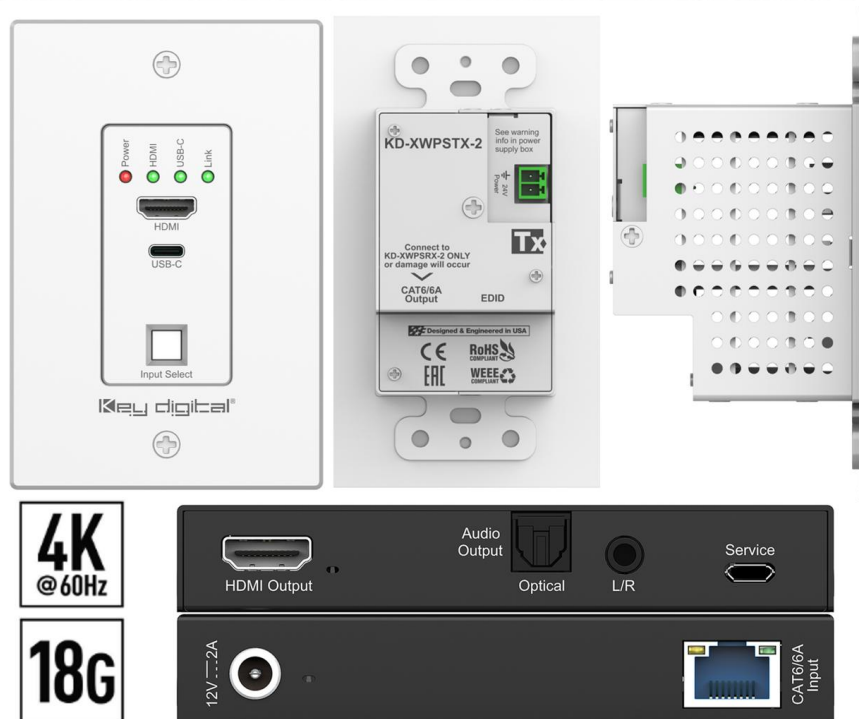# KD-XWPS-2

Single Gang HDMI USB-C over 50m CAT6 Wall Plate Extender Kit (Tx + Rx) with Audio De-Embed

Key digital®

The Experts in Digital Video Technology and Solutions™

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Please visit www.keydigital.com for the latest product documentation, firmware, control drivers and software downloads. Product features and specifications are subject to change without notice.

Always follow the instructions provided in this Operating Manual.

About KD-XWPS-2

Key Digital® KD-XWPS-2 is a single-gang wall-plate switcher transmitter + receiver kit with one HDMI and one USB-C input ideal for professional AV systems installations in conference rooms, huddle spaces, classrooms, and more. KD-XWPS-2 supports 4K/UHD resolution with bandwidth up to 18Gbps and HDCP2.2 compliancy and extends video resolutions up to 4096x2160 at 60hz with 4:4:4 chroma sub-sampling over a single CAT6/6A cable up to 164ft (50m). KD-XWPS-2 features EDID handshake control and audio de-embedding for overcoming common systems integration obstacles. The wall-plate transmitter is powered by the Rx unit for convenient installation, or you may integrate with power supply model GM130-2400500-F (sold separately) to connect power at the transmitter plate which can power the Rx unit as well as provide power to device connected to the USB-C port.

Key Features

- **Presentation Plate:** Connect HDMI or USB-C laptop to send signal to receiver unit at Display or Projector.
- **Auto-Switching:** Automatic selection of newly detected source and switching from newly disconnected source.
- **Complete Kit:** Includes Tx (model KD-XWPSTx-2), Rx (KD-XWPXRX-2), and Power Supply.
- **Ultra HD/4K:** Supports up to 4096x2160 or 3840x2160 24/25/30/60hz at 4:4:4 (signals up to 18Gbps bandwidth).
- **Power over CAT:** Only one power supply needed. Rx powers Tx Plate by default, or Transmitter plate can provide power to connected USB-C devices when GMB36-120200-F (sold separately) is connected at the Tx unit.
- **Optional USB-C Device Powering:** When GM130-2400500-F (sold separately) is connected at the Tx unit, Transmitter plate can provide power to connected USB-C devices as well as the Rx unit.
- **Audio De-Embedding:** Audio of the selected source is de-embedded at the Rx unit's analog and digital audio connectors.
- **Visually Lossless Compression:** 18G enabling technology applied to all video formats exceeding 10.2Gbps to accommodate CAT6/6A transmission channel.
- **Signal Extension:** 4K/UHD (up to 18G) up to 164ft / 50m. 1080p and lower up to 230ft / 70m.
- **Surround Audio Support:** Dolby ®, DTS™ (formats up to 5.1 / 6.1).
- **HDCP Licensing:** Fully licensed and compatible with HDCP 2.2
- **HDR (High Dynamic Range):** More life-like images through a greater range of luminance levels
- **Deep Color Support:** Up to 4K/UHD 30Hz 4:4:4/12 bits or 60Hz 4:2:2/12 bit
- **Full Buffer System™:** Manages TMDS re-clocking / signal re-generation, HDCP authentication to source & display, and EDID Control handshake
- **EDID Management:** Internal library with 8 internal EDID handshakes including 4K with HDR, 1080p, 1920x1200, and 1080p DVI

Accessories

- Qty 1: Aluminum decora plate
- Qty 2: Decora mounting screws
- Qty 2: Gang-box mounting screws
- Qty 1: 12V/2A (24W) Power supply with screw-in connector. Desktop type. Model GMB36-120200-F.

- Qty 2: L mounting bracket for Rx unit
- Qty 2: Velcro for Rx unit
- 2 Pin Phoenix Block (Green): 1pcs for connection with GM130-2400500-F transmitter power supply (sold separately) for USB-C device power.

Quick Setup Guide

Begin with the Tx and Rx units and all input / output devices turned off with power cable removed.

Connect

1. **Connect video sources** into the HDMI and USB-C input ports of KD-XWPS-2 TX

    a. For USB-C, <u>the cable must be USB 4</u> or <u>USB-C 3.2 Gen 2 with DP Alt Mode support </u>to support AV at the needed bandwidth

2. **Connect video displays/projectors** to the HDMI output port of Rx

3. **Connect CAT6 cable** from the TX's RJ45 output port to the RX units RJ45 input. Use 568-B termination. Do <u>not</u> connect the Tx or Rx units to third-party devices, including HDBaseT. <u>Damage will occur and warranty will be voided.</u>
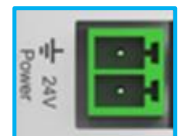
4. **Connect Power**

    a. **IMPORTANT: CONNECT ONLY 1 POWER SUPPLY**

    b. **If using the included 12V screw-in type power supply:** Connect to the Rx unit, and then connect power to outlet.
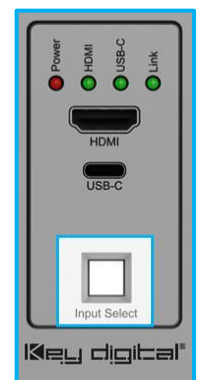
    c. **If using GM130-2400500-F (sold separately) 24V 5A (120W) power supply:** Ensure the 12V power supply is not connected to the Rx unit. Then, connect GM130-2400500-F phoenix plugs into Tx unit, and finally into the power outlet.
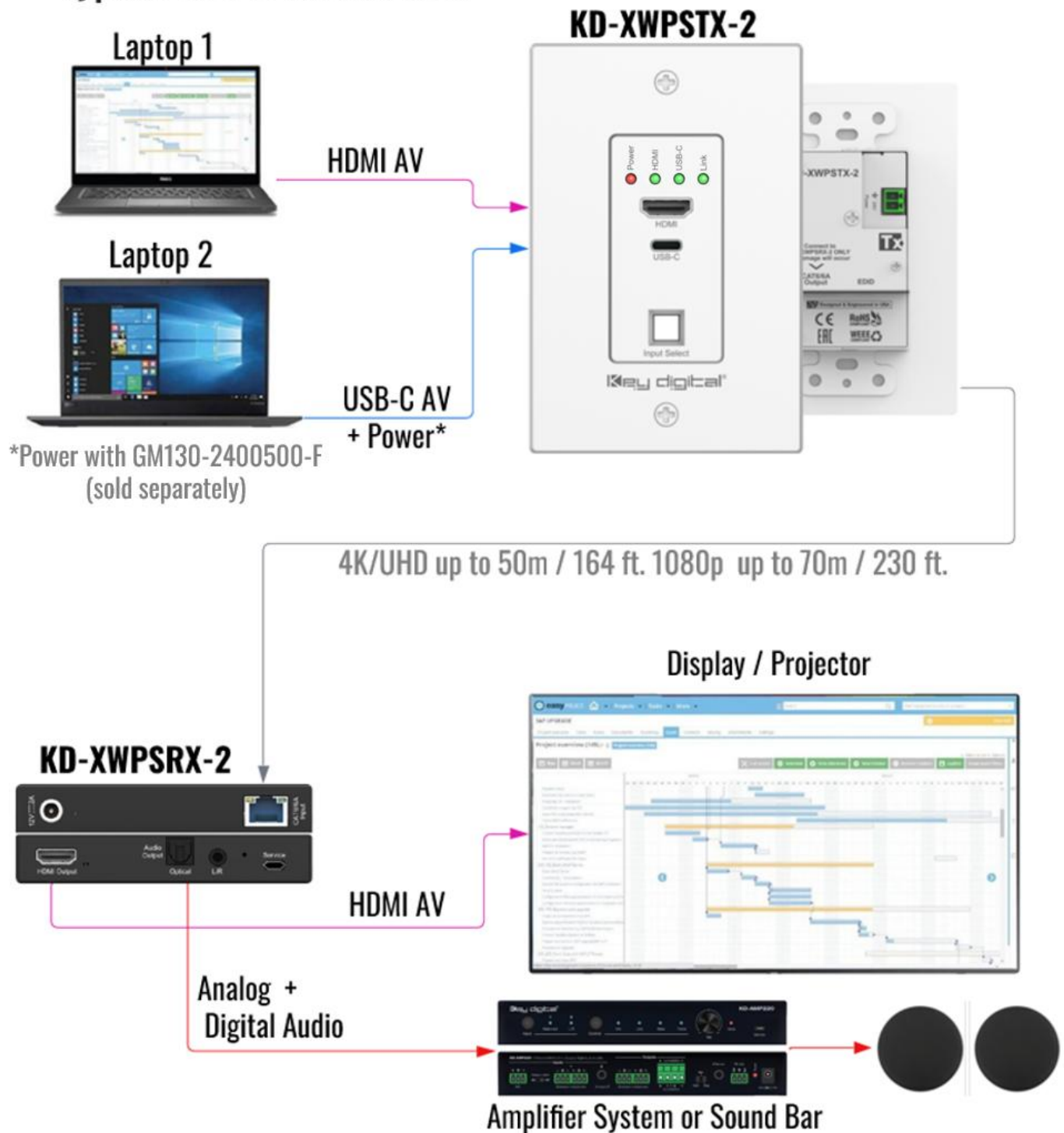
Control

- Use the Input Select button to manually toggle between the HDMI or USB-C inputs
- Auto switching is always active, so newly connected sources are automatically selected.

Application Example

Typical Use & Installation:

Laptop 1

HDMI AV

Laptop 2

KD-XWPSTX-2

USB-C AV
+ Power*

*Power with GM130-2400500-F
(sold separately)

4K/UHD up to 50m / 164 ft. 1080p up to 70m / 230 ft.

Display / Projector

KD-XWPSRX-2

HDMI AV

Analog +
Digital Audio

Amplifier System or Sound Bar

Connections and Adjustments

HDMI Input and Output: Using an HDMI cable, connect your HDMI source and display.

- Supports up to UHD/4K @ 50/60 fps [4:4:4], 18Gbps
- Supports HDR
- Compliant with HDCP 2.2 and previous
- Supports surround audio formats including Dolby ®, DTS™ (up to 5.1 / 6.1)
- Does not support CEC or ARC

USB C: Using a USB-C cable, connect your source. For Display Port sources, use adapter cables

- Supports up to UHD/4K @ 50/60 fps [4:4:4], 18Gbps
- Supports HDR
- The cable must be USB 4 or USB-C 3.2 Gen 2 with DP Alt Mode to support AV at the needed bandwidth.
- Utilizes Display Port over USB-C alt mode
- Supports Display Port version 1.3 and previous
- Compliant with HDCP 2.2 and previous
- Does not support CEC or ARC

CAT6/6A Output / Input: Connect a network cable to the Rx unit's CAT6/6A Input port using CAT6/6A UTP or STP in 568-B termination.

- UHD/4K Distance Performance: Up to 164ft (50m)
- 1080p Distance Performance: Up to 230ft (70m)
- Supports Dolby®, DTS™ (5.1 / 6.1 formats max)
- Receives 12V Power over CAT from Rx
- Connect to KD-XWPSRX-2 only.
- **Not compatible with HDBaseT or third-party Rx. Connecting to incompatible Rx may cause damage and result in void of warranty.**
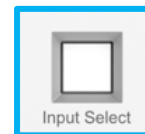
Supported standard 4K video formats:

	Resolution	Bandwidth
1	4K@24/25/30 [4:4:4] 8bit	< 10.2Gbps
2	4K@24/25/30 [4:2:2] 8/10/12bit	< 10.2Gbps
3	4K@50/60 [4:2:0] 8bit	< 10.2Gbps
4	4K@24/25/30 [4:4:4] 10/12bit	< 18Gbps
5	4K@50/60 [4:2:2] 8/10/12bit	< 18Gbps
6	4K@50/60 [4:2:0] 10/12bit	< 18Gbps
7	4K@50/60 [4:4:4] 8bit	< 18Gbps

Input Select Button: Used to manually toggle between HDMI and USB C source input.
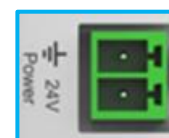
- Note that Auto Switching is always active, so in addition to manual source selection, the plate will automatically switch to a newly detected connection or switch away from a newly disconnected connection if the other input has an active connection.

Power Connections

⚠️ **IMPORTANT: CONNECT ONLY 1 POWER SUPPLY OR DAMAGE MAY OCCUR** ⚠️

- **If using the included 12V screw-in type power supply:** Connect to the Rx unit, and then connect power to outlet. This connection provides power to the Rx and Tx units.

- **If using GM130-2400500-F (sold separately) 24V power supply:** Ensure the 12V power supply is not connected to the Rx unit. Then, connect GM130-2400500-F phoenix plugs into Tx unit, and finally into the power outlet. This connection provides power to the Tx unit, Rx unit, and can charge connected USB-C devices or computers.
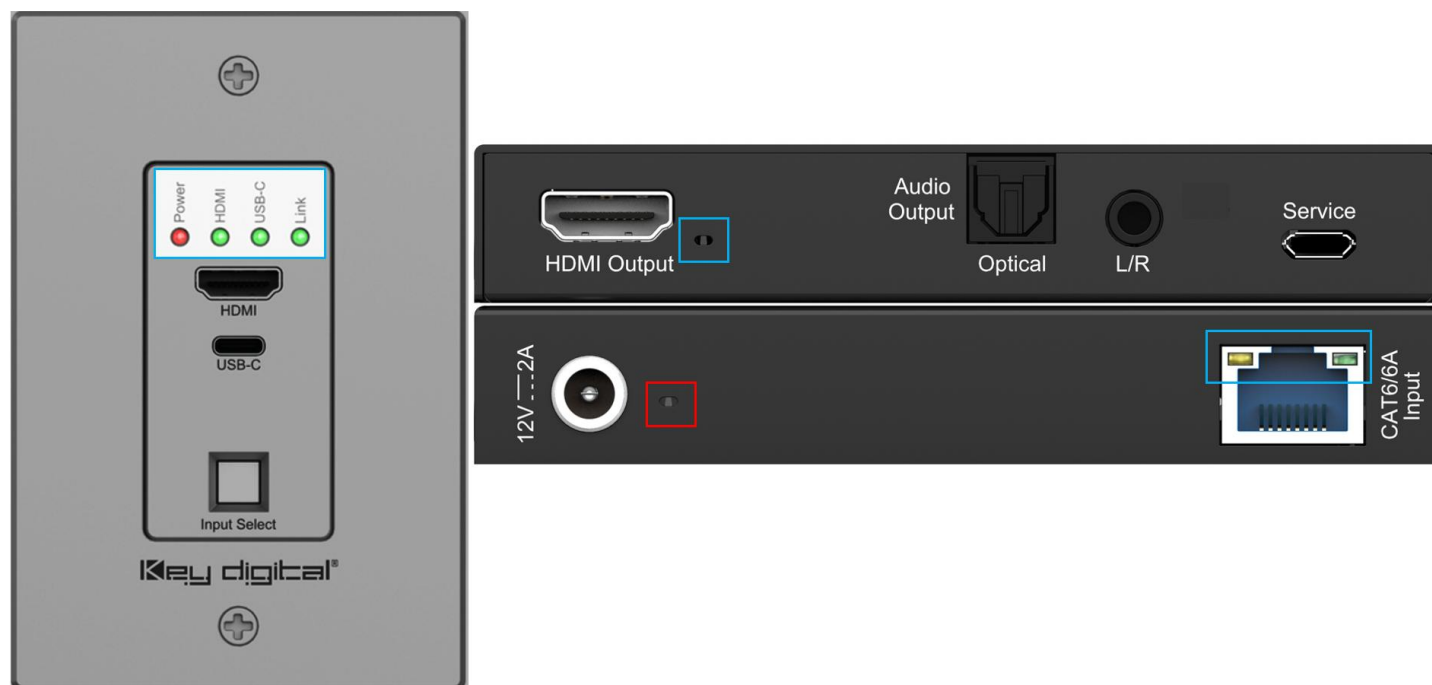
EDID Management Rotary

Use the EDID rotary if you wish for your source to output a different video resolution and audio format

- The default EDID handshake setting is "0" (1080p @ 60 fps, 2ch audio).
- Although it is not necessary, power cycling the Tx unit and HDMI source may help the detection of the newly selected handshake.

	Video Resolution & Audio Format
0	1080p @60, 2CH PCM
1	1080p @60, 5.1 / 6.1 DOLBY / DTS
2	1920x1200P @60, 2CH PCM
3	4Kx2K @30 (10G), 2CH PCM Audio
4	4Kx2K @30 (10G), 5.1 / 6.1 DOLBY / DTS
5	4Kx2K @60 (18G), 2CH PCM Audio
6	4Kx2K @60 (18G), 5.1 / 6.1 DOLBY / DTS
7	DVI 1920x1080@60, No Audio

LED Indicators

Power:

- Tx Color: **Red**
- Tx Unit: Solid illumination during power ON state, as received via included power supply connected at Rx unit and delivered over CAT cable, or via GMB36-120200-F power supply connected at Tx unit.
- Rx Color: **Red**
- Rx Unit: Solid illumination during power ON state, as received via included power supply connected at Rx unit, or via GMB36-120200-F power supply connected at Tx unit and delivered via CAT cable.

HDMI Selection

- Color: **Green**
- Solid illumination indicates the HDMI input is selected and there is an active incoming signal
- Steady blink if the HDMI input is selected and there is no active incoming signal

USB-C Selection

- Color: **Green**
- Solid illumination indicates the USB-C input is selected and there is an active incoming signal
- Steady blink if the USB-C input is selected and there is no active incoming signal

Link:

- Color: **Green**
- Tx Unit: Solid illumination from healthy CAT6/6A link between Tx and Rx unit and active video signal extension.
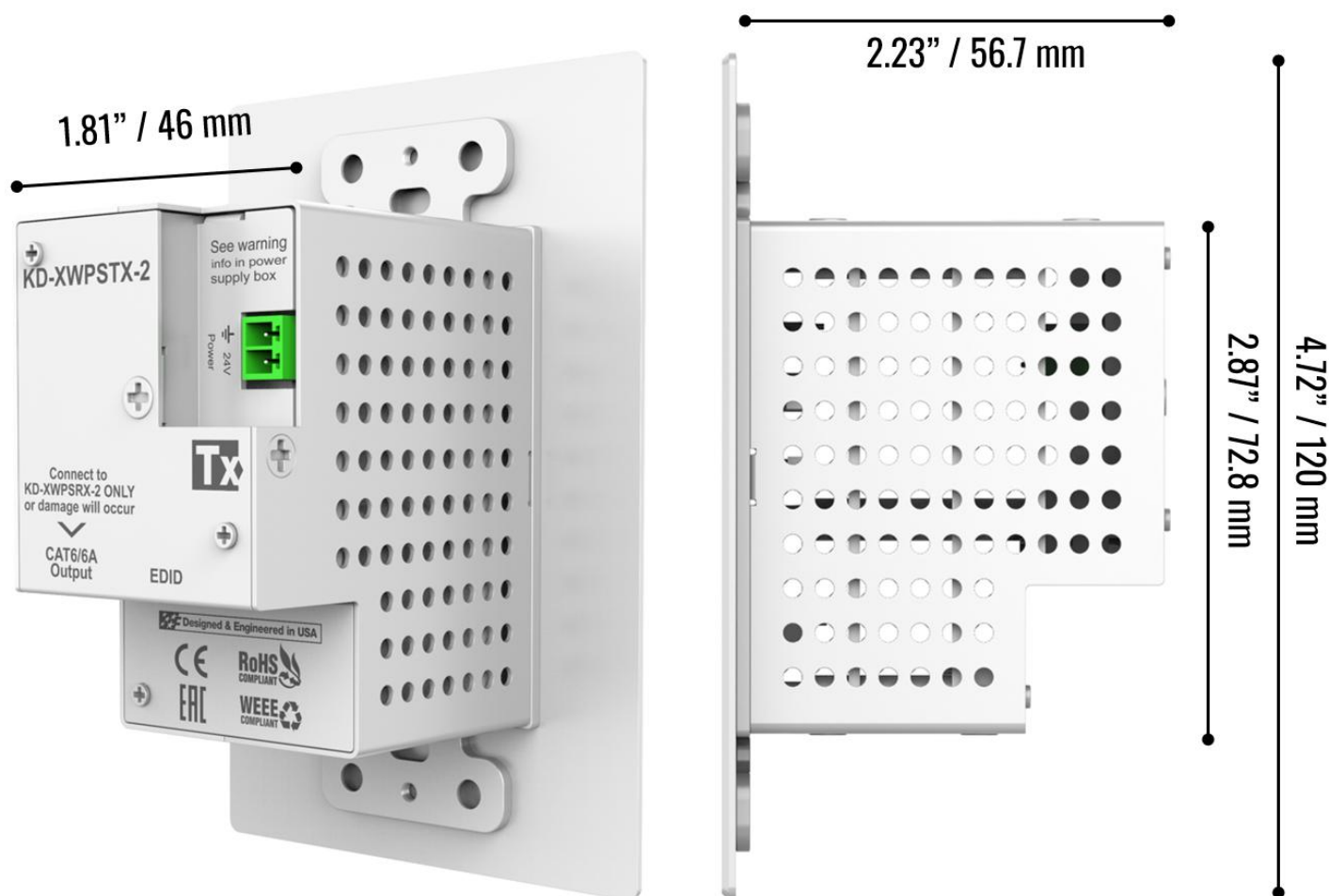
CAT6/6A RJ45 (Rx):

- Left: **Orange** Right: **Green**
- Illuminate solid from healthy CAT6/6A link between Tx and Rx unit and with active video signal extension from Tx to Rx.

Dimensions & Installation

Note that the depth of the transmitter plate is deeper than a standard US gang box. So, installation using mud rings or with THIS compatible Gang Box is recommended.

- Necessary Gang Box Dimensions: Length = 3-3/4", Width = 2-1/4", Depth = 3-1/2"

See Tx Plate Dimensions Document for link to recommended gang box.
Necessary Gang Box Dimensions: L = 3-3/4", W = 2-1/4", D = 3-1/2"

Specifications

Technical

- AV Inputs: 1x HDMI, 1x USB C
- AV Outputs: 1x CAT6/6A RJ45
- DDC Signal (Data): Input DDC Signal: 5 Volts p-p (TTL)
- HDMI Video/Audio Signal: Input Video Signal: 1.2 Volts p-p
- USB C Signal: Input Video Signal: 1.2 Volts p-p
- RJ45 Connectors: Shielded Link Connector, CAT6/6A
- BTU Rating: 42 per hour

General

- Regulation: CE, RoHS, WEEE, EAC
- Wall plate: U.S. 1-gang wall plate in aluminum enclosure
- Decora plate: Brushed aluminum
- Product Dimensions (Tx): 3.15 x 4.72 x 2.39" (80 x 120 x 60.7mm)
- Product Weight: Weight (Tx): 0.66 lbs (0.30 kg)
- Product Dimensions (Rx): 5.6 x 2.69 x 0.71" (142.2 x 68.3 x 18 mm)
- Product Weight: Weight (Rx): 1.54 lbs (0.7 KG)
- Packaging Dimensions: 8.66 x 8.66 x 4.72" (220 x 1220 x 120 mm)
- Packaging Weight: 2.71 lbs 1.23 kg

Warranty Information

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation. They are backed by a Key Digital Limited 3 Year Product Warranty Policy.

http://www.keydigital.com/warranty.htm

Product Warnings & Safety Instructions

⚠️ Important Product Warnings:

1. Connect all cables before providing power to the unit.
2. Test for proper operation before securing unit behind walls or in hard to access spaces.
3. If installing the unit into wall or mounting bracket into sheet-rock, provide proper screw support with bolts or sheet-rock anchors.
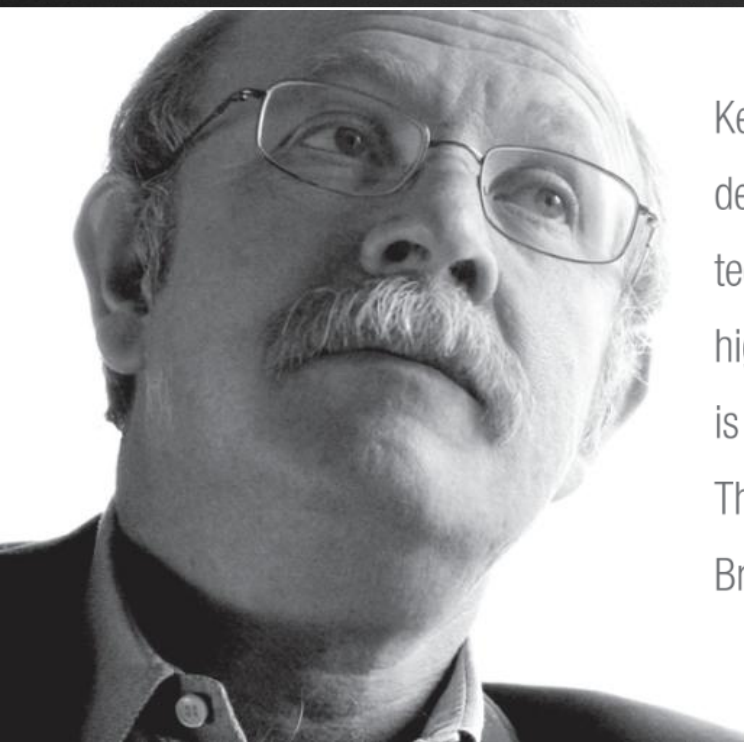
⚠️ Safety Instructions:

Please be sure to follow these instructions for safe operation of your unit.

1. Read and follow all instructions.

2. Heed all warnings.

3. Do not use this device near water.

4. Clean only with dry cloth.

5. Install in accordance with the manufacturer's instructions.

6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

7. Only use attachments/accessories specified by the manufacturer.

8. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way including:

    o Damage to the power supply or power plug

    o Exposure to rain or moisture

⚠️ Power Supply Use:

You MUST use the Power Supply provided with your unit or you VOID the Key Digital® Warranty and risk damage to your unit and associated equipment.

Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high-end video and control are important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers.

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