Quick Install Guide

Compex 24 Ports + 1 Expansion Slot Switch

SXP1224B 1A
SXP1224B 6A (RoHS-compliant)

Version 1.3

ReadyLINK

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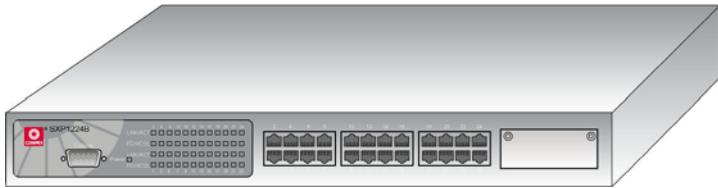
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Quick Install Guide
Compex 24 Ports + 1 Expansion Slot Switch
SXP1224B

1. <u>Introduction</u>

Figure 1.1   Compex SXP1224B

The Compex SXP1224B is a 24-port Fast Ethernet switch with one expansion slot that can be connected with two 100/1000Mbps copper or fiber modules. Advanced features like port-based VLAN, port trunking and priority queuing are supported in SXP1224B and are configurable through console port. SXP1224B is an excellent choice for today's most demanding Ethernet-based switching applications in small and medium enterprises.
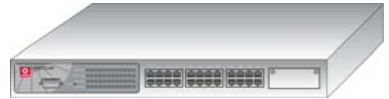
1.1. Packaging Content

Thank you for purchasing Compex SXP1224B. You will find the following items in the package:

1 x Power Cord

4 x Quick Install Guide with warranty card

1 x Compex SXP1224B unit

1 x RS232 straight console cable

2 x brackets

6 x screws

1.2. Overall Procedures

Here are some of the basic steps to guide you along:

1. **Hardware setup**
   Please refer to **Section 2 "Hardware Installation"**.

2. **Configure Hyper Terminal**
   Please refer to **Section 3 "Hyper Terminal Configuration"**.

3. **Configure your Compex SXP1224B**
   Please refer to **Section 4 "Configure Compex SXP1224B using Hyper Terminal"**.

2. Hardware Installation

Compex SXP1224B can be installed as a desktop unit or mounted on a 19-inch rack. Detailed installation process will be listed as shown. Please note that the actual product appearance may slightly differ depending on the hardware version.

2.1. Desktop installation
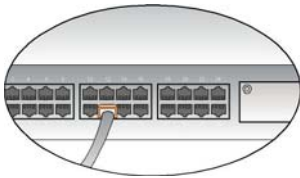
1. Insert one end of RJ45 network cable to any port of Compex SXP1224B and the other end to your PC.

2. Insert one end of RS232 straight console cable to the console port of Compex SXP1224B and the other end to your PC.
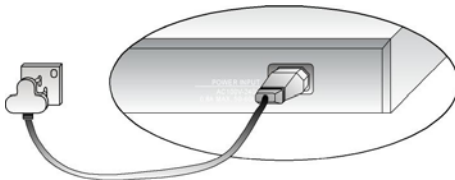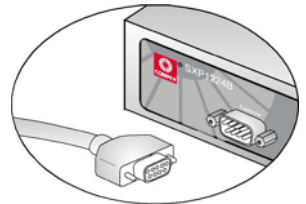
3. Insert the power cord to the socket located at the back of Compex SXP1224B and the other end to the power point.

4. Check that the **Power** LED at the front panel of Compex SXP1224B has lighted up. The unit is now ready to use.

2.2. Rack installation

1. Secure brackets to the holes located at both sides of Compex SXP1224B. Fasten it with the screws provided in the packaging.

2. Align the brackets holes with the rack holes and fasten both brackets to the rack.

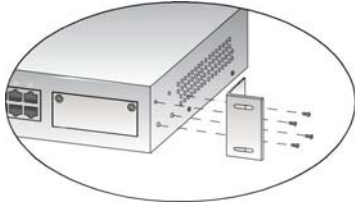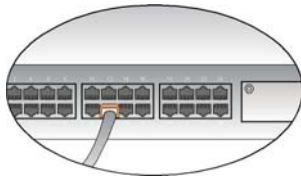3. Insert one end of RJ45 network cable to any port of Compex SXP1224B and the other end to your PC.

4. Insert one end of RS232 straight console cable to the console port of Compex SXP1224B and the other end to your PC.

5. Insert the power cord to the socket located at the back of Compex SXP1224B and the other end to the power point.
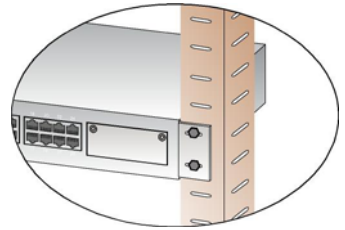
6. Check that the **Power** LED at the front panel of Compex SXP1224B has lighted up. The unit is now ready to use.

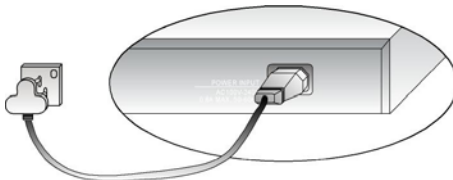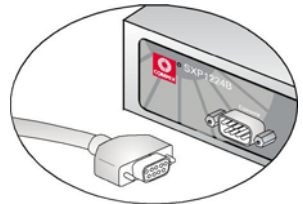| NOTE	**NOTE**
	Please allow at least 4 inches of clearance on the front and back of the switch for proper ventilation. This is especially important for enclosed rack installation.

2.3. Module Installation

A series of optional expansion modules are available for Compex SXP1224B. You need to install the modules before turning on Compex SXP1224B. Please refer to **"Specifications"** for the types of optional modules to be used.
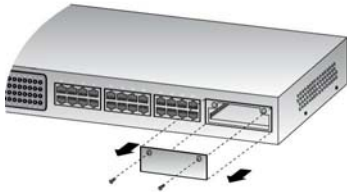
1. Power off Compex SXP1224B, unscrew and remove the metal plate from the expansion slot.

2. Insert the module carefully into the expansion module window and push it along the rail until it is firmly inserted into the connector of the PCB board of Compex SXP1224B. Tighten the screws on the module.
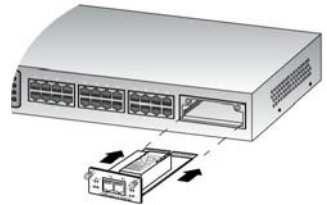
NOTE	**NOTE**
	The expansion module is sold separately. Please refer to www.compex.com.sg or www.cpx.com for more details.

To remove the expansion module, simply power off your Compex SXP1224B, draw out the expansion module from the expansion slot and place back the metal plate to cover the slot.

2.4. Operating Systems Compatibilities for the usage of Keyboard Arrow Key

Compex SXP1224B is specially designed with the support of two arrow key sets to manipulate the selection in the console interface.

The table below illustrates the types of operating systems using different types of function keys in your keyboard.

Windows 95, 98, 98SE, XP, ME or 2000				Windows 2000 with SP 1			
←	→	↑	↓	J	L	I	M
J	L	I	M				

If you are using Windows 2000 Hyper Terminal Program, ensure that you have installed Windows 2000 Service Pack 2 or higher. With Windows 2000 Service Pack 2, the arrow keys will function properly in the Hyper Terminal's VT100 emulation.

3. Hyper Terminal Configuration

By installing a terminal emulation program, such as Hyper Terminal, you can simply connect your PC to Compex SXP1224B. Using a RS232 straight console cable, connect one end to a PC, and the other end to Compex SXP1224B. You need to set your configuration as shown below.

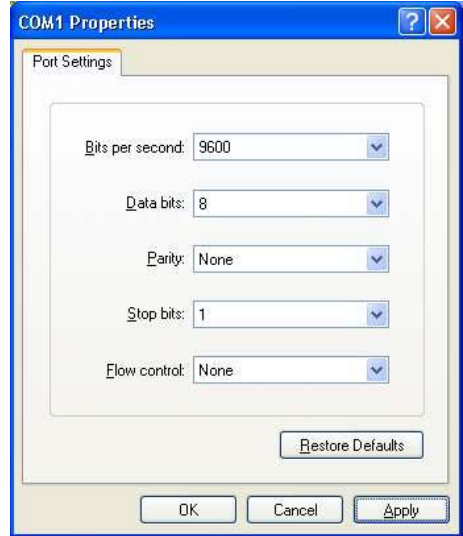1. Type the name in the space provided.

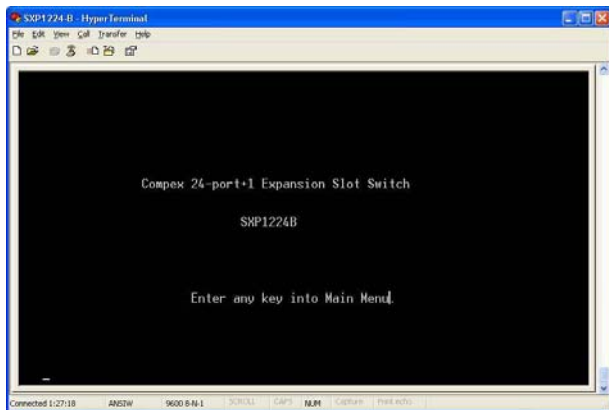2. Choose the COM Port that you have selected from your PC.

3. Adjust the Port setting from the COM1 (depends on the console port you have used) Properties screen.
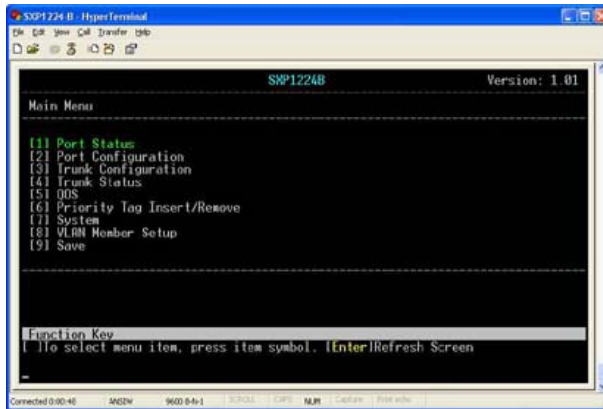
   Bits per seconds: 9600
   Data Bits: 8
   Parity: none
   Stop bits: 1
   Flow Control: none

A Hyper Terminal screen will appear as shown below.

You can easily configure your Compex SXP1224B, such as setting the trunking ports, VLANs, etc. For details in configuring Compex SXP1224B, kindly refer to the **Section 4 "Configure SXP1224B using Hyper Terminal"**.
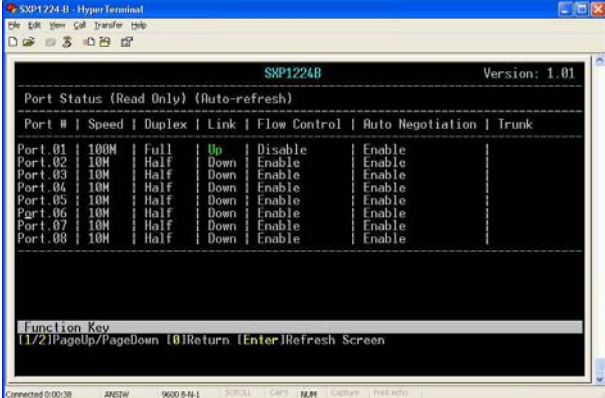
4. Configure Compex SXP1224B using Hyper Terminal

To start configuring your Compex SXP1224B, you need to first connect one end of the console cable to your PC and the other end to your switch. Configure your hyper terminal and log on to the main page to start configuring.

4.1. Port Status

This option allows you to view the connection speed (10M/100M), the duplex mode (Half/Full Duplex), flow control (enable/disable), auto negotiation (enable/disable), linking (Up/Down) and trunking status of all ports.

The screen will auto refresh in around 5 seconds' time.

4.2. Port Configuration

This feature allows you to configure the speed, flow control, receiving and transmitting bandwidth of your Compex SXP1224B.

Speed Advertisement:
This option allows the port to work in either forced or auto mode. When Compex SXP1224B is set to 100Mbps forced mode, auto-MD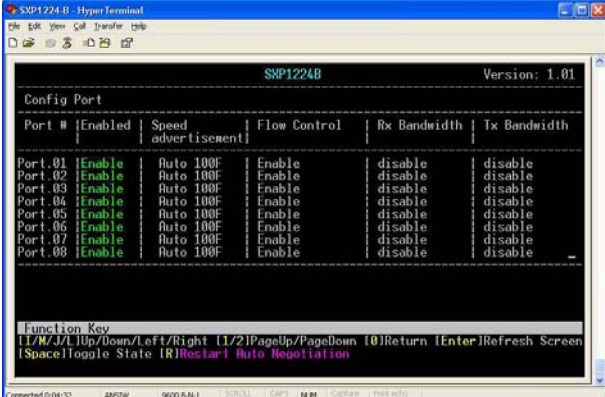IX function will be disabled. Please note that when auto-MDIX is enabled, the respective port LED in the **100 FORCE** and **HALF FORCE** mode, will not light up.

Upon setting the speed to **Auto**, you will be able to use any types of Ethernet RJ45 cable for connecting to any devices since the auto-MDIX function has activated.

Options: Auto 100F, Force 100F, Auto 100H, Force 100H, Auto 10F, Force 10F, Auto 10H, Force 10H

Flow Control:
This feature reports the flow control setting of the port. Enabling flow control function prevents the overflow of data transfer in the network.

Rx/Tx Bandwidth:
This feature will control the bandwidth of the received/transmitted packets for all ports. Each port's bandwidth is configurable on both ingress and egress traffic independently. By default, this feature is set to **Disable** for all ports. This means that Compex SXP1224B will follow the bandwidth of each individual port, either in 10Mbps or 100Mbps.

Please note that whenever the ingress or egress traffic bandwidth exceeds the configured threshold, the flow control will be triggered to limit the throughput.
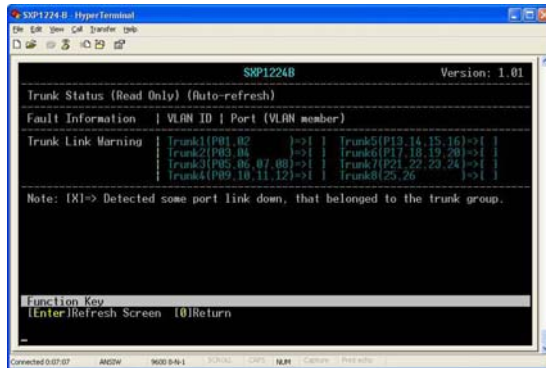
Options: Disable, 128Kbps, 256Kbps, 512Kbps, 1Mbps, 2Mbps, 4Mbps, 8Mbps

4.3.   Port Trunking

Port Trunking is the ability to group together several 10/100Mbps ports into a single logical link. This is an inexpensive method to increase throughput between switches. Compex SXP1224B supports 8 trunking groups, and each trunking group can aggregate 2 or 4 fixed physical ports.

Enable your desired trunking group/s by tapping your space bar from your keyboard.

4.4. Trunk Status

This section displays the warning information that was detected during the trunk linking.
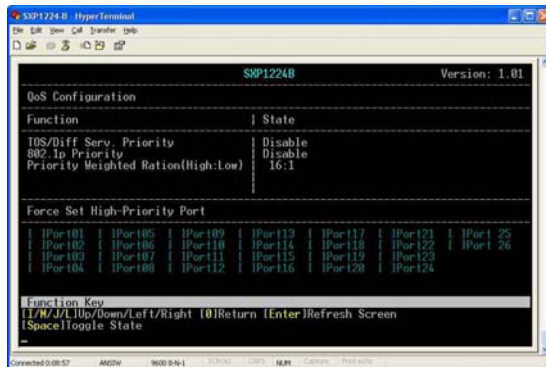
4.5. Quality of Service

Quality of Service (QoS) refers to the capability of a network to provide a better service to selected ports in the switch. A port with priority set as High will have its transmitted packets serviced first at the receiving port.

Compex SXP1224B can recognize QoS priority information from the incoming packets and distribute packets in different queues for different service priority. It identifies the packets' priority based on:

TOS/Diff Serv. Priority:

This stands for Type of Services/Differentiated Services Priority. When TOS/DiffServ (DS) based priority is applied, Compex SXP1224B can recognize TCP/IP Differentiated Services Codepoint (DSCP) priority information from the DS-field defined on RFC2474. The DS field byte for IPv4 is the Type-of-Service (TOS) octet, and for IPv6, it is the Traffic-Class octet. The recommended DiffServ Codepoints is defined in RFC2597 to classify the traffic into different service classes.

802.1p Priority:

802.1p is an IEEE standard for providing quality of service (QoS) in Ethernet networks. It uses tagged packets and allows switches to transmit packets based on the tagged priority value.

Priority Weighted Ration (High:Low):

Compex SXP1224B supports 2 levels of priority queues. The packet-based priority weighted ratio of high-priority and low-priority queuing can be set as 4:1, 8:1 or 16:1 or 1:0.

♦ 1:0: the switch will process all high priority packets.
♦ 4:1: the switch will process 4 high priority packet first before processing 1 low priority packet.
♦ 8:1: the switch will process 8 high priority packet first before processing the process 1 low priority packet.
♦ 16:1: the switch will process 16 high priority packet first before processing 1 low priority packet.

4.6. Port Tagging Control

This option allows you to determine the tagging status of incoming frames that need to be forwarded to their respective destinations.
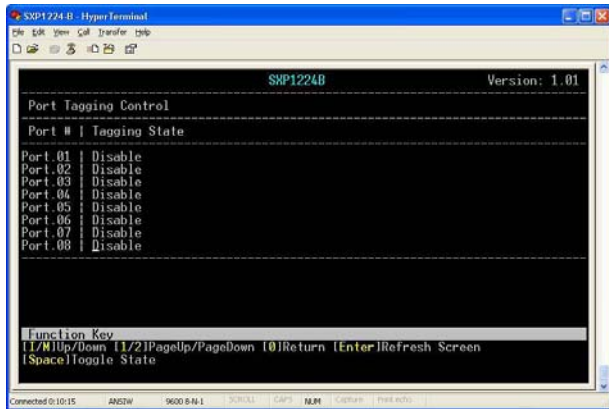
Disable
Compex SXP1224B will leave the frames as it is.

Remove Tag
Compex SXP1224B will follow the instruction for the individual port and remove the tag from the incoming frame before forwarding it to its destination.

Insert Tag (high-priority only)
Compex SXP1224B will follow the instruction for the individual port and insert the tag for incoming frames that are set to high priority before forwarding them to their destination.

Insert Tag (all frame)
Compex SXP1224B will follow the instruction for the individual port and insert a tag to all incoming frames before forwarding them to their respective destinations.

Kindly select your option by toggling the space bar from your keyboard.

NOTE

NOTE
This function can be enabled even if the VLAN function is not enabled.

4.7. System Control

This section allows you to change the name of your switch, to activate your VLAN and Broadcast Storm Filtering Control function, as well as to set your Compex SXP1224B to its factory default.
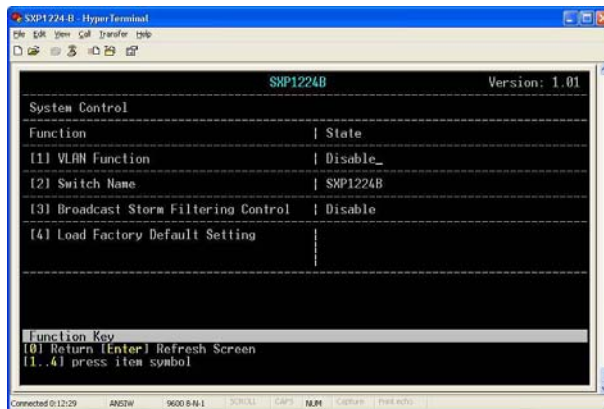
For VLAN Function
Press **1** to toggle the options between *enable* and *disable*.

To change your switch's name
Press **2** and enter a name. Hit the **Enter** key from your keyboard to update the changes.

Broadcast Storm Filtering Control

Press **3** to enable or disable this feature.

Load Factory Default Setting

Press **4** to set your Compex SXP1224B to its default setting. To confirm, enter **Y** from your keyboard.

4.8. VLAN Member Setup

Compex SXP1224B supports Virtual LAN, which logically groups every connection into VLANs for traffic isolation and security purposes. Port-based VLAN supports a maximum of 32 groups. Each VLAN group can only forwards traffic among its member ports.

Create a new VLAN

You need to set the configuration environment to **Edit** mode.

1. Hit on the letter **E** (indicates the environment is in edit mode) and then the letter **A** to add in a new VLAN entry.

2. To set your VLAN member/s, use the letter **L** in the keyboard to shift the cursor to your right.
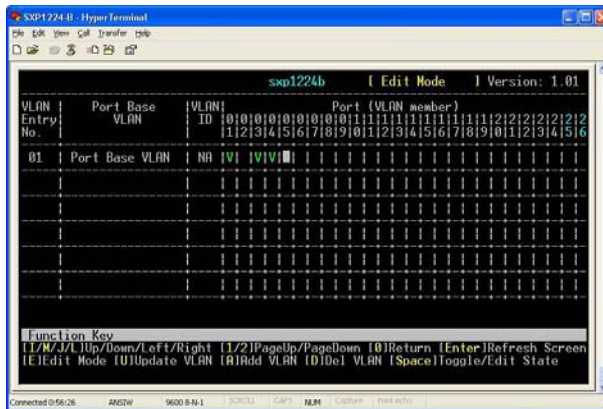
3. Toggle your spacebar to add the member in the VLAN group. **V** indicates that the member has been added to that particular VLAN group.

4. Once you have finished all VLAN configurations, you need to enter **U** from your keyboard to return to Display mode, then hit **0** to return to the previous menu.

For Port-based VLAN

The classification of any incoming packet on each port is defined by the PVID. Compex SXP1224B uses the PVID to search the VLAN table for a VLAN member.

4.9.   Save your work

This option allows you to save the configuration that you have made. Remember to save the configuration whenever you make any changes, otherwise the new setting will not take effect. If you switch off your Compex SXP1224B without having saved your configuration, the system will not keep the new settings when you switch it back again.
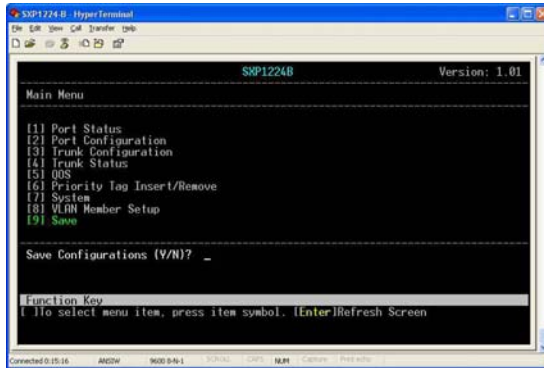
Appendix I   Panel Views and Descriptions
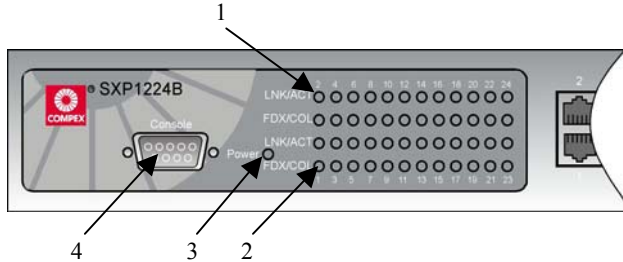
	Features	**Status and Indication**	
1	**LNK/ACT LEDs**	Steady Green	The port is connected to the switch.
		Blinking Green	The port is transmitting or receiving data.
		Off	There is no connection established in the network.
2	**FDX/COL LEDs**	Steady Amber	The port is operating in Full Duplex mode.
		Off	The port is operating in Half Duplex mode.
		Blinking Amber	Collision occurs in the network segment of the respective port.
3	**Power LED**	Steady Green	Power is supplied to the switch.
		Off	No power is supplied to the switch.
4	**Console Port**	Connect a serial 9 Pin (DB9) RS232 straight socket here and link it to the COM Port of the PC you are using for monitoring the switch.	

5   6
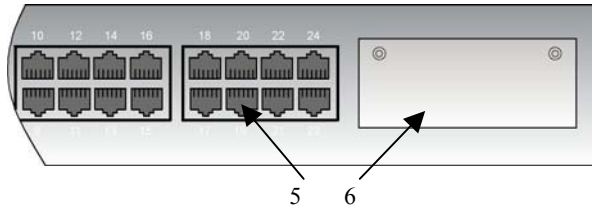
	Features	**Status and Indication**
5	**24 RJ45 Management Ports**	Connect to web-browser via RJ45 UTP/STP network cable. The ports support: • 10Base-T • 100Base-TX • Auto-negotiation
6	**1 expansion slot for 2 uplinks**	Supports 1 modular slot for optional module • 2 x 1000Base-T • 1 x 1000 Base-T/GBIC • 2 x 100MFX-SC

7
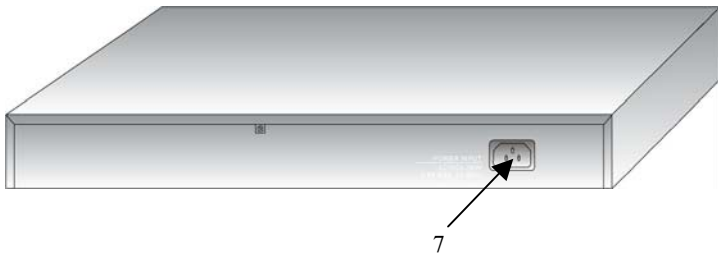
	Features	**Status and Indication**
7	**Power Socket**	Flexible power input (range 100VAC ~ 240VAC, 50~60Hz)

Appendix II   <u>Specifications</u>

Network Protocol, Standards and Electrical Emissions	
Industry Standards	Complies with • IEEE 802.3 10Base-T • IEEE 802.3u 100Base-TX • IEEE 802.3ab 1000Base-T • IEEE 802.3x Flow Control • IEEE 802.3p Priority queuing • IEEE 802.3ad Port Trunking
Safety Certifications	• CE Mark • FCC Class A • Gost • C-Tick • UL
Interface Options	
24 RJ45 Ports	Supports 24 10/100Mbps ports (RJ-45, STP/UTP): Half/Full Duplex modes at 10Mbps and 100Mbps.
Expansion Modules (1 expansion slot for 2 uplinks)	Supports 1 modular slot for optional module • 2 x 1000Base-T • 1 x 1000 Base-T/GBIC • 2 x 100MFX-SC
Network Cables	• 10Base-T: STP/UTP Cat 3 or 5 • 100Base-TX: STP/UTP Cat 5
Network Management	
In Band and Out of Band	Console Port

Performance	
Transmission Method	Store and Forward
VLAN	Up to 32 VLAN groups for port based
Trunking	8 trunking groups are available in Compex SXP1224B
Packet Forwarding Rate	6.6Mpps
MAC Table	8K
Switching Buffer	2.5MB
Backplane	8.8 Gbps

Physical and Environment	
Environmental Requirements	Operating temperature : 0ºC to 70ºC Storage temperature : -55ºC to 125ºC Operating humidity : 10% to 90% RH RH = Relative Humidity
Physical Dimension	440mm x 200mm x 44mm (Lx D x H)
Maximum Current Rating	0.5A Max
AC Inputs	Internal power supply is provided with voltage ratings of 100VAC to 240VAC, 50/60 Hz.

FCC NOTICE: This device has been tested and found to comply with the limits 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 in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Increase the separation between the computer and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

FCC Compliance 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, and
(2)   This device must accept any interference received, including interference that may cause undesired operation.

ICES 003 Statement
This Class A digital apparatus complies with Canadian ICES-003

DECLARATION OF CONFORMITY: Compex, Inc. declares that the product:
Product Name: Compex 24 Ports + 1 Expansion Slot Switch
Model No.: SXP1224B conforms to the following Product Standards:
Radiated Emission Standards: EN55022A, FCC Part 15 Class A
Conducted Emission Standards: EN60555Pt2 conducted emission; EN55022A conducted emission, LVD 60950 standard, FCC Part 15 Class A
Immunity Standards: IEC 801-2; IEC 801-3; IEC 801-4
Low Voltage Directive: EN 60 950:1992+A1: 1993+A2: 1993+A3: 1995+A4: 1996+A11: 1997.
Therefore, this product is in conformity with the following regional standards: **FCC Class A** — following the provisions of FCC Part 15 directive; **CE Mark** — following the provisions of the EC directive.

Manufacturer's Name: Compex, Inc. **Address:** 4051 E. La Palma, Unit A, Anaheim, CA 92807, USA	**European Contact & Technical Support** ReadyLINK Networktechnology GmbH, Albert Einstein Straβe 34/M21, 63322 Rödermark, Germany **Fax:** ++49 (60) 749-0668

Technical Support Centers

Contact the technical support center that services your location.

U.S.A., Canada, Latin America and South America

✉ Write	**Compex, Inc.**
	4051 E. La Palma, Unit A
	Anaheim, CA 92807, USA
☎ Call	Tel: +1 (714) 630-7302 (08:00.- 17:00 Pacific time)
	Tel: +1 (800) 279-8891 (Ext. 122 Technical Support)
🖷 Fax	Fax: +1 (714) 630-6521
	BBS: +1 (714) 630-2570 (24-hour access)

Europe

✉ Write	**ReadyLINK Networktechnology Gmbh**
	Albert Einstein Straβe 34/M21
	63322 Rödermark, Germany
☎ Call	Tel: +49 (0) 6074 - 98017 (08:00 – 17:00 local time)
🖷 Fax	Fax: +49 (0) 6074 – 90668
	BBS: +49 (0) 6074 - 93974 (24-hour access)
	Support Email: readylink@compex.com.sg

Asia, Australia, New Zealand, Middle East and the rest of the World

✉ Write	**Compex Systems Pte Ltd**
	135, Joo Seng Road #08-01, PM Industrial Building
	Singapore 368363
☎ Call	Tel: (65) 6286-1805 (8 a.m.-5 p.m. local time)
	Tel: (65) 6286-2086 (Ext. 199 Technical Support)
🖷 Fax	Fax: (65) 6283-8337
	BBS: (65) 6282-8854 (24-hour access)

Internet access/	E-mail: **support@compex.com.sg**
	FTPsite: **ftp.compex.com.sg**
Website	**http://www.cpx.com** *or* **http://www.compex.com.sg**

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WARRANTY REGISTRATION CARD [M-0088-V2.3C]

COMPEX
networks@work

You can register via Internet at:	**http://www.cpx.com** *or* **http://www.compex.com.sg**

Or E-mail: **support@compex.com.sg** with the following information:

To activate the warranty, please complete this card and return to Compex within ninety (90) days of purchase date.

Product:	Purchase Date:	Revision:	Serial No:

Name:	Title:	E-mail:

Company:	Dept:

Address:	City:

Postal/Zip Code:	State:	Country:

Phone: ( )	Extn:	Fax: ( )

Computer in which this product is installed?	Model:	Serial No:

Network protocol (*Check all that apply*):	❏ TCP/IP	❏ IPX/ODI	❏ XNS	❏ OST	❏ DLC	❏ DECnet
	❏ NDIS	❏ SNA	❏ NBP	❏ Other:		

Network Operating System (*Check all that apply*):	**Novell NetWare:** ❏ 3.X ❏ 4.X ❏ 5.X	SCO Unix: ❏ Openserver Ver:___.
	Microsoft Windows: ❏ NT4.0 ❏ 95 ❏ 98 ❏ Win 2000	
	Linux: ❏ Red Hat Ver: ____ ❏ SUSe Ver:____ ❏ Others: _____ Ver: ___	
	Others NOS: _____ Ver: ___.	

Applications used on network processing (*Check all that apply*):	❏ Desktop Publishing	❏ Word Processing	❏ Accounting
	❏ CAD/CAM	❏ Spreadsheet	❏ Database Management
	❏ E-mail	❏ Other:	

How did you learn about Compex?	❏ Work	❏ Friend	❏ Internet	❏ Dealer	❏ Magazine	❏ Exhibition
	❏ Other:					

Note:

For purchases within U.S.A. and Canada, please fax to Compex, Inc. at (714) 630-6521

For purchases outside U.S.A. and Canada, please fax to Compex Systems Pte Ltd at (65) 6280-9947

COMPEX
networks@work