Celerity™ Fiber Optic HDMI – User Manual
CT-DFO

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Celerity Technology - Long Distance HDMI

Celerity Fiber Optic HDMI cables are an easy-to-use, secure connection for home video distribution, conference room presentation systems, classroom projection systems, digital signage and wherever a high definition video display is located. Fiber optics provides the speed and bandwidth needed for the best picture quality for high definition video at lengths up to 1000 feet; supporting the long distances required in commercial video solutions. No extenders, baluns or amplifiers are needed and Celerity fiber optic cables are EMI free allowing them to be installed with multiple cable pulls, providing the flexibility for remote component locations. Supporting 4K@60Hz performance up to 1000 feet, Celerity cables are plenum rated and do not require time consuming fiber terminations. The Celerity Technologies Detachable Fiber Optic HDMI system is designed to solve the installer's common problems with long distance HDMI and concealed installations in home and business.

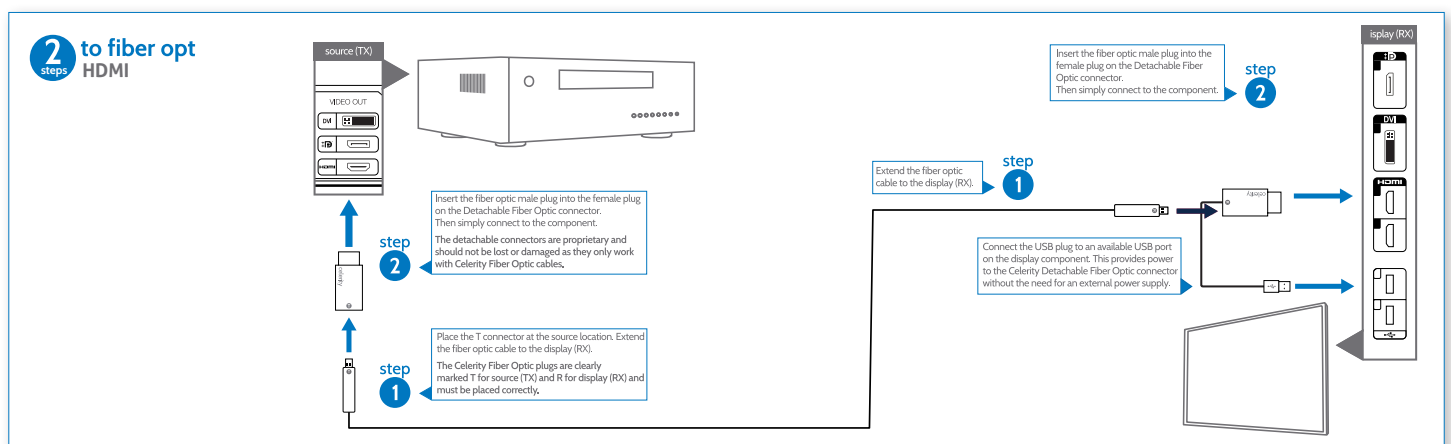## Engineered for installers - 2 Steps to Fiber Optic HDMI

The Celerity Detachable Fiber Optic connector supports a thin, durable, plenum rated cable in multiple lengths up to 1000 feet. The fiber optics are pre-terminated with a miniature plug (9mm width) which supports fiber optic transfer to and from HDMI. The miniature plug eliminates the need for time-consuming fiber terminations and the need for costly fiber optic tools. The miniature fiber optic plug securely connects to the Celerity Detachable HDMI connector at the source and display components.

Specifications	
Supported distance	Up to 1.000 feet
Supported resolutions	4K@60Hz UltraHD
Supported features	• HDMI High Speed • HDCP • EDID • CEC • Deep Color
Audio Return Channel	Yes
Cable jacket	Plenum rated
Fiber optic cable pull strength	60 pounds

Available lengths			
10.6m	35f	30.4m	100f
12.2m	40f	48.7m	160f
15.2m	50f	60.9m	200f
18.2m	60f	152.4m	500f
24.3m	80f	304.8m	1000f

2 steps to fiber opt HDMI

source (TX)

VIDEO OUT

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.

The detachable connectors are proprietary and should not be lost or damaged as they only work with Celerity Fiber Optic cables.

step 2

Place the T connector at the source location. Extend the fiber optic cable to the display (RX).

The Celerity Fiber Optic plugs are clearly marked T for source (TX) and R for display (RX) and must be placed correctly.

step 1

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.

step 2

Extend the fiber optic cable to the display (RX).

step 1

Connect the USB plug to an available USB port on the display component. This provides power to the Celerity Detachable Fiber Optic connector without the need for an external power supply.

isplay (RX)

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Celerity™ Fiber Optic DisplayPort – User Manual
CT-DFO-DP

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Celerity Fiber Optic DisplayPort cables provide the most accurate, high resolution digital video connection for demanding display applications up to 1000 feet. Supporting 4K@60Hz frame rate, Celerity Fiber Optic DisplayPort is easily installed in public spaces, healthcare facilities, businesses and in residential locations. Combining Celerity's innovation for fiber optics and electrical-optical application with DisplayPort technology results in an unparalleled digital display experience. Celerity Fiber Optic DisplayPort cables feature pure fiber optic connectivity in a sleek, plenum rated cable and Detachable Fiber Optic DisplayPort connector to make concealed cable installations and connections fast and dependable.

Celerity Technology

Celerity Fiber Optic supports DisplayPort 1.2 via a plenum-rated Celerity Fiber Optic cable that is pre-terminated with a small Celerity fiber optic plug and mini-digital connector at the TX and RX ends. The Celerity Detachable Fiber Optic DisplayPort connector is then attached to the fiber optic plug and to source and display components to complete the connection.
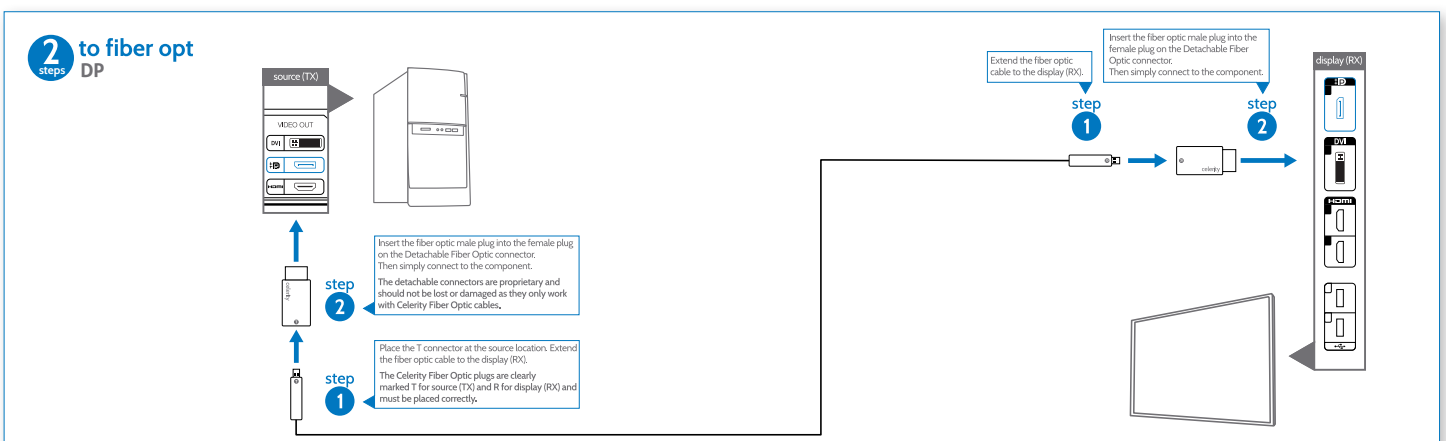
Designed for Ease of Use

Celerity Fiber Optic DisplayPort is a plug and play connection that easily installs in concealed installations between source and display devices. No time consuming and delicate fiber terminations are required and the Celerity fiber optic cable is easily passed through conduit and cable raceways with its small fiber optic plug at each end. The Detachable Fiber Optic (DFO) DisplayPort connector easily attaches to the fiber optic plug and component to complete the connection. The cable is thin, durable and can be installed without EMI issues that can cause signal interruption or degradation.

Specifications

Supported distance	Up to 1.000 feet
Max resolution supported	4K@60Hz UHD
Supported features	• Version 1.2 • HDCP v2.2 • EDID • Deep Color • 4 main links
Cable jacket	Plenum rated (UL-1651)
Fiber optic cable pull strength	60 pounds
Fiber optic plug dimension	25 x 11 x 8 mm
DisplayPort connector dimension	29 x 20 x 10 mm

Available lengths

10.6m	35f	30.4m	100f
12.2m	40f	48.7m	160f
15.2m	50f	60.9m	200f
18.2m	60f	152.4m	500f
24.3m	80f	304.8m	1000f

2 steps — to fiber opt DP

source (TX)

VIDEO OUT

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.
The detachable connectors are proprietary and should not be lost or damaged as they only work with Celerity Fiber Optic cables.

step **2**

Place the T connector at the source location. Extend the fiber optic cable to the display (RX).
The Celerity Fiber Optic plugs are clearly marked T for source (TX) and R for display (RX) and must be placed correctly.

step **1**

Extend the fiber optic cable to the display (RX).

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.

step **1**

step **2**

display (RX)

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Celerity™ Fiber Optic DVI – User Manual
CT-DFO-DVI

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Celerity Fiber Optic DVI cables provide superior video quality and installation ease over traditional copper cable connections up to 1000 feet. They are an efficient installation DVI cable solution supporting long distance source connections to high definition displays in professional video system applications. Combining Celerity's innovation with DVI technology provides AV professionals with a pure fiber optic connection for digital signage, display wall, and medical display monitor systems.

Celerity Technology

Celerity Fiber Optic DVI supports DVI single-link connections via a plenum-rated Celerity Fiber Optic cable that is pre-terminated with a small Celerity fiber optic plug and mini-digital connector at the TX and RX ends.
The Celerity Detachable Fiber Optic DVI connector is then attached to the fiber optic plug and to the source and display to complete the connection. No fiber optic terminations are necessary and no separate transmitters and receivers are required. Celerity Fiber Optic DVI connectors feature a unique locking mechanism that slides over the fiber optic cable providing a secure connection.
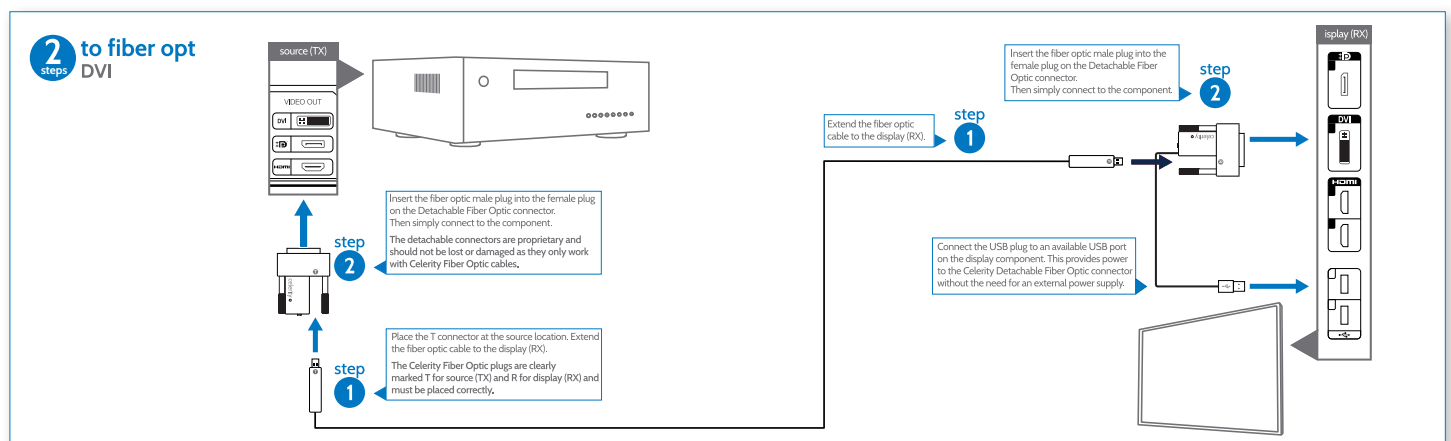
Designed for Ease of Use

Celerity Fiber Optic DVI is a quick connect, pure fiber digital cable that securely connects digital sources to high definition displays. The thin profile of Celerity Fiber Optic DVI cables improves cable management issues common with multiple display arrays. The 100% fiber optic connection ensures isolation from EMI and RFI issues that can degrade system performance with copper based connections.

Specifications

Specifications	
Supported distance	Up to 1.000 feet
Max resolution supported	WUXGA, 1920 x 1200 and 4K
Supported features	• Version 1.2 • DVI-D • HDCP • EDID • Deep Color
Cable jacket	Plenum rated (UL-1651)
Fiber optic cable pull strength	60 pounds
Fiber optic plug dimension	7 x 9 x 25 mm
DVI connector dimension	14.9 x 39.4 x 45.6 mm

Available lengths

10.6m	35f	30.4m	100f
12.2m	40f	48.7m	160f
15.2m	50f	60.9m	200f
18.2m	60f	152.4m	500f
24.3m	80f	304.8m	1000f

2 steps to fiber opt DVI

source (TX)

VIDEO OUT

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.

The detachable connectors are proprietary and should not be lost or damaged as they only work with Celerity Fiber Optic cables.

step 2

Place the T connector at the source location. Extend the fiber optic cable to the display (RX).

The Celerity Fiber Optic plugs are clearly marked T for source (TX) and R for display (RX) and must be placed correctly.

step 1

Extend the fiber optic cable to the display (RX).

step 1

Insert the fiber optic male plug into the female plug on the Detachable Fiber Optic connector. Then simply connect to the component.

step 2

Connect the USB plug to an available USB port on the display component. This provides power to the Celerity Detachable Fiber Optic connector without the need for an external power supply.

isplay (RX)

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Fiber Optic HDMI & Multiple Control Signals

Celerity Fiber Optic Gateway (FOG) is a breakthrough for high definition, long distance distribution of AV and control signals over fiber optic cable. HDMI, RS232, IR, USB HID (USB v1.1) and Ethernet 10/100BASE-T are supported up to 1000 feet over a single Celerity fiber optic cable. The combination of these functions in a sleek and slim component with fiber optic connectivity provides superior performance, bandwidth and flexibility for AV professionals to design and install high performance content and control signal distribution systems.

Supporting 4K@60Hz HDMI performance, Celerity FOG delivers 100% pure signal integrity from point to point at exceptional speed. HDMI for high definition video and multi-channel audio; IR transmission for remote control; RS232 for system control; USB HID for KVM and other interactive applications; Ethernet to deliver content and/or IP control to a smartTV or other network device, can now all be supported with a single fiber optic cable and the Celerity FOG-TXCB and FOG-RXCB transmitter and receiver control boxes. Celerity FOG-TXCB and FOG-RXCB are sold separately.

Fiber Optic Gateway Cable – 2 Steps to Fiber Optic Control

With Celerity FOG, only 2 steps are required – pre-wire and connect. Using the Celerity mini digital connector on each end of the fiber optic cable, a fast and secure connection is made to the FOG-TXCB and FOG-RXCB. This saves time and ensures that ensures a perfect fiber connection is always available. The Celerity Fiber Optic Gateway cable includes a small module at each end of the cable which supports the connection between the FOG components over the fiber. The small dimension of mini digital connector makes it easy to pull through conduit and concealed spaces.

The Celerity Fiber Optic Gateway cable is plenum-rated to meet required safety specifications and building codes. The Celerity FOG Cable is available in lengths of 35' 40' 50' 60' 80' 100' 160' 200' 500' and 1000'. Custom lengths may be special-ordered. Celerity FOG cables are sold separately from the FOG-TXCB transmitter FOG-RXCB and receiver.

Slim and Sleek Component

In addition to the easily pre-wired cable solution, the Celerity Fiber Optic Gateway Control Box has been engineered specifically to assist installers in locating the FOG-CB wherever they need control system connections. Slightly more than .5" thin, each Celerity FOG-CB offers two mounting solutions for maximum flexibility in locating the boxes. Included with each FOG-CB are mounting flanges that securely snap onto the FOG-CB to provide mounting points for equipment racks, walls, cabinets or a variety of enclosures. For more discreet mounting, the FOG-CB is designed with two keyholes on the back to allow for installation on nearly any flat surface including directly behind a video display.

Included Items

Fiber Optic Gateway Transmitter (TX)
1 each:

• CT-FOG-TXCB

• USB power cable (1.5m)

• USB-AC power adapter (5V/1A)

• IR emitter cable with 3.5mm plug (TS, 5V)

• IR receiver cable with 3.5mm plug (TRS, 5V)

• USB to USB cable

• User guide

Fiber Optic Gateway Receiver (RX)
1 each:

• CT-FOG-RXCB

• USB power cable (1.5m)

• USB-AC power adapter (5V/1A)

• IR emitter cable with 3.5mm plug (TS, 5V)

• IR receiver cable with 3.5mm plug (TRS, 5V)

• User guide

Note: The Gateway Set CT-FOG-CB only works with a respective Fiber cable CT-FOG-XXXP. The Fiber cable is not include in the scope of delivery and has to be ordered separately.

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Specifications

Function	FOG-TXCB Transmitter	FOG-RXCB Receiver
Celerity fiber optic cable input	-	Celerity mini digital
Celerity fiber optic cable output	Celerity mini digital	-
Celerity fiber optic cable distance	up to 1000 ft	up to 1000 ft
HDMI input	HDMI Type-A	-
HDMI output	-	HDMI Type-A
RS232	RJ45	RJ45
RS232 max baud rate	1 Mbps	1 Mbps
IR input (RX)	3.5mm TRS	3.5mm TRS
IR output (TX)	3.5mm TS	3.5mm TS
IR carrier frequency range	below 100 kHz	below 100 kHz
IR power	5V	5V
USB HID	USB v1.1 / Type-A	USB v1.1 / Type-A
Ethernet (RJ45 connector)	10/100BASE-T	10/100BASE-T
5V power	USB micro	USB micro
Supported resolutions	4K @ 60Hz UltraHD	4K @ 60Hz UltraHD
HDMI certification	HDMI High Speed	HDMI High Speed
HDCP	Yes	Yes
EDID pass-through	Yes	Yes
CEC	Yes	Yes
Power adapter	USB 5V/1A	USB 5V/1A
Power	DC5V 200mA	DC5V 200mA
Enclosure	Aluminum	Aluminum
Dimensions (in mm)	16mm x 60mm x 136mm	16mm x 60mm x 136mm
Shipping weight (in kg)	0.23 kg	0.23 kg

Available Fiber lengths (not included, see CT-FOG-XXXP)

10.6m	35f	30.4m	100f
12.2m	40f	48.7m	160f
15.2m	50f	60.9m	200f
18.2m	60f	152.4m	500f
24.3m	80f	304.8m	1000f

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Fiber Optic Gateway Cable – 2 Steps to Fiber Optic Control

With Celerity FOG, only 2 steps are required – pre-wire and connect. Using the Celerity mini digital connector on each end of the fiber optic cable, a fast and secure connection is made to the FOG-TXCB and FOG-RXCB. This saves time and ensures that ensures a perfect fiber connection is always available. The Celerity Fiber Optic Gateway cable includes a small module at each end of the cable which supports the connection between the FOG components over the fiber. The small dimension of mini digital connector makes it easy to pull through conduit and concealed spaces.

The Celerity Fiber Optic Gateway cable is plenum-rated to meet required safety specifications and building codes. The Celerity FOG Cable is available in lengths of 35' 40' 50' 60' 80' 100' 160' 200' 500' and 1000'. Custom lengths may be special-ordered. Celerity FOG cables are sold separately from the FOG-TXCB transmitter FOG-RXCB and receiver.

Slim and Sleek Component

In addition to the easily pre-wired cable solution, the Celerity Fiber Optic Gateway Control Box has been engineered specifically to assist installers in locating the FOG-CB wherever they need control system connections. Slightly more than .5" thin, each Celerity FOG-CB offers two mounting solutions for maximum flexibility in locating the boxes. Included with each FOG-CB are mounting flanges that securely snap onto the FOG-CB to provide mounting points for equipment racks, walls, cabinets or a variety of enclosures. For more discreet mounting, the FOG-CB is designed with two keyholes on the back to allow for installation on nearly any flat surface including directly behind a video display.

Included Items

Specifications for CT-FOG-CB Gateway Set (not included)

• Specifications for CT-FOG-CB Gateway Set (not included)

Note: The Gateway Set CT-FOG-CB is needed for using this cable properly. The Gateway Set is not included in this scope of delivery and has to be ordered seperately. This cable won't work with other products then CT-FOG-CB.

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Specifications for CT-FOG-CB Gateway Set (not included)

Function	FOG-TXCB Transmitter	FOG-RXCB Receiver
Celerity fiber optic cable input	-	Celerity mini digital
Celerity fiber optic cable output	Celerity mini digital	-
Celerity fiber optic cable distance	up to 1000 ft	up to 1000 ft
HDMI input	HDMI Type-A	-
HDMI output	-	HDMI Type-A
RS232	RJ45	RJ45
RS232 max baud rate	1 Mbps	1 Mbps
IR input (RX)	3.5mm TRS	3.5mm TRS
IR output (TX)	3.5mm TS	3.5mm TS
IR carrier frequency range	below 100 kHz	below 100 kHz
IR power	5V	5V
USB HID	USB v1.1 / Type-A	USB v1.1 / Type-A
Ethernet (RJ45 connector)	10/100BASE-T	10/100BASE-T
5V power	USB micro	USB micro
Supported resolutions	4K @ 60Hz UltraHD	4K @ 60Hz UltraHD
HDMI certification	HDMI High Speed	HDMI High Speed
HDCP	Yes	Yes
EDID pass-through	Yes	Yes
CEC	Yes	Yes
Power adapter	USB 5V/1A	USB 5V/1A
Power	DC5V 200mA	DC5V 200mA
Enclosure	Aluminum	Aluminum
Dimensions (in mm)	16mm x 60mm x 136mm	16mm x 60mm x 136mm
Shipping weight (in kg)	0.23 kg	0.23 kg

Available lengths (Fiber Optic Gateway Cable)

10.6m	35f	30.4m	100f
12.2m	40f	48.7m	160f
15.2m	50f	60.9m	200f
18.2m	60f	152.4m	500f
24.3m	80f	304.8m	1000f

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