

## 8-port Gigabit Switches with 10-Gigabit/Multi-Gigabit Uplinks



### Unlock the Potential of your 10G/Multi-Gig devices

The GS110EMX and GS110MX come with 8 Gigabit Ethernet ports and 2 uplink 10-Gigabit/Multi-Gigabit (5-speed) ports that provide either 100 Megabit, 1-Gigabit, 2.5-Gigabit, 5-Gigabit or 10-Gigabit connectivity.

The two uplink ports automatically detects which speed is needed by the connected device and provides the adequate speed. Moreover these two Multi-speed switch ports can be connected with regular Cat5E Ethernet cables, without the need to upgrade to Cat6 wiring, therefore reducing wiring costs and hassle<sup>1</sup>.

The GS110MX and GS110EMX offer flexible mounting options - they can be mounted in a rack, on a wall or can be used as a desktop switch. Moreover the compact and fanless design make the GS110MX and GS110EMX ideal for any home or business environment.

## Highlights

### Multi-Speed Technology Support

- Expand your network instantly, and give your devices either 100M, 1G, 2.5G, 5G or 10G automatically

### 10 Gigabit Uplinks

- No Network Bottlenecks thanks to the 2 10-Gigabit/Multi-Gigabit Uplinks

### Flexible Mounting

- Rack mount<sup>2</sup>, Wall mount or Desktop

### Small Form Factor

- Compact Design to fit in any small cabinet or wiring panel

### High Quality and Reliable Performance

- Durable metal case and long product life (shown by MTBF numbers)

### Silent Switches

- Fanless Quiet Operation

### Industry leading warranty

- Limited Lifetime\* 24/7 Technical Support
- Limited Lifetime\* Hardware Warranty



<sup>1</sup> Cat6A or higher cables required for 10Gbps speed.

<sup>2</sup> Accessories included for a 9-inch rack.

## Hardware at a Glance

Model Name	Form-Factor	10M/100M/1G Copper Ports	10-Gig/Multi-Gig Copper Ports	LED's	Case Material	Fans	Power Supply
GS110MX	Rack mount/Desktop/Wall mount	8	2	Power, Port Link/Speed/Activity	Metal	Fanless	External
GS110EMX	Rack mount/Desktop/Wall mount	8	2	Power, Port Link/Speed/Activity	Metal	Fanless	External



GS110MX: front

- 8 x Gigabit Copper Ports
- 2 x 10-Gig/Multi-Gig Copper Ports
- 9-inch Rack-mountable



GS110MX back

- External PSU



GS110EMX: front

- 8 x Gigabit Copper Ports
- 2 x 10-Gig/Multi-Gig Copper Ports
- 9-inch Rack-mountable



GS110EMX back

- External PSU

## Software at a Glance

Model Name	Management	VLANs	IGMP	EEE (802.3az) Auto-EEE	QoS	Port Trunking	Jumbo Frame Support
GS110MX	Unmanaged	No	N/A	Yes	N/A	No	Yes
GS110EMX	Web Managed	Port-Based/802.1Q	IGMP Snooping	Yes	Port-Based IEEE 802.1p Based	Static LAG and LACP	Yes

## Performance at a Glance

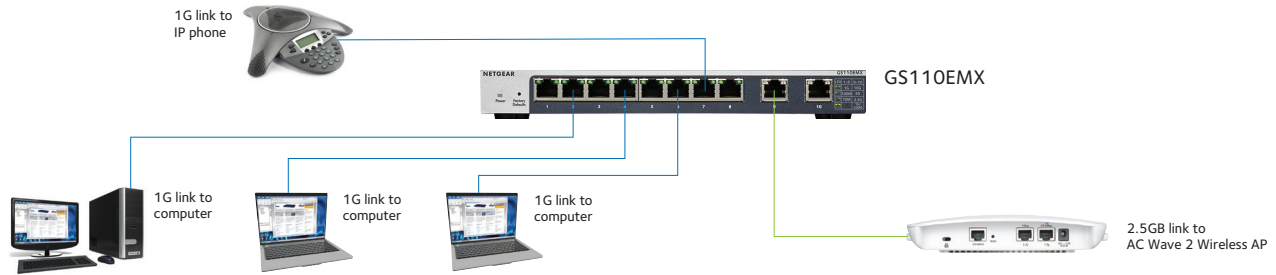
Model Name	Fabric	Packet Buffer	Latency (Max Connection Speed)	MAC Address Table	Priority Queues	Multicast IGMP Group	Packet Forwarding Rate (64 byte)	Jumbo Frames (bytes)
GS110MX	56 Gbps line-rate	128KB	10Gbps: <3μs 1000Mbps: <4μs 100Mbps: <7μs	16K Entries (dynamic)	8 (WRR)	N/A	41.664Mfps	up to 10240
GS110EMX	56 Gbps line-rate	128KB	10Gbps: <3μs 1000Mbps: <4μs 100Mbps: <7μs	16K Entries (dynamic)	8 (WRR)	128	41.664Mfps	up to 10240

## Features and Benefits

Hardware Features	Benefits
Compact form factor with fanless design	Adapts to your needs and configuration in any environment, even noise-sensitive (in a classroom, in a conference room, in a doctor's office...)
Flexible Mounting Options	Rack, desktop or wall mount to be used in any environment.
56 Gbps non-blocking switching architecture	Get all the connectivity you need to your devices without congestion.
5-Speed Networking	Automatically detects which speed is needed by the connected device and provides the adequate speed (100M/1G/2.5G/5G/10G) to connect all your devices with one switch.
Software Features (GS110EMX Only)	Benefits
Port-based and 802.1Q-based VLANs	Segment network into smaller groups for more secure and efficient use of network resources.
Comprehensive QoS features: <ul style="list-style-type: none"> <li>• Port-based or 802.1p-based prioritization</li> <li>• Layer 3-based (DSCP) prioritization</li> <li>• Port-based ingress and egress rate limiting</li> </ul>	Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video. Ingress and egress rate limiting allows for bandwidth shaping for mitigating network resources constraints or for optimizing guest access bandwidth on the network.
IGMP Snooping	For improved network efficiency on delivering multicast traffic. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra multicast router.
Port trunking / Link Aggregation	Build up bigger bandwidth to support aggregated uplink/downlink traffic or to provide redundant link(s) using Static Manual LAGs or LACP.
Voice VLAN	The feature enables auto assignment of voice traffic (based on OUI) to a special VLAN (AKA Voice VLAN); allowing the assignment of special QoS parameters to that traffic, giving it high priority services. Port has to be MANUALLY assigned to be a member of the Voice VLAN.
Loop detection and auto DoS prevention	Detect accidental network loops and protect against DoS attacks.
Port Mirroring	For better and quicker network diagnostics and troubleshooting.
Energy Efficient Ethernet (IEEE 802.3az)	For maximum power savings and reduced energy costs.
Cable Test	Easily identify bad Ethernet cables.

## Example Application

### GS110MX/GS110EMX in a Business Environment



## Cables and Speeds

The following table describes the network cables that you can use for the switch connections and the speeds that the cables can support, up to 100 meters (328 feet).

SPEED	CABLE TYPE
100 Mbps	Category 5 (Cat 5) or higher rated
1 Gbps, 2.5 Gbps, or 5 Gbps	Category 5e (Cat 5e) or higher rated
10 Gbps	Category 6A (Cat 6A) or higher rated

**Note:** For speeds of 10 Gbps, if the cable length is shorter than 55 meters (180 feet), you can use a Category 6 (Cat 6) cable.

## Why the NETGEAR GS110MX/GS110EMX Switches are ideal for SMB

1. Remove any Network Bottleneck with the 10-Gigabit/Multi-Gigabit Uplinks
2. 5-Speed auto-adapt intelligent Networking (100M,1G,2.5G,5G,10G)
3. Small and silent compact form factor for quiet operation - Adapts to your needs and configuration in any environment
4. Limited Lifetime\* Warranty, Next Business Day replacement and 24/7 chat with a NETGEAR expert
5. Energy efficient switches that automatically adjust power consumption according to Energy-Efficient Ethernet standard

## Technical Specifications

Technical Specifications	GS110MX	GS110EMX
Gigabit ports	8	8
100M/1G/2.5G/5G/10G RJ-45 copper ports	2	2
Form Factor	Desktop/Rack mount/Wall mount	Desktop/Rack mount/Wall mount
<b>Performance Specification</b>		
Bandwidth	56 Gbps	
Priority queues	8	
Priority queuing	Weighted Round Robin (WRR)	
MAC Address database size (48-bit MAC addresses)	16K	
Multicast groups	N/A	128
Packet forwarding rate (64 byte packet size) (Mfps or Mpps)	41.664Mfps	
Speed / Latency	10Gbps: < 3μs 100Mbps: <7μs 1000Mbps: <4μs	
Jumbo frame support	Up to 10240 bytes	
Acoustic noise level @ 25° C (dBA) (ANSI-S10.12)	0 dBA	
Mean Time Between Failures (MTBF) @ 25° C	2,320,394 hrs (264 yrs)	1,572,337 hrs (179 yrs)
<b>Power/Energy Efficiency</b>		
Energy-Efficient Ethernet	Yes	
Max power (worst case, all ports used, line-rate traffic) (Watts)	13.2	15.6
<b>Quality of Service</b>		
802.1p-based QoS/CoS Supported	Yes	
Port-based rate limiting	N/A	Ingress and egress
Port-based QoS	N/A	Yes
IEEE 802.1p COS	Yes	Yes
IPv4 DSCP	Yes	Yes
Pre-Defined Rate Limiting Rates	N/A	1/5/10/50/100/500 Mbit/s
Pre-Defined Port Priority Queues	8	8
Weighted Round Robin (WRR)	Yes	Yes
Strict priority queue technology	N/A	No
Voice VLAN	N/A	Yes
<b>L2 Services - VLANs</b>		
VLAN (# Supported)	N/A	64
IEEE 802.1Q VLAN Tagging	N/A	Yes
Port-based VLAN	N/A	Yes

## Technical Specifications

<b>L2 Services - Availability</b>	<b>GS110MX</b>	<b>GS110EMX</b>
Broadcast, multicast, unknown unicast storm control	N/A	Yes
Static Manual LAGs (Port Trunking)	N/A	Yes
LACP	N/A	Yes
IEEE 802.3x (full duplex and flow control)	Yes	Yes
<b>L2 Services - Multicast Filtering</b>		
IGMP snooping (v1, v2, and v3)	N/A	Yes
IGMP snooping querier	N/A	No
Block unknown multicast	N/A	Yes
Static multicast router port	N/A	Yes
<b>L3 Services - DHCP</b>		
DHCP client	N/A	Yes
<b>Link Aggregation</b>		
Static Manual LAGs (Port Trunking)	N/A	Yes
# of Static LAGs / # of members in each LAG	N/A	5 LAGs with max 9 members in each LAG
<b>LEDs</b>		
Per port	Speed, Link, Activity	
Per device	Power	
<b>Physical Specifications</b>		
Dimensions (W x D x H)	236 x 102 x 27 mm (9.29 x 4.02 x 1.06 in)	
Weight	0.74 kg (1.63 lbs)	0.75 kg (1.65 lbs)
<b>Power Consumption</b>		
Power Supply	MX: External Power Adapter 12V 1.5A EMX: External Power Adapter 12V 2.5A	
Max power (worst case, all ports used, line-rate traffic) (Watts)	13.2v	15.6
Min power (link-down standby) (Watts)		MX: 4.8 EMX: 6.6
Heat Dissipation (max and min) (BTU/hr)	Max: 45.14 BTU/hr Min: 16.42BTU/hr	Max: 53.35 BTU/hr Min: 22.57 BTU/hr
Fan(s)	Fanless	
<b>Environmental Specifications</b>		
Operating		
Operating temperature	0° to 40°C (32° to 104°F)	
Humidity (relative)	90% maximum relative humidity (RH), non-condensing	
Altitude	10,000 ft (3,000 m) maximum	

## Technical Specifications

Environmental Specifications	GS110MX	GS110EMX
Storage temperature	-20° to 70°C (- 4° to 158°F)	
Humidity (relative)	95% maximum relative humidity, non-condensing	
Altitude	10,000 ft (3,000 m) maximum	
Electromagnetic Emissions and Immunity		
Certifications	47 CFR FCC Part 15, Subpart B, Class B ICES-003:2016 Issue 6, Class B ANSI C63.4:2014 EN 55032:2012 +AC:2013 / CISPR 32:2012 / AS/NZS CISPR 32:2013, Class B EN 55032:2015 +AC:2016 / CISPR 32:2015 +COR1:2016 / AS/NZS CISPR 32:2015, Class B EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 +A1:2015 AS/NZS CISPR 32:2015, Class B VCCI-CISPR 32:2016, Class B Russia EAC mark (GS110MX only) Korea KC mark CNS 13438	
Electromagnetic Compliance (Class A or B)	Class B	
Safety Certifications		
Certifications	IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 AS/NZS 60950.1:2015 Russia EAC mark (GS110MX only)	
Warranty and Support		
	Limited Lifetime* Warranty	
	Limited Lifetime* 24x7 Online Technical Support	
	Limited Lifetime* Next-Business-Day (NBD) Replacement	
ProSUPPORT OnCall 24x7, Service Packs**	Category 1: PMB0311 (1 yr) PMB0331 (3 yrs) PMB0351 (5 yrs)	

## Ordering Information

Package Content	
All models	GS110MX or GS110EMX 8-port Gigabit Switch with 2-port 10-Gigabit/Multi-Gigabit Uplinks AC power adapter (localized to country of sale) Rack mount kit Wall mount kit Rubber foot Installation guide
Ordering Information	
GS110MX-100JPS	Japan
GS110MX-100NAS	North America and Latin America
GS110MX-100PES	Europe
GS110MX-100PRS	China
GS110MX-100UKS	United Kingdom
GS110EMX-100JPS	Japan
GS110EMX-100NAS	North America and Latin America
GS110EMX-100PES	Europe
GS110EMX-100PRS	China
GS110EMX-100UKS	United Kingdom

\* This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and covers unmodified hardware, fans and internal power supplies - not software or external power supplies, and requires product registration at <https://www.netgear.com/business/registration> within 90 days of purchase; see <https://www.netgear.com/about/warranty> for details. Intended for indoor use only.

\*\* The NETGEAR OnCall 24x7 contract provides unlimited phone and email technical support for your networking product. For products purchased prior to 06/2014, also includes next business-day hardware replacement.

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DS-GS110EMX/GS110MX-4Jan23