# SmartAX MA5612

The SmartAX MA5612 (the MA5612 for short) is an industry-leading remote multi dwelling unit (MDU) launched by Huawei, which supports flexible configurations and provides broadband services on the Fiber To The Building (FTTB) network and leased line services on a passive optical network (PON). The MA5612 is a box-type device measuring 1-U high and 19-inch wide and providing two GPON or GE uplink ports, 8–24 channel LAN access (LAN:POTS = 1:N) and 8–16 channel E1 access. The MA5612 features a broad temperature range, low power consumption, mute design, high stability, environment-friendlily and energy conservation, and can be used on workbenches and installed in corridors and cabinets, meeting broadband and leased line service deployment of customers.

Appearance

MA5612

Usage Scenario
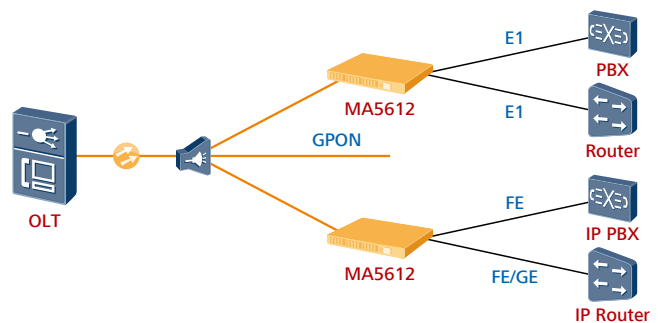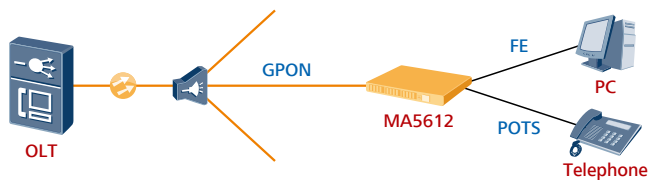
Family broadband service scenario

In the upstream direction, the MA5612 connects to the optical line terminal (OLT) through the gigabit passive optical network (GPON). In the downstream direction, the MA5612 connects to a PC by using the category-5 cable to provide high-bandwidth broadband, voice, and video services and connects to a telephone by using twisted pairs to provide plain old telephone service (POTS) services.

Enterprise leased line scenario

For a traditional private branch exchange (PBX) and router, the MA5612 provides a TDM E1 port to transmit leased line services to the OLT by using the native TDM technology. The MA5612 also provides a primary rate interface (PRI) that converts E1 frames transmitted by the PBX to Session Initiation Protocol (SIP) or H.248 packets and transmits them to the OLT. For an IP PBX and router, the MA5612 provides an FE or GE port to transmit leased line services to the OLT by using the virtual local area network (VLAN) transparent transmission technology.

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Highlights

- Automatic adaptation to GPON and GE modes: The MA5612 provides two uplink ports using the small form-factor pluggable (SFP) optical modules to meet different site requirements.
- Flexible board configurations.
- Support for multiple clock synchronization technologies, such as synchronous Ethernet, E1 line clocks and GPON line clocks.
- Operable IPTV services: Strong service switching capability, packet forwarding capability, and high integration (data exchange and user management) enable the MA5612 to have carrier-class multicast operation capability.
- Perfect voice features, supporting basic services (voice service, fax service, and modem service) and supplementary services (three-way calling, call waiting, call transfer, calling line identification presentation, and calling number restriction).
- Plug-and-play (PnP) service provisioning: The MA5612 allows remote issuing of configuration. A management channel and service channel are created after the MA5612 is powered on and registers successfully. Manual onsite configuration is not required.
- Efficient management and maintenance: free of field software commissioning, remote acceptance, remote upgrade and patch installation, and remote fault location.
- High reliability: The MA5612 supports the working temperature from -40°C to 65°C, 6 kV lightning protection, and corrosion-proof design of boards.
- Prudent security measures: The MA5612 meets security requirements of telecom services to ensure system and user security.
- Environment-friendly and energy conservation: The MA5612 uses a highly effective power supply system to reduce system power consumption. It uses an intelligent fan system that adjusts the rotating speed to reduce power consumption when the system is idle. It uses high-performance chipset to reduce chipset power consumption. It uses POTS short-loop design to reduce port power consumption in short distances.
- 12 V backup power supply: The size and price of the battery are one-fourth of those of 48 V backup power supply.

Features

GPON	ITU G.984-compliance
	32 T-CONTs
	1000 GEM ports
Broadband	4096 VLANs, supporting QinQ and stacking VLANs
	4096 MAC addresses, supporting VMAC
	802.1p, supporting PQ and WRR flow control, and ACL
Voice	SIP and H.248
	2 PRIs
	POTS short-loop design
Leased line service	Native TDM
	Clock source recovery of the E1 port
	Loopback, blocking and unblocking of the E1 port
Multicast	IGMPv2 and IGMPv3
	IGMP proxy and IGMP snooping
	A maximum of 1024 configurable multicast programs in the system
	A maximum of 48 multicast users
	A maximum of 16 concurrent multicast programs for each user
Security	PPPoE+ and DHCP option82
	Static and dynamic MAC address binding
	Anti-MAC and anti-IP spoofing; source MAC address and IP address filtering
	Anti-DoS attack and firewall
Maintenance and management	SNMPv1, SNMPv2, and SNMPv3
	Telnet and SSHv2
	Remote and batch pre-deployment
	Remote upgrade and monitoring

Specifications

Dimensions (H×W×D)	43.6mm×442mm×245mm
Network-side port	The MA5612 provides two uplink ports that use the SFP optical modules and automatically adapt to multiple modes, including GPON and GE. The two uplink ports can be configured as follows: • 2×GPON • 2×GE (optical) • 1×GE (optical) + 1×GPON
User-side port	The MA5612 supports fixed configurations and provides two slots. The fixed configurations are as follows: • 2 GE (electrical) +6 FE (electrical) • 2 GE (electrical) +6 FE (electrical) + 16 POTS • 2 GE (electrical) +6 FE (electrical) + 16 POTS + 1 RF The two slots can house the following boards: • Board providing 8 FE ports • POTS board providing 16 ports • Board providing 8 E1 ports
Operating temperature	-40°C to 65°C; startup at -25°C
Humidity	5% to 95% (non-condensing)
Heat dissipation mode	Providing fans for heat dissipation; the fans can adjust rotating speed intelligently
Lightning protection capability	GE/FE: 6 kV POTS: 4 kV
Power supply	AC: 220 V/110 V DC: -48 V
Backup power	12 V battery
Weight	3.7 kg (empty chassis) 4.22 kg (full configuration)