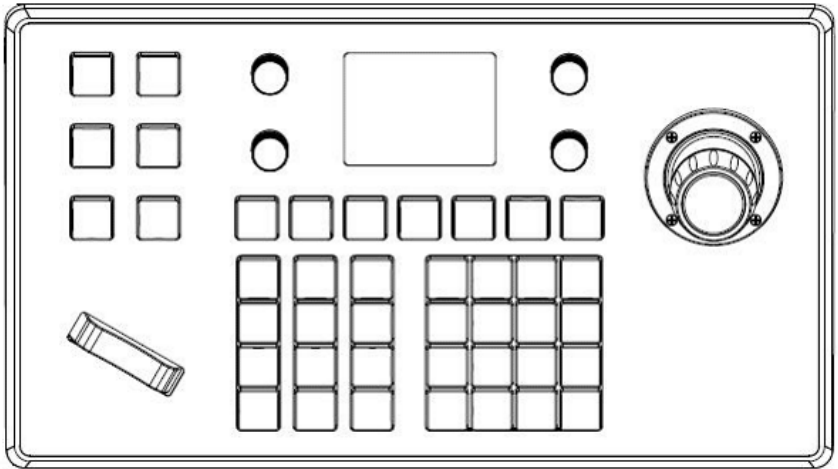


CAVE-TEK K20 Keyboard



User Guide English (V1.0)

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1 Packing List

Open the box, you will find below items:

Name	Quantity
K20 Keyboard	1
AC Power Adaptor	1
Quick Installation Guide	1

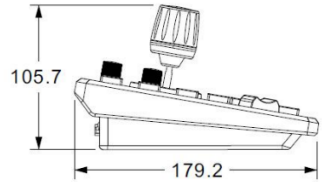
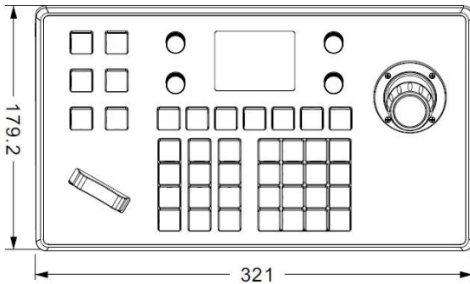
2 About K20

2.1 Interfaces and Buttons

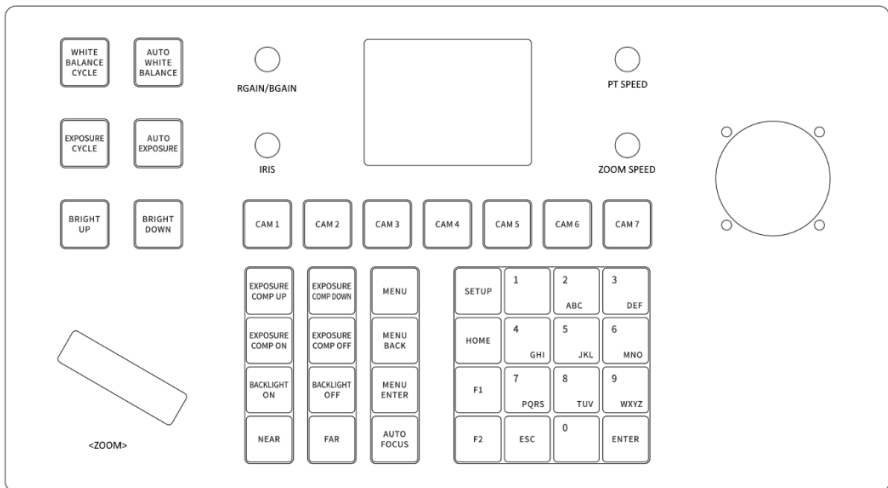


Item	Name
1	RS-232 Interface
2	RS-422 / RS-485 Interface
3	Ethernet Interface
4	USB Interface (Firmware Upgrade)
5	Power (12V/2A)
6	Power switch







2.2 Dimension



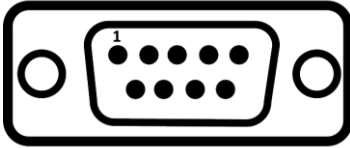
2.3 Keyboard



Item	Name	Description
1	WHITE BALANCE CYCLE	Change white balance profile
2	AUTO WHITE BALANCE	Enable auto white balance
3	EXPOSURE	Change exposure profile
4	AUTO EXPOSURE	Enable auto exposure
5	BRIGHT UP / DOWN	Brightness level up / down
6	RGAIN / BGAIN	Adjust R Gain value / adjust B Gain value
7	IRIS	Adjust IRIS level
8	PT SPEED	Adjust Pan-Tilt speed
9	ZOOM SPEED	Adjust Zoom speed
10	CAM1 - CAM7	Switch to CAM1 - CAM7
11	EXPOSURE COMP UP / DOWN	Exposure compensation level up / down
12	EXPOSURE COMP ON	Enable/Disable Exposure compensation
13	BACKLIGHT ON / OFF	Enable/Disable backlight effect
14	NEAR / FAR	Change the focus to the closed /FAR object
15	MENU	Open the menu
16	MENU BACK	Go back the menu
17	MENU ENTER	Enter the menu
18	AUTO FOCUS	Enable auto focus
19	SETUP	Open the setup menu
20	HOME	Go back to home
21	F1 / F2	N/A
22	ESC	Cancel
23	ENTER	Enter
24	0 - 9	0-9

Operating	Output Control	Operating	Output Control	Operating	Output Control
	Upward		Downward		Left
Operating	Output Control	Operating	Output Control	Operating	Output Control
	Right		Zoom +		Zoom -

2.4 RS-232 Interface



Keyboard RS-232 PIN	Camera (RS-232)
2(RXD)	TXD
3(TXD)	RXD
5(GND)	GND

2.5 RS-422/RS-485 Interface



Keyboard RS-422 PIN	Camera (RS-422)
TA	RX -
TB	RX +
RA	TX -
RB	TX +
G	G

Keyboard RS-485 PIN	Camera (RS-485)
TA	485+
TB	485-
RA	N/A
RB	N/A
G	N/A

- **RS232 Communication Control**

CAVE camera can be controlled via RS232. The RS232 serial port parameters are as follows:

Protocol: VISCA, PELCO-D, PELCO-P

Baud rate: 2400/4800/9600/38400 bit/s;

- **RS485 Communication Control**

CAVE camera can be controlled via RS485, half-duplex mode:

Protocol: VISCA, PELCO-D, PELCO-P

Baud rate: 2400/4800/9600/38400 bit/s;

2.6 Network Interface

Connect the camera and keyboard in the same local network and ensure their IP address are in the same network segment. For example, **192.168.1.123** & **192.168.1.111** belong to the same network segment, while **192.168.1.123** & **192.168.0.125** do not belong to the same network segment.

- **RS485 Communication Control**

CAVE camera can be controlled via Network interface. The parameters are as follows:

Protocol: VISCA(UDP), SONY VISCA (UDP), VISCA(TCP), ONVIF

Default Port:

- VISCA (UDP) : UDP 1259
- VISCA(TCP): TCP 5678
- SONY VISCA(UDP): UDP 52381
- ONVIF: TCP 81

3 GUI Settings

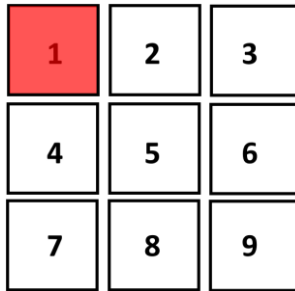
3.1 Operation

SWITCH MODE: Long press the button on the top of joystick to switch the mode into analog mode.



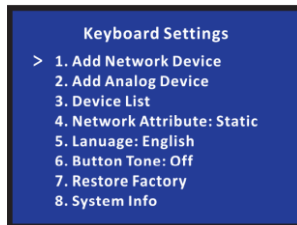
SET PRESET: Long press the number button to save the current position to the preset.

CALL PRESET: Press the number button to call the stored position of the preset.



3.2 Setup MENU

Press the [SETUP] button to display the main menu on the display, using the arrow button to move the cursor to the item. Press the [Enter] button to enter the corresponding sub-menu.



3.3 Add Network Device

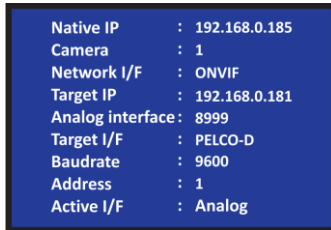
Move the main menu cursor to [1], and press [Enter] key enter the add network device page, as shown in the following figure.



Camera: No1-7
Protocol: VISCA, PELCO-D, PELCO-P, ONVIF
IP Add: IP address of the camera. //If using network
Port: Port number
User Name: User name to login camera
Password: Password to login camera

3.4 Add Analog Device

Move the main menu cursor to [2], and press [Enter] key enter the add the analog device page, as shown in the following figure.



Camera: No1-7
Protocol: VISCA, PELCO-D, PELCO-P, ONVIF
IP Add: IP address of the camera. //If using network
Baudrate: 2400/4800/9600/38400 bit/s;
Address: 1/2/3/4

3.5 Device List

Move the main menu cursor to [3], and press [Enter] key enter the device list page, as shown in the following figure.



3.6 Network

Move the main menu cursor to [4], and press [Enter] key enter the network setup page.

Mode: DHCP, Static

IP Address: setup the IP address of the keyboard.

3.7 Language

Move the main menu cursor to [5], and press [Enter] key enter the Language setup page.

Language: EN

3.8 Button tone

Move the main menu cursor to [6], and press [Enter] key enter the Button tone page.

Button Sound: On/Off.

3.9 RESTORE FACTORY

Move the main menu cursor to [7], and press [Enter] key enter the Restore Factory page.

Restore factory: YES

3.10 SYSTEM INFO

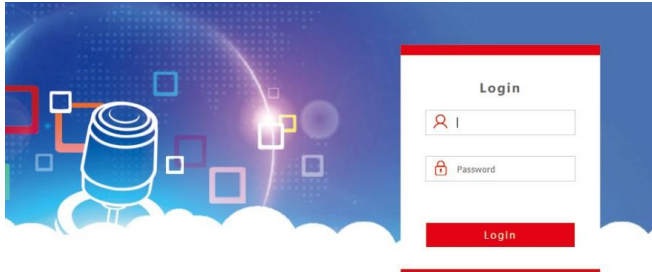
Move the main menu cursor to [8], and press [Enter] key enter the System info page.

System Info

4 WEB Setup Page Function

4.1 Login

Connect the keyboard and computer to the same network, enter the K20 keyboard IP address to the browser. The login page shows as follows:



Default user name: admin; password: empty

4.2 Device Management

Enter the account and password to login, it will show as follows:

Camera	IP	Port	Protocol(network)	Baudrate	Address	Protocol(analog)	Operate
1	192.168.5.170	1259	VISCA(UDP)	9600	1	VISCA	
2	192.168.5.170	1259	VISCA(UDP)	9600	2	VISCA	
3	192.168.5.170	1259	VISCA(UDP)	9600	3	VISCA	
4	192.168.5.170	1259	VISCA(UDP)	9600	4	VISCA	
5	192.168.5.170	1259	VISCA(UDP)	9600	5	VISCA	
6	192.168.5.170	1259	VISCA(UDP)	9600	6	VISCA	
7	192.168.5.170	1259	VISCA(UDP)	9600	7	VISCA	

You can view and modify the device settings. Click "" to add and modify the device info, the page display as follows:

Edit ×

Camera

Network:

Protocol:

IP:

Port:

Username:

Password:

Analog:

Protocol:

Baudrate:

Address:

Network:

Camera: No1-7

Protocol: ONVIF

IP Add: IP address of the camera. //If using network

Port: Port number

User Name: User name to login camera

Password: Password to login camera

Analog:

Camera: No1-7

Protocol: VISCA, PELCO-D, PELCO-P,

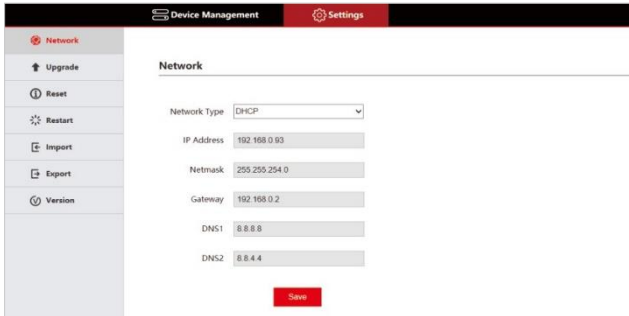
Baudrate: 2400/4800/9600/38400 bit/s;

Address: 1/2/3/4

4.3 Settings

4.3.1 Network

Change the network settings of K20 keyboard.



Network Type: DHCP, Static

IP Address:

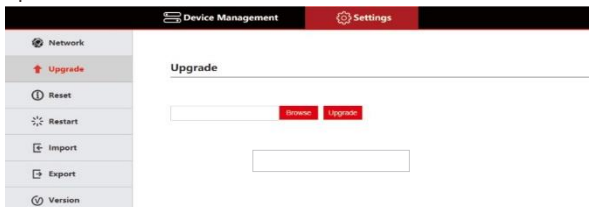
Sub-mask:

Gateway:

DNS:

4.3.2 Upgrade

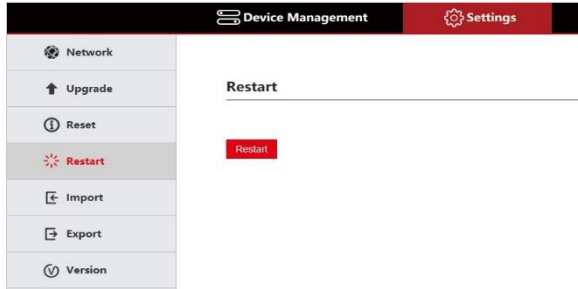
Select the correct upgrade file and click "Start". The device will automatically restart after the upgrade is completed.



Note: Do not perform any operations against the device during its upgrade process, and do not power off or disconnect the network!

4.3.3 Reset

Reset all the device settings to default value.

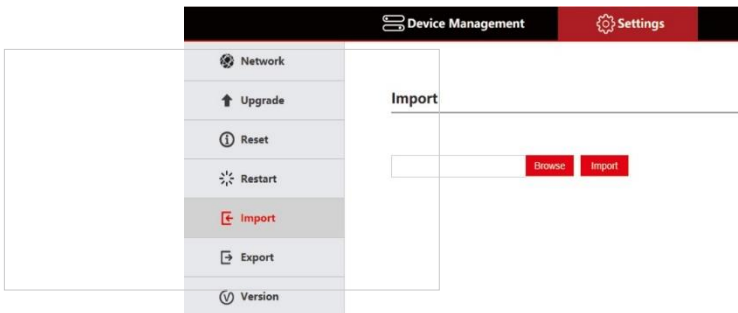


4.3.4 Restart

Restart K20 keyboard.

4.3.5 Import / Export

Import/Export the K20 keyboard config file.



4.3.6 Version

Display the system software and hardware information.

