



ReThink

There's a better way.

RAV-CA-UC/AOC/5-15m/FF

User Manual

RAV-CA-UC/AOC/5-15m/FF

**Full-featured Type-C Active Optical Cable.
Supports audio, video, data and charging, 5-15 metres**



Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Introduction

RAV-CA-UC/AOC is a fully featured USB Type-C active optical cable with adaptive support for 4 lane DP 2.1 + USB 2.0 or 2 lane DP 1.4 + USB 3.2 10G full-featured specifications.

The RAV-CA-UC/AOC cable uses fibre optic for high-speed signal transmission and copper wire for low-speed signals transmission and power supply, solving the problem of traditional copper wire not being able to transmit signals over long distances.

Fibre optic transmission of data can better defend against electromagnetic and radio frequency interference, making it suitable for longer-distance signal transmission. Fibre optic cables are lighter and thinner than copper wires, giving this active cable the advantages of small diameter, small bending radius, light weight, and flexible and convenient wiring. It can be widely applied in various scenarios such as homes, conference rooms, and buildings.

Plug and play, easy to install. This product supports multiple functions, such as video transmission, up to 4K@60Hz; data transmission, with the maximum support of 10G and backward compatibility with USB 2.0, USB 1.1.

It supports up to 60W fast charging. Advanced chip technology makes it possible for the completed USB+DP signal spectrum to be transmitted.

Key Features

- USB 3.2 Gen 2 Type-C male port.
- USB 3.2 Gen 2 10Gbps, backward compatible with USB 2.0/1.1.
- Full-featured Type-C mode: Supports up to 10Gbps transmission rate, ensuring fast and efficient data transmission.
- Automatic mode switching: It can seamlessly switch between 4-lane DP 2.1 + USB 2.0 and 2-lane.
- DP 1.4 + USB 3.2 10G modes, providing flexible and reliable connection options.
- High resolution support: Supports DP-Alt-Mode, achieving 4K@144Hz, 4K@120Hz and 8K@60Hz, providing clear and delicate visual effects, suitable for professional and entertainment purposes.
- Utilises fibre optic + copper hybrid cable for long-distance lossless transmission.
- Power transmission (PD) support: 5-15m (16-49ft) cables can achieve 60W PD fast charging, meeting diverse power needs without affecting the performance.
- Excellent compatibility: Fully meets the requirements of full-featured USB-C, ensuring seamless integration with various devices and systems.
- E-Mark chip: Ensures stable current, enhances reliability and safety of the cable.
- Extended Length: Supports cable lengths of up to 15m (49ft), providing flexibility for different environments and applications.
- Touch feedback support: Supports touch operation, allowing the display screen to work in conjunction with the transmitter.
- Adaptive DP Alt mode switching: Provides a plug-and-play experience without the need for additional device configuration or firmware installation.
- No need for external power supply: Simplifies installation, reduces clutter, and facilitates integration into various settings.

Specifications

Technical	
USB Transfer	USB Transfer Rate USB 3.2 Gen 2 10Gbps, backward compatible with USB 2.0/1.1
DP Transfer Rate	Supports 4 lane DP 2.1 or 2 lane DP 1.4
Video Resolution	4 Lane DP 2.1 mode: 8K@60Hz, 4K@144Hz/120Hz 2 Lane DP 1.4 mode: 4K@60Hz
Wavelength	850nm
Optical Cable Length	5m (16ft) / 10m (33ft) / 15m (49ft)
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connections	
Input	1× Source [USB Type C, male]
Output	1× Display [USB Type C, male]
Mechanical	
Outer Diameter	6.5mm
Cable Colour	Black
Conductor	Optical Fiber + Tinned Copper
Chip	Optoelectronic conversion chip
Jacket	PVC
Connector Casing	Metal Enclosure
Connector Colour	Nickel-plated
Power Supply	Non external power required
Working Voltage	5V±0.25
Charge Power	Supports fast charging PD 3.0 60W (20V/3A)
Applicable Devices	Camera, Computer, Phone, Data Disk, Live Streaming Camera, Game Console, TV box, HDTV, Projector, VR Helmet, Home Theatre, Multimedia, Monitor

Operation Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20%~90% RH (non-condensing)

Connection Instructions



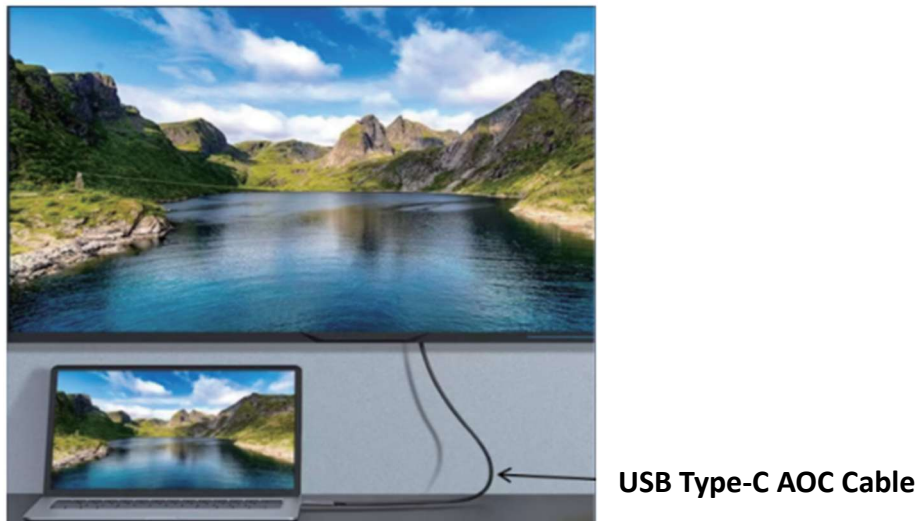
Note: When wiring and connecting, be sure to connect the Source connector to the signal source device and the Display connector to the display device. Don't get it backwards!

Application Scenarios

Scenario 1 - 4 Lane DP 2.1 + USB 2.0

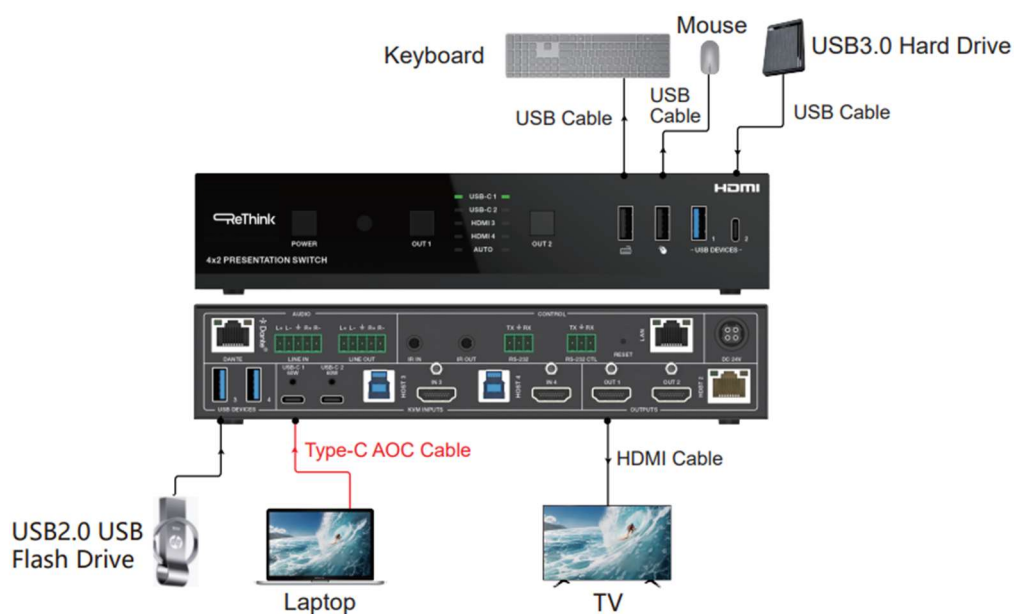
Supporting videos: 8K@60Hz / 4K@144Hz + USB 2.0+PD60W.

(The monitor supplies power to the laptop in reverse).



Scenario 2 - 2 Lane DP 1.4 + USB 3.2 10G

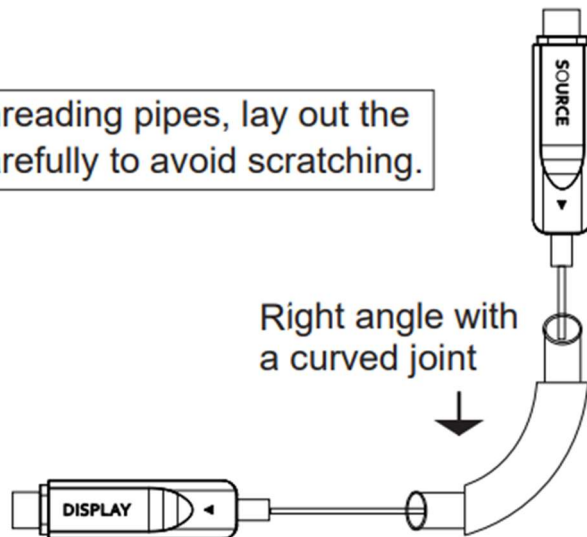
Supporting videos: 4K@60Hz, 10G speed (backward compatible with USB 2.0 & USB 1.1). PD 60W (The device supplies power to the laptop in reverse).



Wiring Precautions

- When threading pipes at a 90° angle, please use a right angle with a curved joint, as shown in the following figure.

When threading pipes, lay out the cable carefully to avoid scratching.



- When threading pipes, it is suggested to lay out the cable in a slot. Please do not forcefully pull, twist, or knot the cable.
- Please avoid heavily impact on the connector to avoid damaging the chip.
- The tensile force does not exceed 35kg.
Please do not pull the cable forcefully during wiring.
- When plugging/unplugging, please hold the zinc alloy part of the cable and do not pull the cable body.

