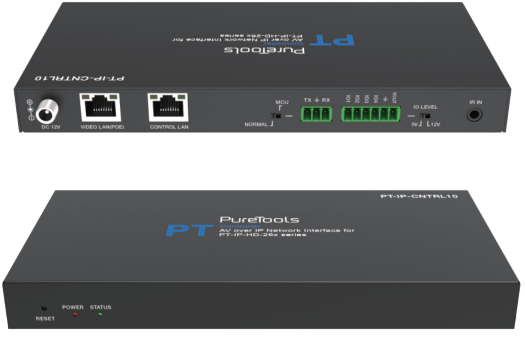
PureTools



User Manual

AV over IP Network Interface for PT-IP-HD-26x Series

Model PT-IP-CNTRL10

Designed in Germany

V1.0

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Preface

Read this user manual carefully before using this product. Pictures shown in this manual are for reference only. Different model layouts and specifications are subject to the physical product.

This manual is for operation instructions only, not for any maintenance usage.

In the constant effort to improve our product, we reserve the right to make changes in functions or parameters without prior notice or obligation.

Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior writ ten consent.

FCC Statement

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. It 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 commercial installation.

Operation of this equipment in a residential areais likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture wouldvoid the user's authority to operate the equipment.

REACH | 1907/2006/EU

ROHS | 2011/65/EU

PureLink hereby declares that this product **PureTools PT-IP-CNTRL10** complies with Directives 1907/2006/EU und 2011/65/EU.

EMC / LVD (Electro Magnetic Compatibility / Low Voltage Directive)

PureLink GmbH hereby declares that this product **PureTools PT- IP-CNTRL10** complies with Directives 2014/30/EU and 2014/35/EU. The full text of the EU Declaration of Conformity is available at the following Internet address:

http://www.purelink.de/ce/4251364736197_CE.pdf

SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructionscarefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire,electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result infire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleanersto clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them asnormal electrical wastes.

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1. Product Introduction

1.1 Introduction

This Video over IP Controller is used to control and manage H.264/H.265 IP products. It supports dual 100M network ports, which can realize dual network isolation of Control network and Multicast video distribution network. Built-in Web GUI, TCP and RS-232 control are supported. It supports POE function and wide-band 12V IR signal receiving. Since the demand of IP products is daily increased in the current market, the IP Controller will be widely applied in more and more different scenarios.

1.2 Features

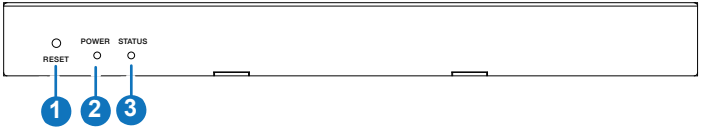
- Easy to create project, control and manage the system
- SSH security compatible
- Built-in Web GUI control interface, supporting Drag & Drop operations
- Supports image preview
- Supports video, audio, RS-232, IR, KVM control and management of the distributed system
- Dual network ports (VIDEO LAN port supports POE function) to isolate Controls and Multicast networks.
- Supports LAN/RS-232 port control and third-party central control
- Supports IR signal receiving (3.5mm audio jack, 12V level)
- 4 channel GPIO control ports (5V/12V optional level)
- Multiple circuits protection, lightning protection and ESD design
- Reliable system design, ensuring 7*24 hours reliable and stable work

1.3 Package List

- 1 x Video over IP Controller
- 1 x 20kHz-60kHz 12V IR Receiver Cable (1.5 meters)
- 1 x 3-pin 3.81mm Phoenix Connector (Male)
- 1 x 6-pin 3.81mm Phoenix Connector (Male)
- 2 x Mounting Ears
- 4 x Machine Screws (KM3*6)
- 1 x 12V/1A Locking Power Adapter
- 1 x User Manual

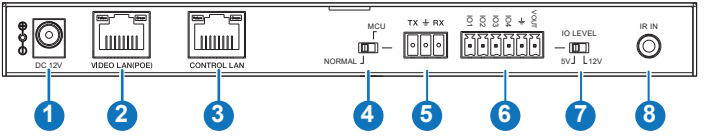
2. Panel Description

2.1 Front Panel



No.	Name	Description
1	RESET Button	Press and hold this button (about 10 seconds) until Status LED starts flashing, Controller will be reset automatically.
2	POWER LED	The red LED will light on when the Controller is powered on.
3	STATUS LED	The status LED will flash in yellowish-green every 1 second until Controller boots up completely and Control LAN is ready, then it becomes solid.

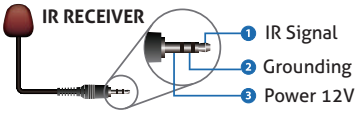
2.2 Decoder Panel



No.	Name	Description
1	DC 12V	DC 12V/1A power input port.
2	VIDEO LAN (POE)	100M Video LAN port, supporting POE function. Note: When POE is enabled, DC 12V/1A power supply is not required.
3	CONTROL LAN	The TCP/IP control network port.
4	MCU/Normal DIP Switch	**Normal mode (Default):** The RS-232 port is used for serial port commands control. **MCU mode:** The RS-232 port is used for MCU software upgrade.
5	3-pin Phoenix Connector	RS-232 serial communication port.
6	6-pin Phoenix Connector	4 channel I/O level outputs, 1 channel grounding, 1 channel power supply to the outside.
7	IO LEVEL DIP Switch	Used to control I/O level output and VOUT voltage. Switch to left: 5V I/O level output, VOUT is 5V. Switch to right: 12V I/O level output, VOUT is 12V.
8	IR IN	12V IR signal input port.

2.3 IR Pin Definition

IR RECEIVER



3. Specification

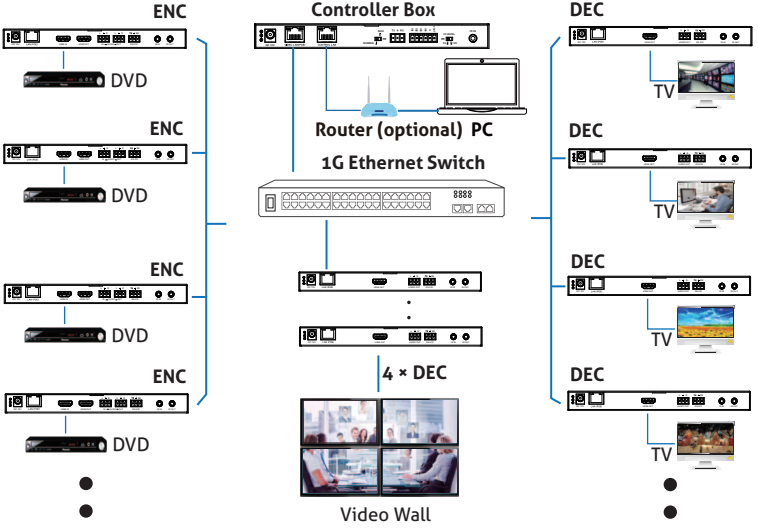
Technical	
Network Bandwidth	100M
Transmission Distance	100m CAT 5E/6/6A/7
Control Ports	2 x 100M LAN [RJ45 connector] [VIDEO LAN support POE] 1 x IR IN [3.5mm audio jack, 12V level] 1 x DIGITAL I/O [6-pin 3.81mm phoenix connector] 1 x RS-232 [3-pin 3.81mm phoenix connector]
Dimensions	204mm(W)×98mm(D)×21mm(H)
Housing	Metal Enclosure
Color	Black
Weight	509g
Power Supply	12V/1A
Power Consumption	4.5W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

4. System Diagram

Usage Precaution

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

The following diagrams illustrate typical input and output connections that can be utilized with this product:



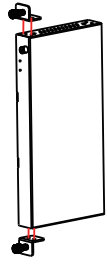
Notes:
(1) For the default IP mode of Control LAN port of the Controller Box is DHCP, the PC also needs to be set to "Obtain an IP address automatically" mode, and an optional DHCP server (e.g. network router) is recommended in the system.
(2) If there is no DHCP server in the system, 192.168.0.225 will be used as the IP address of Control LAN port. You need to set the IP address of the PC to be in the same network segment. For example, set PC's IP address as 192.168.0.88.
(3) You can access the Web GUI by inputting URL "http://controller.local" or the Control LAN port IP address 192.168.0.225 (in case of no optional Router) on your computer's browser.
(4) No need to care about settings of Video LAN port of the Controller Box, as they are managed by Controller automatically (Default).
(5) When the Network Switch does not support POE, the Encoder, Decoder and Controller Box should be powered by DC power adpter.

5. Rack Mounting Instruction

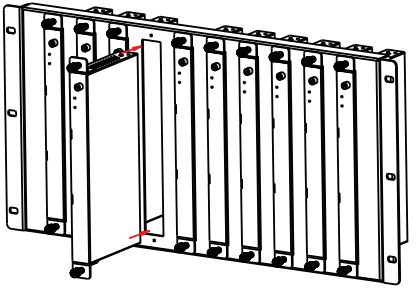
5.1 6U Rack Mounting

This product can be mounted in a standard 6U rack (Please contact your supplier for 6U rack sale). The mounting steps are as follows:

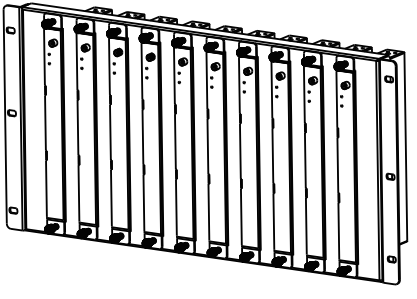
Step 1: Use included screws to fix two mounting ears on the product, as shown in the figure below:



Step 2: Insert the product with mounting ears into a 6U rack (up to 10 units can be installed vertically), as shown in the figure below:



Step 3: Use screws to fix mounting ears on the rack to complete the mounting, as shown in the figure below:

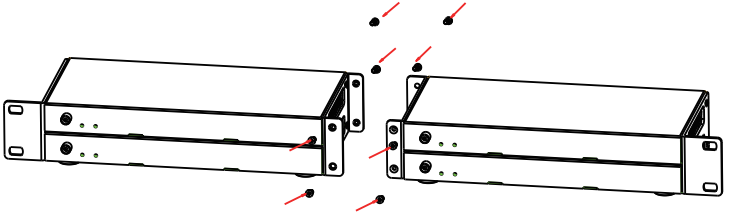


5.2 1U Rack Mounting

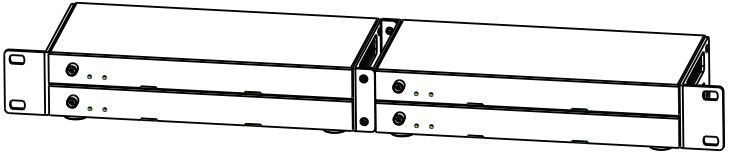
This product also can be mounted in a standard 1U rack (up to 4 units can be installed horizontally). The mounting steps are as follows:

Step 1: Stack two products on top of each other, then use included screws to fix two 1U rack panels on the products, as shown in the figure below:

Step 2: Fix two 1U rack panels on another two stacked products in the same way, then use screws to fix two 1U rack panels together, as shown in the figure below:



Step 3: Fasten screws between two 1U rack panels, so that four products are mounted in a 1U rack, as shown in the figure below:

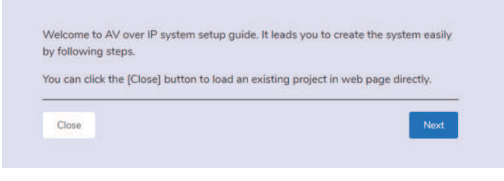


6. Web GUI User Guide

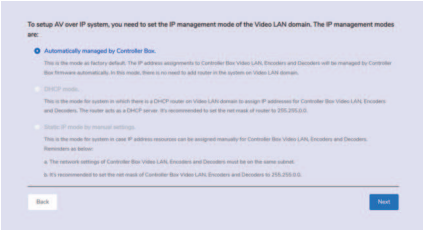
6.1 Preparation before Entering the System

You can use the built-in Web GUI to control all IP products at the Switch.
The operation method is shown as below.
Step 1: Input the Controller's default IP address (192.168.0.225) or the URL (http://controller.local) into the Web browser address bar on the PC to enter the Web GUI login interface.

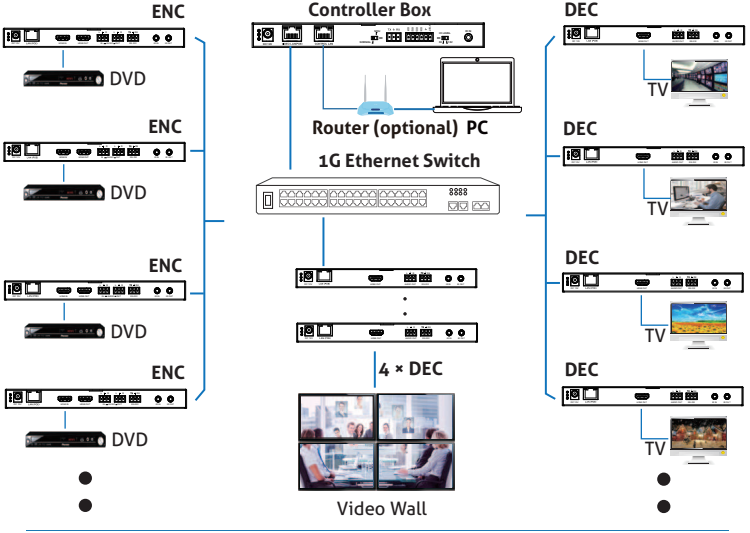
Select the initial username (admin) and input the initial password (1234) on the above login interface. Then, click "Login" to enter the Web GUI interface.
For the first time, you need to setup the project, as shown in the following figure:



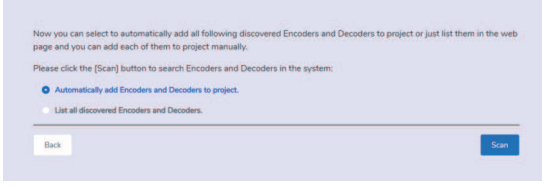
Step 2: Click the "Close" button to load an existing project in web page directly, or click "Next" button to go to the next step.



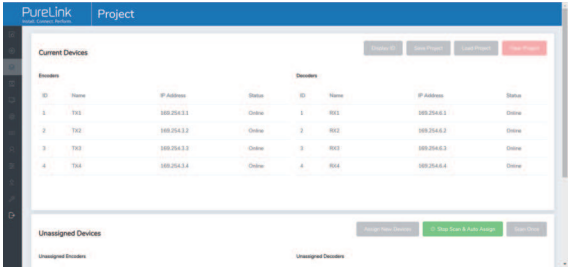
Step 3: Select "Automatically managed by Controller Box" as the IP mode of Video LAN. (The other two modes are reserved items and are not currently available.) Then, please connect all the devices according to the following diagram.



Step 4: Click the "Next" button and wait for the completion to enter the interface as shown in the figure below.

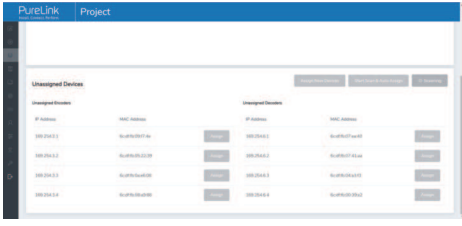


▪ If you select "Automatically add Encoders and Decoders to project", and click the "Scan" button to enter the Project page. All the connected devices will be listed in the Current Devices list.

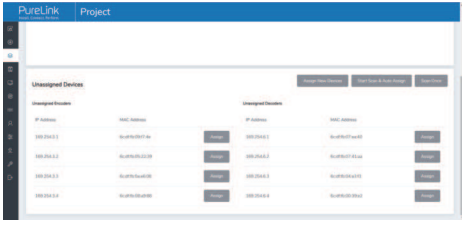


Then click "Start Scan & Auto Assign" to stop search.

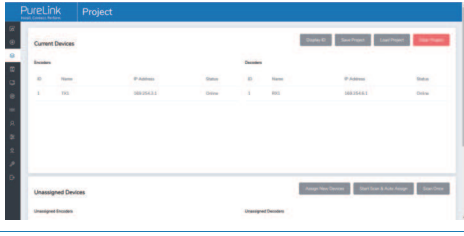
▪ If you select "List all discovered Encoders and Decoders", and click the "Scan" button to enter the Project page. All the connected devices will be listed in the Unassigned Devices list.



After scanning is complete, the "Assign" buttons behind Unassigned Encoders and Unassigned Decoders in the figure below will become operable.



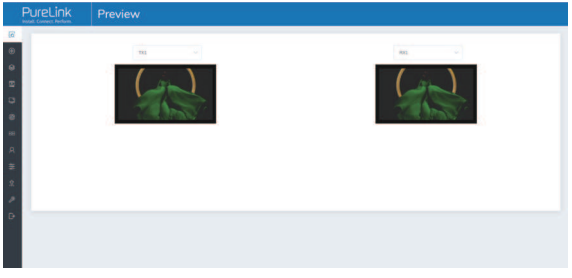
At this time, you can click the "Assign" button behind each unregistered Encoder or Decoder to add the device to the project one by one.
Encoders and Decoders that have been added to the project will appear in the Current Devices list, as shown in the figure below.



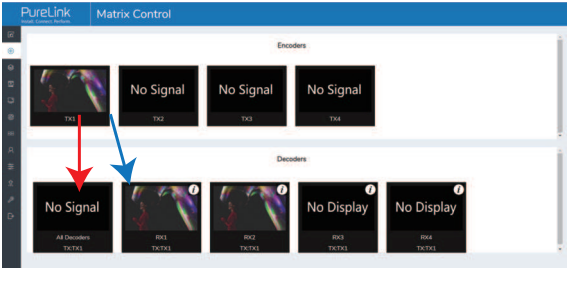
6.2 Functions and Operation

■ Preview Page

On this page, you can preview the Encoder/Decoder by clicking the drop down list on the right side.



■ Matrix Control Page



① **Encoders:** Display all the current Encoders. The text in the figure is the name of the device.

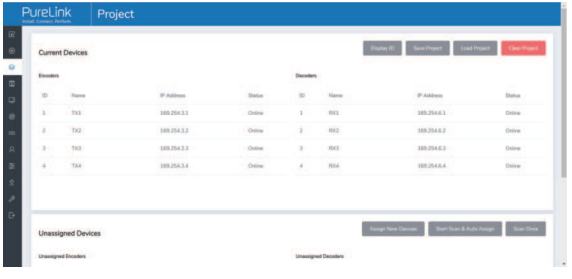
② **Decoders:** Display all the current Decoders. The text on the first line is the name of the Decoder, and the text on the second line refers to the Encoder where the signal resource is from.

Operating Instructions:

(1) If an Encoder shows "No Signal", it means that the Encoder cannot be dragged.

(2) If there is an image on an Encoder, it means that the Encoder can be dragged. As shown in the figure above, if an Encoder is dragged to the place where the red arrow points to, all Decoders will share the same signal resource from this Encoder; if an Encoder is dragged to the place where the blue arrow points to, only the indicated Decoder can receive signals from this Encoder.

■ Project Page



① **Current Devices:** Devices that have been added to the current project.

② **Unassigned Devices:** Devices not added to the current project.

Operating Instructions:

(1) Click "Display ID" to display the ID number of the Decoders.

(2) Click "IP Address" to switch to the corresponding device Web page.

(3) Click "Save Project" to save the project file (config_file.json), so that you can use the saved project next time without scanning devices again.

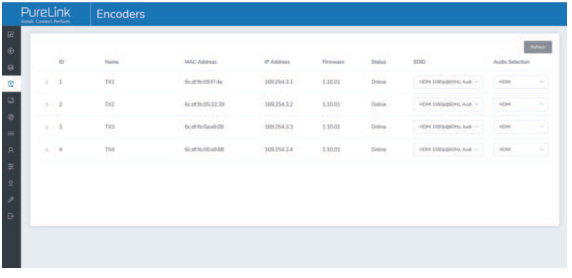
(4) Click "Load Project" to load the existing project in web page directly.

(5) Click "Clear Project" to clear the current project, then you will need to setup devices again.

(6) Click "Start Scan & Auto Assign" to search devices that do not appear in the current project; Click again to stop searching.

(7) Click "Assign New Devices" to search new devices automatically and add to the current project.

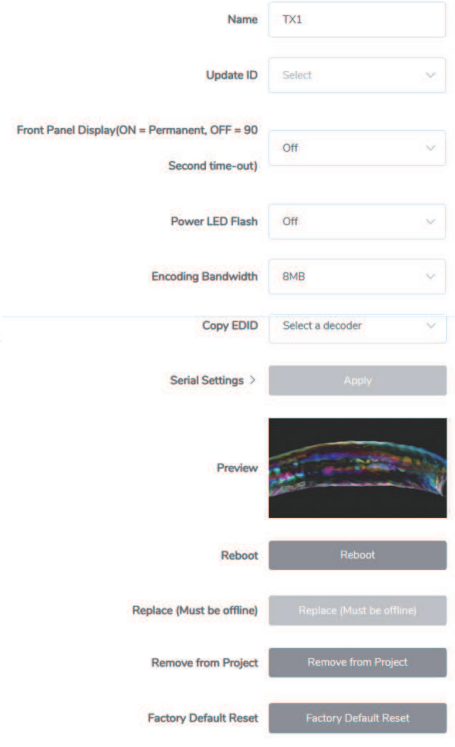
■ Encoders Page



① **ID:** The ID of the current device. (Note: ID is not duplicated.)
② **Name:** The name of the current device. (Note: Name is not duplicated.)
③ **MAC Address:** The MAC Address of the current device.
④ **IP Address:** The IP Address of the current device. Clicking "IP Address" can switch to the corresponding device Web page.
⑤ **Firmware:** The Firmware version No. of the current device.
⑥ **Status:** The status (online or offline) of the current device.
⑦ **EDID:** The EDID of the current device.
⑧ **Audio Selection:** The Audio Selection of the current device.

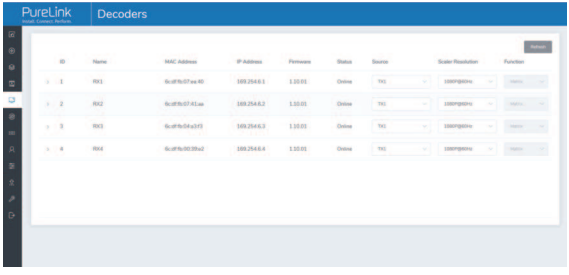
Operating Instructions:

(1) Click "Refresh" to refresh the data of the current Encoders.
(2) Click the drop-down list of EDID to set the current Encoder's EDID.
(3) Click the drop-down list of Audio Selection to set the current Encoder's audio output.
(4) Click the icon on the left of ID to check the detail information about the current Encoder, as shown in below:



On this page, you can setup the current Encoder as required.

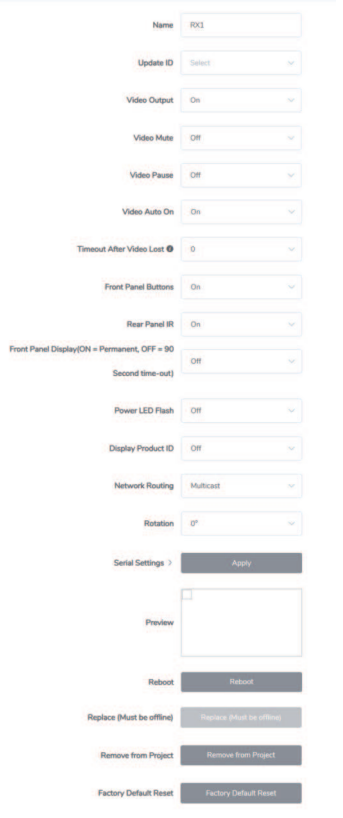
■ Decoders Page



① **ID:** The ID of the current device. (Note: ID is not duplicated.)
② **Name:** The name of the current device. (Note: Name is not duplicated.)
③ **MAC Address:** The MAC Address of the current device.
④ **IP Address:** The IP Address of the current device. Clicking "IP Address" can switch to the corresponding device Web page.
⑤ **Firmware:** The Firmware version No. of the current device.
⑥ **Status:** The status (online or offline) of the current device.
⑦ **Source:** The signal source (Encoder) of the current device.
⑧ **Scaler Resolution:** The resolution of the current device.
⑨ **Function:** The mode of the current device.

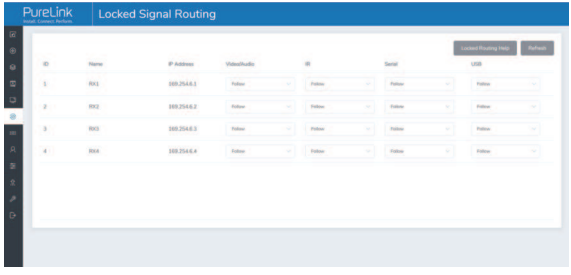
Operating Instructions:

(1) Click "Refresh" to refresh the data of the current Decoders.
(2) Click the drop-down list of Source to select the current Decoder's signal source.
(3) Click the drop-down list of Scaler Resolution to select the current Decoder's resolution.
(4) Click the drop-down list of Function to select the current Decoder's mode.
(5) Click the icon on the left of ID to check the detail information about the current Decoder, as shown in below:



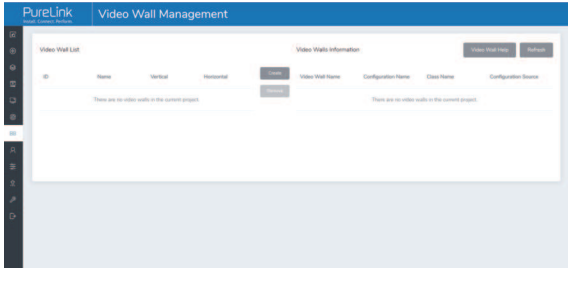
On this page, you can setup the current Decoder as required.

■ Locked Signal Routing Page



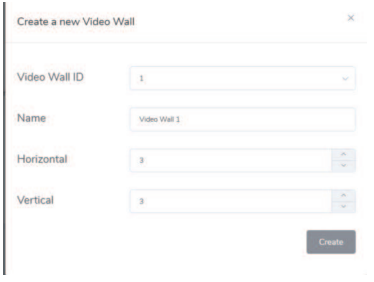
On this page, you can independently route the different signals between Encoder & Decoder devices. Please click "Locked Routing Help" for details.

■ Video Wall Management Page



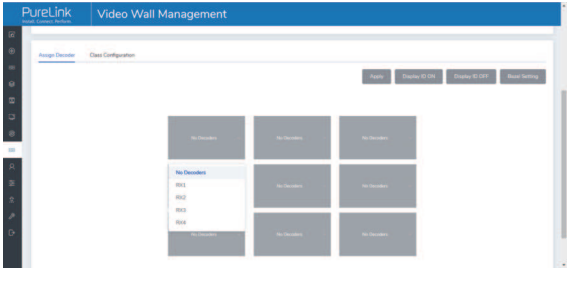
On this page, you can create and configure video wall as required. Please follow below steps to create a video wall.

Step 1: Click "Create", a pop-up window will be shown as below:



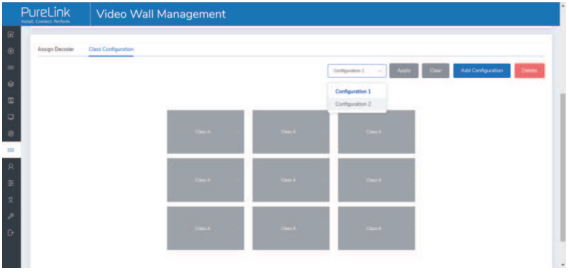
You can set the Video Wall ID, Name, Horizontal and Vertical panel numbers.
Then click "Create" to create the Video Wall.
Note: Up to 9 video walls can be created.

Step 2: Select the video wall that you want to configure on the "Video Wall List", then click "Assign Decoder" to enter the Decoder assignment page. Click each screen to select the corresponding Decoder device, then click "Apply".



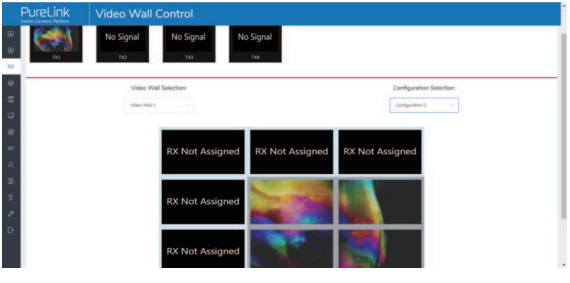
Note: A Decoder can only be assigned to one video wall.

Step 3: Click "Class Configuration" to enter the class configuration page, then click each screen to select the corresponding Class as required (the same class name will form a video wall, you can create a regular or irregular video wall by Class Configuration). Then click "Apply".

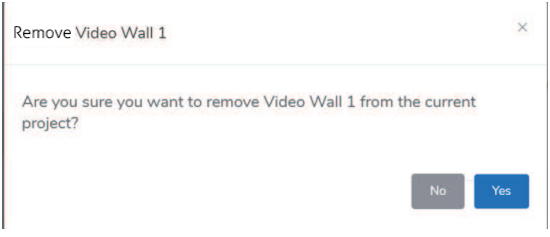


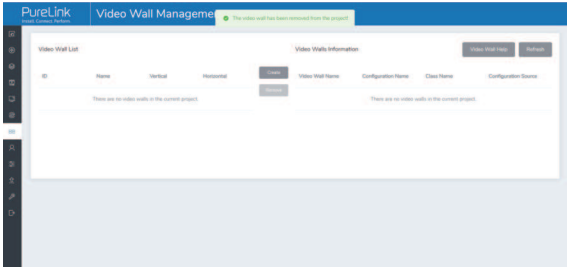
Note: Up to eight configurations can be set up for different application scenarios.

Step 4: After configuration, you can switch to "Video Wall Control" page for video preview, as shown in below.



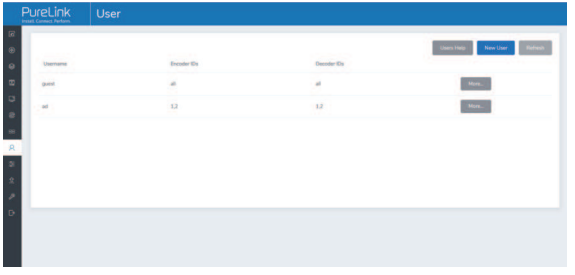
On this page, you can select different video walls and configurations that you have set up by clicking the drop-down box on the right of "Video Wall Selection / Configuration Selection". Besides, you can directly drag Encoders at the top of the page to the video wall to change signal sources.
If you want to delete a video wall, just select the video wall on the "Video Wall List", then click "Remove" . A prompt window will pop up and you can delete it after clicking "Yes".





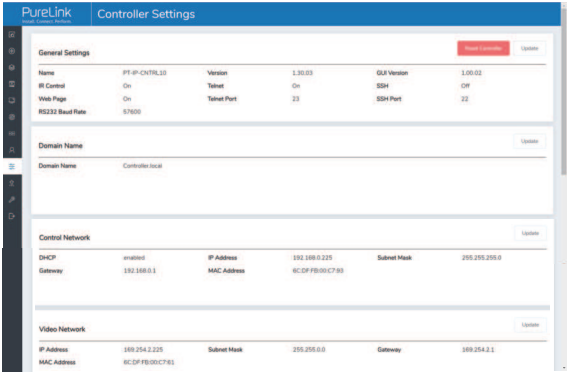
Notes:
(1) Each Decoder can be set into a part of a video wall array. Each system can contain multiple video walls with different sizes. Each video wall can be assigned to different screens and different layouts that range from 1x2 up to 9x9.
(2) The controller creates and manages the video wall configurations and provides a simplified control interface and API commands to third party control system.

■ Users Page



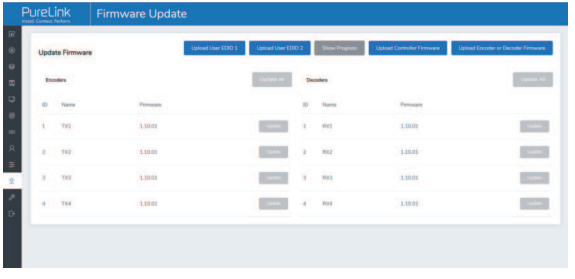
On this page, you can add new user accounts with their own control privileges. This will allow you to create a unique login and limit features such as inputs and outputs that each person has access to.

■ Controller Settings Page



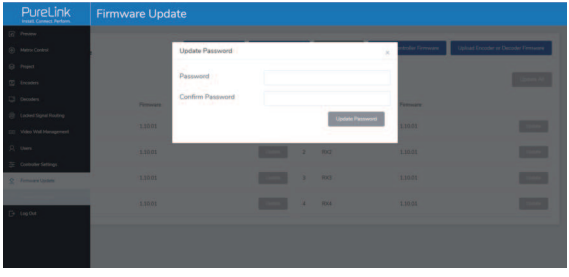
① **General Settings:** The basic settings of the Controller.
② **Control Network:** The network port configuration of the Controller connected to the Switch.
③ **Video Network:** The network port configuration of the Controller connected to video source devices.
You can update the settings or reset the Controller.

■ Firmware Update Page



On this page, you can separately update the firmware of any Encoder/Decoder by clicking the corresponding "Update" button on the right, or update all the firmwares of Encoder/Decoder simultaneously by clicking the corresponding "Update All" button. Also you can update the Controller firmware by clicking the "Update Controller Firmware" button.

■ Password Update Page



On this page, you can change the password. Note that after changing, it will skip to the Web browser home page or the Web GUI login interface automatically. You need to log in the Web GUI again with the new password.

■ Log Out Page

Click "Log Out" on the left, the Web GUI will exit and skip to the login interface automatically.

7. After-Sales Service

If there appear some problems when running the product, please check and deal with the problems referring to this user manual. Any transport costs are borne by the users during the warranty.

1) **Product Limited Warranty:** This product will be free from defects in materials and workmanship for **three years** (The purchase invoice shall prevail).
   Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) **What the warranty does not cover (servicing available for a fee):**
   - Warranty expiration.
   - Factory applied serial number has been altered or removed from the product.
   - Damage, deterioration or malfunction caused by:
     - Normal wear and tear.
     - Use of supplies or parts not meeting our specifications.
     - No certificate or invoice as the proof of warranty.
     - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
     - Damage caused by force majeure.
     - Servicing not authorized by distributor.
     - Any other causes which does not relate to a product defect.
   - Delivery, installation or labor charges for installation or setup of the product.

3) **Technical Support:** For any questions or problems, contact your distributor or reseller and tell them the respective product name and version, the detailed failure situation as well as the formation of the cases.

Asking for Assistance

Technical Support:
Phone: +49 5971 800299 - 0
Fax: +49 5971 800299 – 99

Technical Support Hours:
8:30 AM to 5:00 PM Monday thru Thursday
8:30 AM to 4:00 PM Friday

Write to:
PureLink GmbH
Von-Liebig-Straße 10
D - 48432 Rheine
www.purelink.de
info@purelink.de