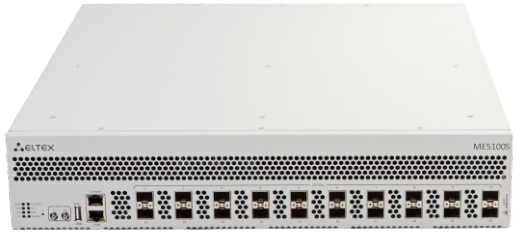
– **Support for L2/L3/MPLS switching and routing mechanisms**
– **Reliable and high performance solution due to hardware and firmware redundancy functions**
– **A series of devices with different performance levels**

ME series routers are multifunctional devices intended for use in provider networks as access, aggregation, and network edge routers. This solution can be used to organize large operator's points of presence when providing data services for customers with high reliability requirements.

ME series routers have unified software and management interfaces. In addition to traffic routing and switching, the device functions are a wide support for MPLS switching mechanisms, including MPLS Layer3 VPN, VPLS (Kompella/Martini), VPWS with pseudowire backup capabilities, Multicast-traffic routing with support for PIM-SM/PIM-SSM/MSDP/Anycast PIM/NG-MVPN protocols, as well as extensive QoS capabilities. This set of functions allows using devices as network edge routers for termination of client services.

ME5100S and **ME5200S** are routers with support for the SyncE and ITU-T SyncE standards. The routers are equipped with dedicated SMB interfaces for I/O synchronization signals (10 MHz). The devices can be used on mobile operator networks as a Mobile Backhaul transport.

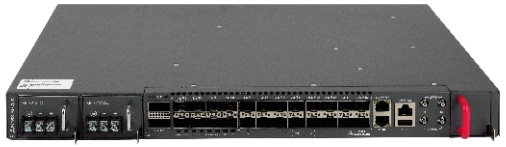
ME2001, ME5210S are routers with support for synchronization in accordance with the SyncE and IEEE 1588v2 (PTP) standards. The devices can be used in the deployment of 5G mobile network infrastructure as access, Cell Site Gateway, and network edge routers.



ME5100S

ME5200S

ME5210S



ME2001

Integrated Networking Solutions

Technical features

	ME5100S	ME5200S	ME5210S	ME2001
Interfaces				
Built-in interfaces	– Network interfaces • 20 × 10GE (SFP+) – Management interfaces • Out Of Band 1GE (RJ-45) Console port RS-232 (RJ-45) – Synchronization interfaces • 10 MHz In/Out (SMB, 50 Ohm) – 1 × USB 2.0	– Network interfaces • 32 × 10GE (SFP+) • 4 × 40/100GE (QSFP28) – Management interfaces • Out Of Band 1GE (RJ-45) Console port RS-232 (RJ-45) – Synchronization interfaces • 10 MHz In/Out (SMB, 50 Ohm) – 1 × USB 2.0	– Network interfaces • 32 × 10GE (SFP+) • 6 × 40/100GE (QSFP28) – Management interfaces • Out Of Band 1GE (RJ-45) Console port RS-232 (RJ-45) – Synchronization interfaces • 1 PPS In/Out (SMB, 50 Ohm) • 10 MHz In/Out (SMB, 50 Ohm) • Time of Day (RJ-45) – 1 × USB 2.0	– Network interfaces • 16 × 10GE (SFP+) • 8 × 25GE (SFP28) • 2 × 100GE (QSFP28) – Management interfaces • Out Of Band 1GE (RJ-45) • Console port RS-232 (RJ-45) – Synchronization interfaces • 1 PPS In/Out (SMB, 50 Ohm) • PPS/Time of Day (RJ-45) • 10 MHz In/Out (SMB, 50 Ohm) – 1 × USB 2.0
Performance				
Bandwidth	200 Gbps, 300 Mpps	720 Gbps, 720 Mpps	920 Gbps, 720 Mpps	300 Gbps, 300 Mpps
Buffer memory	6 GB	8 GB	8 GB	3 GB
RAM	RAM 8 GB	RAM 16 GB	RAM 64 GB	RAM 16 GB
SSD card	SSD 32 GB	SSD 32 GB	SSD 256 GB (M.2)	SSD 16 GB (M.2)
MAC address table	Up to 256k	Up to 750k (the resource is shared with MPLS switching tables and elements of single-hop BFD sessions)	Up to 750k (the resource is shared with MPLS switching tables and elements of single-hop BFD sessions)	Up to 250k (the resource is shared)
Number of bridge domains	Up to 4k	Up to 8k	Up to 8k	Up to 8k
Routing table size	FIB: up to 1M IPv4 or up to 512K IPv6 The resource is shared with ARP tables and IPv6 ND cache RIB: up to 3M IPv4 or up to 2M IPv6 (limited by free RAM)	FIB: up to 4M IPv4 or up to 2.7 IPv6 FIB capacity depends on the prefix length The resource is shared with ARP tables and IPv6 ND cache RIB: up to 5.9M IPv4 or up to 4M IPv6 (limited by free RAM)	FIB: up to 4M IPv4 or up to 2.7 IPv6 FIB capacity depends on the prefix length The resource is shared with ARP tables and IPv6 ND cache RIB: up to 72M IPv4 or up to 32M IPv6 (limited by free RAM)	FIB: up to 170k IPv4 or up to 80k IPv6 FIB capacity depends on the prefix length RIB: up to 5M IPv4 or up to 4M IPv6 (limited by free RAM)

For firmware version 3.9.1.

Technical features (continued)

	ME5100S	ME5200S	ME5210S	ME2001
Performance (continued)				
L3 interfaces	Up to 4k	Up to 8k	Up to 8k	Up to 8k
MPLS VPN connections (L2/L3 service tunnels)	Up to 12k	Up to 16k	Up to 16k	Up to 16k
MPLS LSPs (transport tunnels)	Up to 6k	Up to 16k	Up to 16k	Up to 16k
ARP table	Up to 20k	Up to 57k	Up to 57k	Up to 49k
VRFs (MPLS L3VPN)	Up to 1000 (or up to 128 while running instances of BGP processes in each VRF)			
QoS queues	96k			32k
Physical specifications and environmental parameters				
Case ventilation	Front-to-back airflow 3 hot-swappable redundant fan modules		Front-to-back airflow 5 hot-swappable redundant fan modules	Left-to-right air flow One hot-swappable fan module
Power supply sources	Two hot-swappable redundant power modules AC: 150–250 V, 50 Hz DC: 36–72 V			Two hot-swappable redundant power modules AC: 200–240 V DC: 36–72 V
Maximum power consumption	250 W	350 W	350 W	290 W
Operating temperature range	From 0 to 45 °C			From 0 to 55 °C
Storage temperature	From -40 to 70 °C			
Operating humidity	From 5 to 95 % without condensing			
Weight	9.5 kg	9.8 kg	9.8 kg	5.4 kg
Dimensions (W × H × D)	440 × 87 × 500 mm		440 × 44 × 560 mm	440 × 44 × 300 mm

For firmware version 3.9.1.

Features and capabilities[1]

Interfaces functions

– Static LAG and LACP
– Tunnel interfaces with IP-GRE and IP-IP support
– IP unnumbered interfaces, Proxy ARP functionality
– Layer 3 interfaces (Bridge-domain Virtual Interfaces, BVI)
– Equal load balancing in group
– Multi-chassis LAG
– BFDoverLAG support, single connection failure detection (RFC 7130)
– SPAN, RSPAN traffic mirroring (including ACL-based one)
– SyncE
– QSFP-breakout 4×10G and 4×25G
– Combining 4×10G interfaces into one 40G interface

L2 functions and protocols

– Providing Ethernet switching through bridge domains and cross-connects
– IEEE bridging (IEEE 802.1d)
– VLAN (IEEE 802.1q)
– Q-in-Q (IEEE 802.1ad) with push/pop/swap/replace tag commands
– Spanning Tree protocols (STP, RSTP, MSTP)
– DHCP Snooping for bridge domains
– LLDP protocol
– EVPN/MPLS
– EVPN/VXLAN
– Ethernet ACL[2]

L3 protocols and functions

– IPv4, IPv6 Static Unicast Routing
– IS-IS protocol
– IS-IS multi-instance
– IS-IS multi-topology
– OSPFv2, OSPFv3
– OSPFv2, OSPFv3 multi-instance
– OSPF multi-area adjacency (RFC 5185)
– Border Gateway Protocol (BGP)
– BGP Route Reflector, BGP Additional Path
– BGP FlowSpec for IPv4/IPv6 unicast (control-plane and data-plane) and for VPNv4/VPNv6 (control-plane only)
– Route filtering (routemap, prefix-list)
– Policy-based routing, PBR
– BFD for routing protocols and static routes
– FastReroute/Loop Free Alternate for OSPF/IS-IS
– VRRP (version 3), DHCP relay agent, DHCPv4/DHCPv6 server
– IPv4 ACL (access control lists) for transit traffic
– IPv6 ACL (access control lists) for transit traffic[2]
– ECMP load balancing
– VRF
– Inter-VRF routing
– RIPv2 and RIPng protocols

Multicast management

– PIM-SM, PIM-SSM, Anycast RP
– IGMP v2/v3, SSM mapping
– MSDP
– MulticastVPN over mLDP
– MulticastVPN over RSVP-TE P2MP LSP
– VRF-lite technology, including for all protocols (PIM/IGMP/MSDP)
– BGP IPv4 multicast for PIM RPF

MPLS funtions

– Label Distribution Protocol (LDP)
– LDP FRR
– MLDP
– LDP authentication (Md5)
– RSVP-TE: automatic tunneling with a given bandwidth requirement, semi-automatic tunneling with indication of intermediate nodes
– RSVP-TE authentication
– RSVP-TE FRR (detour, facility)
– RSVP-TE end-to-end protection
– RSVP-TE auto-bandwidth
– RSVP-TE shared-link risk group
– Multiprotocol extensions for BGP-4
– BGP labeled unicast
– MPLS pseudowire with PW backup
– MPLS FAT PW (flow-aware transport)
– MPLS L2VPN
  – VPWS
  – VPLS LDP signalling ("Martini")
  – VPLS BGP autodiscovery/signalling ("Kompella")
  – VPLS BGP autodiscovery + LDP signalling
  – L2VPN Inter-AS option B, option C
– MPLS L3VPN
  – L3VPN for AFI/SAFI vpnv4 unicast and vpnv6 unicast
  – BGP 6VPE
  – L3VPN Inter-AS option A, option B, option C
  – Label-per-vrf
– LSP ping and LSP traceroute
– LDPoRSVP
– Carrier Supporting Carrier (CsC)

[1] *For firmware version 3.9.1.*
[2] *For ME5200S, ME5210S.*

Features and capabilities[1] (continued)

QoS

– Ingress policing, egress policing/shaping
– Strict priority (SP) and Deficit weighted round-robin (DWRR) queue scheduling algorithms
– Up to 8 queues per logical interface, including up to 3 SP queues
– QoS queue counters
– Weighted random early detection (WRED)
– Configurable hierarchical QoS (HQoS)
– Queue limit and burst size setting
– Traffic classification based on the 802.1p, MPLS TC, IP DSCP fields with the ability to remark the corresponding fields
– QoS marking and handling based on access control lists (ACLs), ACL policing
– Storm Control

Management and monitoring

– Command Line Interface (CLI), SSH, Telnet for remote control
– SNMPv1/v2c/v3 for device status monitoring
– NETCONF protocol
– Static data export (Netflow v9, v5, IPFIX)[2]
– Configuration backup and restore (local, FTP, SFTP, TFTP)
– RADIUS, TACACS+ authentication and authorization, TACACS+ accounting
– Remote firmware change
– System parameters and resources monitoring
– Syslog
– Time Synchronization, NTP, SNTP protocols
– Control-plane filtering
– Ability to limit the speed of traffic interception on the CPU
– ELTEX IP SLA
– Embedded event manager (EEM)

Reliability functions

– Graceful Restart for routing protocols
– Non-stop forwarding
– Storage of two firmware versions on the internal drive
– Ability to restore the previous firmware version during update

[1] *For firmware version 3.9.1.*
[2] *For ME2001: The feature will be available in future firmware versions.*
For ME5100S, ME5200S, ME5210S: statistics module is required.

ELTEX
Integrated Networking Solutions

ME5100S, ME5200S ordering information

Наименование	Description
ME5100S	ME5100S router equipped with fan modules. Interfaces: 20 × 10GE SFP+, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
ME5100S-STAT	ME5100S router equipped with fan modules and statistics module. Interfaces: 20 × 10GE SFP+, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
ME5200S	ME5200S router equipped with fan modules. Interfaces: 32 × 10GE SFP+, 4 × 40/100GE QSFP28, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
ME5200S-STAT	ME5200S router equipped with fan modules and statistics module. Interfaces: 32 × 10GE SFP+, 4 × 40/100GE QSFP28, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
	Power modules
PM350-48/12	DC power module 48 V
PM350-220/12	AC power module 230 V, 50 Hz

ME5210S ordering information

Наименование	Description
ME5210S	ME5210S router equipped with fan modules. Interfaces: 32 × 10GE SFP+, 6 × 40/100GE QSFP28, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
ME5210S-STAT	ME5210S router equipped with fan modules and statistics module. Interfaces: 32 × 10GE SFP+, 6 × 40/100GE QSFP28, 1 × OOB 1GE (10/100/1000BASE-T), RS-232 (RJ-45), 1 × USB 2.0
	Power modules
PM600-48/12	DC power module 48 V
PM600-220/12	AC power module 230 V, 50 Hz

ME2001 ordering information

Наименование	Description
ME2001	ME2001 router equipped with fan module. Interfaces: 16 × 10G SFP+, 8 × 25G SFP28, 2 × 100G QSFP28
	Power modules
PM300T-48/12	DC power module 48 V
PM300T-220/12	AC power module 230 V, 50 Hz

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About Eltex

Eltex Enterprise is a leading Russian developer and manufacturer of communication equipment with 30 years of history. Complete solutions and their seamless integrability into the Customer's infrastructure are the priority growth areas of the company.