

# ***ES-108P***

***Ethernet Switch***

## ***User's Guide***

Version 1.0

12/2004



## Interference Statements and Warnings

### FCC Interference Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operations.

### FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

### CE Mark Warning

This is a class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### Taiwanese BCIQ A Warning

警告使用者  
這是甲類的資訊產品，在居住的環境使用時，  
可能造成射頻干擾，在這種情況下，  
使用者會被要求採取某些適當的對策。

### Certifications

Refer to the product page  
at [www.zyxel.com](http://www.zyxel.com).

## **ZyXEL Limited Warranty**

ZyXEL warrants to the original end user (purchaser) that this product is free from any defects in materials or workmanship for a period of up to two (2) years from the date of purchase. During the warranty period and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, ZyXEL will, at its discretion, repair or replace the defective products or components without charge for either parts or labor and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be solely at the discretion of ZyXEL. This warranty shall not apply if the product is modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

### **Note**

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. ZyXEL shall in no event be held liable for indirect or consequential damages of any kind of character to the purchaser.

To obtain the services of this warranty, contact ZyXEL's Service Center for your Return Material Authorization number (RMA). Products must be returned Postage Prepaid. It is recommended that the unit be insured when shipped. Any returned products without proof of purchase or those with an out-dated warranty will be repaired or replaced (at the discretion of ZyXEL) and the customer will be billed for parts and labor. All repaired or replaced products will be shipped by ZyXEL to the corresponding return address, Postage Paid. This warranty gives you specific legal rights, and you may also have other rights that vary from country to country.

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## Getting to Know Your Switch

### Introduction

The switch is a multi-port switch that can be used to build high-performance switched networks. The switch is a store-and-forward device that offers low latency for high-speed networking. The switch is designed for SOHO (Small Office Home Office) businesses.

### Standalone Workgroup Application

The switch can be used as a standalone switch to which computers, servers and a printer are directly connected to form a small workgroup.



### Hardware Installation

The switch is suitable for an office environment where it can be placed on a desktop.

1. Make sure the switch is clean and dry.
2. Set the switch on a smooth, leveled and sturdy flat space strong enough to support the weight of the switch and the connected cables. Make sure there is a power outlet nearby.

**Do not block the ventilation holes.**

### Rear Panel Connection

The RJ-45 ports and the power port are located on the rear panel.



## RJ-45 Auto-negotiating Ports

Your switch comes with eight 10Base-T/100Base-TX RJ-45 ports. These ports are auto-negotiating and auto-crossover.

An auto-negotiating port can detect and adjust to the optimum Ethernet speed (10/100Mbps) and duplex mode (full duplex or half duplex) of the connected device.

An auto-crossover (auto-MDI/MDI-X) port automatically works with a straight-through or crossover Ethernet cable.

**Make sure the cable length between connections does not exceed 100 meters (328 feet).**

## Power

Use the supplied power cable to connect your switch to a power source.

## Front Panel LEDs



The following table describes the front panel LEDs.

LED	COLOR	STATUS	DESCRIPTION
PWR	Green	On	The switch is on and receiving power.
		Off	The switch is not receiving power.
LINK/ ACT	Green	On	The port is connected to an Ethernet network.
		Blinking	The port is receiving or transmitting data.
	Off	The port is not connected to an Ethernet network.	

## Product Specifications

Standard	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet IEEE802.3x Flow Control and Back-pressure
Protocol	CSMA/CD
Technology	Store-and-Forward switching architecture
Transfer Rate	14,880 pps for 10Mbps 148,800 pps for 100Mbps
Connector	RJ-45; Auto-MDIX on all ports
MAC Address	1K Mac address table
Memory Buffer	768 Kbytes
Network Cable (Up to 100m or 328ft)	10BASE-T: 100Ω 2-pair UTP/STP Cat. 3, 4, 5 100BASE-TX: 100Ω 2-pair UTP/STP Cat. 5
LED	Per port: LINK/ACT Per unit: PWR
Power Supply	Internal power output 100-240 VAC 3.3V 2A
Temperature	Operating: 0° C to 50° C (32° F a 122° F) Storage: -30° C to 60° C (22° F a 140° F)
Humidity (Non-condensing)	Operating: 10% to 90% Storage: 20% to 95%
Dimension	194 mm (L) x 85 mm (W) x 25 mm (H)
EMI & Safety	FCC Class B, CE, C-Tick

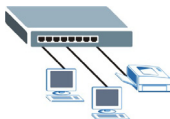
## Lernen Sie Ihren Switch kennen

### Einführung

Der Switch ist ein Multi-Port Switch für den Aufbau von Switched Netzwerken hoher Leistung. Der Switch ist ein Speicher- und Übermittlungsgerät mit tiefer Verzögerungsrate für High-Speed-Netzwerke. Der Switch ist für das Kleinbüro/Heimbüro entwickelt worden.

### Standalone Workgroup Anwendung

Der Switch kann als Standalone-Switch direkt mit Computern, Servern und Printservern zu einer kleinen Arbeitsgruppe verbunden werden.



### Installation der Hardware

Der Switch eignet sich für Büroanwendungen und kann auf einen Schreibtisch gestellt werden..

1. Der Switch muss sauber und trocken sein.
2. Stellen Sie den Switch auf eine weiche, ebene und stabile Fläche, die das Gewicht des Switch und der Verbindungskabel tragen kann. Sorgen Sie dafür, dass ein Stromanschluss in der Nähe ist.

**Verdecken Sie nicht die Ventilationsöffnungen**

### Rückwand Anschlüsse

Die RJ-45 Ports und die Stromanschlussbuchse befinden sich auf der Rückwand des Switchs.





## RJ-45 Auto-Negotiating Ports

Der ES-108P enthält acht 10Base-T/100Base-TX RJ-45 Ports. Incl. Auto-MDI/MDX, die die Verwendung von Cross-Over Kabeln überflüssig macht.

Die Auto-Sensing Funktion erkennt und justiert die optimale Geschwindigkeit (10/100 Mbps) und den Duplex Modus des angeschlossenen Netzwerk Gerätes automatisch. Dies erleichtert die Installation des Switches erheblich.

**Vergewissern Sie sich, dass die Kabellängen zwischen den Verbindungen nicht mehr als 100 Meter betragen.**

## Stromanschluss

Verwenden Sie den mitgelieferten Stromadapter, um den Switch mit dem Stromnetz zu verbinden. Zusätzliche Information finden Sie auf der Etikette des Stromadapters.

## Frontplatten-LEDs

Die LEDs an der Frontplatte zeigen den Echtzeit-Staus des Switchs an.



## DEUTSCH

LED	FARBE	STATUS	BESCHREIBUNG
PWR	Grün	An	Der Switch ist am Strom angeschlossen und eingeschaltet
		Aus	Der Switch ist nicht am Strom angeschlossen.
LINK/ACT	Grün	An	Der Port ist mit dem Ethernet-Netzwerk verbunden.
		Aus	Der Port ist nicht mit dem Ethernet-Netzwerk verbunden.
		Blinkend	Der Port empfängt/sendet Daten.

## Produktspezifikationen

Standard	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet IEEE802.3x Flow Control und Back-pressure
Protokoll	CSMA/CD
Technologie	Store-and-Forward switching-Architektur
Transferrate	14.880 pps bei 10 Mbps 148.800 pps bei 100 Mbps
Anschluss	RJ-45; Auto-MDIX an allen Ports
MAC-Adresse	1K Mac-Adresstabelle
Speicherpuffer	768 Kbytes
Netzwerkkabel (bis 100 m)	10BASE-T: 100 Ω 2-adrig UTP / STP Cat. 3, 4, 5 100BASE-TX: 100 Ω 2-adrig UTP / STP Cat. 5
LED	Pro Port: LINK/ACT Pro Gerät: PWR
Stromversorgung	100-240 VAC 3.3V 2A
Betriebstemperatur	0 °C bis 50 °C (32° F bis 122° F)
Lagertemperatur	-30° C to 60° C (22° F a 140° F)
Betriebsluftfeuchtigkeit	10 % bis 90 % (nicht kondensierend)
Lagerfeuchtigkeit	20% to 95% (nicht kondensierend)
Abmessungen	194 x 85 x 25 mm (L x B x H)
EMI & Sicherheit	FCC Class B, CE, C-Tick

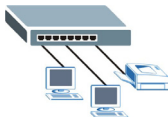
## Prise en main de votre switch

### Introduction

Ce Switch multi port est utilisé pour augmenter les performances du réseau. Le switch a un dispositif d'enregistrement des transferts qui permet des temps de réponses faibles pour les réseaux à grandes vitesses. Ce switch est destiné aux SOHO (Small Office Home Office).

### Application pour groupe de travail autonome

Le Switch est utilisé pour connecter des stations de travail, des serveurs, et des serveurs d'impression entre eux pour former un groupe de travail.



### Installation

Le switch est approprié pour un environnement de bureau, il peut être posé sur un bureau ou une étagère.

1. Installez le switch sur un endroit propre et sec..
2. Placez le switch sur un endroit suffisamment solide pour supporter le poids du Switch et des câbles connectés. Assurez-vous qu'il y ait une prise électrique à proximité.

**NE PAS OBSTRUER LES GRILLES DE  
VENTILATION**

### Connexion du panneau arrière

Les ports RJ-45 et le connecteur "Power" se trouvent sur la face arrière du switch.



## Ports RJ-45 à négociation automatique

Votre switch est équipé de huit ports RJ-45 10Base-T/100Base-TX. Ces ports sont à négociation et croisement automatiques.

Un port à négociation automatique peut détecter et ajuster sa vitesse à la vitesse Ethernet optimale (10/100Mbps) et au mode duplex (full duplex ou half duplex) de l'appareil connecté.

Un port auto-crossover ou à croisement automatique (auto MDI/MDI-X) fonctionne automatiquement avec un câble Ethernet droit ou un câble croisé.

**ASSUREZ VOUS QUE LA LONGUEUR DES CABLES N'EXCEDE PAS 100 METRES**

## Connexion de l'alimentation

Utilisez le transformateur fourni pour relier votre switch au réseau électrique.

## Voyants DEL du panneau avant

Les voyants DEL sur le panneau avant indiquent l'état en temps réel du commutateur.



LED	COULEUR	ETAT	DESCRIPTION
PWR	Verte	On	Le switch est démarré et correctement alimenté
		Off	Le switch est éteint ou n'est pas alimenté

## FRANÇAIS

LED	COULEUR	ETAT	DESCRIPTION
LINK/ ACT	Verte	On	Le port est connecté au réseau Ethernet
		Off	Le port n'est pas connecté au réseau Ethernet
		Clignotant	Le port reçoit ou transmet des données

### Spécifications du produit

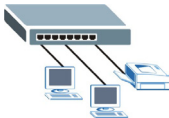
Norme	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3x Flow Control and Back-pressure
Protocole	CSMA/CD
Technologie	Architecture de commutation stockage et retransmission
Taux de transfert	14,880 pps pour 10Mbps 148,800 pps pour 100Mbps
Connecteur	RJ-45 ; Auto-MDIX sur tous les ports
Adresse MAC	Table d'adresses 1K Mac
Tampon mémoire	768 Kbytes
Câble réseau (Jusqu'à 100m ou 328 pieds)	10BASE-T : 100Ω 2-paires UTP/STP Cat. 3, 4, 5 100BASE-TX : 100Ω 2-paires UTP/STP Cat. 5
Voyant DEL	Par port: LINK/ACT Par unité: PWR
Alimentation électrique	Alimentation interne 100-240 VAC 3.3V 2A
Température	De fonctionnement: 0° C to 50° C (32° F a 122° F) De stockage: -30° C to 60° C (22° F a 140° F)
Humidité (Sans condensation)	En fonctionnement: 10% to 90% En stockage: 20% to 95%
Dimensions	194 x 85 x 25 mm (Long x Larg x Haut)
EMI & Sécurité	FCC Class B, CE, C-Tick

## Familiarización con el Switch

El switch es un conmutador multi puerto que se puede usar para construir redes conmutadas de alto rendimiento. El switch es un dispositivo store-and-forward que ofrece una baja latencia para redes de alta velocidad. El switch está diseñado para empresas SOHO (Small Office Home Office).

### Aplicaciones para un solo grupo de trabajo

El switch puede usarse para un solo grupo de trabajo, al cual se conectan directamente estaciones de trabajo, servidores y servidores de impresión.



### Instalación del Hardware

El switch está indicado para entornos de oficina, donde puedan conectarse los PCs.

#### Instalación de sobremesa

1. Asegúrese de que el switch está limpio y seco.
2. Coloque el switch en un espacio liso, nivelado y firme, lo suficientemente fuerte como para aguantar el peso del switch y los cables que conecte. Asegúrese de que tiene una toma de corriente no muy lejos.

**No obstaculice los agujeros de ventilación.**

### Conexiones del panel trasero

Los puertos RJ-45 y el de alimentación están localizados en el panel trasero del switch.



## Autonegociación en puertos RJ-45

El switch dispone de ocho puertos RJ-45 10Base-T/100Base-TX. Estos puertos soportan tanto autonegociación como auto-crossover.

Un puerto con autonegociación puede detectar y ajustarse a la velocidad Ethernet (10/100Mbps) y al modo de transferencia (full dúplex o half dúplex) del dispositivo conectado. Un puerto con soporte de auto-crossover (auto-MDI/MDI-X) va a funcionar correctamente tanto con un cable Ethernet recto como cruzado.

**Asegúrese de que la longitud de sus cables no supera los 100 metros entre sus dos extremos.**

## Conexión de alimentación

Use el adaptador de corriente suministrado para conectar su switch a la toma de corriente.

## LEDs de Panel Frontal

Los LEDs del panel frontal indican el estado del switch en tiempo real.



LED	COLOR	ESTADO	DESCRIPCIÓN
PWR	Verde	On	El switch está encendido y recibiendo alimentación.
		Off	El switch no recibe alimentación.

## ESPAÑOL

LED	COLOR	ESTADO	DESCRIPCIÓN
LK/ACT	Verde	On	El puerto está conectado a la red Ethernet.
		Off	El puerto no está conectado a la red Ethernet.
		Parpadea	El puerto está recibiendo o enviando datos.

### Especificaciones de producto

Estándar	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3x Control de flujo y presión posterior
Protocolo	CSMA/CD
Tecnología	Arquitectura Store-and-Forward
Velocidad de transferencia	14,880 pps para 10Mbps 148,800 pps para 100Mbps
Conector	RJ-45 ; Auto-MDIX en todos los puertos
Dirección MAC	Tabla de direcciones Mac de 1K
Búfer de memoria	768 Kbytes
Cable de red (Hasta 100m o 328ft)	10BASE-T: 100Ω 2 pares UTP/STP. 3, 4, 5 100BASE-TX: 100Ω 2 pares UTP/STP. 5
LED	Por puerto: LINK/ACT Por unidad: PWR
Fuente de alimentación	AC100-240V 3.3V 2A
Temperatura	de funcionamiento: 0°C a 50°C (32°F a 122°F) de almacenamiento: -30° C to 60° C (22° F a 140° F)
Humedad	de funcionamiento: 10% a 90% (Sin condensación) de almacenamiento: 20% to 95%
Dimensiones	194 x 85 x 25 mm (L x A x H)
EMI y Seguridad	FCC Class B, CE, C-Tick



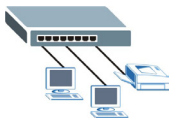
## Informazioni sullo Switch

### Introduzione

ES-108P sono switch a 8 porte sviluppati per realizzare reti ad alte performance. Si tratta di periferiche store and forward che offrono uno scambio dati molto veloce con un tempo di ritardo minimo. Sono switch pensati per configurazioni in ambiente SOHO (Small Office Home Office).

### Applicazioni per Workgroup

Lo Switch può essere usato come concentratore fra computer, server e print server connessi fra loro e facenti quindi parte di una piccola rete.



### Hardware Installazione

Le dimensioni dello switch lo rendono adatto all'installazione in ambienti domestici o in uffici.

1. Assicurarsi che sullo switch non vi siano tracce d'umidità.
2. Posizionare lo switch su uno spazio piano regolare, livellato e robusto, abbastanza solido da sostenere il peso dello switch stesso e dei cavi collegati. Assicurarsi che ci sia una presa di corrente nelle vicinanze.

**Non ostruire i fori per la ventilazione.**

### Connessioni del pannello posteriore

Le porte RJ-45 e la porta dell'alimentazione sono situate sul pannello posteriore dello switch.



## Porte Auto-negozianti RJ-45

Il vostro switch è fornito di otto porte RJ-45 10Base-T/100Base-TX. Tutte le porte sono auto-negozianti e auto-crossover.

Una porta auto-negoziante permette di rilevare sia la velocità ottimale in standard Ethernet (10/100Mbps), sia la modalità duplex (full duplex o half duplex) del dispositivo collegato alla porta stessa. Una porta auto-crossover (autoMDI/MDI-X) permette il collegamento dei dispositivi sia con cavi Ethernet dritti (straight) che incrociati (crossover).

## Collegamento dell'alimentazione

Usare l' alimentatore fornito per connettere lo switch alla presa di corrente.

**Assicurarsi che la lunghezza del cavo fra le connessioni non superi i 100 metri.**

## LED del pannello frontale



LED	COLORE	STATO	DESCRIZIONE
PWR	Verde	On	Lo switch è acceso e alimentato.
		Off	Lo switch non è alimentato.

LED	COLORE	STATO	DESCRIZIONE
LINK/ ACT	Verde	On	La porta è collegata ad una rete Ethernet.
		Off	La porta non è collegata ad una rete Ethernet.
		Lampeggiante	La porta sta ricevendo o trasmettendo dati.

## Specifiche del prodotto

Standard	Ethernet 10BASE-T IEEE 802.3 Fast Ethernet IEEE 802.3u 100BASE-TX Controllo del flusso e della congestione IEEE 802.3x
Protocollo	CSMA/CD
Tecnologia	Architettura di commutazione a memorizzazione e ritrasmissione
Velocità di trasferimento	14.880 pps per 10Mbps 148.800 pps per 100Mbps
Connettore	RJ-45; Auto-MDIX su tutte le porte
Indirizzo MAC	Tavola indirizzo Mac 1K
Buffer di memoria	768 Kbytes
Cavo di rete (fino a 100m o 328 piedi)	10BASE-T: 100Ω 2 coppie UTP/STP; categoria 3, 4, 5 100BASE-TX: 100Ω 2 coppie UTP/STP; categoria 5
LED	Per le porte: LINK/ACT Per l'unità: PWR
Alimentazione	100-240 VAC 3.3V 2A
Temperatura	Operativa: da 0° C to 50° C (da 32° F a 122° F) Stoccaggio: da -30° C to 60° C (da 22° F a 140° F)

## ITALIANO

Umidità (senza condensa)	Operativa: dal 10% al 90% Stoccaggio:: dal 20% to 95%
Dimensioni	194 x 85 x 25 mm (larghezza x profondità x altezza)
EMI e Sicurezza	FCC Class B, CE, C-Tick

## 認識你的交換器

### 介紹

此為可被用來建立高效能網路之多埠數交換器，為一儲存及轉寄的設備，可對高速網路可提供低 latency，專為小型公司及家庭用戶之需求所設計。

### 使用示意圖

此交換器可被直接連接個人電腦、伺服器及網路印表機，並形成小型工作網路。



## 安裝硬體

此交換器相當適合有桌上型電腦之辦公環境使用。

1. 確定交換器是乾淨並是乾燥的。
2. 將交換器放置於平緩、平坦並足夠堅固可支撐設備及連接線材的平台，且確定附近有電源插座。

步驟 3. 確定交換器周圍有足夠的空氣流動空隙，且可來放置連接線及電源線。

**千萬不可阻隔散熱孔，當堆疊放置時，交換器間應留一定空間。**

### 後背板之連接

RJ-45 網路埠及電源輸入孔位於交換器之背板。



## RJ-45 自動偵測連接埠

您的交換器共有八個 10Base-T/100Base-TX RJ-45 的連接埠。這些連接埠支援自動偵測 (auto-negotiating) 和自動天橋 (auto-crossover)。自動偵測功能使您的連接埠隨時連線在最佳的乙太網路速度(10/100Mbps),同時自動調整雙工方式(全雙工或半雙工)。每埠都支援自動偵測直跳線(auto MDI/MDIX),可直接或經由跳線的乙太網路纜線來連接。

**請確定網路連接線不可超過 100 公尺(328 英尺)**

## 電源埠

請將所附屬之變壓器連接至電源插座來啟動你的交換器，並可由變壓器上標籤內容獲得更多資訊。

## 前面板燈號

你可由前面板上燈號之指示，得知交換器現況。



下表列出各燈號之定義

燈號	顏色	狀態	定義
PWR	綠色	恆亮	交換器是啟動的且正在接收資料

燈號	顏色	狀態	定義
		不亮	交換器電源未開
LINK/ACT	綠色	恆亮	此埠有連接乙太網路
		不亮	此埠未連接乙太網路
		閃爍	此埠正在接收或傳送資料

## 產品規格

標準	IEEE 802.3 10BASE-T Ethernet, IEEE 802.3u 100BASE-TX Fast Ethernet IEEE802.3x Flow Control and Back-pressure
通信協定	CSMA/CD
Technology	Store-and-Forward switching architecture
傳輸速率	14,880 pps for 10Mbps 148,800 pps for 100Mbps
接頭	RJ-45; 所有的埠均支援 Auto-MDIX
MAC Address	1K Mac address table
緩衝記憶體	768 Kbytes
網路線 (最長可至 100 公尺或 328 英尺)	10BASE-T: 100Ω 2-pair UTP/STP Cat. 3, 4, 5 100BASE-TX: 100Ω 2-pair UTP/STP Cat. 5
燈號	Per port: LINK/ACT Per unit: PWR
電源供應	電源 AC 100-240V 3.3V 2A
溫度	運作: 0° C to 50° C (32° F to 122° F) 儲藏: -30° C to 60° C (22° F a 140° F)
濕度(Non-condensing)	運作: 10% to 90% 儲藏: 20% to 95%
外觀尺寸	194 x 85 x 25 mm (長 x 寬 x 高)
安規	FCC Class B, CE, C-Tick