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KDS-SW3-EN7 Quick Start Guide

This guide helps you install and use your **KDS-SW3-EN7** for the first time.

Go to www.kramerav.com/downloads/KDS-SW3-EN7 to download the latest user manual and check if firmware upgrades are available.
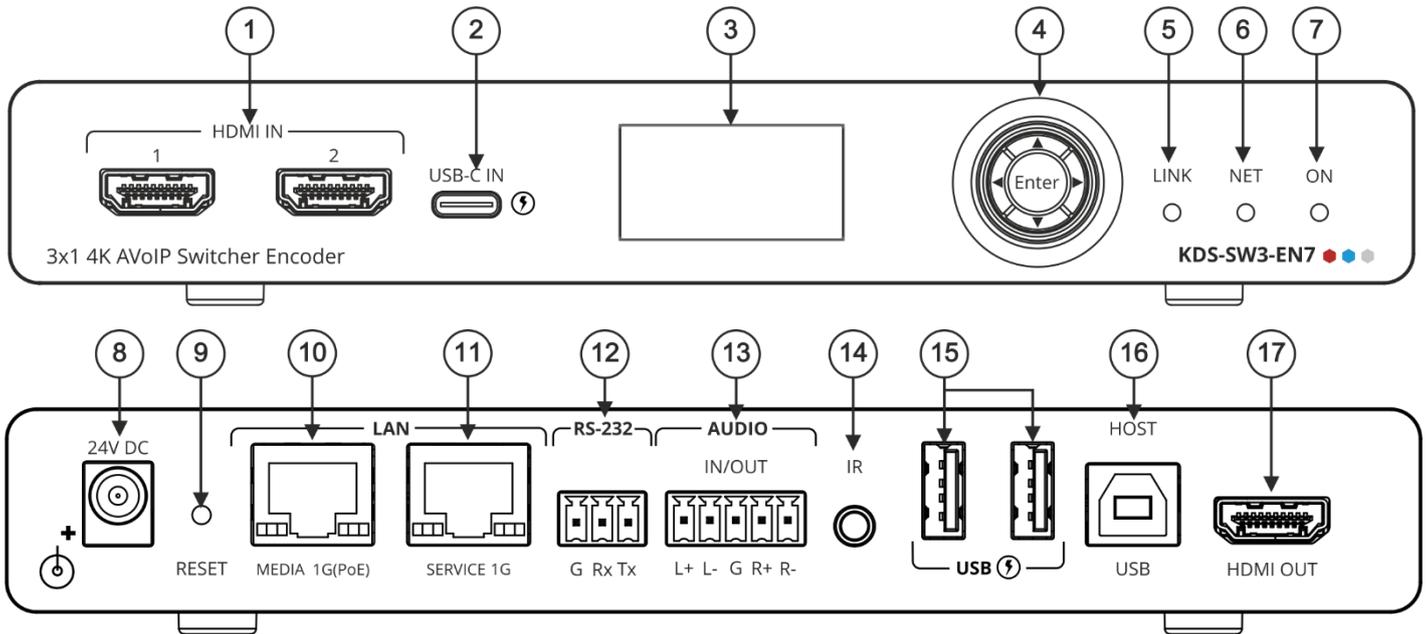
Step 1: Check what's in the box

☑ **KDS-SW3-EN7 3x1 4K AVoIP** Switcher Encoder ☑ 1 Bracket set ☑ 1 Quick start guide

Step 2: Get to know your KDS-SW3-EN7

#	Feature		Function
1	HDMI IN Connectors (1 and 2)		Connect to an HDMI source.
2	USB-C IN Port		Connect to a USB-C source. • This port can receive video, audio and USB 2.0 data. • When powered by a Kramer 24V power supply (optional), charges sources (that support USB Power Delivery 2.0) up to 60W.
3	LCD Display		Use for device configuration such as setting the AV stream's Ethernet transmission channel.
4	Menu Navigation Button	◄	Press to return to the previous menu.
		▲	Press to move up to the next configuration parameter.
		►	Press to go to the next menu.
		▼	Press to move down to the next configuration parameter.
		Enter	Press to accept changes.
5	LINK LED		See LED Functionality.
6	NET LED		See LED Functionality.
7	ON LED		See LED Functionality.
8	24V/5A DC Connector		Connect to the power adapter (purchased separately).
9	RESET Recessed Button		Press and hold for 10 seconds to reset the device to factory default values. All LEDs flash.

P/N: 2900-301642QS   Rev: 4

#	Feature	Function
10	LAN MEDIA 1G(PoE) RJ-45 Port	Connect for streaming either directly to a decoder or via LAN. • **Dante / AES67[1]:** When connected to Dante or AES67 audio streaming via the network, **KDS-SW3-EN7** provides 2 Tx channels and 2 Rx channels. By default, DHCP is enabled on Dante and AES67. • **PoE:** KDS-SW3-EN7 is powered by PoE (power over ethernet) delivered through the LAN MEDIA port, unless the optional 24V DC power adapter is attached. • **Multicast:** Connect to multiple decoders or connect to one decoder to which multiple decoders are daisy-chained via the SERVICE (1G) port. [1] AES67 is supported on KDS-SW3-EN7 devices running hardware version R:01 or higher. The hardware version is shown on the label under the device.
11	LAN SERVICE 1G RJ-45 Port	Used optionally to move the AV, audio and command streams to a separate LAN port for improved security and reliability.
12	RS-232 3-pin Terminal Block Connector	Connect to an RS-232 device to use as a Gateway and bi-directional signal extension (even when no AV signal is extended).
13	AUDIO IN/OUT 5-pin Terminal Block Connector	Connect to a balanced analog stereo audio source/acceptor.
14	IR 3.5 Mini Jack	Connect to an IR sensor or emitter for bi-directional signal extension (even when no AV signal is extended). Expected voltage for IR receiver - (3.3V).
15	USB Type A Ports (1 and 2)	Connect to USB devices, for example, to a speakerphone and webcam.
16	HOST USB Type B Port	Connect to a USB host.
17	HDMI OUT Connector	Connect to loop the signal.

LED Functionality

KDS-SW3-EN7 LEDs function as follows:

LED	Color	Definition
LINK LED	Lights Green	A link is established between **KDS-SW3-EN7** and the decoder is transmitting A/V signals.
	Flashes Green	A signal is established, and a problem is detected.
NET LED	Off	No IP address is acquired.
	Lights Green	A valid IP address has been acquired.
	Flashes Green very fast (for 60sec)	A device identification command is sent (Flag me).
	Lights Yellow	No DHCP IP was assigned, so the device is using the fallback (default) IP address, 192.168.1.39.
ON LED	Flashes Red	The default IP address is unavailable, and the device is acquiring a fallback IP address in subnet 192.168.0.0/16. The ON LED flashes continuously in a slow 0.5/10sec cadence.
	Lights Green	When power is on.
	Flashes Green fast	FW is downloaded in the background.
	Flashes Green very fast (for 60sec)	A device identification command is sent (Flag me).
	Lights Yellow	Device falls back to the default IP address.
Post reboot, all LEDs light for 3 seconds then return to their normal LED display mode.		

Step 3: Mount KDS-SW3-EN7

Install **KDS-SW3-EN7** using one of the following methods:

• Attach the rubber feet and place the unit on a flat surface.

• Fasten a bracket (included) on each side of the unit and attach it to a flat surface (see www.kramerav.com/downloads/KDS-SW3-EN7).
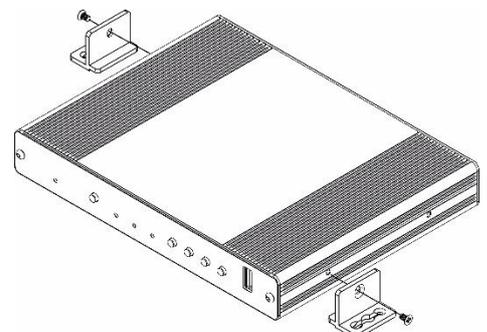
• Mount the unit in a rack using the recommended rack adapter (see www.kramerav.com/product/KDS-SW3-EN7).

• Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
• Avoid uneven mechanical loading.
• Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
• Reliable earthing of rack-mounted equipment should be maintained.
• Maximum mounting height for the device is 2 meters.

Step 4: Connect inputs and outputs

Always switch OFF the power on each device before connecting it to your **KDS-SW3-EN7.**
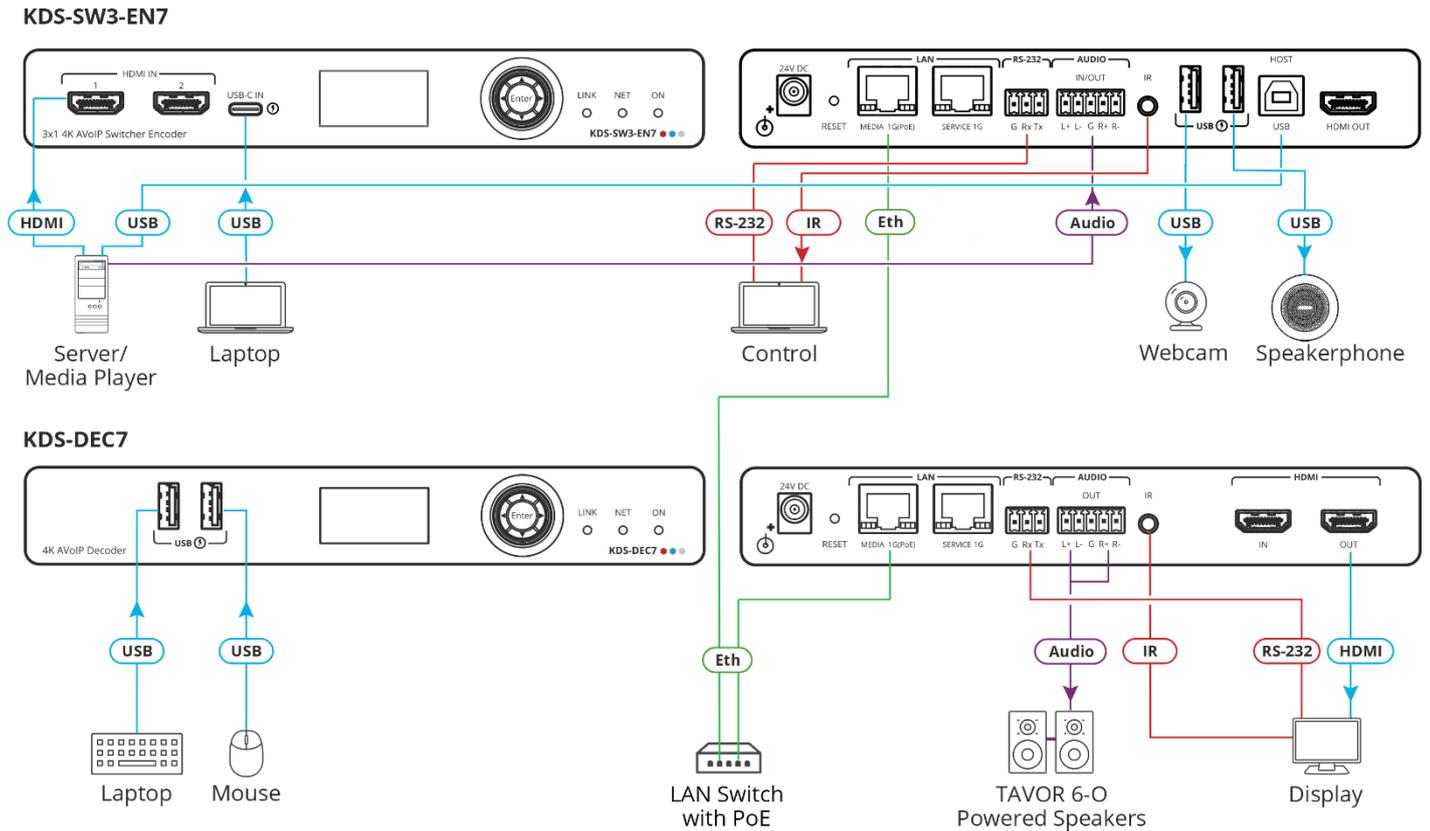
KDS-SW3-EN7

KDS-DEC7

ⓘ **KDS-SW3-EN7** and **KDS-DEC7** can stream 4K video, requiring a gigabit Ethernet switch for high quality performance, since the maximum momentary transfer rate can reach 850Mbps. We recommend using AVoIP Ethernet switches that support: Multicast forwarding or filtering, IGMP Snooping, IGMP Querier, IGMP snooping fast leave and Jumbo frame (8000 bytes or larger).
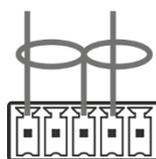
Connecting the audio input/output

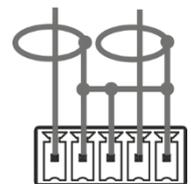To a balanced stereo audio source/acceptor:
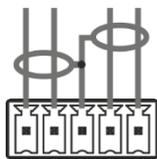
L+ L- G R+ R-

To an unbalanced stereo audio acceptor:

L+ L- G R+ R-

To an unbalanced stereo audio source:

L+ L- G R+ R-

ⓘ To achieve specified extension distances, use the recommended Kramer cables available at www.kramerav.com/product/KDS-SW3-EN7.
Using third-party cables may cause damage!

Step 5: Connect power

By-default, the device uses PoE for powering the device.
Optionally, you can separately purchase a power adapter to connect to the product and plug into the mains electricity.

⚠ Safety Instructions (See www.kramerav.com for updated safety information)
Caution:
- For products with relay terminals and GPIO ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.
- There are no operator serviceable parts inside the unit.

Warning:
- Use only the power cord that is supplied with the unit.
- Disconnect the power and unplug the unit from the wall before installing.

Step 6: Operate KDS-SW3-EN7

The **KDS-SW3-EN7** default IP address is 192.168.1.39. By default, DHCP is enabled, and assigns an IP address to the device. If DHCP Server is not available, for example, if a device is connected directly to a laptop, the device gets the default IP address. If this IP address is already used, the system searches for a random unique IP in the range of 192.168.X.Y. the allocated IP address can be identified using the LCD screen menu.

Viewing the IP address in the LCD screen Menu

1. Connect **KDS-SW3-EN7** to a LAN switch with PoE (power over ethernet). The ON LED lights green.

2. Use the navigation button to view the assigned IP address on the LCD screen:
   - DEV STATUS > LAN1 Status (the Media port).
   - DEV STATUS > LAN2 Status (if the Service port is used).

Setting a Channel Number

Each encoder requires a unique channel number. All connected decoders must be tuned to the same channel. Channel numbers can be set using the LCD screen menu or the embedded web pages.

Set the channel number in the LCD screen menu:

1. Connect the device to a LAN switch with PoE (power over ethernet). The ON LED lights green.

2. In the LCD screen menu, go to **DEV SETTINGS > CH DEFINE**.

3. Change channel number using the arrow buttons and set a unique channel number.

4. Press **Enter** to save your selection.

Set the channel number in the web pages

For information on using the web pages, see the KDS-SW3-EN7 user manual at https://www.kramerav.com/product/kds-sw3-en7#Tab_Resources.

1. Connect **KDS-SW3-EN7** to a LAN switch with PoE (power over ethernet).

2. Open the embedded web pages; In the **Main** page (**AV Routing)**, **Channel ID** field, set a channel ID number.
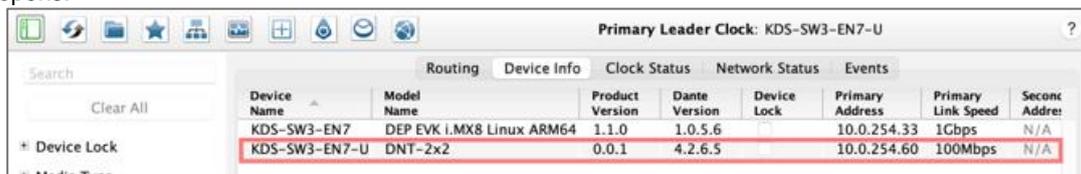

Using KDS-SW3-EN7 for Dante or AES67 professional audio over LAN

AES67 is supported on KDS-SW3-EN7 devices running hardware version R:01 or higher (the hardware version is on a label attached under the device, see the image on the right).

1. Download and install **Dante Controller** (see https://my.audinate.com/support/downloads/dante-controller).

2. If you are using AES67, also install **AES67 Stream Monitor** (https://aes67.app/download).

3. Open **Dante Controller** software on a laptop connected to the same LAN switch as **KDS-SW3-EN7**:

   a. Double click the **KDS-SW3-EN7** device in the Dante Controller screen (see below); The **Device View** screen opens.

   b. If using AES67, click the **AES67 Config** tab in the Device View and enable AES67 Mode; You will be prompted to restart ("reboot") the **Dante Controller** (double click the device again after restarting).

   c. In the Device View's **Receive** tab, select both channels and click "Create" to create an RTP multicast flow. The RTP flow will be visible on the **Transmit** tab.

4. Open the **KDS-SW3-EN7** webpages:

   a. In the **KDS-SW3-EN7 AV Settings** page, open the **Audio** tab; Set **Audio Source Mode** to manual and **Audio Destination** to **Dante** and **LAN**. Enter a **Dante/AES-67 Name** of your choice to identify the stream and **SAVE**.

   b. In the **KDS-SW3-EN7 Device Settings** page, open the **Network** tab and set the **Dante** Port to **Media** (as shown below) or to **Service** if you are using the Service LAN for Dante.

5. To monitor AES67 streams, use the **AES67 Stream Monitor.**