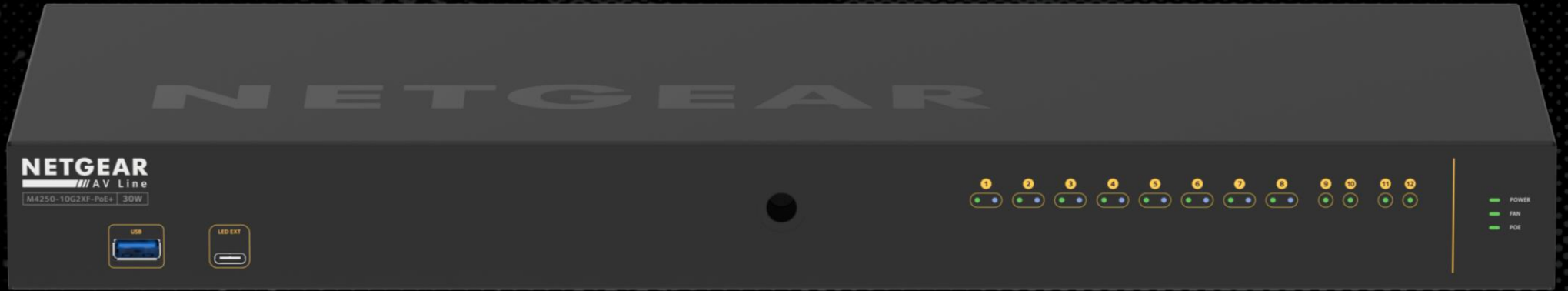


AV
LINE



Switching engineered for AV over IP | **NETGEAR**[®]

M4250 series



September 4, 2020

September 15, 2020

NETGEAR introduces the AV Line of switches, developed and engineered for audio/video professionals with dedicated service and support

- Built from the ground up for the growing AV over IP market
 - ✓ Years of networking expertise in AV with M4300 and M4500 series
 - ✓ With best practices from leading experts in the professional AV market
- Most power and value in the professional audio and video industry for 1G
 - ✓ AV Codecs generally use 1Gbps or 10Gbps per stream
 - ✓ New AV Line of M4250 switches targets the widespread 1Gbps codecs



NETGEAR
AV Line

Today's Agenda:

HARDWARE

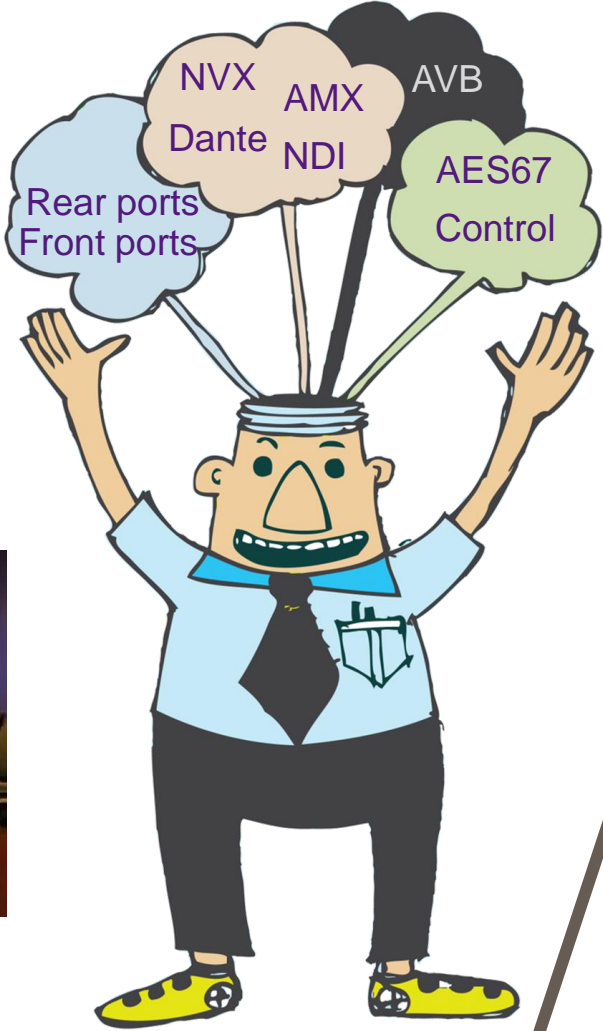
SOFTWARE

SERVICE & SUPPORT

LIVE DEMO

KEY TAKEAWAYS

Why did we build these switches?



```
COM11 - Tera Term VT
File Edit Setup Control Window KanjiCode Help
User: admin
Password: *****
(SWITCH) >ENABLE
(SWITCH) #MULTICAST
(SWITCH) #DSCP
(SWITCH) #IGMP
(SWITCH) #PTP
(SWITCH) #mDNS
(SWITCH) #PIM SSM
(SWITCH) #DATACENTER
(SWITCH) >WORK OR NOT? ☹
```





Solely designed with the AV Pro in mind

HARDWARE

AV Line M4250 series

Switching Engineered for 1G AV-over-IP



- Clean integration with traditional rack-mounted, AV equipment
- Sleek, black display panel with status **in front**

NETGEAR





AV Line M4250 series

Switching Engineered for 1G AV-over-IP



Front



Back



- All cabling plus additional status in the back

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- Reversed mounting is possible when ports are desired on the front of the rack

AV Line M4250 series

Switching Engineered for 1G AV-over-IP



- A second pair of included rackmount ears allows the switches to be mounted recessed by 2-inches to allow for the cabling

AV Line M4250 series

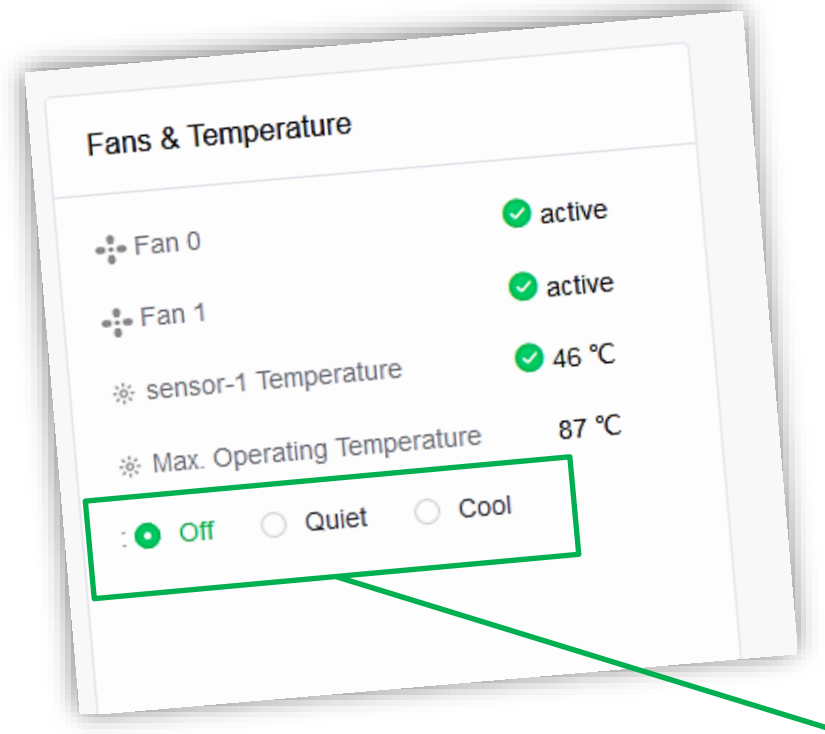
Switching Engineered for 1G AV-over-IP



- Threaded holes in front (1xM10 for clamps) and on the bottom (4xM5 for 50x100mm VESA plates) allow for universal mounting options outside the rack as well

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

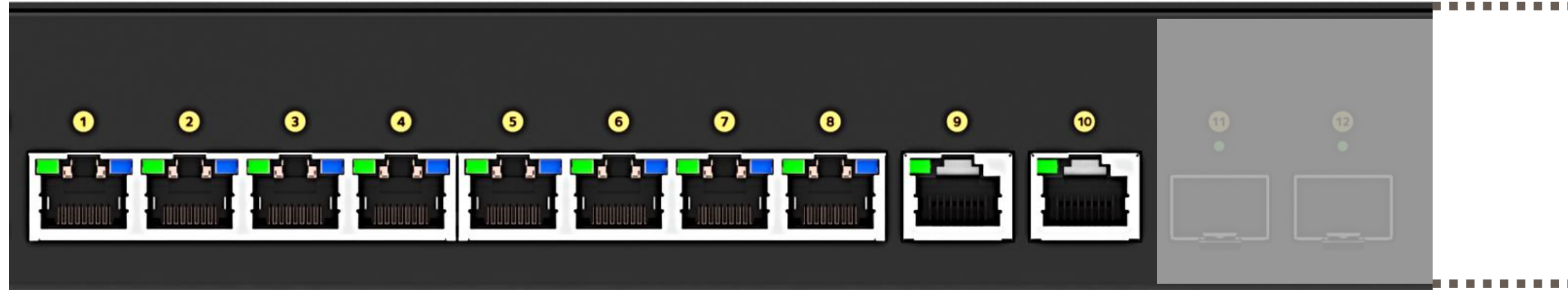


Software-controlled fan adjustments enable the fans to be turned off when ambient temperature and PoE loads are appropriate for a totally **fanless** operation

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

8-Port PoE Models



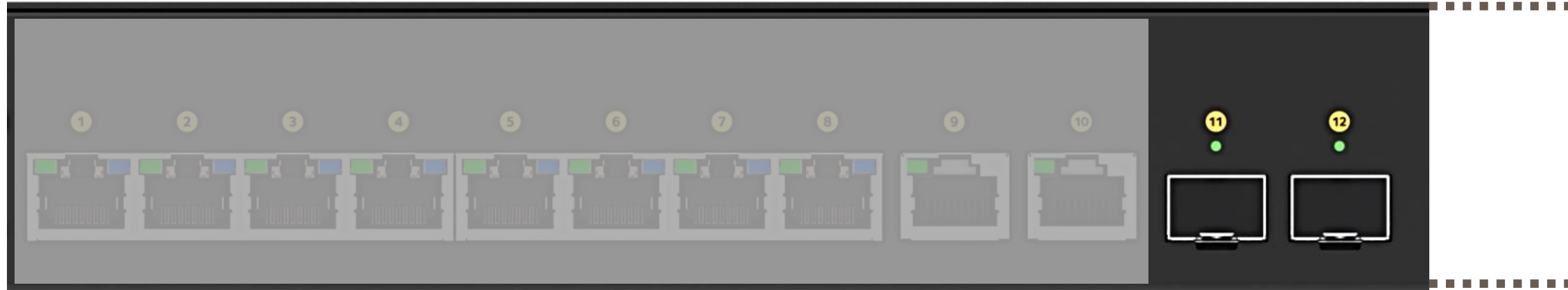
- 8 ports 1G PoE+ 30W (125W total budget) **Average: 15.6W/port** 2 ports 1G (totally independent)
- or... 8 ports 1G PoE+ 30W (240W total budget) **FULL PROVISIONING**
- or... 8 ports 1G PoE++ 90W (720W total budget) **FULL PROVISIONING**

- Ranges from 8 to 16 ports with a variety of PoE+ and Ultra90 PoE++ 802.3bt options for 15.4W, 30W, 60W, 75W and 90W AVoIP (1G) endpoints

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

8-Port
PoE
Models



2 ports SFP 1G
or... 2 ports SFP+ 1G/10G

- Uplink options include **1G** for audio installations or standalone video installations, as well as **10G** uplinks for larger scale video deployments

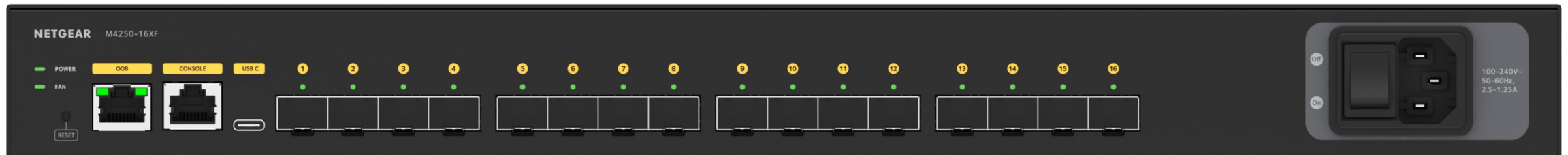
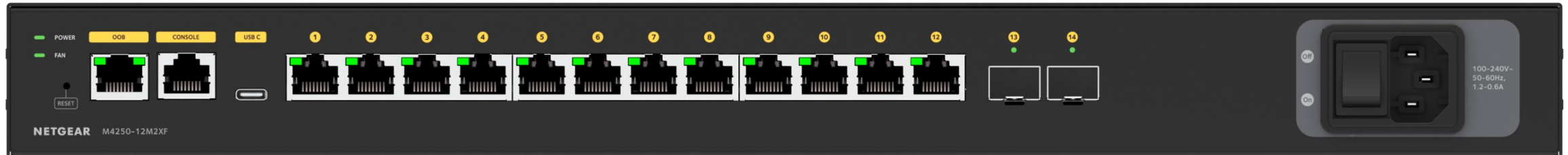
All you can do with PoE++ 802.3bt

| Type | Type 1 802.3af | | | Type 2 802.3at | Type 3 802.3bt | | Type 4 802.3bt | |
|-------------------------------|-------------------|--------|--------|-------------------|-------------------|------|-------------------|--------|
| Class | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Power sourced at PSE (switch) | 4 W | 7 W | 15.4 W | 30 W | 45 W | 60 W | 75 W | 90 W |
| Requested power at PD (node) | 3.84 W | 6.49 W | 13 W | 25.5 W | 40 W | 51 W | 62 W | 71.3 W |
| Pairs | 2 or 4 | 2 or 4 | 2 or 4 | 2 or 4 | 4 | 4 | 4 | 4 |



AV Line M4250 series

Switching Engineered for 1G AV-over-IP



- Also includes 12-port multi-gigabit Ethernet and 16-port 1G/10G fiber models for plug and play aggregation in a star topology

Front

M4250-12M2XF

M4250-16XF

M4250-10G2F-PoE+

M4250-10G2XF-PoE+

M4250-10G2XF-PoE++



Rear

M4250-12M2XF

M4250-16XF

M4250-10G2F-PoE+

M4250-10G2XF-PoE+

M4250-10G2XF-PoE++



Hardware at a glance



| Model name | Form-Factor | Switching Fabric | REAR (REVERSIBLE)* | | | | PSU | LEDs | MANAGEMENT | Model number |
|--------------------|------------------------|------------------|--|---------------------------------|----------------------|----------------------------|--|---|--|--------------|
| | | | 10/100/1000BASE-T RJ45 ports | 100/1000 /2.5GBASE-T RJ45 ports | 1000BASE-X SFP ports | 1000 /10GBASE-X SFP+ ports | | Status Information | Out-of-band Console | |
| M4250-10G2F-PoE+ | 1U 440x43.2 x200 mm | 24 Gbps | 8 ports PoE+ (125W) +2 additional ports 10M, 100M, 1G | - | 2 ports SFP 1G | - | Fixed (C14 connector) Power switch (On/Off) | Available both in front and in the rear: Power LED PoE Max LED (PoE models) Fan LED Port LEDs | Ethernet: 1G Out-of-band (Rear) Console: RJ45 RS232 (Rear) Console: USB-C (Rear) Storage: USB-A (Front) LED Ext: USB-C (Front) | GSM4212P |
| M4250-10G2XF-PoE+ | 1U 440x43.2 x200 mm | 60 Gbps | 8 ports PoE+ (240W) +2 additional ports 10M, 100M, 1G | - | - | 2 ports SFP+ 1G; 10G | | | | GSM4212PX |
| M4250-10G2XF-PoE++ | 1U 440x43.2 x257 mm | 60 Gbps | 8 ports PoE++** (720W) +2 additional ports 10M, 100M, 1G | - | - | 2 ports SFP+ 1G; 10G | | | | GSM4212UX |
| M4250-12M2XF | 1U 440x43.2 x100 mm | 100 Gbps | - | 12 ports 100M, 1G, 2.5G | - | 2 ports SFP+ 1G; 10G | | | | MSM4214X |
| M4250-16XF | 1U 440x43.2 x200 mm | 320 Gbps | - | - | - | 16 ports SFP+ 1G; 10G | | | | XSM4216F |

* Reversed mounting for ports on the front of the rack: 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

Default



| Model name | FAN OFF MODE / maximum loading* | | | | | QUIET MODE Setting at 25°C ambient | | | | COOL MODE Setting at 25°C ambient | | | | Model number |
|---------------------------|---------------------------------|---------|---------|----------------|------------------------|------------------------------------|----------|-----------|----------|-----------------------------------|----------|-----------|----------|------------------|
| | Fanless State | Ambient | Sensor | PoE Power Load | Conditions | PoE Power Load | Fan Duty | Case Temp | Acoustic | PoE Power Load | Fan Duty | Case Temp | Acoustic | |
| M4250-10G2F-PoE+ | 0dBA / 41.8°C Case Temp | 25°C | <= 42°C | 80W | All ports can be used | 30W | Off Mode | 41.8°C | 0dBA | 30W | 15 | 36.0°C | 18.88dBA | GSM4212P |
| | | | | | | 90W | 15 | 41.5°C | 18.88dBA | 90W | 20 | 39.7°C | 20.67dBA | |
| | | | | | | 125W | 25 | 41.8°C | 27.38dBA | 125W | 35 | 38°C | 30.06dBA | |
| M4250-10G2XF-PoE+ | 0dBA / 39.6°C Case Temp | 25°C | <= 44°C | 90W | All ports can be used | 60W | Off Mode | 39.6°C | 0dBA | 60W | 15 | 38°C | 19.32dBA | GSM4212PX |
| | | | | | | 120W | 15 | 42.4°C | 19.32dBA | 120W | 20 | 40.4°C | 21.76dBA | |
| | | | | | | 240W | 25 | 41.8°C | 27.40dBA | 240W | 50 | 37.7°C | 39.22dBA | |
| M4250-10G2XF-PoE++ | 0dBA / 44.6°C Case Temp | 25°C | <= 67°C | 45W | All ports can be used | 90W | 25 | 41.1°C | 34.57dBA | 90W | 30 | 37.4°C | 40dBA | GSM4212UX |
| | | | | | | 180W | 30 | 40.8°C | 40dBA | 180W | 35 | 36.6°C | 45.95dBA | |
| | | | | | | 360W | 45 | 41.4°C | 47.19dBA | 360W | 45 | 39.1°C | 51.49dBA | |
| | | | | | | 720W | 45 | 54.6°C | 47.19dBA | 720W | 100 | 41.8°C | 66.23dBA | |
| M4250-12M2XF | 0dBA / 56°C Case Temp | 25°C | <= 64°C | - | 8 ports 2.5G (no SFP+) | - | 25 | 55°C | 28.5dBA | - | 70 | 41.9°C | 46.4dBA | MSM4214X |
| M4250-16XF | 0dBA / 41.3°C Case Temp | 25°C | <= 78°C | - | 8 ports SFP+ | - | 25 | 50.2°C | 27.44dBA | - | 100 | 35.3°C | 56.7dBA | XSM4216F |

* 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 25C during testing. Full, 100%, Data and PoE loaded. Worst case.



Solely designed with the AV Pro in mind

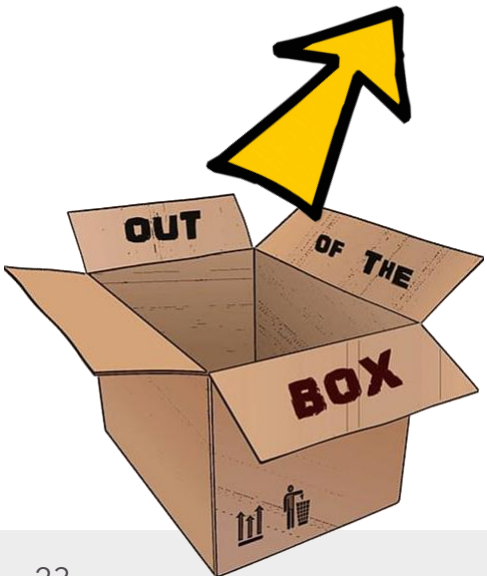
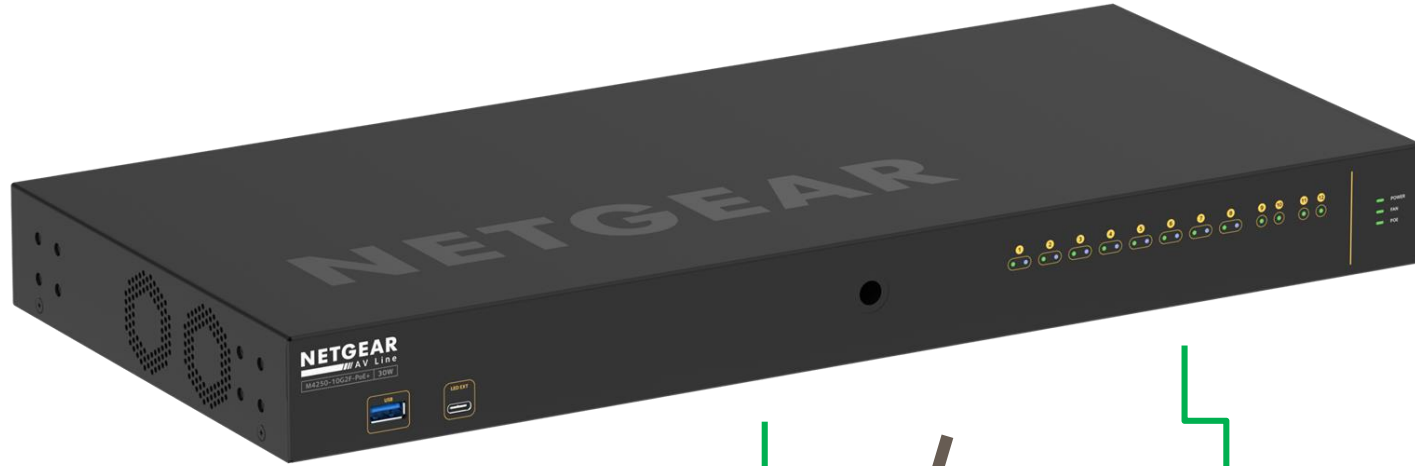
SOFTWARE

AV Line M4250 series

Switching Engineered for 1G AV-over-IP



PLUG & PLAY



Audio over IP
TX / RX



Video over IP
TX / RX



- Pre-configured for AVoIP out of the box, the M4250 switches connect encoders and decoders with zero configuration
- Standalone, single-type applications

- When more configuration is required, an AV web-based GUI is available

The screenshot shows the Netgear AV UI interface for configuring network profiles on a device. The top navigation bar includes the Netgear logo, a menu icon, and a user profile for 'admin'. The left sidebar contains navigation options: 'Configure' (selected), 'Overview', 'Network Profiles', 'Maintenance', and 'Licenses'. The main content area is titled 'Network Profiles' and shows the device model 'M4250-12M2XF'. Below this is a port configuration diagram with 14 ports, where ports 1-4 are red, 5-8 are blue, and 9-14 are black. The 'Configured Profiles' table lists three profiles: Management VLAN (Data, VLAN 1, IP 0.0.0.0, 6 ports), Video NVX (Video, VLAN 10, IP N/A, 4 ports), and Dante Audio (Audio Dante, VLAN 20, IP N/A, 8 ports). The 'Profile Templates' section includes 'Audio Dante', 'Data', 'Audio Q-SYS', and 'Video with Q-SYS audio', each with a brief description and a settings icon.

NETGEAR

Question/Help admin

Network Profiles

Configure | Network Profiles

M4250-12M2XF Show Legends

Configured Profiles

| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports | |
|-----------------|--------------|---------|------------|---------------------|--|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 | |
| Video NVX | Video | 10 | N/A | 4 | |
| Dante Audio | Audio Dante | 20 | N/A | 8 | |

Profile Templates

[+ Create AV Template](#)

- Audio Dante**
To connect IP Audio Dante devices and their controller
- Data**
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS**
To connect IP Audio Dante devices and their controller
- Video with Q-SYS audio**
To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Q-SYS supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atona, Dante Video, SDVoE & etc.

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

- This interface has been specially designed for AV installers with specific AV-related controls made more accessible and with **port-based** profiles

Profile Templates

[+ Create AV Template](#)

| | |
|---|--|
| Audio Dante To connect IP Audio Dante devices and their controller | |
| Data To connect PCs, sACN, Art-Net, MANet and other network devices. | |
| Audio Q-SYS To connect IP Audio Dante devices and their controller | |
| Video with Q-SYS audio To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Q-SYS supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc. | |
| Video with AES67 audio To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio AES67 supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc. | |
| Audio-over-IP AVB To connect IP Audio AVB devices | |
| Video To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio is sent and received using another VLAN tag from the video nodes. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc. | |
| Audio-over-IP AES67 To connect IP Audio AES67 devices and their controller | |
| Video with Dante audio To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Dante supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc. | |

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Templates ⊕ Create AV Template

| | | |
|--|----|-----------------------|
| Audio Dante To connect IP Audio Dante devices and their controller | ⚙️ | VLAN 20 (Untagged) |
| Audio Q-SYS To connect IP Audio Dante devices and their controller | ⚙️ | |
| Audio-over-IP AES67 To connect IP Audio AES67 devices and their controller | ⚙️ | |
| Audio-over-IP AVB To connect IP Audio AVB devices | ⚙️ | |

Dante®

Q-SYS
Q-LAN

AES67

AVB

- For audio, profiles for Dante, Q-SYS, AES67 and SHURE are built-in, as well as an AVB profile (AVB license sold separately)

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Configure

Select the ports where this profile will apply.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Profile Settings
Configure your profile settings and preferences.

Profile Name: Dante Primary

Profile Template: Audio Dante

VLAN ID: 20

Color: #E6B421

Edit IP Setting:

IP Settings: None

Cancel Save

Profile Templates

- Audio Dante**
To connect IP Audio Dante devices and their controller
- Data**
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS**
To connect IP Audio Dante devices and their controller

Network Profiles
Configure | Network Profiles

M4250-12M2XF

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Configured Profiles

| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports |
|-----------------|--------------|---------|------------|---------------------|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 |
| Dante Primary | Audio Dante | 20 | N/A | 8 |

Profile Templates

- Audio Dante**
To connect IP Audio Dante devices and their controller
- Data**
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS**
To connect IP Audio Dante devices and their controller

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Templates + Create AV Template

Video
To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio is sent and received using another VLAN tag from the video nodes. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc.

VLAN 10 (Untagged)

- For video, the M4250 offers a Video Profile supporting NVX, SVSI, Q-SYS, NDI, Kramer KDS, Aurora Multimedia, ZeeVee, Atlona, Dante, SDVoE, etc.

DigitalMedia™ NVX Series



AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Name

Management VLAN

Profile Templates

Audio Dante
To connect IP Audio

Data
To connect PCs, sACN

Audio Q-SYS
To connect IP Audio

Video with Q-SYS
To connect IP Video

Video with AES67
To connect IP Video

Audio-over-IP AVB
To connect IP Audio AVB devices

Video
To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio is sent and received using another VLAN tag from the video nodes. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atrona, Dante Video, SDVoE & etc.

Profile Configure

Select the ports where this profile will apply.

Profile Settings
Configure your profile settings and preferences.

Profile Name: NVX

Profile Template: Video

VLAN ID: 10

Color: #75C6E3

Edit IP Setting:

IP Settings: None

Cancel Save

Question/Help admin

Network Profiles
Configure | Network Profiles

M4250-12M2XF Show Legends

Configured Profiles

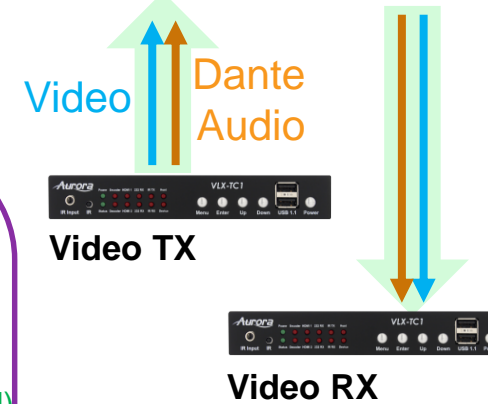
| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports |
|-----------------|--------------|---------|------------|---------------------|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 |
| NVX | Video | 10 | N/A | 8 |

Profile Templates [Create AV Template](#)

- Audio Dante
To connect IP Audio Dante devices and their controller
- Data
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS
To connect IP Audio Dante devices and their controller

AV Line M4250 series

Switching Engineered for 1G AV-over-IP



Profile Templates

[+ Create AV Template](#)

Video with Dante audio

To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Dante supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc.



VLAN 10
(Untagged)

Video with Q-SYS audio

To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Q-SYS supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc.



Video with AES67 audio

To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio AES67 supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc.



- Audio/Video mixed profiles are available when Video TX/RX can embed and de-embed Audio using Dante, Q-SYS or AES67 in the same VLAN

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Configure

Select the ports where this profile will apply.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Profile Settings
Configure your profile settings and preferences.

Profile Name: Aurora VLX with Dante Untagged

Profile Template: Video with Dante audio

VLAN ID: 10

Color: #15EA91

Edit IP Setting:

IP Settings: None

Cancel Save

Audio-over-IP Shure
To connect IP Audio Shure devices

Video with Dante audio
To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio Dante supported at the same time in the same VLAN. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atona, Dante Video, SDVoE & etc.

Network Profiles

Configure | Network Profiles

M4250-12M2XF Show Legends

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Configured Profiles

| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports | |
|--------------------------------|------------------------|---------|------------|---------------------|---|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 | ⋮ |
| Aurora VLX with Dante Untagged | Video with Dante audio | 10 | N/A | 8 | ⋮ |

Profile Templates [+ Create AV Template](#)

- Audio Dante**
To connect IP Audio Dante devices and their controller
- Data**
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS**
To connect IP Audio Dante devices and their controller

AV Line M4250 series

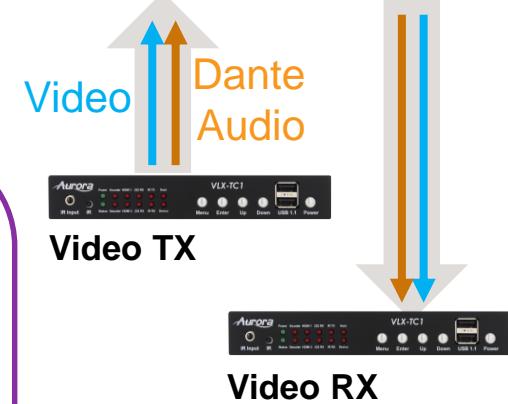
Switching Engineered for 1G AV-over-IP



Profile Templates

[+ Create AV Template](#)

| | | |
|---|--|-----------------------|
| Video To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio is sent and received using another VLAN tag from the video nodes. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atlona, Dante Video, SDVoE & etc. | | VLAN 10 (Untagged) |
| Audio Dante To connect IP Audio Dante devices and their controller | | VLAN 20 (Tagged) |



- When Video TX/RX embed and de-embed Audio using Dante, Q-SYS or AES67 in another VLAN, **two profiles can be used** in a trunk
- For instance, Video “untagged” and Audio “tagged” if the TX/RX are configured this way

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Configure

Select the ports where this profile will apply.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Profile Settings
Configure your profile settings and preferences.

Profile Name: Video VLX Untagged

Profile Template: Video

VLAN ID: 10

Color: #5BBBDE

Edit IP Setting:

IP Settings: None

Cancel Save

Video
To connect IP Video Encoders (TX), IP Video Decoders (RX), and their controller. Audio is sent and received using another VLAN tag from the video nodes. Supported devices include Crestron NVX, SVSI AMX, Aurora Multimedia, Atona, Dante Video, SDVoE & etc.

Network Profiles

Configure | Network Profiles

M4250-12M2XF

Show Legends

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Configured Profiles

| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports | |
|--------------------|--------------|---------|------------|---------------------|---|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 | ⋮ |
| Video VLX Untagged | Video | 10 | N/A | 8 | ⋮ |

Profile Templates

Create AV Template

- Audio Dante**
To connect IP Audio Dante devices and their controller
- Data**
To connect PCs, sACN, Art-Net, MANet and other network devices.
- Audio Q-SYS**
To connect IP Audio Dante devices and their controller

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

Profile Configure

Select the ports where this profile will apply.

Profile Settings
Configure your profile settings and preferences.

Profile Name: Dante Tagged

Profile Template: Audio Dante

VLAN ID: 20

Color: #DAB924

Edit IP Setting:

IP Settings: None

Cancel Save

Audio Dante
To connect IP Audio Dante devices and their controller

Network Profiles
Configure | Network Profiles

M4250-12M2XF Show Legends

Configured Profiles

| Profile Name | Profile type | VLAN ID | IP Address | # of Assigned Ports |
|--------------------|--------------|---------|------------|---------------------|
| Management VLAN | Data | 1 | 0.0.0.0 | 6 |
| Video VLX Untagged | Video | 10 | N/A | 8 |
| Dante Tagged | Audio Dante | 20 | N/A | 8 |

Profile Templates [Create AV Template](#)

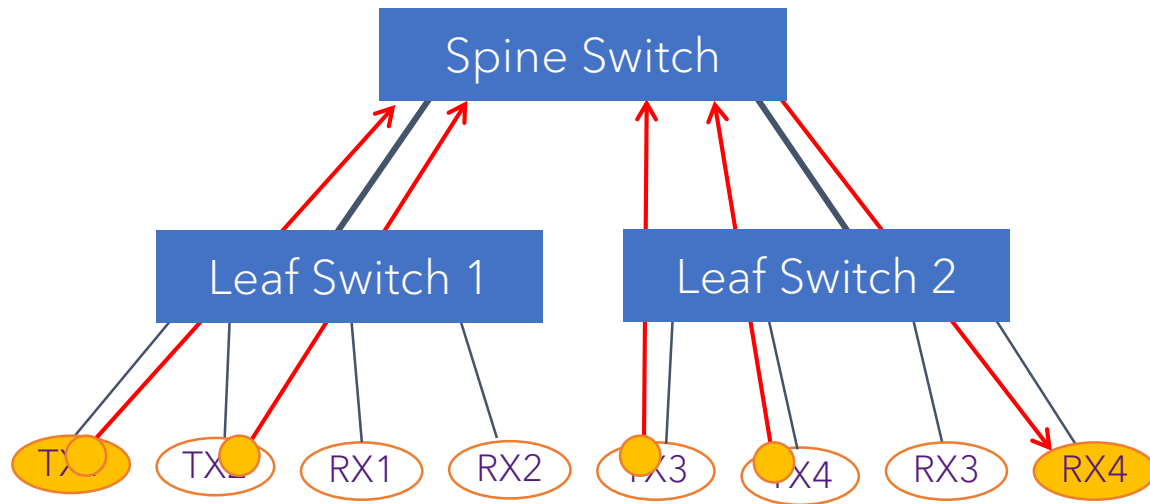
Audio Dante
To connect IP Audio Dante devices and their controller

AV Line M4250 series

Switching Engineered for 1G AV-over-IP

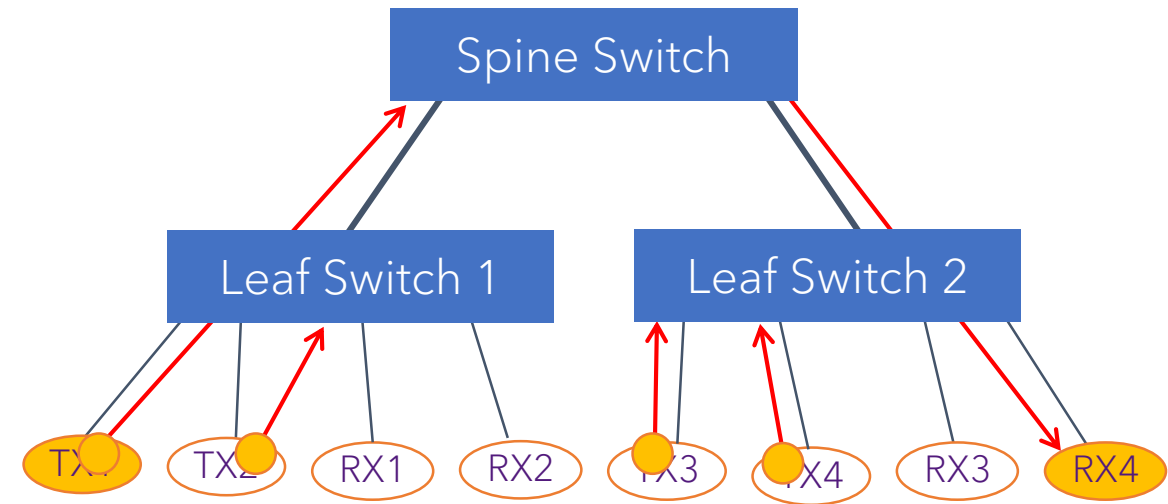
Without IGMP Plus

TX1, TX2, TX3, & TX4
all are sent upstream



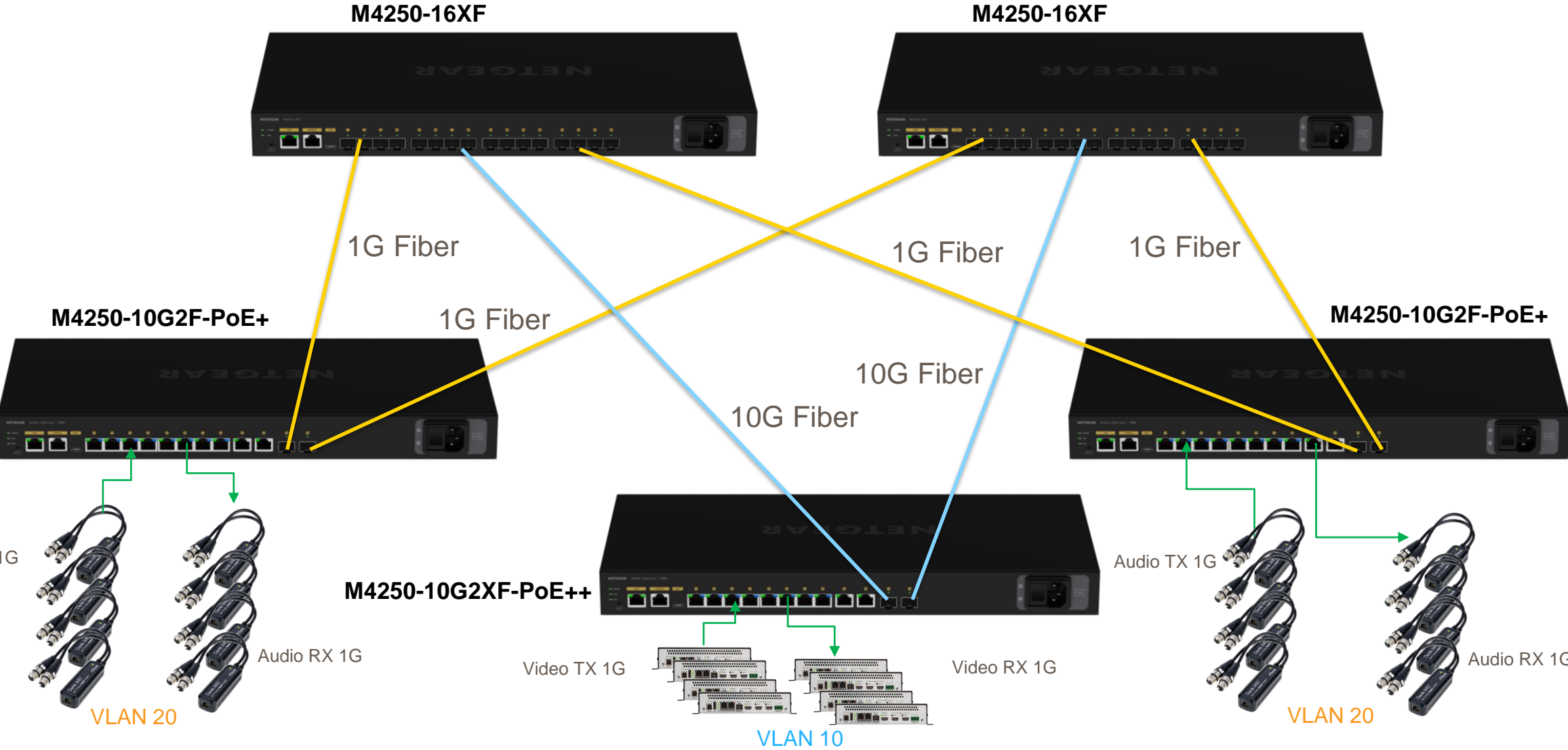
With IGMP Plus

Only TX1 is sent
upstream



- To further simplify star deployments, NETGEAR IGMP Plus™ brings multicast automation between all M4250 switches, and with M4300/M4500
- Removes the need for complicated Layer 3 PIM routing and prevents any flooding

Simplified Architecture With IGMP Plus



AV Line M4250 series

Switching Engineered for 1G AV-over-IP



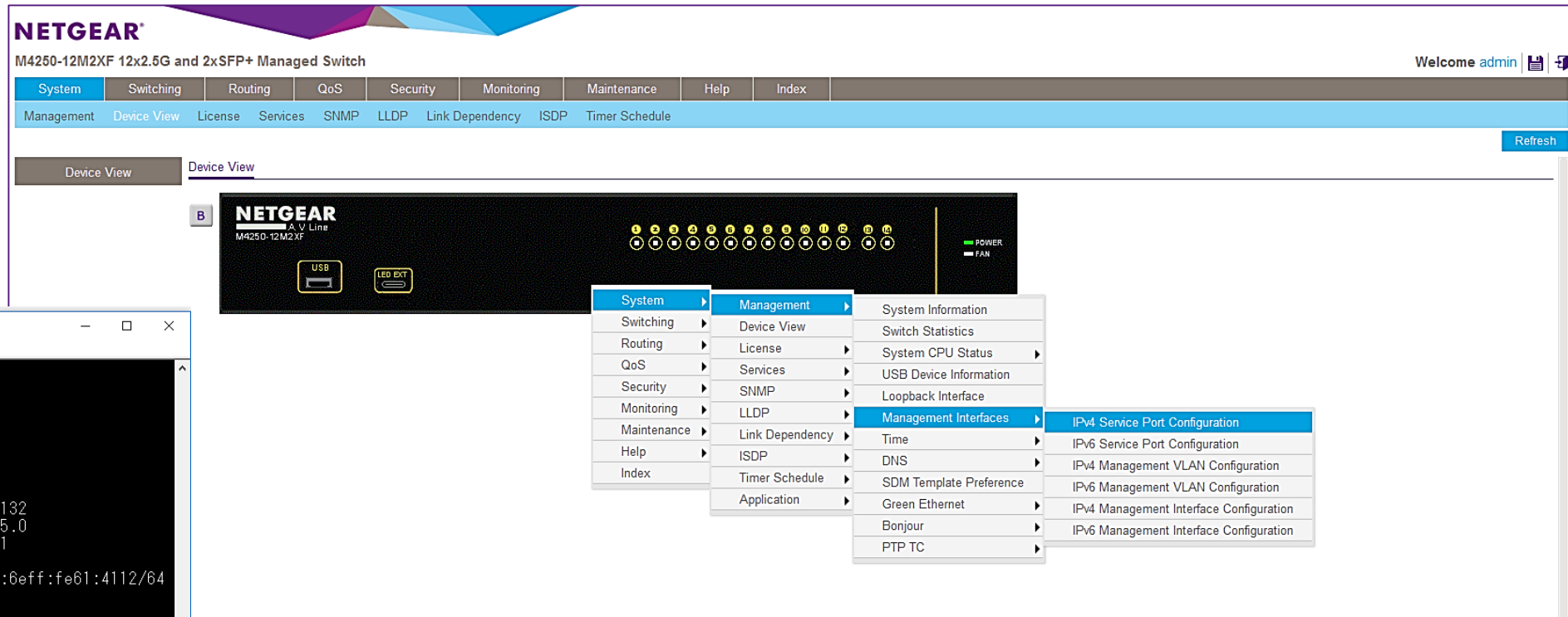
The screenshot shows the Netgear configuration interface for the AV Line M4250 series. The top navigation bar includes the Netgear logo, a menu icon, and user information (Question/Help and admin). The left sidebar contains navigation options: Configure (selected), Overview, Network Profiles, Maintenance, and Licenses. The main content area is titled 'AVB License' and includes a sub-section for 'Active Licenses'. A modal dialog box titled 'Activate New License' is open, featuring two radio buttons: 'Online License Activation' (selected) and 'Offline License Activation'. Below the radio buttons is a text input field labeled 'License Key' containing the value '1111-222-333-4444'. At the bottom of the dialog are 'Cancel' and 'Save' buttons.

- The AVB license registration key, received by email, can be copied/pasted directly in the AV UI



AV Line M4250 series

Switching Engineered for 1G AV-over-IP



```
COM11 - Tera Term VT
File Edit Setup Control Window KanjiCode Help

User:admin
Password:*****
(M4250-12M2XF)>enable
(M4250-12M2XF)#show serviceport

Interface Status..... Up
IP Address..... 192.168.0.132
Subnet Mask..... 255.255.255.0
Default Gateway..... 192.168.0.1
IPv6 Administrative Mode..... Enabled
IPv6 Prefix is..... fe80::46a5:6eff:fe61:4112/64
Configured IPv4 Protocol..... DHCP
Configured IPv6 Protocol..... None
IPv6 AutoConfig Mode..... Disabled
Burned In MAC Address..... 44:A5:6E:61:41:12

(M4250-12M2XF)#
```

- All M4250 switches share the same high-end NETGEAR Layer 2 / Layer 3 switching engine for a consistent experience with M4300
- Another main, IT web-based GUI for midsize Enterprise campus networks, IoT and IPTV



Software at a glance



| LITE LAYER 3 PACKAGE | | | | | | | | | | | | |
|-----------------------------|--|---|--|--|---|--|---|---|---|--|---|---------------------|
| Model Name | Management | AV Dedicated UI | IPv4 / IPv6 ACL and QoS, DiffServ | IPv4 / IPv6 Multicast Filtering | IPv4 / IPv6 Policing and Convergence | Spanning Tree Green Ethernet | VLANs | Trunking Port Channel | IPv4 / IPv6 Authentication Security | IPv4 / IPv6 Static Routing | IPv4 / IPv6 Dynamic Routing | Model number |
| M4250 series | Out-of-band IT Web GUI (main) HTTPs CLI; Telnet; SSH SNMP, MIBs RSPAN Radius Users, TACACS+ sFlow | AV web-based GUI available at [Switch IP Address]:8080 Designed for AV installers AV-related controls Audio over IP profiles AVB profile* Video over IP profiles Mixed Audio and Video profiles | Ingress / egress 1 Kbps shaping Time-based Single Rate Policing | NETGEAR IGMP™ Plus for automated IGMP between switches IGMPv3 MLDv2 Snooping, Proxy ASM & SSM IGMPv1,v2 Querier (compatible v3) Control Packet Flooding | Auto-VoIP Policy-based routing (PBR) LLDP-MED IEEE 1588 PTPv2 1-Step End-to-End Transparent Clock AVB*: 802.1AS, 802.1Qav, 802.1Qat MSRP, 802.1ak MMRP, 802.1ak MVRP | STP, MTP, RSTP PV(R)STP BPDU/STRG Root Guard EEE 802.3az (EEE is disabled by default) | Static, Dynamic, Voice, MAC GVRP/GMRP Double VLAN mode Private VLANs | Static LAG, or Dynamic LACP (LACP automatically reverts to and from Static LAG) Seven (7) L2/L3/L4 hashing algorithms | Successive Tiering (DOT1X; MAB; Captive Portal) DHCP Snooping Dynamic ARP Inspection IP Source Guard | Port, Subnet, VLAN routing Multicast static routes DHCPv4 Server DHCP Relay Stateful DHCPv6 Server | IPv4: RIP IPv4/IPv6: PIM-SM PIM-DM SSM 6-to-4 tunnels | All models |

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

Performance at a glance



TABLE SIZE

| Model Name | MAC ARP/NDP | Routing / Switching Capacity | Throughput | Application Route Scaling | Packet Buffer | Latency | IP Multicast Routing Entries | CPU | Jumbo Frames | Multicast IGMP Group membership | VLANs | DHCP | sFlow | Model number |
|---------------------------|-----------------------|-------------------------------------|-------------------|-------------------------------------|----------------------|--|-------------------------------------|--|---------------------|--|--------------|------------------------------|----------------|---------------------|
| M4250-10G2F-PoE+ | 16K MAC 4K ARP/NDP | 24 Gbps Line-Rate | 17.86 Mpps | Static: 894v4/126v6 RIP: 32v4 | 16Mb | <2.27µs 1G | | | | | | | | GSM4212P |
| M4250-10G2XF-PoE+ | 16K MAC 4K ARP/NDP | 60 Gbps Line-Rate | 44.64 Mpps | Static: 894v4/126v6 RIP: 32v4 | 16Mb | <2.14µs 1G <0.84µs 10G | | | | | | DHCP Server: 2K leases | 16 samplers | GSM4212PX |
| M4250-10G2XF-PoE++ | 16K MAC 4K ARP/NDP | 60 Gbps Line-Rate | 44.64 Mpps | Static: 894v4/126v6 RIP: 32v4 | 16Mb | <1.84µs 1G <0.81µs 10G | 512 IPv4 128 IPv6 | ARM A9 1.25Ghz 2GB RAM 256MB Flash | Up to 9K | 2K IPv4 2K IPv6 | 4K VLANs | IPv4: 256 pools | 16 pollers | GSM4212UX |
| M4250-12M2XF | 16K MAC 4K ARP/NDP | 100 Gbps Line-Rate | 74.40 Mpps | Static: 894v4/126v6 RIP: 32v4 | 16Mb | <2.84.µs 1G <6.02µs 2.5G <0.81µs 10G | | | | | | IPv6: 16 pools | 8 receivers | MSM4214X |
| M4250-16XF | 16K MAC 4K ARP/NDP | 320 Gbps Line-Rate | 238.08 Mpps | Static: 894v4/126v6 RIP: 32v4 | 16Mb | <1.30µs 1G <0.86µs 10G | | | | | | | | XSM4216F |



Solely designed with the AV Pro in mind

SERVICE & SUPPORT

AV Line M4250 series

Switching Engineered for 1G AV-over-IP



- NETGEAR ProSAFE Limited Lifetime Hardware Warranty
- Included Lifetime Technical Support
 - ✓ 90 days of Technical Support via phone and email
 - ✓ Lifetime Technical Support through online chat
- Included Lifetime Next Business Day Hardware Replacement



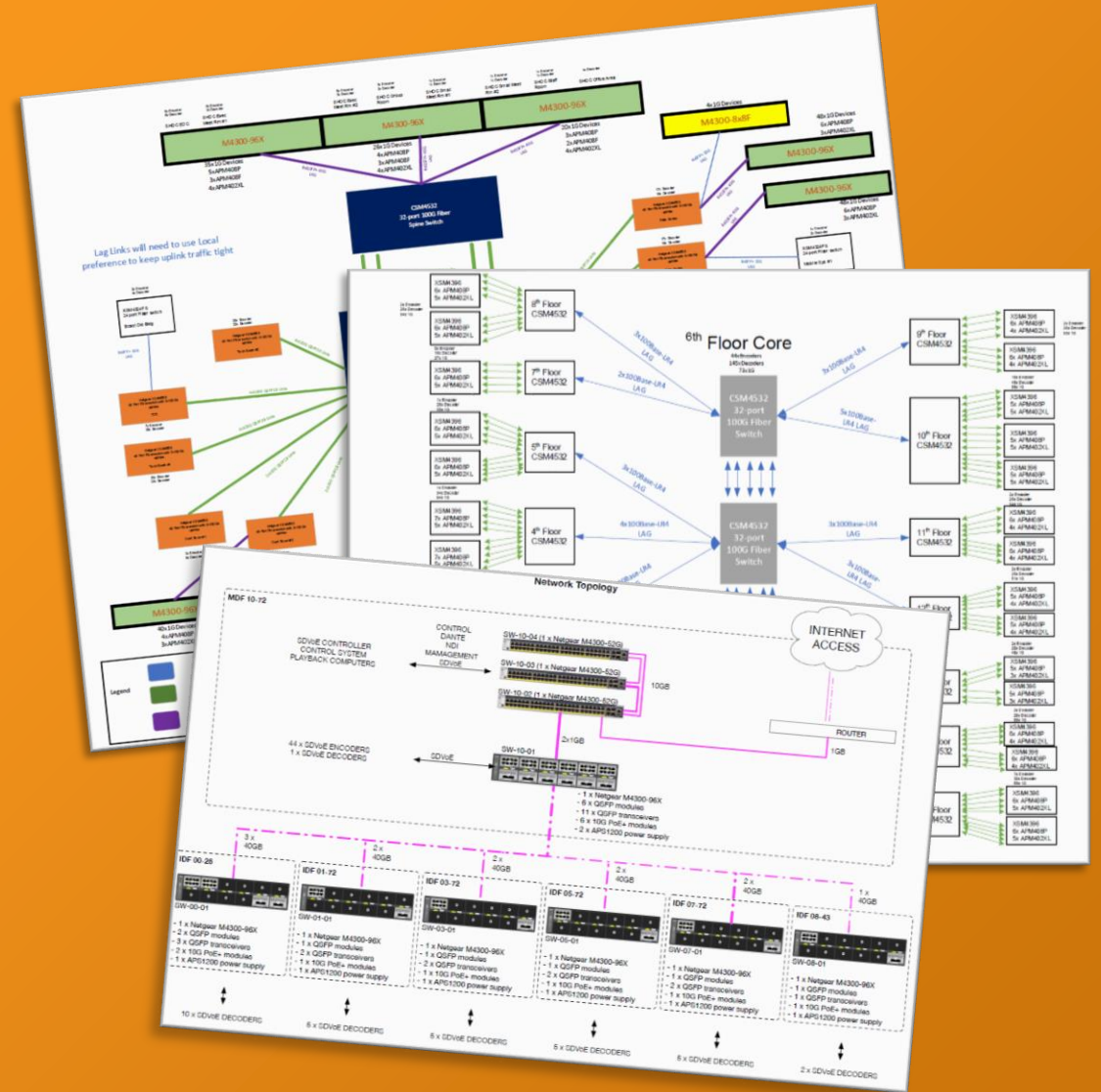
** This product comes with a limited warranty that is valid only if purchased from a NETGEAR authorized reseller, and covers unmodified hardware, fans and internal power supplies - not software or external power supplies, and requires product registration at <https://www.netgear.com/business/registration>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

Pro AV Engineering Services

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- Product training on demand
- Configuration guides and coaching
- Deployment support
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- Conduit to Product Management and R&D

Direct email: ProAVDesign@netgear.com





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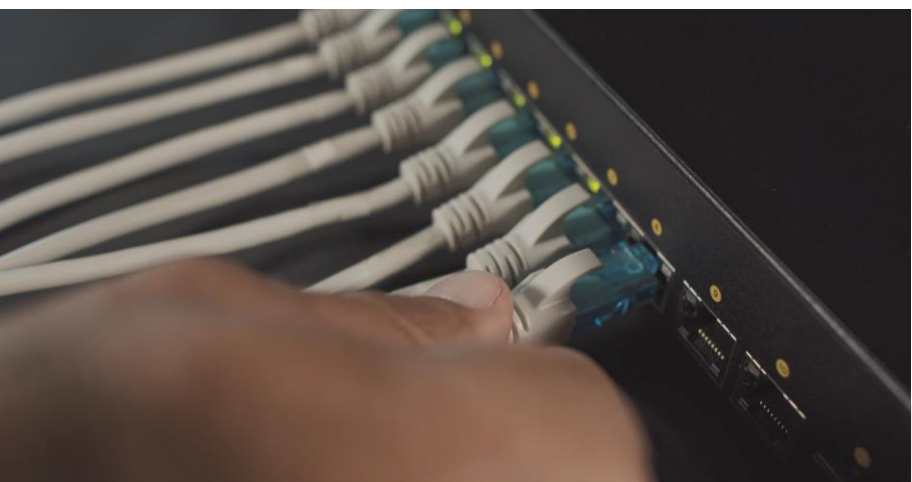
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LIVE DEMO

Hands-on





KEY TAKEAWAYS

8-port switch for 1G Audio-over-IP ≤30W

Dante® **Q-SYS** **Q-LAN**
AES67 **AVB**

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)



- 8-port 1G RJ45 PoE+ with 125W PoE budget
- 2-port 1G RJ45
- 2-port 1G SFP



Perfect for Video-over-IP too,
when standalone

8-port switch for 1G Video-over-IP

≤30W

DigitalMedia™ NVX Series E30, D30, D80 (PoE+)

Dante AV

svsi

AMX

Aurora

zeevee
Intelligent AV Distribution

OmniStream
by Attona

K
KRAMER

NDI

M4250-10G2XF-PoE+ AV Line Managed Switch

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 1G RJ45 PoE+ with 240W PoE budget
- 2-port 1G RJ45
- 2-port 10G SFP+



10G uplinks allowing
1G video streams in and out

8-port switch for 1G Video-over-IP

≥30W

DigitalMedia™ NVX Series 350, 351, 352 (UPOE/802.3bt Type 3 60W)

Q-LAN Q-SYS NV32H (802.3bt Type 4 75W)

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)



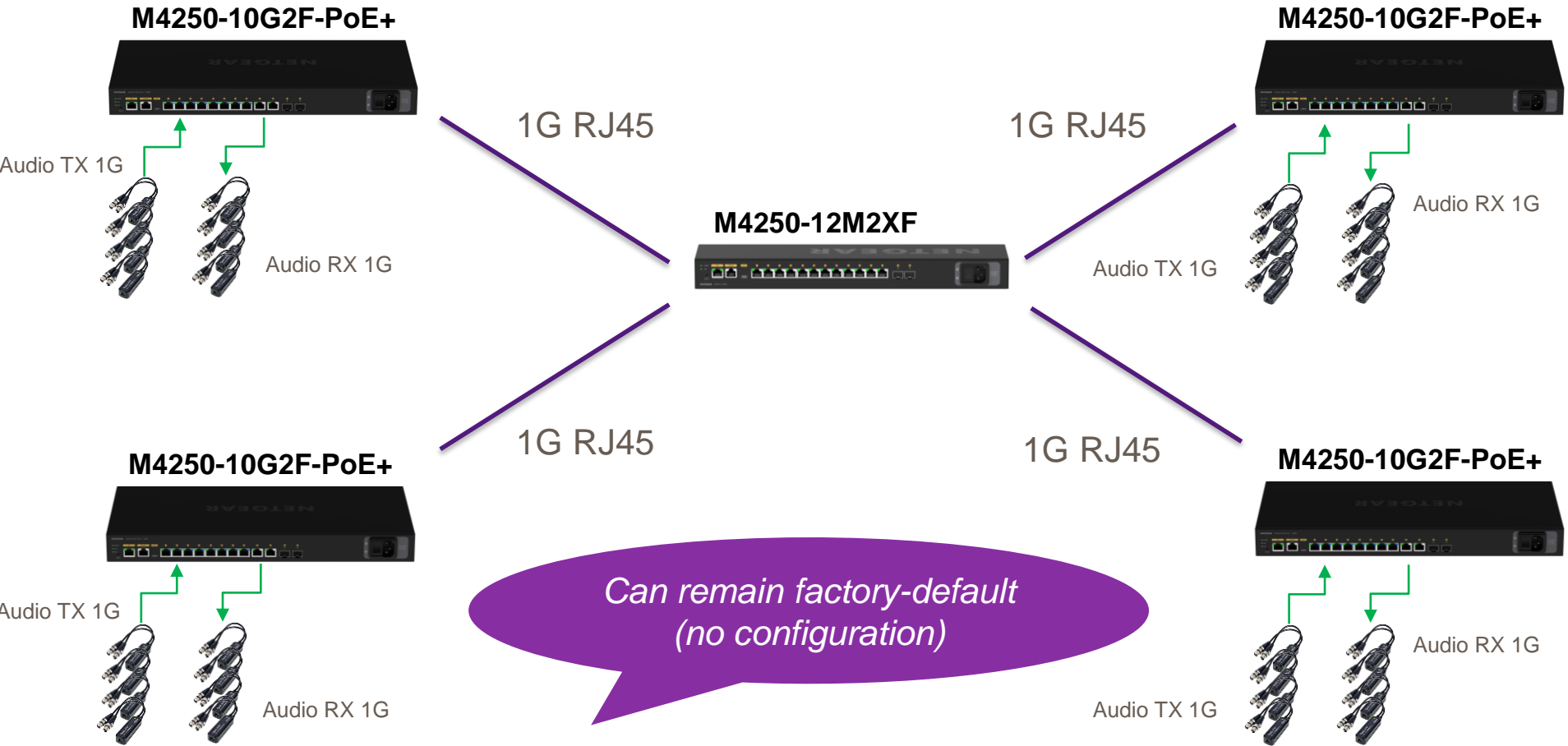
- 8-port 1G RJ45 Ultra90 PoE++ with 720W PoE budget
- 2-port 1G RJ45
- 2-port 10G SFP+



802.3bt from 4W to 90W

Scaling with M4250

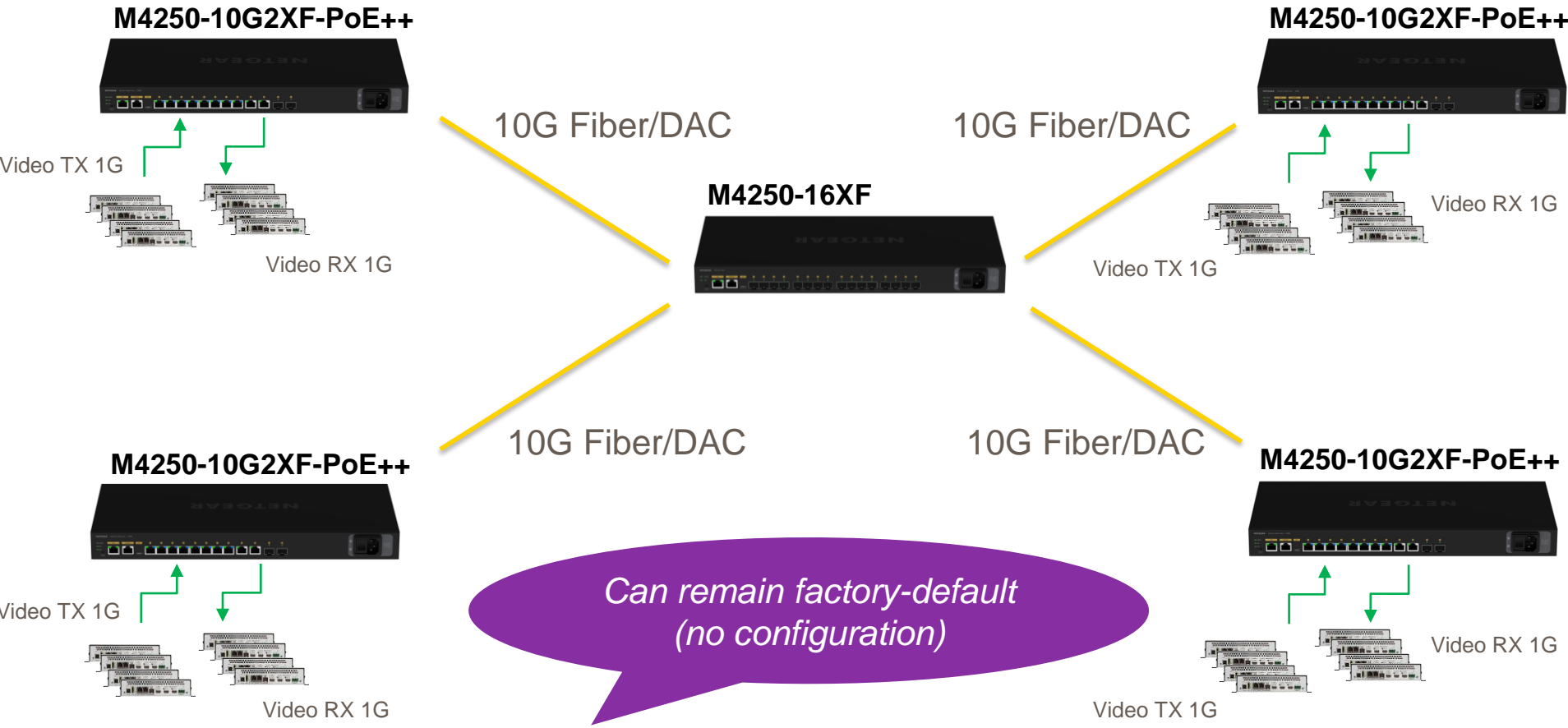
32 ports for 1G Audio over IP,
up to 96 ports



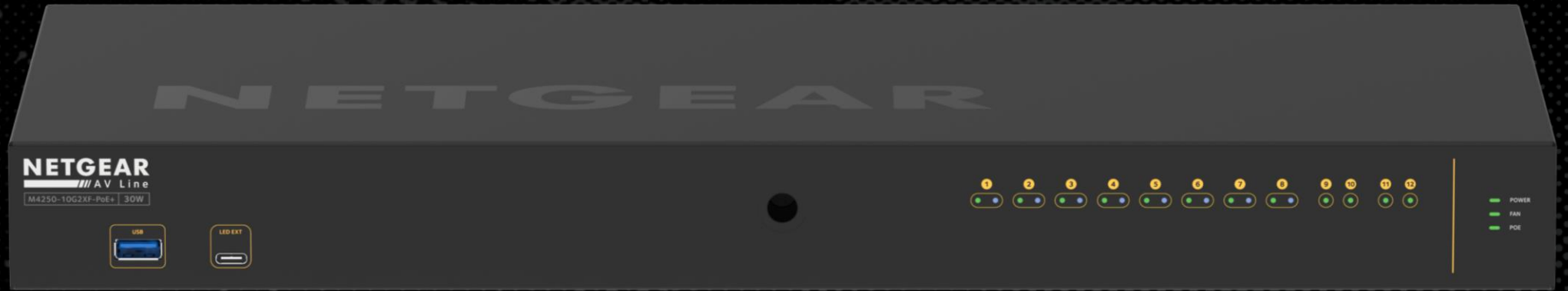
Can remain factory-default
(no configuration)

Scaling with M4250

32 ports for 1G Video over IP,
up to 128 ports



AVLINE



Switching engineered for AV over IP | **NETGEAR**



M4250 Series