

# PARTILINK

## User manual

**P2K-HL3E1    1080p HDMI Extender over IP**

**P2K-HL3E1-P    1080p HDMI Extender over IP with PoE**



P2K-HRSL3E1 / P2K-LHRS1E3  
P2K-HRSL3E1-P / P2K-LHRS1E3-P



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# 1. Introduction

HDMI over IP Extender is made for point to point, point to multi-point, multi- point to multi-point and screen wall broadcast including RS-232 and IR control extension. Easy to install and with networking 10/100 BASE-T switch hub as well as CAT-5 cable for building up the extension or broadcast system.



\*\*\* P2K-HL3E1-P supports power over Ethernet

## 2. Features & Application

- RS-232 bi-directional extension
- 6 bits switch for 64 stream channel selection
- HDCP compliant and Blu-Ray ready
- Supports IR extension
- Automatic or manual EDID configuration
- Networking environment under 10/100 BASE-T Switch hub and CAT-5 cable
- Point to point extension, unicast, multicast and screen wall system
- Point to point extension via CATx without Ethernet switch up to 100M
- Supports PC tool Ethernet control
- Power over Ethernet version is provided (P2K-HL3E1-P).

### 3. Specifications

P2K-HRSL3E1 P2K-HRSL3E1-P 1080p HDMI Extender over IP	P2K-HRSL3E1 P2K-HRSL3E1-P Transmitter	P2K-LHRS1E3 P2K-LHRS1E3-P Receiver
VIDEO INPUT	HDMI Type-A female connector	None
VIDEO OUTPUT	HDMI Type-A female connector for loop through	HDMI Type-A female connector
IR	3.5mm phone jack for IR emitter to control video source device	3.5mm phone jack for IR receiver cable to receive remote signal
COMPRESSION	H.264 compression video format Full HD encoder/ decoder MP3 compression audio format stereo 192Kbps encoder/ decoder Media stream up to 18Mbps	
HDMI INPUT RESOLUTION	1080p 60/50, 1080p 30/25, 1080i 60/50, 720p 60/50, 480i 60/50, 480p 60/50	
HDMI OUTPUT RESOLUTION	1080p 60/50, 1080i 60/50, 720p 60/50, 480i 60/50, 480p 60/50	
AUDIO FORMAT	Stereo 192Kbps	
IP PROTOCOL	TCP, UDP, RTP, DHCP, IGMP, Multicast, IPV4	
LAN PORT	RJ-45 connector for 10/100 BASE-T CAT-5 extension	
SERIAL	DB-9 female connector for RS-232	
POWER INPUT	2.0mm power jack for DC5V/2A RJ-45, Power over Ethernet 36V-57V / 7W in (PoE model only)	
OPERATING TEMPERATURE	0~55°C	
OPERATING HUMIDITY	5%-90% RH	
POWER ADAPTER	AC in 100-240V (50-60Hz), DC5V/2A out	
ESD	ESD protection air gap discharge $\pm 8KV$ , contact discharged $\pm 4KV$	
DIMENSION (W x D x L)	130 x 82 x 30.25 mm ( L x W x H )	
WEIGHT	290g per transmitter or receiver unit	

\*\* Product specifications are subject to change without notice.

### 4. Hardware Description

## ■ P2K-HRSL3E1 /P2K-HRSL3E1-P (TX)



1. 2.0 mm power jack for DC5V2A power input.
2. LAN port, RJ-45 connector for 10/100 BASE-T CAT5 extension.
3. HDMI Type-A female connector for loop through video output.
4. HDMI Type-A female input connector.
5. 3.5mm phone jack for IR emitter to control video source device.
6. DB-9 female connector for RS-232 cable bi-directional remote extension
7. Display group indication.
8. Group configuration, 6 bits switch for 64 stream channel selection.

## 9. Reset button.

Channel	DIP SWITCH
	
00	000000
01	100000
~	~
63	111111



Dimension

<b>Transmitter</b>	<b>P2K-HRSL3E1 P2K-HRSL3E1-P</b>
<b>Shell</b>	<b>Metal</b>
<b>Width</b>	<b>110mm/130mm</b>
<b>Height</b>	<b>30mm</b>
<b>Depth</b>	<b>86mm</b>
<b>Weight</b>	<b>290g</b>

## ■ P2K-LHRS1E3 /P2K-LHRS1E3 –P (RX)



1. 2.0 mm power jack for DC5V2A power input.
2. LAN port, RJ-45 connector for 10/100 BASE-T CAT5 extension.
3. HDMI Type-A female connector for video output.
4. 3.5mm phone jack for IR receiver cable to receive signal from remote controller.
5. DB-9 female connector for RS-232 bi-directional remote extension.
6. Display group indication.
7. Group configuration, 6 bits switch for 64 stream channel selection.

## 8. Reset button.

Channel	DIP SWITCH
	
00	000000
01	100000
~	~
63	111111



## 9. Dimension

<b>Receiver</b>	<b>P2K-LHRS1E3 P2K-LHRS1E3-P</b>
<b>Shell</b>	<b>Metal</b>
<b>Width</b>	<b>110mm/130mm</b>
<b>Height</b>	<b>30mm</b>
<b>Depth</b>	<b>86mm</b>
<b>Weight</b>	<b>290g</b>

## 5. Installation

### 5.1 Device Connection

1. Set up the group of transmitters with the correspondent receivers for signal extension and display.
2. Connect between the Sources and transmitters, the Displays and receivers with HDMI cables.
3. Connect CAT-5 cables with transmitters to the Ethernet Switch inputs, and CAT-5 cables with receivers to the Ethernet Switch outputs.
4. Powering the transmitters and receivers with DC5V power adapter.
5. Turn the Source on and hit play button.
6. Connect the IR emitter cable with transmitters and the IR receiver cable with the receiver to control the Source remotely.



## 5.2 Configuration

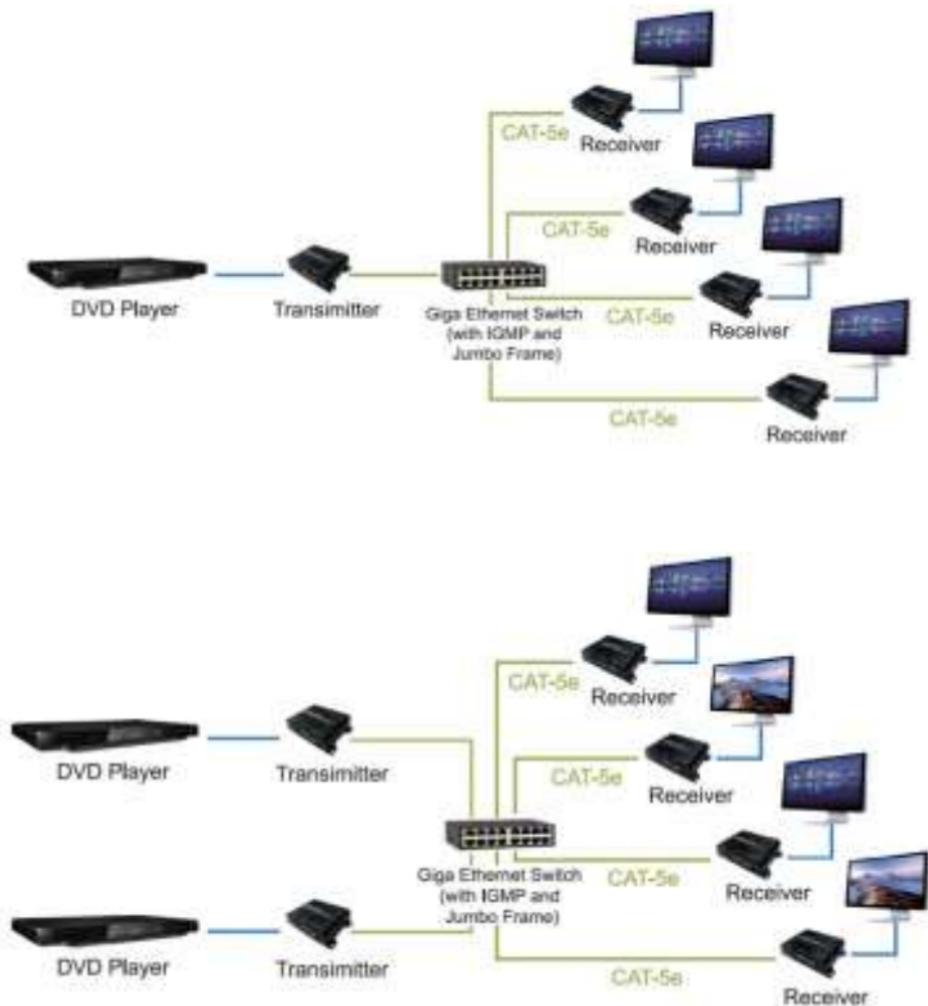


## 5.3 Application Pattern

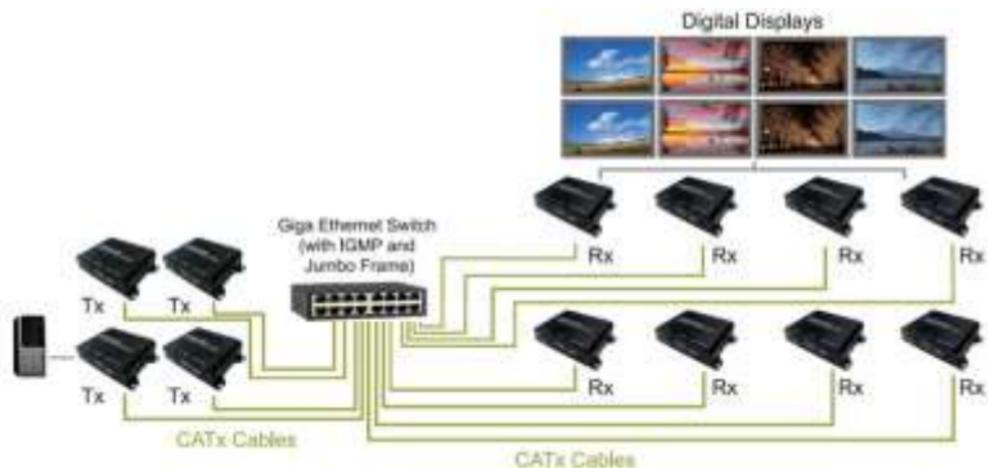
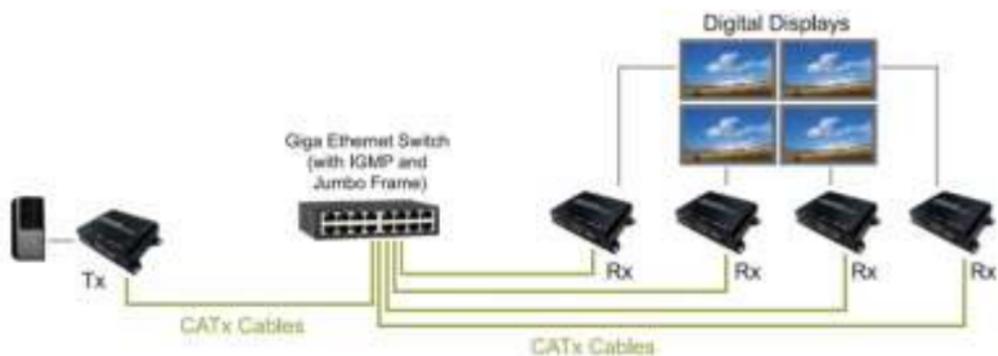
### ■ Unicast



## ■ Multicast



## ■ Screen Wall



## 5.4 PC Tool Setup and Control

The P2K-HL3E1 / P2K-HL3E1-P is a Ethernet based system, administrator can control the system by PC via the PC tool "IPTV\_Control\_Center.exe" to set up and control the system.

※To inquire about the software, visit Partilink website to download the PC tool or simply contact us by email.

**Download Site: "Technical Service"**

<http://www.partilink.com/index.php/en/download-2>

**Service Email: [sales@partilink.com](mailto:sales@partilink.com)**

1. The default IP address of the P2K-HRSL3E1 / P2K-HRSL3E1-P is B class Networking :168.254.xxx.xxx, please set up the IP address of the connected PC as static IP, such as 169.254.xxx.xxx and the sub mask as 255.255.0.0.



2. Connect the PC with the Ethernet Switch of application site to enter.



3. Activate the tool "IPTV\_Control\_Center.exe" to search and setup.



4. Enter the tool in “Device Scan Page” and click on “Start Scan” to search for the connected devices. The connected devices will be indicated in “Output Window” area. (Illustration [1] [2])



5. Adjust transmitter settings in “TX Setup Page”



and receiver settings in “RX Setup Page”.  
(Illustration [3])

## 6. TRANSMITTER SETTINGS

In the “TX Setup Page”, please select the TX device which is required to setup on the “TX Device Selection” and the relevant setting information of the selected TX device will be shown in the “TX Device Info” area (Illustration [4] [5])



The setting functions of the transmitter clarified below, please set up based on the request of the application site.

- **IP Setup:**

Setting the static IP of the selected TX. \*\*We suggest activating the DHCP automatic IP assignment to avoid the conflicts of IP address. (Illustration [6])

- **Video Bitrate:**

Setting the resolution's video bitrate of each group on the selected TX (Illustration [7])

- **Down Scale Setup:**

Set the resolution downscale of each group on the selected TX. (Illustration [8])

- **Group ID:**

Set the selected TX group ID, with maximum up to 64 groups from 0 to 63. (Illustration [9])

- **UART Baudrate:**  
Set the baud rate of RS-232 extension on the selected TX. (Illustration **[10]**)
  
- **Stream Output Path:**  
Set the selected TX video output path.  
Options include “Loophrough and Network Output”, “Disable Network Output”, “Disable Loophrough Output” and “Disable All Video Output” to activate the HDMI output on the transmitter and receiver simultaneously or separately. (Illustration **[11]**)
  
- **MAC Address:**  
Set the selected TX MAC address with 12 digits and hexadecimal base, values is limited to 0~F. Please use legal MAC address to avoid conflict with other devices. (Illustration **[12]**)

- **Device Name:**

Set the selected TX name for identification. Up to 32 digits is accepted for device name setting. (Illustration [13])



## 7. RECEIVER SETING

In the “RX Setup Page”, please select RX device which is required to setup on the “RX Device Selection” and the relevant setting information of selected RX device will be shown in “RX Device Info” section (Illustration [14] and [15])



The setting functions of the receiver clarified below, please set up based follow the request of the application site.

- **IP Setup:**

Set the static IP of the selected RX(Illustration [16])

- **Screen Mode:**

Choose whether to display the video on the selected RX or not. (Illustration [17])

- **OSD Information:**

Set the OSD display mode on the selected RX, OSD display modes including “Info Display Auto Mode”, “Infor Display On Mode” and “Info Display Off Mode”. (Illustration [18])

- **UART Baudrate:**

Set the baud rate of RS-232 extension on the selected RX. (Illustration [19])

- **MAC Address:**

Set the selected RX MAC address with 12

digits and hexadecimal base, values is limited to 0~F. Please use the legal MAC address to avoid conflicts with the devices. (Illustration [20])

- **Group ID:**

Set the selected RX to the group ID for streaming between the corresponding TX and RX, maximum up to 64 groups from 0 to 63 (Illustration [21])

- **Device name:** Set the selected RX name for identification. Up to 32 digits is accepted for the device name setting. (Illustration [22])



8.

**NOTICE:**

Please Reboot the device after setting up the P2K-HL3E1 system via the PC tool and the previous setting via hardware or software will be ignored, the system will auto detect to update the latest setting and apply as the start mode. (Illustration **[23]** and **[24]**)



9. When the system is setting incompletely, click on “Factory Reset” to recover the initial default of the system. (Illustration [25])



10. The P2K-HL3E1 / P2K-HL3E1-P system can be firmware upgraded via PC. To upgrade the firmware please click on “Firmware Upgrade” and select the path to save the firmware and click on “Upgrade TX Firmware” to accomplish upgrade version. (Illustration [26] and [27])



## 6. Web User Interface Configuration

### 6.1 TX System

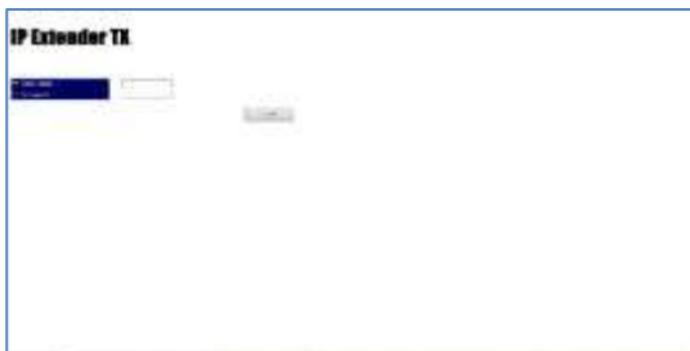
#### 6.1.1 TX Log-in

Log-in page will pop up when entering TX system

- **Default User Name and Password:**

User Name: ite000

Password: 123456



- Update User Name and Password System provides 1 set user name and password. If user doesn't want user default, please put preferred User Name and Password as follows. Then hit "Confirm" to change user name and password.



### 6.1.2 Version Information

Below shows firmware information and network setting of TX



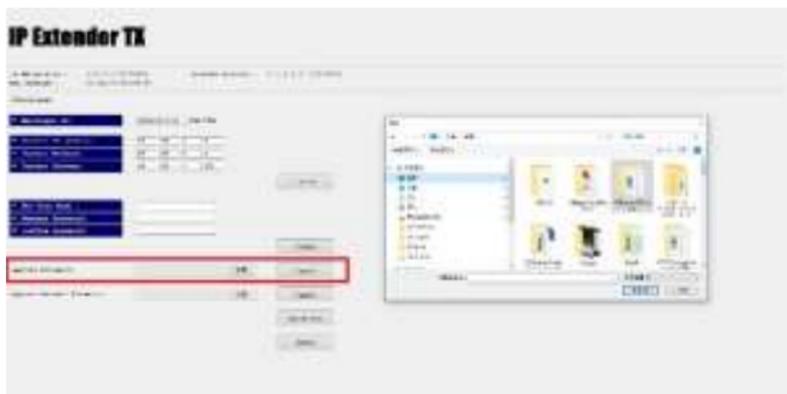
Note: Please also set TX and all RXs in the same group by setting DIP SWITCH.



### 6.1.3 Multicast

To support several more than one RX enable “Multicast” for multicast function. (see below)





### 6.1.5 Reset

- **Encoder Reset:** To reboot Encoder simply click on “Encoder Reset” button.



- **Reboot Device:** To reboot whole device please click on “Reboot” button.



## 6.2 RX System

### 6.2.1 RX Log-in

Log-in page will pop up when entering RX system

- **Default User Name and Password:**  
User Name: admin  
Password: 123456



## 6.2.2 Upgrade firmware

Please download firmware from Partilink website and put it in a local folder.

Download Site: "Technical Service"

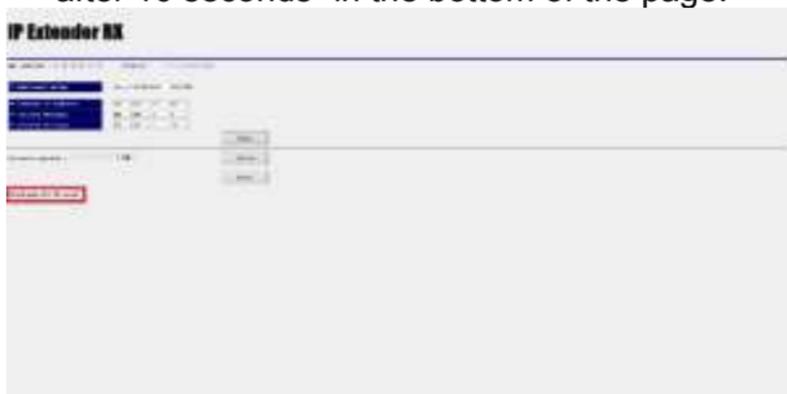
<http://www.partilink.com/index.php/en/download-2>

To upgrade firmware please hit "Upgrade" under "Upgrade Firmware". Please choose the location of firmware file. Hit "Upgrade" again to load firmware and the system will start firmware upgrade automatically.



### 6.2.3 Reboot

To reboot the device please click on “Reboot” button. It will show message as “Reload page after 10 seconds” in the bottom of the page.



## 7. Package Contents

1. HRSL3E1 / HRSL3E1-P HDMI Extender over IP transmitter (1)
2. LHR3E1 / LHR3E1-P HDMI extender over IP receiver (1)
3. DC5V 2A power adapter, one comes with transmitter and one comes with receiver (2)
4. IR receiver cable comes with receiver (1)
5. IR emitter cable comes with transmitter (1)
6. User manual (1)



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