

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

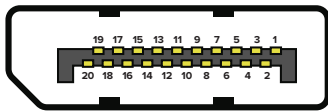
- ◆ Up to 328ft (100m)
- ◆ No external power required
- ◆ Plug and play
- ◆ DisplayPort 1.4
- ◆ Crush resistant armored core up to 15,000lbs
- ◆ Watertight end caps
- ◆ HDCP support
- ◆ EDID support
- ◆ No signal loss
- ◆ 8K2Kp60 down to 480i supported

TECHNICAL SPECIFICATIONS

Item	Description	
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	
Operating Temperature	0-50°C	
Limited Warranty	1 year parts and labor	

DisplayPort 1.4 Pin Assignment

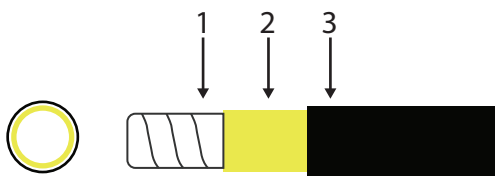
DisplayPort 1.4



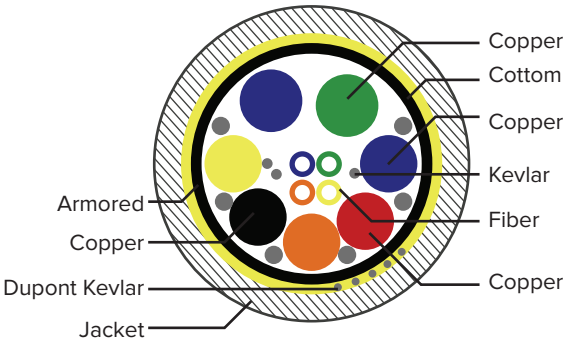
Pin 1	ML_Lane 0 (p) ^[a]	Lane 0 (positive)
Pin 2	GND	Ground
Pin 3	ML_Lane 0 (n) ^[a]	Lane 0 (negative)
Pin 4	ML_Lane 1 (p) ^[a]	Lane 1 (positive)
Pin 5	GND	Ground
Pin 6	ML_Lane 1 (n) ^[a]	Lane 1 (negative)
Pin 7	ML_Lane 2 (p) ^[a]	Lane 2 (positive)
Pin 8	GND	Ground
Pin 9	ML_Lane 2 (n) ^[a]	Lane 2 (negative)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

