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User Manual
SCT-IPE5100W

4K60 Wall Plate Encoder

Version: SCT-IPE5100W_2026 V1.0.0

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Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.
This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till June, 2021. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

CE RoHS COMPLIANT

SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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1. Introduction

1.1. Overview

The SCT-IPE5100W wall plate encoder switches video signals between HDMI and USB-C inputs. It works with SCT-IPD5100 decoders to transmit 4K@60Hz 4:4:4 HDMI over gigabit Ethernet networks, up to 328ft (100m) via a single Cat 5e or higher cable.

Supports Dante audio for full interoperability with Dante-enabled systems. Video, audio, USB, and RS-232 signals can be routed individually or as a group across the matrix system. HDCP 2.2/2.3 compliant. USB host ports support USB 2.0 extension for remote KVM control. Control options include the SCT-IPCX controller and Telnet API.

This product is suitable for a wide range of signal routing applications, including homes, classrooms, conference rooms, sport bars, auditoriums.

1.2. Features

- Includes HDMI and USB-C video inputs.
- Supports automatic and button switching between HDMI and USB-C inputs.
- Supports video input and output resolutions up to 3840 x 2160@60Hz.
- USB-C IN supports PD charging.
- Supports HDR10 and Dolby Vision.
- Supports Dante audio networking.
- Supports multi-channel audio up to PCM 7.1, Dolby Atmos, DTS HD Master and DTS:X.
- Supports HDMI ARC (Audio Return Channel).
- HDCP 2.2/2.3 compliant.

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- Features a USB 2.0-compliant USB-C port (USB HOST), used with HDMI IN for USB 2.0 extension.
- Two switchable USB host ports between USB-C IN and USB HOST.
- Flexible routing policies allow audio, video, RS-232 and USB signals to be routed separately or together throughout the matrix system.
- Allows signals to be transmitted up to 328ft/100m over a single Cat 5e cable or higher.
- 1–2 fps latency.
- Supports bidirectional RS-232 communication.
- Supports PoE, enabling remote power via a PoE-enabled switch, eliminating the need for a local power adapter.
- Supports DHCP by default and automatically falls back to Auto-IP if no DHCP server is available.
- Allows control via both the SCT-IPCX controller and Telnet API.

1.3. Package Contents

- 1 × Wall Plate Encoder
- 1 × 3.5mm Phoenix Male Connector, 3-pin
- 1 × 3.5mm Phoenix Male Connector, 2-pin
- 1 × Black Left-Half Faceplate
- 1 × Black Right-Half Faceplate
- 1 × White Left-Half Faceplate
- 1 × White Right-Half Faceplate
- 1 × 2-Gang Black US Faceplate Cover
- 1 × 2-Gang White US Faceplate Cover
- 4 × Black Phillips Flat Head Screws, #6-32, 3/4 in
- 1 × User Manual

1.4. Specifications

Video	
Input Video Port	1 ×HDMI Type A (19 pins); 1 × female USB Type-C
Input Video Type	HDMI 2.0b, HDCP 2.3
Input Resolutions	3840 × 2160p@24Hz 4:4:4, 3840 × 2160p@30Hz 4:4:4, 3840 × 2160p@50Hz 4:4:4, 3840 × 2160p@60Hz 4:4:4, 640 × 480p@60Hz, 720 × 480p@60Hz, 1280 × 720p@60Hz, 1920 × 1080i@60Hz, 1920 x 1080p@60Hz, 720 × 576p@50Hz, 1280 × 720p@50Hz, 1920 × 1080i@50Hz, 1920 × 1080p@50Hz, 1920 × 1080p@24Hz, 1920 × 1080p@25Hz, 640 × 480@60Hz, 800 × 600@60Hz 1024 × 768@60Hz, 1280 × 720@60Hz, 1280 × 768@60Hz, 1280 × 800@60Hz, 1280 × 960@60Hz, 1280 × 1024@60Hz, 1360 × 768@60Hz, 1366 × 768@60Hz, 1400 × 1050@60Hz, 1440 × 900@60Hz, 1600 × 900@60Hz, 1600 × 1200@60Hz, 1680 × 1050@60Hz, 1920 × 1080@60Hz, 1920 × 1200@60Hz
Output Video Port	1 × RJ-45
Output Video Type	IP Stream
Output Resolutions	Up to 3840 × 2160p@60Hz 4:4:4
Average Encoding Data Rate	3840 × 2160@60Hz: 650Mbps (avg) / 900Mbps (max)
End-to-End Latency	1–2 fps
Input/Output Video Signal	0.5~1.2 V p-p
Input/Output DDC Signal	5 V p-p (TTL)
Video Impedence	100Ω
Maximum Data Rate	18Gbps (6 Gbps per color)
Maximum Pixel Clock	600MHz

Audio	
Input Audio Port	1 × HDMI; 1 × USB-C
Input Audio Type	Fully supports audio formats in HDMI 2.0b specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS: X
Output Audio Port	1 × LAN

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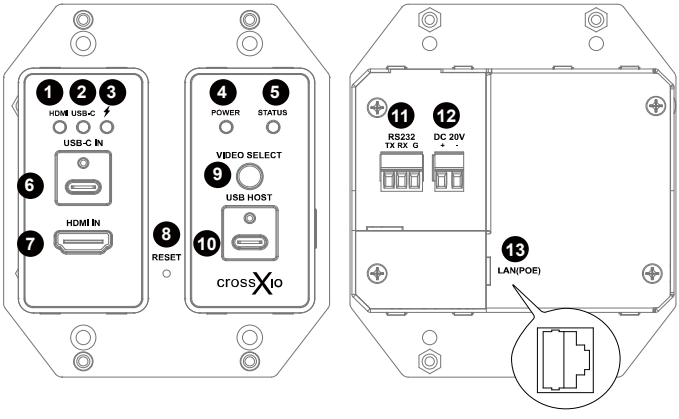
Audio	
Output Audio Type	Fully supports audio formats in HDMI 2.0b specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X
Dante Audio Type	LPCM 2.0, 44.1/48/88.2/96 KHz

Control	
Control Method	SCT-IPCX controller, Telnet API

General	
Operating Temperature/ RH	32–113°F (0– 45°C), 10%–90% RH, non-condensing
Storage Temperature/ RH	-4–158°F (-20–70°C), 10%–90% RH, non-condensing
Power Supply	DC 20V, 6A / PoE **Note:** USB-C IN supports charging when powered via a DC 20V adapter (sold separately).
Power Consumption	Max 69W
ESD Protection	Human body model: ±8 kV (air discharge) / ±4 kV (contact discharge)
Dimensions (W x H x D)	3.54 × 4.16 × 1.85 in (90 × 105.6 × 47mm)
Net Weight	1.1lbs (0.5kg)

1.5. Panel Description



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#	Name	Description
1	HDMI LED	• **Solid on:** Valid HDMI input signal is detected and selected. • **Blinking:** The HDMI input signal is selected but invalid. • **Off**: The HDMI input signal is not selected.
2	USB-C LED	• **Solid on:** Valid USB-C input signal is detected and selected. • **Blinking:** The USB-C input signal is selected but invalid. • **Off**: The USB-C input signal is not selected.
3	ϟ LED	• **On:** USB-C charging is available and PD negotiation with the connected USB-C source succeeds. • **Off:** USB-C charging is unavailable (e.g. the device is powered by PoE instead of DC power adapter) or PD negotiation fails.
4	POWER LED	• **Solid on:** The device is powered on. • **Blinking:** The device is booting. • **Off:** The device is powered off.
5	STATUS LED	• **Solid on**: The device is connected to the network and transmitting IP stream. • **Blinking**: The device is connected to the network but not transmitting IP stream. • **Blinking rapidly:** Device identification command sent (Find me). • **Blinking slowly:** The device is being upgraded. • **Off:** The device is not connected to the network.
6	USB-C IN	Connect to a USB-C source using a USB-C cable. **Note:** (1) This port is USB 2.0 compliant and supports charging of the attached USB-C source (up to 60W) when powered by the DC 20V power adapter and USB-C charging is enabled. USB-C charging is enabled by default and configurable via SCT-IPCX controller (refer to separate guide). (2) Recommended cable: USB Type-C to Type-C, USB 2.0 or higher.
7	HDMI IN	Connect to an HDMI source.
8	RESET	When powered on, press and hold this button for five or more seconds, then release to reboot and restore factory settings.
9	VIDEO SELECT	Video source selection button. Short press to switch between HDMI IN and USB-C IN.
10	USB HOST	Connect to a USB host device. **Note**: This port is USB 2.0 compliant and used in conjunction with the HDMI IN port.
11	RS232	Connect to an RS-232 device (e.g., PC) to communicate bidirectionally with another RS-232 device at the decoder or with the controller.

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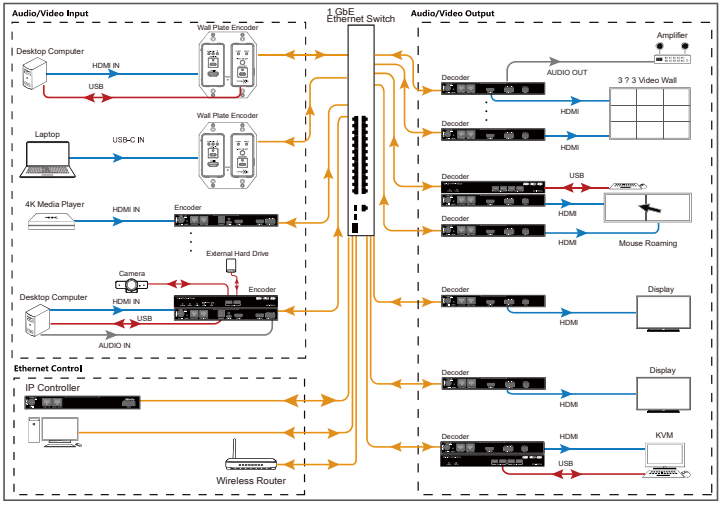
#	Name	Description
12	DC 20V	Connect to a DC 20V adapter for power input. **Note:** When the device is powered via DC adapter, USB-C IN can charge the attached USB-C device up to 60W.
13	LAN (POE)	Connect to a gigabit Ethernet switch for IP stream output and device control. **Note:** • The device can be powered via a PoE-enabled switch, eliminating the need for a local adapter. • The DC adapter takes priority over PoE. When both are connected, the device draws power from the adapter.

2. Typical Applications

2.1. Application Example 1



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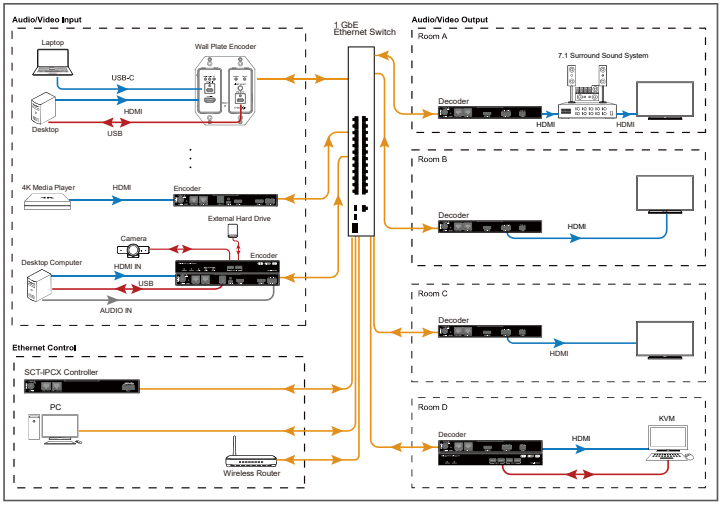
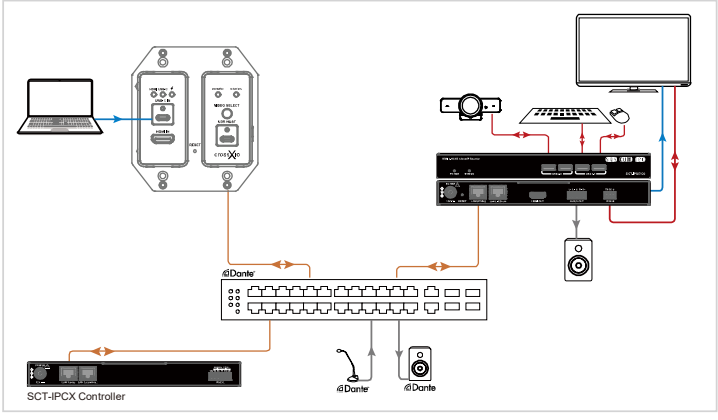
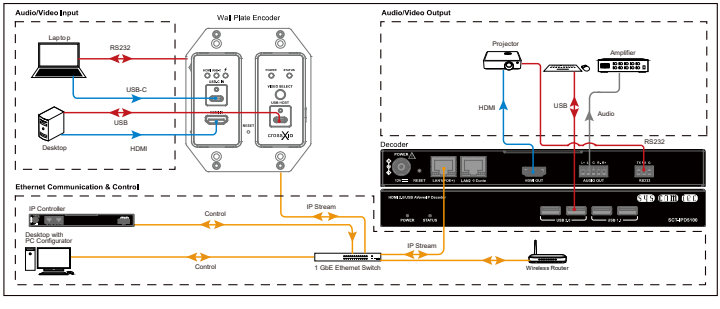
2.2. Application Example 2



2.3. Application Example 3



3. Hardware Installation



Note: Connect encoders and decoders to their power adapters if the Ethernet switch doesn't support PoE.

4. IP Address Identification

The device's default IP setting is DHCP. Ensure that a DHCP server is available in the network so that the device can obtain a valid IP address during deployment. If no DHCP server is available—for example, when the device is connected directly to a computer—the device is assigned a default IP address in the range of 169.254.X.Y. The assigned IP address can be identified via the OSD or API Commands.

5. Signal Switching Behavior

The device supports both automatic and button-based switching of input signals, allowing users to easily and quickly select the desired source.

5.1. Automatic Signal Switching

Automatic signal switching follows the Last-In-First-Out (LIFO) rule.

- If an HDMI or a USB-C source is connected to the device, the device automatically outputs this video source.
- If another video source is connected, the device automatically switches to the most recently connected video source.
- If both HDMI and USB-C sources are connected and one video source is removed, the device automatically outputs the remaining video source.

5.2. Button Switching

The VIDEO SELECT button on the panel is used to manually select the desired source. Short press the button to alternate between HDMI IN and USB-C IN as the input channel.

If the selected input channel is connected to an active source, the corresponding

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LED indicator is constantly lit. If not, the corresponding LED indicator is off, and the display screen shows no image.

6. Device Control Overview

The device can be controlled and configured through the SCT-IPCX controller, including routing of audio, video and USB signals, configurations of audio & video parameters, Dante features, firmware upgrades, and more. For more information, refer to the configuration guide of the SCT-IPCX controller.

7. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

7.1. Warranty

The limited warranty period of the product is fixed three years.

7.2. Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

7.3. Warranty Exclusion:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

7.4. Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.
Remarks: Please contact your local distributor for further assistance or solutions.

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