

ELII HDMI Active Optical Cable User Guide

Published October 2011
Ver. 1.0

The HDMI Cable is a kind of Active Optical Cable (AOC) used to extend the transmission distance between HDMI Source and Sink devices.

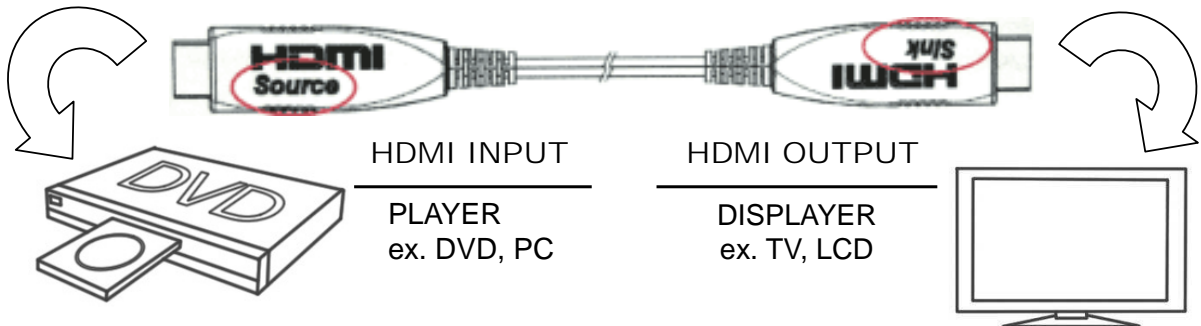


Applications

- o Digital Home Theatre
- o TFT-LCD, projectors and plasma flat panel displays for conference room, auditorium, kiosk, medical imaging, traffic control and factory automation systems
- o LED signboards and panel information displays for airports, stadiums and outdoor advertising

Important Note (Before installation)

- o Please identify the source (video source, ex. Blue-ray DVD player) and sink (receiving display, ex. TV sets) printing on the connector before plug into the devices shown as below in red circle.





Electronic Links International, Inc.

Interconnecting Components and Systems.

Data Sheet

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Description

The ELII HDMI Cable is a kind of Active Optical Cable (AOC) used to extend the transmission distance between HDMI Source and Sink devices. The transmission distance can be up to 100m (330ft) through a hybrid cable consisting of optical fibers and copper wires. The high-speed TMDS signals are transmitted through the optical multimode fibers, while the low frequency DDC and control signals are transmitted through the copper wires.

At the ends of the hybrid cable are a transmitter with a type A plug connected to the source devices and a receiver with a type A plug connected to the sink devices. Inside the transmitter, the electrical TMDS signals are converted into optical signals by the VCSEL array; while in the receiver, the optical signals are converted back into electrical TMDS signals by the photodiode array.

The optical sub-assemblies inside the transmitter and the receiver are produced by hybrid integration technology. Semiconductor process and passive aligned optical coupling make the product cost effective. The resulting compact dimensions can meet the specifications of HDMI type A plug.



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Feature

- o Extend HDMI reach to 100m (330ft)
- o Complies with HDMI category 2 (340MHz clock frequency) specifications
- o Low power consumption
- o Longer, thinner cable without EMI/RFI emissions
- o Plug and play, no software to be installed

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Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Supply Voltage	V_{CC}	-0.3	6	V
Differential Input Voltage	V_D		1.2	V
Storage Temperature	T_{st}	-30	70	C
Relative Humidity	RH	0	85	%

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage	V_{CC}	+4.5	+5.0	+5.5	V
Data Output Load	R_L		50		Ohms
Ambient Temperature	T_A	0		+50	C



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Electrical Power Supply Characteristics

Parameter		Symbol	Minimum	Typical	Maximum	Unit
Supply Voltage		V_{CC}	+4.5	+5.0	+5.5	V
Supply Current	Tx	I_{TCC}		60	80	mA
	Rx	I_{RCC}		120	150	mA
Power Dissipation	Tx	P_{TX}		0.3	0.44	W
	Rx	P_{RX}		0.65	0.825	W

Hybrid Cable Specifications

Parameter	Value
Optical Fiber	62.5/125 Multimode Fiber
Output Diameter	5mm