

# **TSR-2800-10-Series**



# **Multiservice Routers**

#### **Product Overview**

TSR-2800-10 series is the next-generation multiservice switching router platform developed by Techroutes Network (P) Limited. The router platform is of high performance by integrating a 64-bit multi-core processor, a gigabit switching chip and FPGA into one solution.

TSR-2800-10 includes models such as TSR-2800-10C, TSR-2800-10-LTE. Each TSR model has 2 Gigabit Combo (TX/SFP) WAN port, 8 Gigabit LAN ports, 1 built-in 4G module, (4G LTE model supports TDD, FDD, 3G, 2G) 1 USB 2.0 port. TSR-2800-10 provides diversified options for the user.

TSR-2800-10 series is equipped with TRROS operating system, of which TECHROUTES has the independent intellectual property right. TECHROUTES TSR-2800-10 builds a real multiservice broadband platform by providing rich software functions such as routing, switching, safety and VPN.

With its strong processing and expansion capability, rich software functions and hardware modules, TECHROUTES TSR series meet requirements of the government, financial institutions, the defense system, operators and enterprises in network construction.



### **Main Characteristics**

#### **High Performance**

TSR-2800-10 series is driven by the 64-bit dual-core processor with specialized gigabit ASIC switching chip and FPGA components, which enables the whole hardware platform to run on the high-speed Ethernet frame. The innovative design endows TSR with a super processing capability, providing a guarantee for upper-layer software functions.

#### **Energy-saving Advantage**

TSR-2800-10 series adopt the new-generation hardware chip in consideration of energy saving while guaranteeing its strong processing capacity. Compared with the mainstream devices in the industry, power consumption of the TSR router is reduced by 15% to 20%, which both reduces the device maintenance cost and accords with the low-carbon idea. TECHROUTES TSR-2800-10 series is also equipped with the environment friendly maglev mute fan.

#### **New services**

TSR-2800-10-Series supports the MPLS characteristics and the MPLS-based layer-2/layer-3 VPN technology, which realize the transparent Ethernet transmission service and the flexible enterprise interconnection. TSR-2800-10 Series supports IPv6 data forwarding, routing protocols and multicast routing protocols; TSR-2800-10 Series also supports the IPv4/IPv6 protocol stack and the interconnection technology, which makes the existing networks smoothly upgrade to IPv6.

#### Secure service access

TSR-2800-10 Series supports selective ACL firewall filtration technology, NAT, VPNs such as IPSec/L2TP/PPTP/GRE, and security technologies such as AAA, Radius, PAP/CHAP.

#### **Traffic management policy**

TSR-2800-10 Series supports varied queues including FIFO, PQ, CQ, CBWFQ, LLQ, WFQ, DSCP, IP Precedence and CAR.TSR-2800-10 series support its self-developed traffic control and service management policy (GBSC), which can better real-time arrange and monitor your data traffic.

#### Flexible management and maintenance

TSR-2800-10 series is convenient in managing and monitoring the network by using the in-band and outband management tools such as Console, Telnet, SSH and SNMP.



# **Technical Specification**

Chassis         Console USB2.0         1         2         2         1         2	Model		TSR-2800-10C	TSR-2800-10-LTE	
Chassis         GE-WAN         2 Combo(TX/SFP)         2 Combo(TX/SFP)           GE-LAN         8         8           4G         N/A         4G LTE(TDD/FDD)           RESET         1         1           Built-in Encryption Encryption Engine         Support         Support           Performance/Cap acity         PPS         2 Mpps         2 Mpps           Post RM         512K         512K         512K           Plash         32MB         32MB         32MB           Parl Flash         32MB         32MB         32MB           Parl Flash         Fan less         Fan less         Fan less           Power         \$20W         Fan less         Fan less           Power         \$20W         Power         \$20W           Dimensions mm (WxDxH)         \$300x200x44         Power         \$20W           Link interconnection         LAN         ARP, ARP proxy, Gratuitous ARP         Power         \$20W         Power         \$20W		Console	1	1	
Chassis		USB2.0	1	1	
AG	Character.	GE-WAN	2 Combo(TX/SFP)	2 Combo(TX/SFP)	
RESET	Chassis	GE-LAN	8	8	
Built-in Encryption Engine PPS 2 Mpps 2 Mpps Performance/Cap acity  Performance/Cap acity  Peripherals  Peripherals  Peripherals  Peripherals  Peripherals  Peripherals  Peripherals  Peripherals  Power S20W  Dimensions mm (WxDxH)  Temperature/Hu midity  Storage LAN ARP, ARP proxy, Gratuitous ARP  Link interconnection  WAN  LINK interconnection  WAN  PPP, Multicast  Multicast  PMUlticast  PIM-DM, PIM-SM, DVMRP  IPM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  PIM-Capter of Pach acity in Pub (Pach acity)  PDN, DNS host, DNS Proxy, DDNS (Peanuthull/DynDNS/CTC)  Helper-Address, UDP Helper IP unnumber, DDR		4G	N/A	4G LTE( TDD/FDD)	
Encryption         Engine         PPS         2 Mpps         2 Mpps           Performance/Cap acity         Boot ROM         512K         512K           Flash         32MB         32MB           RAM         512MB*1GB         512MB*1GB           Peripherals         Fan         Fan less           Power         \$20W           Dimensions mm (Wx0x)xH)         300x200x44           Temperature/Hu midity         Operating         0°C-50°C; 10%-85% non-condensation           Link interconnection         LAN         ARP, ARP proxy, Gratuitous ARP           Link interconnection         IAN         ARP, ARP proxy, Gratuitous ARP           WAN         ISDN BRI/PRI,SLIP           Static route, direct route, default route         RIPV1/V2, OSPFV2, BGPV4           PBR         FastSwitch, Load-Balance           IGMP         IGMP           Multicast         PIM-DM, PIM-SM, DVMRP           ICMP, TCP, UDP, IP Option         NAT, PAT, Port-MAP, Private-Service, ALG           Ping, TraceRoute, Nslookup         IP ACL, IMP filter, Fast-Access           DHCP Client/Serv/Relay         DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)           Helper-Address, UDP Helper         IP unnumber, DDR		RESET	1	1	
Performance/Cap acity         Boot ROM   512K   512MB™   6RAM   6	Built-in	Encryption	support	support	
Performance/Cap acity         Boot ROM         512K         512K           Flash         32MB         32MB           RAM         512MB~1GB         512MB~1GB           Peripherals         Fan         Fan less         Fan less           Voltage         AC Adaptor           Power         \$20W           Dimensions mm (WxDxH)         0°C-50°C; 10%-85% non-condensation           Temperature/Hu midity         Operating         0°C-50°C; 10%-85% non-condensation           Link interconnection         LAN         ARP, ARP proxy, Gratuitous ARP           PPP, Multilink-PPP, PPPoE (Client/Serv)           ISDN BRI/PRI,SLIP           Static route, direct route, default route           RIPV1/v2, OSPFv2, BGPv4           PBR           FastSwitch, Load-Balance           IGMP           PIM-DM, PIM-SM, DVMRP           ICMP, TCP, UDP, IP Option           NAT, PAT, Port-MAP, Private-Service, ALG           Ping, TraceRoute, Nslookup           IP ACL, IMP filter, Fast-Access           DHCP Client/Serv/Relay           DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)           Helper-Address, UDP Helper           IP	Encryption	Engine			
acity Flash RAM 512MB 32MB 512MB*1GB  RAM 512MB*1GB 512MB*1GB  Fan Fan less Fan less  Voltage Power  Dimensions mm (WxDxH)  Temperature/Hu midity  Link interconnection  WAN Temperature/Hu midity  Link interconnection  WAN Temperature/Hu MAN		PPS	2 Mpps	2 Mpps	
RAM	Performance/Cap	Boot ROM	512K	512K	
Fan	acity	Flash	32MB	32MB	
Peripherals    Power		RAM	512MB~1GB	512MB~1GB	
Peripherals         Power Dimensions mm (W×D×H)         ≤20W           Temperature/Hu midity         Operating Storage         0°C-50°C; 10%-85% non-condensation           Link interconnection         LAN         ARP, ARP proxy, Gratuitous ARP           Link interconnection         WAN         PPP, Multilink-PPP, PPDE (Client/Serv)           VPN         Unicast         RIPV1/v2, OSPFv2, BGPv4         PBR           Ratic route, direct route, default route         RIPV1/v2, OSPFv2, BGPv4           PBR         FastSwitch, Load-Balance           IGMP         IGMP           Multicast         PIM-DM, PIM-SM, DVMRP           ICMP, TCP, UDP, IP Option         NAT, PAT, Port-MAP, Private-Service, ALG           Ping, TraceRoute, Nslookup         IP ACL, IMP filter, Fast-Access           DHCP Client/Serv/Relay         DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)           Helper-Address, UDP Helper         IP unnumber, DDR		Fan	Fan less	Fan less	
Dimensions mm (W×D×H)   300x200x44		Voltage	AC Ada <sub>l</sub>	otor	
Temperature/Hu midity  Temperature/Hu midity  Storage  -20°C-65°C; 10%-85% non-condensation  ARP, ARP proxy, Gratuitous ARP  Link interconnection  WAN  PPP, Multilink-PPP, PPPoE (Client/Serv)  ISDN BRI/PRI,SLIP  Static route, direct route, default route  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR	Peripherals	Power	≤20V	V	
Temperature/Hu midity  Operating  Storage  -20°C-65°C; 5%-95% non-condensation  ARP, ARP proxy, Gratuitous ARP  Link interconnection  WAN  PPP, Multilink-PPP, PPPOE (Client/Serv)  ISDN BRI/PRI,SLIP  Static route, direct route, default route  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  ICMP, TCP, UDP, IP Option  NAT, PAT, PORT-MAP, Private-Service, ALG  PING, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR		Dimensions mm	200-200	2.44	
midity       Storage       -20°C-65°C; 5%-95% non-condensation         Link interconnection       LAN       ARP, ARP proxy, Gratuitous ARP         PPP, Multilink-PPP, PPPOE (Client/Serv)         ISDN BRI/PRI,SLIP         Static route, direct route, default route         RIPV1/v2, OSPFv2, BGPv4         PBR         FastSwitch, Load-Balance         IGMP         PIM-DM, PIM-SM, DVMRP         ICMP, TCP, UDP, IP Option         NAT, PAT, Port-MAP, Private-Service, ALG         Ping, TraceRoute, Nslookup         IP ACL, IMP filter, Fast-Access         DHCP Client/Serv/Relay         DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)         Helper-Address, UDP Helper         IP unnumber, DDR		(W×D×H)	300x200	300x200x44	
Link interconnection    LAN	Temperature/Hu	Operating			
Link interconnection  WAN  PPP, Multillink-PPP, PPPOE (Client/Serv)  ISDN BRI/PRI,SLIP  Static route, direct route, default route  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  Multicast  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR	midity	Storage			
Interconnection  WAN  ISDN BRI/PRI,SLIP  Static route, direct route, default route  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  Multicast  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR	Link.	LAN	ARP, ARP proxy, Gratuitous ARP		
VPN  ISDN BRI/PRI,SLIP  static route, direct route, default route  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  IGMP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR		WAN	PPP, Multilink-PPP, PPPoE (Client/Serv)		
Unicast  RIPv1/v2, OSPFv2, BGPv4  PBR  FastSwitch, Load-Balance  IGMP  Multicast  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR	Interconnection		ISDN BRI/PRI,SLIP		
VPN  PBR  FastSwitch, Load-Balance  IGMP  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR		Unicast -	static route, direct route, default route		
PBR FastSwitch, Load-Balance  IGMP  Multicast  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR			RIPv1/v2, OSPFv2, BGPv4		
VPN  IGMP  PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR			PBR		
VPN    NAT, PAT, Port-MAP, Private-Service, ALG			FastSwitch, Load-Balance		
PIM-DM, PIM-SM, DVMRP  ICMP, TCP, UDP, IP Option  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR		Multicast	IGMP		
VPN  NAT, PAT, Port-MAP, Private-Service, ALG  Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR			PIM-DM, PIM-SM, DVMRP		
Ping, TraceRoute, Nslookup  IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR			ICMP, TCP, UDI	P, IP Option	
IP ACL, IMP filter, Fast-Access  DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR	VPN	IP	NAT, PAT, Port-MAP, Private-Service, ALG		
DHCP Client/Serv/Relay  DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR			Ping, TraceRoute, Nslookup		
DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)  Helper-Address, UDP Helper  IP unnumber, DDR					
Helper-Address, UDP Helper IP unnumber, DDR			DHCP Client/Serv/Relay		
IP unnumber, DDR			DNS, DNS host, DNS Proxy, DDNS (PeanutHull/DynDNS/CTC)		
IP unnumber, DDR			Helper-Address, UDP Helper		



		NetFlow, IP Accounting	
		TFTP Client/Serv, FTP Client	
		SNTP, job/schedule	
		ALIAS	
		AToM, VPLS, MP-BGP, VRF	
	MPLS	L2VPN, L3VPN	
		MPLS TE	
		IPv6 ND, IPv6 PMTU, IPv6 FIB, IPv6 ACL	
		IPv6 QoS	
	IPv6	IPv6 transition: NAT-PT, IPv6 tunnel, 4over6	
		IPv6 tunnel: IPSec v6, GRE, 6to4, ISATAP	
		IPv6 route: IPv6 static route, RIPng, OSPFv3, BGP4+	
		Interface backup	
		Floating route backup	
	Backup function	E-Backup, Keepalive Ethernet remote monitoring	
Reliability		VRRP, HSRP	
		bandwidth based load sharing and backup	
		traffic based load balancing and backup	
	BFD	BFD for RIP, OSPF, BGP, MPLS and VRRP	
	Congestion management	FIFO, PQ, CQ, WFQ, CBWFQ	
	Congestion avoidance	WRED/RED	
	Traffic shaping	GTS (Generic Traffic Shaping)	
QOS	Resource reservation	RSVP	
200	Others	GBSC, Layer7filter	
		ACL	
	T (f): -	IP Precedence	
	Traffic — classification —	DSCP	
	Classification	MAC	
		802.1P	
Switching function	Switching	802.1p CoS, 802.1Q VLAN, 802.1x	
		STP, RSTP, PVST	
		Keepalive, port mirror, broadcast/multicast storm control	
Network safety	AAA	Authentication, Authorization, Accounting	



		enable, local, Radius, Tacacs+	
		PAP, CHAP, MS-CHAP	
	Firewall	ACL, NAT	
		ASPF state detection	
		SYN flood, UDP flood or ICMP flood	
		ARP attack protection, ARP-SCAN and DHCP-Snooping	
		Prevention of Ping of Death, Tear-drop, Land-Based, WinNuke, PingSweep, ARP attack and IP-Spoofing	
	VPN	IKE, IPSec, DMVPN, EZVPN	
		L2TP, PPTP, GRE, SSL VPN, PM IPv6 (Proxy Mobility)	
		VPN nesting	
Management and Maintenance	Network management	SNMP, MIB, SYSLOG, RMON, HTTP management	
	Local management	CLI management and file system management	
	Log-on	Console/Telnet/VTY/SSH log-on mode	

## **Order Information:**

115R-2800-100	TSR-2800-10 multi-service router (1 CON, 1 USB2.0, 2 GE-Combo (TX/SFP) WAN, 8 GE-LAN;
	built-in encryption engine, 220AC power supply)
11 \R- /XOO-1O-1 I F	TSR-2800-10 multi-service router (1 CON, 1 USB2.0, 2 GE-Combo (TX/SFP) WAN, 8 GE-LAN;
	built-in universal 4G-LTE module, built-in encryption engine, 220AC power supply)

### For More details:

visit: www.techroutes.com
Or contact
sales@techroutes.com
info@techroutes.com