



DIGITALINXTM

Complete Digital Solutions for the AV Professional

User's Manual

**Digital Media Repeater
Part #: DL-HDR**



Congratulations on your purchase of a Digitalinx™ Digital Media Repeater. This manual contains information that will assist you in the installation and operation of this product. Please inspect the contents of the package to ensure all required material is present.

Contents:

Each Digitalinx™ Digital Media Repeater package contains the following items

- 1 each DL-HDCR (90 degree faceplate mount) Digital Media Repeater
(or) 1 each DL-HDR (in-line) Digital Media Repeater
(or) 1 each DL-HDPR (in line panel mount) Digital Media Repeater
- 1 each DC Power Supply (UL) and C(UL) listed Class 2 C(UL)US
- 1 each Users Manual

Safety Precautions:

- 1.) Please read all product manuals and safety notes prior to operating this or any devices.
- 2.) Retain the product manuals and safety notes for future reference
- 3.) Unplug this unit prior to cleaning; do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 4.) Do not use this equipment near damp or wet locations.
- 5.) The product should only be powered by the indicated sources in the specifications. Do not use other sources of power.
- 6.) Do not use damaged power cords or plugs and do not use loose electrical outlets. Please refer repair of non-conforming electrical equipment to certified personnel.
- 7.) Do not place heavy articles or other equipment on top of this device or its associated peripherals.
- 8.) Do not use this device near flammable material, liquids, or gas.

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Product Description and General Specifications

This Digitalinx™ Digital Media Repeater is an internally powered digital HDMI and DVI repeater device. This device is available in three housing construction types. A reversible 90 degree housing to allow single gang faceplate mounting in two different signal directions is model number DL-HDCR. A reversible 180 degree housing to allow rack panel mounting in two different signal directions is model number DL-HDPR. An in-line design for simple signal boosting and cable transmission is model number DL-HDR

The device is compliant with DVI 1.0 and HDMI 1.3 signals. The device is fully compliant with HDCP protocol.

This Digital Media Repeater is ideal for installations where the cable must pass through a faceplate; wall or a rack mounted Digital video distribution system. An inactive coupler will suffer signal degradation and introduce digital artifacts. The active coupler will reconstitute the signal and boost it allowing maximum resolution to transmit to the source. This device can also be used at the end of a long copper interconnect to boost the signal at the source.

The system can easily accommodate DVI only inputs and outputs by using Liberty's high quality HDMI to DVI interconnects. The DVI connector is routed to the sources and display unit while the HDMI connector plugs into the Digitalinx™ switcher. The digital audio signal is not transmitted when using DVI connectors.

ITEM	DESCRIPTION
Model Name	DL-HDCR, DL-HDPR, or DL-HDR
Input(s)	HDMI type A Receptacle
Output	HDMI type A Receptacle
Maximum Resolution	WUXGA 1600x1200, HDTV 1080p
HDCP Compatible	Yes
Power Consumption	5VDC, 1.6W maximum, 1.6W maximum, from pin 18 of HDMI or optional DC Power adapter
Dimensions (Height x Width x Depth)	DL-HDCR: 49x49x52mm DL-HDPR: 40x49x48mm DL-HDR: 50x55x15mm
Weight	~0.20 Kg

Environmental Reliability Specifications

The Digitalinx™ Digital Media Repeater recommended environmental operating limits are a temperature range from 10°C to 40°C, non-condensing humidity levels from 10-80% and an altitude ceiling of 3,000 meters (9,840 feet).

Environmental limits for transportation are established as a temperature range of -25°C to 60°C, non-condensing humidity levels from 5-95%, and an altitude ceiling of 15,000 meters (49,200 feet)

Environmental limits for storage are established as a temperature range of -20°C to 45°C, non-condensing humidity levels from 5-95%, and an altitude ceiling of 3,000 meters (9,840 feet)

The Digitalinx™ Digital Media Repeater is expected to function for more than 50,000 hours of use at a 90% confidence level. The device is tested to the identical standards for testing LCD monitors.

High Quality Picture – No loss of resolution or introduced digital artifacts

Our Digital Media Repeaters are manufactured to deliver the highest quality picture by preserving the native resolution from the video sources and eliminating any digital artifacts (pixel loss or “sparklies”). Due to the nature of digital signals any non-active connector junctions will detrimentally affect the signal, this device provides active junctions to re-constitute and amplify the signal (boosting) and ensures the signal quality to the display.

Signal Amplification

Each Digital Media Repeater has dual power options, either pin 18 of the source HDMI unit or by a 5VDC external power supply to ensure adequate power is available to perform the signal boost to the correct specification. This is necessary because the introduction of a Digital Media Repeater indicates that longer cable lengths are in use. This device corrects the signal loss from a longer length cable to the original native resolution and signal power. The maximum length of an interconnect cable recommended for this device is 35 meters. All Liberty Wire & Cable HDMI interconnects are tested to ensure 1080p resolution. As a note to the power requirements, the source power availability from the video source may not be sufficient to drive the 1.0-1.6W requirement of the device and the external DC unit is supplied to answer the requirements where this limitation exists.

Compact and Practical Design

The Digitalinx™ Digital Media Repeater has been designed in three configurations. The in-line DL-HDR is simply a convenient in-line coupler for extending cable lengths or applying a freshly boosted signal to a display. The input and output connections are 180° from each other. The DL-HDCR is a square box with the input and output connections mounted 90° from each other. The casing has been designed to mount on a single gang faceplate and allow the installer to configure a “signal in” or a “signal out” placement of the device. The DL-HDPR is a 180° of the DL-HDCR for straight panel mount options as in equipment racks. The Digital Media Repeaters can be daisy chained to transmit the signal longer distances. The 90° units are usually installed in pairs as the signal is going from a source into a wall or junction then out of the wall or junction to a display.

Daisy Chain Capabilities

Connecting these devices in line is recommended not to exceed three devices. Only externally power units should be daisy chained. Digital Media Repeaters powered by the source device may have adequate power requirements to drive audio applications. Using the optional DC power converter will ensure the appropriate power level required.

Installation

The recommended method for connection of devices to the Digital Media Repeater is listed in the following steps. Please ensure this order is followed to enjoy the full function of the device. This device can be installed in an equipment rack, on a shelf, a stand alone device, or mounted on faceplates.

- 1.) Ensure the digital video/audio source and display is turned off.
- 2.) Connect the digital video/audio source to the input port of the Digitalinx™ Digital Media Repeater.
- 3.) Connect the digital display to the output port of the Digitalinx™ Digital Media Repeater.
- 4.) If applicable, power up the Digitalinx™ Digital Media Repeater.
- 5.) Power up the digital display.
- 6.) Power up the digital video/audio sources
- 7.) Check the LED power indicator on the Digitalinx™ Digital Media Repeater.

NOTE: The DL-HDPR and DL-HDCR LED indicator is internal, view the device off the plate.

Note: It is recommended to use the longest run of cable between the source and the Digital Media Repeater followed by a shorter run when possible to reap the greatest benefit of the signal boost.

Mechanical Specifications

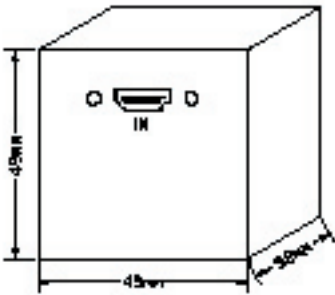
Dimensions

DL-HDCR: 49x49x52mm

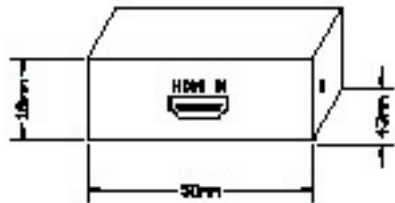
DL-HDPR, 40x49x48mm

DL-HDR: 23x52x94mm

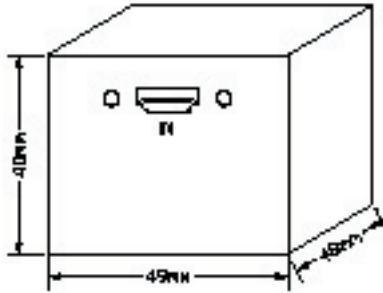
DL-HDCR



DL-HDR



DL-HDPR



HDMI IN: HDMI from digital video source

HDMI OUT: HDMI to digital video display

LED Power: 12 VDC power indicator.

4-40 Threaded holes allow panel mount interface

Technical Specifications

Frequency Bandwidth: 1.65 Gbps
Supporting Graphic Resolution: Up to computer UXGA (1600x1200 @ 75Hz)
Up to display 1080p60 (2200x1125@60Hz)
Inputs: HDMI Type A receptacle (single link) 1 port
Output: HDMI Type A receptacle (single link) 1 port
Power Supply: Internal power from pin 18 of the HDMI transmitting device
External power from DC Adapter
HDCP (High-bandwidth Digital Content Protection) Compliant

Connector pin assignment for HDMI Type A receptacle	
Pin #	Description
1	TMDS Data 2 +
2	TMDS Data 2 shield
3	TMDS Data 2 -
4	TMDS Data 1 +
5	TMDS Data 1 shield
6	TMDS Data 1 -
7	TMDS Data 0 +
8	TMDS Data 0 shield
9	TMDS Data 0 -
10	TMDS Clock +
11	TMDS Clock shield
12	TMDS Clock -
13	CEC
14	RESERVED
15	SCL
16	DDC DATA
17	DDC/CEC GROUND
18	+5VDC POWER
19	HOT PLUG DETECT

1 (One) Year Warranty

Liberty Wire & Cable warrants this Digitalinx™ Digital Media Repeater to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Liberty Wire & Cable or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Liberty Wire & Cable shall, at its option and expense, repair the defective product or part, deliver to the customer an equivalent product or part to replace the defective item, or refund the customer the purchase price paid for the defective product.

All products that are replaced will become the property of Liberty Wire & Cable. Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

Liberty Wire & Cable shall not be responsible for any software, firmware, information, or memory data loss of customer contained in, stored on, or integrated with any products returned to Liberty Wire & Cable for repair under warranty or not.

Warranty Limitation and Exclusion

Liberty Wire & Cable shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Liberty Wire & Cable or its authorized agents, causes other than from ordinary use or failure to properly use the product in the application for which said product is intended.

Troubleshooting

The Digitalinx™ Digital Media Repeater is designed for years of trouble free service, please reference the troubleshooting chart below if experiencing issues with the device.

Symptom	Solution
Device will not operate	Ensure the power LED is on. In rare instances source devices do not have 5VDV power on Pin # 18 and internally powered repeaters cannot be used with those devices. Use the optional DC adapter in these instances.
No Picture, poor picture, or flashing blue screen	<ol style="list-style-type: none">1.) If the source is HDCP enabled, ensure the display is also HDCP compliant.2.) Ensure you are using Liberty certified copper interconnects for distances from 35 meters. Performance with other manufacturer's cables has not been verified.3.) Computer users – try lower refresh rate settings, Most HDTV's have a refresh around 48 Hz and computer video cards are generally much higher.4.) Ensure the HDMI connectors are securely plugged in, HDMI does not have a locking mechanism and can dislodge with handling.5.) Turn off all equipment and restart per the process on page 1-5.
No Audio	This issue can be caused when the source device does not have enough 5VDC power on Pin # 18. Use the optional DC adapter to correct this issue.

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Customer Service

If you have issues, questions, or require assistance with the use of this device please contact Liberty Wire and Cable with any of the following contact points:



Liberty Wire and Cable
11675 Ridgeline Drive
Colorado Springs, CO 80921

(800) 830-8998 and ask for technical assistance. Sales@libertycable.com and indicate in Subject Line "Technical Assistance"

www.libertycable.com