



DIGITALINX
VALUE-ENGINEERED DIGITAL SOLUTIONS

DL-FHD2 Quick Install Guide



This guide is for quick installation only.

For complete owners manual go to www.libav.com or use a QR reader to access the manual via QR code below.



Scan QR Code with your Smart-phone or Tablet

Important notice:

- Do not attempt to disassemble or alter the housing. There are no user-serviceable parts inside the unit. Doing so will void your warranty.
- To minimize the possibility of equipment damage from electrostatic discharge (ESD), all source and destination equipment must be powered off during installation.
- Do not connect the device to a telecommunication outlet wired to unrelated equipment. Doing so may damage the unit or any connected equipment. Ensure all connected twisted pair cabling is straight-through (point-to-point).
- Allow proper ventilation to reduce the risk of thermal failure.

Product Overview

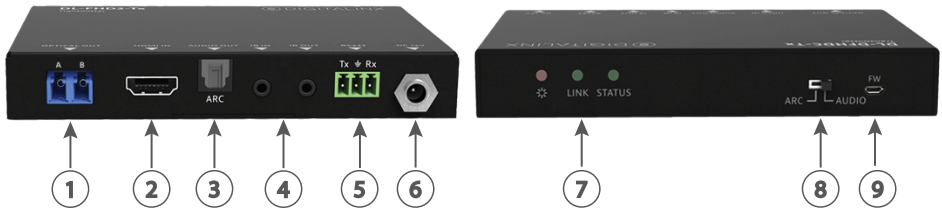
The DigitaLinx DL-FHD2 HDBaseT extender set extends uncompressed HDMI audio, video up to 18Gbps as well as control up to 300m / 984' using a duplex multi-mode OM3 fiber cable. Supports HDMI 2.0b, HDR10, HDR10+ Dolby Vision and HDCP 2.2 as well as Dolby and DTS audio formats. Control and audio extension supports bidirectional IR, Ethernet, ARC and RS232.

The DL-FHD2 is sold only as a set. The individual transmitter and receiver are not compatible with other extender devices.

Package Contents

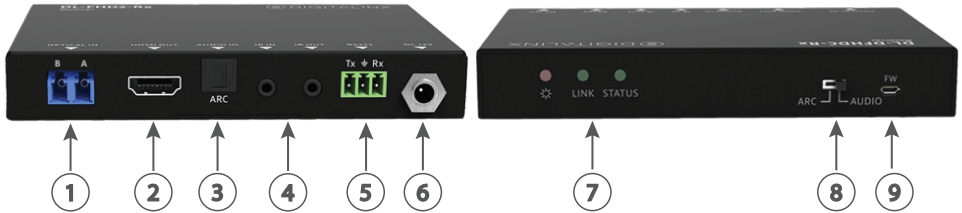
- (1) DL-FHD2 Transmitter and Receiver Set
- (2) IR Receivers (Eye)
- (2) IR Transmitters (Emitter)
- (1) RS232 Breakout Cables (3 pin to DB9)
- (2) 3 pole Terminal Block (attached to extenders)
- (2) DC12v US Power Supply with US, UK, EU and AU adapters
- (4) Mounting Brackets with screws
- (8) Plastic Cushions
- (1) Quick Install Guide

Transmitter



1. OPTICAL OUT (A B)
 - LC-LC Fiber Optic output for duplex LC fiber to DL-FHD2 receiver connection
2. HDMI IN
 - HDMI input port for connection to video sources
3. AUDIO OUT (ARC)
 - Digital audio output port (TOSLINK) for routing multi-channel audio from DL-FHD2 receiver to audio amplifier or mixer
4. IR IN / IR OUT
 - 3.5mm IR input port for connection to IR receiver or IR system
 - 3.5mm IR output port for connection to IR emitter
5. RS232
 - 3 pin Phoenix connector port for connecting and passing RS232 control to receiver / display location
6. DC 12V
 - Locking power port, connect DC12V power adapter to transmitter (both TX and RX must be powered individually to activate circuit)
7. FRONT PANEL DIAGNOSTIC LEDs;
 - *POWER*- When solid, the DL-FHD2 extender is receiving power from the DC power supply
 - *LINK* - When solid green, the transmitter and receiver fiber optic links are successful
 - *STATUS* - When solid green, signal data is transmitting successfully between the transmitter and receiver
8. AUDIO MODE SELECTION SWITCH
 - *ARC*- Switches audio mode to ARC
 - *AUDIO*- Switches audio mode to audio pass through (from receiver)
9. FW
 - Micro USB B port for firmware updates

Receiver



1. OPTICAL IN (B A)
 - LC-LC Fiber Optic input for duplex LC fiber to DL-FHD2 transmitter connection
2. HDMI OUT
 - HDMI output port for connection to display
3. AUDIO IN (ARC)
 - Digital audio input port (TOSLINK) for routing multi-channel audio to DL-FHD2 transmitter
4. IR IN / IR OUT
 - 3.5mm IR input port for connection to IR receiver or IR system
 - 3.5mm IR output port for connection to IR emitter
5. RS232
 - 3 pin Phoenix connector port for connecting and passing RS232 control from and to transmitter location
6. DC 12V
 - Locking power port, connect DC12V power adapter to receiver (both TX and RX must be powered individually to activate circuit)
7. FRONT PANEL DIAGNOSTIC LEDs;
 - *POWER*- When solid, the DL-FHD2 receiver is receiving power from the DC power supply
 - *LINK* - When solid green, the transmitter and receiver fiber optic links are successful
 - *STATUS* - When solid green, signal data is transmitting successfully between the transmitter and receiver
8. AUDIO MODE SELECTION SWITCH
 - *ARC*- Switches audio mode to ARC
 - *AUDIO*- Switches audio mode to audio pass through (to transmitter)
9. FW
 - Micro USB B port for firmware updates

Connectivity Instructions

1. Verify all components included with the extender set are present before installation.
2. If the extenders are going to be permanently mounted to a surface, attach the included mounting brackets with the supplied screws.
3. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
4. Connect duplex LC-LC OM3 fiber optic cable between the transmitter (OPTICAL OUT) and the receiver (OPTICAL IN). Be sure that the A to A and B to B fiber optic connection is wired correctly from transmitter to receiver.
5. Connect an HDMI cable and any desired control accessories between the display and the receiver.
6. Connect an HDMI cable and any desired control accessories between the source and the transmitter.
7. Connect the included power supply to the transmitter and receiver and lock the power supply to the power connector by twisting the locking collar clockwise.
8. Power on attached audio/video devices.

Audio Mode Status

There are four ways to route digital audio with the DL-FHD2 extender system. Below is a chart indicating the routing status based on the audio mode switch selections on the transmitter and receiver

MODE SELECTION		ROUTING DESCRIPTION
TX	RX	
ARC	ARC	Audio signal transmitted from receiver / ARC display connection to transmitter (HDMI IN) and (AUDIO OUT)
ARC	AUDIO	Audio signal transmitted from display digital output to receiver (AUDIO IN), transmits audio to transmitter (HDMI IN)
AUDIO	ARC	Audio signal transmitted from receiver / ARC display connection to transmitter (AUDIO OUT) only
AUDIO	AUDIO	Audio signal transmitted from display digital output to receiver (AUDIO IN), transmits audio to transmitter (AUDIO OUT) only

Cabling Requirements

To ensure proper performance of the DL-FHD2, it is recommended that you use multi-mode OM3 fiber optic cabling.

Passing IR Signals:

The DL-FHD2 is capable of passing IR signals between 33 and 55 KHz. To prevent damage to any of the electronics, the extenders should be powered off while inserting or removing any IR components. Inserting an IR transmitter into the IR IN port may damage the IR circuit for that extender.

IR OUT: The IR transmitter (IR emitter) must be plugged into the IR OUT port.

IR IN: The IR receiver (IR eye) must be plugged into the IR IN port.

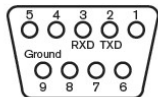
To connect to a 3rd party IR system such as a control system, the Digitalinx IR-AC IR coupling cable (sold separately) is required. Connect the TS connector of the IR-AC coupling cable to the IR output port of the control system and connect the TRS connector of the IR-AC cable to the IR IN to either transmitter or receiver of the DL-FHD2.

RS232 Wiring

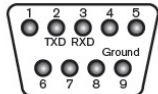
Connect the controller or device RXD signal to Tx on the DL-FHD2 extender. Connect the controller or device TXD signal to Rx on the DL-FHD2 extender.



Tx Rx \perp



Female connector - 9 holes



Male connector - 9 holes

DL-FHD2 (TX/RX)	Controller or Device
Tx	RXD
Rx	TXD
\perp	GND

Technical Specifications

Supported Audio and Video	
Video Compliance	HDMI 2.0b, HDCP 2.2, ARC (Audio Return Channel) and CEC (Consumer Electronics Control)
Input / Output Resolution Support	All resolutions are supported up to 4096x2160 / 60Hz; 4:4:4; 8 bit deep colour
Maximum Pixel Clock	594MHz
Embedded Audio	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
ARC (Audio Return Channel)	Up to 6 channel audio
IR Carrier Frequency Range	33-55kHz at 5 volts
RS232 Baud Rate	Up to 115200 baud
Fiber Optic Signal Characteristics	
Maximum Distance	300 meters / 984 feet
Required Cable Type	Duplex LC-LC OM3
Bandwidth	35Gbps
Chassis and Environmental	
Dimensions (W*H*D)	125 mm (4.92 in) x 19 mm (0.75 in) x 86 mm (3.17 in)
Operating Temperature (Environment)	0 to + 45°C (32 to + 113 °F)
Operating Temperature (Chassis)	35 to + 44°C (95 to + 111 °F)
Operating Temperature (Storage)	-20 to +70°C (-4 to + 158 °F)
Operating Humidity (Environment)	10% to 90%, Non-condensing
Product Weight	175g / .4 lbs
Power	
Maximum Power Consumption	9 watts
Power Supply Input Voltage	100-240V AC at 50-60 Hz; 0.5A Max
Power Supply Output Voltage	DC 12V 1A
ESD Protection	±8kV(Air-gap discharge)/ ±4kV(Contact discharge)
Regulatory	CE, FCC, RoHS
Other	
Standard Warranty	2 Years
Included Items	(1) Transmitter, (1) Receiver, (1) Quick Install Guide, (2) DC 12V Power Supply with US, UK, EU and AU adapters, (2) IR Transmitters, (2) IR Receivers, (4) Mounting Brackets, Mounting Screws, (8) Tab Cushions

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