

Grandstream Networks, Inc.

Pro AV

Configuration Guide



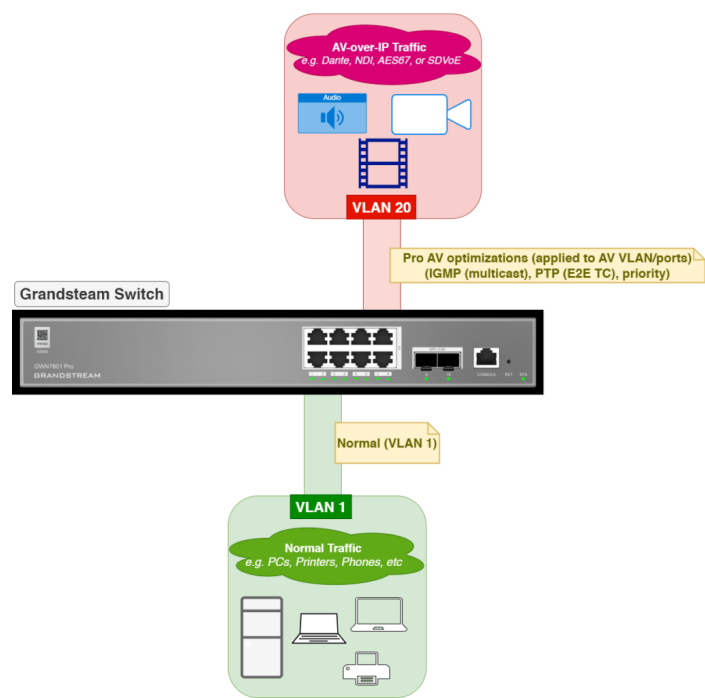
Overview

Pro AV is a feature that simplifies configuring a switch for **professional audiovisual (AV-over-IP)** deployments. These networks often carry continuous, high-bandwidth streams and commonly use **multicast** for discovery and distribution. Some deployments may also require **PTP timing** for synchronization. Without proper segmentation and multicast control, issues such as unstable streams, dropouts, stutter, or multicast flooding can occur.

Pro AV organizes configuration into **Templates** and **Configured Profiles**. Templates let you choose a built-in AV scenario (such as Dante, NDI, or AES67) or create a custom one. A configured profile then applies the selected template to a VLAN and assigns the required ports as tagged or untagged members. Depending on the design, the profile can also enable VLAN routing and DHCP for that VLAN.

Benefits

- Faster setup using Templates and Configured Profiles instead of manual repetition
- Cleaner segmentation by deploying a dedicated VLAN for media endpoints
- Easier multicast and timing-focused deployments when required
- More consistent room/site deployments and simpler troubleshooting through clear port assignment



Pro AV Concept Overview

Supported Devices

Pro AV is supported on the following models:

Series	Supported Models
GWN780x Pro	GWN7801P Pro, GWN7802P Pro, GWN7803 Pro, GWN7803PL Pro, GWN7803PH Pro, GWN7806PL Pro, GWN7806PH Pro

Supported Devices

Pro AV Configuration

Pro AV configuration consists of two steps: select or create a **Template**, then create a **Configured Profile** to apply it to ports.

Templates

Templates define the AV scenario you want to use. You can select a built-in template (*AES67*, *Dante*, *NDI*, etc.) or create a custom template to standardize your own deployment settings.

Pro AV

Configuration

Template

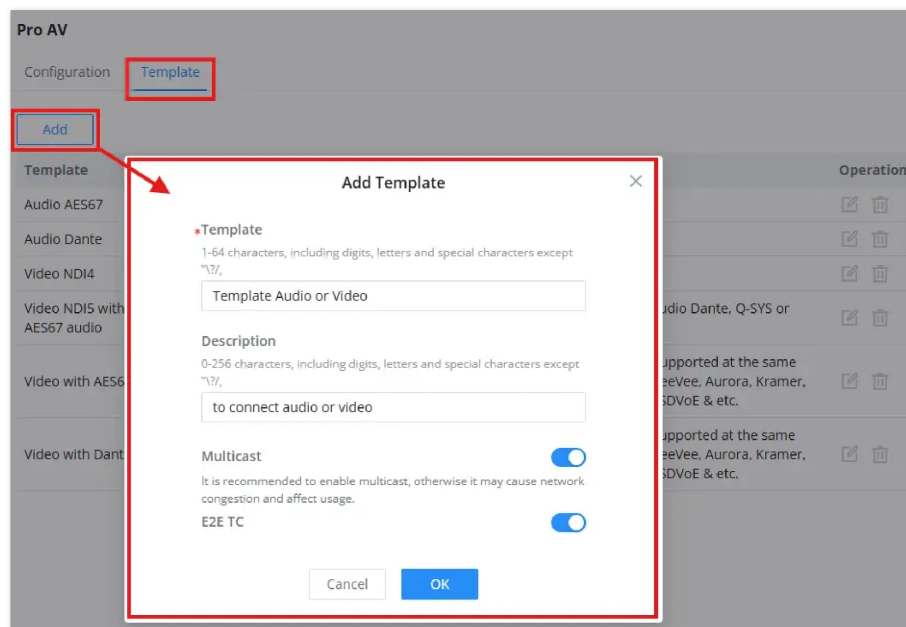
Add

Template	Description	Operation
Audio AES67	To connect IP Audio AES67 devices and their controller	
Audio Dante	To connect IP Audio Dante devices and their controller	
Video NDI4	To connect NDI Version 4 (mTCP) video devices and cameras.	
Video NDI5 with Dante, Q-Sys or AES67 audio	To connect NDI Version 5 (RUDP) video devices and cameras. Audio Dante, Q-SYS or AES67 is supported at the same time in the same VLAN.	
Video with AES67 audio	To connect IP Video devices and their controller. Audio AES67 supported at the same time in the same VLAN. Supported devices include NVX, AMX, ZeeVee, Aurora, Kramer, Atlona, LibAV, Visionary, Wyrestorm, Extron NAV, Dante Video, SDVoE & etc.	
Video with Dante audio	To connect IP Video devices and their controller. Audio Dante supported at the same time in the same VLAN. Supported devices include NVX, AMX, ZeeVee, Aurora, Kramer, Atlona, LibAV, Visionary, Wyrestorm, Extron NAV, Dante Video, SDVoE & etc.	

Pro AV Builtin Templates

To create a custom template

1. Go to **Pro AV** → **Template**.
2. Click **Add**.
3. Enter a **Template** name and **Description** that clearly identify the intended use (for example, *Conference Room*).
4. Configure the options:
 - **Multicast: Recommended for most AV-over-IP deployments.** Enable when your system uses multicast discovery and/or multicast streams. Disabling it in a multicast environment may increase unnecessary traffic and affect performance.
 - **E2E TC:** Enable when the deployment uses **PTP (IEEE 1588)** for synchronization. This allows the switch to operate as an **End-to-End Transparent Clock**, helping maintain accurate timing across the AV VLAN so endpoints stay in sync.



Pro AV

Configuration **Template**

Add

Add Template

•Template
1-64 characters, including digits, letters and special characters except
`~?/,
Template Audio or Video

Description
0-256 characters, including digits, letters and special characters except
`~?/,
to connect audio or video

Multicast ☒
It is recommended to enable multicast, otherwise it may cause network congestion and affect usage.

E2E TC ☒

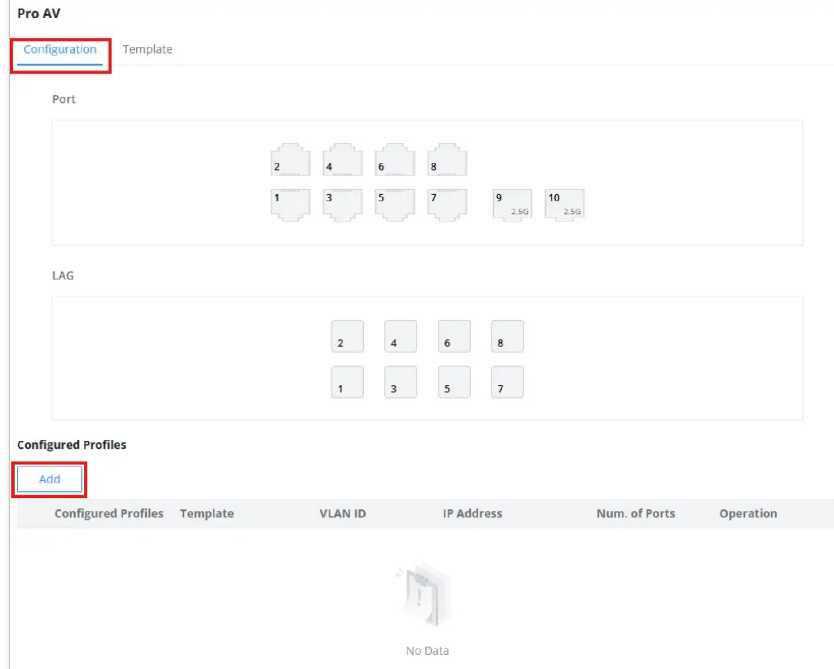
Cancel OK

Pro AV Custom Template

Once created, the template will be available to select when creating a configured profile.

Configured Profiles

A configured profile is the deployment unit in Pro AV. It applies the selected template to a VLAN and assigns the chosen ports and/or LAGs as tagged or untagged members. If enabled, the profile can also configure VLAN routing, the VLAN IP interface, and DHCP settings.



Add a configured profile

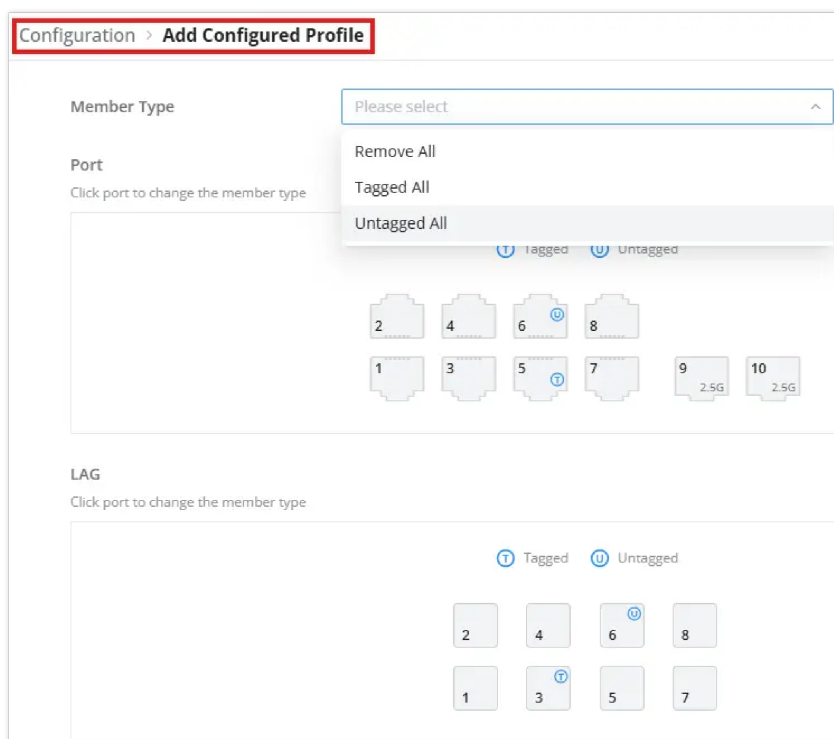
To create a configured profile:

1. Go to **Pro AV** → **Configuration**.
2. In **Configured Profiles**, click **Add**.

Select ports membership (Tagged/Untagged)

Use the **Member Type** control and port/LAG clicks to decide how ports participate in the profile VLAN.

- **Untagged** is typically used for endpoints that should land in one VLAN without tagging.
- **Tagged** is typically used for uplinks/trunks or links that must carry multiple VLANs.



Select ports membership TaggedUntagged

Configure the profile settings

Configure the profile settings in the Add Configured Profile form. Refer to the field descriptions below:

• Configured Profiles

1-64 characters, including digits, letters and special characters except "\/?:

• Template

Template Audio or Video

• VLAN ID

10

Valid range is 1-4094

Color

#6699FF

VLAN Routing

☒

Address Type

☒ Static IP ☐ DHCP

• IP Address

10.0.0.5

IPv4 format

• Subnet Mask

255.0.0.0

IPv4 format

DHCP Server

☒

• Address Pool

10.0.0.1

-

10.255.255.254

Preferred DNS Server

10.0.0.1

Alternative DNS Server

• Duration (min)

120

Valid range is 1-11520

Cancel

OK

Configure the profile settings

Use the table below while completing the profile form:

Field	Description
Configured Profiles	Name of this configured profile. Use a clear label that identifies the room/system (e.g., “Conference Room AV”), so it’s easy to find later.
Template	Select the built-in or custom Pro AV template to apply (defines the intended AV behavior for this profile).
VLAN ID	VLAN number for this AV segment (1–4094). When you save, the switch creates/updates this VLAN and applies the selected port/LAG membership.
Color	Shown only on Untagged ports to indicate the port’s PVID for this profile. Use it to tell different PVIDs apart. Tagged ports are marked with “T”.
VLAN Routing	Enables Layer 3 routing for this VLAN on the switch (the switch acts as the VLAN’s gateway). Enable only if this VLAN must route to other networks.
Address Type	How the VLAN interface obtains its IPv4 address when VLAN Routing is enabled: Static IP (manual gateway) or DHCP (learned address).
IP Address	Required for Static IP. IPv4 address assigned to the VLAN interface (gateway address for clients in this VLAN).
Subnet Mask	Required for Static IP. Subnet mask for the VLAN interface address.
DHCP Server	Enables the switch’s DHCP server for this VLAN (clients can automatically receive IP settings).
Address Pool	Required when DHCP Server is enabled. Start and end IP range the switch will lease to clients in this VLAN.
Preferred DNS Server	Primary DNS server provided to DHCP clients (optional but recommended when DHCP Server is enabled).
Alternative DNS Server	Secondary DNS server provided to DHCP clients (optional).
Duration (min)	DHCP lease duration in minutes (how long a client keeps its assigned address before renewal).

Confirm the profile is applied

After you save the configured profile, it appears in the Configured Profiles table and the selected ports are highlighted using the profile color. If you create additional profiles, the table lists multiple profiles and the port diagram shows multiple colors to indicate which ports belong to each profile.

Pro AV

Configuration Template

Port



LAG



Configured Profiles

[Add](#)

Configured Profiles	Template	VLAN ID	IP Address	Num. of Ports	Operation
 Audio & Video	Template Audio or Video	10	10.0.0.5	2	  

Confirm the profile is applied

Pro AV

Configuration Template

Port



LAG



Configured Profiles

[Add](#)

Configured Profiles	Template	VLAN ID	IP Address	Num. of Ports	Operation
 Audio & Video	Template Audio or Video	10	10.0.0.5	3	  
 Audio Equipments	Video NDI4	6	--	1	  
 Video materials	Audio AES67	88	--	2	  
 builtin	Audio Dante	99	99.0.0.1	2	  
 custom	Template Audio or Video	100	--	2	  

Confirm the profile is applied

Optional verification

This section is optional. No additional configuration is required after you save the profile. The examples below show where the applied settings appear in other menus.

VLAN membership (example)

Verify that the VLAN ID configured in the profile appears in the VLAN list. Confirm that the selected ports and/or LAGs are listed as **Tagged** or **Untagged** members, matching what you assigned in Pro AV.

VLAN				
VLAN Port Settings Port Members Voice VLAN OUI MAC VLAN Protocol VLAN				
Add Delete Delete All				
☐ VLAN	Description	Tagged Port	Untagged Port	Operation
☐ 1	default	1/0/5-1/0/6,1/0/8,1/0/10,LAG4	1/0/1-1/0/4,1/0/7,1/0/9,LAG1-LA...	
☐ 6	Audio Equipments	1/0/7	--	
☐ 10	Audio & Video	1/0/5	1/0/6,LAG4	
☐ 88	Video materials	1/0/4	1/0/5	
☐ 99	buitin	1/0/9	1/0/10	
☐ 100	custom	1/0/7	1/0/8	

VLAN membership example

VLAN IP Interface (example)

This entry appears only if **VLAN Routing** is enabled in the profile. Verify that the VLAN interface exists and that its address settings match what you configured (Static IP or DHCP).

VLAN IP Interface				
IPv4 Interface IPv6 Interface IPv6 Router Advertisements MGMT VLAN				
MTU 1500 Valid range is 1280-9216, and linked to the IPv6 Interface MTU Cancel OK				
Add Delete All All Types Q VLAN/IP Address				
☐ IPv4 Interface	Status	Type	IPv4 Address	Operation
☐ Loopback1	UP	Static	--	
☐ * VLAN 1	UP	Static	172.16.142.28/24	
☐ VLAN 10	DOWN	Static	10.0.0.5/8	
☐ VLAN 99	DOWN	Static	99.0.0.1/8	

VLAN IP Interface example

IGMP Snooping (example)

For multicast deployments, the VLAN may appear under IGMP Snooping settings. This reflects how the switch manages multicast forwarding behavior for that VLAN.

IGMP Snooping						
Global Settings Querier Router Port Multicast Address Multicast Policy Multicast Port						
IGMP Snooping ☒ Unknown Multicast Packet Drop This option is associated with the same setting under MLD Snooping Multicast Forward Mode ☒ MAC-Based ☐ IP-Based IGMP Version ☒ IGMPv2 ☐ IGMPv3 Report Suppression ☐ Cancel OK						
VLAN Settings						
Add Edit Delete All Q VLAN						
☐ VLAN	Status	Router Port Auto-Learning	Port Fast Leave	Query Robustness	Qu	Operation
☐ 1	Disabled	Enabled	Disabled	2	12	
☐ 6	Enabled	Enabled	Enabled	2	12	
☐ 10	Enabled	Enabled	Enabled	2	12	
☐ 88	Enabled	Enabled	Enabled	2	12	
☐ 99	Enabled	Enabled	Enabled	2	30	
☐ 100	Enabled	Enabled	Enabled	2	12	

IGMP Snooping example