



## GS-2148L: 48-Port GbE L2 Managed Switch with 4 SFP Dual Media

### Key Features

- QoS with four priority queues
- Enhancing Security, Traffic Flow Classification and Prioritize by Powerful ACL rule
- Q-in-Q VLAN for performance & security
- DHCP Snooping assure the DHCP security
- 802.1x Access Control improves network security
- 802.1d Compatible & 802.1w Rapid Spanning Tree
- 4 dual media ports for flexible fiber connection
- Broadcast/Multicast/unknown-unicast Storm Control

### Overview

GS-2148L, a 48-port Gigabit L2 Managed Switch, is a standard switch that meets all IEEE 802.3u/x/z Gigabit, Fast Ethernet specifications. The switch included 44-Port 10/100/1000Mbps TP and 4-Port Gigabit TP/SFP Fiber management Ethernet switch. The switch can be managed through RS-232 serial port via directly connection, or through Ethernet port using CLI or Web-based management unit, associated with SNMP agent. With the SNMP agent, the network administrator can logon the switch to monitor, configure and control each port's activity in a friendly way. The overall network management is enhanced and the network efficiency is also improved to accommodate high bandwidth applications. In addition, the switch features comprehensive and useful function such as QoS (Quality of Service), Spanning Tree, VLAN, Port Trunking, Bandwidth Control, Port Security, SNMP/RMON, IGMP Snooping capability via the intelligent software. It is suitable for both metro-LAN and office application.

### Technical Specifications

#### • Standard compliance

- IEEE 802.3 10Base-T Ethernet (twisted-pair copper)
- IEEE 802.3u 100Base-TX Ethernet (twisted-pair copper)
- IEEE 802.3ab 1000Base-TX Ethernet (twisted-pair copper)
- IEEE 802.3z 1000Base-X Ethernet
- IEEE 802.3x flow control capability
- ANSI/IEEE 802.3 auto-negotiation
- IEEE 802.1q VLAN

#### • RoHS Compliance

#### • Subscriber Interface

- 48 GbE ports with 4 combo ports
- Port 45, 46, 47, 48 are Gigabit TP/SFP Fiber auto sense
- Auto-Negotiation and Auto-MDIX
- Backpressure flow control for half duplex.
- 802.3x flow control for full duplex.
- Connector: 44 RJ-45 ports + 4 combo ports, RJ-45/SFP

#### • Performance

##### Switching capacity

- Non-blocking switch fabric supports up to 48GbE ports
- 8 K MAC addresses
- The maximum throughput is 96Gbps
- Jumbo frame support up to 16KB

##### VLAN

- Port-base VLAN
- IEEE802.1q tag-base VLAN, 4094 max, up to 256 active VLANs including static plus dynamic entry
- IEEE802.1q tag-base VLAN
- Flooding unknown vlan frame setting, can flood packet with some vlan tag associated to a invalid/inactive vlan
- In tag-base VLAN, supports egress/ingress packet filter
- Q-in-Q is an efficient method for enabling Subscriber Aggregation
- Provide Management Vlan for managed policy
- Provide the multicast Vlan to reduce the multicast traffic

##### QoS

- Supports packet classification by each port or vlan ACL rule
- Supports four level priority queues and prioritized by Ethernet type, vlan tag, IP, UDP, TCP and flow
- Supports priority in a Q-in-Q tag
- Priority remarking, DSCP and priority tag remarking, control the tunnel quality exactly

##### Broadcast Storm

- Multicast/Broadcast/Unknown-Unicast Storm suppression.

##### Port Mirroring

- Support 1:N RX port mirroring
- Supports port sniffer function with 3 modes:

(TX Monitor Mode, RX Monitor Mode and TX-RX pair Monitor Mode)

**Rate Limit**

- Ingress rate limit:  
Port 1~48: 1K up to 1000Mbps
- Egress rate limit:  
---Port 1~48: 1K up to 1000Mbps

• **Protocol**

**LACP**

- up to 24 ports for each group
- Provides 24 groups for bandwidth aggregation.

**GVRP/GARP**

- 802.1q with GVRP/GARP

**Multicasting**

- Supports IGMP snooping including active and passive mode
- support IGMP Fast-leave that is suitable in IPTV application

**STP/RSTP**

- 802.1d/1w

• **Network Security**

- 802.1x access control, support port-based and mac-based authentication with RADIUS server
- provide EAP-TTLS, PEAP-TTLS, MD5 for assuring the authentication security
- Static mac, to limit which mac addresses can pass through or not
- Mac addresses learning limit, to set up the maximum amount of each port

• **Snmpv1,v2c Network Management**

• <b>RFC 1213 MIB (MIB-II)</b>	• <b>RFC 1757 RMON MIB</b>
---Interface MIB	---Statistics Group 1
---Address Translation MIB	---History Group 2
---IP MIB	---Alarm Group 3
---ICMP MIB	---Event Group 9
---TCP MIB	• <b>RFC 1493 Bridge MIB</b>
---UDP MIB	• <b>RFC 1643 Ethernet MIB</b>
---SNMP MIB	• <b>Enterprise MIB</b>

• **LED Description**

	LED	Color	Function
Global	POWER	Green	-Lit when +3.3V power is coming up
Global	CPUACT	Green	-Blinks when CPU is active
Port	LINK/ACT	Green	-Lit when connection with remote device 1-48 is good -Blinks when any traffic is present
Port 1-48	Speed	Green	-Lit Green when TP link on 1000Mbps speed -Blinks when TP link on 100Mbps speed -Off when 10Mbps or no link occur
Port 45-48	SFP	Green	-Lit when Fiber connection with remote device is good -Blinks when any traffic is present

- **Voltage:** 100~240 VAC
- **Frequency:** 50~60 Hz
- **Consumption:** 80W
- **Ambient Temperature:** 0 to 40°C
- **Humidity:** 5% to 90%
- **Dimensions:** 44(H) x 442(W) x 248(D) mm
- **Weight:** 14kg
- **Safety:** Complies with FCC Part 15 Class A & CE Mark including EN 55022 and EN61000

**Packing Information**

Carton Dimensions (mm)	pcs/Carton	N.W (KG)	G.W (KG)
500 x 330 x 118	3	14	15

**Ordering Information**

<b>GS-2148L</b>	48-Port GbE L2 Managed Switch with 4 SFP Dual Media
<b>Optional SFP Module</b>	
<b>SFP.LC</b>	1000Base-SX GE SFP Fiber Module, LC Multi-Mode 850nm
<b>SFP.LC.M2</b>	1000Base-SX GE SFP Fiber Module, LC Multi-Mode 1310nm 2km

**Note:**

We recommend the SFP transceiver from the following vendors:

1. Ruby Tech Corporation
2. Agilent Technologies
3. AVAGO Technologies
4. Finisar Corporation

**Ruby Tech Corp.**

3F, No.1, Lane 50, Nan Kang Road, Sec.3, Taipei, Taiwan  
TEL:886-2-2785-3961 FAX:886-2-2786-3012

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