



## DisplayPort Hybrid Active Optical Cable

### Vitex Part Number: LTD-140P

**LTD-140P** is Vitex's Hybrid DisplayPort AOC, empowering video system designers to extend their high-performance video further, delivering crystal clear audio and deep color video. This hybrid AOC from Vitex allows a DisplayPort 1.4 signal to be extended up to 330 feet (100 meters) away from the source without external power. Wrapped in a durable and flexible outer coating, this AOC is perfect for the most high-intensity or high-performance applications, especially where RFI and EMI concerns are apparent.

### Features

- Supports 8K@60Hz, HBR3, HDCP 1.4 / 2.2
- Supports DisplayPort 1.4, bandwidth can reach 8.1 Gb/s per channel
- Supports lengths up to 330 ft (100 m) max, custom lengths available
- Hybrid fiber and copper, slimmer and lighter than other solutions
- OD 4.8 mm, very flexible
- Low RFI / EMI profile for sensitive applications
- Plug and play

### Applications

- Medical Imaging Equipment
- Airplane On-board Video System
- TV Broadcast Station
- Conference Room Video System
- Blu-Ray, 3D Video, Projector, Set-up Box or Game Console
- LED Signboards
- Advertising, Auditorium, and Kiosk
- Traffic Control

## Product Overview

The LTD-140P adheres to the DisplayPort 1.4 standard, with a bandwidth that can reach up to 8.1 Gb/s per channel. This high bandwidth capability is crucial for delivering smooth, high-quality video and audio, especially in applications that demand high performance, such as conference room video systems, Blu-Ray players, 3D video, projectors, set-top boxes, and game consoles. Additionally, the cable's hybrid fiber and copper construction make it slimmer and lighter than many other solutions on the market, providing ease of installation and greater flexibility in routing.

With an outer diameter of just 4.8 mm, the LTD-140P is highly flexible, making it easy to install in a variety of settings, including tight spaces and complex routing environments. This flexibility, combined with its low RFI/EMI profile, makes it an ideal choice for sensitive applications where signal integrity is paramount. The cable's design ensures that it can be used in environments where traditional copper cables might struggle due to interference or signal degradation.



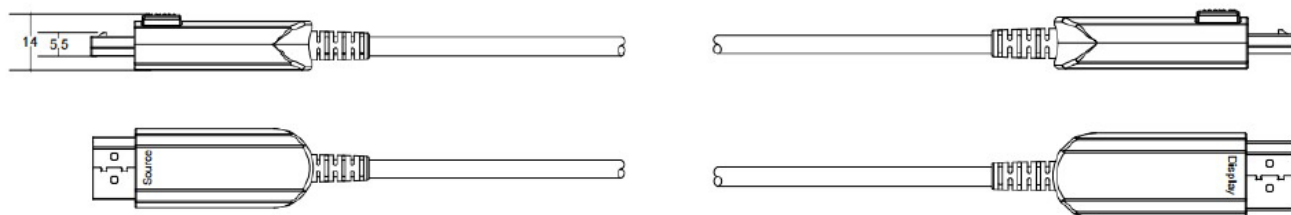


# DisplayPort Hybrid AOC

## Specifications

Standards Compliance	DisplayPort 1.4 / HBR3, HDCP 1.4 / 2.2
Maximum Pixel Clock Frequency	810 MHz
Maximum Video Bit Rate	Supports up to 8.1 Gb/s per lane, 32.4 Gb/s total
Maximum Color Depth	48bits
Maximum Supported Resolutions	8K@60Hz
DisplayPort Input / Output	20-pin DisplayPort
Power	No external power supply is required
AUX Channel Communications	Supports bidirectional communications for EDID, HDCP, Link Training, etc.
HDCP Support	HDCP 1.4 and HDCP 2.2
Optical Technology	4x Discrete Optical Channels, 10 GHz, 850 nm
Optical Transmitter	Tx Module: 4x 850 nm Multi-mode VCSELs
Optical Receiver	Rx Module: 4x GaAs PIN Photo Diodes
Fiber Cable Type	Hybrid cable 4x fiber and 8x copper wire
Cable Jacket	PVC, Black
Maximum Cable Length	330 feet (100 meters)
Product Weight	Varies with length
Maximum Tensile Load	300N
Minimum Bend Radius	48mm
Cable Outside Diameter	4.8mm
Operating Temperature	32°F - 122°F (0°C - 50°C)
Storage Temperature	-4°F - 176°F (-20°C - 80°C)
Operating / Storage Humidity	5% to 85% (non-condensing)
Power Source	Powered from DisplayPort source device
Power Consumption	< 0.5 watt each end

## Pin Assignment



PIN	Function	PIN	Function
1	ML_Lane 0 (P)	11	GND
2	GND	12	ML_Lane 3 (n)
3	ML_Lane 0 (n)	13	GND
4	ML_Lane 1 (p)	14	GND
5	GND	15	AUX_CH (p)
6	ML_Lane 1 (n)	16	GND
7	ML_Lane 2 (p)	17	AUX_CH (n)
8	GND	18	Hot Plug Detect
9	ML_Lane 2 (n)	19	DP Power Return
10	ML_Lane 3 (p)	20	DP Power



# DisplayPort Hybrid AOC

## Ordering Information

Part Number	Description
<b>LTD-140P-xxx</b> ( <b>xxx</b> denotes foot length, i.e. <b>LTD-140P-033</b> = 33 ft (10m) cable)	DisplayPort Hybrid Active Optical Cable

## Available Lengths

**LTD-140P** is available in standard lengths – 35ft (10m), 50ft (15m), 66ft (20m) , 80 ft (25m), 100 ft (30m), 165 ft (50m), 200 ft (60m), 320ft (100m), and more. Custom lengths are available by special order.

## Revision History

Date	Description
February 11, 2024	Version 1.0
July 26, 2024	Version 1.1



# DisplayPort Hybrid AOC

---

## 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

**Vitex LLC**

32 Mercer St, Hackensack, NJ 07601

201-296-0145 | [info@vitextech.com](mailto:info@vitextech.com) | [www.vitextech.com](http://www.vitextech.com)