

FEX SERIES FIXED FHD SDI + IP ZOOM CAMERA

USER MANUAL PART TWO

VERSION: FEX-SN-M02202021



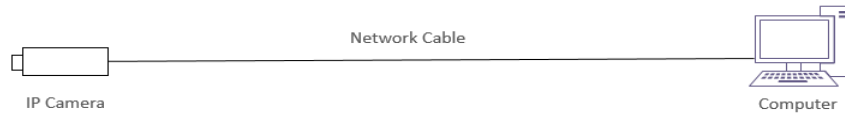
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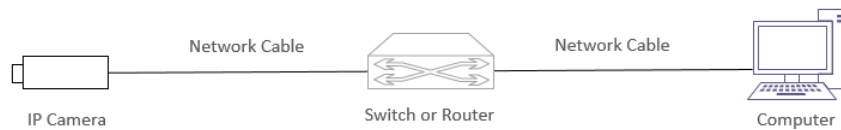
Part Two: Network Camera User Manual

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 a 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.

Login

Preparation

After you have completed the installation in accordance with the quick guide, connect the camera to power to boot it. After the camera is 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.

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).

Logging in to the Web Interface

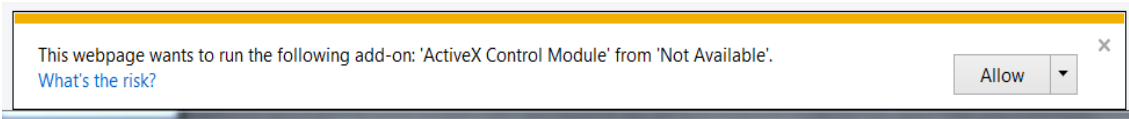
The default static IP address of the camera is 192.168.0.13, and the default subnet mask is 255.255.255.0

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

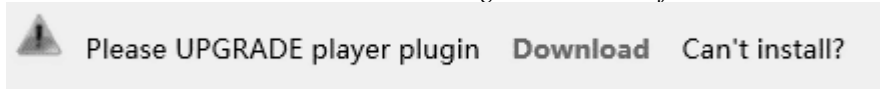
1. Browse to the login page by entering the correct IP address of your camera in the address bar.
2. If this is your first time logging in to the camera, follow system prompts and install the ActiveX. You need to close your browser and reopen it again to complete the installation.
3. Click **Allow** to proceed the login process.

NOTE:

- To manually load the ActiveX, type `http://IP address/ActiveX/Setup.exe` in the address bar and press **Enter**.



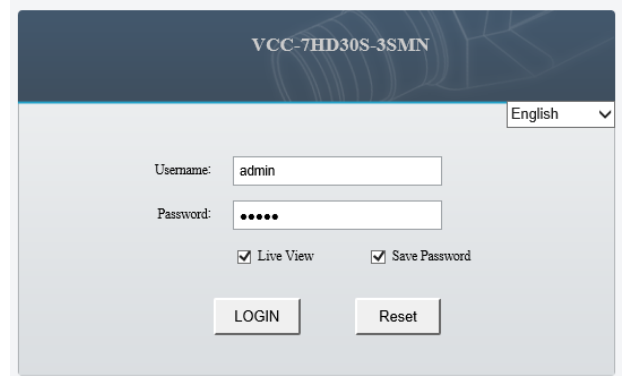
- You may be prompted to update your video player. Follow the “Download” and “Run” prompts to update. This will enable the user to see live video through the web interface



- 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.

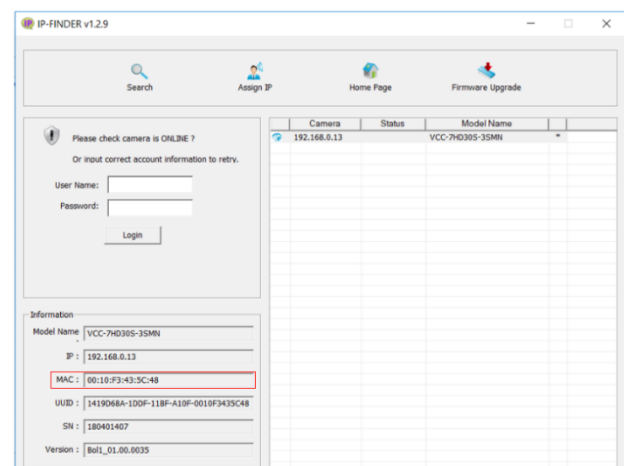
4. Enter the username and password, and then click **Login**. For the first login, use the default username **admin** and password **admin**.

- If you log in with **Live View** selected, live video will be displayed when you are logged in. Otherwise, you need to start live video manually in the live view window.
- If you log in with **Save Password** selected, you do not need to enter the password each time when you log in. To ensure security, you are not advised to select **Save Password**.
- To clear the **Username** and **Password** text boxes and the **Save Password** check box, click **Reset**.

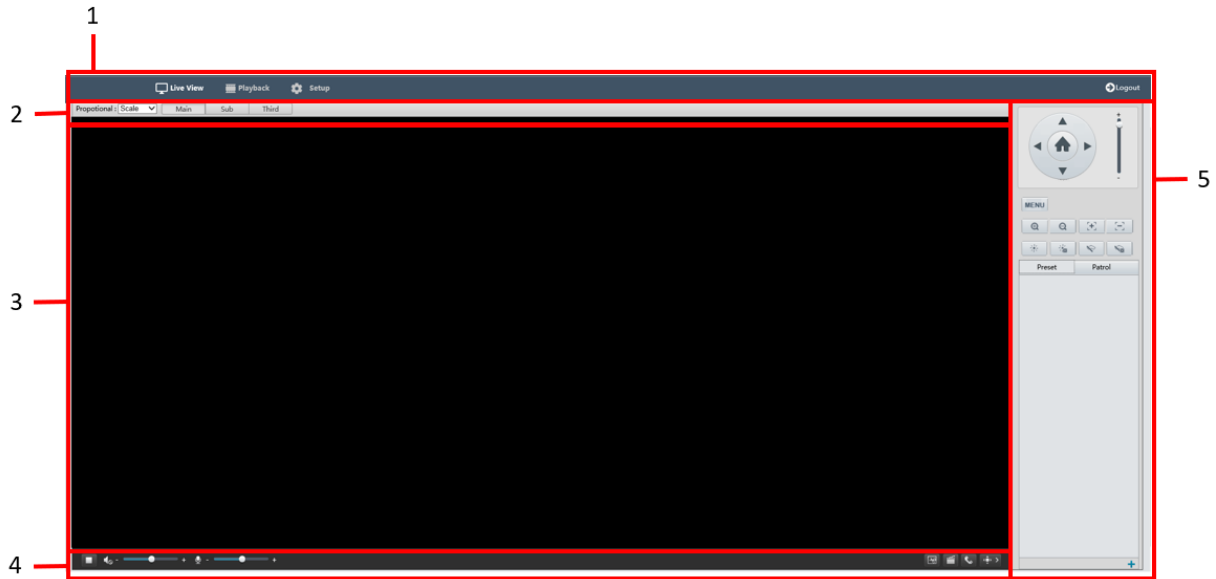


NOTE:

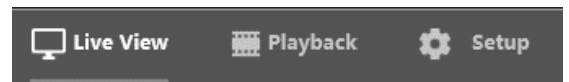
- **Forgot Password?**
 - A message will pop up, which reads: “Please contact support@bolintechnology.com to reset the password.”
 - When emailing Support@bolintechnology.com, please include the MAC address, as shown in the **IP Finder** tool
 - A **BOLIN** Technology Support representative will provide a temporary password, which can be used to log in to the camera to create a new password.



Introduction to the Web Interface



1. IP Interface Menu
 - Used to navigate between Live View, Playback, and Setup menus, as well as Log Out
2. Live Stream Setup panel
 - Used to alter the way the live stream is viewed
 - Used to switch between Main, Sub, and Third streams
 - Contains shortcut to Image Settings interface, where image options can be configured
3. Live Stream
 - Where the live video will display
4. Video Controls
 - Used to start / stop the live stream
 - Used to control audio levels (input as well as output)
 - Snapshot, Record video, 2-way communication, and
5. Camera Control Panel
 - Used for PTZ control, as well as accessing / navigating SDI menu

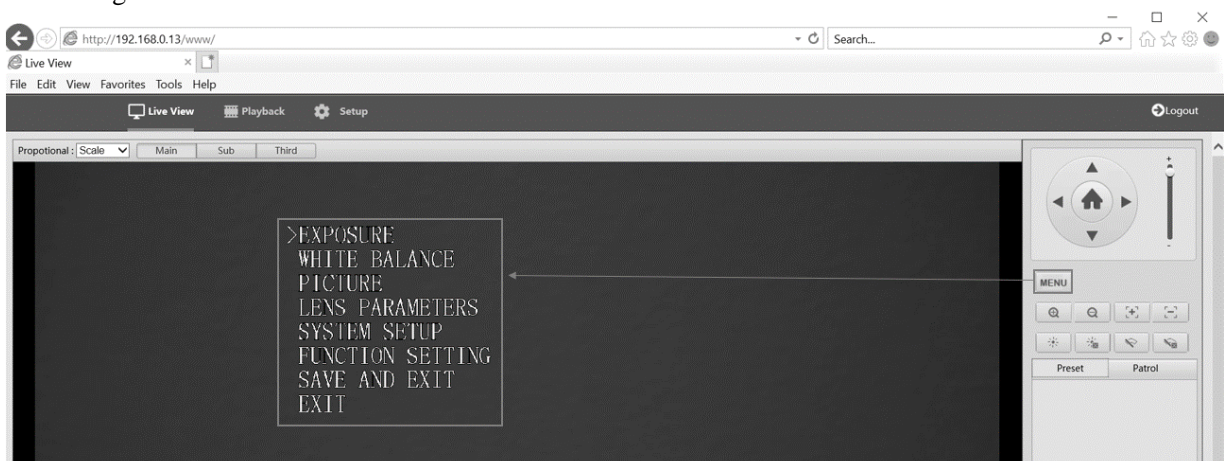


Controlling the SDI interface from the Web GUI

Accessing the SDI Menu

The SDI menu can be accessed on the Control Panel via the **Menu** button
The menu is navigated by using the directional buttons on the Control Panel.

- Up and Down arrows move between selection options
- The Right arrow is used to confirm a selection



How to operate the SDI OSD menu, please refer to the section “Adjusting and Setting with Menus” in user guide part 1.

Preset tab

The Preset tab is used to access a list of presets that have been configured. A preset can be activated by clicking the arrow next to the preset listing.

For more information about creating presets, please see the section called “Preset”

Patrol tab

The Patrol tab is used for activating a patrol that has been configured.

For more information about creating patrols, please see the section called “Patrol”

Configuring the camera from the Setup Menu

The Setup menu can be accessed by clicking the **Setup** button along the top of the screen



The IP menu is divided into tabs. Under each tab is a collection of settings and parameters that the user can configure. Please refer to the list of tabs below

Common

The Common tab has some basic / common information about the camera

Local Settings

- **Recording:**
 - Subsection by Size – Recordings will be catalogued according to size
 - Subsection by Date – Recordings will be catalogued according to the date captured
- **Subsection Size (MB)** – Determines the size of each video clip subsection
- **When Storage Full:**
 - Overwrite Recording – Will begin overwriting oldest footage once all space is filled
 - Stop Recording – Will cease recording to avoid overwriting recorded footage
- **Total Capacity (GB):**
 - The total capacity you would like to allocate for this directory to hold
- **Local Recording**—Determines the video file format (Automatically configured to store AVI files)
- **Recording Folder**—This is the directory on the computer where recordings will be saved
- **Snapshot Folder**—This is the directory on the computer where snapshots will be saved

A screenshot of the 'Local Settings' configuration window. The window has a title bar 'Local Settings' and a tab 'Recording and Snapshot'. Under this tab, there are several settings: 'Recording' is set to 'Subsection By Size' (dropdown); 'Subsection Size(MB)' is '30' (input field) with a range '[10~1024]'; 'When Storage Full' has two radio buttons: 'Overwrite Recording' (unselected) and 'Stop Recording' (selected); 'Total Capacity (GB)' is '100' (input field); 'Local Recording' is 'AVI' (dropdown); 'Recording Folder' is 'C:\Users\jon\AppData\Local\Temp\CMRFiles' (input field); 'Snapshot Folder' is 'C:\Users\jon\AppData\Local\Temp\CMRFiles' (input field). Below this is a 'Stream Settings' section with 'Stream Buffer' set to 'Smooth' (dropdown). At the bottom left is a blue 'Save' button.

A/V Streams

The A/V Streams tab is used to configure settings for the compression, format, and data rates for all video and audio streams produced by the camera

Definitions:

- **Codec:** The encoding standards that are available for use (H.264 / H.265)
- **Resolution:** (WxH) 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)
- **Rate Control Options:**
 - CBR – Constant Bit Rate
 - CVBR – Constrained Variable Bit Rate.

- **Frame Rate:** Rate at which image frames are captured
- **GOP Length:** Interval at which a key frame is captured within a group of successive pictures within a coded video stream
- **Bit Rate:** The amount of data transmitted per second. Measured in Kilobits Per Second (Kbps). 1000 kbps = 1Mbps

Video Configuration

The screenshot shows a 'Video Configuration' window with three panels for stream settings:

- Primary Stream:** Codec: H.264, Resolution: 1920x1080, Rate Control: CBR, Frame Rate: 30 (0~60fps), GOP Length: 30 (1~120), Bit Rate: 4000 (64~8000kbit/s).
- Secondary Stream:** (checked) Codec: H.264, Resolution: 1280x720, Rate Control: CBR, Frame Rate: 10 (0~30fps), GOP Length: 10 (1~120), Bit Rate: 2000 (64~8000kbit/s).
- Third Stream:** (checked) Codec: MJPEG, Resolution: 640x360, Quality: High, Frame Rate: 10 (0~30fps).

A 'Save' button is located at the bottom left of the configuration area.

Codec:

- **Primary Stream** – The main stream, viewed by default on the Live screen
 - **Codec Options:**
 - H.264
 - H.265
 - MJPEG
 - **Resolution Options:**
 - 1920x1080
 - 1280x720
 - **Rate Control Options:**
 - CBR – Constant Bit Rate
 - CVBR – Constrained Variable Bit Rate.
 - **Frame Rate:** Rate at which image frames are captured
 - **GOP Length:** Interval at which a key frame is captured within a group of successive pictures within a coded video stream
 - **Bit Rate:** The amount of data transmitted per second. Measured in Kilobits Per Second (Kbps). 1000 kbps = 1Mbps
- **Secondary Stream** – The second video stream produced by the camera, this can be disabled by unchecking the box at the top of this stream's settings
 - **Codec Options:**
 - H.264
 - H.265
 - MJPEG
 - **Resolution Options:**
 - 1280x720
 - 720x576
 - 720x480
 - 640x360
 - 352x288
 - 320x240
 - **Rate Control Options:**
 - CBR – Constant Bit Rate
 - CVBR – Constrained Variable Bit Rate.
 - **Frame Rate:** Rate at which image frames are captured
 - **GOP Length:** Interval at which a key frame is captured within a group of successive pictures within a coded video stream
 - **Bit Rate:** The amount of data transmitted per second. Measured in Kilobits Per Second (Kbps). 1000 kbps = 1Mbps
- **Third Stream**—The third video stream produced by the camera, this can be disabled by unchecking the box at the top of this stream's settings
 - **Codec Options:**
 - H.264
 - H.265
 - MJPEG

- **Resolution Options:**
 - 640x360
 - 352x288
- **Quality Options:**
 - High, Medium, Low
- **Frame Rate:** Rate at which image frames are captured

Audio Configuration

This section contains the ability to select the audio compression parameters for both the Audio In (microphone) and the Audio Out

- Audio Compression Options:
 - **G.711A** – Pulse Code Modulation (PCM), often used to decode voice frequencies with regard to Telephony
 - **G.711U** – Standard for speech compression and decompression within digital transmission systems
 - **G.722.1** – A high quality, moderate bit rate wideband audio coding standard
 - **G.726** – A speech codec standard covering the transmission of voice at rates of 16, 24, 32, and 40 Kbit/s
 - **MP2L2** – A type of compression which removes some voice frequency ranges which are not detectable to the human ear
 - **AAC-LC** – Advanced Audio Coding
- Noise Suppression:
 - Suppression of background noise
- Audio In
 - The ability for the camera to accept audio in via the Audio In jack
- Audio Out
 - The ability for the camera to encode and transmit audio out through the Audio Out jack

PTZ - Basic Settings

This section contains the section where the Address code and Baud rate can be configured.

Address code: The ID by which the camera is controlled. Often the index position of the camera within a daisy chain

Baud Rate: The rate at which command data is transmitted to the camera. The Baud rate of the camera needs to match the Baud Rate of the source of the command (Keyboard controller, Control software, etc.

Home Position

The first position where the camera will aim upon boot

Once presets have been set up, one of the presets can be selected as the **Home Position**.

The “Return to Home After” setting determines how long the camera will wait before returning to the home position after another preset has been called. This setting is measured in seconds.

Preset

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 **Add Preset** button
3. Enter a number for the **Preset ID**
4. Enter a name for the preset under the **Preset**
5. The table will populate with all of the created presets. These will also appear on the Main page, within the

Add Preset

ID	Name	Go to	Delete
1	Preset 1		
2	Preset 2		
3	Preset 3		

control panel, under the **Preset** tab

Patrol

A Patrol is a series of presets, recalled in a given order. This causes the camera to iterate through the series, moving to each preset in the selected order

To create a new Patrol

1. Click the **Add Patrol** button
2. Enter a name for the **Route Name**
3. Click the **Add/Delete** buttons to add or delete patrol positions
4. Use the dropdown for each patrol position, and select a preset from the list of presets

Add Patrol

Add Patrol

Route ID:

Route Name:

Preset	
<input type="checkbox"/>	1 [Preset 1] ▼
<input type="checkbox"/>	2 [Preset 2] ▼
<input type="checkbox"/>	3 [Preset 3] ▼

Patrol

StopTime: (1~120)

ID	Name	Run	Edit	Delete

1 [Preset 1] ▼

Click the **Submit** button to save. The patrol will appear in the Patrol table. Activate a patrol by clicking the **Play** button

StopTime: (1~120)

ID	Name	Run	Edit	Delete
1	Patrol 1	<input type="button" value="▶"/>	<input type="button" value="✎"/>	<input type="button" value="🗑️"/>

Image

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

Privacy Zone

The Privacy Zone setting is for adding up to 5 “Masks” of pixels where the image will not be captured.

Each area can be set up by performing the following:

1. Check the box next to the “Mask” selectin
2. Draw the mask area on the provided image window
3. Click the “Set Area” button

Any Privacy Zone can be deleted by clicking the “Del Area” button next to the given Mask.

	Privacy Zone	
	Mask 1	<input type="checkbox"/> <input type="button" value="Set Area"/> <input type="button" value="Del Area"/>
	Mask 2	<input type="checkbox"/> <input type="button" value="Set Area"/> <input type="button" value="Del Area"/>
	Mask 3	<input type="checkbox"/> <input type="button" value="Set Area"/> <input type="button" value="Del Area"/>
	Mask 4	<input type="checkbox"/> <input type="button" value="Set Area"/> <input type="button" value="Del Area"/>
Mask 5	<input type="checkbox"/> <input type="button" value="Set Area"/> <input type="button" value="Del Area"/>	

OSD

There are On Screen display (OSD) sections within the image.

Each OSD section can be individually configured to display configurable data

Any of the 4 areas can be configured to contain one of the following:

- **Nothing (OFF)** – The area will not be used, and will not display anything



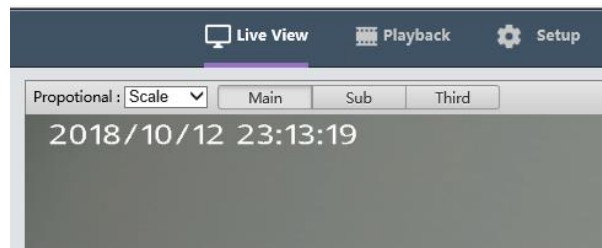
Text Overlay

Area1	OFF
Area2	OFF
Area3	OFF
Area4	OFF

- **Date/ Time** – The internal Date and Time settings will be used to fill the area

Text Overlay

Area1	Date/Time
Area2	OFF
Area3	OFF
Area4	OFF



- **Camera Name** – The user will define a name for the camera.

General Settings

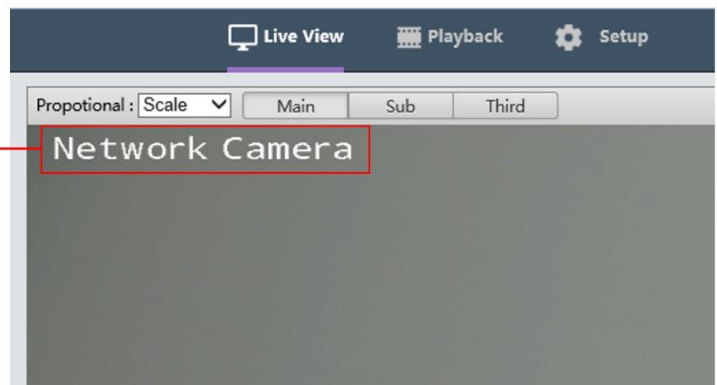
Camera Name: Network Camera

Background: Translucent Transparen

Text color: White

Text Overlay

Area1	Camera Name
Area2	OFF
Area3	OFF
Area4	OFF

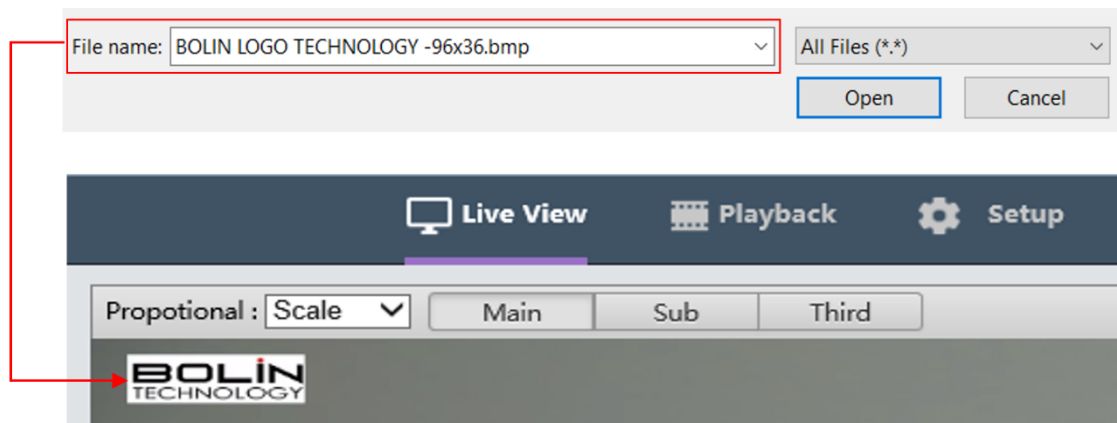


- **Logo** – An image, such as a company logo can be uploaded to be displayed within the image.

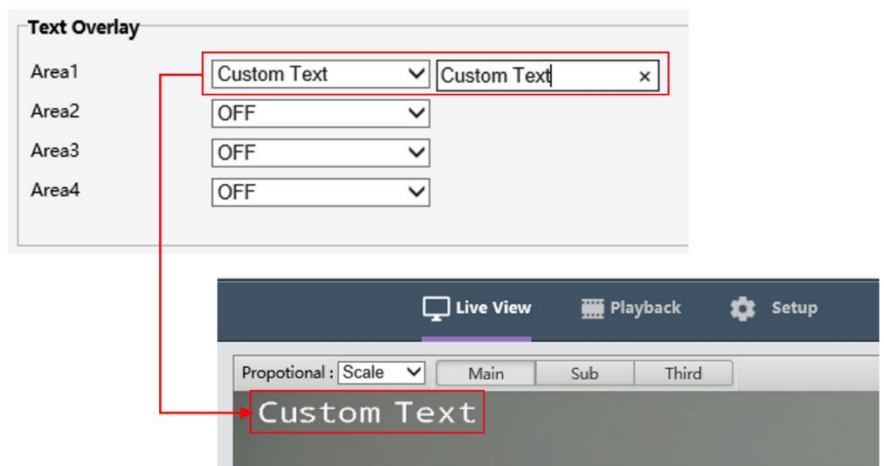
Text Overlay

Area1	Logo	Browse...	Upload
-------	------	-----------	--------

- When selecting a file, make sure that it is a .BMP format
- The width is a multiple of 32, and the height is a multiple of 4
- The total pixels should be less than 256
- Click the **Upload** button, and then **Save**. The live view will now show the uploaded image in the selected area



- **Custom Text** – The user will enter the text that they wish to be displayed.



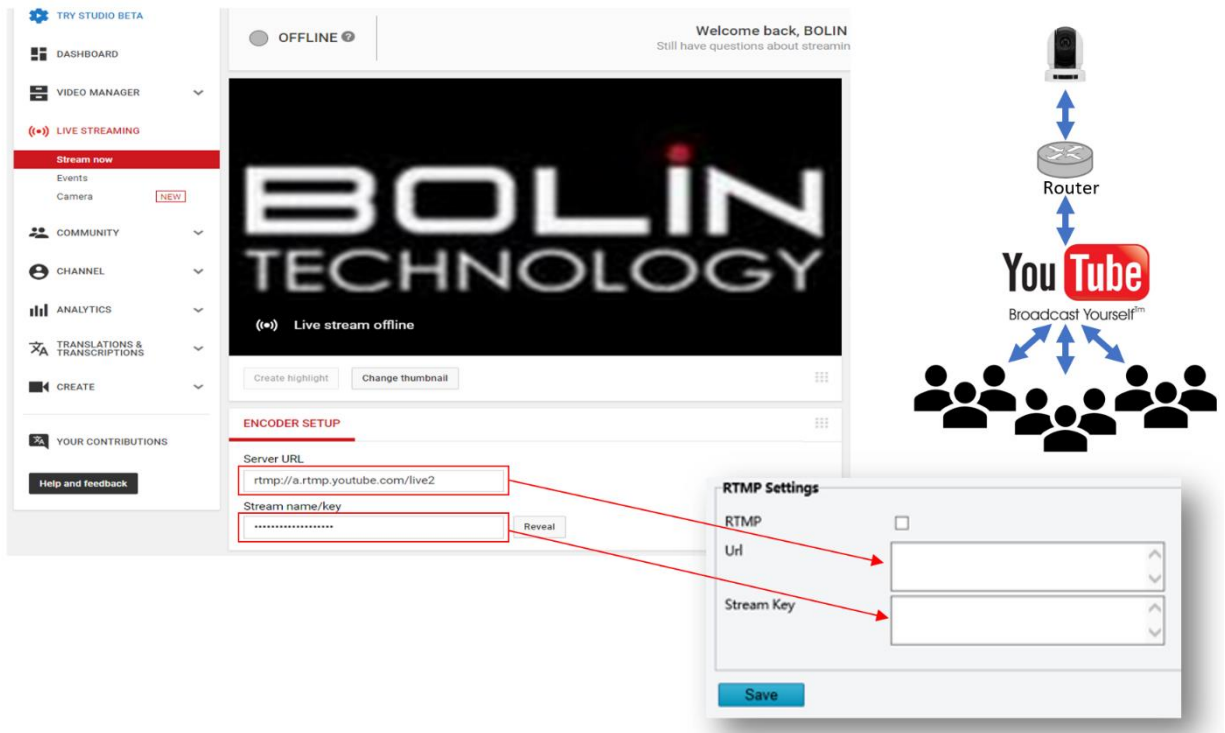
Network

Basic

The Basic network settings tab 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
 - PPPoE—Point-to-Point Protocol over Ethernet
- IP Address
- Subnet Mask
- Gateway
- IPV6 settings
- DNS Configurations
- RTMP settings
 - *Check the RTMP checkbox*
 - *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 below shows where to copy the information from YouTube*

TCP/IP	
IPv4 Settings	
DHCP	Static IP
IP Address	192.168.1.100
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
PPPoE User Name	
PPPoE Password	
IPv6 Settings	
IPv6	<input type="checkbox"/>
Link-Local	
IPv6 Address	
Address Prefix	64 (0~127)
Default Route	
Router Advertisement	<input type="checkbox"/>
DNS Configurations	
Primary DNS	192.168.1.1
Secondary DNS	192.168.1.2



- *Click Save*
- *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*

NOTE: Similar steps can be followed to stream to any platform that supports RTMP, such as YouTube, Facebook, Twitter, Twitch, etc.)

Port

This section allows the user to specify which ports the camera will use to communicate using the following protocols:

- HTTP: 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 **85**, the IP address will need to be entered as follows in order to access the web interface:
http://192.168.0.13:85
- HTTPS: Default 443
 - HTTPS is the protocol used for making a secure connection to the camera
 - Changing this port number will require the user to specify the port number when attempting to make a secure connection to the camera
 - For example, if it is changed to **425**, the IP address will need to be entered as follows in order to make a secure connection
https://192.168.0.13:425
- RTSP: 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 be changed.
 - Please see the section of this manual titled **RTSP** for more information

Port

Port

HTTP Port	<input type="text" value="80"/>
HTTPS Port	<input type="text" value="443"/>
RTSP Port	<input type="text" value="554"/>

FTP

The camera has the ability to behave as an FTP server.

A user can connect to the camera to access internal files via FTP

To allow this camera to act as an FTP server:

- Check the “Enable” checkbox
- Create a password, and enter it into the **Password** field
- Re-type the password into the **Re-Type Password** field

Once this has been enabled, a user can use FileZilla (or some other such FTP client software) to access the camera’s files.

FTP

FTP

Enable

Username adminftp

Password ●●●●

Re-type Password ●●●●

Max Connection 10

Save

RTSP

The camera is capable of providing an RTSP stream

The stream can be accessed with or without the need for Authentication credentials. This is toggled by ticking / unticking the checkbox for **Authentication**

Each stream can be accessed using the **Path**. The URL format is as follows:

rtsp://{ip address}/{path}

Example:

rtsp://192.168.0.13/stream1

RTSP Multicast

Authentication

Authentication Enable

Port 554

Stream1

Enable RTSP unicast stream

Enable RTSP stream metadata

Path stream1

DSCP 32

Stream2

Enable RTSP unicast stream

Enable RTSP stream metadata

Path stream2

DSCP 32

Stream3

Enable RTSP unicast stream

Enable RTSP stream metadata

Path stream3

DSCP 32

Save

DDNS

Dynamic DNS is the ability to create a domain name that can be synced to the WAN IP, and then used to access the camera remotely (from outside the LAN where the camera exists)

This assumes that all necessary port-forwarding has been performed on the router(s) and firewall(s) that may exist between the camera and the WAN (Internet).

This is accomplished by:

1. Enabling DDNS by ticking the checkbox
2. Enter a hostname (Must be unique)
3. Select a DDNS server from the drop-down list
4. Create a username and Password

NOTE:

This Username and Password are for the **account** that is being created at the selected DDNS server. These are **NOT** the credentials used to log in to the interface of the camera. The credentials used to authenticate into the camera are configured within the **User Management** section.

DDNS

Enable

Host Name ipcamera

DDNS Server DynDNS

User Name

Password

Re-type Password

Save

System

Date/Time

This interface allows the user to configure the date / time settings of the camera

- Time Settings
 - Display Format – allows the user to configure the date time format
 - Synchronize with Computer Time – Causes the camera to pull the current date and time information from the computer and apply it as the current date and time for the camera
 - Manual – Allows the user to manually enter the date and time
- NTP Server
 - DHCP or Manual are options that will cause the camera to access an NTP server (automatically, or via the user’s configuration)

Time Settings **Daylight saving**

Time Settings

Display Format: 2018/09/15 16:58:52 Synchronize with computer time

Manual: 2016 / 01 / 01 12 : 03 : 30 Setup

NTP Server

Time Server: None
 DHCP
 Manual

tw.pool.ntp.org

Save

Daylight Saving

To configure the camera to automatically adjust for daylight saving:

- Select the Daylight Saving tab along the top of the Date/Time interface
- Set the proper time zone
- Check the Daylight Saving time checkbox, and then enter the dates and times when Daylight Saving time should be activated / deactivated in the Start Time / End Time sections respectively

Time Settings **Daylight saving**

Time Zone

Time Zone: Asia Taipei

Daylight saving

Enable

Start Time: Mar Second Sun 02 o'clock

End Time: Nov First Sun 02 o'clock

Save

Maintenance / System Information

The following general information can be found under the System Information tab within the Maintenance section of the web GUI:

Model Name: The specific model of this camera

Firmware Version: The current firmware version running on this device

Serial Number: The serial number of the image module within the camera

MAC Address: The MAC address of the camera’s Network Interface Card (NIC)

System Information	Maintenance
Model Name	FEX30SHD-B-RSNP2
Firmware Version	Bol1_01.00.0043
Serial Number	180401023
Mac Address	00:10:f3:43:5a:c8

Maintenance / Maintenance

The Maintenance tab under the Maintenance section within the web GUI can be used to perform the following functions:

- Update firmware
 - A firmware file can be obtained from BOLIN Technology
 - Click the **Browse** button, and navigate to the file (.bin)
 - Click **Upload**, and allow the camera to load the new firmware
 - It takes a few minutes for the camera to come back online
- Reboot camera
 - This button performs a soft reboot (camera will restart without needing to disconnect power)
- Reset to Default
 - Will reset the camera's settings to factory defaults, except the IP address will not be affected
- Reset to Factory Default
 - Will reset all settings (including the IP address) to factory default
- Download Log File
 - Should the need arise, the Log File can be downloaded and provided to Technical Support personnel for analysis when troubleshooting
- Download Config File
 - A configuration file can be downloaded, which stores all of the camera's settings
 - This file acts as a backup for the camera settings
- Upload a config file
 - A configuration file can be downloaded from a camera containing all the IP settings, which acts as a backup
 - This configuration file can be uploaded through this portion of the interface
- Update MCU file
 - MCU firmware can be obtained from BOLIN Technical Support
 - MCU firmware can be updated by uploading here

The screenshot shows the 'Maintenance' tab with the following sections:

- Firmware Update:** Choose a bin file to upgrade camera. Includes a 'File Name' input field, a 'Browse...' button, and an 'Upload' button.
- Reboot Camera:** A 'Reboot Camera' button with a note: 'During reboot camera connection will be lost.'
- System Configurations:** Three buttons: 'Reset to Default' (note: 'Reset all the camera parameters to the default settings except IP address.'), 'Reset to Factory Default' (note: 'Reset all of the camera parameters to default.'), and 'Download Log File'.
- Configurations Restore:** Choose a backup file to restore camera settings. Includes a 'File Name' input field, a 'Browse...' button, and an 'Upload and Restore' button. Note: 'Restoring will cause the camera to restart.'
- MCU Update:** Choose a MCU file to update. Includes a 'File Name' input field, a 'Browse...' button, and an 'Update' button. Note: 'Update mcu will cause the camera to restart.'
- Configurations Backup:** Download a full backup file of camera settings. Includes a 'Download Now' button.
- Import:** Choose File. Includes a 'File Name' input field, a 'Browse...' button, and an 'Upload' button.

User Management

This interface allows the administrator to create / manage user accounts and passwords

The screenshot shows the 'User Management' interface with the following details:

- Buttons: Add, Edit, Delete
- Table:

ID	Username	Level
0	admin	admin
1	customer	view

To add a new user:

1. Click the **Add** button
2. Enter the username
3. Enter the new password in the **Password** field
4. Re-enter the password in the **Re-type Password** field

Log

The Log is where the camera stores all actions that are performed by the camera. The log shows the following data points for each event:

ID	Level	Category	Source	Time	Message
1	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting pelco.ptz.move.pan_tilt -> -1063,
2	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting pelco.ptz.move.pan_tilt -> -1063,
3	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting stamp -> 0.719226106105610
4	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting pelco.ptz.move.pan_tilt -> 0,
5	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting pelco.ptz.move.pan_tilt -> 0,
6	INFO	SETTING	192.168.1.253	2018/09/15 06:18:15	Setting stamp -> 0.1040206005904153

1. ID – The data point which identifies each individual event
2. Level – The urgency level which is used to classify the event. Each event falls into one of the following levels:
 - a. System Information (Info) – General operations
 - b. Warning – Something is operating in an abnormal (though non-critical) manner
 - c. Error – An error has occurred
 - d. Critical – A critical error has occurred
3. Category – The descriptor for the data that is affected by the event. This can be classified into the following categories:
 - a. System
 - b. Network
 - c. Event
 - d. Setting
 - e. Other
4. Source – The IP address that originated the command that generated the recorded event
5. Time – The date and time when the event occurred
6. Message – Text-based data describing the action that was taken

Log events can be filtered by level of entry, as well as by Category:

Storage

SD Record

Please note: on FEX model cameras, the Micro SD card can not be installed after it has been shipped. A custom order is required to purchase FEX cameras with a Micro SD card installed

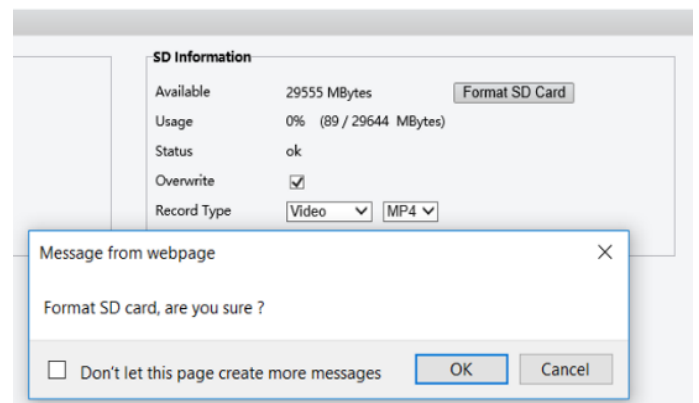
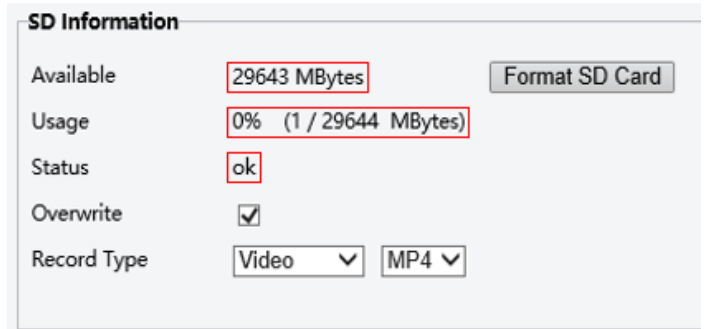
The camera has an SD card slot on the back panel, allowing for an SD card to be inserted and used to record footage. With the camera powered off, insert a supported Micro SD card into the SD Card slot on the back of the camera, and then power the camera on.

If the card has been properly detected, the “SD Information” section will show data about the SD card, indicating that the card is being detected, and is available to be written to

To clear all data from the Micro SD card, the user has the option to click the **Format SD Card** button. This will delete all data from the Micro SD card, and make space on the space on the card available for recording

Currently, the following Micro SD cards are supported:

Brand	Size	Format	Type	Class	Transfer Bus
Kingston	16GB	exFAT	SDHC	10	IU1
Kingston	32GB	FAT32	SDHC	10	IU1
Kingston	32GB	exFAT	SDHC	10	IU1
Kingston	64GB	exFAT	SDXC	10	IU1
Kingston	128GB	exFAT	SDXC	10	IU1
Samsung	32GB	FAT32	SDHC	10	UHS-I (1)
Samsung	32GB	exFAT	SDHC	10	UHS-I (1)
Samsung	32GB	FAT32	SDHC	10	UHS-I (1)
Samsung	32GB	exFAT	SDHC	10	UHS-I (1)
Samsung	64GB	exFAT	SDXC	10	UHS-I (3)
Toshiba	32	FAT32	NA	10	U1
Toshiba	32	exFAT	NA	10	U1



Once the card has been properly installed, follow these steps to record video to the Micro SD card:

1. From the SD Record Handler section, tick the “enable” checkbox
2. Select the “Trigger Scheduled” radio button
3. For best results, set the schedule so that the camera is set to record all day for each day. This will result in the camera recording every time the camera is powered on
4. The FileName Prefix and Server Path values will change the name of the video file, and the location where the file is saved on the SD Card, respectively



Schedule Settings

Schedule1 Start End (0-23) hour
 Schedule2 Start End (0-23) hour
 FileName Prefix
 Server Path

Day / Time Inclusion Filter

	None	AllDay	Schedule1	Schedule2
Monday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Recording Download

When an SD card is installed and configured to record, the web interface offers the option for the recording to be accessed and downloaded

This is accomplished by following these steps:

1. Click on the **Recording Download** tab
2. Select a beginning date, and an end date using the two date selection boxes
3. Click the **Search** button
4. Select the recording by ticking the checkbox next to the entry
5. Click the **Download** link

A notification will appear at the bottom of the Internet Explorer window, prompting the user to save the file.



Click **Save** to automatically save the file to your computer's default **Downloads** folder, where it can be accessed and played.



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