

## MIL-S1600S User's Guide



The MIL-S1600S switch is a sixteen port switch that can be used to build high-performance switched workgroup networks. This switch is a store-and-forward device that offers low latency for high-speed networking. The MIL-S1600S switch has 16 auto-sensing 10/100Base-TX RJ-45 ports with auto MDI/MDIX and features a "store-and-forward" switching scheme. This allows the switch to auto-learn and store source address on an 8K-entry MAC address table. Auto MDI/MDIX allows connection to another switch or workstation without changing non-crossover or crossover cabling.

#### Regulatory Approval

- FCC Class A
- UL 1950
- CSA C22.2 Number 950
- CE
- EN55022 Class A
- EN55024

#### Canadian EMI Notice

This Class A digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

#### European Notice

Products with the CE marking comply with both the EMC Directive (89/336EEC) and the Low Voltage Directive (73/23EEC) issued by the commissions of the European Community. Compliance with these directives implies conformity to the following European norms:

- EN55022 (CISPR 22) - Radio Frequency Interference
- EN61000-X - Electromagnetic Immunity

#### Five-Year Limited Warranty

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#### To Contact MiLAN Technology

For prompt response when calling for service information, have the following information ready:

- Product serial number and revision
- Date of purchase
- Vendor or place of purchase

You can reach MiLAN Technology technical support at:

- E-mail: support@milan.com
- Telephone: +1.408.744.2751
- Fax: +1.408.744.2771

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<http://www.milan.com>  
[info@milan.com](mailto:info@milan.com)

#### • Cabling

**RJ-45 ports:** Use unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: Category 3, 4 or 5 cable for 10Mbps connections or Category 5 cable for 100Mbps connections. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).

## Technical Specification

<b>Standard</b>	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3x Flow Control and Back-pressure IEEE ANS/IEEE 802.3 Auto-negotiation
<b>Protocol</b>	CSMA/CD
<b>Max Forwarding Rate and Max Filtering Rate</b>	14,880 pps per Ethernet port, 148,800 pps per Fast Ethernet port
<b>LED Indicators</b>	Per Port: 10/100 UTP: Link/Active Per Unit: Power
<b>Copper Network Cables</b>	10BASE-T: 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) 100BASE-TX: 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
<b>Dimensions</b>	250mm x 133mm x 37mm (10" x 5.2" x 1.5")
<b>Storage Temp.</b>	-40°C to 70°C (-40°F to 158°F)
<b>Operational Temp.</b>	0°C to 45°C (32°F to 113°F)
<b>Operational Humidity</b>	10% to 90% (Non-condensing)
<b>Power Input</b>	100-240V AC, 50-60Hz Output rate: +3.3V/3A
<b>EMI</b>	FCC Class A, CISPR 22 Class A, CE Mark
<b>Safety</b>	UL, cUL

## Troubleshooting

This section is intended to help you solve the most common problems on the MIL-S1600S switch.

### Incorrect connections

- **Faulty or loose cables**

Look for loose or obviously faulty connections. If they appear to be OK, make sure the connections are snug. If that does not correct the problem, try a different cable.

- **Non-standard cables**

Non-standard and miswired cables may cause numerous network collisions and other network problem, and can seriously impair network performance. A category 5 cable tester is a recommended tool for every 100Base-T network installation.

- **Improper Network Topologies**

It is important to make sure that you have a valid network topology. You should make sure that your network topology contains no data path loops. Between any two-end nodes, there should be only one active cabling path at any time. Data path loops will cause broadcast storms that will severely impact your network performance.

## Diagnosing LED Indicators

The switch can be easily monitored through panel indicators to assist in identifying problems, which describes common problems you may encounter and where you can find possible solutions.

If the power indicator does not turn on when the power cord is plugged in, you may have a problem with power cord. Check for loose power connections, power losses or surges at power outlet. If you still cannot resolve the problem, contact your local dealer for assistance.

## Features

- Conforms to 802.3, 802.3u, and 802.3x standard.
- 16 auto-sensing 10/100Mbps Ethernet RJ-45 ports.
- Automatic MDI/MDIX crossover for 10Base-T and 100Base-TX ports.
- Auto-negotiation supported.
- Back-Pressure-Base flow control on Half-duplex ports.
- Pause-Frame-Base flow control on Full-duplex ports.
- Store-and-forwarding switching architecture for abnormal packet filtering.
- Full wire speed forwarding rate.
- 8K-entry MAC address table.
- LED-indicators for Power, Link/Active.

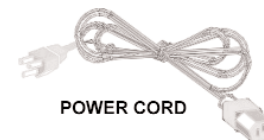
## Package Contents

Unpack the contents of the MIL-S1600S switch and verify them against the checklist below.

- MIL-S1600S switch
- Power Cord
- User Guide



USER'S GUIDE



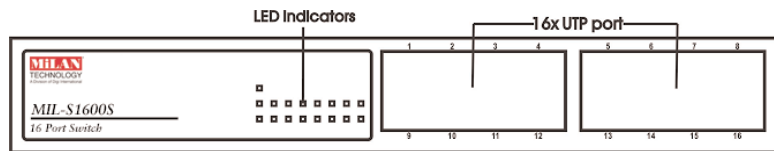
POWER CORD

Compare the contents of your MIL-S1600S switch package with the standard checklist above. If any item is missing or damaged, please contact your local dealer for service.

## Hardware Description

### Front Panel

The Front Panel of the MIL-S1600S switch consists of 16 10/100Base-TX RJ-45 ports. The LED Indicators are also located on the front panel of the switch.



**RJ-45 Ports (Auto MDI/MDIX):** 16 10/100 auto-sensing for 10Base-T or 100Base-TX connections. (In general, MDI means connecting to another hub or switch while MDIX means connecting to a workstation or PC. Therefore, auto MDI/MDIX means that you can connect to another switch or workstation without changing non-crossover or crossover cabling.)

### LEDs Indicators

The LED Indicators gives real-time information of systematic operation status. The following table provides descriptions of LED status and their meaning.

LED	Status	Description
Power	Green	Power On
	Off	Power is not connected
LK/ACT	Green	The port is connected with operating device.
	Blinks	The port is receiving or transmitting data.
	Off	No device attached.

### Rear Panel

The 3-pronged power plug is located at the rear Panel of the MIL-S1600S switch as shown in Figure 2-2. The switch will work with AC in the range 100-240V AC, 50-60Hz



### Desktop Installation

Set the switch on a sufficiently large flat space with a power outlet nearby. The surface where you put your switch should be clean, smooth, level and sturdy. Make sure there is enough clearance around the switch to allow attachment of cables, power cord and allow air circulation.

### Power ON

Connect the power cord to the power socket on the rear panel of the switch. The internal power supply in the switch works with AC in the voltage range 100-240VAC, frequency 50~60Hz.

Check the power indicator on the front panel to see if power is properly supplied.

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