



Pakedge IP Cameras

User Guide

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Introduction

Pakedge cameras, with the latest technologies, provide megapixel H.264 video, outstanding DSP capacities, built-in video analytics, PoE support, and ONVIF compliance.

Pakedge IP cameras adopt the latest compression technologies, which allow multiple streaming of H.264 or MJPEG formats in different resolutions. Multiple-streaming technology transmits digital video at various bit rates and frame rates to suit both high- and low-bandwidth network environments.

Our cameras are equipped with progressive-scan, megapixel CMOS sensors that provide superior video quality. Our digital signal processing (DSP) technologies support Wide Dynamic Range (WDR), 3D noise reduction, Backlight Compensation (BLC), ePTZ, region of interest (ROI), adjustable shutter speed, and privacy masking features for almost every installation environment.

The built-in intelligent video analytics engine enables audio and motion detection. Other useful features include two-way audio, SD card recording, mobile device live access, email notification with JPEG snapshots, and JPEG-to-FTP upload.

Key Features

- Capable of recording up to 30 FPS
- Supports various encoding formats (H.264 and MJPEG)
- Multiple streaming technology supports three concurrent streams
- Sense Up+ provides enhanced videos even in low light conditions
- Automatic scheduling for day and night modes
- Audio and motion detection for notification by email or FTP
- Supports 3D DNR, WDR, BLC, adjustable shutter speed, and privacy masking
- Bit-rate and frame-rate on-the-fly adjustments
- Supports Android, iPad, and iPhone mobile live monitoring
- Supports dynamic DNS (DDNS) and network time protocol (NTP)
- Supports PCM/G.711
- Supports ONVIF protocol

Caution

- Do not drop or damage the equipment.
- Do not install the equipment near fire or heat sources.
- Keep the equipment away from rain, moisture, smoke, or dust.
- Do not cover the opening of the cabinet with cloth and/or plastic or install the unit in poorly ventilated places. Allow 4" (10 cm) between this unit and its surroundings.
- Do not continue to operate the unit under abnormal conditions such as smoke, odor, or loss of signal while power is turned on.
- Do not touch the power cord with wet hands.
- Do not damage the power cord or leave it under pressure.
- To avoid unnecessary magnetic interference, do not operate this unit near magnets, speaker systems, etc.

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Other references

Universal ActiveX Control

Sample codes and documents are included in the product CD and can be downloaded from pkdge.co/cameras.

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Pakedge IP Cameras User Guide

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System overview

System requirements

Pakedge IP cameras feature compression technology that provides a high compression rate and superior video quality. However, video performance depends highly on CPU power and network bandwidth for video streaming. The following sections specify the system requirements for using our IP cameras.

Software requirements

Universal ActiveX software components or QuickTime are required for a web browser to display MJPEG or H.264 video. To access many features like ePTZ on the camera, use Internet Explorer to connect to the camera.

When you first log in to our IP camera, you may see a prompt box as shown below:



Click Allow to let the ActiveX Control Module to run.

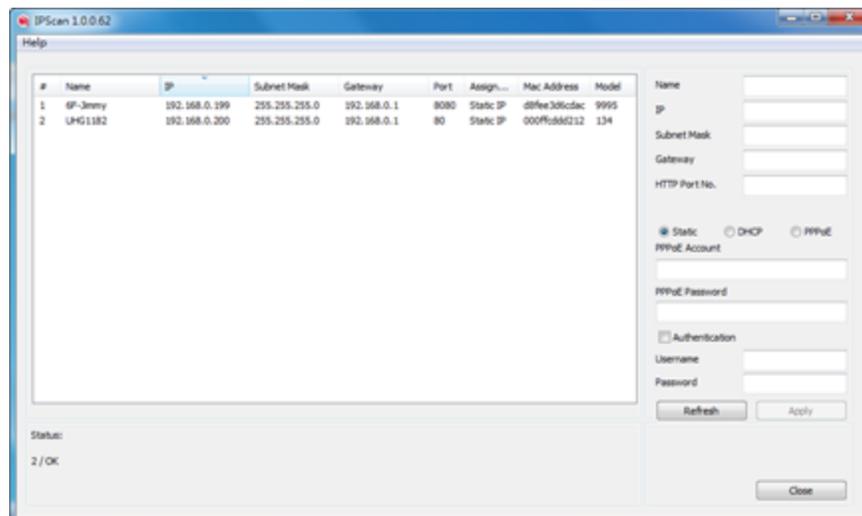
Before accessing IP cameras

Before accessing the IP cameras, make sure that the camera's RJ-45 network connector, audio cable, and power cable are properly connected. To set the IP address, consult your network administrator. The default network configuration for Pakedge IP cameras is DHCP.

Configure IP addresses using the IPScan utility

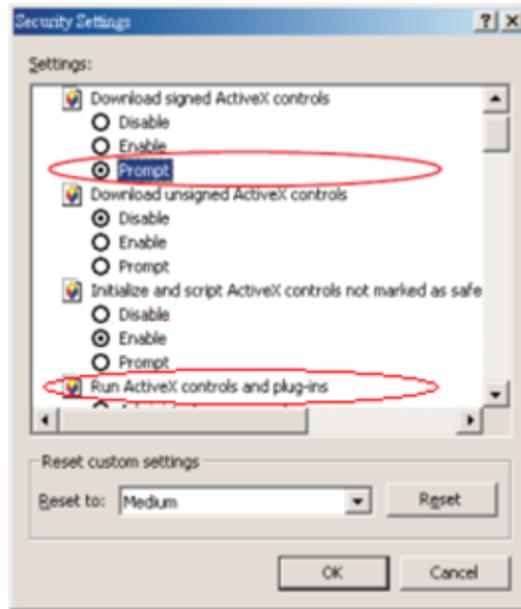
To view or configure the IP address of your cameras, download the IPScan tool from the pkdge.co/cameras. To change the IP address, subnet mask, gateway, or HTTP port of your cameras, follow the steps below:

1. Run the IPScan utility.
2. Click **Refresh**. All available devices will be listed on the screen.
3. Select the device item from the device list.
4. To edit or modify the IP address, subnet mask, gateway, or HTTP port, enter those settings in the fields to the right.
5. Click **Apply** for the changes to take effect.
6. Click **Refresh** again to verify the changed settings.



Web browser settings and software components required

Make sure your Internet browser allows the signed ActiveX plug-in to run on your PC. To do this, open Internet Explorer and select Tools→Internet Options→Security→Custom Settings. Set Download Signed ActiveX plug-in controls to **Prompt** and enable **Run ActiveX control and plug-in**.



Once completed, you can access the IP camera's live video by entering the IP address into your web browser. A security warning dialog box will appear. Click **Allow** to download the ActiveX directly from the IP camera.

Login

Enter the login information for the camera.

The default login for the camera is **admin**.

The default username is admin and password is **pass**.

Press **OK** to log in.



Camera Operations

When logged in as an administrator, two main features are available: 1) Camera Operations and 2) Setup.

Camera Operations



1. Profile switching menu—Switch from one profile to another.
2. ActiveX display screen—Display RTSP H.264 or MJPEG network video.
3. Quick buttons—IP camera control panel.
4. Setup menu—IP camera setup menu.
5. PTZ—PTZ control panel

The ActiveX control provides an ePTZ (electronic Pan, Tilt, and Zoom) feature. To perform an ePTZ operation, hold and drag your mouse across the screen.

Quick Buttons

In the top-center of the Camera Operations page, Quick Buttons allow convenient access to important features.



The quick control panel buttons are described below:



Take a snapshot of the video



Start recording



Pause recording



Switch screen mode (full screen)



Zoom in



Zoom out



Autofocus

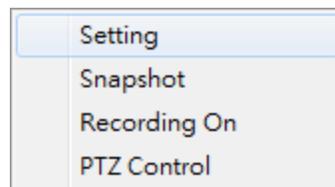


Full scan

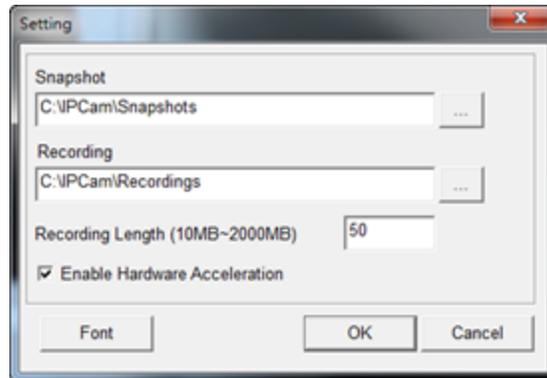
| Note: Depending on the camera model you have, you may see different quick buttons available.

Record to a local PC (SAMBA)

To record to a local PC, right-click anywhere on the screen.



Click **Setting** to specify the recording paths and recording sizes, and click **Recording On** to start recording.



Basic settings

As an administrator, you can configure the IP camera through a HTML webpage. Click **Setup** at the top-right corner of the screen after you log into the camera.



System

The System menu allows you to access basic settings, configure users, and configure time settings.



General

In System Settings > General, you can see camera system information, such as the MAC address, firmware version, user settings, and system time settings. To modify these options, follow the instructions below.

The image shows the 'Basic >> System >> General' settings page. It contains the following configuration options:

- MAC Address: 90:a7:c1:4b:17:36
- Firmware Version: 5.2.92 SVN #6504
- OS Version: Linux 3.10.104+(Fri Aug 24 09:32:53 CST 2018)
- System Reboot Time: 2018/11/01 02:56:34
- Device Name: CK-CAM-DO6342
- OSD Font: Enable Disable
- OSD Time: Enable Disable
- Stream 1:OSD Font Size: 1 (Small:1~Large:4)
- Stream 2:OSD Font Size: 1 (Small:1~Large:4)
- Stream 3:OSD Font Size: 1 (Small:1~Large:4)
- Stream 4:OSD Font Size: 1 (Small:1~Large:2)
- Activex OSD Device Name: Enable Disable
- ActiveX OSD Name: CK-CAM-DO6342
- Web Title Name: CK-CAM-DO6342
- ActiveX Low Latency Mode: Enable Disable

A 'Submit' button is located at the bottom of the form.

MAC Address

The MAC address of the IP camera

Firmware Version

The current firmware version of your camera (to update the firmware, see “Chapter 4-10 Maintenance”)

OS Version

The version number of your IP camera’s operating system

System Reboot Time

The last time your IP camera was rebooted

Device Name

The device name can be found using the IPScan utility, which allows you to identify IP cameras. To change the device name, enter a new name for the IP camera and click Submit.

OSD Font

Enable/disable to display/hide the device name on the on-screen display (OSD).

OSD Time

Enable/disable to display/hide camera time on the OSD.

OSD Font Size

Adjust the size of the font used in the time display on the OSD

ActiveX OSD Display

Enable/disable to display/hide the device name

ActiveX OSD Name

The name you enter here will be displayed on the top-right corner of the ActiveX screen

Web Title Name

Enter the name to be displayed on the web browser

Low Latency Mode

Enable to reduce the latency of ActiveX

User

Pakedge IP cameras support up to 10 user accounts. Each account can be individually configured for access rights. General login settings can be configured without requiring authentication by using the Bypass Logon and IPScan Bypass Logon options.

- To access the IP camera without authentication, switch the **Bypass Logon** option to **On**.
- Enable **IPScan Bypass Logon** to log into the camera through IPScan without authentication.
- To manage user accounts, use the Add User, Edit User and Remove User options.
- To add a user, press **Add User**, and you will see the following screen:

Advanced >> System >> User

Bypass Logon On Off
IPScan Bypass Logon On Off

Account
New Password
Confirm Password
User Group Administrator , Operator , Viewer
Administrator
Panel Control
ePTZ Control

Enter the account name and password for the new account, and then check to assign the access rights for this account.

- To edit account information, select the desired user in the User drop-down menu and click **Edit User**.
- To delete a user, select the desired user in the User drop-down menu and click **Remove User**.
- Click **Submit** to update the settings.

Time and Date

The Setup > System > Time and Date page allows you to adjust the time zone, time sync, and daylight saving time settings.

Time Zone

You can change the time zone of your camera through the HTML connection to the camera. Select the date and time in the drop-down menus, and click **Submit** to apply.

Daylight Saving Time

Turn On/Off and set the Start Date and End Date of Daylight Saving Time from this page.

Basic >> System >> Time and Date

Server Time	Tue, 17 Apr 2018 12:44:36 GMT+0800						
Synchronize with NTP	<input checked="" type="radio"/> Every Hour <input type="radio"/> Off						
Time Server	time.stdtime.gov.tw						
Time Zone	(GMT +08:00) Taipei						
Time	2018	4	17	12	44	36	Synchronize with PC
Daylight Saving Time	<input type="radio"/> On <input checked="" type="radio"/> Off						
Time Mode	Date						
Start Date	1	1	0	(Month/Date/Hour)			
End Date	12	31	23	(Month/Date/Hour)			
<input type="button" value="Submit"/>							

Synchronize with an NTP server

To synchronize with an NTP server, change the Synchronize with NTP setting to **Every Hour**. The camera will synchronize its system time with the configured time server every hour.

Note: This function requires an Internet connection.

Click **Submit** to update the settings.

Video/Audio

You can use the Video/Audio section to configure the camera's video and audio streaming settings.



Live | [Basic Mode](#) | [Advanced Mode](#) | [Language](#) | [Log Out](#)

System

Video/Audio

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Profiles

Customized profiles that specify the configuration details of each of the available video streams is available. Use the drop-down menu to select the profile and then adjust the settings as described below:

Basic >> Video/Audio >> General

H.264 Encoding Mode : Main Profile High Profile
Encoder2 : Enable Disable
Encoder3 : Enable Disable
Video Standard : 60Hz 50Hz
Fixed Bitrate Mode : Enable Disable
Image Enhance Mode :

Encoder1

Profile Name
Resolution
Output Frame Rate
GOP (Group of Pictures)
Stream Mode
Bit Rate
RTSP URL

Encoder2

Profile Name
Resolution
Output Frame Rate
GOP (Group of Pictures)
Stream Mode
Bit Rate
RTSP URL

Encoder3

Profile Name
Resolution
Output Frame Rate
GOP (Group of Pictures)
Stream Mode
Bit Rate
RTSP URL

Encoder4

Profile Name
Resolution
Output Frame Rate
Image Quality
Resolution
Output Frame Rate
Image Quality
RTSP URL

H.264 encoding mode

Select the encoding mode for the H.264 profile.

Video standard

Select the video standard for your region.

Image Enhance Mode

Turn Image Enhance mode to HDR or off.

Stream Mode

Set to VBR (variable bit rate), CBR (constant bit rate), or Smart H.264 (H.264 streaming mode that streams areas of interest at a higher rate and other areas at a lower rate to conserve bandwidth).

Power Line Frequency

Select the power line frequency of the region in which the cameras are installed.

Fixed Bitrate Mode

Enable to set the bit rate to a fixed constant.

VBR/CBR Mode

Variable bit rate (VBR), an encoding mode that maintains a predefined level of image quality and varies in how much bandwidth is used to transmit the image; CBR: constant bit rate, an encoding mode that always uses the same amount of bandwidth but the image quality may vary. CBR is useful in environments with limited bandwidth.

Bit rate

The bit rate is the data rate at which the camera transmits the video. Using an increased bit rate will provide a higher quality image. Select a bit rate that will enable the camera to successfully stream video to any viewing interface. If streaming video over the internet, do not configure the bit rate higher than the upload speed available in the network.

Output frame rate

The frame rate is the number of times the camera takes an image per second. A higher frame rate will provide a smoother image but will increase the amount of bandwidth used.

GOP

The number of I-frames to be displayed in one second.

Alarm Weighted Mode

Enable to prioritize this output stream when an alarm is detected. See "Alarm Weighted Mode" for a detailed description.

RTSP URL

The URL that provides access to the video stream through the Real Time Streaming Protocol.

■ Note: These options may vary depending on camera model.

Alarm Weighted Mode

Weighted mode is activated when an alarm is triggered, and the stream rate will increase to the maximum rate (this may differ by the model). When there is no alarm activity, the stream remains at 1 FPS to save bandwidth and storage.

Basic Quality

This menu allows you to adjust brightness, auto contrast, contrast, hue, saturation, and sharpness for both the Day Mode and Night Mode. Individual day/night settings ensure the camera provides optimal video quality in both modes.

Day Mode Night Mode

Brightness : 49 (Low / High)

Contrast : 64 (Low / High)

Hue : 50 (Low / High)

Saturation : 50 (Low / High)

Sharpness : 10 (Low / High)

Load Defaults

Network

Click the **Network** button to configure and edit the network settings for the camera.

General

Network settings are the basic settings that connect the IP camera to the network. By default, Pakedge IP cameras are set to DHCP.

Static IP

To connect to a local area network with a static IP address, select **Static** as the Network mode. Enter the IP Address, Subnet Mask, Gateway, and Default DNS. Click **Submit** to update the settings.

Basic >> Network >> General

Network	<input checked="" type="radio"/> Static <input type="radio"/> DHCP <input type="radio"/> PPPoE
IP Address	<input type="text" value="192.168.1.200"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="192.168.1.1"/>
Default DNS	<input type="text" value="168.95.1.1"/>
Second DNS	<input type="text" value="168.95.1.1"/>
Account	<input type="text" value="account@pppoe.com"/>
Password	<input type="password" value="••••••••"/>
2nd IP Address	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
2nd IP Address	<input type="text" value="192.168.1.200"/>
2nd Subnet Mask	<input type="text" value="255.255.255.0"/>
3rd IP Address	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
3rd IP Address	<input type="text" value="192.168.1.200"/>
3rd Subnet Mask	<input type="text" value="255.255.255.0"/>

DHCP

A router, gateway, or other DHCP software server can assign an IP address to your IP camera. However, every time the DHCP service is rebooted, the IP address of the IP camera may vary. You may need to use IPScan to search for the address of IP camera.

To connect to a local network with a DHCP connection, select DHCP as the Network mode and click Submit, and the camera will connect and configure the rest of the network settings automatically.

PPPoE

To connect directly to an Internet connection, contact your local Internet Service Provider (ISP) for a global IP address. Select PPPoE as the Network mode. Enter the IP Address (global), Subnet Mask, and Gateway IP provided by your ISP. Also enter these settings as needed.

- Default DNS—The IP address of the default and first DNS server
- Second DNS IP Address—The IP address of the backup and second DNS server to the default DNS
- PPPoE Account—Username of the PPPoE service
- PPPoE Password—Password of the PPPoE service

Click **Submit** to update the settings.

General IPv6

To configure IPv6 settings, click **Network >> General IPv6**.

Basic >> Network >> General IPv6

Network	<input type="radio"/> On <input checked="" type="radio"/> Off
IP Address	<input type="text" value="fe80::000f:fc51:1068"/> /64
Default Router	<input type="text"/>
Default DNS	<input type="text"/>

Enter the information for IPv6 service. Click **Submit** update the settings.

HTTP/RTSP service

HTTP and RTSP are two reliable protocols for video streaming. With correct port forwarding, videos can be sent over the Internet. To change the port-forwarded HTTP port number, consult your network administrator.

Choose the streaming type you want to use (**HTTP** or **RTSP/UDP**).

Click **Submit** to update the settings.

Basic >> Network >> HTTP/RTSP Service

HTTP Port	<input type="text" value="80"/>
RTSP Port	<input type="text" value="554"/>
ONVIF	<input type="text" value="Standard"/> ▾
ONVIF search	<input checked="" type="radio"/> On <input type="radio"/> Off
RTSP Package Size	<input type="text" value="1"/> KB
METADATA	<input type="radio"/> On <input checked="" type="radio"/> Off
RTCP Check	<input checked="" type="radio"/> On <input type="radio"/> Off
Repeated delivery of SPS/PPS	<input checked="" type="radio"/> On <input type="radio"/> Off
RTSP Authentication	<input checked="" type="radio"/> On <input type="radio"/> Off
Video Port	<input checked="" type="radio"/> HTTP Port <input type="radio"/> RTSP/UDP Port
Profile Name H264 1920x1080	<input type="text" value="stream0"/>
Profile Name JPEG 720x480	<input type="text" value="stream1"/>
Profile Name H264 720x480	<input type="text" value="stream2"/>

Additional settings on this page are described below:

- ONVIF—Choose an ONVIF protocol from the drop-down list.
- RTSP Package Size—Choose the size of each RTSP package depending on your bandwidth.
- METADATA—Enable/disable METADATA.
- RTCP Check—Enable to send RTCP packages for transmission optimization.
- Repeated Delivery of SPS/PPS—Enable to send SPS/PPS information before I-frames.
- RTSP Authentication—Enabling this option will require username and password when connecting to the RTSP stream.
- Video Port—Choose between HTTP or RTSP/UDP for your stream.
- Profile Name—Change the profile name.

DDNS

The DDNS service allows the DDNS server to automatically update a remote connection to the global IP address of the camera. The camera can connect to several popular DDNS servers.

Enter the information for the DDNS service. Click **Submit** to update the settings.

Basic >> Network >> DDNS

DynDNS	<input type="text" value="http://www.ipddns.cc"/>
DDNS	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Account	<input type="text" value="511068"/>
Password	<input type="password" value="••••"/>
New Password	<input type="password"/>
Host name	<input type="text" value="511068"/> http://511068.ipddns.cc
WAN IP	<input type="text"/>

Note: The DDNS feature requires an Internet connection.

To activate DDNS on a Pagedge router, refer to the Pagedge router's documentation to enable DDNS and create an account for use with your Pagedge camera. You can also use another DDNS service such as DynDNS. To configure, go to www.dyndns.org. If the IP camera is using a global IP address, use the last 6 digits of the MAC address as the host name with default account and the default password: pass. The IP camera will automatically register to www.dyndns.org.

SNMP

Enable to activate SNMP service. Modify the fields to fit your requirements, and click **Submit** for the changes to take effect.

Basic >> Network >> SNMP

SNMP	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
SNMP v1/v2	
Read-only Community	<input type="text" value="public"/>
Read/Write Community	<input type="text" value="private"/>
SNMP v3	
Username	<input type="text" value="admin"/>
Authentication Password (MD5)	<input type="text" value="password"/>
Privacy Password (DES)	<input type="text" value="password"/>
Read/Write Security Name	<input type="text" value="public"/>
Read-only Security Name	<input type="text" value="private"/>
SNMP Heartbeat	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
SNMP Heartbeat Server	<input type="text" value="255.255.255.255"/>
SNMP Heartbeat Interval	<input type="text" value="1"/> Sec.

Bonjour

Bonjour is Apple's implementation of zero-configuration networking protocol. Click **Enable** to activate this service.

Advanced >> Network >> Bonjour Service

Bonjour Service Enable Disable

Device Name

Maintenance

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In the Maintenance >> Firmware Update page, you can update the firmware for the camera. Click **Browse** to find the firmware file on your computer and **Submit** to upload the firmware file.

Basic >> Maintenance >> Firmware Update

Do not turn off power. Wait until this web page opens automatically. Failure to update the firmware due to network communication issues may result in device damage, which would require repair from your vendor.

flashS2LM5CK.bin:Application Firmware

No file chosen Initialize without Network Settings

Export Config File

Import Config File No file chosen

Reboot System

Default Settings

Initialize without Network Settings

Initialize All Settings

Export Settings

You can export or import the camera's settings for backup or quick deployment.

1. Click **Export** and click **Save** to save the configuration file to your computer.

You can also import a configuration by clicking **Browse** next to Import Setting and upload the configuration file from your computer. Click **Upgrade** to apply the configuration.

Load Defaults

Click **Load Defaults** to restore the camera to factory settings. Restoring to factory settings does not affect the network configuration.

Reboot System

Click **Reboot System** to restart the camera.

Warning: Never disconnect the power during the update. This could cause irreversible damage to your device.

Note: If you forget your password, please contact Technical Support.

Advanced Mode

You can use Advanced Mode to view and adjust advanced system settings and system logs.



System

Click on **Advanced Mode** > **System** to view advanced system settings.



System Log

Click on **System Log** to view the system-generated log of events.

Advanced >> System >> System Log

Search

Page ▼

IP Position	User	Date	Log Info
127.0.0.1	admin	2018/11/01 03:46:51	STREAM LOGOUT ENCODER 1 (SYSTEM MESSAGE)
192.168.1.2	admin	2018/11/01 03:43:37	USER LOGIN ENCODER 1 (SYSTEM MESSAGE)
192.168.1.2	admin	2018/11/01 03:42:49	STREAM LOGOUT ENCODER 4 (SYSTEM MESSAGE)
		2018/11/01 03:41:44	USER LOGIN ENCODER 4 (SYSTEM MESSAGE)
192.168.1.2	admin	2018/11/01 03:41:42	STREAM LOGOUT ENCODER 4 (SYSTEM MESSAGE)
		2018/11/01 03:40:09	USER LOGIN ENCODER 4 (SYSTEM MESSAGE)
192.168.1.2	admin	2018/11/01 03:38:26	STREAM LOGOUT ENCODER 4 (SYSTEM MESSAGE)
		2018/11/01 03:36:45	USER LOGIN ENCODER 4 (SYSTEM MESSAGE)
192.168.1.215	admin	2018/10/23 00:36:54	VIDEO SETTING (SYSTEM MESSAGE)
192.168.1.215	admin	2018/10/23 00:36:53	USER LOGIN ENCODER 3 (SYSTEM MESSAGE)
192.168.1.215	admin	2018/10/23 00:36:47	VIDEO SETTING (SYSTEM MESSAGE)

Save

Click **Save** to export the log to a text file.

Video/Audio Settings

Click on **Video/Audio** to configure advanced video and audio settings.

pakedge

Live | Basic Mode | Advanced Mode | Language | Log Out

System

Video/Audio

Network

Event

Notification

Maintenance

General Video/Audio Settings

See “Video/Audio” in Basic Mode for a description of the settings on this page.

Advanced Quality

In this page, you can adjust to Exposure, Automatic Gain Control, White Balance Control, and more.

<input type="radio"/> Day Mode		<input type="radio"/> Night Mode
White Balance Control	<input type="text" value="Auto"/>	
Mirror	<input type="text" value="Off"/>	
Flip	<input type="text" value="Off"/>	
Exposure Value	<input type="text" value="4"/>	
WDR	<input type="text" value="Off"/>	
Shutter Value Range	Min <input type="text" value="1/20000"/>	Max <input type="text" value="1/30"/>
Auto Gain Control (Sense-Up+)	<input type="text" value="36dB"/>	
3D Noise Reduction	<input type="text" value="10"/>	
Sense-Up	<input type="text" value="Off"/>	
Color Mode	<input type="text" value="Color"/>	
IR LED	<input type="text" value="Off"/>	
IR Cut Filter	<input type="text" value="On"/>	
<input type="button" value="Load Defaults"/>		

Video settings are described below:

- White Balance Control—Set white balance configurations for different scenarios, including: tungsten, indoor, fluorescents, or outdoor environments. Choose Auto for the camera to automatically switch between white balance settings.
- Dynamic Defective Pixel Correction—Enabling this option to allow the system to replace defective pixels with their neighboring pixels.
- Mirror—Flips the video horizontally.
- Flip—Flips the video vertically.
- Exposure Value—Adjusts the value of exposure; the higher the value is set, the brighter the video is.
- WDR—Enables or disables Wide Dynamic Range to capture greater details.
- Back-light Compensation—Increases the exposure of objects with insufficient light.
- DC Iris Mode—Turn on to enable auto iris adjustment.
- Shutter Limit—Set the min and max shutter values.
- Auto Gain Control (Sense Up+)— When enabled, this function automatically increases the gain of the video signal. If AGC cannot obtain enough light, set the option to a higher level. See additional description below.
- 3D Noise Reduction—Suppresses noise that occurred in low lighting conditions.
- Sense Up—Select the level of Sense Up to enhance the video for increased sensitivity at night. However, using Sense Up may cause motion blur in low light environments due the slower shutter speed.

- Color Mode—Switch between color/black-and-white mode.
- IR Cut Filter—Enable/disable the IR cut filter.
- IR LED—Turn the IR LED on or off. Note that the IR LEDs are controlled automatically by default.
- IR LED Level—Set the IR LED intensity level. If the IR LEDs are reflecting off a surface very close to the camera, the sensitivity may be adjusted lower for improved night image quality.

Sense-Up+

Without Sense-Up



Sense-Up by 3 Frames



Sense-Up+ is a low-light and high-sensitivity DSP control that enables outstanding video quality even in low-light environments. Sense-Up+ technology can be used for both black-and-white and/or color video modes. Before enabling Sense-Up+, first enable **Auto Gain Control** (AGC). Using Sense-Up+ with **3D noise reduction** (3D DNR) can reduce noise that occurs in low light environments. AGC and 3D DNR do not cause motion blur. If the picture is still too dark under the environment, turn on **Sense-Up** instead. This, however, may cause motion blur in low-light conditions.

Auto Focus

In the Auto Focus menu, you can change the auto focus settings for cameras with auto focus.

Advanced >> Video/Audio >> Auto Focus



Zoom Speed	1 ▼	Zoom In	Zoom Out		
Focus Speed	2 ▼	Focus Near	Focus Far	Step Near	Step Far
Quick Zoom	Wide	1	2	3	Tele
Quick Focus	Auto Focus	Full Scan			
Lens Initialize	Start				

You can manually zoom the camera and adjust the zoom and focus speeds with the Zoom Speed and Focus Speed options.

To quickly zoom to built-in presets, press **Wide**, **1**, **2**, **3**, or **Tele**.

To have the camera automatically focus, press **Auto Focus**.

■ Note: These functions are available on autofocus models only.

Day/Night Mode Switch

The **Day/Night Mode Switch** allows you to schedule IR activities automatically, by day, night, schedule, or external control. When the setting is set to **Auto**, the IR LEDs are turned on/off automatically according to the signal from the light sensor in conjunction with control of the IR cut filter. The **Night** setting removes the IR cut filter, and the **Day** setting keeps the filter on. If you choose **Schedule**, the filter turns on/off according to the set schedule.

Advanced >> Video/Audio >> Day/Night Mode Switch

Auto , Switch Delay Time Sec.

Day Mode

Night Mode

Schedule

Avoid Motion Detection at IR Switching Enable Disable

Avoid Motion Detection at IR Switching Interval Sec.

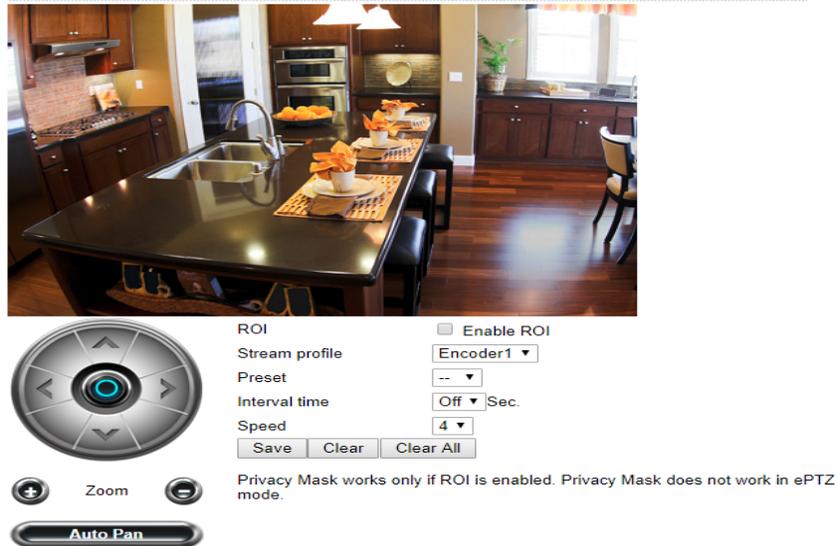
Click **Submit** to update the settings.

ROI (Region of Interest)

The display window in the ROI section allows use of ePTZ. See “Chapter 3-1 IP Camera Operations” on using ePTZ. ROI cannot be used simultaneously with ePTZ. When Enable ROI is selected, only the largest resolution of the profile will be shown on the screen without the PTZ control, but the rest of the resolutions can still be displayed with the PTZ control. Also, each resolution can have 16 presets that are not synced with other resolutions.

To configure ROI, click **Advance > Video/Audio**. Then, click **ROI** to see the following screen.

Advanced >> Video/Audio >> ROI



ROI Enable ROI

Stream profile

Preset

Interval time Sec.

Speed

Privacy Mask works only if ROI is enabled. Privacy Mask does not work in ePTZ mode.

Only one profile will be shown, because all the resolutions are synced for all presets when ePTZ is used and ROI is not checked. Sixteen presets are provided. Select a specific profile you need and configure **Dwell Time** and **Speed** settings according to your needs. Click **Save** for the setting to take effect, click **Clear** to erase the selected preset, and click

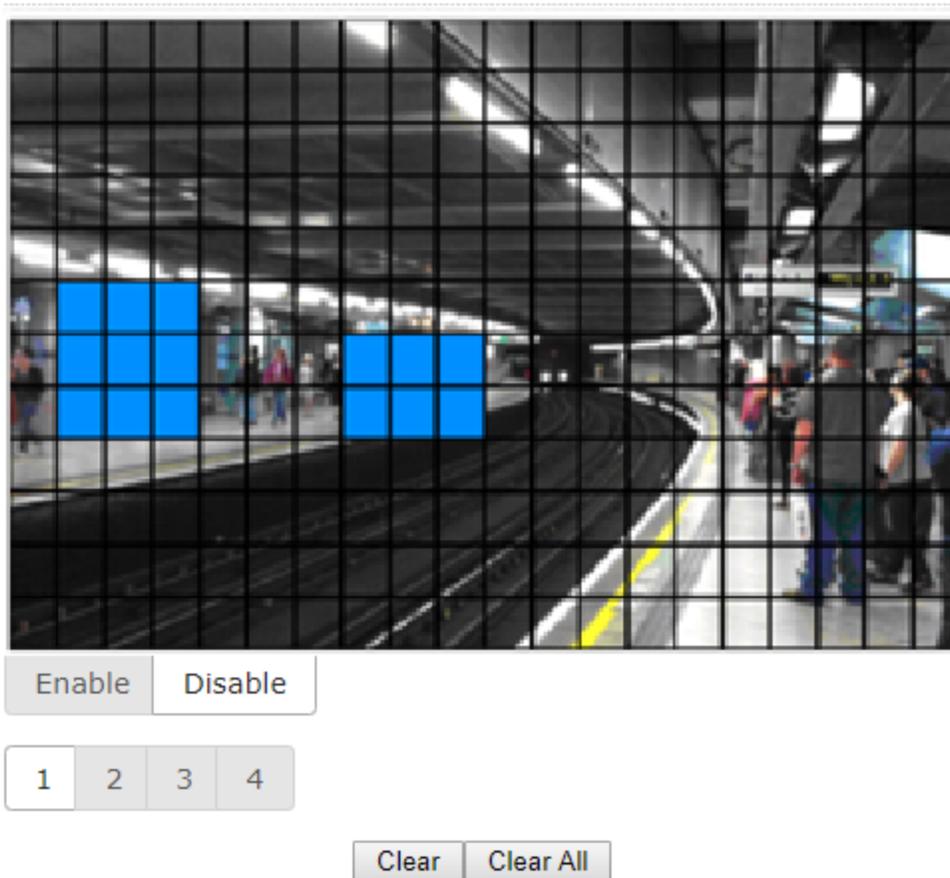
Clear all to erase all presets. When **Auto Pan** is clicked, an icon will appear at the upper-left corner of the camera view; click again to disable the function.

Privacy Masking

Pakedge IP cameras provide up to four sets of privacy masking.

In **Advance > Video/Audio > Privacy Mask**, select any of the masking numbers and drag to mask specific areas. Click on **Enable** or **Disable** to turn on or off the masking area. Click **Clean** to clear a single mask or **Clean all** to clear all the privacy masks.

Advanced >> Video/Audio >> Privacy Mask



Note: By enabling privacy masking, ROI will be turned on automatically, and ePTZ will be disabled.

Lens Distortion Correction

Enable **Lens Distortion Correction Mode** to adjust for curved image distortion if desired.

[Advanced >> Video/Audio >> Lens Distortion Correction](#)



Lens Distortion Correction Mode Enable Disable

Strength : 21 (Low / High)

Zoom : 26 (In / Out)

Note: ROI, Privacy Mask, and ePTZ do not work in LDC mode.

Advanced Network

To configure advanced network settings, click on **Advanced Mode >> Network**. Advanced network settings include **Multicast, IP Address Filtering, DDNS, UPnP, Bonjour, SDDP / Heartbeat, and SNMP**.

pakedge 

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Multicast

Pakedge cameras support video streaming under four different formats. Each format can stream through its own IP address. On this page, you can configure the network settings for the individual streams.

Advanced >> Network >> Multicast

Encoder1	Multicast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
	IP Address	<input type="text" value="239.0.0.0"/>
	Video Port	<input type="text" value="1234"/> (2~65534)
	Video Port(RTCP)	<input type="text" value="1235"/> (2~65534)
	Audio Port	<input type="text" value="1236"/> (2~65534)
	Audio Port(RTCP)	<input type="text" value="1237"/> (2~65534)
	TTL	<input type="text" value="5"/> (1~255)
Encoder2	Multicast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
	IP Address	<input type="text" value="239.0.0.1"/>
	Video Port	<input type="text" value="1238"/> (2~65534)
	Video Port(RTCP)	<input type="text" value="1239"/> (2~65534)
	Audio Port	<input type="text" value="1240"/> (2~65534)
	Audio Port(RTCP)	<input type="text" value="1241"/> (2~65534)
	TTL	<input type="text" value="5"/> (1~255)
Encoder3	Multicast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
	IP Address	<input type="text" value="239.0.0.2"/>
	Video Port	<input type="text" value="5568"/> (2~65534)
	Video Port(RTCP)	<input type="text" value="5569"/> (2~65534)
	Audio Port	<input type="text" value="5570"/> (2~65534)
	Audio Port(RTCP)	<input type="text" value="5571"/> (2~65534)
	TTL	<input type="text" value="5"/> (1~255)
Encoder4	Multicast	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
	IP Address	<input type="text" value="239.0.0.3"/>
	Video Port	<input type="text" value="5572"/> (2~65534)
	Video Port(RTCP)	<input type="text" value="5573"/> (2~65534)
	Audio Port	<input type="text" value="5574"/> (2~65534)
	Audio Port(RTCP)	<input type="text" value="5575"/> (2~65534)
	TTL	<input type="text" value="5"/> (1~255)

IP Address Filtering

Pakedge cameras provide an IP address filter to help you block unauthorized IP addresses from accessing the camera.

1. Under **Advanced Mode >> Network >> IP Address Filtering**, click **Enable** to enable the service.
2. Enter the IP address you want to block, and click **Add**.
3. Click **Delete** to remove an IP address from the list.

Advanced >> Network >> IP Address Filtering

IP Address Filtering Enable Disable

Allow / Deny Allow Deny

IP Address

Click Submit to update the settings.

UPnP Settings

UPnP is a network protocol that allows Windows PC users to access IP cameras in a LAN environment. To activate the UPnP service, click **Enable**.

Advanced >> Network >> UPnP

UPnP Service Enable Disable

Device Name UPnP IPCam Device

In Windows, go to **Network > File Explorer** to see the IP cameras through the UPnP protocol.

Bonjour

Bonjour is Apple's implementation of zero-configuration networking protocol. Click **Enable** to activate this service.

Advanced >> Network >> Bonjour Service

Bonjour Service Enable Disable

Device Name

Enter a **Friendly Name**, and click **Submit**.

SDDP/Heartbeat

With SDDP/Heartbeat support, you can connect to SDDP and Heartbeat compatible devices.

1. Click **Enable** to turn on SDDP.
2. Click **Enable** to turn on Heartbeat service and enter the **Heartbeat Server**, **Port**, and **Heartbeat Interval** settings.

Advanced >> Network >> SDDP/Heartbeat

SDDP Service Enable Disable
Heartbeat Service Enable Disable
Heartbeat Server
Heartbeat Port
Heartbeat Interval Sec.

Submit

3. Click **Submit** to update the settings.

MAC Address Filtering

Pagedge cameras provide a MAC address filter to help you block unauthorized MAC addresses from accessing the camera.

1. Under **Advanced Mode >> Network >> MAC Address Filtering**, click **Enable** to enable the service.
2. Enter the MAC address you want to filter, and choose **Allow** or **Deny**.
3. Click **Delete** to remove an IP address from the list.

Advanced >> Network >> MAC Address Filtering

MAC Address Filtering Enable Disable
Allow / Deny Allow Deny
MAC Address

Submit

Delete

IEEE 802.1x

Select **Enable** to turn on IEEE 802.1X network authentication, and select **Submit**.

Advanced >> Network >> IEEE 802.1x

IEEE 802.1x Enable Disable

Submit

Event

In **Advanced Mode** >> **Event**, you can configure the detection settings for motion and network failure. Choose an event type in the drop-down menu, then click **Edit Event**.

Advanced >> Event >> Event

Event Name Motion Detection Edit Event

Event	Status	FTP	SMTP	SD Card	SAMBA	HTTP POST	SNMP Trap	Push Service	Schedule
Motion Detection	Disable								Auto
Tampering Detection	Disable								Auto
Network Detection	Disable	-	-		-	-	-	-	Auto

Select the **Action** to take when the chosen events are detected, such as sending JPEG images to an FTP server or an email account, and/or triggering SD card video recording.

Click **Submit** to update the settings.

IVS (Intelligent Video Surveillance)

IVS settings allow you to change the motion detection behavior of the camera. Choose a motion detection mode and select **Submit**. The camera will reboot to apply the motion detection mode.

Note: IVS settings are not available on all models.

Motion Detection, Tampering Detection

Motion Detection, Tampering Detection enables the default motion and tamper detection modes.

Advanced Motion Detection

Advanced motion detection changes the way motion detection is handled by the camera.

Traditional motion detection is done by comparing two pictures' colour space, luma (Y) and chrominance (UV). The biggest disadvantage is that traditional (YUV) motion detection might cause false alarms affected by light sources. For example, the camera switching from color mode to black and white mode might cause false alarms triggers.

Advanced Motion Detection is a four-pass filter for separating motion objects which means a more accurate motion detection algorithm, lowering false triggers and other recording triggers usually associated with YUV motion detection methods.

Traffic Light Detection

Traffic Light Detection requires a combination of events/triggers to happen for a motion alarm event to trigger. As an example in the image below, the traffic light must be showing red and the tripwire line must be crossed for a motion alarm to be generated.



Motion Detection Enable Disable

Motion Detection Type

Select Area

Sensitivity

Color Specific

Color Ratio Adjust

Object Counting

Object counting allows a virtual area to be drawn over a camera image. Anything that passes through the virtual area is logged and counted. A record of how many times this area has been crossed is then accessible from the camera's menu. This option does not trigger any motion detection alarms, simply object counting.

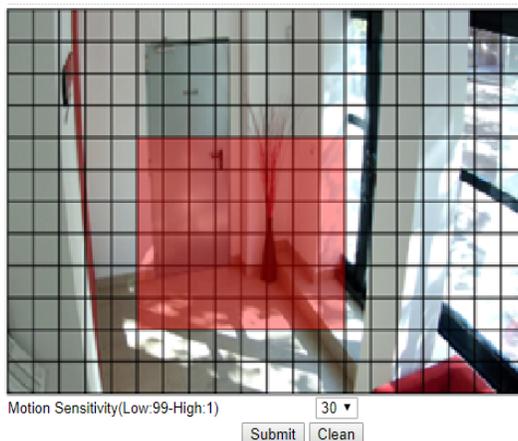


Motion Detection

After configuring a motion detection in the Events page, click **Motion Detection** to determine which areas to monitor. The areas selected for the camera to monitor for motion are marked in red. By default, the entire image is used for motion detection.

Simply click or drag across the areas you want to monitor. Cancel your selection by double-clicking or dragging across the areas you don't want to monitor with the right mouse button or by clicking **Clean**.

Advanced >> Event >> Motion Detection



Click **Submit** to update the settings.

Network Detection

Enable **No network detected** to send a notification upon network failure.

Advanced >> Event >> Network Detection

No Network Activity

- Disable
- No network detected.
- No stream connection detected.

Submit

Click **Submit** to update the settings.

Notification

In Advanced Mode >> Notification, you can configure how your Pakedge camera sends notifications when an event is received.



To configure events, see “Event” in this document.

FTP Service

In **Advanced Mode >> Notification**, click on **FTP Service**.

Advanced >> Notification >> FTP Service

FTP/DNS Server	<input type="text" value="ftp.server.com"/>
FTP/DNS Server Port	<input type="text" value="21"/>
Account	<input type="text" value="Account"/>
Password	<input type="password" value="*****"/>
Directory	<input type="text" value="/alarm_jpeg/"/>
Prefix	<input type="text"/>
Date Format	<input type="text" value="YYMMDD_hhmmss"/>
Postfix	<input type="text"/>
File Format	<input type="text" value="Encoder4"/>
Auto FTP Send	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Auto FTP Send Interval	<input type="text" value="1 Hour"/>

Submit

- FTP server IP/DNS—IP address or domain name of the FTP server
- Account—Account name to log in to the FTP server
- Password—Password of the account
- Directory—File path for storing the JPEG snapshots

- Prefix—Prefix of the JPEG filename
- Date format—Date string for the JPEG filename
- Postfix—Postfix of the JPEG filename
- Auto FTP Sent—Enable this setting to periodically send notifications and snapshots to the designated FTP server
- Auto FTP Sent Dwell—Choose a dwell time from the drop-down menu to define how often the Auto FTP sends snapshots

Click **Submit** to update the settings.

SMTP (Email) Service

After an event is triggered, you can send a snapshot to the email account(s) you designate.

Click on **Advance >> SMTP Service** to configure Email addresses and SMTP settings. See your email provider for the details needed to configure SMTP.

Advanced >> Notification >> SMTP Service

Email Receiver Setting	
Email Address1	<input type="text" value="receiver@mail.com"/>
Email Address2	<input type="text"/>
Email Address3	<input type="text"/>
Email Address4	<input type="text"/>
Email Address5	<input type="text"/>
<hr/>	
Email Sender Setting	
Email Address	<input type="text" value="sender@mail.com"/>
SMTP Server	<input type="text" value="mail.com"/>
SMTP Authentication	<input checked="" type="radio"/> AUTH LOGIN <input type="radio"/> AUTH SSL <input type="radio"/> AUTH TLS
SMTP Port	<input type="text" value="25"/>
Authentication	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Authentication Account	<input type="text" value="sender"/>
Authentication Password	<input type="password" value="****"/>
<input type="button" value="Submit"/> <input type="button" value="Send Test Email"/>	

Click **Submit** to update the settings.

Click **Send Mail & Status** to test the settings and send an email.

HTTP POST Service

Through the HTTP POST protocol, the camera can automatically send notification snapshots to a website when an alarm is triggered.

In **Advance** >> **Event**, click on **HTTP Post Service**.

Advanced >> Notification >> HTTP POST Service

HTTP POST Server IP/DNS	<input type="text" value="httpserver.com"/>
HTTP POST Server Port	<input type="text" value="80"/>
Account	<input type="text" value="admin"/>
Password	<input type="password" value="****"/>
JPEG Attachment	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Attachment File Format	<input type="radio"/> Fixed <input checked="" type="radio"/> Date
Attachment Filename	<input type="text" value="snap"/>

Configure the settings as needed, and click **Submit** to update the settings.

NOTE: When using the Pakedge cameras with a Control4 system, the HTTP POST service is used for the camera to send events to the Control4 system. The HTTP POST Server will be automatically configured as the Control4 controller's IP address and all other settings will be set automatically when the camera is identified into the Control4 project. Manually changing these settings can cause required communications between the camera and the Control4 system to fail.

SD Card Service

Your Pakedge camera can save snapshots to an internal SD card. Ensure an SD card is properly installed to the camera before you enable the SD recording option. The camera will start recording video when an event occurs.

1. To enable SD card recording, go to **Advanced Mode** >> **Notification** >> **SD Card Service**.
2. Turn **SD Recording** to **On** to record the video stream directly.
3. Turn **SD Recording OSD** to **On** to record the OSD video stream with any configured Video / Audio settings.
4. Turn **SD Recording Continuous** to **On** to enable continuous video recording to the SD card.

Advanced >> Notification >> SD Card

SD Recording	<input type="radio"/> On <input checked="" type="radio"/> Off
SD Recording OSD	<input type="radio"/> On <input checked="" type="radio"/> Off
SD Recording Continuous	<input type="radio"/> On <input checked="" type="radio"/> Off
Recording Format	<input type="text" value="Encoder1"/>
Pre-record Time	<input type="text" value="5"/> Sec.
SD Card Status	NORMAL
SD Card State	SD Card not inserted.
SD Card Total Bytes	0 MBytes
SD Card Free Bytes	0 MBytes

Click **Mount**, **Unmount**, and **Format** as needed to set up your SD card before you start recording. Formatting the SD card will erase any data on the card.

Warning: Be sure to click **Unmount** before removing the SD card, or the system may crash.

Click **Submit** to update the settings.

SD Card Backup

To download a specific clip from the recorded files on the SD Card, go to **Advanced Mode** >> **Notification** >> **SD Card Backup File**. Right-click the file you want to download and save the AVI file to a local PC.

Advanced >> Notification >> SD Card Backup File

Delete Refresh

SAMBA Service

Pakedge cameras are compatible with the SAMBA protocol for recording video to a network location. Go to **Advanced Mode** >> **Notification** >> **SAMBA Service** to enable the service.

1. Turn **SAMBA Recording** to **On** to record the video stream directly.
2. Turn **SAMBA Recording OSD** to **On** to record the OSD video stream with any configured Video / Audio settings.
3. Turn **SAMBA Recording Continuous** to **On** to enable continuous video recording to the network location.
4. Enter the **SAMBA Server IP**, **SAMBA Server PORT**, **SAMBA Server Account**, **SAMBA Server Password**, and **SAMBA Server Directory** to configure the connection to the network location.

Advanced >> Notification >> SAMBA Service

SAMBA Recording	<input type="radio"/> On <input checked="" type="radio"/> Off
SAMBA Recording OSD	<input type="radio"/> On <input checked="" type="radio"/> Off
SAMBA Recording Continuous	<input type="radio"/> On <input checked="" type="radio"/> Off
Recording Format	Encoder1 ▾
Pre-record Time	5 ▾ Sec.
SAMBA Server IP	192.168.0.100
SAMBA Server PORT	5000
SAMBA Server Account	admin
SAMBA Server Password	••••
SAMBA Server Directory	/Public
SAMBA Status	NORMAL
SAMBA State	SAMBA service is not connected.
SAMBA Total Bytes	0 MBytes
SAMBA Free Bytes	0 MBytes
	http://192.168.0.100:5000
	Submit Disconnected Connected

Click **Connect** to connect to the network location, and **Submit** to update the settings.