



YDSAOC-48G-HDMI-AM-AM 48Gbps Active Fiber Optical HDMI 2.1 Extension Cable

Overview

YDSAOC-48G-HDMI-AM-AM is a high-performance, active optical cable (AOC) engineered to deliver ultra-high-definition audio and video transmission over extended distances. It is designed to connect HDMI source devices—such as MacBooks, iPad Pros, Dell XPS laptops, and HDMI-enabled mobile phones—directly to HDMI monitors, projectors, or TVs with no driver installation required.



Key Specifications

- ◆ **Resolution Support:** Up to 8K (7680 × 4320p) at 60Hz and 4K at 120Hz, with additional modes including 8K 30Hz, 4K 60/30Hz, and 1080p/i/720p
- ◆ **Maximum Length:** Up to 200m (600ft) for extended installations (with shorter custom options available)
- ◆ **Bandwidth:** High data rate of 48Gbps (HDMI 2.1 spec)
- ◆ **Compatibility:** Backward compatible with HDMI 2.1, 2.0, and 1.4 standards
- ◆ **Connection Type:** HDMI (AM) to HDMI (AM), with a reversible connector that attaches in either direction

Design & Construction

- ◆ **Hybrid Fiber/Copper Design:** Combines 4 optical fibers and 7 copper wires for lossless, low-attenuation transmission
- ◆ **Robust Build:** Zinc-alloy housing and corrosion-resistant gold-plated connectors for durability
- ◆ **No External Power Required:** Plug-and-play operation with ultra-low power consumption
- ◆ **Interference Resistance:** Practically zero EMI/RFI profile, ensuring a safe, radiation-free environment
- ◆ **Lightweight Construction:** Slim design reduces cable clutter and simplifies installation compared to traditional copper cable



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Advanced Features

- ♦ **High-Quality Audio:** Supports up to 192kHz, 24-bit uncompressed 5.1 and 7.1, Dolby lossless formats, and 32-channel audio
- ♦ **Enhanced Audio Return Channel (eARC):** Simplifies connectivity and audio optimization
- ♦ **Dynamic HDR:** Optimizes contrast, depth, brightness, and color gamut frame-by-frame (compatible with HLG, HDR-10/+ , Dolby Vision, and others)
- ♦ **VRR & Gaming Support:** Enables fluid gameplay with minimal lag, judder, and frame tearing
- ♦ **Additional Protocols:** Supports EDID with self-detection, ALLM, QMS, and QFT
- ♦ **Future-Ready:** Prepared for HDCP 2.3 content encryption
- ♦ **Display Flexibility:** Supports mirror mode and extend mode

Applications

The cable is suited to a wide range of consumer and professional environments, including:

- ♦ **Home Entertainment:** Home theater, Blu-ray, 3D video, projectors, set-top boxes, gaming consoles, and VR/AR headsets
- ♦ **Professional AV & Digital Signage:** Conference rooms, LED video walls, digital signage, and broadcast stations
- ♦ **Medical & Healthcare:** Ultrasound systems, diagnostic workstations, and medical imaging equipment
- ♦ **Industrial & Machine Vision:** Factory automation, AI vision inspection, robotics, and security monitoring systems
- ♦ **Broadcasting & Live Streaming:** 4K capture devices, PTZ cameras, and production systems
- ♦ **Specialized Settings:** Airport boarding systems, airplane on-board video, shipboard installations, and military applications

Customization

Length, logo, and packaging can be customized to suit specific project requirements, making the cable a versatile choice for demanding installations that require reliable long-distance HDMI connectivity without on-site power.

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Key Specifications

YDSAOC Model Number	YDSAOC-48G-HDMI-AM-AM
Order Part Numbers	YDSAOC-48G-HDMI-AM-AM-1003 YDSAOC-48G-HDMI-AM-AM-50015 YDSAOC-48G-HDMI-AM-AM-100030 YDSAOC-48G-HDMI-AM-AM-5000150 YDSAOC-48G-HDMI-AM-AM-10000300
Length	1m(3ft), 5m(15ft), 10m(30t), 50m(150ft), 100m(300ft)
Maximum Support Length	up to 200m(600ft)
Maximum Data Speed	up to 48Gbps (12Gbps per channel)
Full Feature AV Functions	HPD, HDCP, HDR
Maximum Resolutions	8K 60Hz, 4K 60Hz, 4K 30Hz, 1080p, 1080i, 720p
Connector A (Source)	HDMI2.1 Type-A Male
Connector B (Display)	HDMI2.1 Type-A Male
HDMI Protocols	HDMI2.1, HDMI2.0, HDMI1.4
Cable Diameter	4.8mm
Cable Jacket Type	PVC
Cable Color	Black
AOC Constructions	Hybrid, 4x Optical Fiber, 7x Copper Wire
Minimum Bending Radius	50mm
Operating Temperature	0°C to 70°C
Storage Temperature	-40°C to 85°C
Installation Direction	One Way Direction. HDMI (Source) to HDMI (Display)
Power Connect	Additional Power Supply Required for Long Distance
OEM/ODM Design	Customize on CEC, EDID, eARC within 30m(90ft)

YDSAOC



Home Theater System



Blu-ray Player



3D Video Technology



Projector



Set-top Box



Gaming Console



VR/AR Headset



HDMI 2.1
HIGH SPEED
HIGH PERFORMANCE

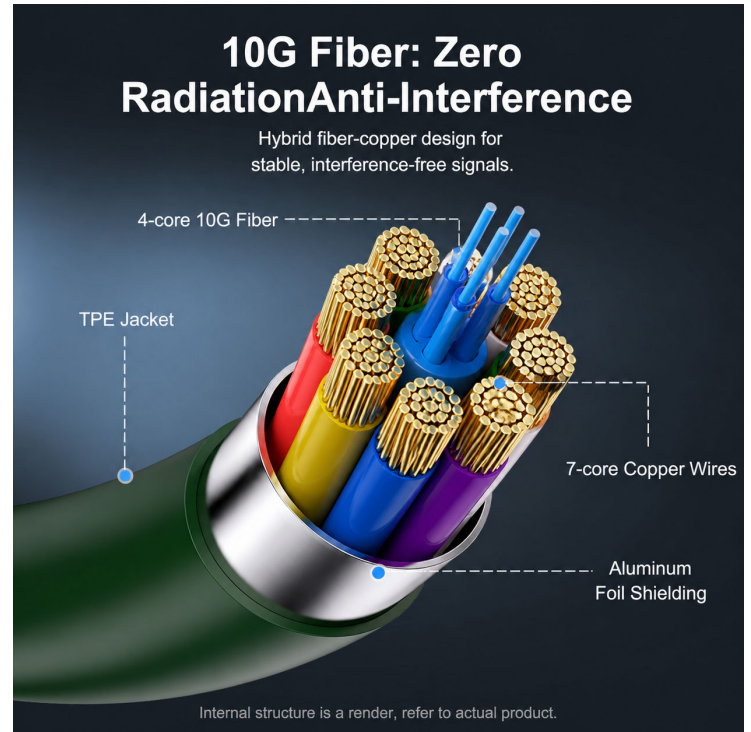
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8K Ultra HD Screen Mirroring

Up to 8K@60Hz, 4K@144Hz/120Hz Resolution



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Zinc Alloy Shell



Sturdy Connector



Tinned Copper Core



Flexible Cable Body

Tear-Resistant & Durable



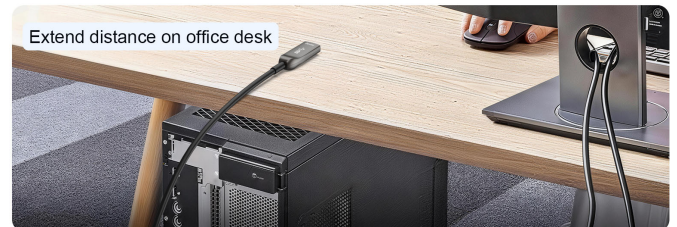
Connect to printer



Connect to camera



Extend distance for digital devices



Extend distance on office desk

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One Cable. Endless Possibilities.

Powerful Performance for Every Application.



1 Home Entertainment



- Home theater
- Blu-ray, 3D video, projectors
- Set-top boxes, gaming consoles
- VR/AR headsets



2 Professional AV & Digital Signage



- Conference rooms
- LED video walls, digital signage
- Broadcast stations



3 Medical & Healthcare



- Ultrasound systems
- Diagnostic workstations
- Medical imaging equipment



4 Industrial & Machine Vision



- Factory automation
- AI vision inspection
- Robotics, security monitoring systems



5 Broadcasting & Live Streaming



- 4K capture devices
- PTZ cameras
- Production systems



6 Specialized Settings



- Airport boarding systems
- Airplane on-board video
- Shipboard installations
- Military applications



YDSAOC 48Gbps Active Optical HDMI 2.1 Cable

Ultra-High-Definition Audio & Video Transmission



KEY SPECIFICATIONS



Resolution
Up to 8K at 60Hz,
4K at 120Hz



Maximum Length
Up to 200m (600ft)



Bandwidth
48Gbps (HDMI 2.1)



Compatibility
HDMI 2.1, 2.0,
and 1.4 standards



Connection
HDMI (AM) to
HDMI (AM)



DESIGN & CONSTRUCTION



Hybrid Fiber/Copper Design
4 optical fibers,
7 copper wires



**Zinc-alloy housing with
gold-plated connectors**



**No external power
required - Plug and play**



**Zero EMI/RFI
interference**



**Lightweight,
slim design**



ADVANCED FEATURES



High-Quality Audio
Up to 192kHz, 24-bit
uncompressed,
Dolby formats



**Enhanced Audio
Return Channel (eARC)**



Dynamic HDR
with HLG, HDR-10+,
Dolby Vision



VRR & Gaming Support
with minimal lag



**HDCP 2.3
Future-Ready**

APPLICATIONS

HOME ENTERTAINMENT



PROFESSIONAL AV



MEDICAL & HEALTHCARE



INDUSTRIAL & MACHINE VISION



BROADCASTING & LIVE STREAMING



SPECIALIZED SETTINGS



48Gbps
ULTRA-HIGH BANDWIDTH



8K 8K@60Hz
4K@120Hz



**ACTIVE OPTICAL
TECHNOLOGY**



**RELIABLE. STABLE.
FUTURE-READY.**

1. DisplayPort 1.4



2. Mini DisplayPort



3. HDMI 2.1



4. Mini HDMI (Type C)



5. Micro HDMI (Type D)



6. DVI-D



7. VGA



8. USB-C



9. Thunderbolt 4
(USB-C form factor,
40 Gbps) ⚡



10. Toslink



Row 1 - Legacy/USB 2.0 Connectors



USB Type A



USB Type B



USB Mini A



USB Mini B



USB Micro A



USB Micro B

Row 2 - Modern Connectors



USB Type C



USB Micro B 3.0



USB 3.0 Type A



USB 3.0 Type B



USB 3.0 Micro B

Applications of Active Optical Cable (AOC)

High-speed, long-distance connectivity across diverse industries.



1 Traffic Monitoring

Uninterrupted connectivity for real-time traffic data, safety and efficiency.



2 Security & Surveillance

HD/4K/8K video support, effective monitoring without downtime.



3 Control Rooms

Ultra-high bandwidth for instantaneous data and video switching.



4 Healthcare

EMI/RFI immunity ensures reliable transmission in medical environments.



5 Education

Connectivity in large lecture halls, overcoming copper cable limits.



6 Digital Signage

High-quality displays with consistent transmission of information.



7 Conference Rooms

Plug-and-play design makes connectivity easy for presenters.



8 Government Campuses

Thinner and more flexible than copper, reducing cable clutter.



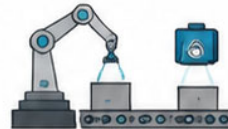
9 USB4 Applications

Extends reach while maintaining power and signal integrity.



10 Audio Visual Entertainment

Superior signal quality for home theaters and gaming.



11 Industrial & Machine Vision

Durable, high-performance for automated inspection.



12 Broadcast Systems

High bandwidth and low latency for seamless content delivery.



13 Simulation Systems

Real-time transmission for realistic training.



14 Data Centers & HPC

Pivotal for high-performance computing and extensive configurations.



15 Consumer Electronics & IT

High-res displays, VR devices, and high-bandwidth apps.



16 Aerospace, Defense & Automotive

High-speed, robust connectivity for critical sectors.

Core Benefits



Reliability



Long Distance



EMI Immunity



High Bandwidth



Flexible Installation



Power Delivery



Plug-and-Play