iControl J20

IP Camera Controller with Screen

User Manual V1.1

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1. OVERVIEW

The iControl J20 control keyboard is an advanced control device specifically designed for conference camera control. Its innovative appearance and precise structure offer users a friendly operating experience while ensuring high reliability and stability. The control keyboard is equipped with newly designed 2D/3D joysticks and multiple knob sets to achieve precise control over various conference camera parameters. Additionally, it supports decoding functionality, enabling broader application scenarios and device compatibility.

2. FEATURES

- With a 3.49 inch preview screen
- Supports network IP and RS-232/RS-422/RS-485 serial connections.
- With a 2D/3D joystick for PTZ control.
- Multiple knobs for focus, aperture, zoom, white balance, backlight, exposure, presets recall, IRIS/Shutter, and R/B configuration.
- Supports max. 255pcs camera connections.
- Supports ONVIF, VISCA, or NDI auto scan connected cameras.
- Supports PoE (Power over Ethernet).
- Supports ONVIF, VISCA over IP (UDP or TCP), Sony VISCA, NDI, PELCO-D, PELCO-P.
- Supports Web GUI control

3. FUNCTIONS

- IP control allows for the automatic discovery of all supported IP cameras within the network.
- Multiple controllers can run simultaneously on the same network, with each device supporting up to 255 cameras.
- Equipped with a compact four-dimensional joystick, reducing the size by 50% while maintaining full functionality.
- Supports PoE (Power over Ethernet).
- Precise control of various camera parameters, including aperture, exposure, white balance, and focus adjustments.
- Web interface compatibility with mainstream browsers like Chrome and Edge, facilitating device information and camera list configuration directly through the web interface.
- Offers multiple control modes, including network decoding and analog control, without the need to switch between modes. Network control allows seamless integration and management of cameras via IP, while analog control offers

robust integration with traditional analog cameras, ensuring comprehensive coverage and usability in various scenarios.

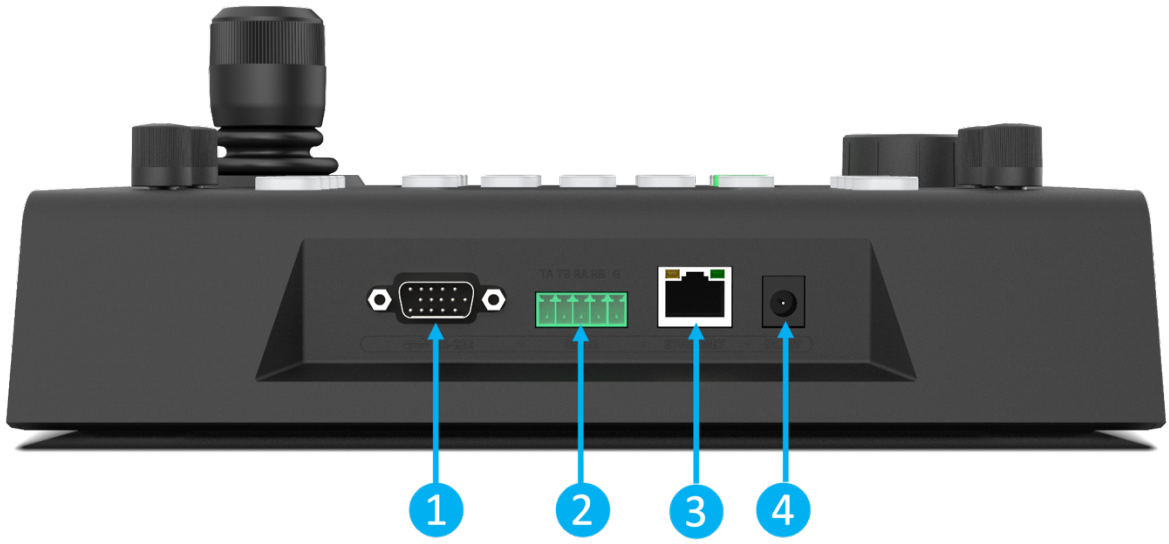
4. CONTROL PROTOCOLS

The keyboard controller supports network protocols including ONVIF, VISCA Over IP (UDP/TCP), Sony VISCA, and NDI, as well as analog protocols such as VISCA, PELCO-D, and PELCO-P.

It offers serial control capabilities, allowing for the independent control of both network and analog cameras without the need to switch device modes.

5. HARDWARE

5.1 REAR PANEL



NO.	Ports
1	RS-232 Interface
2	RS-422/485 Interface
3	RJ45 Network
4	DC12V IN

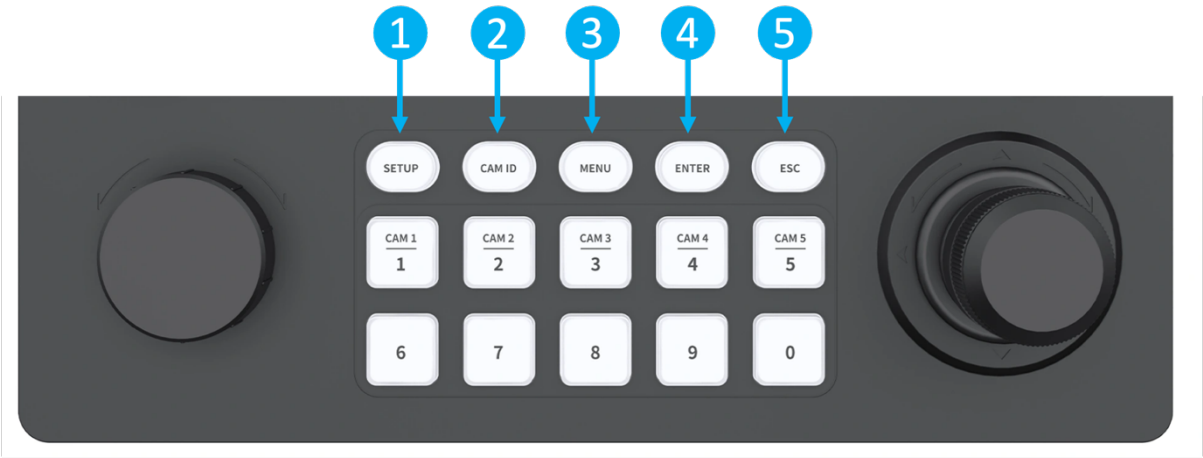
5.2 CAMERA FUNCTION AREA

NO.	FUNCTIONS	NO.	FUNCTIONS
1	**ONEPUSH TRIGGER** When the camera's white balance mode is set to "One-Push White Balance", press this button to initiate the one-push white balance. The camera will analyze the current scene and output the optimal white balance settings.	5	**SET PERSET** Press to enter the preset position mode. Use the numeric keys to enter the preset position number and then press ENTER to confirm the setting. Press ESC to exit the preset position mode.
2	**WHITE BALANCE CYCLE** By pressing the button to switch the camera's white balance mode, it can directly cycle through "Indoor White Balance, Outdoor White Balance, One-Push White Balance, Manual White Balance, Auto White Balance."	6	**CALL PERSET** Similar to the SET PRESET button, press to enter the preset recall mode. Use the numeric keys to enter the preset position number and then press ENTER to confirm the recall. Press ESC to exit the preset recall mode
3	**BACKLIGHT BUTTON** By pressing the switch to toggle the camera's backlight mode.	7	**FOCUS AUTO** By pressing the FOCUS AUTO button the camera switches to auto focus mode.
4	**EXPOSURE CYCLE** By pressing the button to switch the camera's exposure mode, it can directly cycle through "Aperture Priority, Shutter Priority, Gain Priority, Manual Exposure, Auto Exposure."	8	**FOCUS MODE** By pressing the dutton, you can swith the focus mode of the camera, and cycle between"manual focus, automatic focus".

5.3 KNOB FUNCTION AREA

NO.	FUNCTIONS	NO.	FUNCTIONS
1	**R/B GAIN KNOB** Rotate left and right to adjust red and blue gain Press to switch control modes.	3	**PT SPEED KNOB** Rotate left and right to adjust Pan/Tile movement speed.
2	**IRIS/SHUTTER KNOB** Rotate left and right to adjust aperture and shutter speed Press to switch control modes.	4	**FOCUS KNOB** Rotate left and right to adjust camera focus.

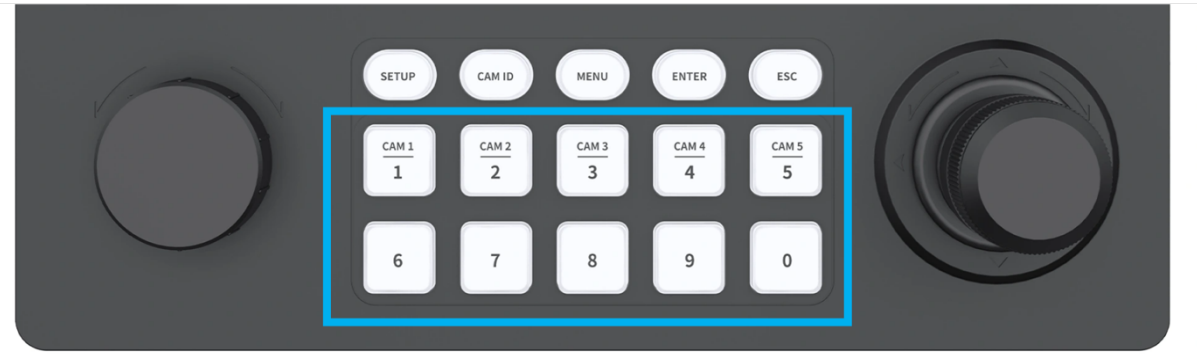
5.4 MENU AREA



NO.	FUNCTIONS	NO.	FUNCTIONS
1	SETUP	4	ENTER

	By pressing the button to switch the camera's exposure mode, it can directly cycle through "Aperture Priority, Shutter Priority, Gain Priority, Manual Exposure, Auto Exposure."		Used for completion and confirmation of any input.
2	**CAM ID** Press the CAM ID button to enter the camera activation mode. With the numeric keys, you can freely call any camera from the list by its number. Press the ENTER key to complete the call, or you can exit the camera activation mode by pressing ESC.	**5**	**ESC** Used for exiting any input or mode without saving.
3	**MENU** Press the MENU button to open or close the camera settings menu, and the keyboard will enter the MENU control mode. In MENU control mode, the joystick's up, down, left, and right movements will replace the camera remote control's directional buttons. The keyboard's ENTER key will replace the camera remote control's MENU ENTER button, and the keyboard's ESC key will replace the camera remote control's MENU BACK button.		

5.5 NUMERIC KEYPAD

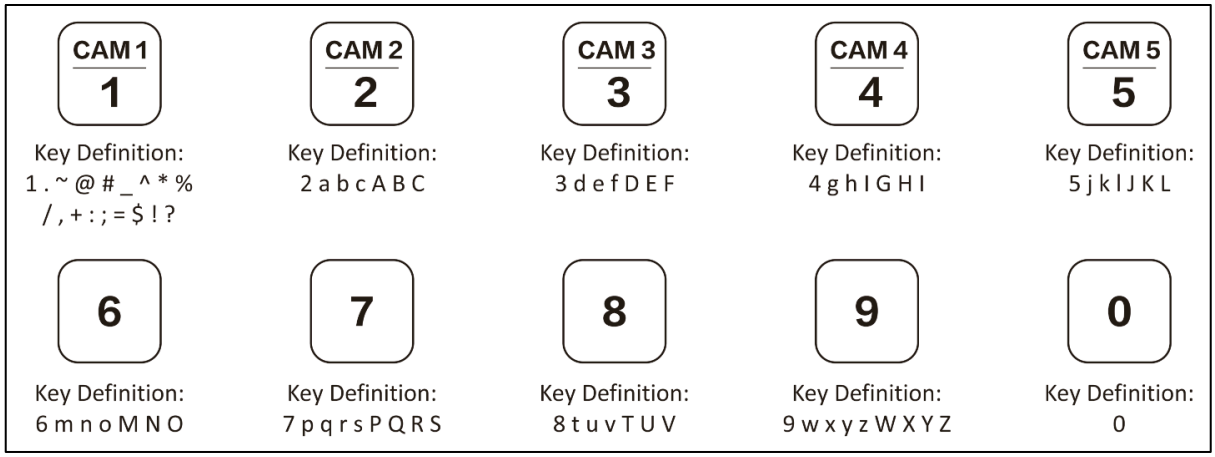


Numeric Keypad Area
The numeric key area features multiple functional modes, activating specific functions based on the current scene of the keyboard.

Mode One: Multi-Character Input Mode

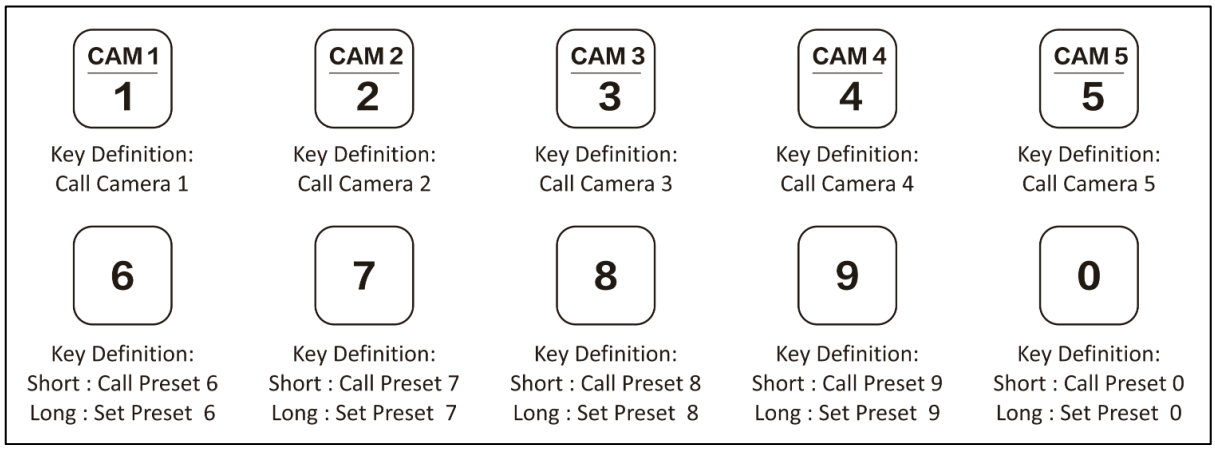
When searching for or manually adding a camera, certain protocols (e.g., Onvif) or some cameras require account and password verification. In this case, the numeric key area on the control keyboard can facilitate inputs of digits 1-9, full uppercase and lowercase letters, and some simple characters.

Below are the characters and letters corresponding to each numeric key, where quickly pressing the same numeric key allows it to cycle through the available input list.

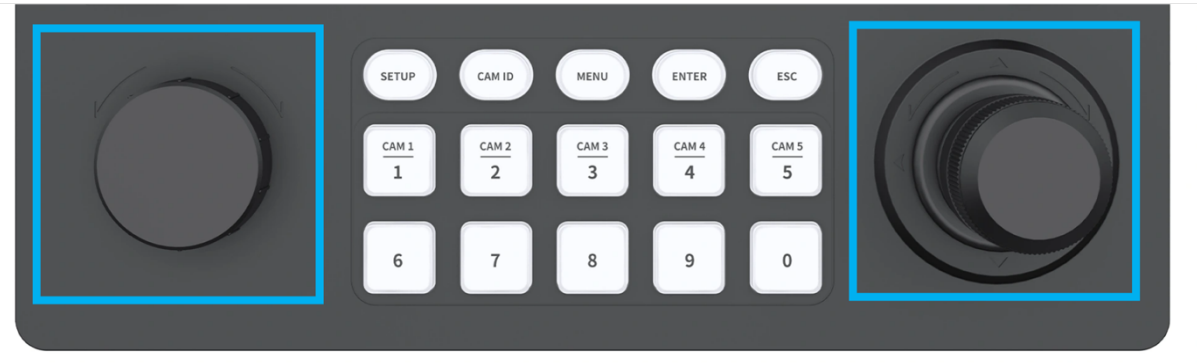


Mode Two: Quick Camera Switching / Quick Preset Recall Mode

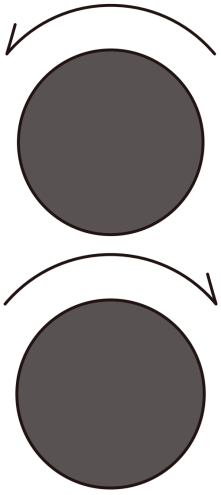
When in the preview page and playing/controlling the camera, you can quickly switch to cameras numbered 1-5 using the digital keys 1-5. Additionally, you can set preset positions for numbered 6-9 by pressing the digital keys 6-9. A short press recalls the corresponding preset position, while a long press sets the corresponding preset position.



5.6 ZOOM KNOB & JOYSTICK



ZOOM KNOB
Enabled in preview mode to control the zoom levels of the camera lens.

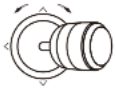


Rotate Left
Zoom level decreases.

Rotate Right
Zoom level increases.

3D JOYSTICK

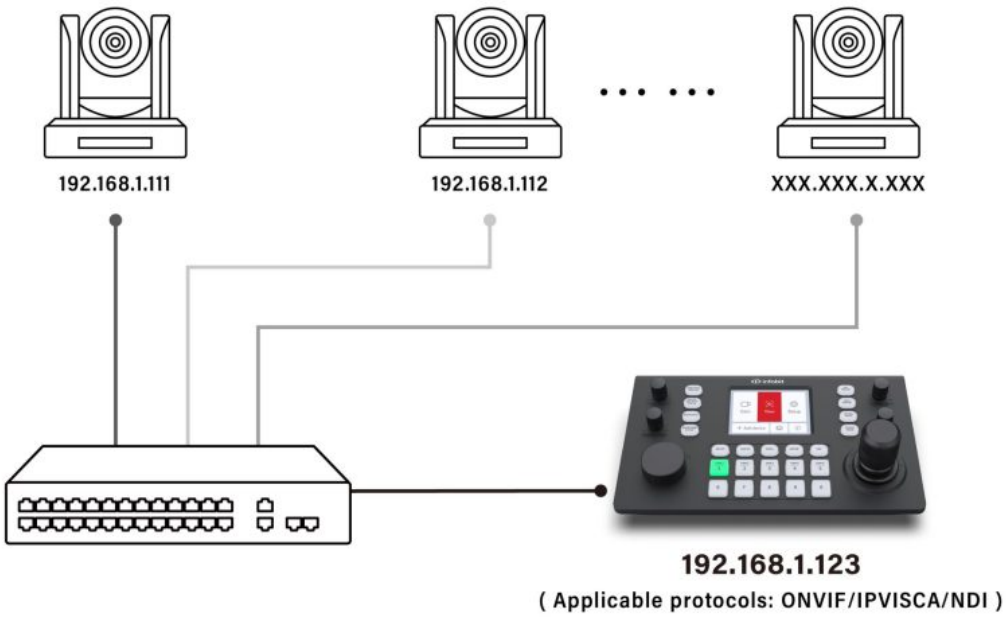
Joystick [up, down, left, right]: controls the pan tilt to rotate up, down, left, right
Joystick [Left and Right Rotation]: Rotate the joystick to zoom in. Rotate it to the right to zoom in + and to the left to zoom out -.

Operation	Output control	Operation	Output control	Operation	Output control
	UP		Down		Left
Operation	**Output control**	**Operation**	**Output control**	**Operation**	**Output control**
	Right		Zoom+		Zoom-

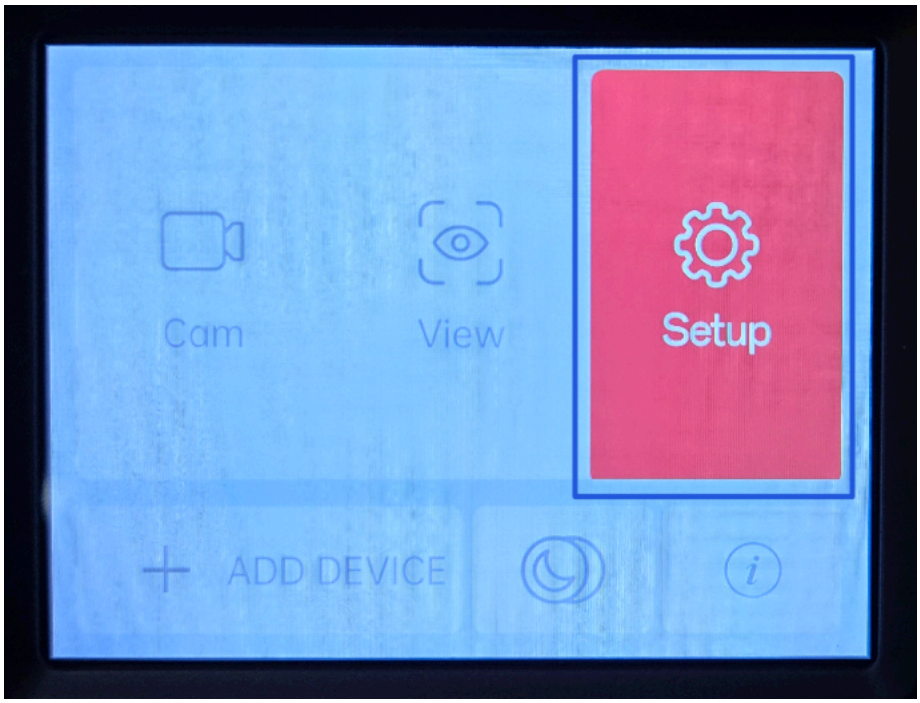
6. SCREEN

6.1 DIAGRAM

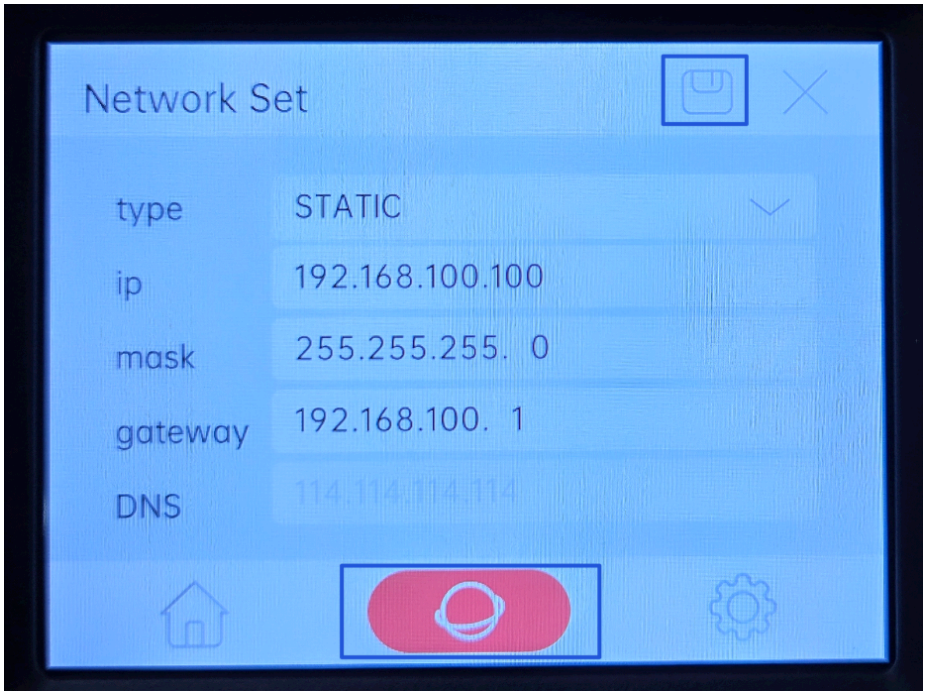
Before setup over the **iControl J20** keyboard, user shall connect the hardware right to make sure both cameras and J20 are under the same LAN subnet. Please see below diagram.



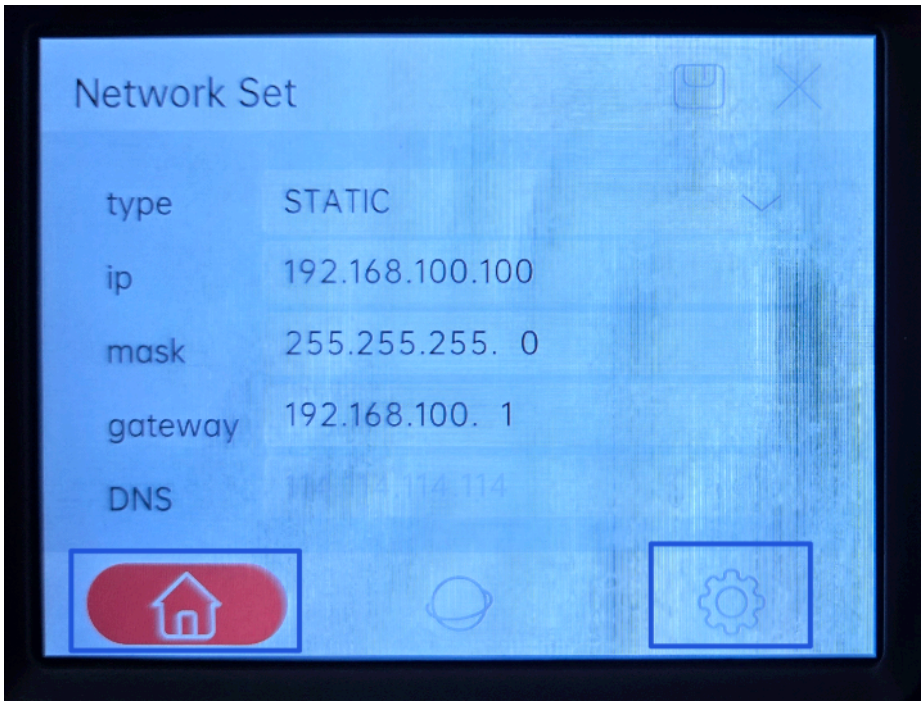
6.2 SETUP



Network: To setup the IP address of the J20, it supports both **Static** and **DHCP** types. Move the joystick to save or cancel, press joystick or ENTER button to confirm.



Press **ESC** to exit network settings, then move joystick to select the **“Home”** icon or **“Settings”** icon.

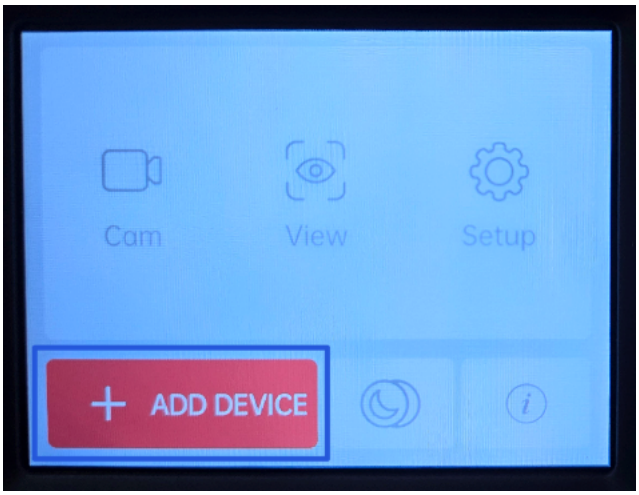


HOME: Back to screen home page.
SETTINGS: To setup below functions

- Language: English or Chinese
- MODE: Light or Dard modes
- Sound: ON/ OFF the beep sound.
- Version: Check version number.
- Factory reset: to reset the J20.
- Restart and upgrade: to reboot the J20 or upgrade the firmware.

6.3 + ADD DEVICE

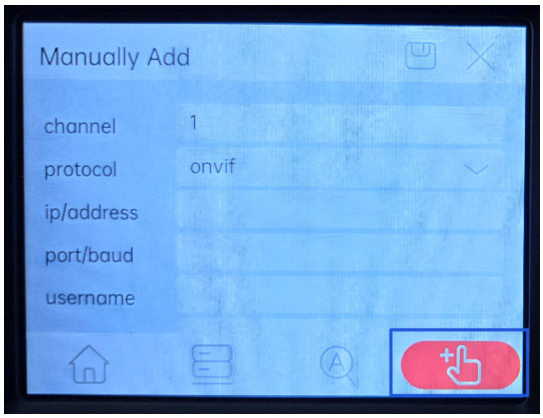
Click “+ ADD DEVICE” to add camera manually, auto scan connected cameras or check cameras lit.

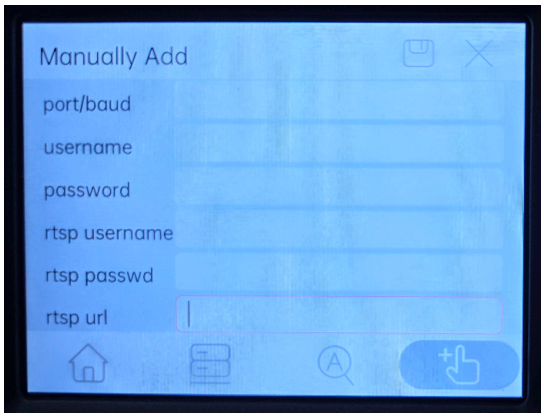


ADD MANUALLY

It includes below information should be completed:

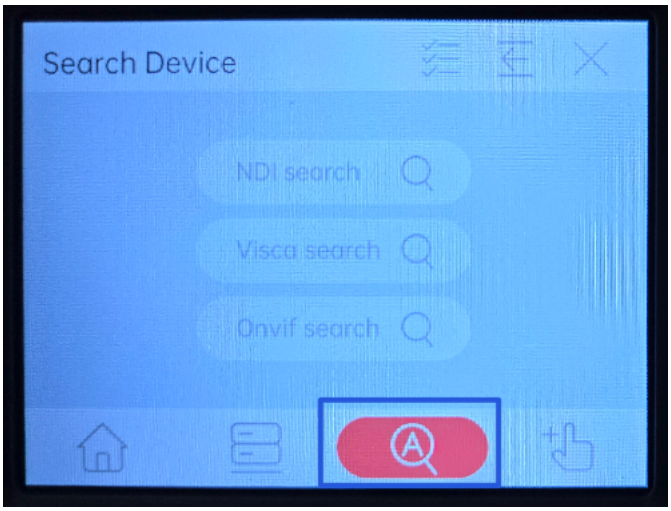
- **Channel:** Camera ID number.
- **Protocol:** Select ONVIF, VISCA (UDP), VISCA (TCP), SONY VISCA, or NDI.
- **IP address:** camera IP address.
- **Port/baud:** camera port number or baud rate
- **Username:** camera username
- **Password:** camera password
- **RTSP username:** RTSP streaming username.
- **RTSP password:** RTSP streaming password.
- **RTSP URL:** RTSP streaming address.



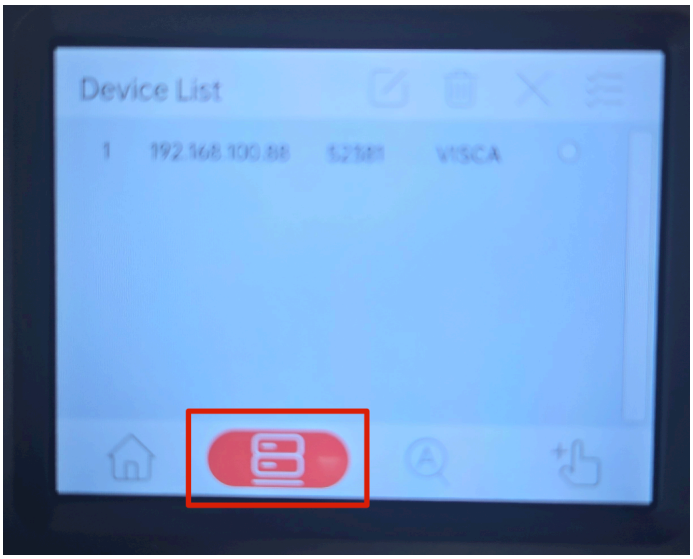


AUTO SCAN

Click the “A” icon to auto search all connected cameras. It supports auto scan by NDI, VISCA or ONVIF protocols.

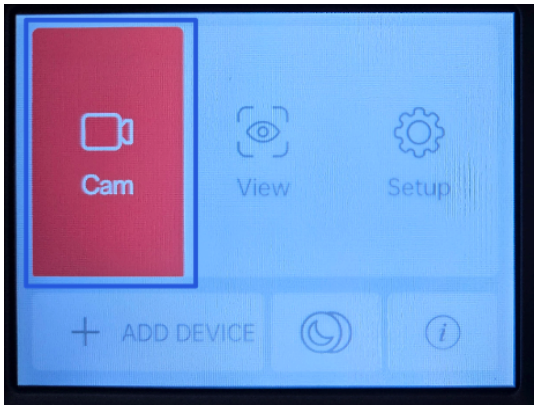


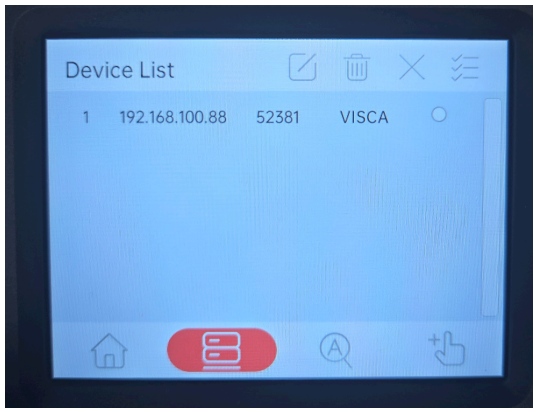
CAMERAS LIST
To check all cameras lit to select all, edit, delete or cancel.



6.4 CAM

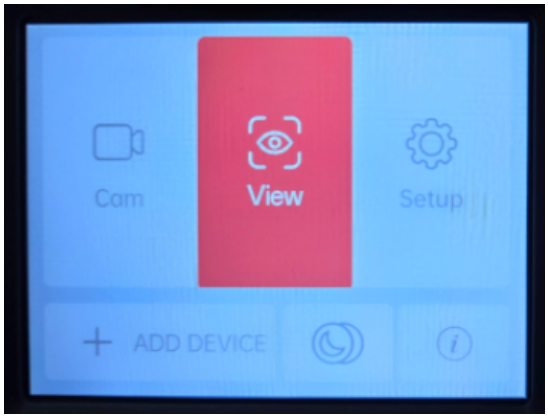
Click **“CAM”** to open cameras list. For details, please check ***6.3 + ADD DEVICES→ CAMERAS LIST.***

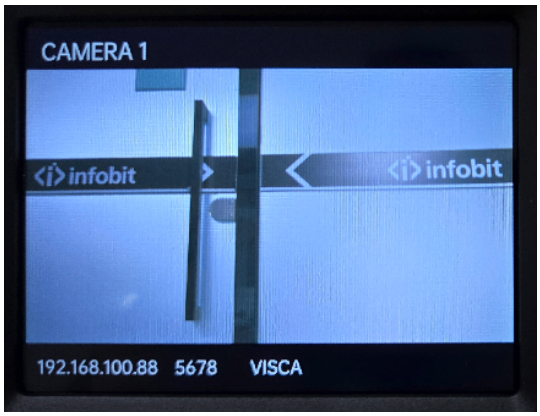




6.5 VIEW

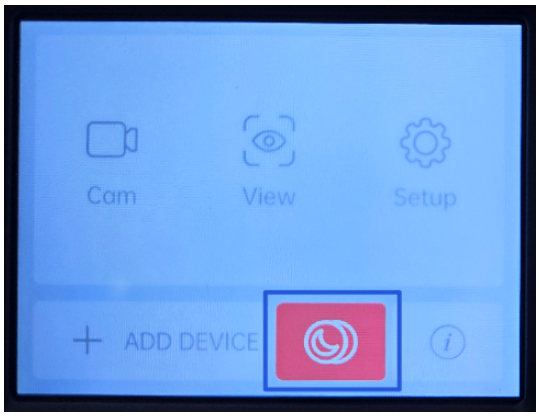
Click **“VIEW”** to check the preview of the camera signal. Press Camera ID to switch different camera signals.





6.6 DARK/ LIGHT

To select dark or light display modes.



7. WEB GUI

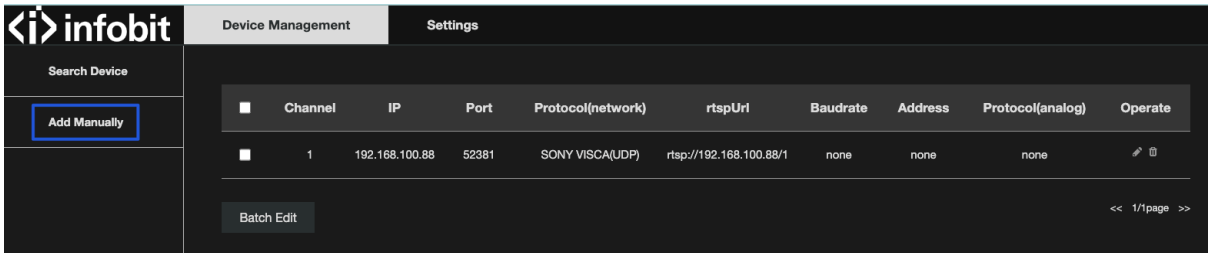
7.1 LOGIN

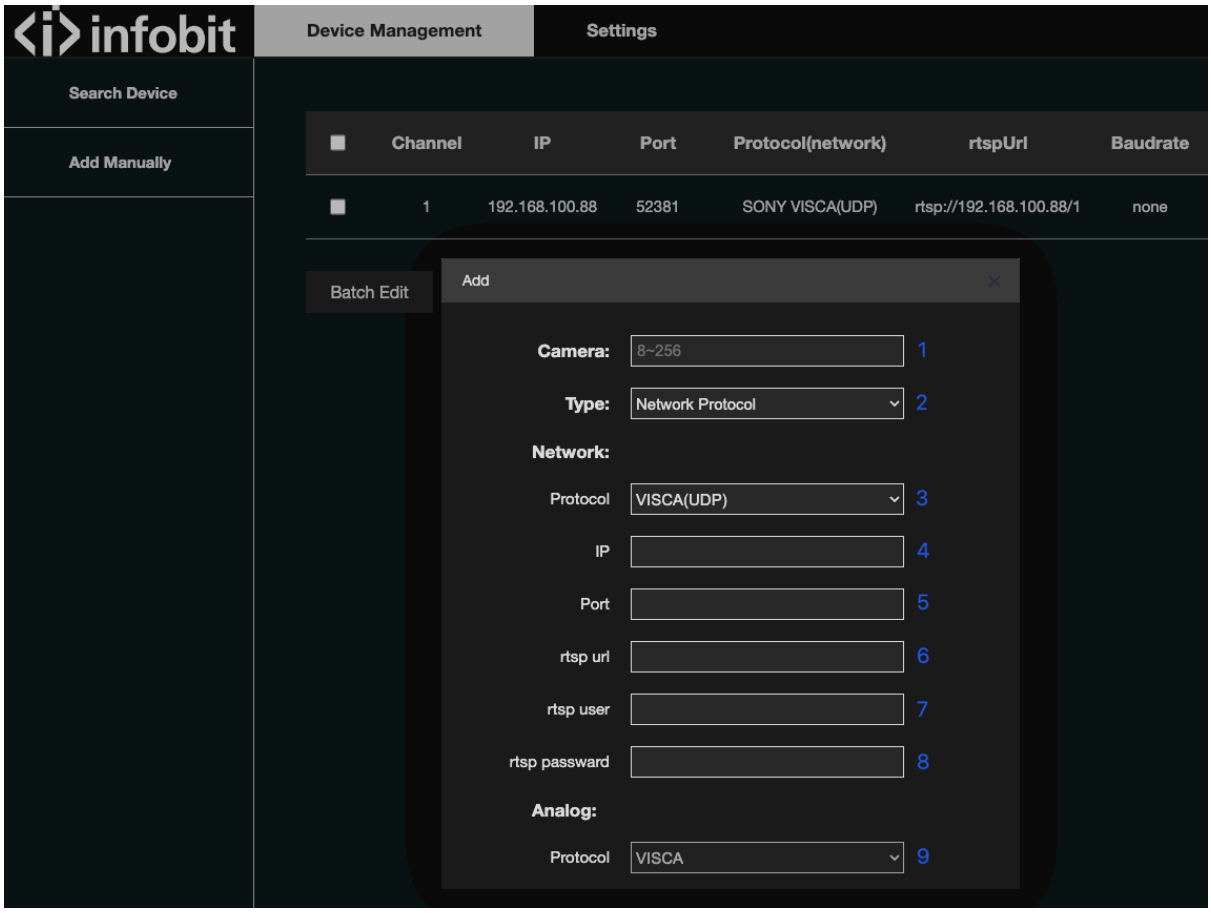
Ensure that the computer and the iControl J20 are properly connected within the same network. After the controller finishes booting, it will display the IP address: **192.168.x.xxx** in the network settings. Enter this IP address into the browser to access the configuration page. **username: admin password: empty**

Connect the keyboard and the computer to the same local area network, then enter the keyboard's IP address in the browser.

7.2 ADD MANUALLY

After login the web page, click “Add Manually” to add camera to the **iControl J20**.



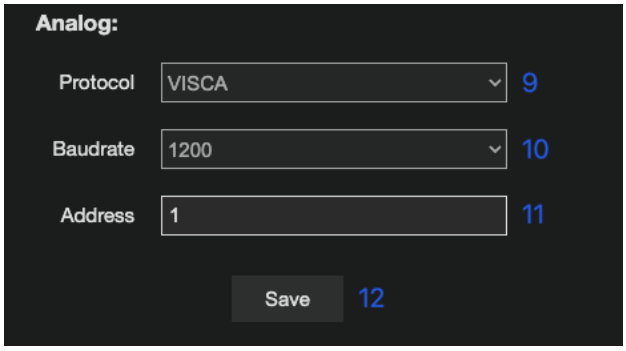


1: Input **camera ID** number.
Note: *Once the device is successfully added in the keyboard web interface and synchronized with the controller, you can click the corresponding keyboard number to control the camera.*

2: Select connection type: **Network Protocol** or **Serial Protocol**.

3: Select camera control protocols: **VISCA(UDP), VISCA (TCP), SONY VISCA (UDP), ONVIF, or NDI.**

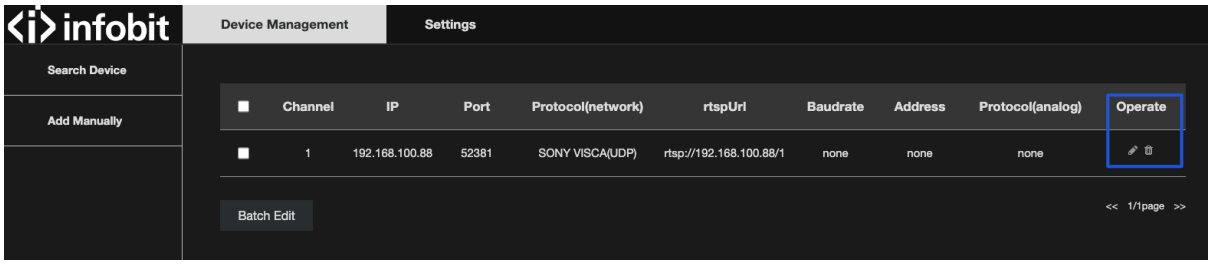
4: IP: Input the camera IP address.
5: Port: input the camera port number.
6: rtsp url: input the camera rtsp URL to display the preview video on the screen. (for example, INFOBIT iCam P20/P20N the URL is **rtsp://192.168.1.88/1** or **rtsp://192.168.1.88/2**, for other brand or model camera, please ask the manufacturer for correct URL address)
7: rtsp user: input RTSP authentication username.
8: rtsp password: input RTSP authentication password.
9: Analog- procotol: Select the right protocol for analog connection.



10: Baudrate: Select the right baudrate.
11: Address: input the right address number.
12: Save: Click “Save” to add camera.

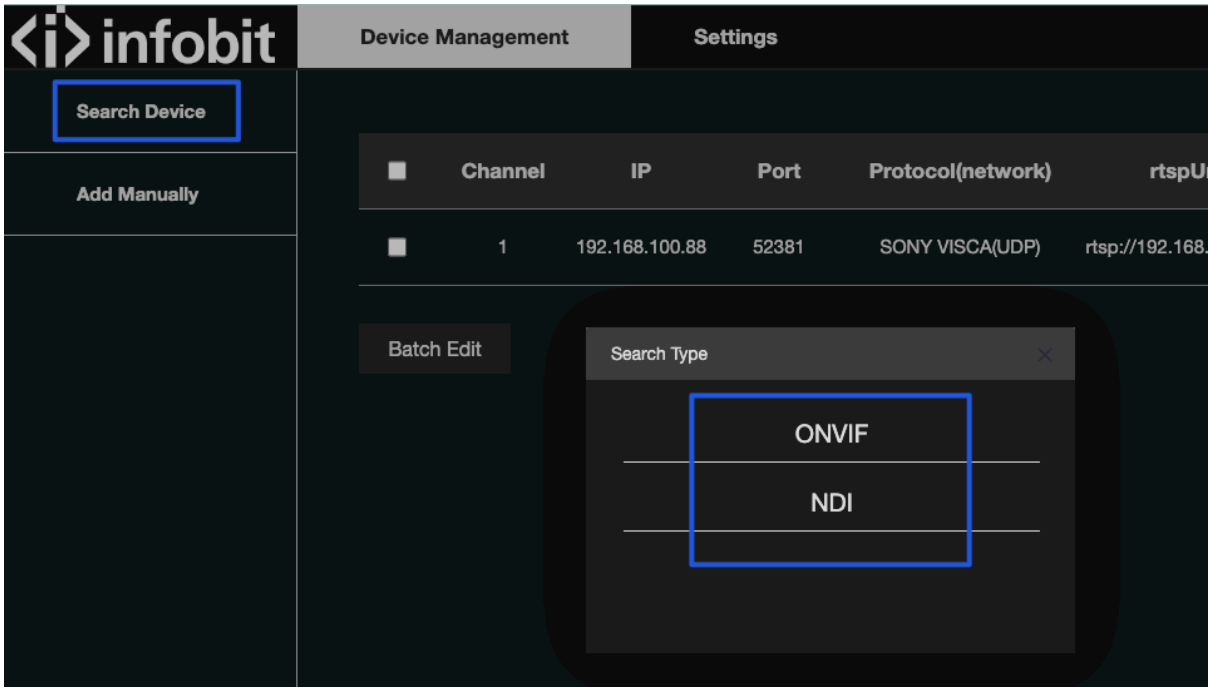
7.3 EDIT CAMERA CONNECTION

After camera added, the user can click below **“Edit”** or **“Delete”** icon to change the parameters anytime. Parameters list is shown as section **7.2 ADD MANUALLY.**



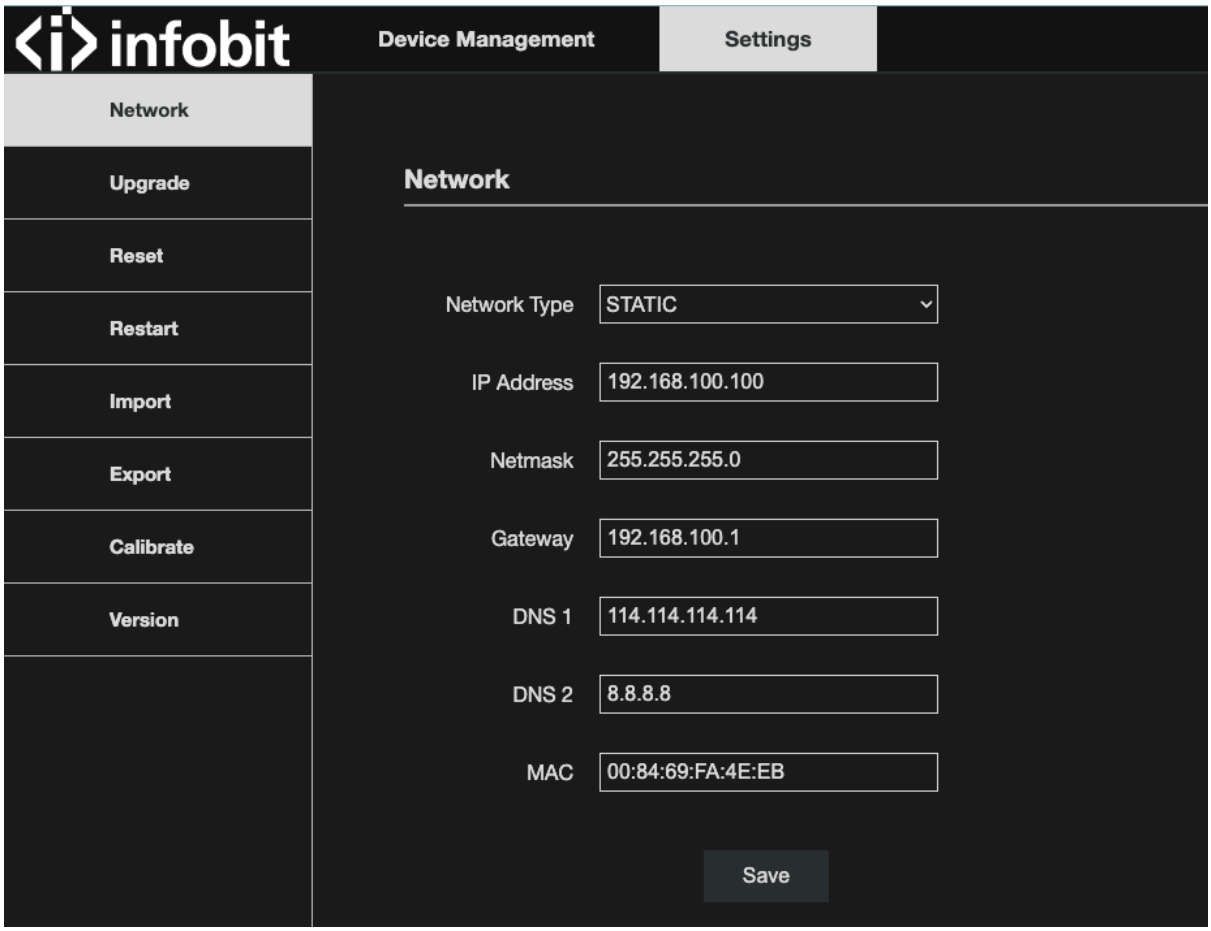
7.4 SEARCH DEVICE

After right connection between camera and the iControl J20, user can click “Search Device” to search the cameras list. Select **“ONVIF”** or **“NDI”** to search.



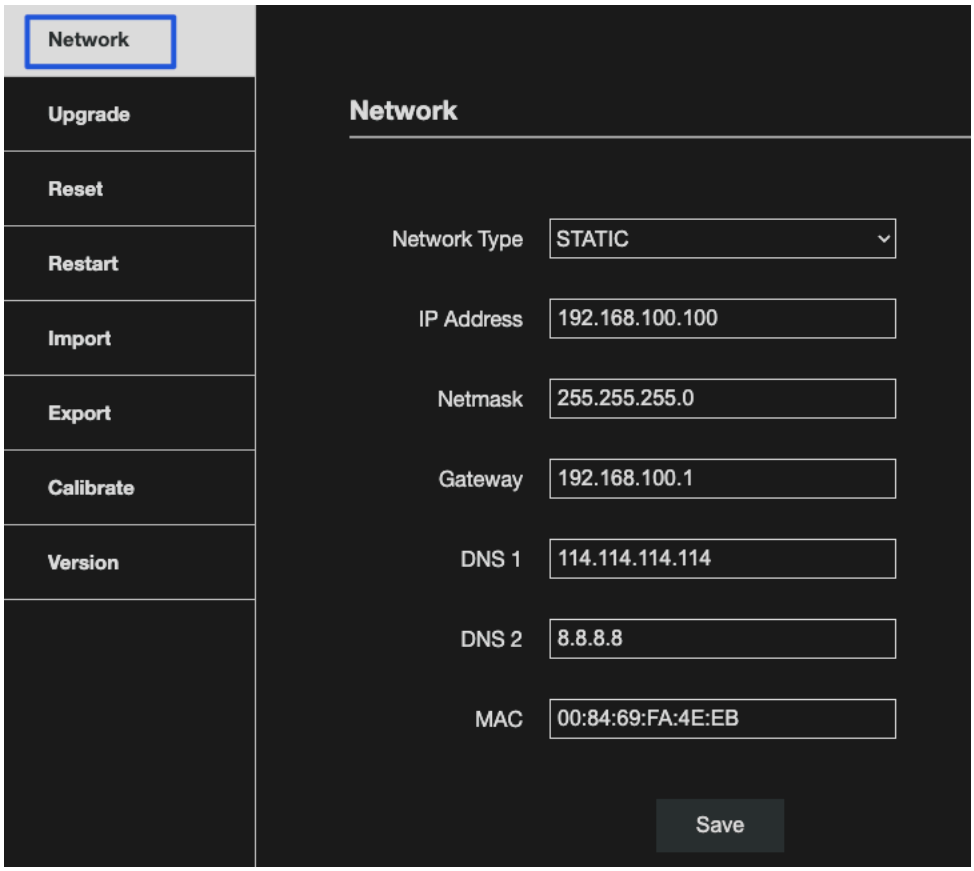
7.5 SETTINGS

User can setup or check below functions in the **“Settings”** menu: **Network, Upgrade, Reset, Restart, Import, Export, Calibrate, Version.**



7.5.1 NETWORK

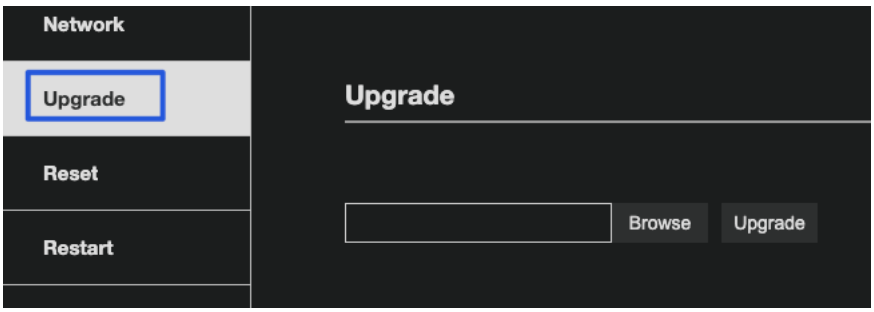
To setup the **iControl J20** IP address, input the right parameters and then click "**Save**". It supports both **STATIC** and **DHCP**.



7.5.2 UPGRADE

Click Upgrade to upgrade the firmware for the iControl J20. Click "**Browse**" to select file and then click "**Upgrade**" to proceed.

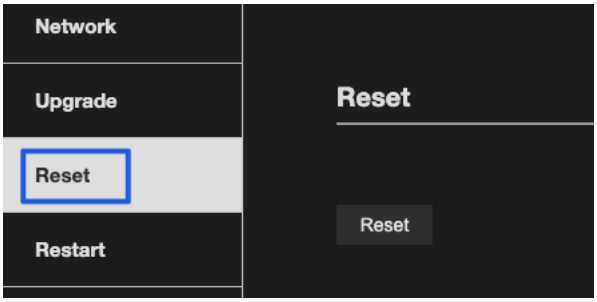
Note: *Do not perform any operations on the device during the upgrade process; do not turn off power or disconnect the network!*



7.5.3 RESET

Click “**Reset**” to make the J20 to be factory reset.

Note: *After reset, all configuration information and all connected cameras will be deleted.*



7.5.4 RESTART

Click “**Restart**” to reboot the J20.

7.5.5 IMPORT

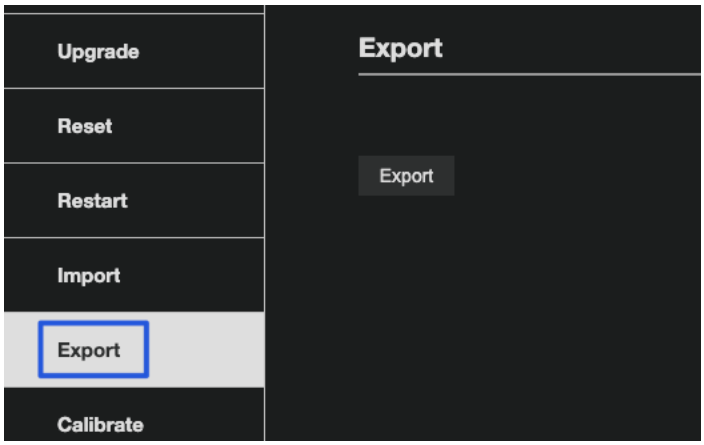
Click “**Browse**” to select the configuration file and then click “**Import**” to upload.

Note: *Import the device information from the previous keyboard. For example, when the previous keyboard added multiple devices, the exported file type can be used for importing to another device when adding a new keyboard.*

7.5.6 EXPORT

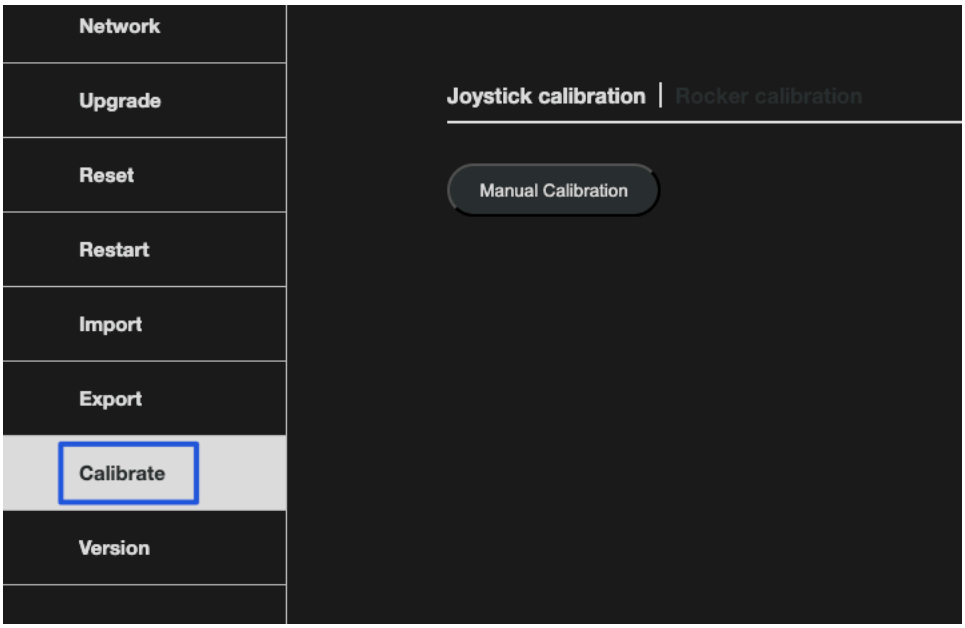
Click “**Export**” to save the configuration file.

Note: *Export the relevant information for the current keyboard adding multiple devices, which can be used for other keyboard devices.*



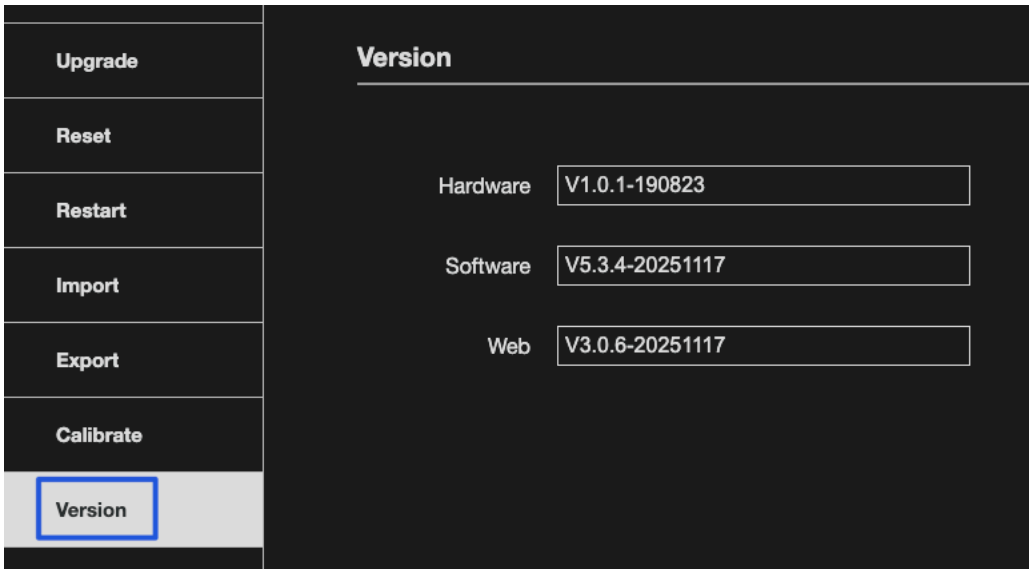
7.5.7 CALIBRATE

Click **“Manual Calibration”** to calibrate the Joystick position.



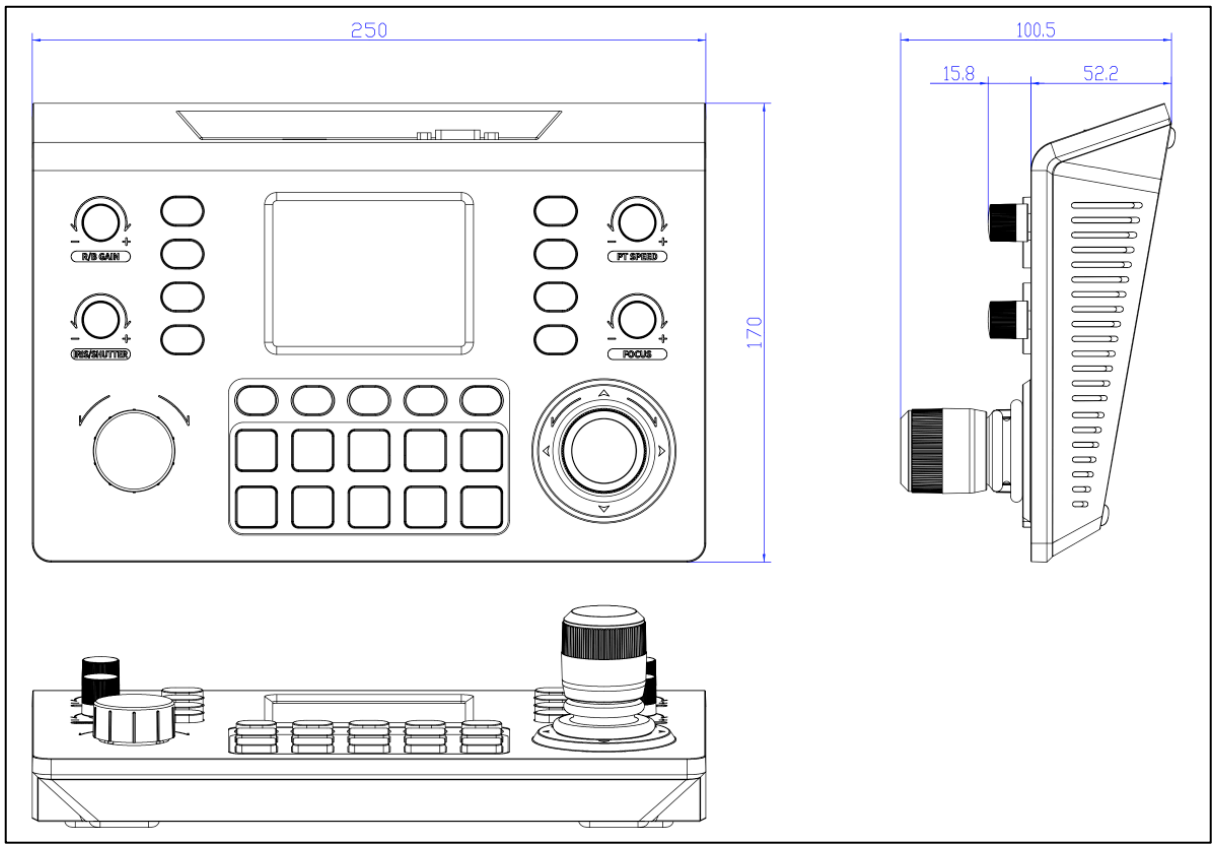
7.5.8 VERSION

Check the **hardware, software and web version** of iControl J20.



8. DIMENSION

Dimension: mm



9. FAQ

1. When the screen displays "**Connection Failed**," please check if the device corresponding to this IP is properly connected to the local area network.

2. When the screen displays "**Username or Password Incorrect**", please verify if the username and password for the added device are correct.

3. If adding devices from other brands with the **ONVIF protocol** fails, check if the camera has the ONVIF protocol enabled.