LevelOne

FSW-0507TX
FSW-0807TX
5/8 Port 10/100M PalmCon Switch

User's Guide

FCC Warning

This equipment has been tested and found to comply with the regulations 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 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 B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Mark Warning

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。

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ABOUT THIS GUIDE

Congratulations on your purchase of the LeveOne 5/8 Port 10/100Mbps PalmCon Switch. This device integrates 100Mbps Fast Ethernet and 10Mbps Ethernet network capabilities in a highly flexible desktop package.

Purpose

This manual discusses how to install your LevelOne 5/8 Port 10/100Mbps PalmCon Switch

Terms/Usage

In this guide, the term "**Switch**" (first letter upper case) refers to your LevelOne 5/8 Port 10/100Mbps PalmCon Switch and "**switch**" (first letter lower case) refers to other Ethernet switches.

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.

Connecting the Switch. Tells how you can connect the Switch to your Ethernet network.

Technical Specifications. Lists the technical (general, physical and environmental, and performance) specifications of the Switch.

INTRODUCTION

This chapter describes the features of the Switch and some background information about Ethernet/Fast

Features

The Switch was designed for easy installation and high performance in an environment where traffic on the network and the number of user increase continuously.

The Switch with its small, compact size was specifically designed for small to middle workgroups. This Switch can be installed where space is limited; moreover, they provide immediate access to a rapidly growing network through a wide range of user-reliable functions.

The Switch is ideal for deployment with multiple high-speed servers for shared bandwidth 10Mbps or 100Mbps workgroups. With the highest bandwidth 200Mbps (100Mbps full-duplex mode), any port can provide workstations with a congestion-free data pipe for simultaneous access to the server.

The Switch is expandable by cascading two or more switches together. As all ports support 200Mbps, the Switch can be cascaded from any port and to any number of switches.

The Switch is a perfect choice for site planning to upgrade to Fast Ethernet in the future. Ethernet workgroups can connect to the Switch now, and change adapters and hubs anytime later without needing to change the Switches or reconfigure the network.

The Switch combine dynamic memory allocation with store-and-forward switching to ensure that the buffer is effectively allocated for each port, while controlling the data flow between

the transmit and receive nodes to guarantee against all possible packet loss.

The Switch is a managed 10/100 Fast Ethernet Switch that offers solutions in accelerating small Ethernet workgroup bandwidth. Other key features are:

Auto-MDI function supports automatic MDI/MDIX crossover detection function gives true 'plug and play' capability without the need of confusing crossover cables or crossover ports.

Store and forward switching scheme capability. As the result of complete frame checking and error frame filtering, this scheme prevents error packages from transmitting among segments.

NWay Auto-negotiation for any port. This allows for auto-sensing of speed (10/100Mbps) thereby providing you with automatic and flexible solutions in your network connections.

Flow control for any port. This minimizes dropped packets by sending out collision signals when the port's receiving buffer is full. Note that flow control is only available in half duplex mode.

Data filtering/forwarding rate is wire-speed for 10Mbps and 100Mbps speed.

4K MAC address entry table per device with self-learning for the Switch.

128KBytes RAM buffer per device for the Switch.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the Switches.

Unpacking

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

One LevelOne 5/8 Port 10/100Mbps PalmCon Switch

One external power adapter

This User's Guide

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:

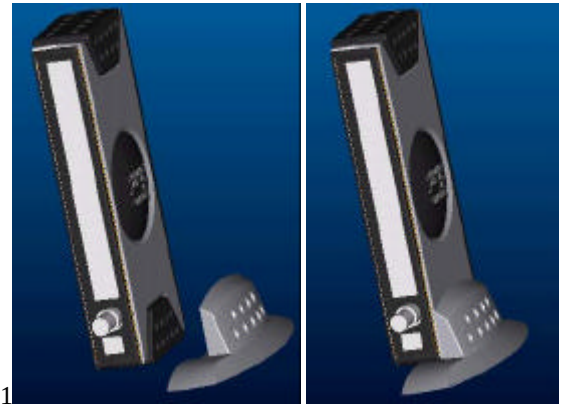
The surface must support at least 1.5 Kg for the Switch.

The power outlet should be within 1.82 meters (6 feet) of the Switch.

Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.

Make sure that there is proper heat dissipation from and adequate ventilation around the Switch. Do not place heavy objects on the Switch.

1



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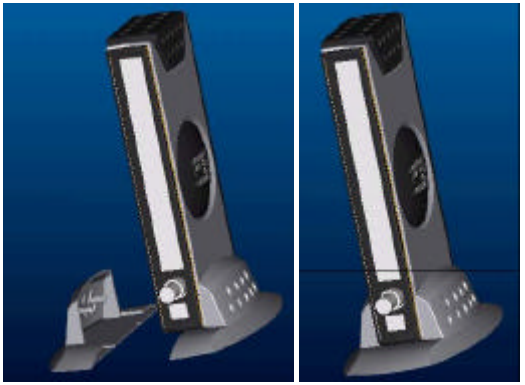

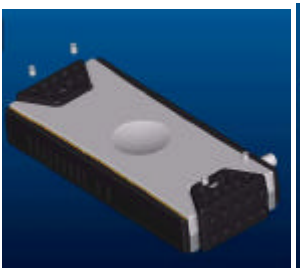

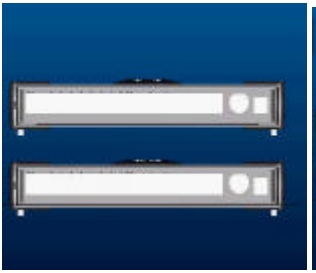

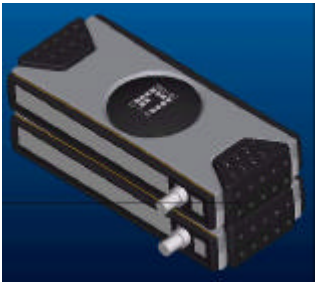

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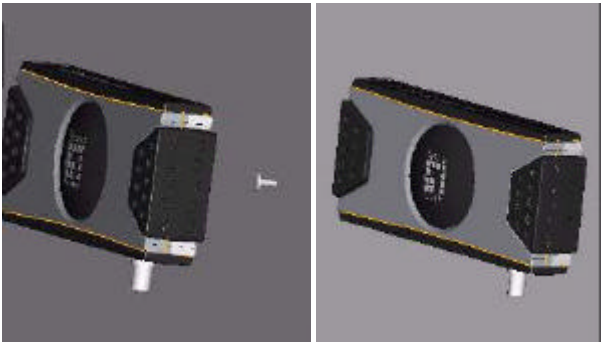

IDENTIFYING EXTERNAL COMPONENTS

This section identifies all the major external components of the hub. Both the front and rear panels are shown, followed by a description of each panel feature. The indicator panel is described in detail in the next chapter.

Front Panel

The figure below shows the front panels of the switch.

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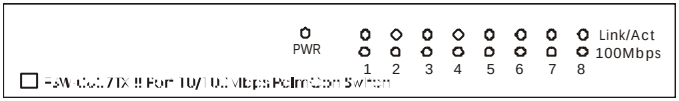

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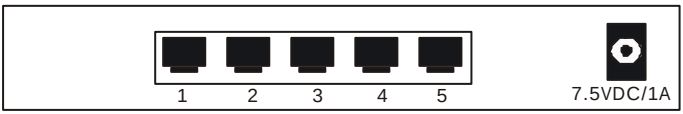
LED Indicator Panel

Refer to the LED Indicator section for detailed information about each of the hub's LED indicators.

Rear Panel



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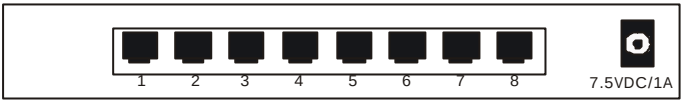

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DC Power Jack:

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

Since the switch does not include a power switch, plugging its power adapter into a power outlet will immediately power it on.

Auto-MDI Jacks:

These jacks supports automatic MDI/MDIX crossover detection function gives true 'plug and play' capability without the need of confusing crossover cables or crossover ports.

With the Auto-MDI function, you just need to plug-in the network cable to the hub directly and no need to care if the end node is NIC (Network Interface Card) or switches and hubs.

LED Indicators

Power Indicator (PWR)

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

Full-Duplex/Collision (Full-Duplex/Collision)

This LED indicator light green when a respective port is in full duplex (FDX) mode. Otherwise, it is blinking when collisions are occurring on the respective port.

Link/Activity (100M=green, 10M=amber)

This indicator light green when the port is connected to a 100Mbps Fast Ethernet station, if the indicator blinking green will be transmit or received data on the 100Mbps network. Otherwise, if the indicator light amber when the port is connected to a 10Mbps Ethernet station, if the indicator blinking amber will be transmit or received data on the 10Mbps network.

CONNECTING THE SWITCH

This chapter describes how to connect the Switch to your Fast Ethernet network. In each of the following figures, the LevelOne 5/8 Port 10/100Mbps PalmCon Switch is shown.

PC to Switch

A PC can be connected to the Switch via a two-pair Category 3, 4, 5 UTP/STP cables. The PC (equipped with a RJ-45 10/100Mbps phone jack) should be connected to any of the 5/8 ports.

The LED indicators for PC connection dependent on the LAN card capabilities. If LED indicators are not light after making a proper connection, check the PC LAN card, the cable, the Switch conditions and connections.

The following are LED indicator possibilities for a PC to Switch connection:

1. The "100LINK/ACT,10LINK/ACT" LED indicator light green for hookup to 100Mbps speed or light amber for hookup to 10Mbps speed.
2. The "Full-Duplex/Collision" LED indicator depends upon LAN card capabilities for full-duplex or half-duplex.

Hub to Switch

A hub (10 or 100BASE-TX) can be connected to the Switch via a two-pair Category 3, 4, 5 UTP/STP cable. The connection is accomplished from the hub to any of the Switch RJ-45 ports.

A. 10BASE-T Hub

For a 10BASE-T hub, the Switch LED indicators should light up as the following:

"Full-Duplex/Collision" indicator is *OFF*.

"100LINK/ACT, 10LINK/ACT LED" indicator is light amber.

B. 100BASE-TX Hub

For a 100BASE-TX hub, the Switch LED indicators should light up as the following:

"Full-Duplex/Collision" LED indicator is *OFF*.

"100LINK/ACT,10LINK/ACT" LED indicator is light green.

Switch to switch (other devices)

The Switch can be connected to another switch or other devices (routers, bridges, etc.) via a two-pair Category 3, 4, 5 UTP/STP cable.

1. The "100LINK/ACT,10LINK/ACT" LED indicator light green for hookup to 100Mbps speed or light amber for hookup to 10Mbps speed.
2. The "Full-Duplex/Collision" LED indicator depends upon LAN card capabilities for full-duplex or half-duplex

Port Speed & Duplex Mode

After plugging the selected cable to a specific port, the system uses auto-negotiation to determine the transmission mode for any new twisted-pair connection:

If the attached device does not support auto-negotiation or has auto-negotiation disabled, an auto-sensing process is initiated to select the speed and set the duplex mode to **half-duplex**.

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet ANSI/IEEE 802.3 NWay Auto-negotiation IEEE 802.3x Full duplex Flow Control
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (half duplex), 20Mbps (full-duplex) Fast Ethernet: 100Mbps (half duplex), 200Mbps (full- duplex)
Topology	Star
Network Cables	10BASE-T: 2-pair UTP Cat. 3,4,5, EIA/TIA- 568 STP 100BASE-TX: 2-pair UTP Cat. 5, EIA/TIA-568 STP
Number of Ports	5/8 x 10/100Mbps NWay Auto-MDI ports

Physical and Environmental	
DC inputs	7.5VDC/1A
Power Consumption	7.5 watts. (max.)
Temperature	Operating: 0° ~ 50° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	171 x 98 x 29 mm (W x H x D)
EMI:	FCC Class B, CE Mark B, VCCI-B
Performance	
Transmission Method:	Store-and-forward
RAM Buffer:	128KBytes per device
Filtering Address Table:	4K entries per device
Packet Filtering/Forwarding Rate:	10Mbps Ethernet: 14,880/pps 100Mbps Fast Ethernet: 148,800/pps
MAC Address Learning:	Automatic update