ct • fiber optic gateway
control box

Product Overview

Celerity Fiber Optic Gateway (FOG) products are designed for high performance, dependability and convenient installation in professional AV applications. The FOG-TXCB (transmitter) and FOG-RXCB (receiver) control boxes support HDMI, RS232, IR, USB HID (USB v1.1) and Ethernet 10/100BASE-T connections up to 1000 feet over Celerity fiber optic cable without the need for field terminations.

Slim and compact at slightly more then .5" thin, the FOG-TXCB and FOG-RXCB are easily installed in equipment racks, structured wiring panels, conference room furnishings, and telecommunication centers via detachable mounting flanges. Discreet mounting behind AV equipment and high definition flat panel displays is easily accomplished by the slim profile of FOG-TXCB and FOG-RXCB.

FOG-TXCB and FOG-RXCB work in pairs and may be interchanged with other Celerity Fiber Optic Gateway products such as FOG-TXWP and FOG-RXWP for further system design and installation flexibility.

Connection is made between the FOG-TXCB and FOG-RXCB with a Celerity Fiber Optic Gateway cable available in lengths from 35' to 1000' (12.2m to 305m) which connect to the FOG control boxes via a secure, mini digital connector. FOG-TXCB and FOG-RXCB are sold separately.

Included Items

Fiber Optic Transmitter (TX)

1 each:

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 (1.5m)
User guide

Fiber Optic Receiver (RX)

1 each:

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

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 1.1 / Type-A	USB 1.1 / 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 & ABS	Aluminum & ABS
Dimensions (in & mm)	16mm x 60mm x 136mm 0.62" x 2.36" x 5.35"	16mm x 60mm x 136mm 0.62" x 2.36" x 5.35"
Shipping weight (lbs & kg)	0.5 lbs / 0.23 kg	0.5 lbs / 0.23 kg

HDMI™ HIGH SPEED

Installing the Fiber Optic Gateway

Paying close attention to the "direction" of the Celerity Fiber Optic Gateway cable, install the fiber optic cable in the required pathway between the source components and the display components. At each end of the Celerity FOG cable is a mini digital connector. Place the T labeled mini-connector at the source location. Extend the fiber optic cable to the display (R). The Celerity Fiber Optic mini digital connectors are clearly marked for T (source) and R (display) and must be installed correctly.

Determine the placement of the FOG-TXCB at the source (transmitting) location; securely attach the FOG-TXCB as required using the mounting flanges (included) and appropriate screws matching the mounting surface (not included). Position the FOG-TXCB for clear access to the connector panel and the Celerity Fiber Optic Gateway cable mini digital connector. The connector markings have been conveniently placed on the top surface of the FOG-TX/RXCB to provide easy viewing. Follow similar procedures for installing the FOG-RXCB at the receiving location.

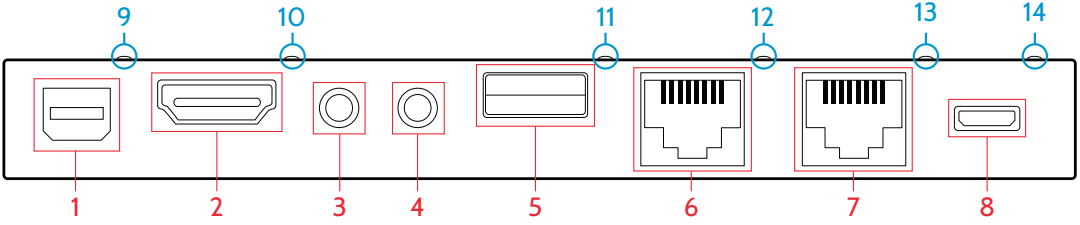
NOTE: *Pay particular attention to the TX (TX = source) and RX (RX = display) designations. The FOG-TXCB should be located with the source components (Main equipment rack, Blu-ray,set-top box etc) and the FOG-RXCB should be located with the display components (HDTV, etc).*

NOTE: *Celerity Fiber Optic Gateway cable is not compatible with Celerity Fiber Optic HDMI Detachable Connectors.*

LED Display Indicators

On the top surface of the FOG-TXCB and FOG-RXCB are blue and orange LEDs which will illuminate when the cables are correctly connected. The LED for the Fiber Optic Cable connection will illuminate with the cables connected in the proper direction and the FOG-CB are powered. If the blue LED does not illuminate ensure that the fiber optic cable is installed in the proper direction and correctly matched at the Fiber Optic Gateway (ie. T connected to T and R connected to R) and the power is connected (a blue LED will illuminate above the power connection when power is activated).

Fiber Optic Gateway Control Box panel view



Connectors:

1 Celerity Fiber Optic Mini Digital Connector
2 HDMI
3 IR TX
4 IR RX
5 USB HID (USB v1.1)
6 Ethernet
7 RS232
8 Power

LEDs:

9 Lit when fiber optic cable is properly connected (blue)
10 Lit when HDMI cable properly seated
11 Lit for USB HID activity
12 Lit for Ethernet data activity
13 Lit for RS232 data activity
14 Lit when powered (blue)

FOG-TXCB will be placed at source (TX) equipment, FOG-RXCB will be placed at receiving (RX) equipment

RS232, and Ethernet are bidirectional and may be connected in the best way to fit a particular application

Making Connections

Transmitter Connections - FOG-TXCB

HDMI High Speed cable (not included) from HDMI source component (Blu-ray, set-top box, etc) to HDMI input (port 2) on FOG-TXCB.

Connect a DB-9 to RJ45 cable (not included) from the RS232 component (AV controller, computer, etc) to the FOG-TXCB "RS232" input (RJ45 female, port 7), connect with a CAT5/6 cable to the precise length required (refer to the RJ45-DB9 diagram).

Connect an IR emitter (included) to the IR TX port (port 3). IR information sent from the FOG-TXCB connected to FOG-RXCB will be emitted for the purpose of controlling a component with an IR remote (place the emitter over a component's IR window).

Connect an IR receiver (included) to IR RX port (port 4). The IR receiver will send IR information from the FOG-TXCB to the FOG -RXCB for the purpose of controlling a component attached to the FOG-TXCB.

Connect USB cable to host device (computer) (port 5).

Connect Ethernet cable (not included) from your network to FOG-TXCB "Ethernet" input (RJ45 female, port 6).

Connect USB power cable and USB-AC adapter from FOG-TXCB (port 8) to AC main power connection. The blue LED on the top panel of FOG-TXCB will illuminate when power is activated.

Receiver Connections - FOG-RXCB

Connect HDMI High Speed cable (not included) from HDMI display component (HDTV, etc) to HDMI output on FOG-RXCB.

Connect a RJ45 cable (not included) from FOG-RXCB "RS232" output (RJ45 female, port 7) to the required RS232 connector port on the component to be controlled (HDTV, etc), connect with a CAT5/CAT6 cable to the precise length required.

Connect an IR emitter (included) to the IR TX port (port 3). IR information sent from the FOG-RXCB connected to FOG-TXCB will be emitted for the purpose of controlling a component with an IR remote (place the emitter over a component's IR window).

Connect an IR receiver (included) to IR RX port (port 4). The IR receiver will send IR information from the FOG-RXCB to the FOG-TXCB for the purpose of controlling a device attached to the FOG-RXCB.

Connect USB cable (not included) to the USB HID product such as touchscreen display, keyboard or mouse (USB, port 5).

Connect Ethernet cable (not included) from FOG-RXCB "Ethernet" input (RJ-45 female, port 6) to the Ethernet port on the receiving component.

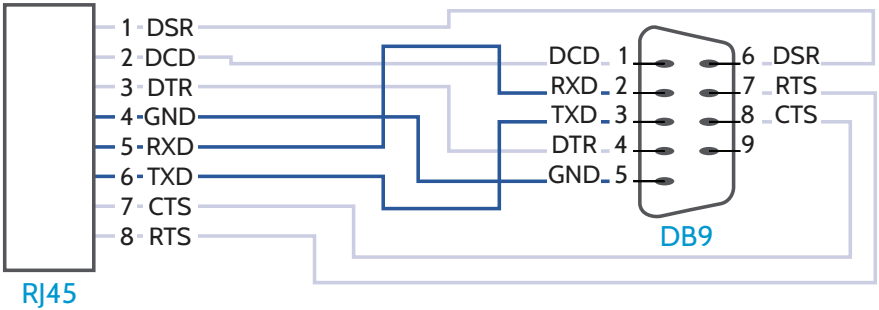
Connect USB power cable and USB-AC adapter from FOG-RXCB (port 8) to AC main power connection. The blue LED on the top panel of FOG-RXCB will illuminate when power is activated.

NOTE: ***RS232, and Ethernet are bidirectional and may be connected in the best way to fit a particular application***

RS232 (female) to RJ45 (male) pin-out diagram

The following is the recommended pin-out diagram for creating a RS232-RJ45 cable for use with the Fiber Optic Gateway. You may also use a 3rd party cable or one already in your possession. Celerity FOG RS232 ports only support Ground, Transmit Data and Receive Data connections as highlighted in the diagram below.

Maximum baud rate is 1 Mbps.



Limited Warning

Celerity Technologies warrants this product against defects in material or workmanship for a period of 12 months from the original date of purchase. Celerity Technologies will, at its sole option, (i) repair the product using new or refurbished parts, or (ii) replace the product with a new or refurbished product. For purposes of this Limited Warranty, "refurbished" means a product or part that has been returned to its original specifications. IN THE EVENT OF A DEFECT, THESE ARE YOUR EXCLUSIVE REMEDIES.

To obtain warranty service, you must deliver the product, postage prepaid, in accordance with instructions at Celerity Technologies' website: http://www.celeritytek.com.

This Limited Warranty only covers product issues caused by defects in material or workmanship during proper consumer or commerical use; it does not cover product issues caused by any other reason, including but not limited to improper consumer or commercial use, acts of God, misuse, limitations of technology, or modification of or to the product.

LIMITATION ON DAMAGES

ALL IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE PERIOD OF ONE (1) YEAR FROM THE DATE OF PURCHASE. TO THE EXTENT NOT PROHIBITED BY APPLICABLE LAW, CELERITY TECHNOLOGIES SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, CORRUPTION OR LOSS OF DATA, FAILURE TO TRANSMIT OR RECEIVE ANY DATA, BUSINESS INTERRUPTION OR ANY OTHER COMMERCIAL DAMAGES OR LOSSES ARISING OUT OF RELATED TO YOUR USE OF THE CELERITY TECHNOLOGIES PRODUCT.

Some state or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may have other rights which vary from state to state or jurisdiction to jurisdiction.

Please register this product at http://celeritytek.com/warranty Retain your sales receipt for proof of date of purchase.

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21 Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.105 -- Class B digital device or peripheral

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

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