

**PoE+**  
Supported**384W**  
Power Budget

# TP-LINK **JetStream**

## JetStream 48-Port Gigabit Smart PoE+ Switch with 4 SFP Slots

T1600G-52PS (TL-SG2452P)

### Overview

The T1600G-52PS provides 48 10/100/1000Mbps RJ45 Ports which support 802.3at/af-compliant PoE, with a total PoE power supply up to 384W, powerful and flexible enough for users to deploy wireless access points or IP-based network surveillance cameras. The switch is also equipped with 4 Gigabit SFP slots, expanding your network flexibly. In addition, it provides high performance, powerful L2 and L2+ features like static routing, enterprise-level QoS, and useful security strategies.

Static Routing helps route internal traffic for more efficient use of network resources. The Storm Control feature protects against Broadcast, Multicast and Unknown unicast Storm. 802.1X and Radius Authentication allows network client to be authenticated through external Radius Servers. Quality of Service (QoS, L2 to L4) provides enhanced traffic management capabilities to move your data smoother and faster. Moreover, the easy-to-use web management interfaces, along with SNMP, RMON and Dual Image, mean faster setup and configuration with less downtime. With all these advanced features, the JetStream Gigabit Smart PoE+ Switch T1600G-52PS is an ideal choice for projects or business networks which need PoE function.

**PoE Features**

- Standard: 802.3at/af compliant with up to 30W per port
- PoE+ Ports: 48 Ports
- PoE Power Budget: 384W
- PoE Schedule (Time-based Settings)

**L2 and L2+ Features**

- Static Routing
- Link Aggregation Control Protocol (LACP)
- 4k VLANs
- STP/RSTP/MSTP
- IGMP Snooping
- LLDP/ LLDP-MED

**Security Strategies**

- Access Control List (L2~L4 ACL)
- IP-MAC-Port Binding
- 802.1x and Radius Authentication
- Storm Control
- Port Security
- SSL and SSH encryptions
- Dos Defend

**Quality of Service**

- 8 priority queues
- 802.1P/DSCP QoS Voice VLAN

**Management**

- Web-based GUI Command Line Interface (through telnet)
- SNMP v1/v2c/v3
- RMON (1, 2, 3, 9 group)
- IPv6 Management



**JetStream 48-Port Gigabit Smart PoE+ Switch with 4 SFP Slots**

**T1600G-52PS (TL-SG2452P)**

**IEEE 802.3at/af-compliant Power over Ethernet**

The T1600G-52PS provides 48 10/100/1000Mbps RJ45 Ports that support 802.3at/af-compliant PoE, with a total PoE power supply up to 384W to power any 802.3at/af compliant power device. Compact and flexible, the T1600G-52PS is ideal to flexibly use PoE to deploy wireless access points or IP-based network surveillance cameras for projects or small business networks.

**Abundant L2 and L2+ features**

T1600G-52PS supports rich L2 features, including 802.1Q tag VLAN, Port Isolation, Port Mirroring, STP/RSTP/MSTP, Link Aggregation Group and 802.3x Flow Control function. Besides, the switch provides advanced features for network maintenance such as Loop Back Detection, Cable Diagnostics and IGMP Snooping. IGMP snooping ensures the switch intelligently forward the multicast stream only to the appropriate subscribers while IGMP throttling & filtering restrict each subscriber on a port level to prevent unauthorized multicast access. Moreover, T1600G-52PS supports L2+ feature—static routing, which is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic for more efficient use.

**Secure Networking**

T1600G-52PS supports IP-MAC-Port Binding, Port Security, Storm control and DHCP Snooping which protect against broadcast storms, ARP attacks, etc. In addition, the Access Control Lists (ACL, L2 to L4) feature restricts access to sensitive network resources by denying packets based on source and destination MAC address, IP address, TCP/UDP ports and even VLAN ID. Moreover, the switch supports 802.1X, which allows network clients to be authenticated through external Radius servers. Guest VLAN function supports to enable the non-802.1X clients to access the specific network resource.

**Advanced QoS features**

To integrate voice, data and video service on one network, the switch applies rich QoS policies. Administrator can designate the priority of the traffic based on a variety of means including Port Priority, 802.1P Priority and DSCP Priority, to ensure that voice and video are always clear, smooth and jitter free.

**Enterprise Level Management Features**


T1600G-52PS is easy to use and manage. It supports various user-friendly standard management features, such as intuitive web-based Graphical User Interface(GUI) or industry-standard Command Line Interface (CLI), SNMP (v1/2/3) and RMON support enables the switch to be polled for valuable status information and send traps on abnormal events. And comprehensive IPv6 supporting management ensures a smooth migration to IPv6-based network. Besides, it also supports Dual Image, which provides reduced down-time for the switches, when the image is being upgraded / downgraded.



- Details:<http://www.tp-link.com/support/Localesupport.asp>
- German/Austrian/Swiss users are not included

## Specifications

### Hardware Features & Performance

Product Picture		
Model	T1600G-52PS (TL-SG2452P)	
Hardware Features		
Connector	10/100/1000Mbps RJ45 Ports	48
	Gigabit SFP Slots	4
Power Supply	100-240VAC, 50/60Hz	
FAN Quantity	3	
Certifications	CE, FCC	
Dimensions (W x D x H)	17.3 x 13 x 1.7 in. (440 x 330 x 44 mm)	
	19-inch Rack mount Steel Case, 1U Height	
Environment	Operating Temperature: 0°C~40°C (32°F~104°F)	
	Storage Temperature: -40°C~70°C (-40°F~158°F)	
	Operating Humidity: 10%~90% non-condensing	
	Storage Humidity: 5%~90% non-condensing	
Performance		
Switch Capacity	104Gbps	
Forwarding Rate	77.4Mpps	
MAC Address Table	16K	
Package Buffer Memory	1.5MB	
Jumbo Frame	9KB	

### Software Features

#### L2+ Features

##### IP Interface

-Support 16 IPv4 interfaces

##### Static Routing

-32 IPv4 static routes

#### L2 Switching Features

##### Link Aggregation

-Support 802.3ad LACP

-Support static link aggregation

-Up to 14 aggregation groups, containing 8 ports per group

##### Spanning Tree Protocol(STP)

-IEEE 802.1D Spanning Tree Protocol

-IEEE 802.1W Spanning Tree Protocol

-IEEE 802.1S Multiple Spanning Tree Protocol

-STP Security: Loop Protect, TC Protect, BPDU Filter/Protect, Root Protect

##### Loopback Detection

##### Flow Control

-802.3x Flow Control

-HOL Blocking Prevention

##### Port Mirroring

-One-to-One

-Many-to-One

-Flow-Based

-Tx/Rx/Both

- **Multicast**
  - Support IGMP Snooping v1/v2/v3, up to 256 groups
  - Support multicast VLANs, IGMP Immediate Leave, Unknown IGMP Throttling, IGMP Filtering, Static Multicast IP
  - Support MLD Snooping v1/v2

- **VLAN**
  - Support IEEE 802.1Q with 4k VLANs Simultaneously(out of 4K VIDs)
  - Support MAC-based VLAN and Protocol-based VLAN

- **IEEE 802.3x flow control for Full Duplex mode and back pressure for Half Duplex Mode**

### Quality of Service (QoS)

- **Support 802.1p CoS/DSCP priority**
- **8 priority queues**
- **Queue scheduling**
  - SP (Strict Priority)
  - WRR (Weighted Round Robin)
  - SP+WRR
- **Bandwidth Control**
  - Port/Flow based Rating Limiting
- **Smoother Performance**
- **Actions for flows**
  - Mirror (to supported interface)
  - Redirect (to supported interface)
  - Rate Limit
  - QoS Remark
- **Voice VLAN**

### ACL

- **Support up to 300 entries**
- **MAC ACL**
  - Source MAC
  - Destination MAC
  - VLAN ID
  - User Priority
  - EtherType
- **Standard IP ACL**
  - Source IP
  - Destination IP
- **Extended IP ACL**
  - Source IP
  - Destination IP
  - Fragment
  - IP Protocol

- TCP Flag
- TCP/UDP Port
- DSCP/IP TOS

- **Combined ACL**
  - Source MAC
  - Destination MAC
  - VLAN ID
  - EtherType
  - User Priority
  - Source IP
  - Destination IP
- **ACL apply to Port/VLAN**

### Advanced Security Strategies

- **IP-MAC-Port Binding**
- **DoS Defend**
- **Dynamic ARP Inspection**
- **Static/Dynamic Port Security**
  - Up to 64 MAC addresses per port
- **Broadcast/ Multicast/ Unicast Storm Control**
  - kbps/ratio/pps control mode
- **802.1X**
  - Port based authentication
  - MAC (Host) based authentication
  - Guest VLAN
  - Support Radius authentication and accountability
- **Port Isolation**
- **Secure web management through HTTPS and SSLv2/v3/TLSv1**
- **Secure command line interface (CLI) management with SSH v1/v2**
- **IP/Port/MAC based access control**

### IPv6 Support

- **IPv6 Dual IPv4/IPv6**
- **Multicast Listener Discovery (MLD) Snooping**
- **IPv6 neighbor discovery (ND)**
- **Path maximum transmission unit (MTU) discovery**
- **Internet Control Message Protocol (ICMP) version 6**
- **TCPv6/UDPv6**
- **IPv6 applications**
  - DHCPv6 Client / Ping6 / Tracert6 / Telnet(v6) / IPv6 SNMP
  - IPv6 SSH / IPv6 SSL
  - Http/Https
  - IPv6 TFTP

## Management

- Support Web-based GUI management mode
- Support Command Line Interface (CLI) through telnet
- SNMP v1/v2c/v3
- SNMP Trap/Inform
- RMON (1, 2, 3, 9 groups)
- DHCP/BOOTP Client
- DHCP Snooping
- 802.1ab LLDP/LLDP-MED
- Dual Image
- CPU Monitoring
- Cable Diagnostics
- Access Control
- Sntp
- System Log

## Ethernet Protocols

- IEEE 802.3i 10BASE-T
- IEEE 802.3u 100Base-TX/FX

- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3x Flow control
- IEEE 802.1p QoS
- IEEE 802.1q VLANs/VLAN tagging
- IEEE 802.1D Spanning Tree Protocol (STP)
- IEEE 802.1W Spanning Tree Protocol (RSTP)
- IEEE 802.1S Multiple Spanning Tree (MSTP)
- IEEE 802.1x Port-based Network Access Control

## MIBs

- MIB II (RFC1213)
- Interface MIB (RFC2233)
- Ethernet Interface MIB (RFC1643)
- Bridge MIB (RFC1493)
- P/Q-Bridge MIB (RFC2674)
- RMON MIB (RFC2819)
- RMON2 MIB (RFC2021)
- Remote Ping, Traceroute MIB (RFC2925)
- Support TP-LINK private MIBs

## Ordering Information

Host Switch	
Product Model	Description
T1600G-52PS (TL-SG2452P)	JetStream 48-Port Gigabit Smart PoE+ Switch with 4 SFP Slots
SFP Modules	
Product Model	Description
TL-SM311LS	Gigabit SFP module, Single-mode, LC interface, Up to 10km distance
TL-SM311LM	Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance
TL-SM321A	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX:1550nm/RX:1310nm, 10km
TL-SM321B	Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX:1310nm/RX:1550nm, 10km
Router	
Product Model	Description
TL-ER6120	SafeStream Gigabit Dual-WAN VPN Router
TL-ER5120	Gigabit Load Balance Broadband Router
Media Converter	
Product Model	Description
MC210CS	Gigabit single-mode SC SFP Transceiver, up to 15Km, chassis mountable
MC200CM	Gigabit multi-mode SC SFP Transceiver, up to 550m, chassis mountable
MC220L	Gigabit SFP slot supporting mini-GBIC modules, chassis mountable
MC1400	14-slot power supply chassis for TP-LINK Media Converter, 19-inch rack-mountable