



**NETWORK
TECHNOLOGIES
INCORPORATED**

1275 Danner Dr Tel:330-562-7070
Aurora, OH 44202 Fax:330-562-1999
www.networktechinc.com

ST-VC-IP4K18GBRS

Video Over IP Controller



User Manual

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction.....	1
2. Features.....	1
3. Package Contents.....	1
4. Specifications.....	1
5. Operation Controls and Functions.....	2
6. Web GUI User Guide.....	3
7. ASCII control command.....	16
8. Application Example.....	19

1. Introduction

This Video over IP controller is based on a TCP/IP network protocol IP controller product. It is connected to an IP switch (minimum 10Gbps and IGMP Snooping supported) within the same network with video over IP encoder/decoder products. This controller has a built-in Web GUI and API and allows the user to easily control and manage video over IP products.

2. Features

- ☆ 1.2GHz Quad-Core ARM Cortex-A53 CPU
- ☆ Linux based OS
- ☆ Built-in Web GUI for easily system setup and management
- ☆ Supports Web GUI control.
- ☆ 10/100M Ethernet Port for TCP/IP control
- ☆ RS-232 port for API control
- ☆ 4x USB2.0 host ports (Reserved)
- ☆ Compact design for easy and flexible installation

3. Package Contents

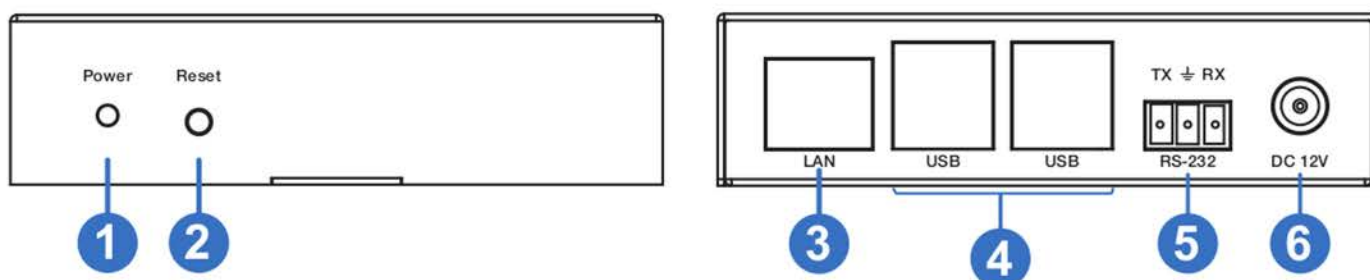
- ① 1× Video Over IP Controller
- ② 1× 12V/1A Locking Power Adapter
- ③ 1× User Manual Slip

4. Specifications

Technical	
Control ports	1× RS-232 [Terminal block] 1× LAN [RJ45] 4× USB [Type A, reserved port]
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Housing	Metal Enclosure
Color	Black

Dimensions	100mm(W)×130mm(D)×26mm(H)
Weight	371g
Power Supply	Input: AC100~240V 50/60Hz, Output: DC12V/1A (US/EU standards , CE/FCC/UL certified)
Power Consumption	4W
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)

5. Operation Controls and Functions

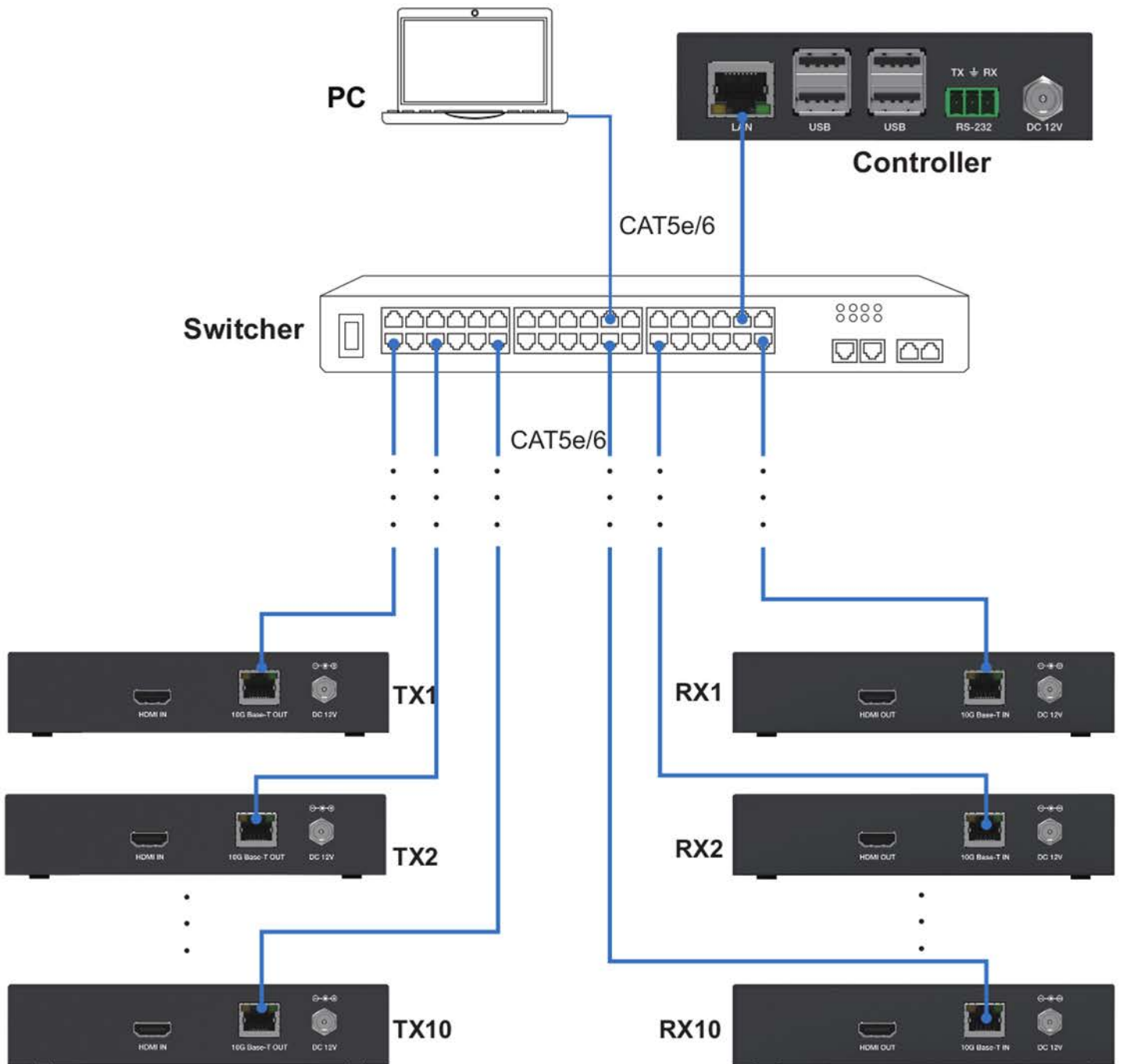


Number	Name	Function description
1	Power LED	Power LED indicator. The white LED will illuminate when the product is connected to a power supply.
2	Reset button	Press this button up to 3 seconds to reset controller to factory default mode. Includes IP address reset to static 169.254.23.100.
3	LAN port	Connect to switcher with UTP cable.
4	USB port	Reserved port.
5	RS-232	Control system can use RS-232 or LAN port to control video over IP products. Please contact your supplier for detailed API doc.
6	DC 12V	Plug the 12V/1A DC power supply into the unit and connect the adapter to an AC outlet.

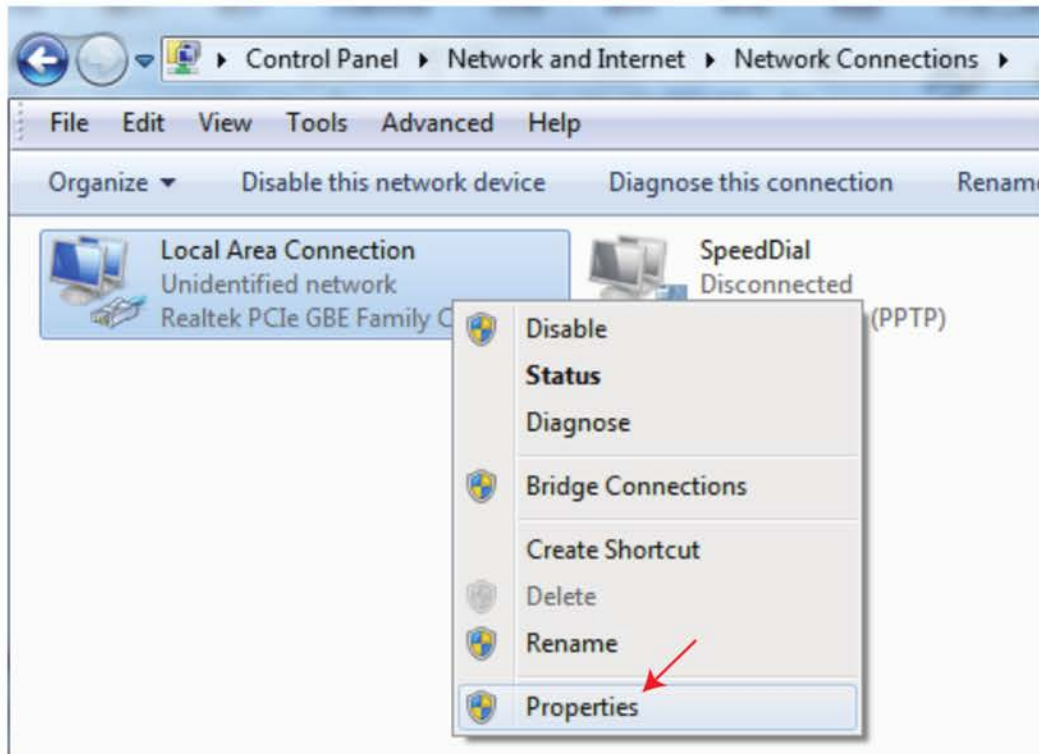
6. Web GUI User Guide

You can use Controller's Web GUI to control all products at the Switcher. You have to know the Controller's current IP address. The default IP address is 169.254.23.100. The operation method is shown as below:

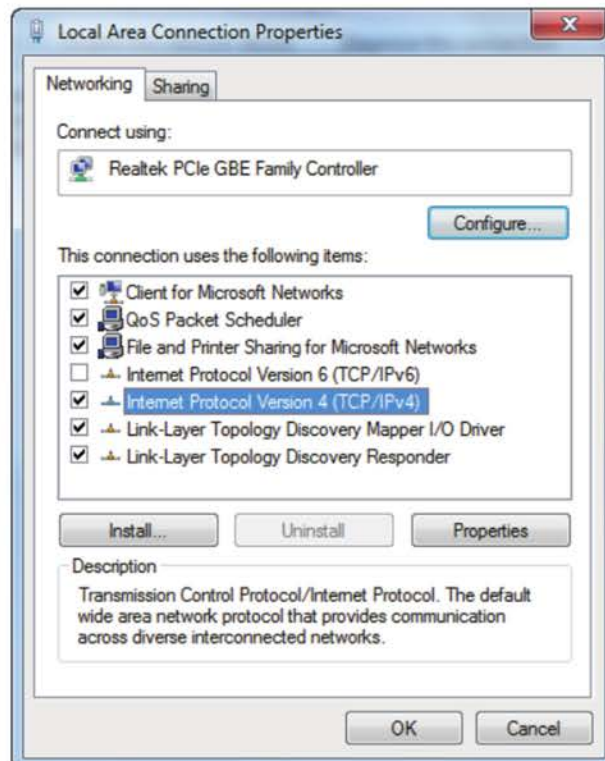
Step 1: The LAN port of the Controller is connected directly to a Switcher and a PC is also connected. Other IP products you need to control are connected to the Switcher. The connection diagram is shown below.



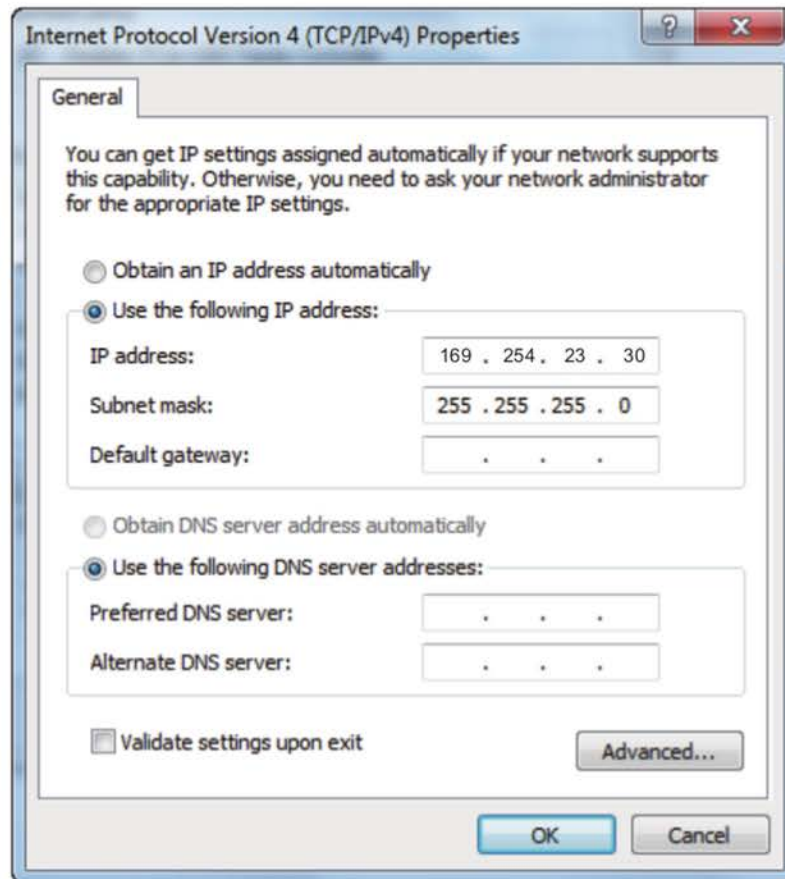
Step 2: On the PC, go to **Control Panel > Network and Internet > Network Connections > Local Area Connections**, right click on it, choose **Properties**.



Double click Internet Protocol Version 4 (TCP/IPv4).



Choose “Use the following IP address”, for instance, input 169.254.23.30 as your PC IP address, 255.255.255.0 as Subnet mask, and then click on OK, click on OK again.



Notice: The IP address of the PC, Controller and other IP products should be in the same subnet. Since the Controller’s IP address is 169.254.23.100, the computer’s IP should be set to 169.254.23.X (X contains any number 1~255 except for 100).

Step 3: Input the Controller’s IP address into your browser on the PC to enter the Web GUI page.



When you enter Web GUI page, first you will enter the Login page. Please input User and Password, the default User and Password are “**admin**”. At the same time, please select the product you need to control. Then click the “Sign In” button to enter Web GUI function pages.

NetworkAV

User

Password

Products

Please select

Sign In

Notice: When you select a type of product on the Login page, you can only select the type of products connected to the Switcher to control. Please see the following product list.

Products

Please select

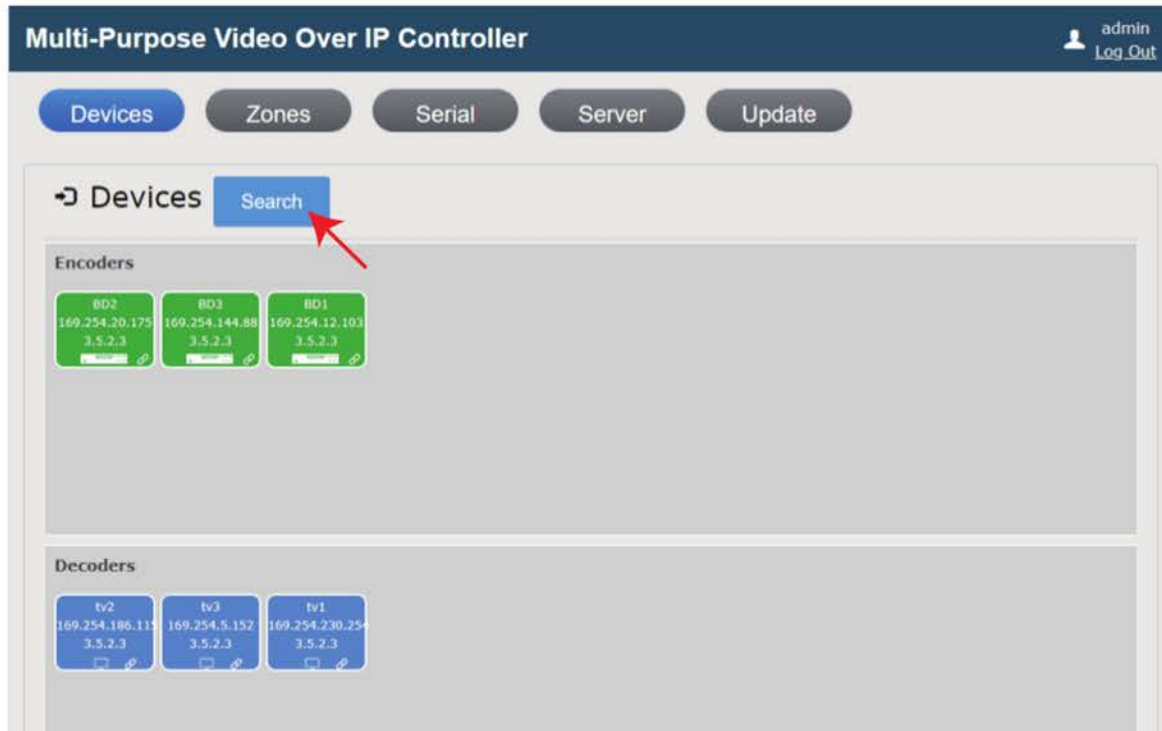
4K60 over IP Uncompressed (10G switch)

4K60 over IP Uncompressed w/ Video wall and Multiview (10G switch)

4K60 over IP JPEG2K (1G switch)

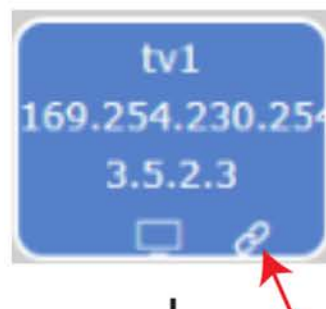
1080P over IP H265 (1G switch)

Device page



You need to click the “Search” button to search all online products you have connected. Encoders are shown in green in the top area and Decoders are shown in blue in the bottom area. Every small interface on the Encoder or Decoder area shows the product’s name, IP address and software version.

You can obtain detailed information when you click the lower right corner. Please see below “Picture 1” and “Picture 2”.



Encoders

Alias Name:

Host Name: DEC4K02-D88039E73AEA

MAC Address: d88039e73aea

IP Address: 169.254.235.58

FW Version: 3.6.0.0

Group IP: 224.1.1.5

Video Resolution: 1280x720 60HZ
YCBCR_444 8bit

HDCP Version: NONE

Frame Rat/2: ☐

Start Video: ☒

Picture 1

Decoders

Alias Name:

Host Name: DEC4K02-D88039E73D6F

MAC Address: d88039e73d6f

IP Address: 169.254.112.61

FW Version: 3.6.0.0

Group IP: 0.0.0.0

Video Resolution: 1920x1080 30HZ RGB 8bit

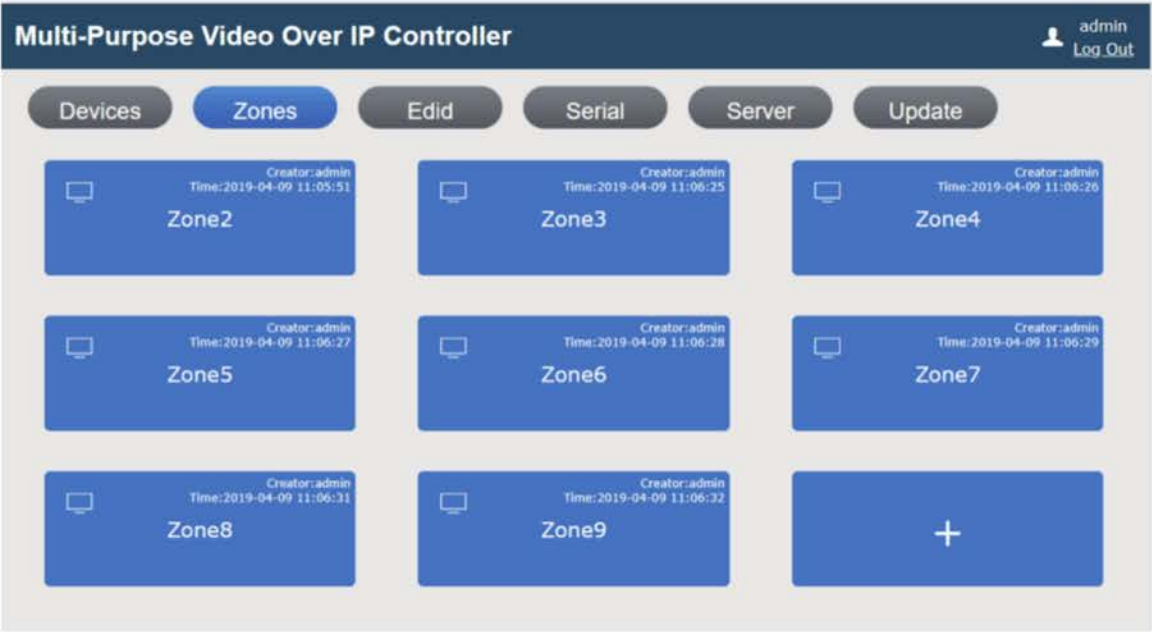
HDCP Version: NONE

Mode: WALL_GENLOCKED

Picture 2

You can modify every Encoder's and Decoder's alias name (the alias name does not have any spaces). You can check current input and output source video resolution. If there is no source to be connected, the "Video Resolution" is shown as "No Signal". When "Frame Rat/2" is selected, at this time the frame rate will become lower. When "Start Video" is selected, the video is turned ON. Otherwise, the video is turned OFF.

Zones page

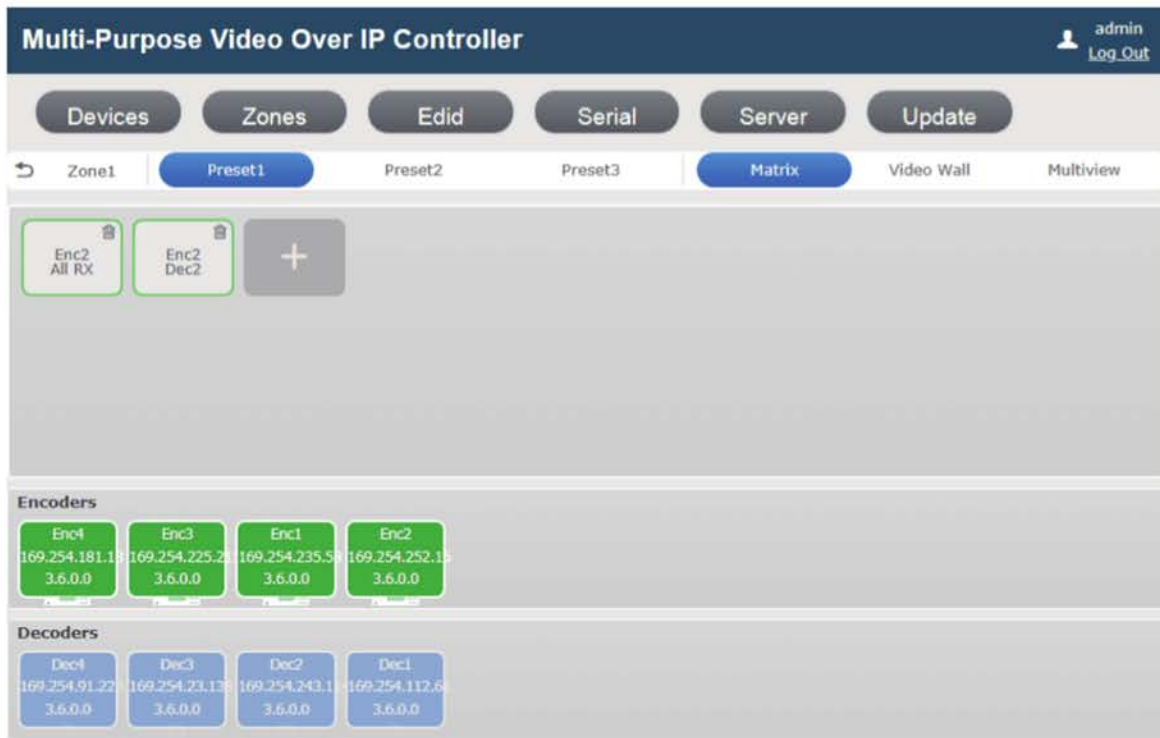


You can set zone on the Zones page. So far, up to16 zones supported. You can modify every zone’s alias name (the alias name does not have spaces and supports up to 64 bytes).



You need to click the upper left corner on the small zones interface to enter the following page. At this page, if you have selected a Decoder, you can match between Decoder and Encoder on the matrix page (Picture 3). Otherwise, if you have not selected a Decoder, there are no Decoders to match Encoders on the matrix page (Picture 3).

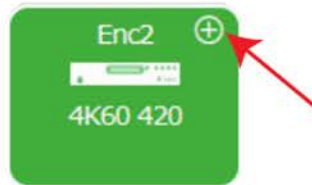
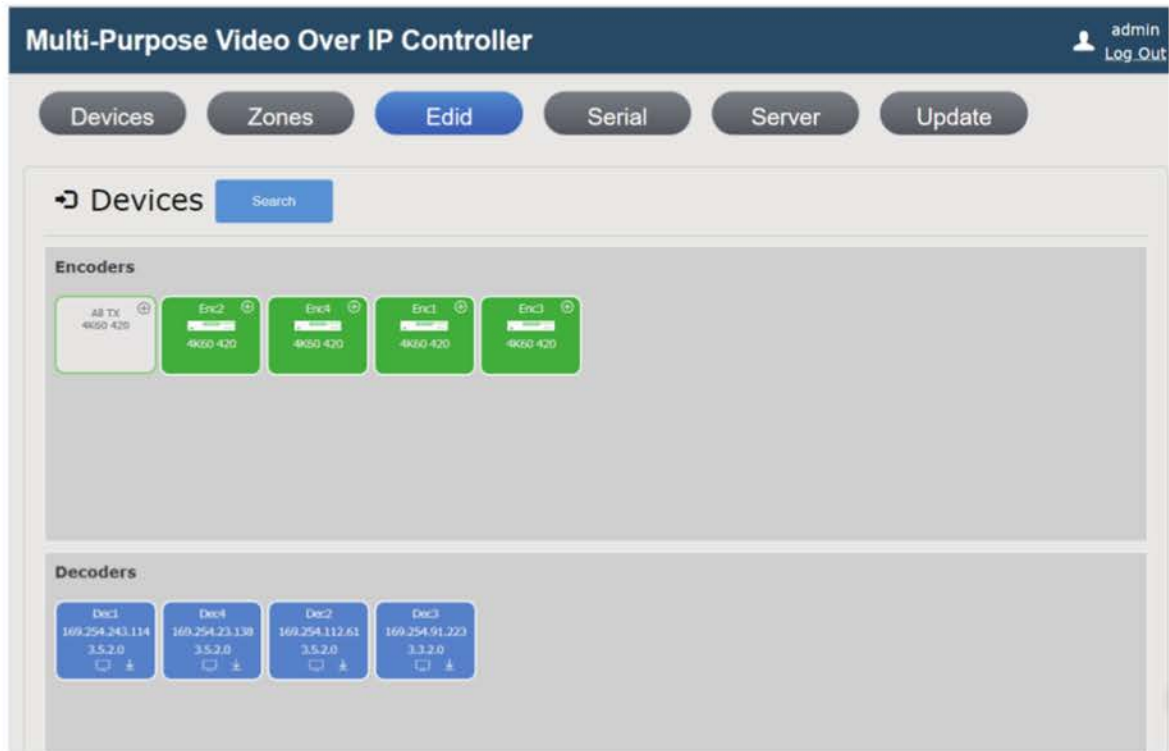




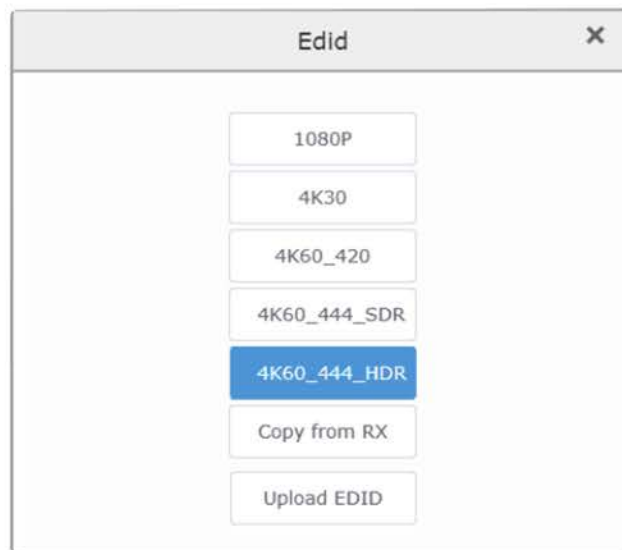
Picture 3

You can drag an Encoder or a Decoder to match on the top frame. Each scene supports 50 matrixs and every scene has three presets. You can switch a preset to check the current setting. You can not reuse the same Decoder (the Decoder has been matched to an Encoder if it displays gray). If you drag an Encoder into the “All RX” frame, it means all match sources from the Encoder. You can click the deselect button on the frame upper right to deselect current match relationship.

EDID page



You will see the EDID option frame when you click the upper right corner on Encoder. Please see the below EDID option frame.



The default EDID for all Encoders are 4K60 420. The Encoder's EDID includes 1080P, 4K30, 4K60_420, 4K60_444_SDR and 4K60_444_HDR. You can also upload EDID file from external for using (Upload EDID). When you drag a Decoder to an Encoder, it means to copy the current Decoder's EDID to the Encoder device. At this time, the EDID option frame will automatically select "Copy from RX" option. If the Decoder is showing in gray, it means the Decoder has not been connected to an output device.

You can download an Encoder's EDID to preserve the file. Please see the following picture.



Server page

Multi-Purpose Video Over IP Controller

admin Log Out

Devices Zones Serial **Server** Update

RS-232 Settings

Baud Rate: 115200 Parity: None

Stop Bits: 1 Data Bits: 8

Apply

IP Settings

IP Address: 169.254.23.100 MAC Address: b8:27:eb:21:c9:e7

Subnet mask: 255.255.0.0 Gateway: 169.254.23.1

DHCP ☐

Apply

Web Controller Password

New Password (Attention) Password must be 4 to 16 characters or digitals.

Apply

Web Controller Commands

Reboot Reset To Factory Default

commands

Send Commands Clear Log

Log(Only Display the last 20 records)

2018-12-12 09:39:10 factory reset SUCCESS
2018-12-11 16:44:36 server set serial SUCCESS
2018-12-11 16:39:20 server set serial SUCCESS

The Server page displays some basic information about a Controller's network, serial port.

① RS-232 settings

You can set the serial port of the Controller including Baud Rate, Parity, Stop Bits and Data Bits. Then click the "Apply" button to save current information.

② IP settings

◆ In DHCP open status:

DHCP switch: Obtain automatically the network configuration information, including IP, Subnet, MAC and Gateway address.

◆ In DHCP close status:

If the DHCP switch is closed, you can manually set IP and Gateway address. You must make sure the Gateway address and the IP address are in the same subnet. IP address and Gateway address can not have the same last digits. You don't need to change the Subnet or MAC address. Click the "Apply" button to save current status information. Now, the Web GUI will jump automatically to the Login page. You need to login to the Web GUI again.

Note: 1) The Controller will reboot when the DHCP switch is changed.

2) If you have changed the Network Configuration and clicked the "Apply" button and if you have changed the IP address, you can continue to use current Web GUI function, but next time you connect to the Web GUI, you need to use the new IP address you have set.

③ **Web controller Password**

You can set a new password, and the password must be 4 to 16 characters, letters or numbers. Then click the "Apply" button to save current information. The Web GUI will jump automatically to the Login page. You will need to enter the Web GUI again using the new password.

④ **Web controller Commands**

1) The Controller will reboot when you click the "Reboot" button. After reboot, Web GUI will jump automatically to the Login page.

2) The Controller will reset to factory default status when you click the "Reset To Factory Default" button. The IP address will return to default address 169.254.23.100. The serial port will return to default settings. The pairing will be dissolved between Matrix and Serial and all scenes will be dissolved. The Web GUI will jump automatically to the Login page after the controller has rebooted.

⑤ **Commands**

You can input commands manually to configure the product.

⑥ **Log**

Display current operating information about the last 20 recoders.

Update page

Multi-Purpose Video Over IP Controller

admin Log Out

Devices Zones Serial Server Update

Server Firmware Update

Choose File No file chosen Burning

Firmware Update

Choose File No file chosen Burning

Device online ALL Search Devices

Soft Version :Multi V1.0.26 WebGui Version :V1.41

The Update page can upgrade controller and IP product firmware. The “Server Firmware update” upgrades the Controller and the “Firmware update” upgrades IP product. Click the “Choose File” button to choose update file. When the file has finished loading, you need to click the “Burning” button to perform the update. The Controller will reboot when the firmware has finished updating. Then the Web GUI will jump automatically to the Login page. When you want to update IP product, first you need to select to update “ALL”, ALL-TX” or “ALL-RX”, then you need to click the “Choose File” button to choose the update file. When the file has finished loading, you need to click the “Burning” button to perform the update.

7. ASCII control command

The product also supports ASCII control. You need to wire a RS-232 terminal block connector with a female DB9 connector. You also need an RS-232 cable with DB9 male to USB male serial transfer cable. The terminal block will connect to the RS-232 port of the Controller, and the USB end of the serial cable is connected to a PC. Open any of a Serial Command tool on PC such as “Docklight” to send commands to control the Controller and IP product. Please see the following connection diagram.

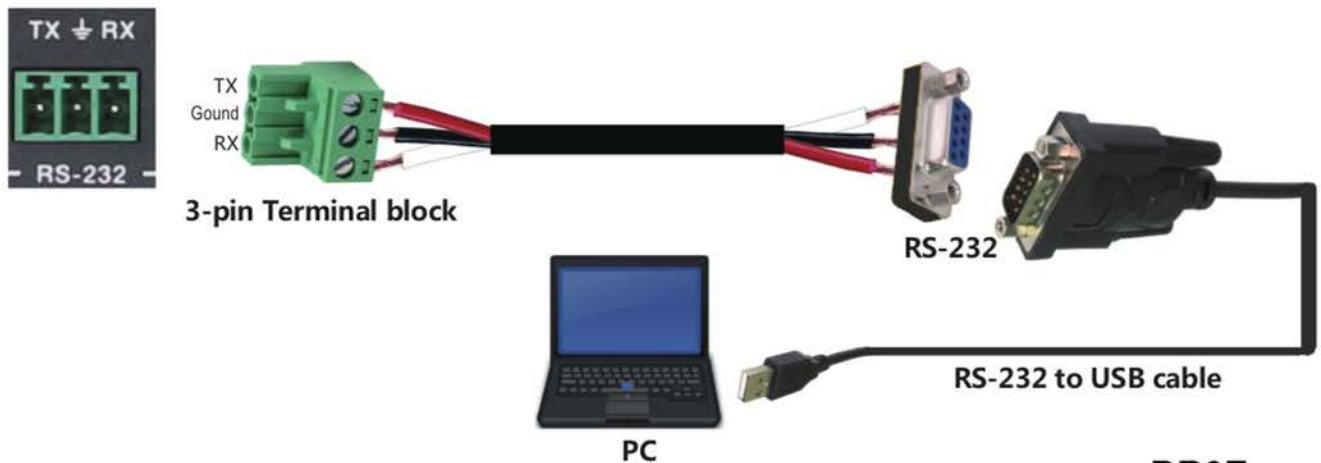
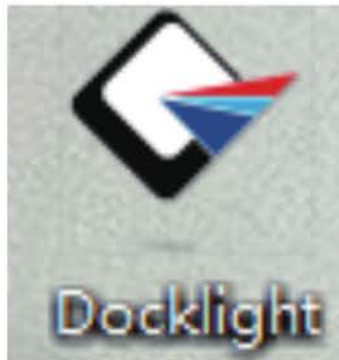


Figure 3: 3-pin terminal block to USB

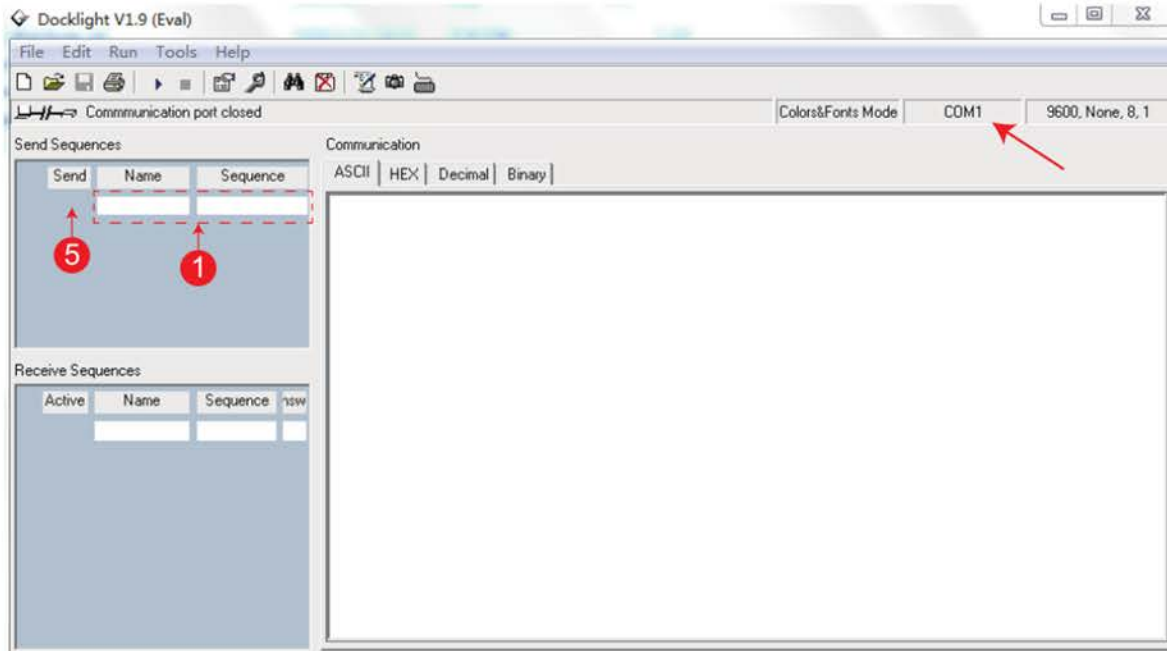
**DB9F
Pinout:
White-3
Black-5
Red-2**

Double click the “Docklight” shortcut icon. Please see the following picture 1.

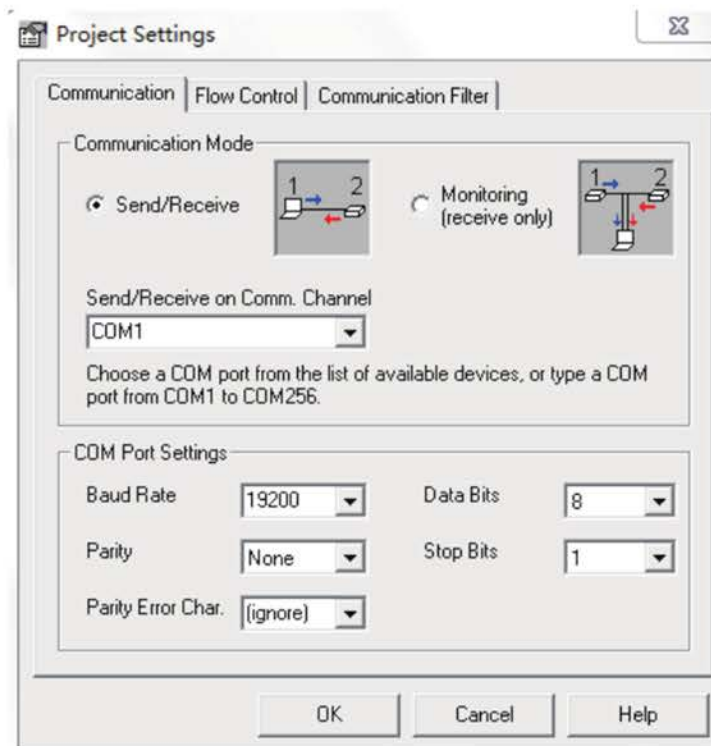


Picture 1

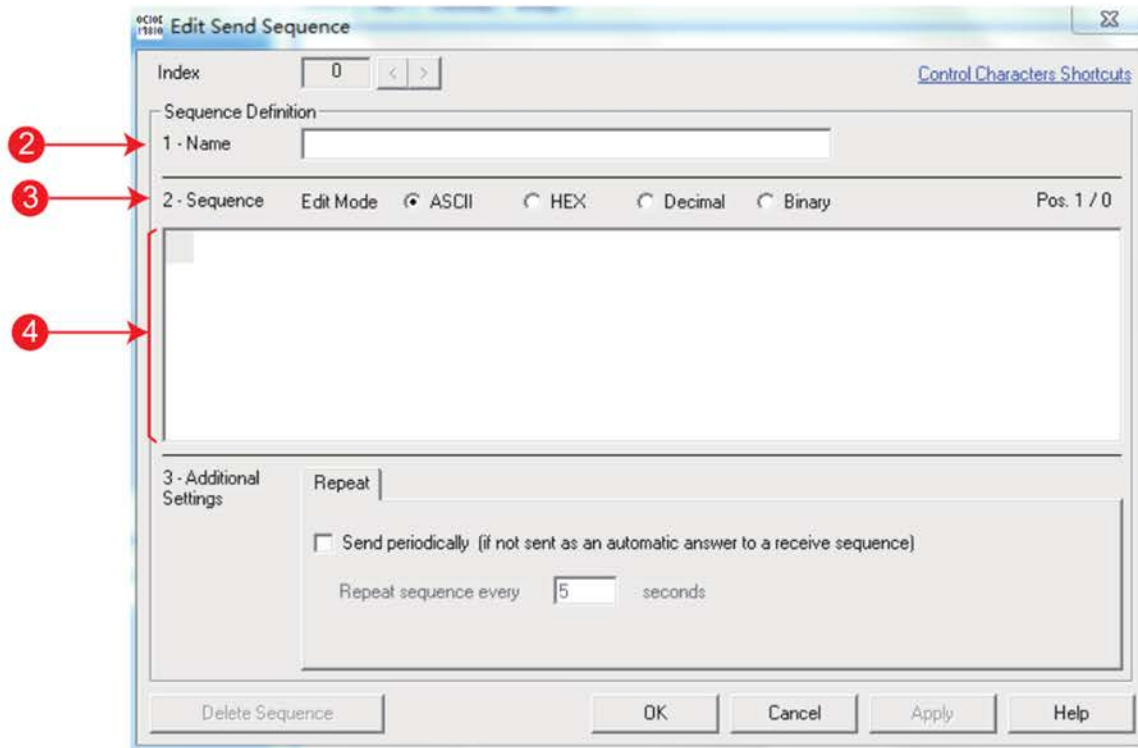
You will see the following page.



Click the “COM” area. A “Project Settings” page will appear. Choose the COM port to connect the software, set the Baud Rate, Data Bits, Parity, Stop Bits and then click the “OK” button. Please see the following page.



Double click the “1” blank area. You will see the following page. At “2”, you can enter a sequence definition. At “3”, you need to choose the sequence mode. At “4”, input the RS-232 command of the product. Then click the “OK” button.



Finally, click the Send button ("5" on page 17) to send the command.

Please contact to our sales agent about ASCII code list of the product.

8. Application Example

