HDMI 2.0 Active Optical Cable, 4K60, 4:4:4, 18G

Introduction

The Black Box HDMI Active Optical Cables offer an all-in-one, plug-and-play solution for flawlessly transmitting compressed, full Ultra HD 4K60 (4:4:4) video signals over significantly extended distances up to 50 meters, which copper alternatives cannot match. These hybrid cables, incorporating both fiber and copper, eliminate signal loss or degradation over distances and provide high immunity to EMI/RFI interference. Their design allows for power over the cable, removing the need for external power, resulting in a much thinner, more flexible, and lighter cable with a tighter bend radius, making installation easier in tight spaces. It supports advanced features like HDR, 18 Gbps data transfer rates, and comprehensive audio channels, ensuring uncompromised, high-definition video and audio for demanding applications such as control rooms, digital signage, and conference rooms

Typical Applications:

- Control rooms
- Digital signage
- Healthcare facilities
- Conference rooms
- Mass transit
- Any application requiring high speed HDMI features

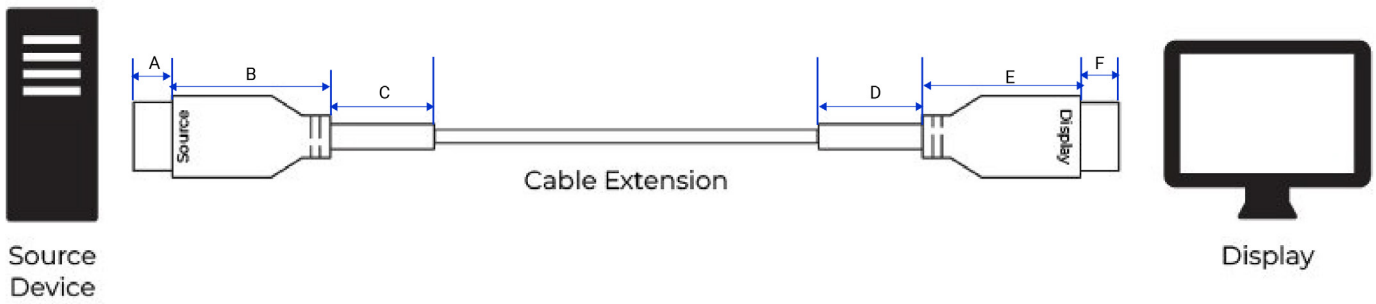
Product Images



Key Features

- **Video Extension:** Extend full 4096 x 2160 (4K) @ 60 Hz 4:4:4 video signals up to 100 meters, also supports 3840 x 2160 @ 60Hz (4:4:4)
- **High Bandwidth:** Supports **data transfer rates up to 18 Gbps**
- High Dynamic Range (HDR) video for expansive contrast ratio and color accuracy
- **Color Support:** Features 48-bit Deep Color (Max Color Depth) and supports BT.2020 colorimetry
- **HDMI and HDCP Compliance:** Compliant with all HDMI 2.0 and HDCP 2.2 specifications. it also meets category 2 (600 mhz clock frequency) specifications
- **Audio support:**Supports **PCM 8-channel, dts-hd master, and Dolby Digital true HD surround sound audio.**
- Accommodates **up to 32 audio channels with a 1536 kHz sampling rate.**
- Compatible with **Audio Return Channel (ARC).**
- Supports delivery of multi-stream audio to up to 4 users
- **Bidirectional Communication:** Supports EDID/CEC/DDC
- Supports EDID/CEC/DDC
- **Physical design: Ultra-thin and flexible cabling**, making it easy to pull through tight spaces and navigate corners and bends with low risk of signal loss.
- **Much lighter** than all-copper counterparts.
- Features **zinc alloy HDMI connectors for enhanced durability**
- **Plug and play:** requires no software installation
- **Hybrid construction:** utilizes a **hybrid design with both copper and fiber,** allowing power to go over the cable, meaning **no external power is required**
- **EMI/RFI immunity**: provides **higher immunity to EMI/RFI interference and electromagnetic noise**. the fiber technology significantly reduces EMI/RFI emissions, and triple-shielding further protects against interference for optimal signal quality

Application Diagram



- A: 9.3mm
- B: 39.0mm
- C: 20.0mm
- D: 20.0mm
- E: 39.0mm
- F: 9.3mm

Specifications

Video	
Max. Video Resolution	4096 x 2160 / 3840 x 2160 @ 60Hz (4:4:4)
Max. Color Depth	30/36/48-bit Deep Color: 48-bit
HDCP Specification	HDCP 2.2
Max. Pixel Clock	600 MHz
HDMI Specification	2.0
Bandwidth	18 Gbps

Physical	
Product Type	Cable
Connector Plating	Gold
Connector Width	0.79" (20 mm)
Outer Diameter	0.189" (4.5 mm)
Jacket Type	LSZH
Fiber Type	OM3 MMF
Connector A	HDMI Male
Connector B	HDMI Male

Power	
Power Consumption	250 mW

Environmental	
Operating Temperature	32 to 158° F (0 to 70° C)
Storage Temperature	14 to 158° F (-10 to 70° C)
Operating Humidity Range	10 to 85% RH, condensing
Storage Humidity Range	5 to 89% RH, noncondensing

Specifications (Continued)

Regulatory and Warranty	
Approvals/Certifications	FCC, CE, RoHS
Warranty Options	3-year limited warranty

Ordering Information

Product Code	Description
AOC-HL-H2-10M-R3	HDMI 2.0 ACTIVE OPTICAL CABLE 10M
AOC-HL-H2-15M-R3	HDMI 2.0 ACTIVE OPTICAL CABLE 15M
AOC-HL-H2-30M-R3	HDMI 2.0 ACTIVE OPTICAL CABLE 30M
AOC-HL-H2-50M-R3	HDMI 2.0 ACTIVE OPTICAL CABLE 50M

Disclaimer

Black Box Corporation shall not be liable for damages of any kind, including, but not limited to, punitive, consequential or cost of cover damages, resulting from any errors in the product information or specifications set forth in this document and Black Box Corporation may revise this document at any time without notice.

Copyright, Trademark, and Registration

© 2025 Black Box® Corporation. “Black Box” and the Black Box logo are registered trademarks of Black Box Corporation, Dallas (TX), USA. Specifications, product design, and product availability are subject to change without notice.

The terms “HDMI”, “HDMI High-Definition Multimedia Interface” and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

The term “DisplayPort” and the DisplayPort logo are trademarks or registered trademarks of the Video Electronics Standards Association (VESA®).

All other trademark(s), copyright(s), and registered technologies mentioned in this document are the properties of their respective owner(s).

About Black Box

Black Box is a trusted IT solutions provider delivering cutting-edge technology products and world-class consulting services to businesses across the globe in every industry. The breadth of our global reach and depth of our expertise accelerate customer success by bringing people, ideas, and technology together to solve real-world business problems.

2701 North Dallas Parkway,
Suite #510, Plano TX 75093
Phone: +1 (877) 877-2269
Email: info@blackbox.com
Online: blackbox.com

To contact your local Black Box office, please visit our global contact page ▸.