

# DisplayPort 1.4 **ARMORED** Active Optical Cable

Rugged and Watertight 8K60 4:4:4 Extension

MG-AOC-88A-xxx

## OVERVIEW

The Magenta Research rugged Active Optical cable provides a simple yet powerful solution for extending high resolution video over long distances with watertight ends and an armored core. This plug and play DisplayPort 1.4 cable supports up to 8K60 4:4:4 with no compression nor latency up to 328ft (100m). Crush resistant up to 15,000lbs of force and without the need for external power, makes this a very flexible option for live events.

### ORDERING INFORMATION

|                |                                                                             |
|----------------|-----------------------------------------------------------------------------|
| MG-AOC-88A-10  | DisplayPort 1.4 Watertight <b>ARMORED</b> Active Optical Cable 33ft (10m)   |
| MG-AOC-88A-30  | DisplayPort 1.4 Watertight <b>ARMORED</b> Active Optical Cable 100ft (30m)  |
| MG-AOC-88A-100 | DisplayPort 1.4 Watertight <b>ARMORED</b> Active Optical Cable 328ft (100m) |

### KEY FEATURES

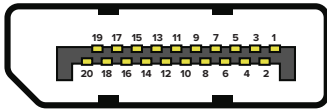
- ◆ Up to 328ft (100m)
- ◆ No external power required
- ◆ Plug and play
- ◆ DisplayPort 1.4
- ◆ Crush resistant armored core up to 15,000lbs
- ◆ Watertight end caps
- ◆ HDCP support
- ◆ EDID support
- ◆ No signal loss
- ◆ 8K2Kp60 down to 480i supported

## TECHNICAL SPECIFICATIONS

| Item                  | Description                                                                                         |                          |
|-----------------------|-----------------------------------------------------------------------------------------------------|--------------------------|
| Units                 | Transmitter (Source)                                                                                | Receiver (Sink)          |
| Standards Compliance  | DisplayPort 1.4 / HBR3, HDCP 1.4 / 2.2<br>Fully Supports bi-directional EDID and HDCP communication |                          |
| Video Bandwidth       | Supports up to 8.1 Gbps per lane, 32Gbps Total                                                      |                          |
| Max Color Depth       | 48bits                                                                                              |                          |
| AUX Channel Support   | Supports bidirectional communications for EDID, HDCP, Link Training, etc.                           |                          |
| HDCP                  | HDCP 1.4 and HDCP 2.2                                                                               |                          |
| Maximum Resolution &  | 8K @ 60hz                                                                                           |                          |
| O/E Converter         | 4x 850 nm Multi-mode VCSELs                                                                         | 4x GaAs PIN Photo Diodes |
| Connector Type        | 20 pin DisplayPort version 1.4                                                                      |                          |
| Cable Type            | Hybrid cable, 4x fiber and 8x copper wire                                                           |                          |
| Cable Length          | 10m/30m/100m (with +/-30cm tolerance).                                                              |                          |
| Cable Outer Diameter  | 5.8mm                                                                                               |                          |
| Jacket Outer Material | TPU                                                                                                 |                          |
| Crush Resistance      | 2000N/100mm; 204kg (450lbs) per sq mm; 6804kg (15,000lbs) of force                                  |                          |
| Cable Weight          | Length Dependant                                                                                    |                          |
| Cable Color           | Black                                                                                               |                          |
| Maximum Tensile Load  | 1000N (102kg)                                                                                       |                          |
| Minimum Bend Radius   | 58mm                                                                                                |                          |
| Power Consumption     | <0.5 watt each end                                                                                  |                          |
| Power Supply          | No external power required, powered from DisplayPort source device                                  |                          |
| Operating Temperature | 0-50°C                                                                                              |                          |
| Limited Warranty      | 1 year parts and labor                                                                              |                          |

# DisplayPort 1.4 Pin Assignment

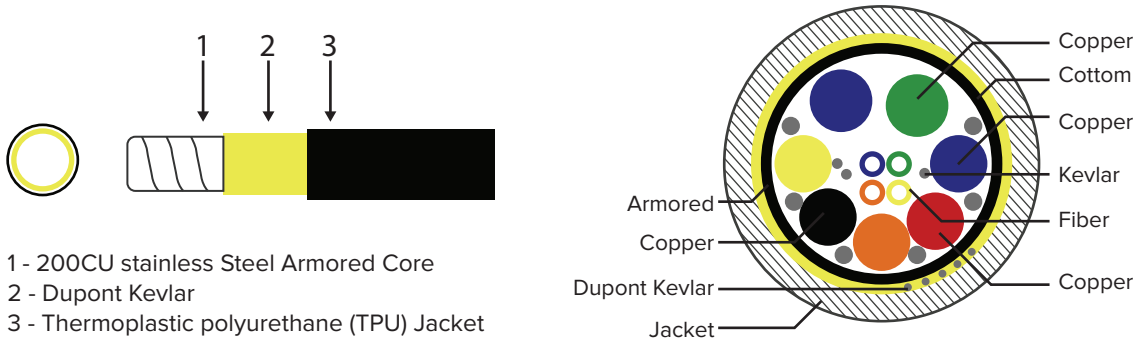
## DisplayPort 1.4



|        |                              |                   |
|--------|------------------------------|-------------------|
| Pin 1  | ML_Lane 0 (p) <sup>[a]</sup> | Lane 0 (positive) |
| Pin 2  | GND                          | Ground            |
| Pin 3  | ML_Lane 0 (n) <sup>[a]</sup> | Lane 0 (negative) |
| Pin 4  | ML_Lane 1 (p) <sup>[a]</sup> | Lane 1 (positive) |
| Pin 5  | GND                          | Ground            |
| Pin 6  | ML_Lane 1 (n) <sup>[a]</sup> | Lane 1 (negative) |
| Pin 7  | ML_Lane 2 (p) <sup>[a]</sup> | Lane 2 (positive) |
| Pin 8  | GND                          | Ground            |
| Pin 9  | ML_Lane 2 (n) <sup>[a]</sup> | Lane 2 (negative) |
| Pin 10 | ML_Lane 3 (p) <sup>[a]</sup> | Lane 3 (positive) |

|        |                              |                                    |
|--------|------------------------------|------------------------------------|
| Pin 11 | GND                          | Ground                             |
| Pin 12 | ML_Lane 3 (n) <sup>[a]</sup> | Lane 3 (negative)                  |
| Pin 13 | CONFIG1                      | Connected to ground <sup>[b]</sup> |
| Pin 14 | CONFIG2                      | Connected to ground <sup>[b]</sup> |
| Pin 15 | AUX CH (p)                   | Auxiliary channel (positive)       |
| Pin 16 | GND                          | Ground                             |
| Pin 17 | AUX CH (n)                   | Auxiliary channel (negative)       |
| Pin 18 | Hot plug                     | Hot plug detect                    |
| Pin 19 | Return                       | Return for power                   |
| Pin 20 | DP_PWR                       | Power for connector (3.3 V 500 mA) |

## ARMORED Cable Profile



## Watertight End Caps

