NETGEAR® BUSINESS





Designed for SMB with Cost-Effective 10GBASE-T Connectivity and Advanced L2+/Layer 3 Lite Features

As a leading provider of network equipment for SMBs, NETGEAR® understands the importance of reliable and high performance networks. With the growth of virtualization, cloud-based services and applications like VoIP, video streaming and IP surveillance, SMB networks need to extend beyond simple reliability to higher speed and performance. The 10-Gigabit Smart Switch series from NETGEAR presents the right solution for this requirement; delivering unprecedented non-blocking 10-Gigabit bandwidth at an affordable cost.

The NETGEAR XS708T, XS712Tv2, XS716T, XS728T, and XS748T are powerful Smart Switches that come with 8, 12, 16, 24, or 44 10-Gigabit Copper ports and either 2 Shared (Combo) Copper/SFP+ ports (XS708T/XS712Tv2/XS716T) or 4 additional Dedicated SFP+ ports (XS728T/XS748T) for 10G Fiber links. The NETGEAR 10-Gigabit Smart Switches are purposely designed as a cost-effective way to provide 10G connections to 10G-capable servers and NAS (Network Attached Storage) systems.

They can be used at the "center of a small business network" or as an aggregation/ access switch in a larger organization including workgroup access, connecting to a 10-Gigabit NETGEAR Fully Managed Switch on one end and extending the 10G connections to the edge. The XS708T, XS712Tv2 and XS716T are also ideal for smaller workgroups that need high bandwidth for sharing, collaborating, editing, and publishing high-density content like video or animation.

Highlights

The 10G Smart Switches provide comprehensive L2+/Layer 3 Lite features in order to meet current and future needs on virtualization, converged networking and mobility. Some of the main features include:

- Advanced VLAN features such as Protocol-based VLAN, MAC-based (Media Access Control) VLAN and 802.1x Guest VLAN
- Advanced QoS (Quality of Service) with L2/L3/L4 awareness and 8 priority queues
- IPv4 and IPv6 static routing

- Private VLAN
- Dynamic VLAN assignment
- IGMP and MLD snooping
- Advanced Security
- IPv6 for management, QoS and ACL

10-Gigabit Transition with BASE-T

 10GBASE-T, like other BASE-T technologies, uses the standard RJ45 Ethernet jack

- It is backward compatible, autonegotiating between higher and lower speeds - thereby not forcing an all-atonce network equipment upgrade
- Cat5/Cat5e are supported for Gigabit speeds up to 100 meters
- Cató twisted pair copper cabling supports 10-Gigabit speeds up to 45 meters
- Cat6a or newer Cat7 cabling will allow for up to 100 meter 10GBASE-T connections



Highlights

Designed as Core Switch for SMB Network

- 10G connection to 10G-capable servers and network storage
- Powerful L2+/Layer 3 Lite features make them the most cost-effective core switches for SMB and virtualization environment
- Future-proof your network with 10G bandwidth, advanced traffic management and comprehensive IPv6 support
- Static routing helps to route internal traffic for more efficient use of network resources
- IGMP and MLD snooping provide advanced multicast filtering

Act as Aggregation Switch for Medium Sized Networks

- 10-Gigabit switches help to resolve the congestion issue between network edge and core, which is caused by the broader adoption of Gigabit-tothe-desktop
- 10-Gigabit Ethernet provides greater scalability than multiple Gigabit Ethernet links, resulting in a simplified and highly efficient network infrastructure
- Up to eight 10-Gigabit Ethernet links can be aggregated into a virtual 80-Gbps connection
- 10-Gigabit Ethernet reduces cabling complexity and uses existing cabling efficiently

Smart IT, not Big IT

- Easy-to-use Web browser-based management GUI makes setup and management simple
- Standards-based technology ensures interoperability with any standardsbased devices in the existing network
- Dual firmware images improve reliability and uptime to your network
- Worry-free with NETGEAR Limited Lifetime* Hardware Warranty
- Minimal down-time with NETGEAR Limited Lifetime* Next-Business-Day Replacement Warranty
- Get deployment assistance with 90-days Free 24x7 Advanced Technical Phone Support**
- Limited Lifetime* Online Chat Technical Support









Hardware-at-a-Glance

			RE	AR			
Model Name	Form Factor	100M/1G/10G Copper Ports	1G/10G Copper Ports	1G/10G SFP+ Ports	Firmware/ Config Access	Power Supply	Fans
XS708T	Rackmount	8		2 shared (combo)	1 x USB	1 internal PSU, fixed	1 internal, fixed fan
XS712Tv2	Rackmount	12		2 shared (combo)	1 x USB	1 internal PSU, fixed	2 internal, fixed fans
XS716T	Rackmount	16		2 shared (combo)	1 x USB	1 internal PSU, fixed	2 internal, fixed fans
XS728T	Rackmount		24	4 dedicated	1 x USB	1 internal PSU, fixed	4 internal, fixed fans
XS748T	Rackmount		44	4 dedicated	1 x USB	1 internal PSU, fixed	4 internal, fixed fans



XS708T: 8-port 10-Gigabit Smart Switch

- 8 x 10GBASE-T copper ports supporting 10G/1G/100M speeds
- 2 x Shared (combo) 10GBASE-T copper/ 10GBASE-X SFP+ ports supporting 10G/1G speeds



XS728T: 28-port 10-Gigabit Smart Switch

- 24 x Dedicated 10GBASE-T copper ports supporting 10G/1G speeds
- 4 x Dedicated 10GBASE-X SFP+ 10G ports supporting 10G/1G speeds



XS712Tv2: 12-port 10-Gigabit Smart Switch

- 12 x 10GBASE-T copper ports supporting 10G/1G/100M speeds
- 2 x Shared (combo) 10GBASE-T copper/10GBASE-X SFP+ ports supporting 10G/1G speeds



XS716T: 16-port 10-Gigabit Smart Switch

- 16 x 10GBASE-T copper ports supporting 10G/1G/100M speeds
- 2 x Shared (combo) 10GBASE-T copper/10GBASE-X SFP+ ports supporting 10G/1G speeds



XS748T: 48-port 10-Gigabit Smart Switch

- 44 x Dedicated 10GBASE-T copper ports supporting 10G/1G speeds
- 4 x Dedicated 10GBASE-X SFP+ 10G ports supporting 10G/1G speeds



Software-at-a-Glance

	LAYER 2+ / LAYER 3 LITE FEATURES						
Management	IPv4/IPv6 ACL and QoS	IPv4/IPv6 Multicast filtering	Auto-VoIP, Auto-Video	IEEE (802.3az) Energy Effiecient Ethernet	VLANs	Convergence	IPv4 & IPv6 Static Routing
Web Browser-based GUI (HTTP/HTTPS), PC-Based Smart Control Center Utility (SCC) RMON, SNMP	L2, L3, L4 Ingress	IGMP and MLD Snooping	Yes	Yes	Static, Dynamic, Voice, MAC, Protocol-based, and Private	LLDP-MED, RADIUS, 802.1X	Yes

Performance-at-a-Glance

Model Name	Packet Buffer	CPU	ACLs	MAC Address Table ARP/NDP Table VLANs	Fabric	Latency (Max Connection Speed)	Static Routes (IPv4 & IPv6)	Multicast IGMP Group
XS708T	2 MB	600 MHz Cortex-A9 Single Core, 512MB RAM 8MB SPI + 256MB NAND FLASH	100 shared	16K MAC 738 ARP/NDP 256 VLANs	160Gbps line-rate	10GBASE-T: <3.012 μs 10GBASE- X SFP+: <2.466 μs	IPv4: 32 IPv6: 32	512
XS712Tv2	2 MB	600 MHz Cortex-A9 Single Core, 512MB RAM 8MB SPI + 256MB NAND FLASH	100 shared	16K MAC 738 ARP/NDP 256 VLANs	240Gbps line-rate	10GBASE-T: <2.624 μs 10GBASE-X SFP+: <2.128 μs	IPv4: 32 IPv6: 32	512
XS716T	2 MB	600 MHz Cortex-A9 Single Core, 512MB RAM 8MB SPI + 256MB NAND FLASH	100 shared	16K MAC 738 ARP/NDP 256 VLANs	320Gbps line-rate	10GBASE-T: <2.624 μs 10GBASE-X SFP+: <2.128 μs	IPv4: 32 IPv6: 32	512
XS728T	3 MB	800 MHz Dual Core, 512MB RAM 8MB SPI + 256MB NAND Flash	164 shared	16K MAC 1K ARP/NDP 512 VLANs	560Gbps line-rate	10GBASE-T: <2.488 μs 10GBASE-X SFP+: <2.619 μs	IPv4: 64 IPv6: 64	512
XS748T	3 MB	800 MHz Dual Core, 512MB RAM 8MB SPI + 256MB NAND Flash	164 shared	16K MAC 1K ARP/NDP 512 VLANs	960Gbps line-rate	10GBASE-T: <3.674 μs 10GBASE-X SFP+: < 3.693 μs	IPv4: 64 IPv6: 64	512

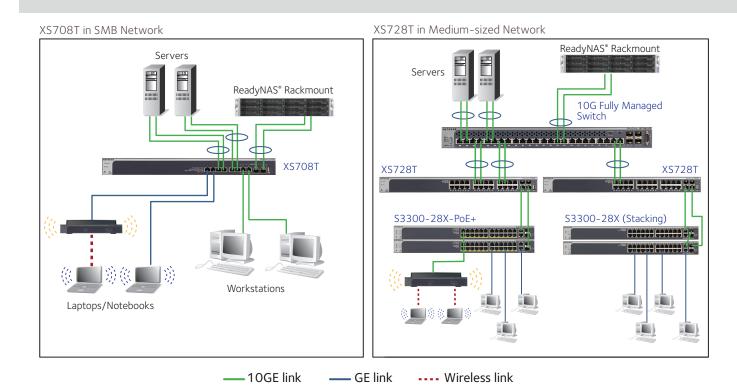


Features and Benefits

Hardware Features	Benefits
10GBASE-T Copper Ethernet connections	Support low-latency, line-rate 10G Copper "BASE-T" technology with backward compatibility to Fast Ethernet and Gigabit Ethernet. Cost-effectively migrate current network to 10G capacity by utilizing the existing Cat6 RJ45 short connections (up to 30m) and Cat6a/Cat7 connections up to 100m.
10GBASE-X SFP+ ports	Providing flexibility to uplink to 10G-capable core or aggregation switches that support fiber links. Backward compatible to Gigabit fiber. Support copper or fiber modules.
USB Configuration Port	Quickly and conveniently upgrade or restore firmware, load or backup configuration files, or download system log files for troubleshooting.
Energy Efficient Ethernet (IEEE 802.3az)	Maximum power reduction for ongoing operation cost savings.
Software Features	Benefits
Comprehensive IPv6 Support for Management, ACL and QoS	Build current network with future in mind. Ensure investment protection and a smooth migration to an IPv6-based network without switch replacement.
IPv4 & IPv6 Static Routing	A simple way to provide segmentation of the network with internal routing through the switch reserving the router for external traffic routing only, making the entire network more efficient.
Robust security features: • 802.1x authentication (EAP) • Port-based security by locked MAC • ACL filtering to permit or deny traffic based on MAC and IP addresses	Build a secured, converged network with all types of traffic by preventing external attacks and blocking malware while allowing secure access for authorized users.
Comprehensive QoS features: • Port-based or 802.1p-based prioritization • Layer 3-based (DSCP) prioritization • Port-based ingress and egress rate limiting	Advanced controls for optimized network performance and better delivery of mission-critical traffic such as voice and video.
Auto-VoIP, Auto-Voice VLAN, and Auto-Video VLAN	Automatic Voice over IP prioritization (Auto-VoIP) simplifies most complex multi-vendor IP telephone deployments either based on protocols (SIP, H.323 and SCCP) or on OUI bytes (default database and user-based OUIs) in the phone source MAC address, providing the best class of service to VoIP streams (both data and signaling) over other ordinary traffic by classifying traffic, and enabling correct egress queue configuration. Similarly, Auto-Video VLAN enables IGMP snooping to minimize broadcast streams.
IGMP Snooping and MLD Snooping	Facilitate fast receiver joins and leaves for multicast streams. Save cost and improve network efficiency by ensuring multicast traffic only reaches designated receivers without the need of an extra multicast router.
Protected Ports	Ensure no exchange of unicast, broadcast, or multicast traffic between the protected ports on the switch, thereby improving the security of your converged network. This allows your sensitive phone conversations to stay private and your surveillance video clips can be forwarded to their designated storage device without leakage or alteration.
DHCP Snooping	Ensure IP address allocation integrity by only allowing DHCP messages from trusted DHCP servers and dropping malformed DHCP messages with a port or MAC address mismatch.
Dynamic VLAN Assignment (RADIUS)	IP phones and PCs can authenticate on the same port but under different VLAN assignment policies. Users are free to move around and enjoy the same level of network access regardless of their physical location on the network.
Private VLAN	Private VLANs help reduce broadcast with added security.
Dual Firmware Images and Configuration Files	Dual firmware images and dual configuration files for transparent firmware updates/configuration changes with minimum service interruption.
Multiple Language Local GUI (XS708T, XS712Tv2, XS716T only)	Product documentation and local-only web user interfaces are translated, giving you the ability to select your preferred language. English, German and Japanese are currently supported in local-only Web GUI.



Target Application



Why 10-Gigabit Switches and Why from NETGEAR?

NETGEAR introduced the industry's first cost-effective 10-Gigabit Switches for SMBs in 2013 and is the leading provider for 10G solutions at affordable price points:

- Ideal for SMBs to use as the core switch, connecting to 10G-capable Servers and network storage.
- Expand network capacity, remove performance bottlenecks and/or support premise expansion needs.
- Cost-effectively expand 10G bandwidth from core switch in medium-sized networks to access switches which are equipped with 10G uplinks.
- Powerful feature sets with advanced L2+/Layer 3 Lite functions, enhanced security measures, static routing, dynamic VLAN assignment and IPv6 management and support.
- Improved usability for easier and smoother deployment of voice, video, and WLAN on the same converged platform.
- Limited Lifetime* warranty on hardware, Limited Lifetime* Next-Business-Day (NBD) replacement, Limited Lifetime* tech support online chat, and 90-days Free Advanced Tech Phone Support** for peace-of-mind.





USB port (for config file upload/backup & Yes						
1G/10G copper ports n/a n/a n/a 2 shared (combo) 4 (dedicated) 4 (ded	Technical Specifications	XS708T	XS712Tv2	XS716T	XS728T	XS748T
1G/10G SFP+ (fiber) ports 2 shared (combo) 2 shared (combo) 2 shared (combo) 4 (dedicated) 4 (dedicated) USB port (for config file upload/backup & firmware updates) Yes	100M/1G/10G RJ-45 copper ports	8	12	16	n/a	n/a
CLY LOS port (Fiber plorits) (combo) (combo) (combo) 4 (declicated) 7 (ves) 7 (ves	1G/10G copper ports	n/a	n/a	n/a	24	44
Performance Specification Performance Specification	1G/10G SFP+ (fiber) ports				4 (dedicated)	4 (dedicated
Packet buffer memory (Dynamically shared across only used ports) 2MB 2MB 2MB 3MB 3MB 3MB Bandwidth 160Gbps 240Gbps 320Gbps 560Gbps 960Gbps Priority queuing 8 16 16 16 16 16 16 16 16 16 16 16 16 10 10 10 10 10 10 10 10 10	USB port (for config file upload/backup & firmware updates)	Yes	Yes	Yes	Yes	Yes
Clynamically shared across only used ports)	Performance Specification					
Bandwidth 160Gbps 240Gbps 320Gbps 560Gbps 960Gbps Priority queuing 8 16 4		2MB	2MB	2MB	ЗМВ	ЗМВ
Priority queues 8 8 8 8 8 8 Priority queuing Weighted Round Robin (WRR) and Strict Priority MAC Address database size (48-bit MAC Addresses) 16K 4K 1024	Forwarding modes			Store-and-forward		
Priority queuing Weighted Round Robin (WRR) and Strict Priority MAC Address database size (48-bit MAC addresses) 16K 46K	Bandwidth	160Gbps	240Gbps	320Gbps	560Gbps	960Gbps
MAC Address database size (48-bit MAC addresses) 16K 46K 40K 40K 40K 40K 40K 40K	Priority queues	8	8	8	8	8
Multicast groups 512	Priority queuing		Weighted Rou	und Robin (WRR) an	d Strict Priority	
Number of IPv4 static routes 32 32 32 64 64 Number of IPv6 static routes 32 32 32 64 64 Number of VLANs 256 256 256 256 512 512 Number of ARP cache entries 738 738 738 1024 1024 Number of DHCP snooping bindings 8K 8K 8K 1K 1K 1K Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IP		16K	16K	16K	16K	16K
Number of IPv6 static routes 32 32 32 64 64 Number of VLANs 256 256 256 512 512 Number of VLANs 256 256 256 512 512 Number of ARP cache entries 738 738 738 1024 1024 Number of DHCP snooping bindings 8K 8K 8K 8K 1K 1K 1K Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs Packet forwarding rate (64 byte packet size) 119.0 178.5 238.0 416.6 714.2 Jumbo frame support Up to 9K packet size	Multicast groups	512	512	512	512	512
Number of VLANS 256 256 256 512 512 Number of ARP cache entries 738 738 738 1024 1024 Number of DHCP snooping bindings 8K 8K 8K 8K 1K 1K 1K Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs Packet forwarding rate (64 byte packet size) 119.0 178.5 238.0 416.6 714.2 Jumbo frame support Up to 9K packet size size size size size size size size	Number of IPv4 static routes	32	32	32	64	64
Number of ARP cache entries 738 738 738 1024 1024 Number of DHCP snooping bindings 8K 8K 8K 8K 1K 1K Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs Packet forwarding rate (64 byte packet size) (Mfps or Mpps) 119.0 178.5 238.0 416.6 714.2 Jumbo frame support Up to 9K packet size packet size Up to 9K packet size packet size packet size Up to 10K packet size packet size packet size Up to 10K packet size packet size packet size 416.6 dBA 47.8 dBA Acoustic noise level @ 25°C (dBA)(ANSI-S10.12) 27.4 dBA 29.1 dBA 29.1 dBA 41.6 dBA 47.8 dBA Mean Time Between Failures (MTBF) @ 25°C 276,197 hours 938,178 hours 276,832 hours 514,977 hours 483,808 hours L2 Services - VLANS Yes Yes Yes Yes Yes Yes IP-based VLANs Yes Yes Yes Yes Yes Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address voice packets must have 802.10 VLAN tag <t< td=""><td>Number of IPv6 static routes</td><td>32</td><td>32</td><td>32</td><td>64</td><td>64</td></t<>	Number of IPv6 static routes	32	32	32	64	64
Number of DHCP snooping bindings 8K 8K 8K 8K 1K 1K 1K Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs Packet forwarding rate (64 byte packet size) 119.0 178.5 238.0 416.6 714.2 Up to 9K Up to 9K Up to 9K packet size packet si	Number of VLANs	256	256	256	512	512
Access Control Lists (ACLs) 100 shared for MAC, IP and IPv6 ACLs 164 shared for MAC, IP and IPv6 ACLs 119.0 178.5 238.0 416.6 714.2 119.0 178.5 238.0 416.6 714.2 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 178.5 119.0 11	Number of ARP cache entries	738	738	738	1024	1024
Packet forwarding rate (64 byte packet size) (Mfps or Mpps) 119.0 178.5 238.0 416.6 714.2 Up to 9K packet size size packet size size packet size packet size packet size packet size size size size size size size size	Number of DHCP snooping bindings	8K	8K	8K	1K	1K
(Mfps or Mpps)177.0170.3250.0410.0714.2Jumbo frame supportUp to 9K packet sizeUp to 9K packet sizeUp to 9K packet sizeUp to 10K packet sizeUp to 10K packet sizeAcoustic noise level @ 25°C (dBA)(ANSI-S10.12)27.4 dBA29.1 dBA29.1 dBA41.6 dBA47.8 dBAMean Time Between Failures (MTBF)@ 25°C276,197 hours938,178 hours276,832 hours514,977 hours483,808 hoursL2 Services - VLANsYesYesYesYesYesIP-based VLANsYesYesYesYesYesMAC-based VLANsYesYesYesYesYesAuto-VolP VLAN / Auto-Voice VLANYes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC addressYes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC addressAuto-VolPYes, based on protocols (SIP, H.323 and SCCP). Prioritzes traffic to a higher queueYes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VolP phone using LLDP-MED.NoNoAuto-Video VLANYesYesYesYesYes	Access Control Lists (ACLs)	100 share	ed for MAC, IP and If	Pv6 ACLs		
Acoustic noise level @ 25°C (dBA)(ANSI-S10.12) 27.4 dBA 29.1 dBA 29.1 dBA 41.6 dBA 47.8 dBA Mean Time Between Failures (MTBF) @ 25°C 276,197 hours 938,178 hours 276,832 hours 514,977 hours 483,808 hou L2 Services - VLANs IEEE 802.1Q VLAN tagging Yes Yes Yes Yes Yes Yes Yes Yes Yes IP-based VLANs Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye		119.0	178.5	238.0	416.6	714.2
Mean Time Between Failures (MTBF)@ 25°C 276,197 hours 938,178 hours 276,832 hours 514,977 hours 483,808 hours L2 Services - VLANs IEEE 802.1Q VLAN tagging Yes	Jumbo frame support					
IEEE 802.1Q VLAN tagging Yes Yes Yes Yes Yes Yes Yes IP-based VLANs Yes Yes Yes Yes Yes Yes Yes Yes MAC-based VLANs Yes Yes Yes Yes Yes Yes Yes Yes Yes MAC-based VLANs Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address voice packets must have 802.1Q VLAN tag Auto-VoIP Yes, based on protocols (SIP, H.323 and SCCP). Prioritzes traffic to a higher queue Yes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VoIP phone Auto-Video VLAN Yes	Acoustic noise level @ 25°C (dBA)(ANSI-S10.12)	27.4 dBA	29.1 dBA	29.1 dBA	41.6 dBA	47.8 dBA
IEEE 802.1Q VLAN tagging Yes Yes Yes Yes Yes Yes Yes Yes Yes MAC-based VLANs Yes Yes Yes Yes Yes Yes Yes Yes Yes MAC-based VLANs Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Mean Time Between Failures (MTBF) @ 25°C	276,197 hours	938,178 hours	276,832 hours	514,977 hours	483,808 hou
IP-based VLANs Yes Yes Yes Yes Yes Yes Yes Y	L2 Services - VLANs					
MAC-based VLANs Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address, voice packets must have 802.1Q VLAN tag Yes, based on protocols (SIP, H.323 and SCCP). Prioritzes traffic to a higher queue Yes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VoIP phone using LLDP-MED. Auto-Video VLAN Yes Yes Yes Yes Yes Yes Yes Ye	IEEE 802.1Q VLAN tagging	Yes	Yes	Yes	Yes	Yes
Auto-VoIP VLAN / Auto-Voice VLAN Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address voice packets must have 802.10 VLAN tag Yes, based on protocols (SIP, H.323 and SCCP). Prioritzes traffic to a higher queue Yes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VoIP phone using LLDP-MED. Auto-Video VLAN Yes Yes Yes Yes Yes Yes Yes Ye	IP-based VLANs	Yes	Yes	Yes	Yes	Yes
Auto-VoIP VLAN / Auto-Voice VLAN Yes, based on OUI bytes (default database and user-based OUIs) in the phone source MAC address voice packets must have 802.1Q VLAN tag Yes, based on protocols (SIP, H.323 and SCCP). Prioritzes traffic to a higher queue Yes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VoIP phone using LLDP-MED. Auto-Video VLAN Yes Yes Yes Yes Yes Yes Yes Ye	MAC-based VLANs	Yes	Yes	Yes	Yes	Yes
Yes, based on either VLAN ID or 802.1p priority, Voice VLAN Voice VLAN Yes, based on either VLAN ID or 802.1p priority, packets are passed onto the connecting VoIP phone using LLDP-MED. Auto-Video VLAN Yes Yes Yes Yes	Auto-VoIP VLAN / Auto-Voice VLAN				database and use the phone source voice packets mus	r-based OUIs) ir MAC address,
Voice VLAN packets are passed onto the connecting VoIP phone using LLDP-MED. No No Auto-Video VLAN Yes Yes Yes Yes	Auto-VoIP	Yes, based	d on protocols (SIP, H	.323 and SCCP). Prid	oritzes traffic to a hig	her queue
	Voice VLAN		sed onto the connec		No	No
Private VLAN Yes Yes Yes Yes Yes	Auto-Video VLAN	Yes	Yes	Yes	Yes	Yes
	Private VLAN	Yes	Yes	Yes	Yes	Yes



L2 Services - Availability	XS708T	XS712Tv2	XS716T	XS728T	XS748T
Broadcast, multicast, unknown unicast storm control	Yes	Yes	Yes	Yes	Yes
IEEE 802.3ad - LAGs (LACP)	Yes	Yes	Yes	Yes	Yes
IEEE 802.3x (full duplex and flow control)	Yes	Yes	Yes	Yes	Yes
IEEE 802.1D Spanning Tree Protocol	Yes	Yes	Yes	Yes	Yes
IEEE 802.1w Rapid Spanning Tree Protocol	Yes	Yes	Yes	Yes	Yes
IEEE 802.1s Multiple Spanning Tree Protocol	Yes	Yes	Yes	Yes	Yes
L2 Services - Multicast Filtering					
IGMP snooping (v1, v2 and v3)	Yes	Yes	Yes	Yes	Yes
MLD snooping support (v1 and v2)	Yes	Yes	Yes	Yes	Yes
IGMP snooping queries	Yes	Yes	Yes	Yes	Yes
Block unknown multicast	Yes	Yes	Yes	Yes	Yes
Multicast VLAN Registration (MVR)	Yes	Yes	Yes	No	No
L3 Services - DHCP					
DHCP client	Yes	Yes	Yes	Yes	Yes
DHCP snooping	Yes	Yes	Yes	Yes	Yes
L3 Services - Routing					
IPv4 static routing	32	32	32	64	64
IPv6 static routing	32	32	32	64	64
VLAN routing	Yes	Yes	Yes	Yes	Yes
Host ARP table (number of entries)	738	738	738	1024	1024
ICMP Router Discovery Protocol (IRDP)	Yes	Yes	Yes	No	No
Number of IP VLAN interfaces (routed VLANs)	15	15	15	32	32
Link Aggregation					
IEEE 802.3ad - LAGs (LACP)	Yes	Yes	Yes	Yes	Yes
Manual Static LAG	Yes	Yes	Yes	Yes	Yes
# of Static or LACP LAGs # of members in each LAG	8 LAGs with max 8 members in each LAG	8 LAGs with max 8 members in each LAG	8 LAGs with max 8 members in each LAG	12 LAGs with max 8 members in each LAG	24 LAGs with max 8 members in each LAG
Network Monitoring and Discovery Services					
802.1ab LLDP	Yes	Yes	Yes	Yes	Yes
SNMP	v1, v2c, v3	v1, v2c, v3	v1, v2c, v3	v1, v2c, v3	v1, v2c, v3
RMON group 1,2,3,9	Yes	Yes	Yes	Yes	Yes
Network Security					
IEEE 802.1x	Yes	Yes	Yes	Yes	Yes
Guest VLAN	Yes	Yes	Yes	Yes	Yes
RADIUS-based VLAN assignment via .1x	Yes	Yes	Yes	Yes	Yes
MAC-based .1x	Yes	Yes	Yes	Yes	Yes



Network Security	XS708T	XS712Tv2	XS716T	XS728T	XS748T
RADIUS accounting	Yes	Yes	Yes	Yes	Yes
Access Control Lists (ACLs)	L2/L3/L4	L2/L3/L4	L2/L3/L4	L2/L3/L4	L2/L3/L4
IP-based ACLs (IPv4 and IPv6)	Yes	Yes	Yes	Yes	Yes
MAC-based ACLs	Yes	Yes	Yes	Yes	Yes
TCP/UPD-based ACLs	Yes	Yes	Yes	Yes	Yes
MAC lockdown	Yes	Yes	Yes	Yes	Yes
MAC lockdown by the number of MACs	Yes	Yes	Yes	Yes	Yes
Control MAC # Dynamic learned entries	600	600	600	600	600
Control MAC # static entries	20	20	20	600	600
IEEE 802.1x RADIUS port access authentication	Yes	Yes	Yes	Yes	Yes
Port-based security by locked MAC addresses	Yes	Yes	Yes	Yes	Yes
Dynamic ARP inspection	Yes	Yes	Yes	No	No
Broadcast, multicast, unknown unicast storm control	Yes	Yes	Yes	Yes	Yes
DoS attacks prevention	Yes	Yes	Yes	No	No
Quality of Service (QoS)					
Port-based rate limiting	Egress only	Egress only	Egress only	Ingress and egress	Ingress and egress
Port-based QoS	Yes	Yes	Yes	Yes	Yes
Support for IPv6 fields	Yes	Yes	Yes	Yes	Yes
DiffServ QoS	Yes	Yes	Yes	Yes	Yes
IEEE 802.1p COS	Yes	Yes	Yes	Yes	Yes
Destination MAC and IP	Yes	Yes	Yes	Yes	Yes
IPv4 and v6 DSCP	Yes	Yes	Yes	Yes	Yes
IPv4 and IPv6 ToS	Yes	Yes	Yes	Yes	Yes
TCP/UDP-based	Yes	Yes	Yes	Yes	Yes
Weighted Round Robin (WRR)	Yes	Yes	Yes	Yes	Yes
Strict priority queue technology	Yes	Yes	Yes	Yes	Yes
Auto-VoIP VLAN / Auto-Voice VLAN	Yes, based o user-based Ol	on OUI bytes (defau Jls) in the phone sou	lt database and urce MAC address	Yes, based on C database and us the phone sourc voice packets m VLAI	er-based OUIs) i ce MAC address,
Auto-VoIP	Yes, base	ed on protocols (SIP,	, H.323 and SCCP). Prid	oritzes traffic to a hig	her queue
Voice VLAN	packets	on either VLAN ID or are passed onto the IP phone using LLDI	connecting	No	No
Auto-Video VLAN	Yes	Yes	Yes	Yes	Yes



IEEE Network Protocols	XS708T	XS712Tv2	XS716T	XS728T	XS748T
• IEEE 802.3 Ethernet					
 IEEE 802.3u 100BASE-T (XS708T/XS716T only) 					

- IEEE 802.3ab 1000BASE-T
- IEEE 802.3an 10GBASE-T 10Gbps Ethernet Over Copper Twisted Pair Cable
- IEEE 802.3ae 10-Gigabit Ethernet Over Fiber (10GBASE-LRM) XS708T, XS712Tv2, XS716T only
- IEEE 802.3ae 10-Gigabit Ethernet Over Fiber (10GBASE-SR, 10GBASE-LR, 10GBASE-ER, 10GBASE-LX4) All models
- IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX

• IEEE 802.3x Full-Duplex Flow Control					
Management					
Password management	Yes	Yes	Yes	Yes	Yes
Configurable management VLAN	Yes	Yes	Yes	Yes	Yes
Admin access control via RADIUS and TACACS+	Yes	Yes	Yes	Yes	Yes
IPv6 management	Yes	Yes	Yes	Yes	Yes
SNTP client over UDP port 123	Yes	Yes	Yes	Yes	Yes
SNMP v1/v2c	Yes	Yes	Yes	Yes	Yes
SNMP v3 with multiple IP addresses	Yes	Yes	Yes	Yes	Yes
RMON group 1,2,3,9	Yes	Yes	Yes	Yes	Yes
Port mirroring	Yes	Yes	Yes	Yes	Yes
Many-to-one port mirroring	8	12	16	8	8
Web browser-based graphical user interface (GUI)	Yes	Yes	Yes	Yes	Yes
Smart Control Center (SCC) for multi-switch management	Yes	Yes	Yes	Yes	Yes
Dual software (firmware) image	Yes	Yes	Yes	Yes	Yes
Dual configuration file	Yes	Yes	Yes	Yes	Yes
Cable test utility	Yes	Yes	Yes	Yes	Yes
SSL/HTTPS Web-based access (version)	Yes (v3)	Yes (v3)	Yes (v3)	Yes (v2)	Yes (v2)
TLS Web-based access (version)	Yes (v1.0)	Yes (v1.0)	Yes (v1.0)	Yes (v1.0 ~ v1.2)	Yes (v1.0 ~ v1.2)
File transfers (uploads, downloads)	TFTP/HTTP	TFTP/HTTP	TFTP/HTTP	TFTP/HTTP	TFTP/HTTP
HTTP upload/download (firmware)	Yes	Yes	Yes	Yes	Yes
Syslog (RFC 3164)	Yes	Yes	Yes	Yes	Yes
USB port for firmware and config upload /download	Yes	Yes	Yes	Yes	Yes
LEDs					
Per port			Speed, Link, Activity	,	
Per device			Power and Fan		
Physical Specifications					
Dimensions (W x D x H) mm Dimensions (W x D x H) in	440 x 204 x 43 (17.3 x 8 x 1.7)	440 x 204 x 43 (17.3 x 8 x 1.7)	440 x 204 x 43 (17.3 x 8 x 1.7)	440 x 310 x 43 (17.3 x 12.2 x 1.7)	440 x 347 x 43 (17.3 x 13.7 x 1.7)
Weight kg Weight lb	2.61 (5.76)	2.87 (6.33)	2.98 (6.57)	5.04 (11.11)	6.25 (13.78)



Power Consumption	XS708T	XS712Tv2	XS716T	XS728T	XS748T	
Max power (worst case, all ports used, line-rate traffic) (Watts)	49.5 W	75.3 W	96.0 W	134.9 W	262.8 W	
Min power (link-down standby) (Watts)	26.3 W	38.3 W	45.3 W	67.8W	97.6 W	
Heat Dissipation (Max and Min) (BTU/hr)	Max: 169.00 Min: 89.79	Max: 285.29 Min: 145.21	Max: 327.74 Min: 154.65	Max: 460.55 Min: 231.57	Max: 897.17 Min: 333.14	
Energy Efficient Ethernet (EEE) IEEE 802.3az		Yes (deactivat	ted by default)			
Power back-off	Drops power consumption by 159 No No No to 20% when short copper cables are detected					
Fan	1	2	2	4	4	
Environmental Specifications						
Operating						
Operating Temperature		O ^c	° to 50°C (32° to 122	?°F)		
Humidity		90% maximum re	elative humidity (RH)), non-condensing		
Altitude		10,0	000ft (3,000m) maxii	mum		
Storage						
Storage Temperature	-1	0° to 70°C (- 14° to 1	58°F)	-20° to 70°C (- 4	° to 158°F)	
Humidity (relative)	95% maximum relative humidity, non-condensing					
Altitude		10,0	000ft (3,000m) maxii	mum		
Electromagnetic Emissions and Immunity Certif	fications					
Certifications			CE mark, commerci	al		
		FCC P	art 15 Class A, VCCI	Class A		
		Class A	EN 55022 (CISPR 22	2) Class A		
			Class A C-Tick			
			EN 55024			
			CCC			
			FCC Part 15, Subpart			
		ICES-	-003: 2016 Issue 6, C	Class A		
			ANSI C63.4:2014			
			:2005 (ed.2)+A1:20			
		AN/NZS CI	SPR 22:2009+A1:20	010 CLASS A		
Safety Certifications						
Certifications			CB mark, commerci			
			certified (CSA 22.2			
			JL 1950)/cUL IEC 95			
	El			+ A12:2011 + A2:20	113	
			:2005 (ed.2)+A1:20			
			AN/NZS 60950.1:20			
		CCC (C	hina Compulsory Co	ertificate)		



Warranty and Support	XS708T	XS712Tv2	XS716T	XS728T	XS748T		
Hardware Limited Warranty			Limited Lifetime*				
24x7 Online Technical Support*			Limited Lifetime*				
Next-Business-Day (NBD) Replacement			Limited Lifetime*				
	Category 1: PMB0311 (1 yr)	Category 2: PMB0312 (1 yr)	Category 2: PMB0312 (1 yr)	Category 3: PMB0313 (1 yr)	Category 4: PMB0314 (1 yr)		
ProSUPPORT OnCall 24x7, Category 2** Service Packs	PMB0331 (3 yrs)	PMB0332 (3 yrs)	PMB0332 (3 yrs)	PMB0333 (3 yrs)	PMB0334 (3 yrs)		
	PMB0351 (5 yrs)	PMB0352 (5 yrs)	PMB0352 (5 yrs)	PMB0353 (5 yrs)	PMB0354 (5 yrs)		
Package Contents							
All Models	10-Gigabit Ethe	rnet Smart Switch					
	Power cord (loca	alized to country of s	sale)				
	Rackmount kit						
	Rubber footpad	ls for tabletop install	ation				
	Installation guid	е					
Ordering Information							
XS708T-100NES	North America,	North America, Latin America and Europe					
XS708T-100AJS	Asia Pacific and	Australia					
XS708T-100PRS	China						
XS708T-100INS	India						
XS712T-200NES	North America,	Latin America and E	urope				
XS712T-200AJS	Asia Pacific and	Australia					
XS712T-200PRS	China						
XS716T-100NES	North America,	Latin America and E	urope				
XS716T-100AJS	Asia Pacific and	Australia					
XS716T-100PRS	China						
XS716T-100INS	India						
XS728T-100NES	North America,	Latin America and E	urope				
XS728T-100AJS	Asia Pacific and	Australia					
XS728T-100PRS	China						
XS728T-100INS	India						
XS748T-100NES	North America,	North America, Latin America and Europe					
XS748T-100AJS	Asia Pacific and						



Optional Modules and Accessories	
AXM761-10000S	SFP+ Transceiver 10GBASE-SR (Short range, multimode)
AXM762-10000S	SFP+ Transceiver 10GBASE-LR (Long range, single mode)
AXM763-10000S	SFP+ Transceiver 10GBASE-LRM (Long range, multimode) - XS708T/XS712Tv2/XS716T only
AXM764-10000S	SFP+ Transceiver 10GBASE-LR Lite (Long range lite, single mode)
AGM731F-10000S	SFP Transceiver 1000BASE-SX (Short range, multimode)
AGM732F-10000S	SFP Transceiver 1000BASE-LX (Long range, single mode)
AGM734-10000S	SFP Transceiver 1000BASE-T Copper RJ45 GBIC
AXC761-10000S	SFP+ DAC CABLE (1m)
AXC763-10000S	SFP+ DAC CABLE (3m)

NETGEAR, the NETGEAR Logo and ProSUPPORT are trademarks of NETGEAR, Inc. in the United States and/or other countries. Other brand names mentioned herein are for identification purposes only and may be trademarks of their respective holder(s). Information is subject to change without notice. © 2022 NETGEAR, Inc. All rights reserved.

NETGEAR, Inc. 350 E. Plumeria Drive, San Jose, CA 95134-1911 USA, 1-888-NETGEAR (638-4327), E-mail: info@NETGEAR.com, www.NETGEAR.com

D-XS708T/XS712Tv2/XS716T/XS728T/XS748T-23Feb22

^{*}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 ProSAFE products purchased prior to 06/2014, also includes next business-day hardware replacement.

[†] NETGEAR #1 in US Market Share according to NPD data for Unmanaged and Smart Switches, September 2019. NETGEAR #1 in Europe Market Share according to Context data for Unmanaged and Smart Switches, September 2019.