

Overview

TG-NET S7503/7506/7510 switches are 10G routing switches developed by TG-NET Botone Technology Co., Ltd (TG-NET), a new generation of telecom-level core switches with large capacity and high performance. They are oriented towards carrier's IP MANs, campus networks, electronic public service networks and large enterprises' networks for running on their core layers or their aggregation layers. In total, they have advantages such as high reliability, high expansibility and strong service capability, so requirements on constructing the core layers of all kinds of networks.

TG-NET S7503/7506/7510 absorbs the design idea of advanced modularization, adopts the multi-processor distribution mechanism and the Crossbar space division switching structure and applies the 1:1 redundancy backup to all its key modules. As to the hardware's design, the environmentally friendly and power-saving design idea is adopted, in which the circuits are scientifically designed and components are reasonably used. That's why users' cost in operation and maintenance is effectively reduced.

The backplane bandwidth of TG-NET S7503/7506/7510 is up to 9.6Tbps, its packet forwarding rate is up to 2984Mpps and its exchange rate reaches L2/L3/L4 wire speed. Various interface modules with 10GE, GE or FE are provided and the following functions are supported: IPv4, IPv6, MPS, NAT, multicast, QoS and bandwidth control.

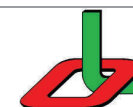
The series consist of Three modeS: S7503、S7506、S7510.

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Hardware Features



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Characteristics

■ Carrier-level reliability:

The key modules of the system like the control unit and the power source can be backed up through the “1+1” mode. Meanwhile, the Hitless Protection System (HPS) secures the high reliability of TG-NET S7503/7506/7510. After the redundancy control module is configured, the highest reliability can be reached. At the same time, the functions of TG-NET S7503/7506/7510 like VRRP, STP and LACP provide further reliability.

■ Advanced System Architecture:

Based on the distributive and modularized idea, TG-NET S7500 uses the multi-processor-based treatment mechanism and adopts the crossbar switching architecture. This advanced system architecture guarantees the nice forwarding ability, the powerful service ability and the high expansibility.

■ Strong Value-Added Service Functions:

It has L2/L3/L4 wire-speed switching ability and advanced performances like QoS, MPS, NAT, bandwidth control and multicast. Hence, it becomes the first option for being used on the core layer of the network or for network’s value addition. Meanwhile, hardware-based flow classification, multicast, rate limitation and advanced QoS give strong supports for users to operate the value-added services.

■ Large Capacity and High Performance:

TG-NET S7500 supports the 2984Mpps packet forwarding rate, contains 512K layer-3 routing information, 512K layer-2 MAC addresses, 4096 groups of VLANs and 8K security/ access control policies, securing the wire-speed forwarding requirements.

■ High Port Density and Wire-Speed Routing & Switching:

TG-NET S7500 supports various interface types such as 10GE, GE and FE. High port density, wire-speed routing/switching can thus be really reached.

■ Powerful Security:

TG-NET S7500 supports the ACL security filter mechanism and the security control function based on users, addresses, applications or ports. The IPSec,

MPS and VPN are also supported. TG-NET S7500 also supports the following security functions:

- Limiting bandwidth based on port priority or based on the flow's ingress/egress
- URPF
- Preventing DOS attacks
- SSH2.0 security management
- 802.1x access authentication and transparent transversal
- Binding VLAN ID to the MAC address, port number or IP address

Additionally, the system also has sound anti-virus mechanism, providing security to network operation.

■ **Supporting IPv6 versatility:**

All IPv6 technologies are realized, including IPv4/IPv6 protocol stacks, and IPv4-to-IPv6 filtration technologies based on manual/automatic tunnel configuration or 6-to-4 tunnel. Meanwhile, the IPv6 static routing is realized and the dynamic routing protocols such as BGP4/BGP4+, RIPng and OSPFv3 are supported.

■ **Supporting MPS VPN on layer 2 or layer 3:**

The layer-2 MPS VPN supports the Martini protocol (VPWS) and the VPS protocol, while the layer-3 MPS VPN adopts RFC2547bis. Hence, TG-NET S7500OLT is well compatible with other main manufacturers' devices on the MPS VPN service.

■ **Uniform network management function:**

TG-NET S7500 supports the RFC 1213 SNMP protocol. The internal network management mode adopts the Telnet-based configuration management or the SNMP-based configuration management, realizing uniform network management based on the Broad Director network management platform.

Product Specifications

Item	Attributes	Specification		
		S7503	S7506	S7510
Ports	Expanded slot	1 MSU slot 2 business slots	2 MSU slots 4 business slots	2 MSU slots 8 business slots
	Backplane	2.4Tbps	4.8Tbps	9.6Tbps
	Switching capacity	1.2Tbps	2.4Tbps	4.8Tbps
	Forwarding rate	746Mpps	1492Mpps	2984Mpps
	Max. number of 10G ports	24	48	96
	Max. number of GE ports	96	192	384
	Parameter	Flash	16MB	
Memory		512MB, up to 2GB		
Physical specification	Humidity	10%~90% no condensation		
	Working temperature	0°C~40°C		
	Power Source	AC power: 100-240VAC, 50/60 Hz DC power: -48V		
	Power redundancy	1+1 backup and hot swap		
	Size	482×548×266mm	482×548×399mm	482×548×533mm
	Power consumption	600W	600W	1000W

Service Features

Item	Attributes	Specification
Software features	STP	802.1D (STP), 802.1w (RSTP), 802.1s(MSTP)
	Routing protocol	static, RIPv1/2, OSPF, BGP
	MPS	MPLS, MPLS VPN
	IPv6	IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL, IPv6 tunnel, 6PE, IPv6 static route, RIPng, OSPFv3, BGP4+
	Multicast	IGMP, IGMP Snooping, IGMP Proxy, PIM-SM, PIM-DM
	QoS	Having 8 queues on each port, supporting 802.1p, ToS, application port ID, DifferServ, schedule modes (WRR, SP, SWRR), flow shape, flow classification based on standard/extended/VLAN ACL
	ACL	Supporting standard ACL and extended ACL, IP ACL, and data filtration based on source/destination IP, layer-3 IP ID, layer-4 TCP/UDP ID, IP priority, ToS or time range
	MAC operations	Port/MAC bind, MAC filtering
	VLAN	GVRP, PVLAN and VLAN Stacking (QinQ)
	Flow control	HOL, half-duplex backpressure and full-duplex IEEE 802.3x
	ARP	ARP proxy
	DHCP	Client, Relay and Server
	Aggregation	LACP and load balance
Access control	802.1x	
AAA	Local and RADIUS	

	Mirroring	Port or flow based mirroring
	Storm Control	Broadcast and multicast storm control
	Reliability	MSU and power redundancy, hot swap, HSRP and VRRP
	Network standards	IEEE 802.1D IEEE 802.3 IEEE 802.3u IEEE802.3ad IEEE 802.3x IEEE 802.3z IEEE802.1Q IEEE 802.1P IEEE 802.1w IEEE 802.1x
Network management	Console	RS-232
	Telnet	Support
	SNMP	v1/ v2c/ v3
	SysLog	Support
	RMON	Group 1, 2, 3 and 9
	MIB	Standard and private MIB

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Ordering Information

TG-NET S7510	
S7510-Chassis-AC	Chassis of the S7510 10G routing switches (10 expanded slots, 2 MSU slots, 8 business slots; including one AC power source, up to 2 power sources)
S7500-PWR-AC-1000	220V AC power-source module
S7500-PWR-DC	DC -48V power-source module
TG-NET S7506	
S7506-Chassis-AC	Chassis of the S7506 10G routing switches (6 expanded slots, 2 MSU slots, 4 business slots; including one AC power source, up to 2 power sources)
S7500-PWR-AC-600	220V AC power-source module
S7500-PWR-DC	DC -48V power-source module
TG-NET S7503	
S7503-Chassis-AC	Chassis of the S7503 10G routing switches (3 expanded slots, 1 MSU slot, 2 business slots; including one AC power source, up to 2 power sources)
S7500-PWR-AC-600	220V AC power-source module
S7500-PWR-DC	DC -48V power-source module
TG-NET S7500 modules	
MSU	
S7500-MSU-II	MSU UltraEngine II

S7500-MSU-III	MSU UltraEngine III
S7500-MSU-VI	MSU UltraEngine VI
Standard business modules	
S7500-12GE-TX/SFP	12 gigabit TX/SFP ports module
S7500-24GE-SFP	24 gigabit SFP ports and 4*10/100/1000M combo ports module
S7500-24GE-TX	24-port 10/100/1000M and 4 gigabit SFP combo ports module
S7500-48GE-TX	48-port 10/100/1000M module
S7500-2TE-SFP+	2 10G SFP+ slots module
S7500-4TE-SFP+	4 10G SFP+ slots module
S7500-12TE-SFP+	12 10G SFP+ slots module

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