M4250 AV Line Managed Switches

The NETGEAR AV Line M4250 series was designed with input from AV Professionals. The result is a line of switches built from the ground up to support 1Gb audio and video over IP with customized hardware and software along with dedicated service and support.
A new AV Line of M4250 switches with out-of-the-box functionality and an industry-first: a concurrent second user interface solely designed with the AV Pro in mind. NETGEAR has enhanced the experience for AV professionals by including a new user interface designed from the ground up. Pro AV customers don’t have to settle for an IT-centric interface with settings and IT-specific functionality they will never need. The new M4250 AV interface presents the common AV controls right up front with user-selectable profiles for common AV platforms making it a snap to ensure the settings are correct for a specific audio or video application.
The NETGEAR AV Line M4250 series was designed with input from AV Professionals. The result is a line of switches built from the ground up to support 1Gb audio and video over IP with customized hardware and software along with dedicated service and support.

### M4250 Series Features

#### NETGEAR M4250 series key features:
- Ranges from 8 to 16 ports with a variety of PoE+ and Ultra90 PoE++ options for 15.4W, 30W, 60W, 75W and 90W AVoIP endpoints
- Uplink options include 1G for audio installations or standalone video installations as well as 10G uplinks for larger scale video deployments
- Also includes 12-port multi-gigabit Ethernet and 16-port 1G/10G fiber models for plug and play aggregation in a star topology
- Designed for a clean integration with traditional rack-mounted, AV equipment
- The M4250 switches come with a sleek, black display panel with status in front and all cabling plus additional status in the back
- Reversed mounting is possible when ports are desired on the front of the rack
- A second pair of rackmount ears allows the switches to be mounted recessed by 2-inches to allow for the cabling
- Software-controlled fan adjustments enable the fans to be turned off when ambient temperature and PoE loads are appropriate for a totally fanless operation
- Threaded holes on the bottom (4xM5 for 50x100mm VESA) and in front (1xM10 for clamps) allow for universal mounting options outside the rack as well

#### NETGEAR M4250 series AV software features:
- Pre-configured for audio and video over IP out of the box, the M4250 switches enable encoders and decoders to be connected with zero configuration
- When more configuration is required, an AV web-based GUI is available at the switch IP address:8080
- This interface has been specially designed for AV installers with specific AV-related controls made more accessible and with port-based profiles
- For audio, profiles for Dante, Q-SYS and AES67 are built-in, as well as an AVB profile (AVB license sold separately)
- For video, the M4250 offers profiles for NVX, SVSI, Q-SYS, NDI, Kramer KDS, Aurora Multimedia, ZeeVee, Atlona, Dante and SDVoE
- Other AV CODECs and manufactures are supported as well as audio/video/control mixed profiles
- To further simplify star deployments, NETGEAR IGMP Plus™ brings multicast automation between all M4250 switches, and with M4300/M4500
- Simply connect the switches together and you are done!

#### NETGEAR M4250 series other software features:
- All M4250 switches share the same high-end NETGEAR Layer 2 / Layer 3 switching engine for a consistent experience
- All switches in the M4250 series have another main, IT web-based GUI for midsize Enterprise campus networks, IoT and IPTV
- Additional features include static, RIP and PIM-SM, DM and SSM multicast routing, DHCP Server and PTPv2 Transparent Clock (1-step E2E)
- AVB is the only feature requiring a license, all other advanced features are available license-free
- Advanced classifier-based, time-based hardware implementation for L2 (MAC), L3 (IP) and L4 (UDP/TCP transport ports) security and prioritization
- Selectable Port-Channel / LAG (802.3ad - 802.1AX) L2/L3/L4 hashing for fault tolerance and load sharing with any type of Ethernet channeling
- Voice VLAN with SIP, H323 and SCCP protocols detection and LLDP-MED IP phones automatic QoS and VLAN configuration
- Efficient authentication tiering with successive DOT1X, MAB and Captive Portal methods for streamlined BYOD
M4250 Series Features

- Comprehensive IPv4/IPv6 static and dynamic routing including Policy-based routing and 6-to-4 tunneling
- Advanced IPv4/IPv6 security implementation including malicious code detection, DHCP Snooping, IP Source Guard protection and DoS attacks mitigation

NETGEAR M4250 series management features:

- DHCP/BootP innovative auto-installation including firmware and configuration file upload automation
- Industry standard SNMP, RMON, MIB, LLDP, AAA, sFlow, RSPAN and PTPv2
- Service port for out-of-band Ethernet management (OOB)
- Standard RS232 straight-through serial RJ45 and USB Type-C ports for local management console
- Standard USB-A port for local storage, logs, configuration or image files
- Dual firmware image for updates with minimum service interruption
- Single-pane-of-glass NMS300 management platform with mass configuration support
- Industry standard command line interface (CLI) for IT admins used to other vendors commands
- Fully functional Web console (main GUI) for IT admins who prefer an easy to use graphical interface
- Dedicated AV web-based GUI interface available at [switch IP address:8080] for AV installations

NETGEAR M4250 series warranty and support:

- NETGEAR ProSAFE Limited Lifetime Hardware Warranty**
- Included Lifetime Technical Support
- Included Lifetime Next Business Day Hardware Replacement

- Offering free network design services and installation support, the NETGEAR Engineering Services Team is ready to help ensure your 1G deployments with the M4250 AV over IP switches go as smooth as possible. Just drop us an email at ProAVDesign@netgear.com to get started!
## Hardware-at-a-Glance

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Form-Factor</th>
<th>Fabric</th>
<th>Rear (Reversible)*</th>
<th>LEDs</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>M4250-10G2F-PoE+</td>
<td>1U rack mount</td>
<td>440 x 43.2 x 200mm</td>
<td>24 Gbps</td>
<td>8 ports PoE+ (125W) 2 additional ports 10M, 100M, 1G</td>
<td>Fixed (C14 connector)</td>
</tr>
<tr>
<td>M4250-10G2XF-PoE+</td>
<td>1U rack mount</td>
<td>440 x 43.2 x 200mm</td>
<td>60 Gbps</td>
<td>8 ports PoE+ (240W) 2 additional ports 10M, 100M, 1G</td>
<td>Power switch (On/Off)</td>
</tr>
<tr>
<td>M4250-10G2XF-PoE++</td>
<td>1U rack mount</td>
<td>440 x 43.2 x 257mm</td>
<td>60 Gbps</td>
<td>8 ports PoE++ (720W) 2 additional ports 10M, 100M, 1G</td>
<td>-</td>
</tr>
<tr>
<td>M4250-12M2XF</td>
<td>1U rack mount</td>
<td>440 x 43.2 x 100mm</td>
<td>100 Gbps</td>
<td>12 ports 100M, 1G, 2.5G</td>
<td>-</td>
</tr>
<tr>
<td>M4250-16XF</td>
<td>1U rack mount</td>
<td>440 x 43.2 x 200mm</td>
<td>320 Gbps</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Reversed mounting is possible when ports are desired on the front of the rack by using the standard rackmount ears, or the included alternate rackmount ears to mount the switch recessed by 2-inches to allow for the cabling.

** Ultra90 PoE++ 802.3bt is compatible with 802.3af PoE (15.4W), 802.3at PoE++ (30W) and 802.3bt (60W, 75W and 90W).

### Acoustic-at-a-Glance

#### FAN OFF MODE Setting / maximum loading*

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Fanless State</th>
<th>Ambient Sensor</th>
<th>PoE Power Load</th>
<th>Conditions</th>
<th>PoE Power Load</th>
<th>Fan Duty</th>
<th>Sensor</th>
<th>Case Temp (Top)</th>
<th>Acoustic</th>
<th>Fan Duty</th>
<th>Case Temp (Top)</th>
<th>Acoustic</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>M4250-10G2F-PoE+</td>
<td>0dBA / 37.1°C Case Temp</td>
<td>25°C &lt;= 42°C</td>
<td>80W</td>
<td>All ports can be used</td>
<td>125W</td>
<td>25</td>
<td>&lt;= 36°C</td>
<td>35.9°C</td>
<td>27.3dBA</td>
<td>100</td>
<td>27.2°C</td>
<td>55dBA</td>
<td>GSM4212P</td>
</tr>
<tr>
<td>M4250-10G2XF-PoE+</td>
<td>0dBA / 38.4°C Case Temp</td>
<td>25°C &lt;= 44°C</td>
<td>90W</td>
<td>All ports can be used</td>
<td>240W</td>
<td>25</td>
<td>&lt;= 37°C</td>
<td>40.4°C</td>
<td>27.4dBA</td>
<td>100</td>
<td>30.9°C</td>
<td>56dBA</td>
<td>GSM4212PX</td>
</tr>
<tr>
<td>M4250-10G2XF-PoE++</td>
<td>0dBA / 42.3°C Case Temp</td>
<td>25°C &lt;= 67°C</td>
<td>45W</td>
<td>All ports can be used</td>
<td>90W 90-180W 180-720W</td>
<td>25</td>
<td>&lt;= 49°C</td>
<td>41.1°C</td>
<td>34.57dBA</td>
<td>100</td>
<td>41.8°C</td>
<td>60dBA</td>
<td>GSM4212UX</td>
</tr>
<tr>
<td>M4250-12M2XF</td>
<td>0dBA / 56°C Case Temp</td>
<td>25°C &lt;= 64°C</td>
<td>-</td>
<td>8 ports 2.5G (no SFP+)</td>
<td>-</td>
<td>25</td>
<td>&lt;= 58°C</td>
<td>53.9°C</td>
<td>28.5dBA</td>
<td>100</td>
<td>33.2°C</td>
<td>55dBA</td>
<td>MSM4214X</td>
</tr>
<tr>
<td>M4250-16XF</td>
<td>0dBA / 36.2°C Case Temp</td>
<td>25°C &lt;= 78°C</td>
<td>-</td>
<td>8 ports SFP+</td>
<td>-</td>
<td>25</td>
<td>&lt;= 67°C</td>
<td>41.6°C</td>
<td>27.4dBA</td>
<td>100</td>
<td>30.3°C</td>
<td>57dBA</td>
<td>XSM4216F</td>
</tr>
</tbody>
</table>

* Software-controlled fan adjustments enable the fans to be turned off when ambient temperature and PoE loads are appropriate for a totally fanless operation.

** dBA values are SPL (Sound Pressure Level) values, testing following the ISO-7779 standard. Bystander Mode. Chamber Temp 25°C during testing. Full, 100%, Data and PoE loaded. Worst case.
**Software-at-a-Glance**

### LITE LAYER 3 PACKAGE

|------------|------------|-----------------|---------------------------------|--------------------------------------|-------------------------------|--------|-----------------------|-------------------------------------|--------------------------|-----------------------------|--------------|

* Requires AVB license, sold separately. All other software features are available, license-free.

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**Performance-at-a-Glance**

### TABLE SIZE

<table>
<thead>
<tr>
<th>Model Name</th>
<th>MAC ARP/NP</th>
<th>Routing/Switching Capacity</th>
<th>Throughput 64-byte</th>
<th>Application Route Scaling</th>
<th>Packet Buffer</th>
<th>Latency</th>
<th>IP Multicast Scaling</th>
<th>CPU</th>
<th>Jumbo Frames</th>
<th>Multicast IGMP Group membership</th>
<th>VLANs</th>
<th>DHCP</th>
<th>stFlow</th>
<th>Model Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>M4250-10G2F-PoE++</td>
<td>16K MAC, 4G ARP/NP</td>
<td>60 Gbps</td>
<td>Line-Rate</td>
<td>44.64 Mpps</td>
<td>Static: 894v4/126v6 RIPv2</td>
<td>16 Mb</td>
<td>&lt;2.14 µs</td>
<td>1G</td>
<td>512 IPv4 128 IPv6</td>
<td>ARM A9 1.25GHz 2GB RAM 250MB Flash</td>
<td>Up to 12K</td>
<td>2K IPv4</td>
<td>2K IPv6</td>
<td>4K VLANs</td>
</tr>
<tr>
<td>M4250-12M2XF</td>
<td>16K MAC, 4G ARP/NP</td>
<td>100 Gbps</td>
<td>Line-Rate</td>
<td>74.40 Mpps</td>
<td>Static: 894v4/126v6 RIPv2</td>
<td>16 Mb</td>
<td>&lt;1.84 µs</td>
<td>1G</td>
<td>512 IPv4 128 IPv6</td>
<td>ARM A9 1.25GHz 2GB RAM 250MB Flash</td>
<td>Up to 12K</td>
<td>2K IPv4</td>
<td>2K IPv6</td>
<td>4K VLANs</td>
</tr>
</tbody>
</table>
M4250 AV Licenses are electronic SKUs. A license registration key is received by email and can be copied and pasted directly in the AV UI [Switch IP Address:8080] when the switch is online.
M4250-10G2F-PoE+
AV Line Managed Switch

Ordering information
- Americas: GSM4212P-100NAS
- Europe: GSM4212P-100EUS
- Asia Pacific: GSM4212P-100AJS
- China: GSM4212P-100PRS
- Warranty: Lifetime ProSAFE Hardware Warranty
- AVB License: AVB4212P-10000S (sold separately)

Components

- 8-port 10/100/1000BASE-T (RJ45) PoE+ with 125W PoE budget
- 2-port 10/100/1000BASE-T (RJ45)
- 2-port 1000BASE-X (SFP)
- 24 Gbps non-blocking fabric across 12 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxDxH): 440 x 200 x 43.2 mm
- Weight: 2.85Kg (6.28lb)
### Components

<table>
<thead>
<tr>
<th>M4250-10G2XF-PoE+</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV Line Managed Switch</td>
</tr>
</tbody>
</table>

### Ordering information
- Americas: GSM4212PX-100NAS
- Europe: GSM4212PX-100EUS
- Asia Pacific: GSM4212PX-100AJS
- China: GSM4212PX-100PRS
- Warranty: Lifetime ProSAFE Hardware Warranty
- AVB License: AVB4212PX-10000S (sold separately)

- 8-port 10/100/1000BASE-T (RJ45) PoE+ with 240W PoE budget
- 2-port 10/100/1000BASE-T (RJ45)
- 2-port 1000/10GBASE-X (SFP+)
- 60 Gbps non-blocking fabric across 12 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxDxH): 440 x 200 x 43.2 mm
- Weight: 2.9Kg (6.39lb)
M4250-10G2XF-PoE++
AV Line Managed Switch

Ordering information
- Americas: GSM4212UX-100NAS
- Europe: GSM4212UX-100EUS
- Asia Pacific: GSM4212UX-100AJS
- China: GSM4212UX-100PRS
- Warranty: Lifetime ProSAFE Hardware Warranty
- AVB License: AVB4212UX-10000S (sold separately)

- 8-port 10/100/1000BASE-T (RJ45) Ultra90 PoE++ with 720W PoE budget
- 2-port 10/100/1000BASE-T (RJ45)
- 2-port 1000/10GBASE-X (SFP+)
- Compatible 802.3af (15.4W), 802.3at (30W), 802.3bt (60, 75 and 90W)
- 60 Gbps non-blocking fabric across 12 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxDxH): 440 x 257 x 43.2 mm
- Weight: 3.83Kg (8.44lb)
M4250-12M2XF
AV Line Managed Switch

Ordering information
• Americas: MSM4214X-100NAS
• Europe: MSM4214X-100EUS
• Asia Pacific: MSM4214X-100AJS
• China: MSM4214X-100PRS
• Warranty: Lifetime ProSAFE Hardware Warranty
• AVB License: AVB4214X-10000S (sold separately)

- 12-port 100/1000/2.5GBASE-T (RJ45)
- 2-port 1000/10GBASE-X (SFP+)
- 100 Gbps non-blocking fabric across 14 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxHxD): 440 x 100 x 43.2 mm
- Weight: 1.74Kg (3.85lb)
M4250-16XF
AV Line Managed Switch

Ordering information
- Americas: XSM4216F-100NAS
- Europe: XSM4216F-100EUS
- Asia Pacific: XSM4216F-100AJS
- China: XSM4216F-100PRS
- Warranty: Lifetime ProSAFE Hardware Warranty
- AVB License: AVB4216F-10000S (sold separately)

- 16-port 1000/10GBASE-X (SFP+)
- 320 Gbps non-blocking fabric across 16 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxDxH): 440 x 100 x 43.2 mm
- Weight: 1.74Kg (3.85lb)
## Ordering information
- Worldwide: see table below
- Warranty: 5 years

### Multimode Fiber (MMF)

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Description</th>
<th>Distance</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>OM1 or OM2</td>
<td>62.5/125µm</td>
<td></td>
<td>AXM763-10000S (1 unit)</td>
</tr>
<tr>
<td>OM3 or OM4</td>
<td>50/125µm</td>
<td></td>
<td>AXM763-10000S (1 unit)</td>
</tr>
</tbody>
</table>

### Single mode Fiber (SMF)

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Description</th>
<th>Distance</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>9/125µm</td>
<td>AXM762-10000S (1 unit)</td>
</tr>
</tbody>
</table>

### 10 Gigabit SFP+

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Description</th>
<th>Distance</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AXM763</td>
<td>10GBase-LRM long reach multimode</td>
<td>up to 260m (853 ft)</td>
<td>AXM763-10000S (1 unit)</td>
</tr>
<tr>
<td>AXM761</td>
<td>10GBase-SR short reach multimode</td>
<td>up to 300m (984 ft)</td>
<td>AXM761-10000S (1 unit)</td>
</tr>
</tbody>
</table>

### Gigabit SFP

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Description</th>
<th>Distance</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGM731F</td>
<td>1000Base-SX short range multimode</td>
<td>up to 275m (902 ft)</td>
<td>AGM731F (1 unit)</td>
</tr>
</tbody>
</table>

### Accessories

- Fits into M4250 SFP+ and SFP interfaces

#### GBIC SFP and SFP+ Optics for M4250 series

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGM734</td>
<td>1000BASE-T RJ45 SFP (Gigabit)</td>
</tr>
<tr>
<td>AXM765</td>
<td>10GBASE-T RJ45 SFP+ (10 Gigabit)</td>
</tr>
</tbody>
</table>

- Fits into M4250 SFP+ interfaces
- 1 port Gigabit RJ45
- Supports only 1000Mbps full-duplex mode
- Up to 100m (328 ft) with Cat5 RJ45 or better
- Conveniently adds 1G copper connectivity to M4250 fiber interfaces

- Fits into M4250 SFP+ interfaces
- 1 port 10GBASE-T RJ45
- Copper connectivity up to 30 m (98 feet) distance
- CAT6a or better wiring required for 10GBASE-T up to 30 meters
- Conveniently adds 10G copper connectivity to M4250 fiber interfaces
## Accessories

### Direct Attach Cables for M4250 series

<table>
<thead>
<tr>
<th>ORDERING INFORMATION</th>
<th>SFP+ to SFP+</th>
</tr>
</thead>
<tbody>
<tr>
<td>WORLDWIDE: SEE TABLE BELOW</td>
<td>1 meter (3.3 ft)</td>
</tr>
<tr>
<td>WARRANTY: 5 YEARS</td>
<td>AXC761</td>
</tr>
<tr>
<td>10 Gigabit DAC</td>
<td>10G SFP+ Cu (passive) SFP+ connectors</td>
</tr>
<tr>
<td>AXC761-10000S (1 unit)</td>
<td>AXC763-10000S (1 unit)</td>
</tr>
<tr>
<td>7 meters (23.0 ft)</td>
<td>AXC767</td>
</tr>
<tr>
<td>10G SFP+ Cu (active) SFP+ connectors</td>
<td>10G SFP+ Cu (active) SFP+ connectors</td>
</tr>
<tr>
<td>AXC767-10000S (1 unit)</td>
<td>AXC7610-10000S (1 unit)</td>
</tr>
<tr>
<td>20 meters (65.6 ft)</td>
<td>AXC7620</td>
</tr>
<tr>
<td>10G SFP+ (duplex fiber optic) SFP+ connectors</td>
<td></td>
</tr>
<tr>
<td>AXC7620-10000S (1 unit)</td>
<td></td>
</tr>
</tbody>
</table>

- Fits into M4250 SFP+ interfaces

** This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller and modifications to product may void the warranty; covers hardware, fans and internal power supplies - not software or external power supplies. See [http://www.netgear.com/about/warranty/](http://www.netgear.com/about/warranty/) for details. Lifetime technical support includes basic phone support for 90 days from purchase date and lifetime online chat support when purchased from a NETGEAR authorized reseller.

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