



HDMI 2.1 Hybrid AOC

Part Number: LTH-210P

LTH-210P is Vitex's HDMI Active Hybrid Cable, bridging fiber optics with copper cabling for the best of both worlds. This AOC can send HDMI 2.1 signal up to 330 feet (100 meters) for crystal-clear 4K video and lossless audio wherever your needs are. Utilizing a combination of copper and fiber, the cable can extend signal without an external power source, allowing it to be the perfect plug-and-play solution.

Features

- Up to 330 feet maximum length (custom lengths available)
- Compatible with HDMI 2.1 standard
- Backwards compatible with HDMI 2.0/HDMI 1.4
- Supports HDCP 2.3
- Supports Dynamic HDR, VRR, QMS, QF T, ALLM, DSC
- Supports 48Gb/s bandwidth with 4K@50/60/100/120Hz and 8K@50/60Hz
- Self-detecting function for EDID information
- Support eARC up to 100 feet
- No loss of signal, delivering crystal-clear digital images instantly
- Hybrid optical cable with 4 fibers and 7 copper wires
- Plug-and-Play

Applications

- Digital signage
- LED signboards in streets and in stadiums
- Medical imaging equipment
- Airplane on-board video system
- Home theater
- Blue-Ray, 3D video, projector, set-top box, DVR, game console and computer
- TV broadcast station
- Conference room video equipment
- Security systems



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Product Overview

LTH-210P boasts an impressive maximum data rate of 12Gbps per channel for a total of 48Gbps bandwidth. This cable combines lightweight, flexible design with an ultra-small long-term bending radius of just 45 mm, allowing it to fit into wherever you need it to without easily becoming damaged or malfunctioning.

Featuring our advanced embedded optical engine, it ensures full HDMI signal integrity and supports lengths of up to 320 feet (100 meters). Plus, it's plug-and-play with no external power required, making it the ultimate choice for superior performance and convenience.





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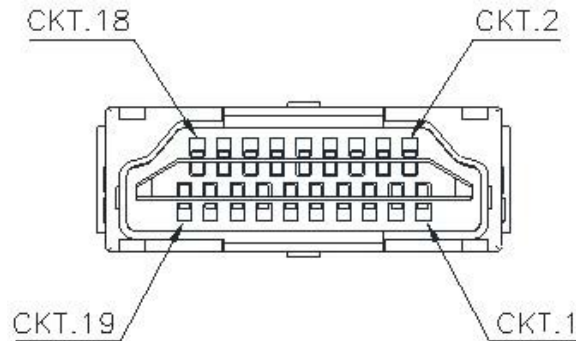
Specifications

Parameter	Value
HDCP & DDC	HDCP 2.3 (fully supports bi-directional EDID and HDCP communication)
Video Bandwidth	12Gb/s x 4 channels
Supported Resolutions	480p, 720p, 1080i and 1080p deep color, 4Kp (50/60/100/120Hz), 8Kp (50/60Hz)
O/E Converter	4 channel 850nm VCSEL array (Tx) 4 channel GaAs PD array (Rx)
Connector Type	HDMI Type A
Cable Type	Hybrid type with OM3 fiber and copper wire
Cable Outer Diameter	4.5mm
Jacket Outer Material	PVC/CL2/CL3/CMP/LSZH
Differential Input	100 ohm (typ)
Power Consumption	250mW (max)
Power Supply	No external power required

Absolute Maximum Rating

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	VCC	4.5	5.5	V
Operating Temperature	Top	0	50	°C
Storage Temperature	Ts	-40	70	°C
Relative Humidity	Hs	10	80	%RH

Pin Assignment



Pin	Function	Pin	Function
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	CEC
4	TMDS Data 1+	14	Utility
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1-	16	SDA
7	TMDS Data 0+	17	DDC/CEC Ground
8	TMDS Data 2 Shield	18	+5V Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

Ordering Information

Part Number	Description
LTH-210P-xxx where xxx is length in feet ¹	HDMI 2.1 Hybrid Active Optical Cable, up to 330 ft

	Feet ¹	Meter
LTH-210P-010	10 ft	3m
LTH-210P-033	33 ft	10m
LTH-210P-050	50 ft	15m

¹ Nominal length. Actual length is measured in meter.



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	Feet ¹	Meter
LTH-210P-080	80 ft	25m
LTH-210P-100	100 ft	30m
LTH-210P-165	165 ft	50m
LTH-210P-200	200 ft	60m
LTH-210P-330	330 ft	100m

Revision History

Date	Revision	Description
February 11, 2024	1.0	Initial version
June 21, 2024	1.1	Updated the format.
August 5, 2024	2.0	Corrected Ordering Information.

About Vitex

As a US-based fiber optic connectivity solutions partner, Vitex is relied on by network builders, operators, and OEMs to help make their ideas come to life. Vitex has developed active and passive optics for more than 20 years to help networks reach farther, go faster, and perform better. Regarded for their ability to optimize their broad portfolio of transceivers, cables, and WDMs, companies turn to Vitex when out-of-box thinking, active listening, and relentless solution-seeking are needed.

Vitex's global network of suppliers, partners, and skilled engineering staff make what if and how possible.

We aim to be the fiber optic expert extension of your product development, engineering and procurement departments.

Contact Information

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