

D Series DANTE AV PTZ Camera

USER MANUAL

Part Three: Camera Secondary Network IP Streaming User Manual

Version: D-09232021



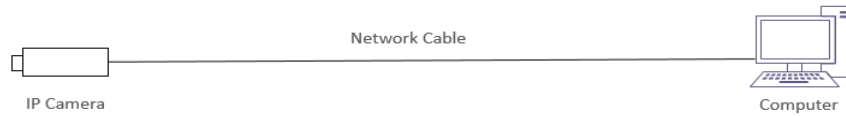
Contents

PART THREE: SECONDARY NETWORK IP STREAMING	3
NETWORK CONNECTION	3
PREPARATION	3
CHECK BEFORE LOGIN	3
SUPPORTED BROWSER	3
LOGGING IN TO THE WEB INTERFACE	4
INTRODUCTION TO THE WEB INTERFACE.....	5
PREVIEW	6
PAN AND TILT	6
PRESETS	6
VIDEO ENCODE	7
VIDEO TRANSMISSION.....	8
IMAGE ADJUST	9
AUDIO SETTING.....	12
ETHERNET.....	13
FIRMWARE UPGRADE	13
RESET OPTIONS.....	14
ACCOUNT	14
OSD	14
SYSTEM TIME	15

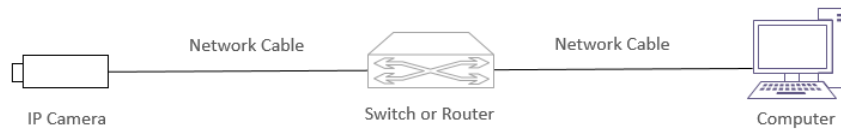
Part Three: Secondary Network IP Streaming

Network Connection

Before accessing a network camera (also known as IP Camera or IPC) from a PC, you need to connect the network camera to the PC directly with a network cable or via a switch or router.



Use Shielded Twisted Pair (STP) cable to connect the network interfaces of the network camera and the PC.



Use Shielded Twisted Pair (STP) cables to connect the network interfaces of the camera and the switch or router.

Preparation

After you have completed the installation in accordance with the quick start guide, connect the camera's power to boot it. After the camera's booted, you can access the camera from a PC client using Internet Explorer or a Video Management System (VMS).

The following uses Internet Explorer 11 on a Microsoft Windows 10 operating system as an example. Multi-browser use is supported.

Check before login

- The camera is powered on and connected to the network switch
- The camera's IP address is located within the same subnet as the PC
- The PC is connected to the network switch
- The PC's IP address is located within the same subnet as the camera
- The PC is installed with Internet Explorer 8.0 or higher (Internet Explorer 11 recommended)
- Use default video format setting or set the camera video format to 1080P30 or 1080P25 using RS485 keyboard (Refer to camera setting menu).

Supported browser

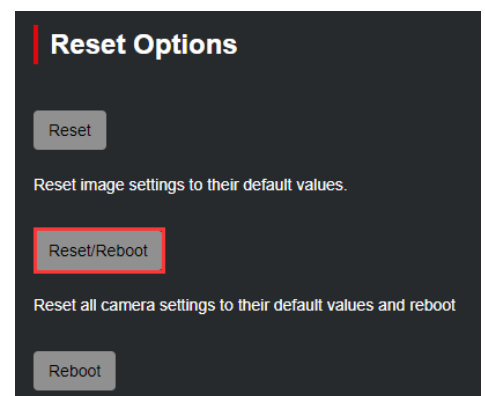
This camera support cross-system multi-browser access, like to watch live preview, camera PTZ control, configure the audio and video parameters and other settings.

Supported Browsers list:

- Internet Explorer (IE11 recommended)
- Google Chrome
- Mozilla Firefox
- Safari

NOTE: If you can't watch live preview on other browsers except Internet Explorer, you can try to do as followings:

- Make sure App version is V920 and above
- Do a reset on camera IP web interface>Reset Options page
- Clear browser cache

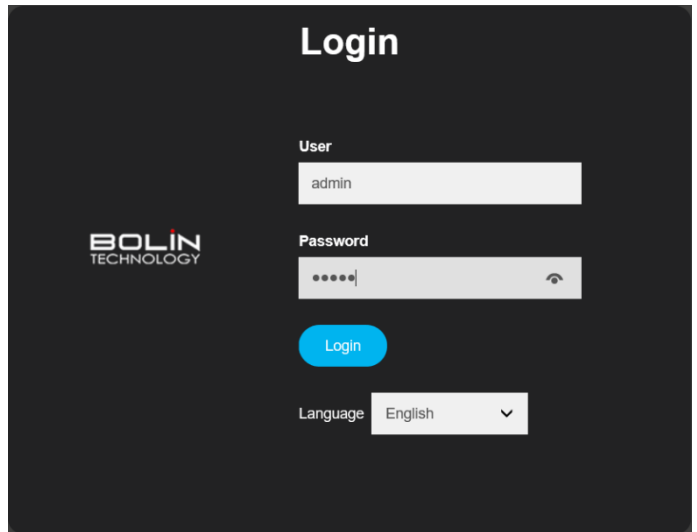


Logging in to the Web Interface

The default static IP address of the camera is 192.168.0.13, and the default subnet mask is 255.255.255.0

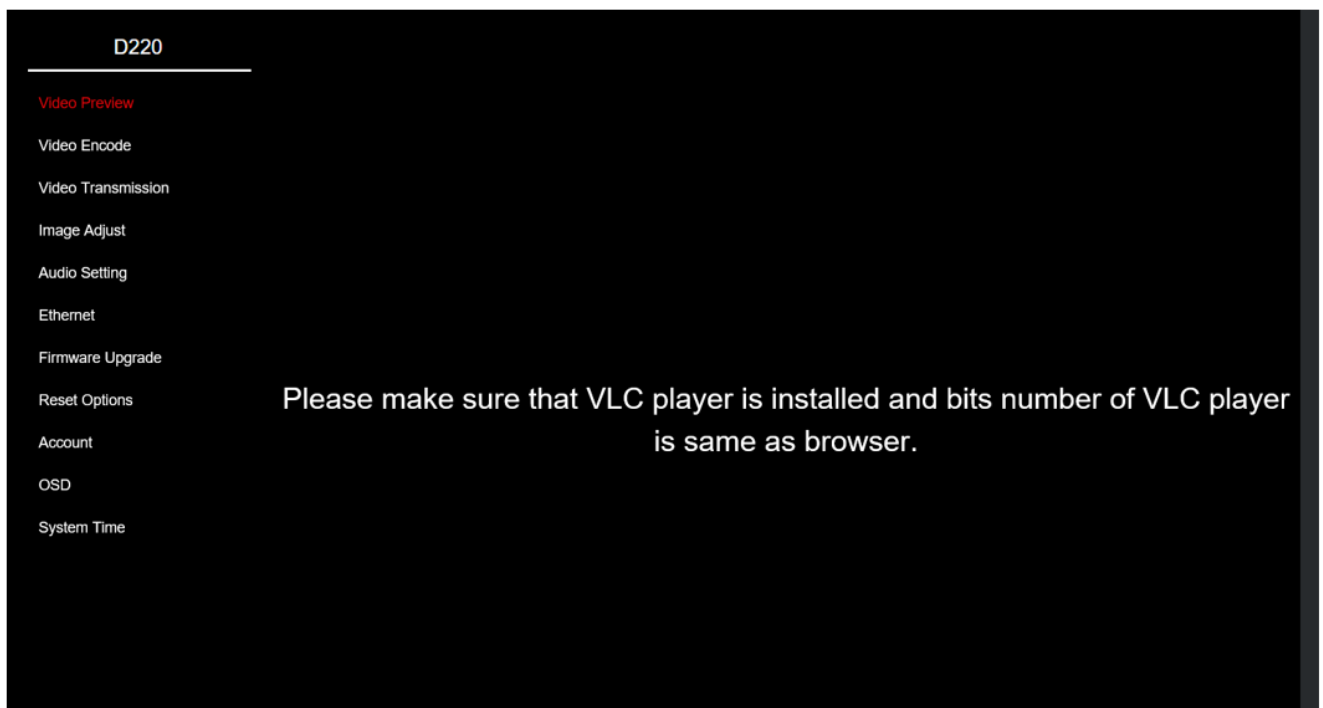
The following uses Internet Explorer 11 as an example to describe the login procedure.

1. Browse to the login page by entering the correct IP (default IP is 192.168.0.13) address of your camera in the address bar.
2. Enter the username and password, and then click **Login**. For the first login, use the default username **admin** and password **admin**.
 - The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).
 - The camera protects itself from illegal access by limiting the number of failed login attempts. If login fails six times consecutively, the camera locks automatically for ten minutes.



NOTE: If your PC/laptop already installed VLC player, you can watch live preview directly after logged in. If your PC/laptop haven't installed VLC player yet, you may be prompted to install the VLC player.

Please download and install the correct version of VLC player (it means if your PC/ laptop operating system is 64 bit, you have to download the 64 bit version VLC. If your PC/laptop is 32 bit, you have to download the 32 bit version VLC. After done the installation, user can re-login to the IP interface and watch the live preview.



Introduction to the Web Interface



1. Preview

- Used to monitor the camera video image
- Used to do camera PTZ control and preset setting

2. Video Encode

- Used to configure the camera video Main and Sub streams video parameter such as encode mode, resolution, bit rate, frame rate, I Frame Interval, and so on

3. Video Transmission

- Used to configure the camera RTMP streaming. To push the RTMP streaming to the third-party video platform, like the YouTube, Facebook and so on

4. Image Adjust

- Used to configure the camera image parameter such as focus, exposure, white-balance, image, image setting, and noise reduction

5. Audio Setting

- Used to configure the camera audio parameter such as the Encoder Mode, Sample rate and Bitrate

6. Ethernet

- Used to configure the camera network parameter, can be static IP or DHCP, as well as HTTP port and RTSP port configuration

7. Firmware Upgrade

- Used to display the camera current version information
- Used to do firmware upgrade

8. Reset Options

- Used to reset the camera image parameter/all parameter to default
- Used to reboot the camera

9. Account

- Used to modify the admin account password

10. OSD

- Used to overlay the time, camera name, logo and text content on the IP video

11. System Time

- Used to setting the time zone and synchronize camera system time with the NTP server


Preview

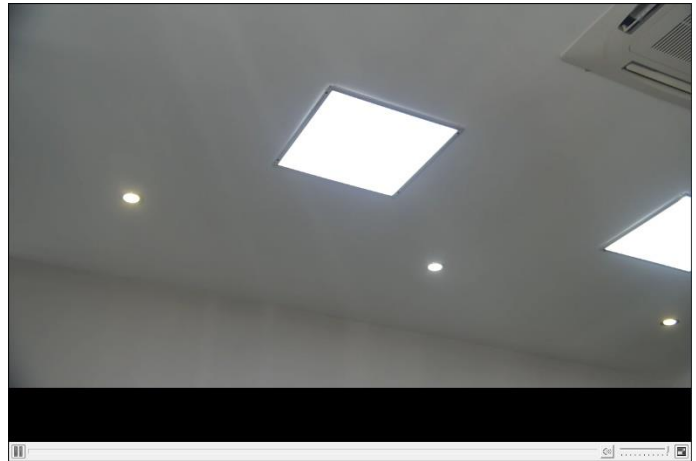
The preview page is used to watch the live preview of the camera.

Play/stop Live Preview:



User can click the  /  button which on the bottom toolbar, to watch live video or stop the live video.

Mute:

User can enable or disable the audio of live preview by click the  button on bottom toolbar, while enabled audio, user can drag the volume bar to adjust the audio.



Fullscreen:

User can click the  button to enlarge the live preview window to full screen, then click  button again to back to normal size, or press PC/laptop "Esc" button to switch back to normal size while in full screen.

Pan and Tilt

Pan and Tilt menu is used to do:

- Camera PTZ control,
- Adjust the pan / tilt / zoom speed
- Set focus mode

Pan/Tilt Speed: to adjust the pan/tilt speed, support 0-24 level selectable

Focus Speed: to adjust the focus speed, support 0-7 level selectable

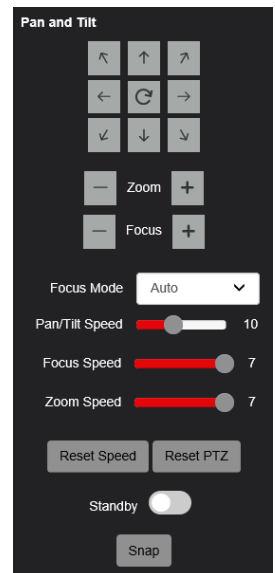
Zoom Speed: to adjust the zoom speed, support 0-7 level selectable

Speed Reset: To reset the zoom and focus speed to default

PTZ Reset: To reset the PTZ control to default

Standby: If turn on standby switch, the camera will go to standby status, it is not powered off. You can get it back immediately by turning off the standby status.

Snap: to capture the snapshot of the live view.

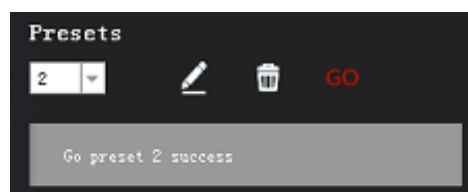
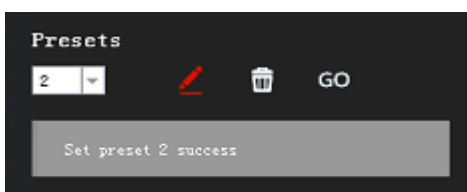
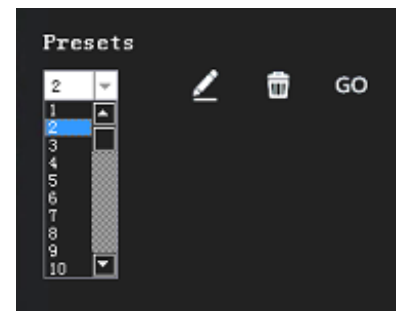


Presets

Presets are predetermined positions that the user can command the camera to recall quickly.

To add a new preset:

1. Use the control panel and image viewer to pan to the desired Pan, Tilt, Zoom, and Focus position
2. Click the triangle symbol which in the drop-down list and select a number for this position (here we select 2 as example)
3. Click the pencil symbol and it will save this position as preset 2
4. Select a preset number and click GO button. The camera will recall the position quickly.
5. Select a preset number and click Delete button, it will delete this preset and you can not recall it quickly by GO button.



Video Encode

The video encode page is used to configure settings for the compression, format, and data rates for all video streams produced by the camera

Definitions:

- **Encode Mode:** The encoding standards that are available for use (H.264 / H.265)
- **Profile:** Support baseline, MP and HP mode
- **RTSP Address:** The RTSP streaming URL of both main stream and sub stream
- **Resolution:** (W x H) The number of Pixels that make up the width of the image (W) by the number of horizontal lines that make up the height of the image (H)
- **Bitrate:** The amount of data transmitted per second. Measured in Kilobits Per Second (Kbps). 1000 kbps = 1Mbps
- **Framerate:** Rate at which image frames are captured
- **Bitrate Control:**
 - CBR – Constant Bit Rate
 - VBR – Constrained Variable Bit Rate.
- **I Frame Interval:** The shorter the Interval, the better chance you have of video being of better quality.

I Frame also can be called "Key Frame", a "Key Frame" is an entire complete and total image, which is used as a reference for other frames ("images"), that the camera generates.

Stream	Main	Sub
Enable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Encode Mode	H.264	H.264
Profile	MP	MP
RTSP Address	rtsp://192.168.2.143:554/stream/main	rtsp://192.168.2.143:554/stream/sub
Resolution	1920x1080	1280x720
Bitrate (kbps) (1024-10240)	4096	2048
Framerate	30	30
Bitrate Control	CBR	CBR
I Frame Interval (3-120)	30	30

- **Main Stream** – The main stream, viewed by default on the preview page
 - **Encode Mode:**
 - H.264
 - H.265
 - **RTSP Address:**
 - RTSP main stream address
 - Automatically generated based on the current IP address of the camera
 - You can copy this address to VLC or another network video compatible player to receive the RTSP main stream and watch the video.
 - **Resolution:**
 - 1920x1080
 - 1280x720
 - 1024x576
 - **Bitrate:**
 - The amount of data transmitted per second. Measured in Kilobits Per Second (Kbps). 1024 kbps = 1Mbps
 - 1024-10240 selectable
 - **Framerate:**
 - Rate at which image frames are captured
 - 3-60 selectable
 - **Bitrate Control:**
 - CBR – Constant Bit Rate
 - VBR – Constrained Variable Bit Rate.
 - **I Frame Interval**
 - 3-120 selectable
- **Sub Stream** – The sub video stream produced by the camera. This can be disabled by unchecking the box at the top of this stream's settings. We can switch to sub stream on the top bar of the preview page
 - **Encode Mode:**
 - H.264
 - H.265
 - **RTSP Address:**

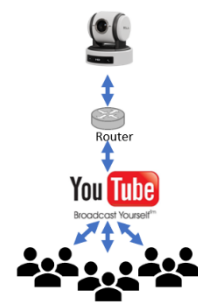
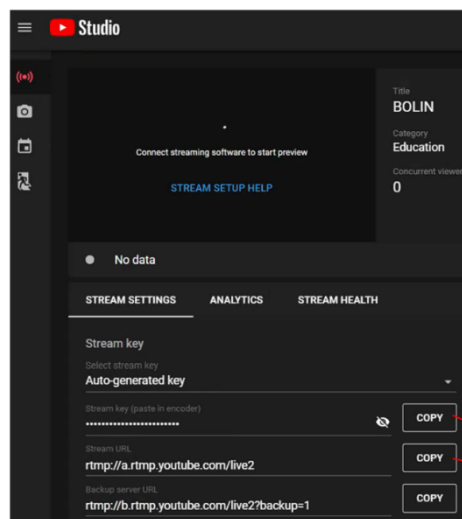
- RTSP sub stream address
- Automatically generated based on the current IP address of the camera
- You can copy this address to VLC or another network video compatible player to receive the RTSP sub stream and watch the video
- **Resolution:**
 - 1280x720
 - 1024x576
 - 640x360
- **Bitrate:**
 - 1024-10240 selectable
- **Framerate:**
 - Rate at which image frames are captured
 - 3-60 selectable
- **Bitrate Control:**
 - CBR – Constant Bit Rate
 - VBR – Constrained Variable Bit Rate.
- **Frame Interval:**
 - 3-120 selectable

Video Transmission

This camera supports RTMP protocol, it can push stream to other CDN or cloud platform.

- Check the RTMP State Main or Sub Enable button
- Copy and paste the stream URL from the online platform
- Copy and paste the Stream Key (Also known as the Stream ID) from the online platform.

Example shows where to copy the information from YouTube



For Example

URL/Key: `rtmp://a.rtmp.youtube.com/live2/6yeu-mg8p-txtm-mvp9-35eb`

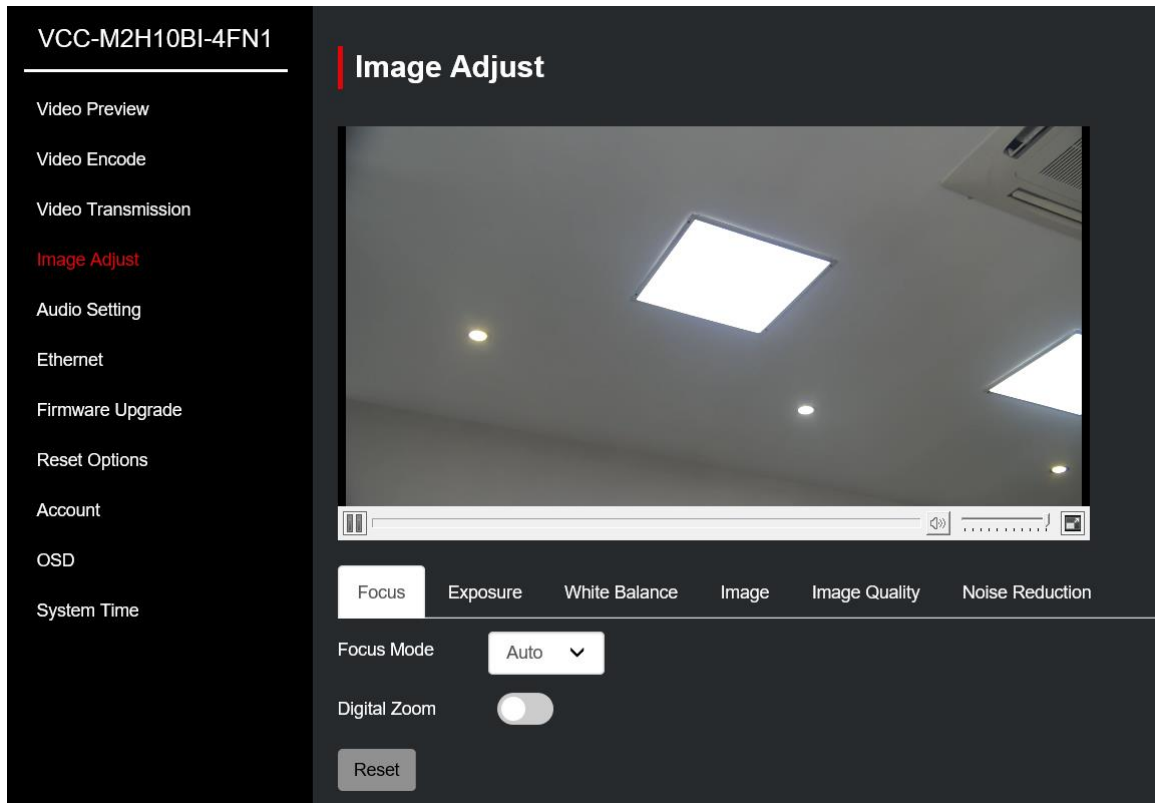
- Click Save button on camera RTMP page
- Allow a few minutes for the stream to connect. The status on your streaming platform (Such as YouTube) will change to Live. When this happens, the camera is streaming video Live to the platform.

NOTE:

- **Must enable audio** on Audio Setting page before setup RTMP streaming, otherwise, RTMP streaming may proceed without audio source.
- Similar steps can be followed to stream to any platform that supports RTMP such as Facebook, Twitter, Twitch, etc.

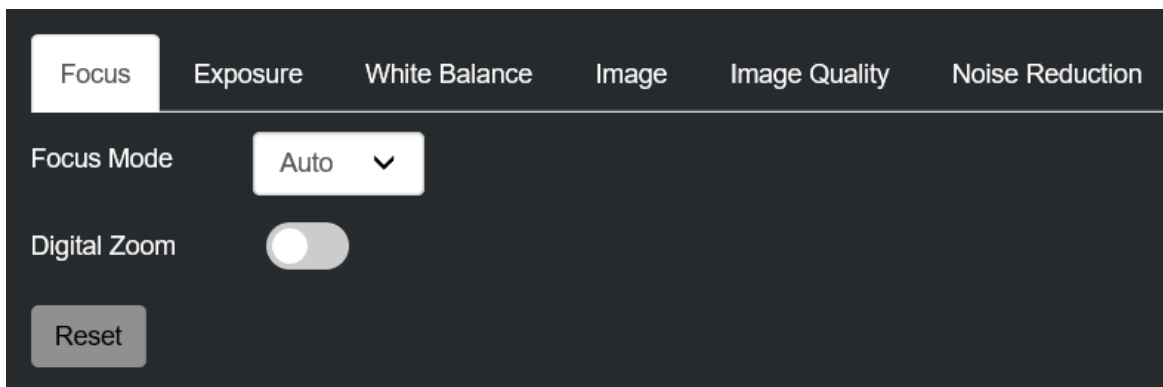
Image Adjust

Image parameters can be adjusted to control the way the image is captured and displayed



Focus

The Focus menu is used to set the items related to focus.



Focus Mode:

You can set to Manual or Auto mode

Digital Zoom:

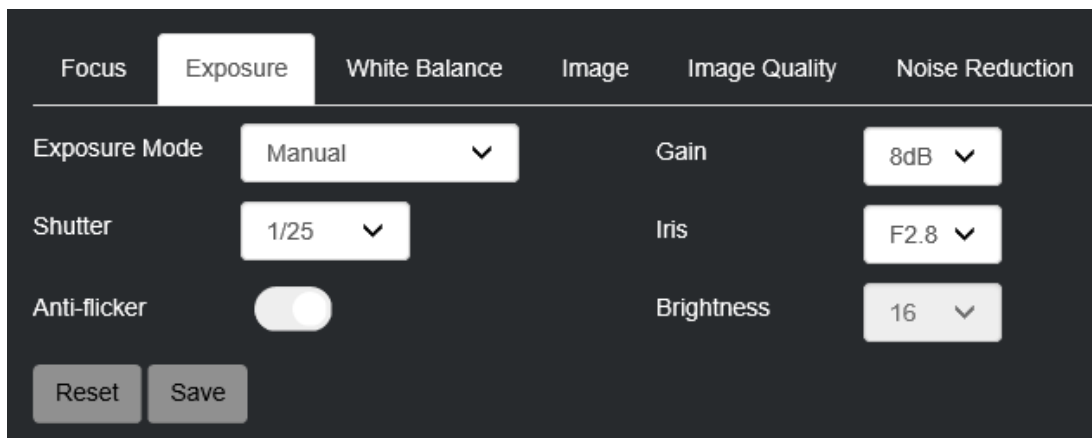
Turn Digital Zoom ON, 2x digital zoom is activated.

You can set digital zoom to ON or OFF. When turn to OFF, digital zoom does not operate, and only optical zoom is available. When turn to ON, digital zoom takes over after optical zoom reaches MAX (20x). Up to 40x can be zoomed digitally.

When digital zoom is available, the resolution decreases.

Exposure

The Exposure menu is used to set the items related to exposure.



Exposure Mode

Auto: The exposure is adjusted automatically using the values set for EX-COMP (Exposure Compensation).

Manual: Adjust the GAIN, electronic shutter speed (SPEED), iris (IRIS) manually.

Iris Priority: Iris Priority mode. The exposure is adjusted automatically using the values manually set for iris (IRIS) and EX-COMP.

Shutter Priority: Shutter Priority mode. The exposure is adjusted automatically using the values manually set for electronic shutter speed (SPEED) and EX-COMP.

Brightness Priority: Bright Priority mode. The exposure is adjusted automatically using the values manually set for electronic brightness level.

When you select one of the various exposure modes, some of the following setting items can be adjusted.

GAIN: Select the gain from the following:

0dB, 2dB, 4dB, 6dB, 8dB, 10dB, 12dB, 14dB, 16dB, 18dB, 20dB, 22dB, 24dB, 26dB, 28dB, 30dB

NOTE: not available in Auto, Iris, Shutter, Brightness mode

SHUTTER: Select the electronic shutter speed from the following:

When video format is set to 720P25, 1080P50, 1080i50, 1080P25, 720P50, Speed can be selected from the following:

1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10K.

When video format is set to 720P30, 1080i59.94, 1080P29.97, 720P59.94, 1080P59.94, 1080i60, 1080P30, 1080P60,

720P60, Speed can be selected from the following:

1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10K.

NOTE: not available in Auto, Iris, Brightness mode

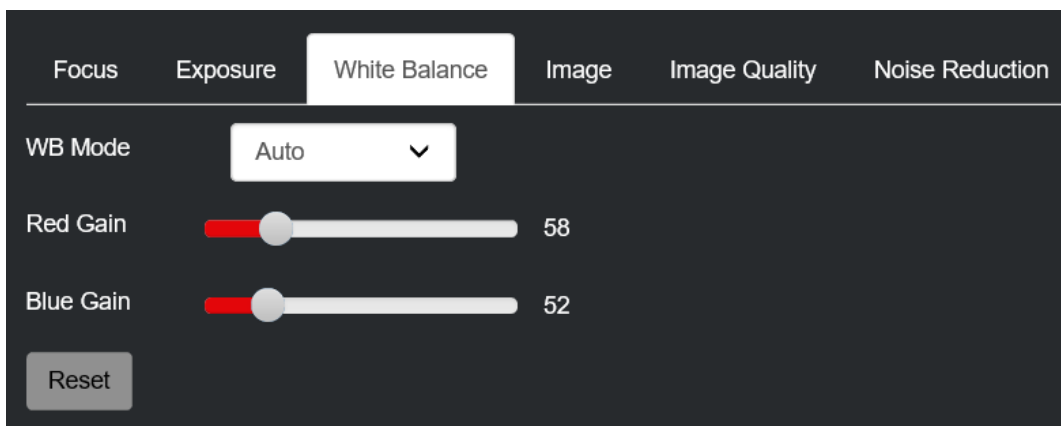
IRIS: Select the iris the following: CLOSE, F14, F11, F9.6, F8.0, F6.8, F5.6, F4.8, F4.0, F3.4, F2.8, F2.4, F2.0, F1.6

Anti-flicker: Enable it before you to select, 50Hz and 60 Hz selectable

Brightness: Adjustable from 0 to 27 by drag the setting bar (not available in Auto, Manual, Iris, and Shutter mode)

White-Balance

The White-Balance menu is used to set the items related to white balance.



White Balance Mode

Auto: This mode computes the white balance value output using color information from the entire screen. It outputs the proper value using the color temperature radiating from a black subject based on a range of values from 2500K to 7500K. This mode is the initial setting.

Indoor: 3200K Base Mode

Outdoor: 5800K Base Mode

One Push: The One Push White Balance mode is a fixed white balance mode that may be automatically readjusted at the request of the user (One Push Trigger). It is assuming that a white color subject is in place with correct lighting conditions and occupies more than 1/2 of the camera's image. One Push White Balance data is lost when the power is turned off.

NOTE: When you select the One Push

Perform the following operations:

1. Place an image of white subject (For example: A piece of white paper) in the center of the screen.
2. Press the HOME button of the infrared remote controller.

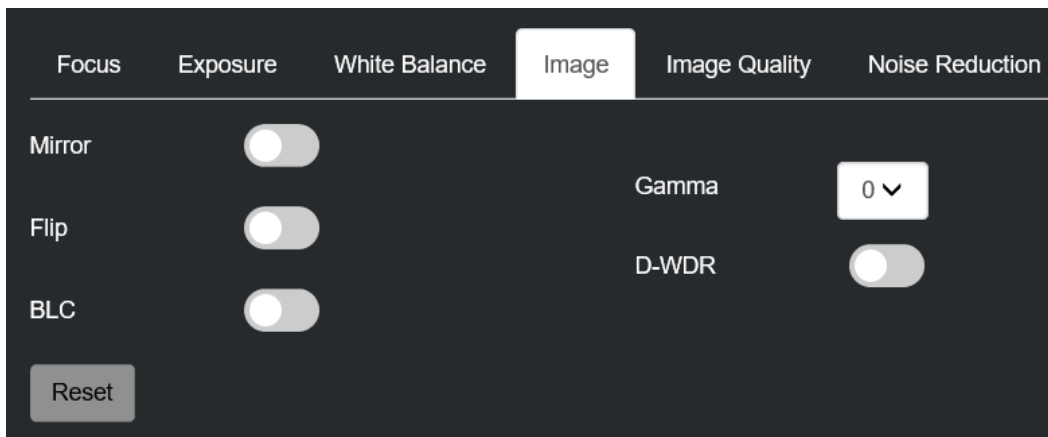
The one-push white balance adjustment is activated.

Auto tracking: Auto Tracking White balance (2000K to 10000K), this allows the camera to adjust the tone according to the temperature of the light source illuminating the subject

Manual: This is a mode that enables you to manually set the control of Red and Blue gain from 0 to 255

Image

The Image menu is used to set the items related to image



Mirror: You can have the image as seen in a mirror, with the right side as though it were the left.

Flip: Image E-Flipper – Used when ceiling mounting or upright mounting. Set to OFF for upright mounting, set to ON for ceiling mount.

BLC (Backlight compensation):

When the background of the subject is too bright, or when the subject is too dark, back light compensation will make the subject appear clearer.

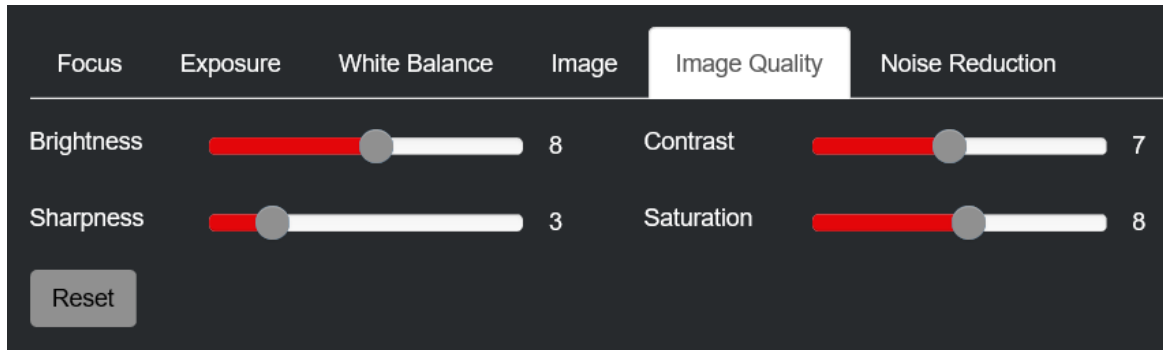
Gamma: The gamma can be set to value from 0 to 4

D-WDR (Wide Dynamic Range): Wide Dynamic: ON, OFF. The camera distinguishes light and dark areas within the same scene, adjusts the brightness for dark areas, and controls the blown-out highlights.

You can select the wide dynamic range mode between ON and OF

Image Setting

The Image Setting menu is used to set the items related to image quality



Brightness: You can adjust the values manually for electronic brightness level from 0 to 15

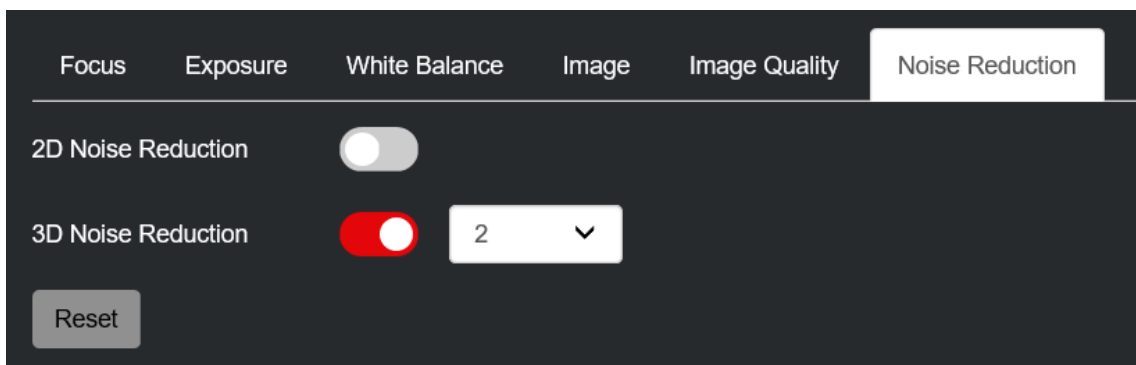
Sharpness: Picture sharpness value ranges from 0 to 15. You can enjoy emphasized edge and high-resolution images.

Contrast: You can adjust the contrast level in the range from 0 to 15. The smaller the value is, the lower the contrast becomes, and the larger the value is, the higher the contrast becomes.

Saturation: You can configure the color gain from 0-15. [Using this setting is particularly important with bright colors.](#)

Noise-reduction

The Noise-reduction is used to set the items related to noise, it supports 2D and 3D mode noise reduction.



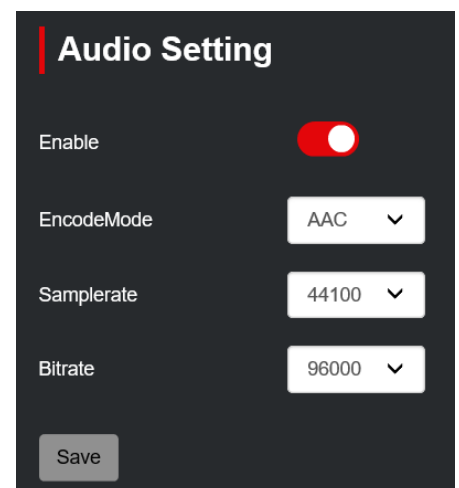
You can enjoy clearer images by removing unnecessary noise.

For 3D mode, you can select Auto, or set value from 1 (MIN) to 4 (MAX).

Audio Setting

This section contains the ability to select the audio Encode Mode, Sample rate, and Bitrate.

- Encode Mode:
 - AAC
 - LPCM
- Sample rate:
 - Selectable from 22050, 44100
- Bitrate (Kbps):
 - Selectable from 32000, 48000, 64000, 96000, 128000



Ethernet

The Ethernet settings page is where the user is able to configure the following:

- DHCP options
 - DHCP – An IP address will be dynamically assigned to the camera from the gateway (router)
 - Static IP – The user will enter / define the IP address
- IP Address
- Netmask
- Gateway
- DNS (Domain Name System)
- MAC (MAC address of the camera)
 - Media Access Control address is a unique identifier assigned to a network interface controller of the camera. It comes with camera by default and can't be changed.
- HTTP port: Default 80
 - HTTP is the protocol used to access the web interface.
 - Changing this port number will require the user to specify the port number when entering the IP address to the web browser.
 - For example, if it is changed to 8080, the IP address will need to be entered as follows in order to access the web interface: `http://192.168.0.13:8080`
- RTSP Port: Default 554
 - RTSP is the protocol used to pull real-time video over the network (using VLC Player or other network video compatible software)
 - Changing this port number will change the way the RTSP video can be viewed. Most RTSP streaming software uses port 554 by default, therefore it is not recommended that this port number ever be changed.
 - URL for receive RTSP streaming is:
Main stream – `rtsp://IP:554/stream/main`
Sub stream – `rtsp://IP:554/stream/sub`

DHCP	<input checked="" type="checkbox"/>
IP Address	192.168.2.143
Netmask	255.255.255.0
Gateway	192.168.2.1
DNS	192.168.2.1
MAC	ae:a4:4c:69:76:26
HTTP Port	80
RTSP Port	554

Save

Firmware Upgrade

This page allows the user to get the camera current version information, camera name, and serial number. It also allows firmware to be upgraded.

- Control version
 - To display the camera current control version
- Device Name
 - The name of this camera model, you also can see it on the top left corner of any page.
- Serial Number
 - The unique serial number after the camera is produced, each camera serial number is different, and can't be changed.
- Bootloader Version
 - To display the camera current bootloader version
- System Version
 - To display the camera current system version
- App version
 - To display the camera current App version
- Upgrade
 - You can upgrade the camera version when there is new firmware available.
 - New firmware file can be obtained from BOLIN Technology
 - Click "Click to upload files" button, navigate to the file (.bin), select the correct file, then start upgrade
 - It takes a few minutes for the camera to come back online. //Need to put link to detail upgrade steps etc.

Control Version	1.0.0.1
Device Name	D220
Serial Number	DB11060007
Bootloader Version	V1.0.0
System Version	V1.0.0
App Version	V1008

Upgrade

Reset Options

This page allows users to reset parameter to default. You can just reset image parameter or reset all parameters. Also, can reboot the camera from this page.

- Reset
 - Will reset the camera's image parameter to factory default values
- Reset/Reboot
 - Will reset all settings / parameters to factory default values and camera will auto reboot
- Reboot
 - This button performs a soft reboot (camera will restart without needing to disconnect power)

Reset Options

Reset

Reset image settings to their default values.

Reset/Reboot

Reset all camera settings to their default values and reboot

Reboot

Account

This page allows user to modify admin account password. The default password is admin.

User can login to the web interface and access the Account page to modify the password.

Input the new password in the Password field, then input the password once again in Confirm Password field.

Click Save button to have the password change take effect. Afterwards, you can login the web interface with the new password.

Account Settings

Account

Password

Confirm Password

Save

OSD

There are On Screen Display (OSD) sections within the IP video image, each OSD section can be individually configured to display configurable data.

Camera Name:

User can define a name for the camera.

Background:

Background of the OSD, can be configured as Translucent or Transparent.

Color:

Color of the OSD content (Selectable from Black, Blue, Red, Green, Magenta, Cyan, Yellow and White color)

Background Color:

Background color of the OSD content, only available while Background is in Translucent mode. Selectable from Black, Blue, Red, Green, Magenta, Cyan, Yellow and White color.

Area (Center, Area1, Area2, Area3, Area4):

OSD position on the IP video image

Camera Name

BOLIN

Center

Close

Background

Translucent Transparent

Area1

Close

Color

Black

Area2

Close

Background Color

Black

Area3

Close

Area4

Close

Save

Any of the 5 areas (Center and Area 1 ~ Area 4) can be configured to contain one of the following:

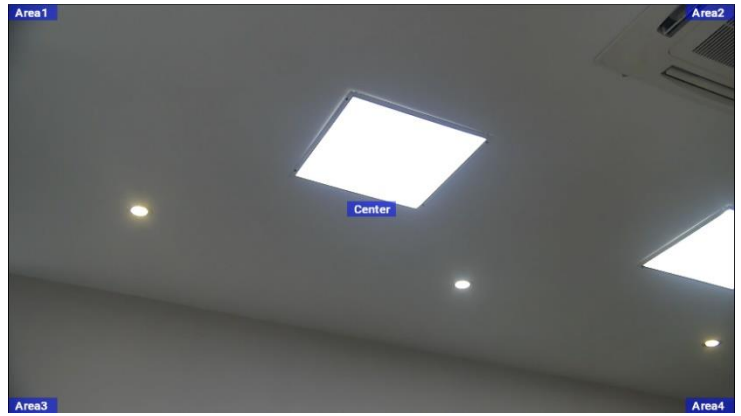
Close – The area will not be used, and will not display anything;

Datetime – The internal Date and Time settings will be used to fill the area.

Camera Name – The user will define a name for the camera;

Logo – An image, such as a company logo can be uploaded to be displayed within the IP video image;

Text – User can enter the text that they wish to be displayed



System Time

The interface allows user to configure the time zone and synchronize camera system time with the NTP server.

Time Zone:

Support 24 time zones, users can choose the corresponding time zone according to their country.

NTP Enable:

To enable and disable NTP server

NTP Update Interval:

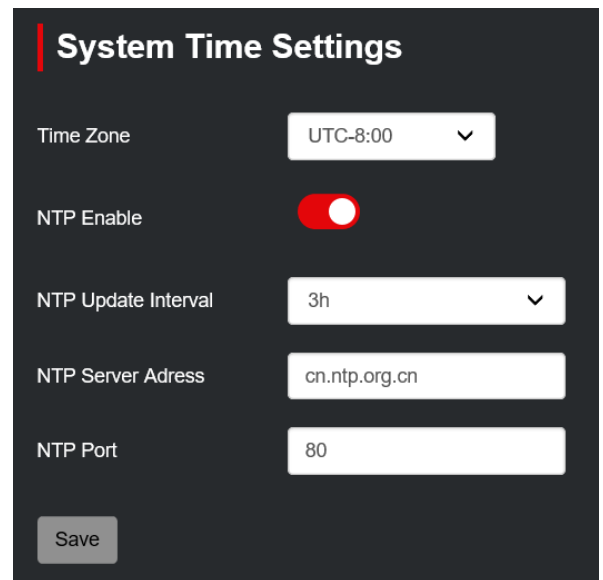
Update interval of time synchronization between camera and the NTP server, selectable from 30 minutes, and 1 hour to 24 hours.

NTP Server Address

To configure the address of the NTP Server

NTP Port

Port setting for NTP Server, default setting is 80



System Time Settings

Time Zone: UTC-8:00

NTP Enable:

NTP Update Interval: 3h

NTP Server Address: cn.ntp.org.cn

NTP Port: 80

Save



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