DL-44E-KIT Installation and Operation Guide
Important Safety Instructions

» Please completely read and verify you understand all instructions in this manual before operating this equipment.

» Keep these instructions in a safe, accessible place for future reference.

» Heed all warnings.

» Follow all instructions.

» Do not use this apparatus near water.

» Clean only with a dry cloth.

» Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

» Use only accessories specified or recommended by Intelix.

» Explanation of graphical symbols:

◊ Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.

◊ Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

» WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

» Use the mains plug to disconnect the apparatus from the mains.

» THE MAINS PLUG OF THE POWER CORD MUST REMAIN READILY ACCESSIBLE.

» Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.

» Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.

» Do not block the air ventilation openings. Only mount the equipment per Intelix's instructions.

» Use only with the cart, stand, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.

» Unplug this apparatus during lightning storms or when unused for long periods of time.

» Caution! Shock Hazard. Do not open the unit.

» Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
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Product Overview

The DL-44E-KIT is a professional 4K HDBaseT Home Distribution Hub Kit, which consists of a 4K HDBaseT Matrix Switcher, 3 HDBaseT Receivers and accessories. The DL-44E-KIT is a professional 4x4 HDBaseT Matrix Switcher that consist of the following inputs and outputs, 4 HDMI IN (4kx2K@60Hz signal at max), 3 IR IN, 1 IR EYE, 4 IR OUT, 3 HDBaseT OUT, 1 HDMI OUT, 1 SPDIF OUT, 1 L&R RCA OUT, and TCP/IP, RS232 control port via phoenix connector. The DL-44E-KIT offers manual HDCP management and auto-detecting along with easy installation with rack-mounting design.

The DL-HD70LS-RX is an HDBaseT Receiver that consists of the following inputs and outputs, 1 HDBaseT IN, 1 IR IN, 1 IR OUT and HDMI OUT. The receiver is powered directly by the DL-44E-KIT. All HDMI inputs can be selected by either the front panel buttons, IR, RS232 or GUI. The selected source is delivered to HDBaseT zoned outputs 1-3 & HDMI Output.

The DL-44E-KIT is capable of delivering 4K signals up to 40m, 1080p up to 70m and powering the receivers via a single CAT5e cable. It is recommended to use good quality CAT6 cable. The Matrix Switcher supports EDID management and is HDCP 2.2, 1.4 compliant. Audio sources can be selected via RS232 commands and TCP/IP at the Matrix Switcher or by 3rd Party control.

Package Contents

Please verify the following items are in the shipping box prior to installation of the DL-44E-KIT.

1 x DL-44E-KIT 4K HDBaseT Matrix Switcher,
3 x DL-HD70LS-RX HDBaseT Receivers
1 x Power Adapter (DC 24V 2.71A)
1 x Power Cord(Optional)
4 x IR Emitters
3 x IR Receivers
1 x IR Receiver(Inserted into IR EYE port)
1 x IR remote
1 x RS232 cable(Phoenix to 9-pin D-Sub)
2 x Mounting ears & 6 x Screws (For DL-44E-KIT 4K HDBaseT Matrix Switcher )
DL-44E-KIT Front and Rear Panels

Front Panel

1. FIRMWARE
2. Power Indicator
3. INPUT Selector Indicators
4. Output selector button

Rear Panel

1. HDMI INPUTS
2. IR IN
3. IR OUT
4. OUTPUTS
5. TCP/IP and RS232 Control
6. DC 24V
DL-HD70LS-RX Front and Rear Panels

Front Panel

1. HDMI OUT
2. IR IN
3. IR OUT

Rear Panel

1. Power Indicator
2. TP IN

The RJ45 socket has two LED status indicators. Plug in the Pre-installed CAT cable in to the HDBT RJ45 socket. HDCP: HDCP compliant indicator, OFF: No HDMI traffic (no picture), GREEN: Signals with HDCP, Blinking GREEN: Signal without HDCP.

LINK: HDBT Link status indicator. OFF: No Link, YELLOW: Link Successful, Blinking YELLOW: Link Error.
Installation Instructions

Mount the Matrix

At least 2 inches of free air space is required on both sides of the DL-44E-KIT for proper side ventilation. Avoid mounting the DL-44E-KIT near a power amplifier or any other source of significant heat.

Usage Precautions:

1. The DL-44E-KIT 4K Home Distribution kit should be installed in a clean and dust free environment.
2. Ensure that all plugs, power cords and sockets are in good condition without signs of damage.
3. All devices should be connected before power on.

Connection Procedure:

1. Connect HDMI sources (e.g. DVD) to HDMI input ports of the Matrix Switcher via good quality HDMI cables.
2. Connect the Pre-Installed CAT5e/CAT 6 cable infrastructure to the DL-44E-KIT Matrix Switcher and HDBaseT receivers DL-HD70LS-RX via good quality patch leads.
3. Connect HDTV to HDMI output port via HDMI cable.
4. Plug in an HDMI cable in to each of the DL-HD70LS-RX and connect to the local display [HDTV].
5. Connect AVR amplifier to SPDIF output port or via the Toslink optic fibre cable.
6. Connect speaker to L&R (RCA) output port via audio cable.
7. Plug the IR Receivers 3.5mm jack into the IR IN sockets on the DL-HD70LS-RX and plug in the IR Emitters to the IR OUT sockets (1-4) on the Matrix Switcher to make up as an IR Matrix.
8. Plug the phoenix connector in to the RS232 socket on the matrix, this will enable the Matrix Switcher to be controlled via a PC.
9. Plug in a Patch lead from the router in to the Ethernet port on Matrix Switcher to control Matrix Switcher by TCP/IP protocol.
10. Plug in the Power supply adapter 24V DC and tighten to secure. Once all components have been connected and the installation is completed, turn on the power.

Connection with HDBaseT Receiver:

1. The Matrix Switcher has 3 HDBaseT outputs which support PoC technology.
2. Plug in the 4 RJ45 patch leads in to the HDBT outputs and connect to the pre-installed infrastructure.
3. Connect the DL-HD70LS-RX HDBaseT Receivers to the pre-installed cabling via additional patch leads.
4. Plug the power supply in to the power socket on the matrix, the DL-HD70LS-RX will be powered by the Matrix Switcher.
System Operations

The Matrix Switcher can be controlled via the front panel. Please follow the basic programming instructions below:

1. To convert one input to an output:
   
   Example: Input 1 to Output 3
   
   -Press INPUTS 1 + OUTPUTS 3 + ENTER

2. To convert an input to several outputs:
   
   Example: Convert Input 2 to Output 3 and 4
   
   -Press INPUTS 2 + OUTPUTS 3 + OUTPUTS 4 + ENTER

3. To convert an input to all outputs:
   
   Example: Input 1 to all Outputs
   
   -Press INPUTS 1 + ALL + ENTER

IR Remote

Connect an IR receiver to the IR EYE port of the Matrix Switcher, users can control it through the included IR remote. Here is a brief introduction to the IR remote.

Standby button, press it to enter/exit standby mode.

INPUTS: Input channel selection buttons, range from 1-4, corresponding IR signal switched synchronously when switching input channels.

OUTPUTS: Output channel selection buttons.

Menu buttons: ALL, EDID, CLEAR and ENTER.

-ALL: Select all outputs.

-EDID management button: Enable input port to manually capture and learn the EDID data of output devices.

-CLEAR: Withdraw an operation like switching output channel, learning EDID data before it comes into effect. Meanwhile, the matrix will return to the previous status.

-ENTER: Confirm operation.
**Control Far-end Device locally**

Connect an IR receiver with IR carrier to the IR IN port of the Matrix Switcher; users can control far-end output display via its IR remote from local. In that case, the IR signal is transferred via twisted pair. Only the corresponding IR OUT port can emit control signals to the remote display.

**Control Local Device Remotely**

Connect IR receiver(s) to IR IN on far-end HDBT receiver(s), and IR Emitter(s) to IR OUT port of the switcher, and use the IR Remote of local source to control the device remotely.

**Multiple to Multiple: (IR Matrix)**

The 4 “IR OUT” ports and the 3 “IR IN” ports on the far-end receivers make up a 4x3 IR matrix. The IR signal is sent by IR remote, then it is transferred to HDBaseT receiver, then to corresponding zone of the matrix through the twisted pair, finally it is transferred to IR OUT port and received by controlled device.
TCP/IP Control

Besides IR control, RS232 control, the Matrix Switcher boasts option TCP/IP port for IP control. Default settings: IP: 192.168.0.178; Subnet Mast: 255.255.255.0; Gateway: 192.168.0.1; Serial Port: 4001. IP& gateway can be changed as you need, Serial Port cannot be changed.

Connect the Ethernet port of control device and TCP/IP port of the Matrix Switcher, and set same network segment for the 2 devices, users are able to control the device via web-based GUI or designed TCP/IP communication software.

The Matrix Switcher can be controlled by PC without Ethernet access or PC(s) within a LAN.

Controlled by PC

Connect a computer to the TCP/IP port of the Matrix Switcher, and set its network segment to the same as the Matrix Switcher’s.

Controlled by PC(s) in LAN

Connect the Matrix Switcher, a router and several PCs to setup a LAN

Router Connection
1. Configure the router to use the same IP range as the matrix, such as 192.168.0.1.
2. Connect the computer to the router.
3. Connect the DL-44E-KIT to the router

Connect a computer to the TCP/IP port of the Matrix Switcher, and set its network segment to the same as the Matrix Switcher’s. DL-44E-KIT provides a built-in GUI for convenient TCP/IP control. GUI allows users to interact with the DL-44E-KIT through graphical icons and visual indicators. Type 192.168.0.178 in your browser to access the web GUI.

Crossover Cable Connection
Web Browser Control

**Log In Screen:** There are 2 selectable usernames – admin (default password: admin) and user (default password: user). Log in as admin can access more configuration interfaces than user. Enter username and the right password.

**Main:** Interface shown after logging in, provide intuitive I/O connection switching. The button matrix displays every possible connection between every input and output, users can carry on the connections by clicking corresponding button. Buttons 1~9 at the right-bottom corner provides quick saving and recall for overall connection status.

**Users:** Display or modify credential settings, front panel lock, and GUI version. If there is any modification, press Save to restore the settings, or press Cancel to withdraw.

**Interface:** Set title bar label and button labels, press Save to save the settings.

**Configuration:** Set HDCP Compliance status for every input, and manage EDID.

**Network:** Inquire and configure network settings including MAC address, IP address, subnet mask, and Gateway
EDID Management

EDID (Extended Display Identification Data) is data generated from each display in the system to communicate the capabilities of the device. The DL-44E-KIT features EDID management to maintain compatibility between all devices. It can be controlled via EDID learning and EDID invoking.

**EDID learning**

The included IR remote can be used to enable the Matrix Switcher to learn the EDID of all sink devices.

- One input port learns the EDID data of one output port:
  Example: Input 2 learns EDID data from output 4
  -Press EDID + INPUTS 2 + OUTPUTS 4 + ENTER

- All input ports learn EDID data from one output port:
  Example: all input ports learn EDID data from output 4
  -Press: EDID + ALL + OUTPUTS 4 + ENTER

**EDID Invoking**

There are five types of embedded EDID data. The chart below illustrated the detailed information of the embedded EDID data. Sending the command “UpgradeIntEDID[x].” via RS232 Control Software to upgrade the embedded EDID data, x=1~5.

<table>
<thead>
<tr>
<th>No.</th>
<th>EDID Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1080P 2D 2CH</td>
</tr>
<tr>
<td>2</td>
<td>1080P 3D 2CH</td>
</tr>
<tr>
<td>3</td>
<td>1080P 2D Multichannel</td>
</tr>
<tr>
<td>4</td>
<td>1080P 3D Multichannel</td>
</tr>
<tr>
<td>5</td>
<td>3840x2160 2D / 30Hz</td>
</tr>
</tbody>
</table>
RS232 Commands

Except the front control panel, the Matrix Switcher can be controlled by far-end control system through the RS232 communication port. This RS232 communication port is a 3-pin phoenix connector. User can use the RS232 cable (Phoenix to 9-pin D-Sub) to connect the RS232 port to PC.

Please remember to end the commands with the ending symbols “.” and “;”. Type the command carefully, it is case-sensitive.

- 9600 baud
- 8 Data Bits
- 1 Stop Bit
- Parity = none

System Commands

<table>
<thead>
<tr>
<th>Description</th>
<th>Command Example</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquire the models information.</td>
<td>/*Type;</td>
<td>DL-44E-KIT</td>
</tr>
<tr>
<td>Lock the front panel buttons on the Matrix.</td>
<td>/*Lock;</td>
<td>System Locked!</td>
</tr>
<tr>
<td>Unlock the front panel buttons on the Matrix.</td>
<td>/*Unlock;</td>
<td>System Unlock!</td>
</tr>
<tr>
<td>Inquire the version of firmware</td>
<td>/*Version;</td>
<td>VX.X.X</td>
</tr>
</tbody>
</table>
**Operation Commands**

<table>
<thead>
<tr>
<th>Description</th>
<th>Command Example</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer signals from the input channel ([x]) to all output channels</td>
<td>([x])All.</td>
<td>X To All. (X=01~04)</td>
</tr>
<tr>
<td>Transfer all input signals to the corresponding output channels</td>
<td>All#.</td>
<td>All Through.</td>
</tr>
<tr>
<td>Switch off all the output channels.</td>
<td>All$.</td>
<td>All Closed.</td>
</tr>
<tr>
<td>Transfer signals from the input channel ([x]) to the output channel ([x]).</td>
<td>([x])#.</td>
<td>X Through. (X=01~04)</td>
</tr>
<tr>
<td>Switch off the output channel ([x]).</td>
<td>([x])$</td>
<td>X Closed. (X=01~04)</td>
</tr>
<tr>
<td>Switch on the output channel ([x]).</td>
<td>([x])@</td>
<td>X Open. (X=01~04)</td>
</tr>
<tr>
<td>Switch on all output channels.</td>
<td>All@</td>
<td>All Open.</td>
</tr>
<tr>
<td>Transfer the AV signal from the input channel ([x1]) to one or several output channels (({x2}, \text{separate output channels with comma})).</td>
<td>([x1])V([x2]).</td>
<td>AV: X1-&gt; X2 (X1/X2=01~04)</td>
</tr>
<tr>
<td>Transfer the AV and IR signal from input ([x1])B([x2]).</td>
<td>AV: X1-&gt; X2</td>
<td></td>
</tr>
<tr>
<td>Transfer the IR signal from output ([x1]) to input ([x2]).</td>
<td>([x1]) R([x2]).</td>
<td>IR: X1-&gt; X2 (X1&gt;X2=01~04)</td>
</tr>
<tr>
<td>Check the I/O connection status of output ([x])</td>
<td>Status([x]).</td>
<td>AV: Y-&gt; X (X=01<del>04, Y=01</del>04)</td>
</tr>
<tr>
<td>Inquire the input channel to the output channels one by one.</td>
<td>Status.</td>
<td>AV: 01-&gt;01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AV: 04-&gt;04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IR: 01-&gt;01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IR: 04-&gt;04</td>
</tr>
<tr>
<td>Save the present operation to the preset command ([Y]), ranges from 0 to 9.</td>
<td>Save([Y]).</td>
<td>Save To FY (Y=0-9)</td>
</tr>
<tr>
<td>Recall the preset command ([Y]).</td>
<td>Recall([Y]).</td>
<td>Recall From FY (Y=0-9)</td>
</tr>
<tr>
<td>Clear the preset command ([Y]).</td>
<td>Clear([Y]).</td>
<td>Clear FY (Y=0-9)</td>
</tr>
</tbody>
</table>
### Description | Command Example | Response
---|---|---
Work in normal mode. | PWON. | PWON
Enter into standby mode and cut off the power supply to HDBaseT receivers. | PWOFF. | PWOFF
Enter into standby mode. (Do not cut off the power supply to HDBaseT receivers, press other buttons or send other commands to start.) | STANDBY | STANDBY
HDCP management command. [Y] is for input (value: I) or output (value: O); [X] is the number of the port, if the value of X is ALL, it means all ports; [Z] is for HDCP compliant status, the value may be 1 (HDCP compliant) or 0 (not HDCP compliant). | /%[Y]/[X]:[Z]. | /%[Y]/[X]:[Z].
Enable HDMI audio output of port x. X=1, 2, 3, 4, enable this port. X=5, enable all the 4 ports. | DigitAudioON[x]. | DigitAudio ON with [x]
Disable HDMI audio output of port x. | DigitAudioOFF[x]. | DigitAudio OFF with
Input port [y] learns the EDID from output port [x]. | EDIDH[x]B[y]. | EDIDH[x]B[y]
Set the audio part of input port [x] to PCM format in EDID database. | EDIDPCM[x]. | EDIDPCM[x]
Get EDID data from output [x] and display the output port number. | EDIDG[x]. | Hexadecimal EDID data and carriage return character
Restore the factory default EDID data of every input. | EDIDMInit. | EDIDMInit.
Manually EDID switching. Enable input[Y] to learn the EDID data of output[X]. If the EDID data is not available, then set it as initialized EDID data. | EDIDM[X]B[Y]. | EDIDM[X]B[Y]
<table>
<thead>
<tr>
<th>Description</th>
<th>Command Example</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reset to factory default.</td>
<td>%0911</td>
<td>Factory Default</td>
</tr>
<tr>
<td>Check the command sent by port 1 when PWON.</td>
<td>%9951</td>
<td>Port 1: data when PWON</td>
</tr>
<tr>
<td>Check the command sent by port 2 when PWON.</td>
<td>%9952</td>
<td>Port 2: data when PWON</td>
</tr>
<tr>
<td>Check the command sent by port 3 when PWON.</td>
<td>%9953</td>
<td>Port 3: data when PWON</td>
</tr>
<tr>
<td>Check the command sent by port 4 when PWON.</td>
<td>%9954</td>
<td>Port 4: data when PWON</td>
</tr>
<tr>
<td>Check the command sent by port 1 when PWOFF.</td>
<td>%9955</td>
<td>Port 2: data when PWOFF</td>
</tr>
<tr>
<td>Check the command sent by port 2 when PWOFF.</td>
<td>%9956</td>
<td>Port 3: data when PWOFF</td>
</tr>
<tr>
<td>Check the command sent by port 3 when PWOFF.</td>
<td>%9957</td>
<td>Port 4: data when PWOFF</td>
</tr>
<tr>
<td>Check the command sent by port 4 when PWOFF.</td>
<td>%9958</td>
<td></td>
</tr>
<tr>
<td>Check the system locking status.</td>
<td>%9961</td>
<td>System Locked/ Unlock!</td>
</tr>
<tr>
<td>Check the power status</td>
<td>%9962</td>
<td>STANDBY/PWOFF/ PWON</td>
</tr>
<tr>
<td>Check the working mode of infrared carrier.</td>
<td>%9963</td>
<td>Carrier native/ Force carrier</td>
</tr>
<tr>
<td>Check the IP address.</td>
<td>%9964</td>
<td>IP:192.168.0.178 (default)</td>
</tr>
<tr>
<td>Check the connection status of the inputs.</td>
<td>%9971</td>
<td>In 01 02 03 04 Connect Y Y Y Y</td>
</tr>
<tr>
<td>Check the connection status of the outputs.</td>
<td>%9972</td>
<td>Out 01 02 03 04 Connect Y Y Y Y</td>
</tr>
<tr>
<td>Check the HDCP status of the inputs.</td>
<td>%9973</td>
<td>In 1 2 3 4 HDCP N N N N</td>
</tr>
<tr>
<td>Check the I/O connection status.</td>
<td>%9975</td>
<td>Out 01 02 03 04 In 04 04 04 04</td>
</tr>
<tr>
<td>Check the output resolution.</td>
<td>%9976</td>
<td>Out 1 1920x1080 Out 2 1920x1080 Out 3 1920x1080 Out 4 1920x1080</td>
</tr>
<tr>
<td>Check the status of digital audio of output channels.</td>
<td>%9977</td>
<td>Out 1 2 3 4 Audio Y Y Y Y</td>
</tr>
<tr>
<td>Check the HDCP compliant status of the inputs.</td>
<td>%9978</td>
<td>In 01 02 03 04 HDCPEN Y Y Y Y</td>
</tr>
<tr>
<td>Lock the channel [x], X=1~4</td>
<td>I-Lock[X]</td>
<td>Channel[x] Lock!</td>
</tr>
<tr>
<td>Unlock the channel [x], X=1~4</td>
<td>I-UnLock[X]</td>
<td>Channel[x] Unlock!</td>
</tr>
<tr>
<td>Lock all channels</td>
<td>A-Lock</td>
<td>All Channel Lock!</td>
</tr>
<tr>
<td>Unlock all channels</td>
<td>A-UnLock</td>
<td>All Channel Unlock!</td>
</tr>
<tr>
<td>Check the lock status of all channels.</td>
<td>Lock-Sta</td>
<td>Channel 1-&gt;1 Lock!</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Channel 2-&gt;1 Unlock!</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.....</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.....</td>
</tr>
</tbody>
</table>
# Troubleshooting

**Loss of color or no video signal output**
- Check whether the cables are connected correctly and in working condition.
- Swap HDMI cables.
- Test the source device directly to display/projector.
- Test with another source.
- Test different input or output of the matrix switcher.

**Cannot control the device via front panel buttons**
- Send command /%Unlock; or select unlock in GUI interface to unlock.

**Cannot control the device via IR remote**
- Replace remote battery with new one.
- Adjust the distance, angle and point right at the IR receiver.

**Cannot control the matrix by control device (e.g. a PC) through RS232 port**
- Type in correct RS232 communication parameters: Baud rate: 9600; Data bit: 8; Stop bit: 1; Parity bit: none.
- Check to ensure the connection between the control device and the unit are correct.

**Static becomes stronger when connecting the video connectors**
- Check the grounding and make sure it is connected well.
# DL-44E-KIT Technical Specifications

## Video Input
- **Input**: 4 HDMI
- **Input Connector**: Female HDMI
- **Input Level**: T.M.D.S. 2.9V~3.3V
- **Input Impedance**: 100Ω (Differential)
- **HDMI Standard**: Support HDMI1.4 & HDCP2.2 and is backward compatible with all previous standards.

## Video Output
- **Output**: 1 HDMI – 3 HDBaseT
- **Output Connector**: Female HDMI
- **Output Connector**: Female RJ45(with LED indicators)
- **Output Level**: T.M.D.S. 2.9V~3.3V
- **Output Impedance**: 100Ω (Differential)
- **HDMI Standard**: Support HDMI1.4 & HDCP1.4 and is backward compatible with all previous standards.

## Video general
- **Video Signal**: HDMI (or DVI-D)
- **Transmission Distance**: 1080P@60Hz ≤70m
  4Kx2K@60Hz ≤40m
- **Resolution Range**: Up to 4Kx2K@60Hz
- **EDID Management**: In-built EDID data and manual EDID management
- **Gain**: 0 dB
- **Bandwidth**: 10.2Gbit/s
- **Switching Speed**: 200ns (Max.)

## Audio general
- **Output Signal**: Stereo audio
- **Analog Audio Output**: Support PCM
- **Digital Audio Output**: Supports PCM Dolby DTS DTS-HD
- **Frequency Response**: 20Hz~20KHz
- **Output Connector**: 1 L&R(RCA)
  1 SPDIF

## Control Parts
- **Control Ports**: 4 IR OUT
- **Control Ports**: 3 IR IN
- **Control Ports**: 1 IR EYE
- **Control Ports**: 1 TCP/IP (female RJ45)
- **Control Ports**: 1 RS232 (3-pin pluggable terminal block)
- **Panel Control**: Front panel buttons
- **RS232 Control**: 3-pin pluggable terminal block
- **IR**: Extended IR receiver
- **TCP/IP Control**: Web-based GUI

## General
- **Power Supply**: Input: 100-240V~, 50/60Hz
  Output: DC 24V 2.71A
- **Power Consumption**: 35W (Max)
- **Temperature**: 0 ~ +50
- **Reference Humidity**: 10% ~ 90%
- **Dimension (W*H*D)**: 360mm x 28mm x 150 mm
- **Net weight**: 910g

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.
# DL-HD70LS-RX Technical Specifications

<table>
<thead>
<tr>
<th>Supported Audio and Video</th>
<th></th>
</tr>
</thead>
</table>
| Maximum Video Compatibility | 70 m: Deep Color 36/30/24 Bit at 1080p  
40 m: Deep Color 48 Bit at 1080p, 3D, and 4k x 2k (UHD) |
| Video Compliance | HDMI, HDCP, and CEC (Consumer Electronics Control) |
| Embedded Audio | Up to PCM 8 channel, Dolby Digital TrueHD, and DTS-HD Master Audio |
| IR Carrier Frequency Range | 33-55kHz at 5 volts |

<table>
<thead>
<tr>
<th>HDBaseT Signal Characteristics</th>
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</thead>
<tbody>
<tr>
<td>Maximum Distance</td>
<td>70 m</td>
</tr>
<tr>
<td>Cable Requirements</td>
<td>Solid core shielded Category 5e, Category 6 or greater with TIA/EIA-568B crimp pattern</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>10.2 Gbps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chassis and Environmental</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>18 mm x 120 mm x 74 mm (0.71 in x 4.72 in x 2.91 in)</td>
</tr>
<tr>
<td>Operating Temperature (Environment)</td>
<td>0° to +40° C (+32° to +104° F)</td>
</tr>
<tr>
<td>Operating Temperature (Chassis)</td>
<td>31° C (88° F) (S); 38° C (100° F) (R)</td>
</tr>
<tr>
<td>Operating Humidity (Environment)</td>
<td>20% to 90%, Non-condensing</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Power</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Maximum Power Consumption</td>
<td>12 watts</td>
</tr>
<tr>
<td>Power Supply Input Voltage</td>
<td>100-240V AC at 50-60 Hz</td>
</tr>
<tr>
<td>Power Supply Output Voltage</td>
<td>12V DC</td>
</tr>
<tr>
<td>Regulatory</td>
<td>CE, RoHS</td>
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</tbody>
</table>

<table>
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<tr>
<th>Other</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Standard Warranty</td>
<td>2 Years</td>
</tr>
<tr>
<td>Included Items</td>
<td>Installation Guide, Power Supply, Adapter Plugs (US, EU, AU, UK), Mounting Brackets (4 ea), Mounting Screws (4 ea)</td>
</tr>
<tr>
<td>IR Transmitter (Sold Separately)</td>
<td>DIGIB-EMT</td>
</tr>
<tr>
<td>IR Receiver (Sold Separately)</td>
<td>DIGIB-EYE, IR-AC</td>
</tr>
</tbody>
</table>

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.
Thank you for your purchase.

Please contact us with your questions and comments.

11675 Ridgeline Drive
Colorado Springs, Colorado
80921 USA

Phone: 719-260-0061
Fax: 719-260-0075
Toll-Free: 800-530-8998

www.libav.com

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