



GigaX 1116

Quick Installation Guide

Introduction

The GigaX 1116 rack-mountable switch provides non-blocking, wire-speed performance to meet your intensive network demands. The switch features MDI/MDIX Ethernet ports with auto-sensing capability to automatically detect the cables attached to them and adjust the speed of data exchange. This plug-and-play function requires no configuration, making the switch easy to install and maintain.

The switch also manages congestion and prioritizes traffic with flow control schemes and Quality of Service (QoS) ability, thus enhancing your network's efficiency.

Features

- 16 10/100/1000 Mbps RJ-45 ports
- Plug and play – automatic MDI/MDIX and auto-sensing for speed and duplex mode on all ports
- Surface or rackmount placement options
- Flow control schemes (802.3x in full-duplex mode) to support zero loss under temporary network congestion
- Backpressure support for 10/100 Mbps half duplex
- Advanced QoS support
- 4K Media Access Control (MAC) addressing with learning and aging feature that allows concurrent connections to 4K nodes
- Up to 2 Gbps for all ports in full-duplex mode
- Easy-to-read LEDs for quick indication of link status, activities, speed and duplex mode on all ports
- Built-in Virtual Cable Tester (VCT) feature

Package contents

Before installing the switch, check your package for the following items:

- GigaX 1116 switch
- Power cable
- Mounting kit (two brackets and six screws)
- Quick installation guide



NOTE. Contact your retailer if any item is damaged or missing.

Technical specifications

Table 1 Technical Specifications

Physical dimensions	43.5mm (H) X 444 mm (W) X 200mm (D)		
Environmental ranges		Operating	Storage
	Temperature	0° to 40° C (32° to 104° F)	-40° to 70° C (-40° to 158° F)
	Humidity	0 to 85%	0 to 90%
	Altitude	up to 15,000 ft (4,500 m)	up to 40,000 ft (12,000 m)
Power	Input	100V ~ 240 V AC/50-60 Hz	
	Consumption	50 Watts	
Certification		FCC Class A, CE, C-TICK, UL, CB	

Front Panel

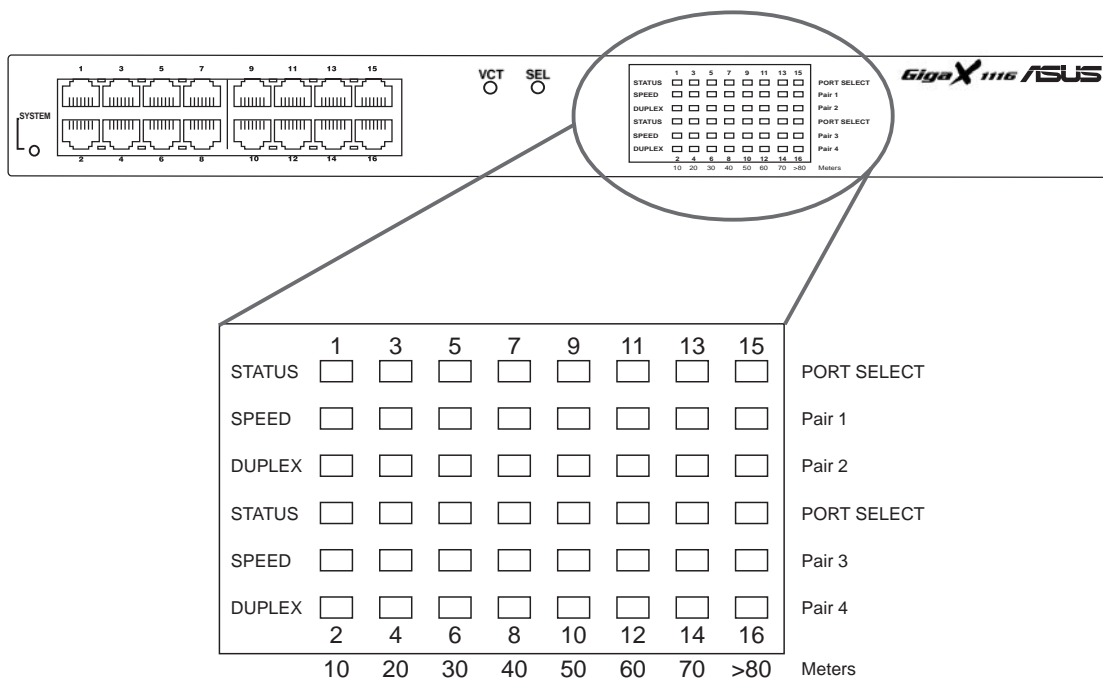


Table 2 LED indications during normal operation

LED	Color	Status	Description
SYSTEM	Green Amber	On On Off	The switch is on and in normal operation. The switch is initializing or VCT is in progress. The switch is off.
1 – 16			Port numbers
STATUS	Green	On Blinking Off	Ethernet link is established. Receiving or transmitting data No Ethernet link
SPEED	Green Amber	On On Off	1000 Mbps 100 Mbps 10 Mbps or no Ethernet link
DUPLEX	Green Amber	On On Off	The switch is operating in full-duplex mode. The switch is operating in half-duplex mode. No Ethernet link

Table 3 LED indications in VCT mode

SYSTEM	Green Amber	On On Off	The switch is on. The switch is initializing or VCT is in progress. The switch is off.
1 – 16			Port numbers
STATUS (Port Select)	Green	On Blinking Off	The port is selected to execute VCT. VCT on the port is in progress. The port is not selected.
SPEED (Pairs 1, 3)	Green Amber	On On Blinking Off	The pair is shorted. The pair is open (the cable is not attached to any device). The port failed to execute VCT. VCT is in progress (PORT SELECT LED is blinking). OR No error is found (PORT SELECT LED is green).
DUPLEX (Pairs 2, 4)	Green Amber	On On Blinking Off	The pair is shorted. The pair is open (the cable is not attached to any device). The port failed to execute VCT. VCT is in progress (PORT SELECT LED is blinking). OR No error is found (PORT SELECT LED is green).

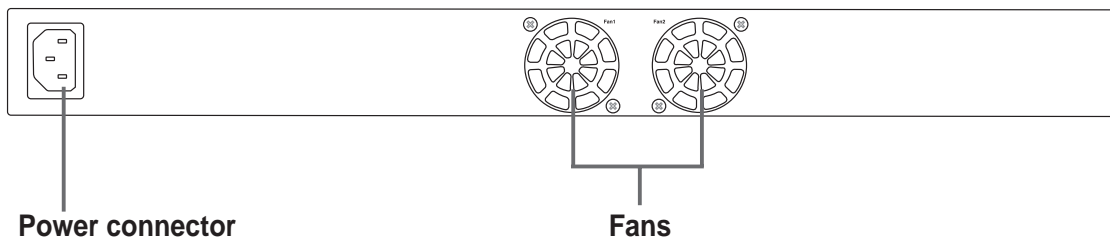


NOTE. The number of lighted LEDs on Pairs 1 ~ 4 shows the distance from the switch to the defective point (1 LED = 10 meters).

Table 4 Buttons

BUTTON	Function
VCT	Start, execute, or exit VCT
SEL	Select the port to execute VCT

Rear Panel



Connecting network devices

To connect network devices to the switch:

1. Connect one end of an Ethernet cable to an Ethernet port on the front panel of the switch. Connect the other end to the Ethernet port of the network device. Repeat this step to connect other network devices.



NOTES

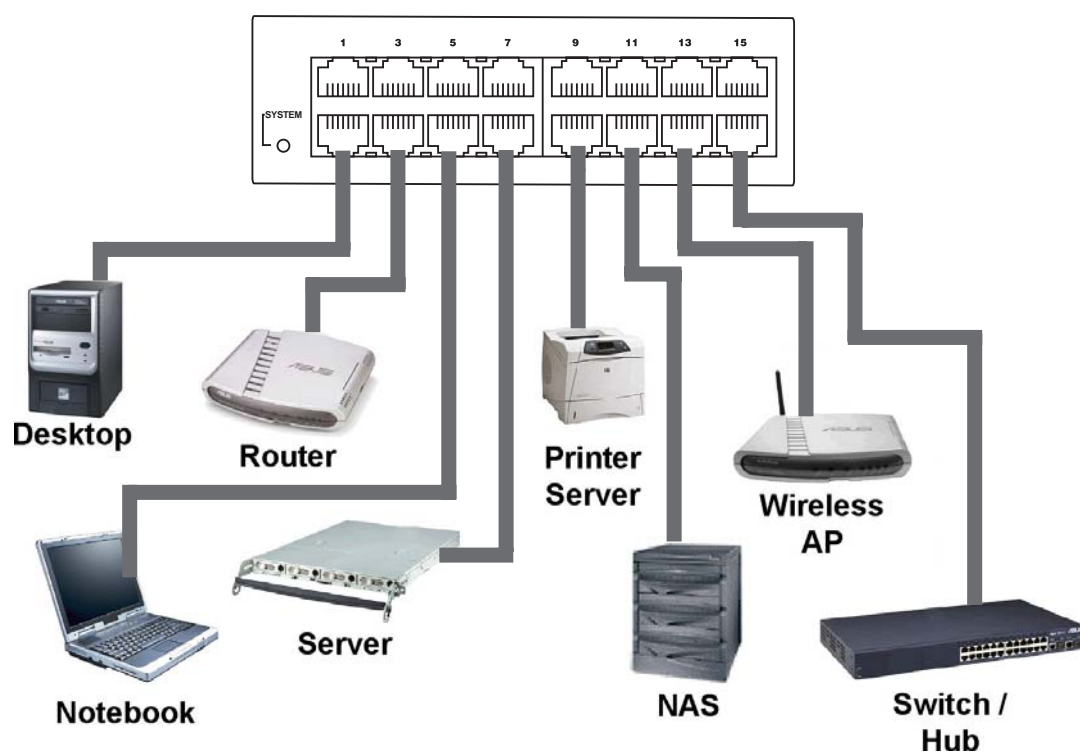
- Use only Category 5 Ethernet cables to ensure proper connections between the switch and other network devices.
- You may use the ports on the switch to uplink to another switch, hub, bridge, or repeater as an uplink port using either crossover or straight-through cables.

The MDI/MDIX feature of the switch allows automatic detection of the type of cables connected to it, and adjustment to the appropriate MDI or MDIX setting for each cable.

2. Plug one end of the power cable to the power connector on the switch rear panel, then plug the other end to an electrical outlet.

The Power LED and the LED indicators for active Ethernet ports light up to indicate that the device is on and in use. Refer to the front panel LED table on page 4 for the LED descriptions.

The figure shows several devices that you may connect to the switch.



Virtual Cable Tester (VCT)

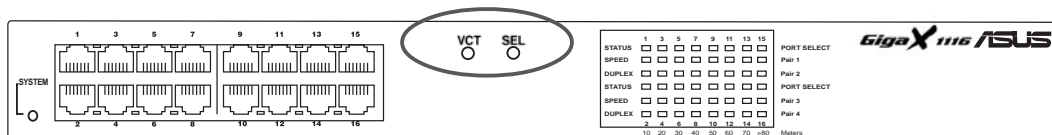
The VCT feature significantly reduces networking and support costs by virtually diagnosing and reporting cable faults using the Time Domain Reflectometry (TDR) technology. With VCT, you can identify open and shorted cables with up to 10 meters of accuracy.

Using the VCT feature

To do a cable test using VCT:

1. Press the **VCT** button once.

The switch goes into VCT mode and the system LED turns amber. All port LEDs are off, except the PORT SELECT (STATUS) LED.



2. Press the **SEL** button to select the port you wish to test. The PORT SELECT (STATUS) LED of the selected port lights up.



NOTE. If no other action is taken after the VCT or SEL button is pressed, the switch automatically goes back to normal operation after 15 seconds.

3. Press the **VCT** button again to execute VCT on the selected port. The PORT SELECT (STATUS) LED of the selected port blinks in green to indicate that VCT is in progress.

The test is complete when the PORT SELECT (STATUS) LED stops blinking. Refer to page 9 for examples of VCT test results.

4. Press **SEL** to select another port to test. Follow steps 2 to 5 to run VCT.
5. When done, press the **VCT** button to return to normal switch operation.



NOTE. The switch automatically goes back to normal operation after two minutes even if you do not press the VCT button.

VCT test results

The cable is not connected to any device

LED	COLOR	DESCRIPTION
PORT SELECT	Green	The cable is OK. The four pairs in this cable are open (not connected) up to at least 80 meters.
Pair 1	Amber	
Pair 2	Amber	
Pair 3	Amber	
Pair 4	Amber	

STATUS	1	3	5	7	9	11	13	15	PORT SELECT
SPEED	A	A	A	A	A	A	A	A	Pair 1
DUPLEX	A	A	A	A	A	A	A	A	Pair 2
STATUS									PORT SELECT
SPEED	A	A	A	A	A	A	A	A	Pair 3
DUPLEX	A	A	A	A	A	A	A	A	Pair 4
	2	4	6	8	10	12	14	16	
	10	20	30	40	50	60	70	>80	Meters

G - Green **A** - Amber

The cable is connected to a Fast Ethernet (10/100 Mbps) device

LED	COLOR	DESCRIPTION
PORT SELECT	Green	Pairs 1 and 2 are connected to a device.
Pair 1	Off	
Pair 2	Off	
Pair 3	Green or Amber	
Pair 4	Green or Amber	

STATUS	1	3	5	7	9	11	13	15	PORT SELECT
SPEED									Pair 1
DUPLEX									Pair 2
STATUS									PORT SELECT
SPEED	G	G	G	G	G	G	G	G	Pair 3
DUPLEX	A	A	A	A	A	A	A	A	Pair 4
	2	4	6	8	10	12	14	16	
	10	20	30	40	50	60	70	>80	Meters

G - Green **A** - Amber



NOTE. Fast Ethernet (10/100 Mbps) uses only two pairs (Pairs 1 and 2) of cables to transmit/receive data. Disregard Pairs 3 and 4 LEDs.

The cable is connected to a Gigabit (1000 Mbps) device

LED	COLOR	DESCRIPTION
PORT SELECT	Green	Four pairs are connected to a device.
Pair 1	Off	
Pair 2	Off	
Pair 3	Off	
Pair 4	Off	

STATUS	1	3	5	7	9	11	13	15	PORT SELECT
SPEED									Pair 1
DUPLEX									Pair 2
STATUS									PORT SELECT
SPEED									Pair 3
DUPLEX									Pair 4
	2	4	6	8	10	12	14	16	
	10	20	30	40	50	60	70	>80	Meters

G - Green **A** - Amber

Placement options

Placing the switch on a flat surface

Place the switch on a flat surface that can support the weight of the switch and its accessories. Make sure the surface meets the operating environment specifications (page 3).



NOTE. The length of the UTP Category 5 cable should not exceed 80 meters.

Mounting the switch on a rack

To mount the switch on a rack:

1. Locate the screw holes on each side of the switch.
2. Align a mounting bracket with the screw holes on one side of the switch.
3. Secure the mounting bracket using three screws.
4. Follow steps 2 and 3 to secure the other bracket.
5. Place the switch on a 19-inch rack, then secure it with two rack mount screws.



NOTE. The rack mount screws are not included in your switch package. Use the screws from the rack.

Troubleshooting

This troubleshooting guide provides answers to some common problems that you may encounter while installing and/or using the switch. These problems require some simple troubleshooting that you can perform by yourself. Contact ASUS Technical Support if you encounter problems that are not mentioned in this section.

Problem	Action
The POWER LED does not light up.	Check if the power cable is properly connected to the switch, and to an electrical outlet with the correct voltage output. See the power specifications on page 3.
The STATUS/SPEED LED does not light up even after an Ethernet cable is connected.	<ul style="list-style-type: none">• Check if the Ethernet cable is properly connected to the switch and to the network device.• Make sure that the switch and your network device are turned on.• Check if the Ethernet cable is sufficient for your network speed. Make sure you are using at least Category 5 cables for 100/1000 Mbps. If the network speed is 10 Mbps, you may use Category 3 cables.

Glossary

10Base-T	10 Mbps Ethernet over twisted-pair cable (Category 3)
100Base-TX	100 Mbps Ethernet over twisted-pair cable (Category 5)
1000Base-T	1000 Mbps Ethernet over twisted-pair cable (Category 5)
Auto-sensing	The ability to automatically detect the type of cables attached to the switch and adjust the speed of data exchange.
Ethernet	The most commonly installed computer network technology, usually using twisted-pair wiring. Ethernet data rates are 10 Mbps, 100 Mbps, and 1000 Mbps.
MDI	Media Dependent Interface An Ethernet port connection that allows hubs and switches to connect to other hubs and switches using a standard straight-through cable.
MDIX	Media Dependent Interface Crossover An Ethernet port connection that allows computers and workstations to connect to each other using crossover cables.
Mbps	Megabits per second One million bits per second. Network data rates are often expressed in Mbps.
network	A group of computers that are connected together, allowing them to communicate with each other and share resources, such as software, files, etc. A network can be small, such as a <i>local area network</i> (LAN), or very large, such as the <i>Internet</i> .