

TEG-S80TXE

User's Guide

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This user's guide tells you how to install your 8-Port 1000BASE-T Gigabit Ethernet Switch, how to connect it to your Gigabit Ethernet network.

Terms

For simplicity, this documentation uses the terms "Switch" (first letter upper case) to refer to the 8-Port 1000BASE-T Gigabit Ethernet Switch, and "switch" (first letter lower case) to refer to all Ethernet switches, including the 8-Port 1000BASE-T Gigabit Ethernet Switch.

Overview of this User's Guide

Introduction.

Describes the Switch and its features.

Unpacking and Setup.

Helps you get started with the basic installation of the Switch.

Identifying External Components.

Describes the front panel, rear panel and LED indicators of the Switch.

Technical Specifications.

Lists all the technical specifications of the Switch.

2. Introduction

This section describes the features of the 8-Port 1000BASE-T Gigabit Ethernet Switch, as well as providing some background information about Gigabit Ethernet and switching technology.

Gigabit Ethernet Technology

Gigabit Ethernet is an extension of IEEE 802.3 Ethernet utilizing the same packet structure, format, and support for CSMA/CD protocol, full duplex, flow control, and management objects, but with a tenfold increase in theoretical throughput over 100-Mbps Fast Ethernet and a hundredfold increase over 10-Mbps Ethernet. Since it is compatible with all 10-Mbps and 100-Mbps Ethernet environments, Gigabit Ethernet provides a straightforward upgrade without wasting a company's existing investment in hardware, software, and trained personnel.

The increased speed and extra bandwidth offered by Gigabit Ethernet is essential to coping with the network bottlenecks that frequently develop as computers and their busses get faster and more users use applications that generate more traffic. Upgrading key components, such as your backbone and servers to Gigabit Ethernet can greatly improve network response times as well as significantly speed up the traffic between your subnets.

Gigabit Ethernet supports video conferencing, complex imaging, and similar data-intensive applications. Likewise, since data transfers occur 10 times faster than Fast Ethernet, servers outfitted with Gigabit Ethernet NIC's are able to perform 10 times the number of operations in the same amount of time.

Switching Technology

Another key development pushing the limits of Ethernet technology is in the field of switching technology. A switch bridges Ethernet packets at the MAC address level of the Ethernet protocol transmitting among connected Ethernet or fast Ethernet LAN segments.

Switching is a cost-effective way of increasing the total network capacity available to users on a local area network. A switch increases capacity and decreases network loading by making it possible for a local area network to be divided into different segments which don't compete with each other for network transmission capacity, giving a decreased load on each.

The switch acts as a high-speed selective bridge between the individual segments. Traffic that needs to go from one segment to another is automatically forwarded by the switch, without interfering with any other segments. This allows the total network capacity to be multiplied, while still maintaining the same network cabling and adapter cards.

Switching LAN technology is a marked improvement over the previous generation of network bridges, which were characterized by higher latencies. Routers have also been used to segment local area networks, but the cost of a router and the setup and maintenance required make routers relatively impractical. Today's switches are an ideal solution to most kinds of local area network congestion problems.

Features

The 8-Port 1000BASE-T Gigabit Ethernet Switch was designed for easy installation and high performance in an environment where traffic on the network and the number of users increase continuously.

- 8 1000BASE-T Gigabit Ethernet ports
- Supports Auto-Negotiation for speed and duplex mode
- Supports Auto-MDIX for each port
- Support Full/Half duplex transfer mode for 10 and 100Mbps
- Support Full duplex transfer mode for 1000Mbps
- Full wire speed reception and transmission
- Store-and-Forward switching method
- Supports 4K absolute MAC addresses
- Supports 128K Bytes RAM for data buffering
- Extensive front-panel diagnostic LEDs
- IEEE 802.3x flow control for full-duplex
- Back pressure flow control for half-duplex

3. Unpacking and Setup

This chapter provides unpacking and setup information for the Switch.

Unpacking

Open the shipping carton of the Switch and carefully unpack its contents. The carton should contain the following items:



If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the Switch can be performed using the following steps:

- Install the Switch in a fairly cool and dry place. See Technical Specification for the acceptable operation temperature and humidity ranges.
- Install the Switch in a site free from strong electromagnetic source, vibration, dust, and direct sunlight.
- Leave at least 10cm of space at the left and right hand side of the Switch for ventilation.
- Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.

4. Identifying External Components

This chapter describes the front panel, rear panel and LED indicators of the Switch

Front Panel

The front panel of the Switch consists of eight 1000BASE-T ports and LED indicators.



Front panel view of the Switch

1000BASE-T Ports:

Eight Gigabit Ethernet ports of 10/100/1000Mbps Auto-Negotiation interface.

LED Indicators

Comprehensive LED indicators display the conditions of the Switch and status of the network. A description of these LED indicators follows (see LED Indicators).

Rear Panel

The rear panel of the Switch consists of an DC power connector. The following figure shows the rear panel of the Switch.



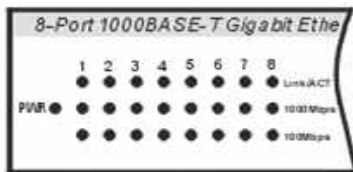
Rear panel view of the Switch

DC Power Jack:

Power is supplied through an external AC power adapter. Check the technical specification section for information about the AC power input voltage.

LED Indicators

The LED indicators of the Switch include Power, Link/Act, 1000Mbps and 100Mbps. The following shows the LED indicators for the Switch along with an explanation of each indicator.



The Switch LED indicators

Power:

- This indicator lights green when the Switch is receiving power, otherwise, it is off.

Link/ACT:

- These LED indicators are lighted up when there is a secure connection (or link) to the desired port. The LED indicators blinking whenever there is reception or transmission (i.e. ActivityACT) of data occurring at a port.

1000Mbps:

- These LED indicators are lighted up when there is a secure connection (or link) to 1000Mbps Gigabit Ethernet device at the desired port.

100Mbps:

- These LED indicators are lighted up when there is a secure connection (or link) to 100Mbps Fast Ethernet device at the desired port.

When the connection (or link) is 10Mbps, both of 1000Mbps and 100Mbps LED indicators are off.

1. Despre acest ghid

Acest ghid de utilizare va arata cum sa instalati Switch-ul cu 8 porturi 1000BASE-T Gigabit Ethernet, cum sa-l conectati la rețeaua dumneavoastra Gigabit Ethernet.

Termeni

Pentru simplitate, aceasta documentatie foloseste termenii “Switch” (prima litera capitala) pentru a se referi la Switch-ul cu 8 porturi 1000BASE-T Gigabit Ethernet si “switch” (prima litera mica) pentru a se referi la toate switch-urile Ethernet, inclusiv Switch-ul cu 8 porturi 1000BASE-T Gigabit Ethernet.

Vedere de ansamblu a acestui ghid de utilizare

Introducere

Describe Switch-ul si caracteristicile sale.

Despachetare si instalare

Va ajuta sa incepeti instalarea de baza a Switch-ului.

Identificarea Componentelor Externe

Describe panoul frontal, panoul dorsal si indicatorii LED ai Switch-ului.

Specificatii tehnice

Lista cu toate specificatiile tehnice ale Switch-ului.

2. Introducere

Aceasta secție descrie caracteristicile Switch-ului cu 8 porturi 1000BASE-T Gigabit Ethernet, și oferă câteva informații generale despre tehnologiile Gigabit Ethernet și switch.

Technologia Gigabit Ethernet

Gigabit Ethernet este o extensie a IEEE 802.3 Ethernet utilizând aceeași structură de pachet, format și suport pentru protocolul CSMA/CD, full duplex, flow control și obiecte de management, dar cu o înzecire a puterii în teorie pe 100-Mbps Fast Ethernet și o însutire pe 10-Mbps Ethernet. Deoarece este compatibil cu toate mediile 10-Mbps și 100-Mbps Ethernet, Gigabit Ethernet oferă un upgrade clar fără irosirea investițiilor deja existente într-o companie în hardware, software și personal instruit.

Viteza marită și lățimea de bandă marită oferite de Gigabit Ethernet sunt esențiale în a face față cu blocajele de rețea ce apar frecvent deoarece computerele și magistralele lor devin din ce în ce mai rapide și mult mai mulți utilizatori folosesc aplicații care generează mai mult trafic. Upgradând componente cheie, cum ar fi backbone-ul și serverele la Gigabit Ethernet pot îmbunătăți dramatic timpii de răspuns ai rețelei precum și să mărească semnificativ viteza traficului între subrețele.

Gigabit Ethernet suportă conferințe video, aplicații de imagine complexe și alte aplicații similare încărcate de date. De asemenea, atât timp cât transferul de date are loc de 10 ori mai repede decât pe Fast Ethernet, serverele dotate cu Gigabit Ethernet NIC sunt capabile să efectueze de 10 ori mai multe operațiuni în aceeași cantitate de timp.

Tehnologia Switch

Un alt progres important care impinge limitele tehnologiei Ethernet este pe taramul tehnologiei switching. Un switch creeaza o punte pentru pachetele Ethernet la nivelul adresei MAC al protocolului Ethernet transmitand intre segmente Ethernet sau fast Ethernet LAN conectate.

Switching este o modalitate convenabila ca pret de a creste intreaga capacitatea a unei retele aflate la dispozitia utilizatorilor unei retele locale. Un switch mareste capacitatea si micsoreaza gradul de incarcare al unei retele prin creerea posibilitatii pentru o retea locala sa fie divizata in diferite segmente care nu se concureaza pentru capacitatea de transmisie a retelei, dand o incarcare mai mica pe fiecare.

Switch-ul actioneaza ca o punte selectiva de mare viteza intre segmente individuale. Traficul care trebuie sa treaca dintr-un segment in altul este trimis automat de catre switch, fara a interfera cu oricare alte segmente. Aceasta permite intregii capacitati a retelei sa fie multiplicata, mentinand in acelasi timp aceeasi cablare a retelei si aceleasi adaptoare de retea.

Tehnologia Switching LAN este o imbunatatire de marca fata de generatiile anterioare de punti de retea, care erau caracterizate de latente mai mari. Routerile au fost de asemenea utilizate pentru a segmenta retele locale, dar costul unui router si instalarea si intretinerea necesare fac routerile relativ nepractice. Switche-urile de azi sunt o solutie ideala pentru majoritatea tipurilor de probleme de aglomerare pe retelele locale.

Caracteristici

Switch-ul cu 8 porturi 1000BASE-T Gigabit Ethernet a fost creat pentru o instalare usoara si inalta performanta intr-un mediu unde traficul pe retea si numarul de utilizatori creste in mod continuu.

- 8 porturi 1000BASE-T Gigabit Ethernet
- Suporta Auto-Negociere pentru viteza si mod duplex
- Suporta Auto-MDIX pentru fiecare port
- Suporta mod de transfer Full/Half duplex pentru 10 si 100Mbps
- Suporta mod de transfer Full duplex pentru 1000Mbps
- Receptie si transmisie full wire speed
- Metoda switching Store-and-Forward
- Suporta 4K adresa MAC absoluta
- Suporta 128K Bytes RAM pentru buffer date
- LED-uri de diagnosticare extensiva pe panoul frontal
- Control al fluxului IEEE 802.3x pentru full-duplex
- Control al fluxului pentru half-duplex

3. Despachetare si Instalare

Acest capitol ofera informatii despre despachetare si instalare pentru Switch.

Despachetare

Deschideti cartonul Switch-ului si despachetati cu grija continutul sau. Cartonul ar trebui sa contina urmatoarele obiecte:



Daca vreunul dintre aceste obiecte lipseste sau este deteriorat, va rugam sa contactati vanzatorul pentru inlocuire.

Instalare

Instalarea Switch-ului poate fi efectuata parcurgand urmatoorii pasi:

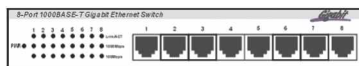
- Instalati Switch-ul intr-un loc racoros si uscat. Cititi Specificatii tehnice pentru temperatura de operare acceptabila si umiditate.
- Instalati Switch-ul intr-un loc fara surse electromagnetice puternice, vibratii, praf si lumina directa a soarelui.
- Lasati cel putin 10cm de spatiu in stanga si in dreapta Switch-ului pentru ventilare.
- Inspectati vizual mufa alimentatorului DC si asigurati-va ca este fixata complet in alimentator.

4. Identificarea Componentelor Externe

Acest capitol descrie panoul frontal, panoul dorsal si indicatorii LED ai Switch-ului

Panoul frontal

Panoul frontal al Switch-ului consta din opt porturi 1000BASE-T si indicatori LED.



Vedere panou frontal al Switch-ului

Porturi 1000BASE-T:

Opt porturi Gigabit Ethernet 10/100/1000Mbps interfata Auto-Negociere.

Indicatori LED:

Indicatorii LED afiseaza starea Switch-ului si a retelei. O descriere a acestor indicatori LED gasiti mai jos (vedeti Indicatori LED).

Panoul dorsal

Panoul dorsal al Switch-ului consta dintr-un conector de alimentare DC. Urmatoarea imagine arata panoul dorsal al Switch-ului.



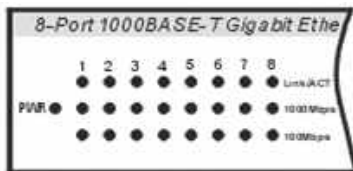
↑
Mufa alimentare DC

Vedere panou dorsal al Switch-ului

Mufa alimentare DC: Alimentarea este efectuata printr-un alimentator extern AC. Verificati sectiunea de specificatiile tehnice pentru informatii despre voltajul alimentatorului AC.

Indicatori LED

Indicatorii LED ai Switch-ului includ Power (alimentare), Link/Act (legatura/activitate), 1000Mbps si 100Mbps. Urmatoarea imagine arata indicatorii LED ai Switch-ului impreuna cu o explicatie pentru fiecare indicator.



Indicatorii LED ai Switch-ului

Power:

- Acest indicator lumineaza verde cand Switch-ul este alimentat , altfel, este stins.

Link/ACT:

- Acesti indicatori LED sunt aprinsi cand exista o conexiune sigura (sau legatura) la portul dorit. Indicatorii LED lumineaza intermitent de fiecare data cand are loc o receptie sau transmitere (de ex: ActivityACT) de date pe un port.

1000Mbps:

- Acesti indicatori LED sunt aprinsi cand exista o conexiune sigura (sau legatura) la dispozitivul 1000Mbps Gigabit Ethernet la portul dorit.

100Mbps:

- Acesti indicatori LED sunt aprinsi cand exista o conexiune sigura (sau legatura) la dispozitivul 100Mbps Fast Ethernet la portul dorit.

Cand conexiunea (sau legatura) este de 10Mbps, ambii indicatori LED de la 1000Mbps si 100Mbps sunt stinsi.

Technical Specifications

General	
Standards:	IEEE 802.3ab 1000BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3 10BASE-T IEEE 802.3x Flow Control
Protocol:	CSMA/CD
Rata Transfer Date:	<u>Ethernet:</u> 10 Mbps (half-duplex), 20 Mbps (full-duplex) <u>Fast Ethernet:</u> 100 Mbps (half-duplex), 200 Mbps (full-duplex) <u>Gigabit Ethernet:</u> 2000 Mbps (full duplex)
Topology:	Star
Network Cables:	<u>Ethernet:</u> 2-pair UTP Cat. 3,4,5 Unshield Twisted Pair (UTP)Cable <u>Fast Ethernet:</u> 2-pair UTP Cat. 5 Unshield Twisted Pair (UTP)Cable <u>Gigabit Ethernet:</u> 4-pair UTP Cat. 5 Unshield Twisted Pair (UTP)Cable
Number of Ports:	Eight (8) 1000BASE-T Gigabit Ethernet ports

Physical and Environmental

DC inputs:	5 V 2.4A
Power Consumption:	10.5 watts maximum
Operating Temperature:	0° ~ 40° C
Storage Temperature:	-10°C ~ 55°C
Humidity:	5% ~ 95% RH, non-condensing
Dimensions:	190(W) × 120(D) × 38(H) mm
Certification:	FCC Class A, CE Marking Class A, VCCI Class A

Performance

Transmission Method:	Store-and-forward
RAM Buffer:	128K Bytes per device
Filtering Address Table:	4K MAC address per device
Packet Filtering/ Forwarding Rate:	Full wire speed
MAC Address Learning:	Self-learning, auto-aging

FCC Warning

This equipment has been tested and found to comply with the regulations for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, 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 A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Warning

This is a product of VCCI Class A Compliance.

注意

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づく第一種情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。



Certifications

This equipment has been tested and found to comply with FCC and CE 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 operation.



NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

Limited Warranty

TRENDware warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

Wired Products - 5 Years Warranty

If a product does not operate as warranted above during the applicable warranty period, TRENDware shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product. All products that are replaced will become the property of TRENDware. Replacement products may be new or reconditioned.

TRENDware shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDware pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product by any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDware office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase. Products returned to TRENDware must be pre-authorized by TRENDware with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

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Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

AC/DC Power Adapter, Cooling Fan, and Power Supply carry a 1 Year Warranty



TRENDnet

Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDnet's website at <http://www.TRENDNET.com>

TRENDnet Technical Support

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