation
- VDSL2 Initialization

OAM

- Web, Telnet, FTP management for FW upgrade and configuration.
- Text based Configuration back up and restore
- SNMP Management
- SSH support
- Management Access Control
- Remote Loopback via EOC
- Remote CPE VDSL LAN Status

QoS

- 802.1p support
- 8 priority queues at CO
- Port based Egress and Ingress Traffic Shaping
- Rules based Bandwidth Control
- Storm control
- ACL for Traffic Classification and Policy
- DSCP to 802.1p Mapping

IP Features

- 3 MVR each with 16 Rules Address Range
- IGMP Filter
- IGMP Snooping
- Unknown Multicast group drop
- Fast Leave support
- DHCP Relay and Option 82
- 802.1x Port Authentication by RADIUS

Hardware Specifications

- RoHS compatible
- Front access
- DMT line code for VDSL modulation
- VDSL speed up to 100 Mbps/100 Mbps, 100 Mbps/50 Mbps and 50 Mbps/30 Mbps in short loop
- Support VLR (very long reach)(50/30 only)
- One Telco 50 for 16 VDSL ports
- One Telco 50 for 16 POTS/ISDN ports
- One Console port (DB-sub 9 female) for local management
- One MGMT port
- Two dual personality interface (2 copper/fiber combo ports)

- Temperature/voltage/fan speed monitoring and alarm
- Surge protection to prevent lightning damage
- Built-in POTS/ISDN splitter
- Universal 100 ~ 240 Voltage AC power input

Physical Specifications

VES-1616F-34

- Dimensions: 430 (W) x 290 (D) x 44.5 (H) mm
- Weight: 4.1 Kg



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Power Requirements

- Input voltage of AC: 100 ~ 240 VAC, 50/60 Hz
- Max power rating: 75 W

Environmental Specifications

- Temperature: 0°C ~ 50°C
- Humidity: 5% ~ 90% (non-condensing)

Certification

- CE-EMC Class A
- FCC Part 15 Class A
- Part 68
- CSA International
- K.20

For more product information, visit us on the web www.ZyXEL.com

