

# AXIS Audio Manager Center

### Introduction

AXIS Audio Manager Center is a secure and scalable solution for remote management and monitoring of large and complex audio systems.

- **Organize your audio sites** – You can organize your AXIS Audio Manager Edge audio sites in a structure that suits your organization.

**Example:**

A location named "France" could contain a location called "Paris", which in turn contains all the audio sites located in Paris.

**Example:**

A location named "Sales region South" could contain all the cities belonging to that region, which in turn contains all the audio sites located in those cities.

- **Monitor your system** – The **Dashboard** and **Audio sites** views gives an overview of your system. Filtering functionality makes troubleshooting easy.
- **Access your sites remotely** – Access the user interface of your sites remotely in a secure way from the **Sites** view.
- **Manage users** – Invite users and add each user to one or several user groups. Each user group is given a certain access right, and assigned to a location in the audio site structure.

**Example:**

A single user can be part of a group with content manager rights for Europe, but also to a group with administrator rights for an audio site in Paris, France.

- **Premium features**
  - **Scheduling** – Schedule announcements, advertisements and music for multiples audio sites.

## What's new?

For the new features in each AXIS Audio Manager Center release, go to [help.axis.com/whats-new-in-axis-audio-manager-center](http://help.axis.com/whats-new-in-axis-audio-manager-center).

## Get started



## Configure the network

- You need to have set up and configured at least one AXIS Audio Manager Edge audio site. For more information, visit the *AXIS Audio Manager Edge User Manual*.
- To enable communication between AXIS Audio Manager Edge and AXIS Audio Manager Center, the following ports must be open for outbound traffic on the network where the leader device is located:

| DNS  | Port                     | Information  |
|--|--------------------------|--|
| dispatchse1-st.axis.com<br>dispatchse2-st.axis.com<br>dispatcher-st.axis.com<br>dispatchus1-st.axis.com<br>dispatchjp1-st.axis.com | 443, 80<br>Outbound, TCP | Proprietary device communication channel. One of these ports is required. Port 80 is only used if port 443 is not available. |
| *.devices.audiomanager.axis.com  | 443<br>Outbound, TCP     | Proprietary device communication channel.  |
| a1ecdk2dyb75d7-ats.iot.eu-west-1.amazonaws.com   | 8883<br>Outbound, TCP    | MQTT channel used for sending and receiving data from a device to the cloud service.   |
| content.audiomanager.axis.com  | 443<br>Outbound, TCP     | Necessary for content distribution in scheduling.  |

## Log in

- Go to *audiomanager.axis.com* in your web browser.
- Log in using the credentials for your My Axis account. If you don't have a My Axis account, you can create one from the login window.
- At first login you have to create your organization.

## Accept an invite to an organization

When you are invited to an organization, you will receive an email with an invitation link from AXIS Audio Manager Center with the subject "User invitation to an organization".

- To accept the invitation, click the included link or paste it in your browser.
- Log in using the credentials for your MyAxis account. If you do not have a MyAxis account you can create one from the login window.
- You will automatically be routed to the organization you were invited to.

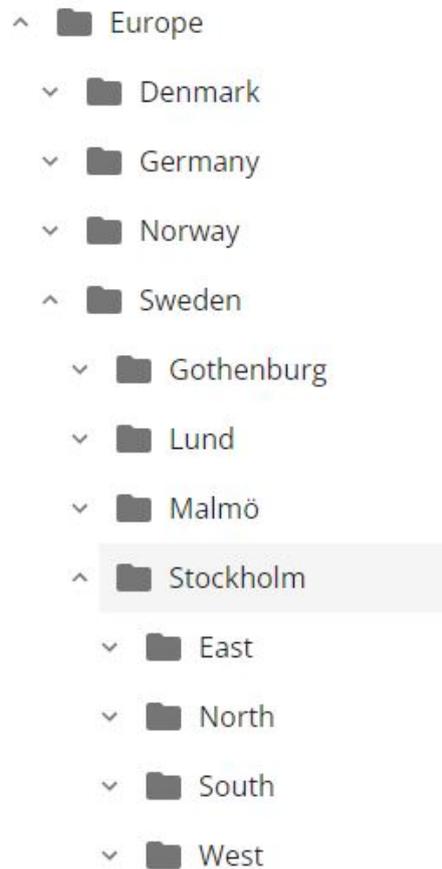
## Create a structure for your audio sites

Organize your audio sites in a structure that makes it easy to find a site or group of sites in your organization. You can assign groups of users to single audio sites or groups of audio sites by selecting locations in the structure. For more information, see *Manage users, on page 6*.

- Go to **Audio sites**.

2. To create a location:
  - 2.1. Go to a position in the structure.
  - 2.2. Click **+ Create**.
  - 2.3. Name the location and click **Create**.

Example:



### Add an audio site

#### Note

We recommend that you always adjust the volume on the AXIS Audio Manager Edge audio site before you add it to AXIS Audio Manager Center. Especially if you have premium features and active schedules, since the audio site could start playing immediately when it is added.

Enable AXIS Audio Manager Center integration in the audio sites you want to add:

1. Log in locally to your AXIS Audio Manager Edge audio site.
2. Go to **System settings > Connectivity**.
3. Select the checkbox for **AXIS Audio Manager Center integration**.
4. If needed, select **AXIS Audio Manager Center O3C proxy** and enter your organization's proxy details for the network where the audio site is located.
5. Click **SAVE**.

Add an audio site to a location:

1. In AXIS Audio Manager Center, go to **Audio sites**.
2. Select location in the structure.
3. Click **+ ADD AUDIO SITE**.

4. Enter site name, S/N (MAC address) and OAK key (Owner Authentication Key) of the device used as leader in the audio site.

Format examples:

- S/N: XXXXXXXXXXXX (12 digit hexadecimal)

- OAK: XXXXXXXXXXXX (12 digit hexadecimal)

To find the OAK key:

- 4.1. Log in locally to your AXIS Audio Manager Edge audio site.
- 4.2. Go to **System settings > Leader device settings**.
- 4.3. Click **Go to device settings**.
- 4.4. Go to **System > Network**.
- 4.5. Under **One-click cloud connection and Owner authentication key (OAK)**, click **Get key**.

**Note**

You find both the S/N (MAC address) and the OAK key (Owner Authentication Key) on a note that came with the product that is used as leader in the audio system.

Contact Axis in case you lose your note. Proof of ownership is required for receiving a new key.

5. Set the geographic location of the audio site:
  - 5.1. Select **Place audio site on map**.
  - 5.2. Write an address in the search to zoom in on that location.
  - 5.3. Click on the map to add the location.

To change or remove the location later on, go to **Audio sites**, click the row of the audio site to show its details, and then scroll down to the map.

## Manage an audio site

1. Go to **Audio sites**.
2. Click the row of an audio site to see its details.  
You can also click the audio site on the map.
3. View and edit the audio site details:
  - Find information about the leader device, such as AXIS OS version, serial number and product name.
  - Edit or remove the geographical location on the map.
  - View or change the opening hours of the audio site.
  - Download a server report file for troubleshooting.

## Manage users

When you create a new organization, you become its owner and thereby assigned the highest access level as part of the **Organization administrators** group. Users belonging to this group will have full read-and-write access to the configurations in the organization, including all locations and sites. To transfer ownership, you have to elevate a user to the owner role. There must be at least one owner of an organization.

**Note**

A user belonging to a user group will get access to all Axis cloud applications that is part of the same organization.

In order to use AXIS Audio Manager Center you have to be registered as a user in an organization. There are three pre-defined user roles:

- **Administrator** – Administrators have read/write access to the locations and audio sites that are assigned to their user group. If they are assigned a location in the audio sites structure, they can add new locations and audio sites below that location.

- **Content manager** – Content managers have access to upload and schedule content (music, advertisements and announcements) in all audio sites assigned to their user group. If they are assigned a location in the audio sites structure, they have access to all audio sites below this location. Content managers can also set the opening hours and set music volumes for their assigned audio sites.
- **Playback operator** – Playback operators have access to setting the music volumes in all audio sites assigned to their user group. If they are assigned a location in the audio sites structure, they have access to all audio sites below this location.

The total access rights for users are decided by what user groups they are members of. Each user group have a defined user role and have audio sites assigned to the group. A user can be a member of several user groups and the highest access rights for a particular audio site takes precedence for that user.

### Example:

Imagine a user that belongs to both of the following groups:

- Group: **Content managers France**
  - User role: **Content manager**
  - Location: **France**
- Group: **Administrators Paris**
  - User role: **Administrator**
  - Location: **Paris** (sub-location to France)

The user will have content management rights for all the audio sites in France, except for those in Paris, for which the user will have administrator rights. This is because the administrator rights are of a higher level than content management rights. When a user belongs to several groups, it is possible that multiple user roles applies to the same location. When this happens, only the user role with the highest level of access rights will be applied to the location.

Invite a user to your organization:

1. Go to **User management**.

### Note

Only available for owners and organization-level administrators.

2. Create a user group and assign it a user role and audio site access:
  - 2.1. Click **CREATE**.
  - 2.2. Name the user group.
  - 2.3. Select a user role.
  - 2.4. Click **CREATE**.
  - 2.5. Click **Add** next to **Location**.
  - 2.6. Select an audio site for access to a singular audio site or a location for access to all audio sites below that location.
3. Invite a new user to the user group:
  - 3.1. Click **Add** next to **Members**.
  - 3.2. Click **INVITE USER**.
  - 3.3. Enter the email address to the user you wish to invite.  
The user group is pre-selected.
  - 3.4. Write a message that will be included in the invitation mail.
  - 3.5. Click **INVITE**.

Invited users will receive an email with a link to your organization. When they follow the link, they will be prompted to login after which they will be automatically routed to the correct organization. A user can be part of several organizations.

Add existing users to a user group:

1. Go to **User management**.

2. Select the user group which the user should be added to.
3. Click **Add** next to **Members**.
4. Locate the user in the list and click **ADD**.

### Monitor the system

The status of your system can be monitored from the dashboard where you among other things can get information about your audio sites' connection state and the connection state of all devices in your organization. Most of this information is also available in the **Audio sites** view.

1. Go to **Dashboard**.
2. Check the state of your audio sites and schedules.
3. Investigate your audio sites:
  - 3.1. Go to **Audio sites**.
  - 3.2. Click the filter icon above the audio site list and select the issues you want to investigate. For information about each type of issue, see *Troubleshooting, on page 20*.
  - 3.3. To investigate an audio site, click  > **Open AXIS Audio Manager Edge**.
4. Investigate your schedules:
  - 4.1. Go to **Scheduling**.
  - 4.2. Click the filter icon above the schedules list and select the issues you want to investigate. For information about each type of issue, see *Troubleshooting, on page 20*.
  - 4.3. To investigate a schedule, click the row in the list.

### Configure health notifications

AXIS Audio Manager Center can send email and webhook notifications for different types of events that occur on the audio site.

Only administrators can set up notifications.

#### Set up an email notification

You must be an organization-level administrator to set up email notifications.

To avoid sending too many emails, we will not send an email every time an event occurs. Instead, we wait until an event occurs, and then register events during the selected amount of time before sending the notification. The notification email will contain a list of up to ten events that occurred during the time period, and a link to the event log where you can see all the events. If you want real-time notifications, we suggest you set up a webhook instead.

1. Go to **Notifications**.
2. Click **+ Create**.
3. Name your notification.
4. Select **Email**.
5. Click **Next**.
6. Enter the email for the recipient.
7. Select a notification trigger.
8. Click **Create**.

The recipient will receive an email with a confirmation request. After clicking **Confirm** in the email, the recipient will start receiving notifications.

9. Refresh your browser to check that the status of the notification has changed from **Pending** to **OK**, which indicates that the recipient has confirmed the notification.

### Set up a webhook notification

For more information about webhook notification, see *Webhook integration, on page 16*.

1. Go to **Notifications**.
2. Click **+ Create**.
3. Name your notification.
4. Select **Webhook**.
5. Click **Next**.
6. Enter the details for the recipient.
7. Select notification triggers.
8. To select locations, click **+ Select**.
9. Click **Create**.

### Access an individual audio site remotely

AXIS Audio Manager Center provides secure remote access to added audio sites. This enables remote audio site configuration of the local AXIS Audio Manager Edge system. When accessing an audio site, the rights of your user role or user group will decide what you will be able to do remotely. Administrators have full access to all settings on the audio site, while content managers and playback operators have limited access.

To open AXIS Audio Manager Edge:

1. Go to **Audio sites** and find your audio site.
2. Click  > **Open AXIS Audio Manager Edge**.

#### Note

In some situations you need to log in to an audio site locally:

- To configure an audio site that is offline.
- To make the initial setup of an audio site.
- To perform tasks that can break the connection to AXIS Audio Manager Center, such as changing the network setting.

### AXIS Audio Manager mobile app

When you have setup AXIS Audio Manager Center and assigned users as well as permissions to your users, then the users will also have access to the audio system through the AXIS Audio Manager mobile app for iOS and Android.

By selecting **Connect remotely** in the mobile app, your users can log in to AXIS Audio Manager Center and select an audio site to control.

### Retrieve data from the event log

The event log contains events that have occurred in the part of the organization where you are administrator.

1. Go to **Event log**.
2. Click **Data selection**.
3. Select a time frame.
  - **Relative**: Select how far back in time from the present that you want to retrieve data.
  - **Absolute**: Select a time interval that you want to retrieve data from.
4. To add a filter, click **+ Filter** and select conditions.

5. Under **Order**, select how to present the retrieved data.
6. To export the retrieved data to a CSV file, click **Export**.

### Premium features

AXIS Audio Manager Center have features that are only available if your organization is licensed. These features are typically advanced features that perform operations on several audio sites at once, such as content distribution or batch scheduling of music.

#### Note

The premium features will only be available in your AXIS Audio Manager Center user interface if you are licensed or part of an evaluation pilot.

### Audio file distribution

AXIS Audio Manager Center supports distribution of content files to your audio sites for local scheduling. For each audio site, the content will be stored on the leader device and added to the library of the corresponding content type. The files will not be added automatically to any schedule.

Supported file formats: mp3, mpeg, ogg, opus, wave

Maximum allowed file size: 20 MB

1. Go to **Distribute audio files** and select a content type (**Announcement, Advertisement or Music**).
2. Click **+ Add** next to **Files**.
3. Select the files to distribute and click **Open**.
4. Click **+ Add** next to **Audio sites**.
5. Select locations in the audio sites structure.  
The content will be distributed to all the sites in the location, including audio sites in sub-locations.
6. Click **Distribute audio files**.

### Scheduling

With AXIS Audio Manager Center you can schedule announcements, advertisements and music to multiple audio sites at once. When you create a schedule, you target audio sites by selecting a location. All the audio sites in that location and in all its sub-locations are included. You can also select a label to further filter the selection.

When you enable a schedule, it is automatically applied to the audio sites included in the schedule, as long as the audio site is connected. If an audio site is not connected, then the schedule will be applied as soon as it becomes connected.

If the schedule is enabled, it will automatically include new audio sites that are added to the selected locations or its sub-locations, or if more audio sites have the selected label applied to them.

AXIS Audio Manager Center also distributes the media content necessary for executing a schedule, to all targeted audio sites. The exception is music schedules that were created with a local library or source tag.

When you schedule relative to opening hours, there is a risk that the event is set to play outside the day (0–24). This audio will not play. For instance, if you schedule an announcement to play 5 hours after closing time, and the closing time is 9pm, the event will be schedule for 2am the next day, and hence will not play.

Learn more:

- *Labels, on page 16*
- *Source tags, on page 16*
- *Locations, on page 16*

### Schedule announcements

1. Create a schedule:
  - 1.1. Go to **SCHEDULING > Scheduling**.

- 1.2. Click + **CREATE SCHEDULE**.
- 1.3. Name the schedule.
- 1.4. Under **Type of schedule**, select **Announcement**.
- 1.5. Select a location.  
For more information, see *Locations, on page 16*.
- 1.6. Click **CREATE**.
2. To see a list of your audio sites, go to **AUDIO SITES**.
3. To upload audio files and create playlists, go to **CONTENT**.
4. Configure the schedule:
  - 4.1. Go to **SCHEDULE**.
  - 4.2. Click + **EVENT** and select **Single event** or **Interval event**.
  - 4.3. Fill in the details and click **SAVE**.
  - 4.4. To enable the schedule, select **Enabled** under **Schedule status**.
5. Preview the schedule:
  - 5.1. Under **Preview schedule**, select opening hours or an audio site.  
The event will become gray if it will not be played at all during the selected opening hours.
6. To save the changes you made to the schedule, click **SAVE**.

### Schedule advertisements

Advertisement scheduling can be used for any content that should play repeatedly during a certain time period.

1. Create a schedule:
  - 1.1. Go to **SCHEDULING > Scheduling**.
  - 1.2. Click + **CREATE SCHEDULE**.
  - 1.3. Name the schedule.
  - 1.4. Under **Type of schedule**, select **Advertisement**.
  - 1.5. Select a location.  
For more information, see *Locations, on page 16*.
  - 1.6. Click **CREATE**.
2. To see a list of your audio sites, go to **AUDIO SITES**.
3. To upload audio files and create playlists, go to **CONTENT**.
4. Configure the schedule:
  - 4.1. Go to **SCHEDULE**.
  - 4.2. Click + **EVENT** and select **Single event** or **Interval event**.
  - 4.3. Fill in the details and click **SAVE**.
  - 4.4. To enable the schedule, select **Enabled** under **Schedule status**.
5. Preview the schedule:
  - 5.1. Under **Preview schedule**, select opening hours or an audio site.  
The event will become gray if it will not be played at all during the selected opening hours.
6. To save the changes you made to the schedule, click **SAVE**.

### Schedule music

You can create background music schedules that start and end with an offset relative to the opening hours of an audio site.

For more information, see *Opening and closing offset, on page 16*.

Supported music sources:

- The local library of each audio site.
- A web stream distributed from AXIS Audio Manager Center.  
For more information, see *Audio Manager Center Source, on page 16*.
- A source tag that targets local audio site sources, such as line-in and on-board applications.  
For more information, see *Source tags, on page 16*.

Prerequisites:

- The music schedule is applied relative to the opening hours at the local audio site.  
To set the opening hours for a local audio site, see *Set the opening hours* in the AXIS Audio Manager Edge user manual.
1. To use a web stream source:
    - 1.1. Go to **SCHEDULING > Sources** and click **+ CREATE SOURCE**.
    - 1.2. Name the source.
    - 1.3. The type is currently limited to web stream, which is pre-selected.
    - 1.4. Enter the URL for the web stream.
    - 1.5. If the URL requires authentication, activate **Use authentication** and enter username and password.
    - 1.6. Click **CREATE**.
  2. Create a schedule:
    - 2.1. Go to **SCHEDULING > Scheduling** and click **+ CREATE SCHEDULE**.
    - 2.2. Name the schedule.
    - 2.3. Under **Type of schedule**, select **Music**.
    - 2.4. Select a location.  
For more information, see *Locations, on page 16*.
    - 2.5. Click **CREATE**.
  3. To see all targeted audio sites, go to **AUDIO SITES**.
  4. Configure the schedule:
    - 4.1. Go to **SCHEDULE**.
    - 4.2. Select **Require manual source selection locally before playback start** if you don't want scheduled music to start playing automatically, but instead wait for someone to start the music locally from the dashboard in AXIS Audio Manager Edge, with the AXIS Remote mobile app, or by using an AXIS C8310 Volume Controller.
    - 4.3. Under **Schedule time**, set the offset time relative to the opening and closing hours.  
For more information, see *Opening and closing offset, on page 16*.
    - 4.4. Add music sources.
      - 4.4.1. Click **ADD MUSIC SOURCE**
      - 4.4.2. Select a source type:
        - **Audio Manager Center Source**  
For more information, see *Audio Manager Center Source, on page 16*.
        - **Source tag**  
For more information, see *Source tags, on page 16*.
        - **Local library**
      - 4.4.1. Click **ADD**.

**Note**

You can add multiple sources to a music schedule. Users can switch sources locally from the dashboard in AXIS Audio Manager Edge if they are using a host device with AXIS OS 11.6 or later. For earlier AXIS OS versions, only the first source in the list will be played.

4.2. Save the schedule:

- If you want to save your schedule without activating it, clear the **Enabled** checkbox and click **SAVE**.  
The schedule is now saved and available in your Music schedules list but is not yet enabled.
- If you want to save your schedule and activate it, select the **Enabled** checkbox and click **SAVE AND PUBLISH**.  
The schedule is now available in your **Music schedules** list and is enabled, which means that it will be distributed to all targeted audio sites.

**Note**

Note that this overrides any local music schedules.

## Set up remote paging

By using AXIS Audio Manager mobile app, you can page remotely from a smartphone to one or more devices on an audio site.

To use the mobile app for remote paging, you first need to create a paging recipient and a user group with paging operator rights in AXIS Audio Manager Center.

Two types of SIP paging can be configured from AXIS Audio Manager Center:

- **One-way paging:** for sending, but not receiving, audio messages to one or more devices on an audio site. One-way paging recipients will appear on the **Callout** tab in the mobile app. You can send both live and pre-recorded audio messages.
- **Two-way paging:** for live two-way communication through a single device on an audio site. Two-way paging will appear on the **Call** tab in the mobile app.

1. Create a paging recipient:

- 1.1. Under **Location**, select the audio site on which you want to create the paging recipient.
- 1.2. Click **+ Create**.
- 1.3. Name your recipient.
- 1.4. Under **Type**, select **One-way** or **Two-way**.

**Note**

We recommend that you create your two-way recipients first, before you create your one-way recipients.

- 1.5. Click **Create**.
- 1.6. For one-way paging, add the physical zones and devices you want to target. For two-way paging, select the device you want to communicate through.
- 1.7. Click **Create**.
- 1.8. Wait until it says **OK** under **Status**.  
If you receive **Error** instead, click  > **Verify configuration** to investigate.
- 1.9. Click  > **Ports** to make sure you are using the correct SIP ports.
- 1.10. Click  > **Volume** to make sure the volume level is normalized.

2. Give paging rights to users:

- 2.1. Go to **User management**.
- 2.2. Click **+ Create user group**.

- 2.3. Name the user group.
- 2.4. Under User role, select **Paging operator**.
- 2.5. Click **Create**.
- 2.6. Add locations and members.
- 2.7. Click **Close**.

### Learn more

#### Locations

A location is a node in the audio sites structure. For more information, see *Create a structure for your audio sites, on page 4*.

When scheduling content in AXIS Audio Manager Center, you must first select a location where the schedule shall be distributed. All audio sites at the location and in its sub-locations will be available for the schedule.

#### Labels

Labels are used to add an identifier to an audio site that can be filtered on or searched for in AXIS Audio Manager Center.

- You can filter and search on a label in the **Audio sites** view to easier find sites.
- You can include a label in an AXIS Audio Manager Center schedule to further filter the selection to only include the sites which have that label as an attribute.

#### Opening and closing offset

The schedules are created relative to each local audio site's opening hours. This solves the problem when audio sites that are targeted by a batch schedule configuration have different opening hours. The opening offset determines when the music starts playing and the closing offset when the music stops playing.

#### Audio Manager Center Source

The **Audio Manager Center Source** is a source created under **SCHEDULING > Music > Sources**. It is automatically distributed to all audio sites in the organization. The source is managed centrally through AXIS Audio Manager Center. Currently, only web stream sources are supported.

#### Source tags

If you plan to use sources local to your Axis Audio Manager Edge audio sites in your AXIS Audio Manager Center schedules, then you will have to assign a source tag to these sources in each of your AXIS Audio Manager Edge audio sites. Source tags are created in AXIS Audio Manager Center and are distributed to all connected audio sites in the organization. To configure a source in a local audio site with a source tag, go to **AXIS Audio Manager Edge > SCHEDULING > Music > SOURCES**, select the correct source and assign a source tag. This source can then be used in a schedule distributed by AXIS Audio Manager Center.

Examples of sources that must be defined locally:

- Line-in
- Playlist
- ACAP
- Unique web stream URLs (i.e. where the URL is unique to each audio site)

Example: An organization have bought an online streaming music service that uses an installed ACAP to deliver the service. They create a source tag "ACAP streaming" in Axis Audio Manager Center. Each audio site that has the ACAP music source must then assign it the source tag "ACAP streaming" to allow this source to be scheduled from Axis Audio Manager Center. When creating the schedule, they ensure that the correct audio sites are targeted using location and the label, then they set the wanted opening/closing offset and finally select the music source "Source tag" with the tag "ACAP streaming". The targeted audio sites now have a music schedule playing music via the streaming music service.

#### Webhook integration

You can receive system events via webhook from AXIS Audio Manager Center. Events are delivered as HTTP POST requests.

## Set up a webhook receiver

### Preflight check

A validation handshake must be completed before events can be sent to a consumer. When a webhook is configured, the sender issues a preflight request to validate the target endpoint. If the consumer does not respond appropriately to this request, the subscription will not be established.

To accept all issuers of webhook events, respond to the OPTIONS request with a 200 OK status and include the header: `Webhook-Allowed-Origin: *`

To accept only us as the issuer, respond with a 200 OK and include the exact origin from the `Webhook-Request-Origin` header.

### Delivery response

To comply with the CloudEvents specification, webhook receivers must respond with a successful HTTP status such as 200 OK, 201 Created, 202 Accepted, or 204 No Content. Redirect responses (3xx) are not allowed and will not be followed.

If the receiver is temporarily overloaded, it should return 429 Too Many Requests. If the endpoint has been permanently retired, it should return 410 Gone, which disables the subscription and stops event delivery.

### Webhook events

All webhook events follow this structure:

```
{ "specversion": "1.0", "id": "<event-id>", "source": "com.axis.audiomanager", "type":
"<event-type>", "time": "<timestamp>", "eventversion": "1", "eventcorrelationid":
"<correlation-id>", "datacontenttype": "application/json", "dataschema": "com/axis/one/
notification-service/webhook/@v/1.0.0", "data": { "data": { <event-specific data>
}, "datacontenttype": "application/json", "dataschema": "<event-specific
schema>" }}
```

There are three types of webhook events:

1. **Audio site events** – Changes in audio site status.
  - `Type: com.axis.audiomanager.status.site`
  - `Schema: com/axis/audiomanager/status/site/@v/1.0.0`
  - **Fields in data.data:**
    - `siteName` – The name of the audio site.
    - `siteId` – The id of the audio site.
    - `siteLocationNames` – The location path of the audio site.
    - `statusSeverity` – High level audio site status.
    - `statusType` – Audio site status subcategory.
    - `organizationName` – The name of the organization.
    - `organizationId` – id of the organization.
    - `aamcUrl` – Link to the event log in AXIS Audio Manager Center.
2. **Scheduled events** – Status changes for schedules in the organization.
  - `Type: com.axis.audiomanager.status.schedule`
  - `Schema: com/axis/audiomanager/status/schedule/@v/1.0.0`
  - **Fields in data.data:**
    - `scheduleName` – The name of the schedule.
    - `scheduleId` – The id of the schedule.
    - `statusSeverity` – High level schedule status.

- `statusType` – Schedule status subcategory.
  - `siteName` – The name of the site which triggered the event.
  - `siteId` – The id of the audio site.
  - `siteLocationNames` – The location path for the audio site.
  - `organizationName` – the name of the organization.
  - `organizationId` – id of the organization.
  - `aamcUrl` – Link to the event log in AXIS Audio Manager Center.
3. **Paging recipient events** – Status updates for individual paging recipients on audio sites.
- **Type:** `com.axis.audiomanager.status.paging`
  - **Schema:** `com/axis/audiomanager/status/paging/@v/1.0.0`
  - **Fields in data.data:**
    - `pagingRecipientName` – Name of the paging recipient.
    - `pagingRecipientId` – id of the paging recipient.
    - `statusSeverity` – High level paging recipient status.
    - `statusType` – Paging recipient subcategory
    - `siteName` – Name of the site where the paging recipient is located.
    - `siteId` – id of the site where the paging recipient is located.
    - `siteLocationNames` – Location path to the audio site.
    - `organizationName` – Name of the organization.
    - `organizationId` – id of the organization.
    - `aamcUrl` – Link to the event log in AXIS Audio Manager Center.

### Verifying webhook authenticity with a secret signing key

When configuring a webhook, you can enter a webhook secret together with the destination URL. This secret is used to verify that incoming webhook requests are genuine and untampered.

How it works:

1. The sender creates an HMAC-SHA256 signature of the event payload using your configured secret signing key.
2. The signature is included in the `webhook-signature-sha256` header of the request.
3. On the server, recompute the HMAC using the received payload and your secret signing key.
4. Compare it to the signature provided.
5. If they match, the request is verified.

Requirements for the webhook secret signing key:

- The secret signing key must be entered when you configure the webhook URL in AXIS Audio Manager Center.
- The secret signing key must be a hexadecimal string with up to 1024 characters.
- The secret signing key must have an even number of characters.
- The same secret must be used on your server to verify incoming requests.
- A regular expression for a valid secret signing key: `^([0-9a-fA-F]{2}){0,512}$`

## End-to-end example – AWS Lambda Function (Node.js)

This example demonstrates the basic principles of webhook receiver implementation and is for educational purposes only. Production implementations must include proper security hardening, validation, and error handling.

1. Create a new AWS Lambda function:
  - 1.1. **Runtime:** Node.js 22 or greater
  - 1.2. **Architecture:** X86\_64
  - 1.3. **Function URL:** Enabled (auth type NONE)
2. Insert and deploy the code.
3. Setup a new webhook in AXIS Audio Manager Center:
  - 3.1. With your public lambda function URL.
  - 3.2. With your secret signing key (from example code: 4d79207365637265742070617373706872617365).
  - 3.3. Select which trigger to use (e.g. audio site events) and a location (e.g. organization level).
4. Trigger a test event (e.g., restart an audio site leader to generate a disconnect event).
5. Check your lambda logs.

AWS Lambda Node.js example code:

```
import { createHmac, timingSafeEqual } from "crypto";const passphrase = "My secret
passphrase";// Resulting secret signing key (hex) :
4d79207365637265742070617373706872617365const secretSigningKey = Buffer.from(passphrase,
"utf-8").toString("hex");const verifySignature = (event) =>{ try{ const signature =
event.headers["webhook-signature-sha256"]; const signatureBuffer = Buffer.from
(signature, "hex"); const signingKeyBuffer = Buffer.from(secretSigningKey, "hex");
const bodyBuffer = Buffer.from(event.body, "utf-8"); const hmacDigest = createHmac
("sha256", signingKeyBuffer).update(bodyBuffer).digest(); return timingSafeEqual
(hmacDigest, signatureBuffer); } catch (error) { console.error("Failed to verify
signature:", error); return false; }};const innerHandler = (event) =>{ // Handle the
preflight request (required to verify receiver existence during setup) if (event.
requestContext.http.method === "OPTIONS") { return { statusCode: 200,
headers: { "Webhook-Allowed-Origin": event.headers["webhook-request-origin"] } }; } if
(!verifySignature(event)) { return { statusCode: 401, body: "Invalid signature" }; } //
Do business logic, e.g., store the event, send it to another service, etc. return { statusCode:
200, body: "Success" };};export const handler = async (event) =>{ console.log("Event:",
event); const response = innerHandler(event); console.log("Response:", response); return
response;};
```

## Troubleshooting

| Audio site status   | Error message and issue   | Suggested action  |
|---------------------|---|---|
| Blocked             | <p>The device type # is not supported.</p> <p>The user has tried to add a device type that is not supported by AXIS Audio Manager Center, such as an Axis camera.</p>   | Remove the audio site from AXIS Audio Manager Center.   |
| Configuration error | <p>The given serial number # does not belong to a leader device.</p> <p>AXIS Audio Manager Edge has not been set up on this device.</p>   | <ol style="list-style-type: none"> <li>1. Open the audio site details.</li> <li>2. Go to  &gt; <b>Leader device configuration</b>.</li> <li>3. Set up your AXIS Audio Manager Edge audio site. Make sure to adjust the volume.</li> <li>4. Return to AXIS Audio Manager Center.</li> <li>5. Click <b>Run setup</b>.</li> </ol> |
|                     | <p>New edge site detected</p> <p>This state happens if a leader device for an audio site that is already added to AXIS Audio Manager Center is factory defaulted and a new AXIS Audio Manager Edge audio site is configured on that device.</p> | <ol style="list-style-type: none"> <li>1. Open the audio site details.</li> <li>2. Click <b>Run setup</b>.</li> </ol>   |
|                     | <p># is not a leader anymore new leader is #, please remove the site and add it again with the new leader or # is not a leader anymore, please remove the site and add it again with the new leader</p>   | Remove the audio site from AXIS Audio Manager Center and add the new leader device instead.   |

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|                | <p>The leader has been changed by the AXIS Audio Manager Edge feature <b>Change leader device</b>.</p> <p>No response from device</p> <p>The configuration could not be completed due to timeout when onboarding the device.</p> <p>Internal Server Error</p> <p>An unexpected error has occurred and the audio site configuration is now broken. This could for example happen if there is a sudden loss of connection to the device during removal of the device.</p> <p>The AXIS OS version for # does not meet the minimum accepted AXIS OS version requirement #.</p> <p>The AXIS OS version of the leader device is too old.</p> | <p>Remove the audio site from AXIS Audio Manager Center and try to add it again.</p> <p>Verify that the leader device has internet connection:</p> <ol style="list-style-type: none"> <li>1. Log in locally on the leader device.</li> <li>2. Go to <b>System settings &gt; Connectivity &gt; AXIS Audio Manager Center integration</b>.</li> <li>3. Run the port checker tool.</li> </ol> <p>Try to manually re-synchronize the audio site status:</p> <ol style="list-style-type: none"> <li>1. Open the audio site details.</li> <li>2. Click <b>Run setup</b>.</li> </ol> <p>Upgrade to AXIS OS 11.4 or later.</p> |
| <p>Limited</p> | <p>AXIS Audio Manager Center only have partial connection to one or more audio sites. The basic audio site connection (O3C) is in place, but the connection needed for most features to work as intended (MQTT) is not in place.</p>   | <p>Verify that the network that the indicated audio sites are on have the correct configuration to allow MQTT communication:</p> <ol style="list-style-type: none"> <li>1. Open AXIS Audio Manager Edge for the leader device.</li> <li>2. Go to <b>System settings &gt; Connectivity &gt; AXIS Audio Manager Center integration</b>.</li> <li>3. Run the port checker tool.</li> </ol>  |

|                     |   |  |
|---------------------|---|--|
| Disconnected        | AXIS Audio Manager Center has no contact with the leader device of the audio site.  | <p>Verify that the leader device is connected to internet and that AXIS Audio Manager Center integration is enabled on the leader device:</p> <ol style="list-style-type: none"> <li>1. Open AXIS Audio Manager Edge for the leader device.</li> <li>2. Go to <b>System settings &gt; Connectivity &gt; AXIS Audio Manager Center integration</b>.</li> <li>3. Run the port checker tool.</li> </ol>   |
| Device disconnected | One or more follower devices are offline or disconnected from the AXIS Audio Manager Edge audio site.                       | Verify that the indicated devices have power and are connected to the same network or sub-network as the leader device.  |
| Pending             | The leader device has been added while AXIS Audio Manager Center have no contact.   | <p>This normally resolves itself without action when the leader device is powered on and connected to the internet.</p> <p>The pending state is normal for a short duration when an audio site is added.</p> <p>If an audio site seem to be stuck in this state, make sure one-click connection is enabled for the device:</p> <ol style="list-style-type: none"> <li>1. Enter the device IP address in a web browser.</li> <li>2. Go to <b>System settings &gt; Connectivity</b>.</li> <li>3. Select <b>AXIS Audio Manager Center integration</b>.</li> <li>4. If your network is using a proxy, select <b>AXIS Audio Manager Center O3C proxy</b>.</li> <li>5. Click <b>SAVE</b>.</li> </ol> |
|                     | The device can't reach the dispatcher   | You can find out if this is the case by searching for "stclient" in a Leader server report. To fix the issue, check the available ports. See the port list in <i>Configure the network, on page 4</i> .  |
| Syncing             | AXIS Audio Manager Center is synchronizing the audio sites state, normally in response to an operation started by the user. | This state resolves itself naturally when the synchronization is done, which should take less than a minute.   |

| Schedule status          | Error message and issue   | Suggested action  |
|--------------------------|---|---|
| AXIS OS upgrade required | For the schedule to work, you need to upgrade the AXIS OS of the leader device for one or more audio sites. | Upgrade all relevant leader devices to the latest AXIS OS.  |
| Legacy device            | The leader device of one or more audio sites does   | Change the leader device to a supported device (see the datasheet on the <i>AXIS Audio Manager Center documentation page</i> ). |

|                                |  |  |
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|                                | not support the configured schedule.   |  |
| Audio site configuration error | Opening hours not set<br><br>The opening hours are not set on one or more audio sites.   | Set the opening hours for the relevant audio sites.  |
| Source tag not mapped          | In one or more audio sites, the source tag selected in the schedule is not mapped.   | For each indicated audio site, open the audio site from AXIS Audio Manager Center and map the correct source tag to the correct source.  |
| Schedule download error        | AXIS Audio Manager Center couldn't download the schedule to the local AXIS Audio Manager Edge audio site. This is normally caused by temporary connection issues, or by the network of the audio site being configured with a proxy. | Check if the network of the indicated audio sites are configured with a proxy.<br><br>If so, make sure that the correct proxy settings are configured for each of those audio sites: <ol style="list-style-type: none"> <li>1. Open AXIS Audio Manager Edge for the leader device.</li> <li>2. Go to <b>System settings &gt; Connectivity &gt; Content proxy</b> and check the configuration.</li> </ol> |
| Storage error                  | Storage full<br><br>There is not enough storage (internal or SD card) available on the leader device.  | Ensure that enough storage is available on the leader devices of the indicated audio sites.  |
|                                | Storage not available<br><br>The SD card on at least one leader device can't be reached.   | Unmount and re-insert the SD card on the leader device of the relevant audio site. If the problem persists, replace the faulty card.   |
| Multiple sources not supported | The leader device of one or more audio sites does not have the required AXIS OS version to support multiple sources in a music schedule. Only the first source in the list is  | Upgrade to the latest AXIS OS version on the relevant leader devices.  |

|                          |  |   |
|--------------------------|--|---|
| Overridden               | <p>sent to these audio sites.</p> <p>There is another AXIS Audio Manager Center schedule of the same type enabled on the audio site.</p>   | <p>Give a schedule precedence:</p> <ol style="list-style-type: none"> <li>1. Click on the row of the indicated audio site in the audio sites list.</li> <li>2. Scroll down to the schedules section.</li> <li>3. Find the currently enabled schedule.</li> <li>4. If needed, select the action <b>Override</b> for the schedule that should have precedence.</li> </ol> |
| Overridden on audio site | <p>There is a local AXIS Audio Manager Edge schedule of the same type enabled on the audio site.</p>   | <p>If the AXIS Audio Manager Center schedule should have precedence, select the action <b>Override</b> in the audio sites list tab in that schedule.</p>  |
| Out of sync              | <p>The configuration in AXIS Audio Manager Center does not match the configuration on one or more audio sites. Most likely an audio site is currently disconnected, but it could also be that work is in progress or queued.</p> | <p>This should resolve itself once the audio sites connect again or the queued work is finished.</p>  |

| Remote paging issue  | Description  | Suggested action   |
|--|--|--|
| The paging recipient does not appear in AXIS Audio Manager mobile app. | The mobile user lacks access rights. To perform remote paging, the user must be part of a user group with paging operator rights. The user group must also be assigned to the audio site the user want to page to. | Assign the user to a user group with <b>Paging operator</b> access rights and make sure the user group is assigned to the audio site the user want to page to. |
| Cannot select a specific device for two-way paging.                    | The device is already used as intermediary in another paging recipient or as a line-in source on the audio site.   | Find the paging recipient that uses the device as intermediary and remove that paging recipient.   |

## Need more help?

### Contact support

If you need more help, go to [axis.com/support](https://axis.com/support).

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