

# Makito X Encoder Quick Start Guide

## Makito X Encoder 2.3



This Quick Start Guide summarizes the steps required to install and configure the Makito X encoder (single-height or dual-height chassis) to stream to your compatible decoding device or player, such as the Makito X or the Makito decoder.

For detailed configuration and operation information, please refer to the *User's Guide* (available at <https://doc.haivision.com>). For the default credentials, refer to the *Important Notice* (postcard shipped with the appliance or available on the Haivision Support Portal at <https://support.haivision.com>). For information on the MB6 (6-slot) or MB21 (21-slot) chassis, refer to the [MB Chassis Installation Guide](#).

## Installing the Encoder

1. Unpack the box and visually inspect the package contents for any evidence of shipping damage. [See the *Important Notice* postcard in the box for list of contents.]
2. Install the Makito X as a desktop unit on a flat, well-ventilated surface.

## Before You Begin

Use the following guidelines when unsafe conditions exist or when potentially hazardous voltages are present:

- Always use caution and common sense.
- To reduce the risk of electrical shock, do not operate equipment with the cover removed.
- Repairs must be performed by qualified service personnel only.

Improper handling and/or installation practices of sensitive equipment may VOID the warranty.

### ⚠ Caution

When handling components, or when setting switch options, always use an antistatic wrist strap connected to a grounded equipment frame or chassis. *If a wrist strap is not available, periodically touch an unpainted metal surface on the equipment.* Never use a conductive tool, such as a screwdriver or a paper clip, to set switches.

**! Important**

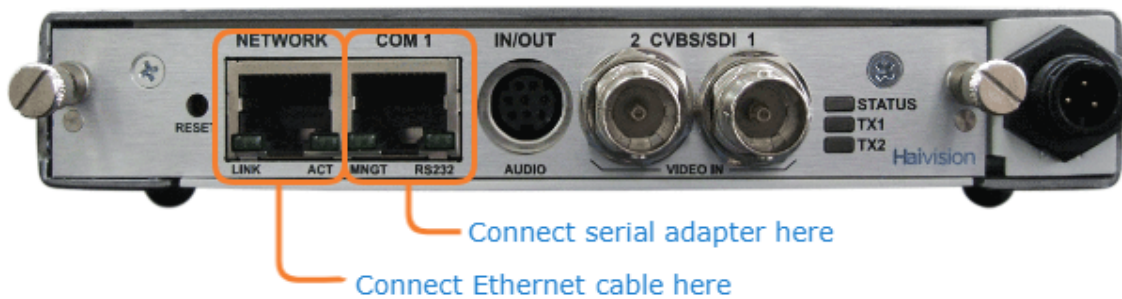
Refer to the [Safety Guidelines](#) and [Waste Electrical and Electronic Equipment \(WEEE\) Disposal 1](#) notice in the [User's Guide](#) (available at <https://doc.haivision.com>).

## Connecting to the Network

To connect the Network Interface:

1. Connect the Makito X's network port to the IP network using an Ethernet UTP cable (type Cat 5 or higher).  
This will allow you to telnet to the unit or connect via the Web interface.

**Network and COM1 Ports (Makito X SDI, #S-292E-HSDI2)**



**i Note**

To connect the serial interface (if applicable, SDI only), please refer to [Serial Interface Setup \(Makito X SDI\)](#) in the [User's Guide](#).

## Connecting to A/V Sources

1. Connect your video source cables to one (or both) of the Makito X's video inputs, using the appropriate connector:

[SDI Video Input](#)    [DVI Video Input](#)

**SDI Video Input**

- **Composite (CVBS) Video Input:** Use the BNC connector(s).

- **SDI Video/Embedded Audio (SD or HD) Input:** Use the BNC connector(s).



SDI Video Input [DVI Video Input](#)

**DVI Video Input**

- **Component Analog / Digital Video/Computer Graphics:** Use the DVI-I Input connector.



2. **Analog Audio Input:** Connect your audio source cable to the Makito X's audio input, using the RCA female to audio adapter (unbalanced shown below).



White - Channel 1 In  
 Red - Channel 2 In  
 Black - Talkback Out

**Note**

A balanced audio cable adapter is available from Haivision upon request. Please contact your sales representative or email Haivision at: [sales@haivision.com](mailto:sales@haivision.com)

The Makito X also supports Serial Digital Interface (SDI) embedded audio format. Selection between Analog (the default) and SDI digital audio is done from the Web interface (see [Configuring Audio Encoders](#)) or using the command line interface (CLI) `audenc` command.

## Powering Up the Encoder

Once all the cables are in place, the encoder is ready to be powered up.

### **Caution**

To prevent damage to the Makito X and/or power supply, be sure to connect the power supply to the chassis first and then to the AC source.

Always use the AC power cord and power supply provided with the unit. The single and dual-height chassis have different power supply units and chassis connectors.

### **Important**

There is no power switch on the Makito X appliance. The power is automatically on when the unit is plugged in. When using the AC/DC power adapter, the power supply cord is used as the main disconnect device. Ensure that the AC socket outlet is located near the equipment and is easily accessible.

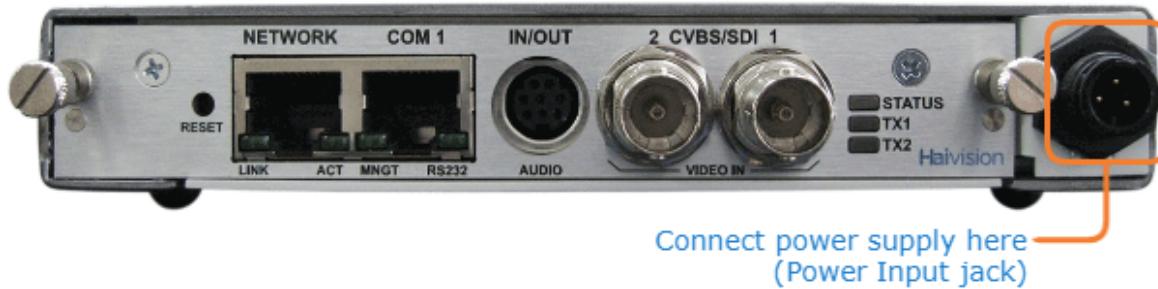
To power up the Single-Height or Double-Height Chassis:

1. Insert the 3-pin connector on the 12V power supply into the Power input jack at the rear of the Makito X.
2. Connect the power cord to the power supply and plug the cord into a grounded AC power source. The status LED will start blinking green, indicating that the encoder is booting up.
3. Wait until the Status LED stays solid green, indicating that the encoder is ready for operation.

[Single-Height Chassis](#)   [Dual-Height Chassis](#)

## Single-Height Chassis

**Rear View (Makito X SDI, #S/B-292E-HDSDI2) showing Conxall 3-pin Locking Connector**



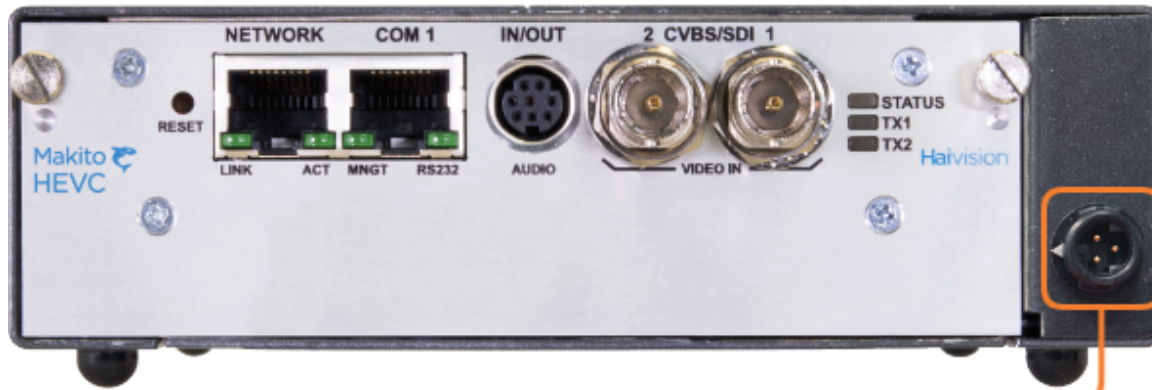
**Power Adapter 12VDC with Conxall 3-pin Connector**



[Single-Height Chassis](#)   [Dual-Height Chassis](#)

## Dual-Height Chassis

**Rear View (Makito X HEVC Encoder #S-292E-SDI2-HEVC)**



Connect power supply here  
(Power Input jack)

### *Power Adapter 12VDC with HiRose 3-pin Connector*



HiRose 3-pin connector

## Accessing the Web Interface

1. Open a Web browser of your choice, such as Chrome, Firefox, Safari, or Internet Explorer.
2. Type the IP address for the encoder into the browser's address bar and press Enter.

The Makito X comes pre-configured with the following default settings:

IP Address	Subnet Mask	Gateway
10.5.1.2	255.255.0.0	10.5.0.1

**Note**

To access the Web interface, your computer must be in the same IP Address range (subnet). You may have to temporarily change your computer's IP Address to be in the same subnet as the encoder. Only then will you be able to access the encoder and change its IP address, and then afterwards change your computer's IP address back. For details, see [Configuring Network Settings](#) in the User's Guide.

3.

**Note**

The Makito X identity certificate and trusted root certificates may be managed from the Web interface (Certificates page) or using the CLI `certificate` command. See [Managing Certificates](#) in the User's Guide.

4. Sign in to the Makito X Web interface, using the default administrative username and password. Please refer to the *Important Notice* (postcard included in the box or available from the [Download Center](#) on the Haivision Support Portal) for the default sign-in credentials.

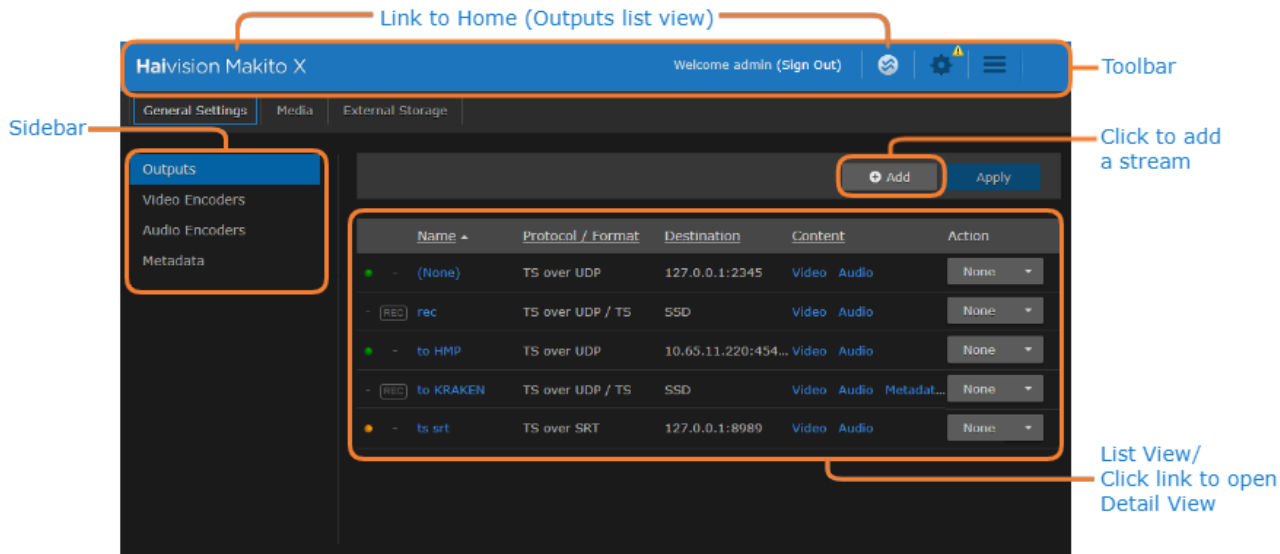
**Important**

Makito X Series devices ship from the factory with only the `admin` account enabled. For security reasons, the two default user accounts ( `user` and `operator` ) are locked at the factory as well as after a factory reset. An administrator must unlock them and change the passwords to use them for the first time.

**Tip**

For security purposes, be sure to change the default passwords! See [Changing Your Password](#) in the User's Guide.

The Web interface opens to the Outputs List View.

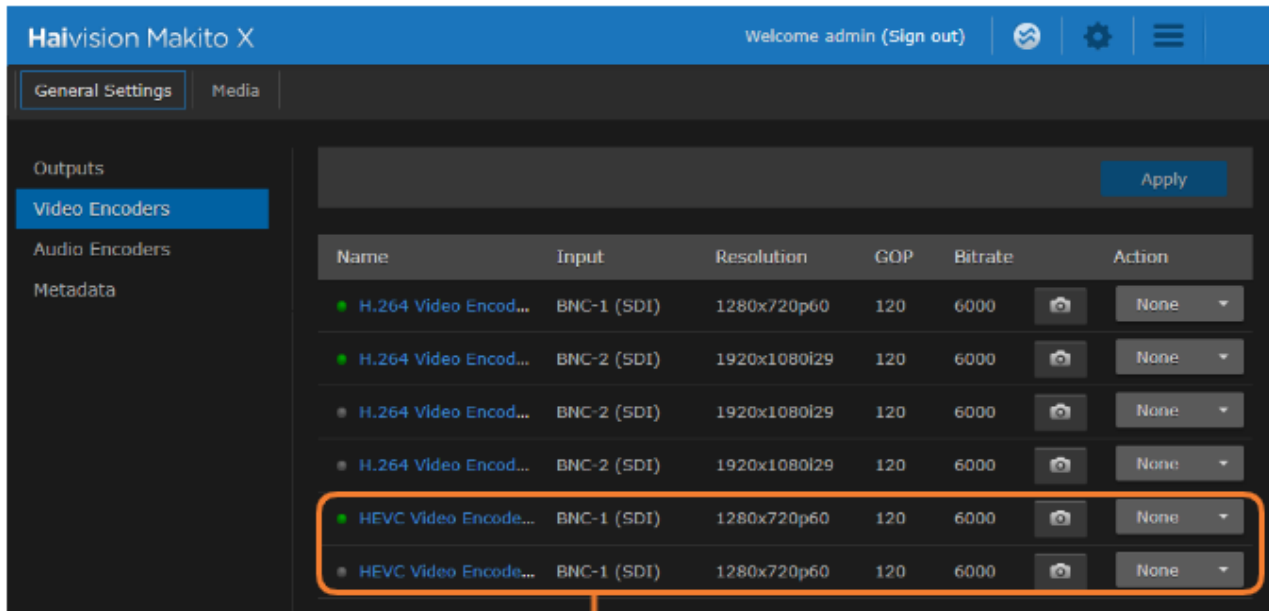




## Configuring the Video Settings

From the Video Encoders pages, you can configure four or six independent video encoders to apply to streams.

1. Click **Video Encoders** on the sidebar (under **General Settings**).  
The Video Encoders List View displays information at a glance for the video encoders. On the Makito X HEVC, the List View includes two HEVC encoder instances, as shown in the following example:



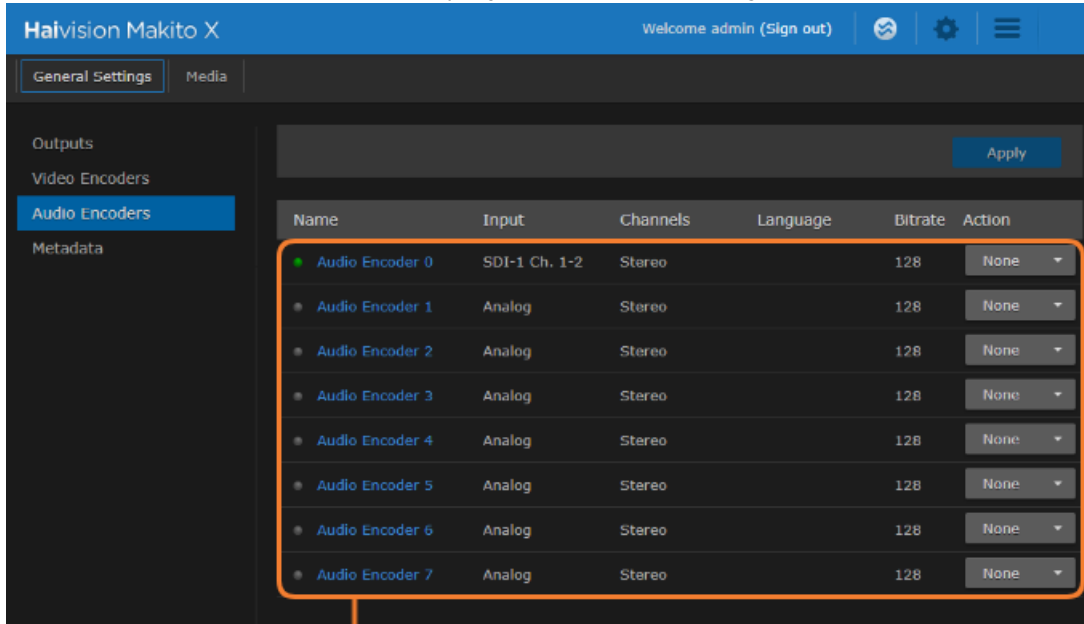
HEVC Encoder instances

2. To change the status for an encoder, click the dropdown list under **Action** and select either Start or Stop (as applicable).
3. To view details or configure the settings for a video encoder, click the link in the table.
4. On the Detail View, you can configure the Video Encoder settings.
  - To configure settings such as the video Input, (output) Bitrate, Resolution, and GOP Size, select or enter new values in the appropriate fields. See [Video Encoder Settings](#) in the User’s Guide.
  - To apply your changes, click **Apply**.
  - To start or stop the encoder, click **Start** or **Stop** (as applicable).
  - To view statistics for the encoder, click **Statistics**.

# Configuring the Audio Settings

From the Audio Encoders pages, you can configure four or eight independent audio encoders to apply to streams.

1. Click **Audio Encoders** on the sidebar (under **General Settings**).  
The Audio Encoders List View displays information at a glance for the audio encoders.



Click link to open Detail View

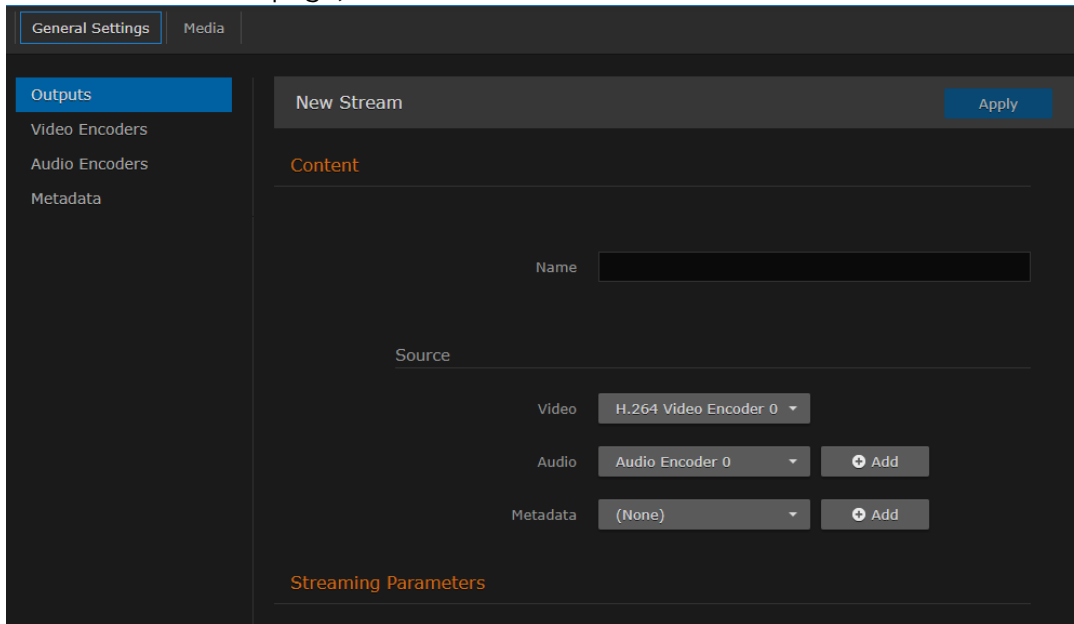
2. To change the status for an encoder, click the dropdown list under **Action** and select either Start, Stop or Mute (as applicable).
3. To view details or configure the settings for an audio encoder, click the link in the table.
4. On the Detail View, you can configure the Audio Encoder settings.
  - To configure audio settings such as the Input, Bitrate, and Language, select the new values in the appropriate fields. See [Audio Encoder Settings](#) in the User’s Guide.
  - To apply your changes, click **Apply**.
  - To start or stop the encoder, click **Start** or **Stop** (as applicable).
  - To mute the audio (when active), click **Mute**.
  - To view statistics for the encoder, click **Statistics**.

# Setting Up Streaming

**Note**

On the Makito X with Storage, you can set up streaming only, recording only, or streaming with recording.

1. Click **Outputs** on the sidebar (under **General Settings**).
2. On the Outputs List View, click **+ Add** to create the first stream or recording session.
3. On the New Stream page, fill in the fields to choose the Content:



4. Type a name for the stream in the Name field.
5. For the Source, (as an example) use Video Encoder 0 and Audio Encoder 0 (analog) with no Metadata.

**Note**

By default, SDI Input 1 is assigned to Video Encoders 0 and 1, and SDI Input 2 is assigned to Video Encoders 2 and 3.

6. (Makito X with Storage only) To set up streaming, toggle the Streaming Parameters button to **On**.
7. For a basic MPEG-2 transport stream setup, under Broadcasting, select TS over UDP as the Protocol (keeping the default TS settings).
8. Under Destination, type in the IP Address and Port number, for example, multicast address 225.6.7.8 and port 2000.
9. Leave the default values for the remaining Streaming parameters. See [Streaming Output Settings](#) in the User's Guide.
10. If you only want to create a streaming session, click **Apply** now. Otherwise skip this step.

## Setting Up Recording

**Note**

Recording is only available on the Makito X with Storage dual-height model.

**Recorded sessions may be exported to an FTP/SFTP server or stored locally on an SSD (if installed).**

To set up a recording session:

1. On the New Stream page (or Outputs Detail View), scroll down the page and toggle the Recording Parameters button to **On**.
2. Under File, type a name for the recording in the Name field. Keep the default TS File Format and settings.
3. Under Time & Size, keep the default settings for Recording Limit and Recording Segmentation (None) to get started.
4. Click **Apply** to start recording (as well as streaming, if configured).

## Viewing Your Streams

To view your streams, make sure your decoding devices or applications:

- support MPEG Transport Stream format,
- are turned on and connected to a display (if applicable), or open your video player software (e.g., VLC),
- are accessible on the same network segment as the Makito X, and
- are “tuned” to the Makito X Destination IP address and Port, for example, `239.10.10.100 / port 2000` (as defined in [Setting Up Streaming](#)).
  - For VLC, select Open Network stream and type in `udp://@239.10.10.100:2000`.
  - For unicast streams, the IP address is not needed and you can just type in `udp://@:port_number`.


### Tip

For the recommended settings to optimize the Makito X encoder configuration to stream to the Makito X decoder, see [Makito Decoder Interoperability](#) in the User's Guide.

### Note

In order to optimize your encoder's performance, it is recommended that *only* the required network services be enabled. Please review the network services to make sure services used for your application are enabled or disabled as appropriate. See [Enabling and Disabling Network Services](#) in the User's Guide.

### Important

Clicking **Apply** does not save your changes and they will be lost after a reboot. Saving configurations as presets provides a way for you to save groups of settings and apply them to other streams. A warning indication  appears in the title bar on systems with unsaved configurations. For more information, see [Saving and Loading Presets](#) in the User's Guide.

## Obtaining Documentation

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## Getting Help

<b>General Support</b>	<p>North America (Toll-Free)  <b>1 (877) 224-5445</b></p> <p>International  <b>1 (514) 334-5445</b></p> <p><i>and choose from the following:</i>  Sales - 1, Cloud Services - 3, Support - 4</p>
<b>Managed Services</b>	U.S. and International 1 (512) 220-3463
<b>Fax</b>	1 (514) 334-0088
<b>Support Portal</b>	<a href="https://support.haivision.com">https://support.haivision.com</a>
<b>Product Information</b>	<a href="mailto:info@haivision.com">info@haivision.com</a>