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KDS-100EN-U, KDS-100DEC-U Quick Start Guide

This guide helps you install and use your **KDS-100EN-U** or **KDS-100DEC-U** for the first time.

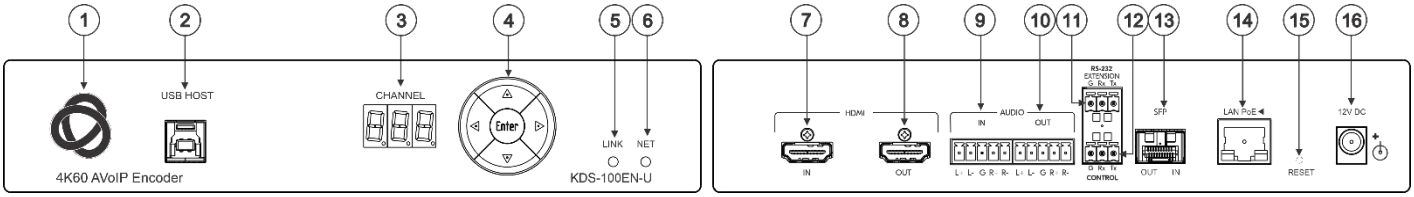
Go to https://www.kramerav.com/product/KDS-100EN-U or to https://www.kramerav.com/product/KDS-100DEC-U to download the latest user manual and check if firmware upgrades are available.

Step 1: Check what's in the box

- **KDS-100EN-U 4K60 AVoIP Encoder or**
- **KDS-100DEC-U 4K60 AVoIP Decoder**
- 1 Quick start guide
- 4 Rubber feet (per device)

Step 2: Get to know your device

KDS-100EN-U

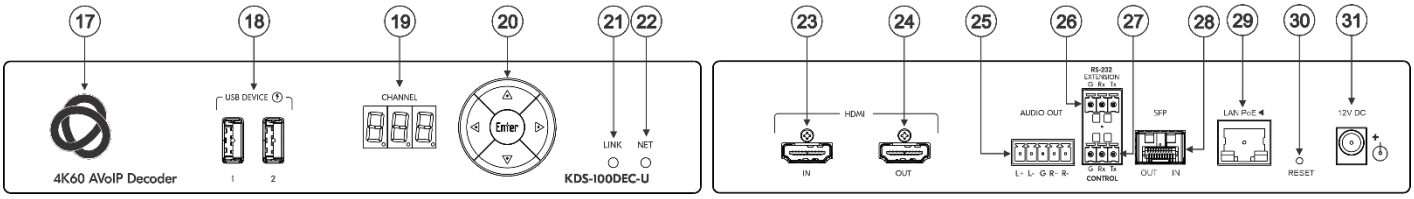


#	Feature		Function
1	ON LED (behind the Logo)		On when power is supplied to the unit by PoE+ or by the (optional) power adapter.
2	USB HOST 3.0 Port		Connect to a USB host.
3	CHANNEL 7-segment Display		Use to set the stream's channel (channel must match on the encoder and decoder).
4	Channel Selection Button	▲	Press to increment the channel ID number by 1.
		▼	Press to decrement the channel ID number by 1.
		►	Press to increment the channel ID number by steps of 10.
		◄	Press to decrement the channel ID number by steps of 10.
		Enter	Press to accept the new channel ID number (within 10 seconds).
5	LINK LED	Off	No AV input is detected or AV streaming mode is OFF for **KDS-100EN-U.**
		Lights green	**KDS-100EN-U** is linked to a decoder and streaming is active.
		Lights blue	**KDS-100EN-U** is in dual streaming mode, but one of the streams is not active.
		Lights red	Streaming is not active (in Dual Streaming mode **both** streams are inactive).
		Flashes green (60 seconds)	A device identification command was sent (Flag me).
6	NET LED	Off	No network connection detected.
		Lights green	A network has been detected and **KDS-100EN-U** has a valid IP address.
		Lights Red	A network has been detected but the device was not assigned a valid IP address (configure with an RS-232 interface).
		Flashes green (60 seconds)	A device identification command was sent (Flag me).
7	HDMI IN connector		Connect to an HDMI source.
8	HDMI OUT connector		Connect to an HDMI acceptor.
9	AUDIO IN 5-pin terminal block		Connect to a balanced, stereo audio source (for example, from the server).
10	AUDIO OUT 5-pin terminal block		Connect to a balanced, stereo audio acceptor (for example, active speakers).
11	RS-232 EXTENSION 3-pin terminal block connector		Connect to a serial data source or acceptor to extend RS-232 control from **KDS-100EN-U** to **KDS-100DEC-U**.
12	RS-232 CONTROL 3-pin terminal block connector		Connect to a serial controller or PC and use it to control **KDS-100EN-U**.
13	SFP OUT IN Connector		Connect a fiber optic cable to the plugged-in SFP optical module connectors (SM/MM) for Ethernet traffic over IP.

P/N: 2900-301784QS Rev: 1

#	Feature	Function
14	LAN PoE ◄ RJ-45 Port	Connect to the LAN (Ethernet traffic or PC controller). **KDS-100EN-U** is powered by PoE+ (power over ethernet) delivered through the LAN PoE+ port, unless the optional 12V DC power adapter is attached.
15	RESET recessed Button	Press and hold for 10 seconds to restore factory default values. All LEDs flash.
16	12V DC Connector	Connect to the optional power adapter (purchased separately).

KDS-100DEC-U



#	Feature		Function
17	On LED (behind the Logo)		On when power is supplied to the unit by PoE+ or the (optional) power adapter.
18	USB DEVICE USB 3.0 Type A Ports (2)		Connect to USB devices.
19	CHANNEL 7-segment Display		Use to set the stream's channel (channel must match on encoder and decoder).
20	Channel Selection Button	▲	Scroll up through the list of automatically discovered channels.
		▼	Scroll down through the list of automatically discovered channels.
		►	No action.
		◄	No action.
		Enter	Press to accept the new channel ID number (within 10 seconds).
21	LINK LED	Off	No network connection detected.
		Lights green	**KDS-100DEC-U** is receiving an input stream and decoding is successful.
		Lights red	**KDS-100DEC-U** is receiving an input stream but decoding has failed.
		Flashes green (60 seconds)	A device identification command was sent (Flag me).
22	NET LED	Off	No network connection.
		Lights green	Network detected and the device has been assigned a valid IP address.
		Lights red	A network has been detected but the device was not assigned a valid IP address (configure with an RS-232 interface).
		Flashed green (60 seconds)	A device identification command was sent (Flag me).
23	HDMI IN connector		Connect to an HDMI source.
24	HDMI OUT connector		Connect to an HDMI acceptor.
25	AUDIO OUT 5-pin terminal block		Connect to a balanced, stereo audio acceptor (for example, active speakers).
26	RS-232 EXTENSION 3-pin terminal block connector		Connect to a serial data source or acceptor to extend RS-232 between **KDS-100DEC-U** and **KDS-100EN-U**.
27	RS-232 CONTROL 3-pin terminal block connector		Connect to a serial controller or PC and use it to control **KDS-100DEC-U**.
28	OUT IN SFP transceiver connector		Insert an SFP transceiver (optical SM/MM or copper) and plug in an optical / RS-232 cable for Ethernet traffic over IP.
29	LAN PoE ◄ RJ-45 Port		Connect to the LAN (Ethernet traffic or PC controller). **KDS-100DEC-U** is powered by PoE+ (power over ethernet) delivered through the LAN PoE+ port, unless the optional 12V DC power adapter is attached.
30	RESET recessed Button		Press and hold for 10 seconds to restore factory default values. All LEDs flash.
31	12V DC Connector		Connect to the optional power adapter (purchased separately).

Step 3: Mount KDS-100EN-U

Install **KDS-100EN-U** and **KDS-100DEC-U** using one of the following methods:

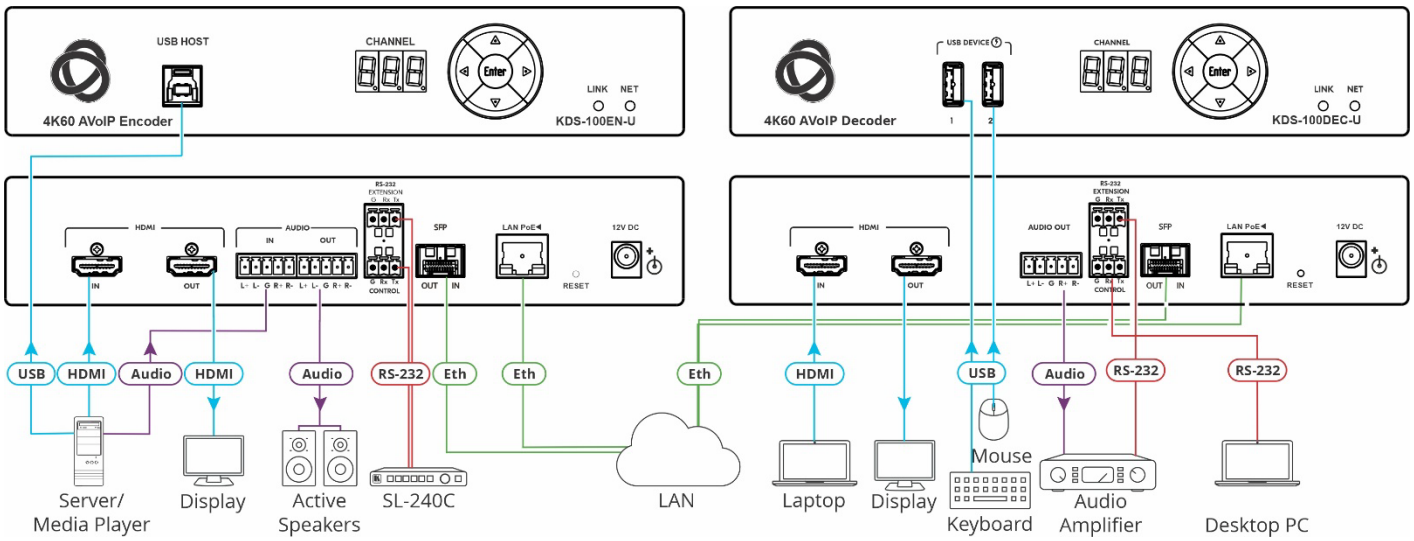
- Attach the rubber feet and place the unit on a flat surface.
- Mount the unit in a rack using the recommended rack adapter
  See www.kramerav.com/product/KDS-100EN-U or www.kramerav.com/product/KDS-100DEC-U

KDS-100EN-U KDS-100DEC-U

- 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

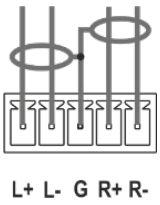
Always switch OFF the power on each device before connecting it to your **KDS-100EN-U**.



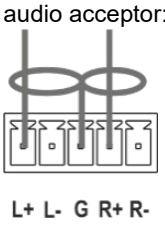
KDS-100EN-U and **KDS-100DEC-U** can stream 4K video, requiring a gigabit Ethernet switch for high quality performance, while the maximum momentary transfer rate can reach 60Mbps. We recommend using AVoIP Ethernet switches that support: PoE+, multicast forwarding or filtering, IGMP Snooping, IGMP Querier and IGMP snooping fast leave.

Connecting the audio output

To a balanced stereo audio acceptor:

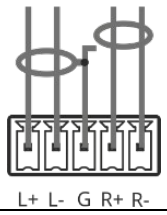


To an unbalanced stereo audio acceptor:



Connecting to the audio input

From a balanced stereo audio source:

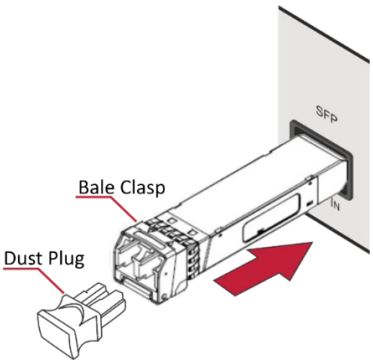


From an unbalanced stereo audio source:

To install the SFP MM/SFP SM Kramer recommended transceiver:

1. Remove the currently installed transceiver: Pull down the bale clasp, insert the dust plug and pull out. Store in a safe place.
2. Make sure the bale clasp of the new transceiver is pushed up, in the closed position.
3. Insert the new transceiver into the SFP port and push it in until it clicks.
4. Remove the dust plug and store it in a safe place for future use.

Warning: Connecting the SFP connector to an LC(APC) fiber connector may cause poor performance and damage the connector!



Warning: Class 1 Laser Product

- Invisible laser radiation present.
- Avoid long-term viewing of laser.
- Avoid the use of magnifying viewing aids or instruments (such as binoculars, telescopes, microscopes and magnifying lenses, but not spectacles or contact lenses).
- Avoid placing optical devices in the emitted beam that could cause the concentration of the laser radiation to be increased.

Step 5: Connect power

By-default, **KDS-100EN-U** and **KDS-100DEC-U** use PoE+ for power.

Optionally, you can separately purchase a power adapter to connect to each device and plug into the mains electricity.

Safety Instructions (see www.kramerav.com for updated safety information)

Caution:

- For products with relay terminals and GPI\O 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-100EN-U / KDS-100DEC-U

Allocating the IP Address

KDS-100EN-U and **KDS-100DEC-U** have DHCP enabled by default, for automatic assignation of an IP address. If a DHCP Server is not available, for example, if the device is connected directly to a laptop, a static IP address must be configured by submitting P3K (Protocol 3000) commands, such as NET-CONFIG, over an RS-232 interface.
For more information, see the User Manual at https://www.kramerav.com/downloads/kds-100en-u.

When a display is connected to the KDS-100DEC-U HDMI OUT connector without an active stream, the IP address and display resolution will be displayed.

Setting the Channel ID

Each encoder requires a unique channel number, and the connected decoders should be tuned to that encoder channel. You can set the channel number with the Channel Selection button (3 and 18 in Step 2) or the embedded web pages.

To set the channel number for KDS-100EN-U or KDS-100DEC-U using the Channel Selection button:

1. Connect the device to a LAN switch with PoE+ (power over ethernet). The Logo LED lights.
2. Set the channel number:
   - For the **KDS-100EN-U**: Use the UP/DOWN arrows to increment/decrement the channel number by 1 and the RIGHT/LEFT buttons to increment/decrement by 10. Channel selections that collide with an existing channel will not be accepted.
   - On each **KDS-100DEC-U** device, set the same channel number defined on the **KDS-100EN-U**: Use the UP/DOWN arrows to scroll up or down through the list of automatically detected channels.
     If Dual Stream mode is activated on **KDS-100EN-U**, both output streams have the same Channel ID.

   The CHANNEL display flashes for 10 seconds.
3. Press **ENTER** (while the CHANNEL display flashes) to accept the changes.
   - Channel selections that collide with an existing channel will not be accepted.
   - The CHANNEL display stops flashing, and the new channel ID is displayed.
   - If ENTER is not pressed within the 10-second flashing period, or if an error occurs, the channel ID is not changed.

To set the channel number with the embedded web pages:

1. Connect the device to a LAN switch with PoE+ (power over ethernet). The Logo LED lights, and the LINK LED flashes (indicating that no streaming activity is detected).
2. Access the embedded web pages (default user/password is Admin/Admin). For instructions see the chapters on using the embedded web pages in the user manual at https://www.kramerav.com/downloads/kds-100en-u.
3. In the **KDS-100EN-U** **Home** page (the Dashboard), edit the **Channel ID** to define the channel ID number.
4. On the relevant **KDS-100DEC-U**, open the Main page (the Dashboard) and select the **Channel ID** corresponding to the desired encoder channel ID.

Use an NTP (Network Time Protocol) server for KDS-100-U series deployments

An NTP is essential for encoder and decoder synchronization, time stamping, and reliability in applications where timing coordination is critical. It helps prevent drift, jitter, out-of-sync data and contributes to efficiency and reliability.

Set the NTP server on each KDS-100-U device, in the embedded web pages, on the **Device Settings > Date & Time** page.