

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

KEY FEATURES

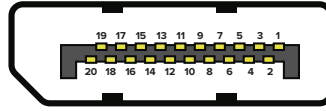
- ◆ Up to 328ft (100m)
- ◆ No external power required
- ◆ Plug and play
- ◆ DisplayPort 1.4
- ◆ Crush resistant armored core up to 15,000lbs
- ◆ Watertight end caps
- ◆ HDCP support
- ◆ EDID support
- ◆ No signal loss
- ◆ 8K2Kp60 down to 480i supported

TECHNICAL SPECIFICATIONS

| Units | Transmitter (Source) | Receiver (Sink) |
|---------------------------------|---|--------------------------|
| Standards Compliance | DisplayPort 1.4 / HBR3, HDCP 1.4 / 2.2 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 | |

DisplayPort 1.4 Pin Assignment

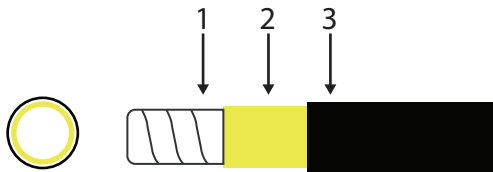
DisplayPort 1.4



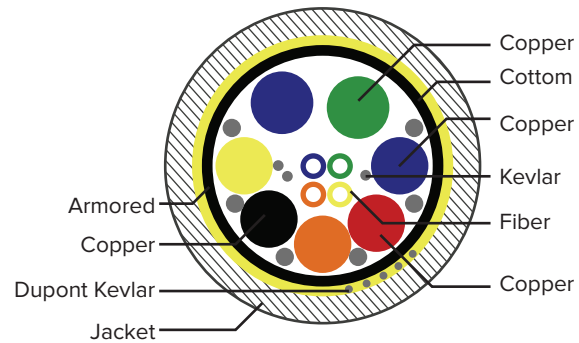
| | | |
|--------|------------------------------|-------------------|
| Pin 1 | ML_Lane 0 (p) ^[a] | Lane 0 (positive) |
| Pin 2 | GND | Ground |
| Pin 3 | ML_Lane 0 (n) ^[a] | Lane 0 (negative) |
| Pin 4 | ML_Lane 1 (p) ^[a] | Lane 1 (positive) |
| Pin 5 | GND | Ground |
| Pin 6 | ML_Lane 1 (n) ^[a]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

| | | |
|--------|------------------------------|------------------------------------|
| Pin 11 | GND | Ground |
| Pin 12 | ML_Lane 3 (n) ^[a] | Lane 3 (negative) |
| Pin 13 | CONFIG1 | Connected to ground ^[b] |
| Pin 14 | CONFIG2 | Connected to ground ^[b] |
| 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



- 1 - 200CU stainless Steel Armored Core
- 2 - Dupont Kevlar
- 3 - Thermoplastic polyurethane (TPU) Jacket



Watertight End Caps

