



Empower Active Ethernet ETTx Connectivity

- Wide 100BASE-X SFP Adaptability (100BASE-BX/FX/LX)
- QoS Empowered by four Priority Queues, WRR/SPQ & DSCP
- IP TV Manipulated by MVR & IGMP Snooping v3
- Minimizes Channel Surfing Disturbance with Fast Leave
- 256 Static VLAN & 4K PVID that Benefit VLAN Management
- Remote Management via IEEE 802.3ah (OAM)
- Easy Management with EMS, CLI and Text-configuration
- Flexible Wall-mounting Installation



8-port Managed Layer 2
Fast Ethernet Switch

ES-2108-F

Benefits

Easy ETTx Deployments

The ZyXEL ES-2108-F is an active Ethernet ETTx deployment solution aiming for service providers, as well as cable, utilities and municipality operators. With the capability of converged data, voice and video services, the ES-2108-F can act as a customer premise equipment placed in homes and small offices/home offices (SOHO) to deliver the hottest services.

The highly flexible design of ZyXEL ES-2108-F adapts to different environment to simplify fiber installations. Since it accepts the latest 100BASE-BX (bi-directional) fiber transceiver capable of transmitting with single strands of fiber, the transmission capacity can be expanded immediately without additional cost while maximizing the value of existing fiber plants. For legacy fiber environments, the ES-2108-F also takes 100BASE-FX/LC transceivers to ease the deployment. In addition to fiber uplinks, the ES-2108-F comes with 8 100BASE-TX Ethernet LAN ports with full wire-speed Layer 2 switching function as well.

Secured Service-level IP TV & VoIP Operations

Service quality of IP TV and VoIP is the key to success; as such the ES-2108-F comes with proven QoS and VLAN functions to ensure smooth operation. In terms of QoS, the ES-2108-F comes with 4 priority queues and the WRR/SPQ scheduling mechanism to perform traffic prioritizing for multi-service applications, and DSCP can be applied to an end-to-end QoS environment. In terms of the hottest IP TV service, the ES-2108-F also supports MVR to work with IGMP snooping that empowers commercial IP TV deliveries. In addition, Fast Leave is also supported to eliminate streaming quality disturbance while users surf between different channels.

Standardized Services Empowered by Service-aware VLAN

Since the 256 static VLAN entries on ZyXEL, the ES-2108-F sufficiently satisfy the growing need from services, video, VoIP and data access identification purposes, it is ideal for converged networks to deliver multiple services. In addition, the complete range of 4 K PVID offers the best flexibility for VLAN configuration. In term of bandwidth management, the ES-2108-F allows a wide range of choice and granularity of bandwidth options.

Strengthened Service Management and Control

The ES-2108-F supports 802.3ah operation and administration (OAM) standard to facilitate device management, and EMS supports remote device management as well. In addition, command line interface (CLI) and text-configuration are also offered to enable more effective network management.

Specifications

Standard Compliance

- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3u 100BASE-TX/FX Ethernet
- IEEE 802.3ah 100BASE-LX10
- IEEE 802.3ah 100BASE-BX10-U
- IEEE 802.3ah 100BASE-BX10-D
- IEEE 802.3x Flow control
- IEEE 802.1d Spanning tree protocol
- IEEE 802.1w Rapid Spanning tree protocol
- IEEE 802.1s Multiple Spanning tree protocol
- IEEE 802.1p Class of service, priority protocols
- IEEE 802.1Q VLAN tagging
- IEEE 802.1x Port Authentication
- IEEE 802.3ad LACP aggregation

Performance

- 5.6 Gbps non-blocking switching fabric
- Switching Forwarding Rate: 1.33 Mpps (148800pps/100Base-TX/100BASE-X)
- Wire-speed performance

MAC

- 8 K MAC entries

Traffic Management and QoS

- IEEE 802.1p with 4 priority queues per port for different types of traffic
- DSCP
- GVRP, automatic VLAN member registration
- IGMP snooping v1/v2/v3
- MVR (Multicast VLAN Registration)
- Congestion control on all ports
- Broadcast Storm Control
- Rate Limiting with granularity of 64 kbps or 1000 kbps for different rate range

Resilient Link and Link Aggregation

- IEEE 802.3ad compliant
- LACP, static and dynamic link aggregation
- Up to 2 aggregation groups, per group support up to 4 ports (FE only).
- IEEE 802.1w RSTP & IEEE 802.1s MSTP provide rapid convergence of spanning tree independent of spanning-tree timer

Security and Authentication

- IEEE 802.1Q tag-based and port-based VLAN
- 256 static VLAN, up to 4 K dynamic VLAN
- Full range 4 K PVID support
- Port-base VLAN & VLAN isolation
- Radius authentication
- 802.1x port-based authentication, compensated assignment over VLAN and bandwidth for valid access
- Loop Guard
- Limited MAC number per port
- Specific MAC forwarding per port: only specified MAC addresses can access the network (Port Security)
- MAC filtering per port secures access to each port
- Intrusion Lock
- MAC Freeze

Network Administration

- User name/password required for web/telnet/local console administrators
- Two level security by specific SNMP read/write community

Network Management

- Web-based management
- Telnet CLI
- SNMP v1/v2c/v3
- RS-232c Local console

- TACACS+
- DHCP relay/option 82
- IP management: static IP or DHCP client
- 4 RMON groups 1, 2, 3, 9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
- Supports Source/Destination/Both port mirroring
- Loopback detection
- Daylight saving
- EMS*

Hardware Specifications

- Eight 10/100BASE-TX Ports and One 100BASE-X SFP open slot
- Support auto-negotiation
- Support auto MDI/MDI-X
- 1 D-Sub 9-pin Female (DCE) Console port

Physical Specifications

- Dimensions: 250 (W) x 135 (D) x 35 (H) mm
- Weight: 1.2 Kg



Power Requirement

- Input voltage of AC: 100-240 VAC, 50/60 Hz
- Max power rating of AC: 10 Watt

Environmental Specifications

- Operating temperature: 0°C ~ 45°C
- Storage temperature: -25°C ~ 70°C
- Operating humidity: 10% ~ 90%, non-condensing

* EMS supports for future enhancement.

Operational Information

Transceiver (Optional)

Model Name	Connector Type	Mode	Wavelength	Distance	P/N	EAN Code
SFP-100FX-2	LC	Multi-mode	1310 nm	2 km	91-010-064001B	4718937503919
SFP-100LX-20	LC	Single mode	1310 nm	20 km	91-010-065001B	4718937503926
SFP-100BX1310-20	LC	Single mode	1310 nm (TX) 1550 nm (RX)	20 km	91-010-068001B	4718937503933
SFP-100BX1550-20	LC	Single mode	1310 nm (TX) 1550 nm (RX)	20 km	91-010-070001B	4718937503940

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



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