# CAM3xxx Series

# User Manual

Release 2.0



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# **Revision History**

Version	Description	Date
1.0	Initial release: All the CAM3xxx series models are put into this manual; both hardware and software aspects are covered.	April 2012
1.1	New model: CAM3371 added.	June 2012
1.2	New model: CAM3351 added.	September 2012
1.3	New models added.	August 2013
1.4	New bracket added for CAM3351 and UI Modified.	October 2013
1.5	Add new controller icons	December 2013
1.6	New model: CAM3471MP added.	Feb. 2014
1.7	FW upgraded	June 2014
1.8	New models added	Sept. 2014
1.9	New models added	Oct. 2014
2.0	New models added	June 2015

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# Safety Precautions

# Electric Shock Warning

This equipment may cause electric shocks if not handled properly.

- Access to this equipment should only be granted to trained operators and maintenance personnel who have been instructed of, and fully understand the possible hazardous conditions and the consequences of accessing non-field-serviceable units such as the power supplies.
- The system must be unplugged before moving, or in the even that it becomes damaged.



## Reliable Grounding

Particular attention should be given to prepare reliable grounding for the power supply connection. It is suggested to use a direct connection to the branch circuit. Check for proper grounding before powering on the device.



The device should be installed according to specifications. Provide a suitable power source with electrical overload protection. Do not overload the AC supply branch circuit that provides power to the device.



Please observe all conventional anti-ESD methods while handling the device. The use of a grounded wrist strap and an anti-static work pad are recommended. Avoid dust and debris in your work area.

# **Device Site Recommendations**

The device should be installed according to specifications. This device should be operated at a site that is:

- Clean, dry, and free of excessive airborne particles.
- Well-ventilated and away from heat sources such as direct sunlight and radiators.
- Clear of vibration or physical shock.
- Away from strong electromagnetic fields produced by other devices.
- Available with properly grounded wall outlet for power. In regions where power sources are unstable, apply surge suppression.
- Available with sufficient space behind the device for cabling.

# **Chapter 1. Product Overview**

### **1.1. Network Camera Introduction**

CAM3xxx series are professional network cameras that use Internet Protocol (IP) to transmit video streams and control signals over networks. Capable of operating over both LANs and WANs, they provide a complete budget-conscious remote surveillance solution that are ultra clear and highly integrated. CAM3xxx series combine a user-friendly interface and simplified installation with a powerful feature set to provide users an easy upgrade path to new digital surveillance system in a virtual environment. These highlights make CAM3xxx series ideal choices for environments that require remote surveillance or video transmission.

## **1.2. Features and Benefits**

3xxx series IP camera is a cutting-edge digital video transmission device. It can compress and transmit real-time images of outstanding quality using a reasonable amount of bandwidth through a standard TCP/IP network. The following features make this IP camera an outstanding choice when building an intelligent IP surveillance system:

#### High Video Quality

High image quality is essential in security surveillance applications. It is important to be able to clearly capture an incident in progress and identify persons or objects involved. A network camera gives exceptional video quality, even greater than that of traditional analog cameras, which means that more detail or larger areas can be covered.

#### H.264/MPEG-4/MJPEG Compression

Motion JPEG, MPEG-4, and H.264 (also known as MPEG-4 Part 10/AVC), each employ different techniques to reduce the amount of data transferred and stored in a network video system. Network cameras that support multiple compression standards are ideal for maximum flexibility and integration possibilities.

#### Dual Streaming

Dual-stream design enables simultaneous support of real-time video monitoring, video recording, or mobile viewing applications which require different resolutions, compression formats and frame rates.

#### MicroSD/SDHC card slot

IP surveillance relies on network connectivity, making it susceptible to attacks on the network between the camera and recording facilities. With onboard recording capability, our network cameras can truly be online 24/7. The microSD/SDHC card slot design ensures sufficient recording capacity for an over-weekend period even at full frame rate and high resolution.

#### Tampering Detection

This is an intelligent video analytics application available only in selected network cameras in the market. When a camera is manipulated in any way (e.g. accidental redirection, blocking, defocusing, spray-painted, covered or damaged), it can automatically trigger recording and alert notifications.

#### Power-over-Ethernet

The built-in Power-over-Ethernet support reduces cabling and installation costs, and enables users to consolidate power facilities for higher reliability. With PoE, a camera can still operate in the event of a power failure if it is connected to a centralized backup power with an Uninterruptible Power Supply.

#### IR LED Illuminators

With the built-in IR illuminators, the camera is capable of working in low light conditions, with a range up to 30m.

#### Outdoor Housing Design

CAM3xxx series has been designed for use of under harsh environmental conditions. Its IP66 weather-proof housing can withstand rain and dust. The built-in heater and fan ensures the camera will continue working even at temperatures as low as  $-20^{\circ}$ C and as high as  $50^{\circ}$ C.

# **1.3. Technical Specifications**

### Model List for CAM3xxx Series

CAM3351	Full HD D/N Bullet IP Camera
CAM3351R4	2 Megapixel D/N Bullet IP Camera
CAM3351R6	2 Megapixel D/N Bullet IP Camera
CAM3361	2MP D/N Bullet IP Camera with Individual ISP
CAM3361LV	2 Megapixel D/N Outdoor Bullet IP Camera
CAM3461LV	3 Megapixel D/N Outdoor Bullet IP Camera
CAM3371	2MP D/N Bullet IP Camera with Individual ISP
CAM3371EV	2MP P-iris D/N Bullet IP Camera
CAM3371EM	2MP P-iris D/N Bullet IP Camera
CAM3471V	3MP HDR D/N Outdoor Bullet IP Camera
CAM3471M	3MP Auto Focus D/N Outdoor Bullet IP Camera
CAM3471MP	3MP Auto Focus D/N Outdoor Bullet IP Camera
CAM3471HEM	3MP P-Iris Auto Focus Outdoor Bullet IP Camera
CAM3471HEV	3MP P-Iris Outdoor Bullet IP Camera
CAM3571M	5MP Auto Focus D/N Bullet Network Camera
CAM3571VP	5MP P-Iris D/N Bullet Network Camera

## Specifications for CAM3351/-3351R4/-3351R6

Model Name	CAM3351	CAM3351R4	CAM3351R6
Description	Full HD D/N Bullet IP Camera	2 Megapixel D/N Bullet IP Camera	
Image Sensor	1/2.7" 2 megapixel progressive scan CMOS	1/2.8" megapixel SONY Exmor CMOS	
Lens	4.2mm, F1.6	4.2mm, F1.6 f4.2 mm, F1.8 f6.0 mm, F2.0	
SNR		48dB	
WDR		Yes	
Day/Night ICR		Yes	
IR LED	Yes (15M)	Yes (	20M)
Min Illumination	0.01 Lux @ F1.2 (B/W) 0.1 Lux @ F1.2 (Color)	0.01 Lux @ F1.4 (B/W) 0.1 Lux @ F1.4 (Color)	
Iris Control	N/A	Fix	red
Viewing Angle	Diagonal: 64.0° Horizontal:56.0° Vertical: 32.0°	Diagonal: 89° Horizontal: 71° Vertical: 49.5°	Diagonal: 60.5° Horizontal: 52.4° Vertical: 29°
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/30 ~ 1/50,000 s 1/1 ~ 1/1,000,000 s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 1920 x 1080		
Video FPS	25 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	

Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), BLC (Back Light Compensation), Image Adjustment	AGC (Auto Gain Control) AWB (Auto White Balance) AES (Auto Electronic Shutter) Luminance Control WDR 2D/3D De-noise ROI Edge Enhancement Lens Correction Image Adjustment	
Video Stream	Dual strea	am at H.264, MPEG-4, and MJPEG simultaneously	
Bit Rate	64K ~ 10Mb	ps, VBR, CBR, controller frame rate and quality	
Intelligent Video	Motion Detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		
Video Jack		N/A	
Audio		N/A	
Audio Compression	N/A		
Audio Input/Output	N/A		
Alarm In/Out	N/A		
Video Buffer	5 second pre-alarm, 30 second post-alarm		
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP	IPv4, IPv6, ARP, TCP, UDP, ICMP, IGMP, DHCP, NTP, DDNS, SMTP, SNMP, FTP, HTTP, HTTPS, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP, ONVIF	
Ethernet	10/100 Base-T / RJ45		
Local Storage	N/A microSD/SDHC x 1		
RS-485	N/A		
USB	N/A		
SDK	SDK 2.0		
OS	Microsoft Windows XP/Vista/7		
Browser	Microsoft IE 6.0 or above		
Software	Surveon VMS 2.4.7	Surveon VMS 2.6	

Temperature	Operation: -10-50°C (14-122°F) Storage: -30-60°C (-22-140°F)	
Humidity	5 to 90%	
Power	12VDC 1.5A ; PoE (IEEE 802.3af) with Class 3	PoE (IEEE 802.3af ) with Class 3
Power Consumption	Max. 7W (w/o Heater)	Max. 7.5W (w/o Heater)
Dimension	75mm x 76mm x 172mm (2.46" x 2.49" x 5.64")	Length: 165mm, Diameter: 75mm
Weight	Net: 667g (1.47 lb.) Gross: 1014g (2.24 lb.)	Net: 600g With bracket: 800g
Certification		Safety: LVD EMC: FCC, CE IP66

## Specifications for CAM3361

Model Name	CAM3361		
Description	2M D/N Bullet IP Camera with Individual ISP		
Image Sensor	1/2.7" 2 megapixel progressive scan CMOS		
Lens	2.8 - 11 mm varifocal lens, F1.4		
SNR	48dB		
WDR	Yes		
Day/Night ICR	Yes		
IR LED	Yes (20M)		
Min Illumination	0.01 Lux @ F1.2 (B/W) 0.1 Lux @ F1.2 (Color)		
Iris Control	DC drive		
Viewing Angle	Diagonal: 99°~37.3° Horizontal: 79.3°~29.8° Vertical: 59.5°~22.4°		
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/30~1/50,000s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 1920 x 1080		
Video FPS 25 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)			
Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), BLC (Back Light Compensation), Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	64K~6Mbps, VBR, CBR, controller frame rate and quality		
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		
Video JacK	Yes (BNC)		
Audio	N/A		
Audio Compression	32KHz, ADPCM		
Audio 3.5mm phone jack			

Alarm In/Out	N/A
Video Buffer	5 second pre-alarm, 30 second post-alarm
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP
Ethernet	10/100 Base-T / RJ45
Local Storage	microSD/SDHC slot x 1 (Class 4/Class 6 only)
RS-485	N/A
USB	N/A
SDK	SDK 2.0
OS	Microsoft Windows XP/Vista/7 (32 bit)
Browser	Microsoft IE 6.0 or above
Software	VMS2.4.1
Temperature	Operation: -25~50°C (-13~122°F) Storage: -30~60°C (-22~140°F)
Humidity	5 to 90%
Power	12VDC 1.5A; PoE (IEEE 802.3af) with Class 3
Power	Max. 9W (w/o Heater )
Consumption	Max. 15.4W (w/ Heater & PoE 802.3af)
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")
Weight	Net: 1400g (3.09lb.) Gross: 2,170g (4.8lb.)
Certification	Safety: LVD EMC: FCC, CE IP66

## Specifications for CAM3361LV/-3461LV

Model Name	CAM3361LV	CAM3461LV	
Description	2 Megapixel D/N Outdoor Bullet IP Camera	3 Megapixel D/N Outdoor Bullet IP Camera	
Image Sensor	1/2.8" megapixel SONY Exmor CMOS	1/2.5" megapixel progressive scan CMOS	
Lens	f3-10.5 mm vari	ifocal lens, F1.4	
SNR	48	dB	
WDR	Ye	es	
Day/Night ICR	Ye	es	
IR LED	Yes (	20M)	
Min Illumination	0.01 Lux @ F1.4 (B/W) 0.1 Lux @ F1.4 (Color)	0.01 Lux @ F1.4 (B/W) 0.1 Lux @ F1.4 (Color)	
Iris Control	Auto Electro	onic Control	
Viewing Angle	Diagonal: 130°~38° Horizontal: 108°~32° Vertical: 58°~18°		
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/1 ~ 1/1,000,000 s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 1920 x 1080		
Video FPS	30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	20 fps at QXGA (2048 x 1536) 30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	
Video Control	AGC (Auto Gain Control) AWB (Auto White Balance) AES (Auto Electronic Shutter) Luminance Control WDR 2D/3D De-noise ROI Edge Enhancement Lens Correction Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	64K~10Mbps, VBR, CBR, cont	roller frame rate and quality	
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		

Video JacK	N/A
Audio	N/A
Audio Compression	N/A
Audio Input/Output	N/A
Alarm In/Out	N/A
Video Buffer	5 second pre-alarm, 30 second post-alarm
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO
Supported Protocols	IPv4, IPv6, ARP, TCP, UDP, ICMP, IGMP, DHCP, NTP, DDNS, SMTP, SNMP, FTP, HTTP, HTTPS, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP, ONVIF
Ethernet	10/100 Base-T / RJ45
Local Storage	microSD/SDHC x 1
RS-485	N/A
USB	N/A
SDK	SDK 2.0
OS	Microsoft Windows XP/Vista/7 (32 bit)
Browser	Microsoft IE 6.0 or above
Software	VMS2.6
Temperature	Operation: -10~50°C (14~122°F)
Humidity	5 to 90%
Power	PoE (IEEE 802.3af) with Class 3
Power Consumption	Max. 7.9W (w/o Heater)
Dimension	Length: 165mm, Diameter: 75mm
Weight	NET: 600g With bracket: 800g
Certification	Safety: LVD EMC: FCC, CE IP66

## Specifications for CAM3371

Model Name	CAM3371	
Description	2MP D/N Bullet IP Camera with Individual ISP	
Image Sensor	1/2.8" 2 megapixel SONY Exmor CMOS	
Lens	3 - 9 mm moto lens. F1.2	
SNR	48dB	
WDR	Yes	
Day/Night ICR	Yes	
IR LED	Yes (20M)	
Min	0.01 Lux @ F1.2 (B/W)	
Illumination	0.1 Lux @ F1.2 (Color)	
Iris Control	DC drive	
Viewing Angle	Diagonal: 148.4° - 43.8° Horizontal: 121.2° - 38.1° Vertical: 62.1° - 21.3° (CAM3371)	
Camera Angle Adjustment	N/A	
Pan/Tilt/Zoom Functionalities	N/A	
Shutter Time	1/30~1/50,000s	
Video Compression	H.264/MPEG-4/MJPEG	
Resolution	Up to 1920 x 1080	
Video FPS	25 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)	
Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), BLC (Back Light Compensation), HLC (High Light Compensation), 3D Noise Reduction, DEFOG, Image Adjustment	
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously	
Bit Rate	64K-6Mbps, VBR, CBR, controller frame rate and quality	
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)	
Video JacK	Yes (BNC)	
Audio	2 Way Audio	

Audio Compression	32KHz, ADPCM	
Audio Input/Output	3.5mm phone jack	
Alarm In/Out	N/A	
Video Buffer	5 second pre-alarm, 30 second post-alarm	
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP	
Ethernet	10/100 Base-T / RJ45	
Local Storage	microSD/SDHC slot x 1 (Class2/Class 4/Class 6)	
RS-485	N/A	
USB	N/A	
SDK	SDK 2.0	
OS	Microsoft Windows XP/Vista/7 (32 bit)	
Browser	Microsoft IE 6.0 or above	
Software	VMS2.4.7	
Temperature	Operation: -25~50°C (-13~122°F) Storage: -30~60°C (-22~140°F)	
Humidity	5 to 90%	
Power	12VDC 1.5A; PoE (IEEE 802.3af) with Class 3	
Power Consumption	Max. 10W (w/o Heater ) Max. 15.4W (w/ Heater & PoE 802.3af)	
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")	
Weight	Net: 1400g (3.09lb.) Gross: 2,170g (4.8lb.)	
Certification	Safety: LVD EMC: FCC, CE IP66	

Model Name	CAM3371EM	CAM3371EV	
Description	2MP P-iris D/N E	Bullet IP Camera	
Image Sensor	1/2.8" 2 megapixel SONY Exmor CMOS		
Lens	f3-10.5 mm auto focus lens, F1.4	f3-10.5 mm varifocal lens, F1.4	
SNR	50	dB	
WDR	Ye	es	
Day/Night ICR	Ye	es	
IR LED	Yes (	30M)	
Min Illumination	0.005 Lux @ 0.05 Lux @	9 F1.4 (B/W) F1.4 (Color)	
Iris Control	P-i	ris	
Viewing Angle	Diagonal: 130°~38° Horizontal: 108°~32° Vertical: 58°~18°		
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/1~1/000,000s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 1920 x 1080		
Video FPS	30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at HD720 (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)		
Video Control	AGC (Auto Gain Control) AWB (Auto White Balance) AES (Auto Electronic Shutter) Luminance Control WDR 2D/3D De-noise ROI Edge Enhancement Lens Correction Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	64K~10Mbps, VBR, CBR, cont	roller frame rate and quality	
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		
Video JacK	N/A	Yes (BNC)	

Audio	2 Way Audio
Audio Compression	16KHz, ADPCM/G.711
Audio Input/Output	3.5mm phone jack
Alarm In/Out	1/1, terminal block
Video Buffer	5 second pre-alarm, 30 second post-alarm
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO
Supported Protocols	IPv4, IPv6, ARP, TCP, UDP, ICMP, IGMP, DHCP, NTP,DDNS, SMTP, SNMP, FTP, HTTP, HTTPS, CIFS, PPPoE,UPnP, RTP, RTSP, RTCP, 3GPP, ONVIF
Ethernet	10/100 Base-T / RJ45
Local Storage	microSD/SDHC slot x 1 (Class2/Class 4/Class 6)
RS-485	N/A
USB	N/A
SDK	SDK 2.0
OS	Microsoft Windows XP/Vista/7
Browser	Microsoft IE 6.0 or above
Software	VMS2.6
Temperature	Operation: -40~50°C (-40~122°F)
Humidity	5 to 90%
Power	12VDC 1.5A; PoE (IEEE 802.3af) with Class 3
Power Consumption	Max. 9.5W (w/o Heater ) Max. 15.6W (w/Heater & DC Power)
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")
Weight	Net: 1400g (3.09lb.) Gross: 2,170g (4.8lb.)
Certification	Safety: LVD EMC: FCC, CE IP66

## Specifications for CAM3471HEM/3471HEV

Model Name	CAM3471HEM	CAM3471HEV	
Description	3MP HDR D/N Bullet IP Camera	3MP HDR D/N Bullet IP Camera	
Image Sensor	1/3" megapixel progressive scan CMOS		
Lens	f3- 10.5mm auto focus lens, F1.4	f3- 10.5mm varifocal lens, F1.4	
SNR	50dB		
WDR	Yes (HDR	, 120 dB)	
Day/Night ICR	Ye	es	
IR LED	Yes (Max. 30M on	limited shutter)	
Min Illumination	0.01 Lux @ 0.1 Lux @ F	F1.2 (B/W) 1.2 (Color)	
Iris Control	P-1	ris	
Viewing Angle	Diagonal: 130°~38° Horizontal: 108°~32° Vertical: 58°~18°		
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/1 ~ 1/10,000 s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 2048 x 1536		
Video FPS	30 fps at QXGA (2048 x 1536) 60 fps at 1080P (1920 x 1080) 60 fps at SXGA (1280 x 1024) 60 fps at 720P (1280 x 720) 60 fps at D1 (720 x 480) 60 fps at VGA (640 x 480) 60 fps at QVGA (320 x 240)		
Video Control	AGC (Auto Gain Control) AWB (Auto White Balance) AES (Auto Electronic Shutter) BLC (Back Light Compensation) HDR 2D/3D De-noise ROI Edge Enhancement Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	32K ~ 20Mbps, VBR, CBR, controller frame rate and quality		
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		
Video Jack	N/A Yes (BNC)		
Audio	2 way audio		

Audio Compression	16KHz, ADPCM/G.711	
Audio Input/Output	3.5mm phone jack	
Alarm In/Out	1/1, terminal block	
Video Buffer	5 second pre-alarm, 30 second post-alarm	
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	
Supported Protocols	IPv4, IPv6, ARP, TCP, UDP, ICMP, IGMP, DHCP, NTP, DDNS, SMTP, SNMP, FTP, HTTP, HTTPS, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP, ONVIF	
Ethernet	10/100 Base-T / RJ45	
Local Storage	microSD/SDHC x 1 (Class 4/Class 6)	
RS-485	N/A	
USB	N/A	
SDK	SDK 2.0	
OS	Microsoft Windows 7/8	
Browser	Microsoft IE 6.0 or above	
Software	VMS 2.5	
Temperature	Operation: -40°C~ 50°C (-40°F~122°F) Storage: -30°C ~ 60°C (-22°F~140°F)	
Humidity	5 to 90%	
Power	12VDC 1.5A ; PoE (IEEE 802.3af) with Class 3	
Power Consumption	Max. 9W (w/o Heater ) Max. 27W (w/ Heater & PoE 802.3af)	
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")	
Weight	Net:1,400g (3.09lb.) Gross:2,170g (4.8lb.)	
Certification	Safety: LVD EMC: FCC, CE, IP66	

## Specifications for CAM3471V/3471M/3471MP

Model Name	CAM3471V	CAM3471M	CAM3471MP	
Description	3M HDR D/N Outdoor Bullet IP Camera	3M Auto Focus D/N Outdoor Bullet IP Camera		
Image Sensor	1/3" 3 megapixel progressive scan CMOS			
Lens	2.8 - 12 mm varifocal lens, F1.4 3 - 9 mm motorized lens, F1.2			
SNR	48	dB		
WDR	Yes (HDR	, 100 dB)		
Day/Night ICR	Y	Yes		
IR LED	Yes (Max. 30M or	limited shutter)		
Min Illumination	0.01 Lux @ F1.2 (B/W) 0.1 Lux @ F1.2 (Color)			
Iris Control	DC drive	DC drive	P-Iris	
Viewing Angle	Diagonal: 135°~35° Horizontal: 93°~28.7° Vertical: 53°~16.2°			
Camera Angle Adjustment	N/A			
Pan/Tilt/Zoom Functionalities	N/A			
Shutter Time	1/2 ~ 1/1,000,000			
Video Compression	H.264/MPEG-4/MJPEG			
Resolution	Up to 2048 x 1536			
Video FPS	30 fps at QXGA (2048 x 1536) 60 fps at 1080P (1920 x 1080) 60 fps at SXGA (1280 x 1024) 60 fps at 720P (1280 x 720) 60 fps at D1 (720 x 480) 60 fps at VGA (640 x 480) 60 fps at QVGA (320 x 240)			
Video Control	AGC (Auto Gain Control) AWB (Auto White Balance) AES (Auto Electronic Shutter) HDR Luminance Control 2D/3D De-noise Edge Enhancement Lens Correction Image Adjustment			
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously			
Bit Rate	64K ~ 10Mbps, VBR, CBR, con	64K ~ 10Mbps, VBR, CBR, controller frame rate and quality		
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)			
Video Jack	Yes (BNC)	N	/A	
Audio	2 way audio			

Audio Compression	32KHz, ADPCM	
Audio Input/Output	3.5mm phone jack	
Alarm In/Out	1/1, terminal block	
Video Buffer	5 second pre-alarm, 30 second post-alarm	
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP	
Ethernet	10/100 Base-T / RJ45	
Local Storage	microSD/SDHC x 1 (Class 4/Class 6)	
RS-485	N/A	
USB	N/A	
SDK	SDK 2.0	
OS	Microsoft Windows XP/Vista/7	
Browser	Microsoft IE 6.0 or above	
Software	VMS 2.4.8	
Temperature	Operation: -40°C~ 50°C (-40°F~122°F) Storage: -30°C ~ 60°C (-22°F~140°F)	
Humidity	5 to 90%	
Power	12VDC 1.5A ; PoE (IEEE 802.3af) with Class 3	
Power Consumption	Max. 9W (w/o Heater ) Max. 15.4W (w/ Heater & PoE 802.3af)	
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")	
Weight	Net:1,400g (3.09lb.) Gross:2,170g (4.8lb.)	
Certification	Safety: LVD EMC: FCC, CE, GOST IP66	

Model Name	CAM3571M	CAM3571VP	
Description	5M Auto Focus D/N Bullet IP Camera	5M P-Iris D/N Bullet IP Camera	
Image Sensor	1/2.5" 5 megapixel progressive scan CMOS		
Lens	4.5 - 9 mm auto focus lens, F1.2	3.3 - 10.5 mm varifocal lens, F1.4	
SNR	48dB		
WDR	Yes		
Day/Night ICR	Yes		
IR LED	Yes (Max 30M, on 1/1 Exposure)		
Min Illumination	0 Lux (IR LEDs on) 0.1 Lux @ F1.2 (Color)		
Iris Control	DC drive	P-Iris	
Viewing Angle	Diagonal: 98.5° - 43.8° Horizontal: 80.5° - 38.1° Vertical: 41.3° - 21.3°	Diagonal: 126° - 40° Horizontal: 98° - 32° Vertical: 72° - 24°	
Camera Angle Adjustment	N/A		
Pan/Tilt/Zoom Functionalities	N/A		
Shutter Time	1/1 ~ 1/1,000,000 s		
Video Compression	H.264/MPEG-4/MJPEG		
Resolution	Up to 2560 x 1920		
Video FPS	14 fps at QSXGA (2560 x 1920) 21 fps at QXGA (2048 x 1536) 30 fps at 1080P (1920 x 1080) 30 fps at SXGA (1280 x 1024) 30 fps at 720P (1280 x 720) 30 fps at D1 (720 x 480) 30 fps at VGA (640 x 480) 30 fps at QVGA (320 x 240)		
Video Control	AGC (Auto Gain Control), AWB (Auto White Balance), AES (Auto Electronic Shutter), Image Adjustment		
Video Stream	Dual stream at H.264, MPEG-4, and MJPEG simultaneously		
Bit Rate	64K-20Mbps, VBR, CBR, controller frame rate and quality		
Intelligent Video	Motion detection, Tampering Detection (blocked, redirected, defocused, or spray-painted)		
Video JacK	N/A	BNC	
Audio	2 Way	iy Audio	

Audio Compression	32KHz, ADPCM	
Audio Input/Output	3.5mm phone jack	
Alarm In/Out	1/1, terminal block	
Video Buffer	5 second pre-alarm, 30 second post-alarm	
Event Action	Send snapshot or video clip by FTP or email, record to NAS, record to local storage, trigger DO	
Supported Protocols	IPv4, ARP, TCP, UDP, ICMP, DHCP, NTP, DDNS, SMTP, FTP, HTTP, CIFS, PPPoE, UPnP, RTP, RTSP, RTCP, 3GPP, ONVIF	
Ethernet	10/100 Base-T / RJ45	
Local Storage	microSD/SDHC slot x 1 (Class 4/Class 6)	
RS-485	N/A	
USB	N/A	
SDK	SDK 2.0	
OS	Microsoft Windows XP/Vista/7 (32 bit)	
Browser	Microsoft IE 6.0 or above	
Software	VMS2.4.8	
Temperature	Operation: -40~50°C (-40~122°F) Storage: -30~60°C (-22~140°F)	
Humidity	5 to 90%	
Power	12VDC 1.5A; PoE (IEEE 802.3af) with Class 3	
Power Consumption	Max. 9W (w/o Heater ) Max. 15.4W (w/ Heater & PoE 802.3af)	
Dimension	105mm x 218.8mm x 191.41mm (3.44" x 7.18" x 6.28")	
Weight	Net: 1400g (3.09lb.) Gross: 2,170g (4.8lb.)	
Certification	Safety: LVD EMC: FCC, CE, GOST IP66	

# **Chapter 2. Hardware Overview**

## 2.1. Overview

CAM3xxx Series (except compact cameras)



### CAM3351



1. Sunshield	2. Lens	3. IR LED
4. Light Sensor	5. Camera Bracket	

### CAM3351R4/3351R6/3361LV/3461LV



### Rear View for CAM3xxx Series

### (except compact cameras)

Please remove the cover.



## 2.2. Dimensions

### **Dimensions for CAM3xxx Series**

### (except compact cameras)

Unit: mm (inches)



### **Dimensions for CAM3351**

Unit: mm (inches)





### Dimensions for CAM3351R4/3351R6/3361LV/3461LV

Unit: mm (inches)





## 2.3. Functions

## Cable Functions for CAM3xxx Series

(except compact cameras)


	CAM3351	CAM3361 CAM3471V CAM3571VP CAM3471HEV	CAM3371 CAM3371EV CAM3371EM CAM3471HEM CAM3471M CAM3471MP CAM3571M	CAM3351R4 CAM3351R6 CAM3361LV CAM3461LV
Audio In/Out Connector		Optional	Optional	
Network Connector	>	>	~	~
Power Connector	>	>	~	
I/O Terminal Connector		Optional	Optional	
Video Out Connector		~		

Please look into the following table for cable options:

1. Audio In/Out Connector

Audio In/Out are both for 3.5mm jacks. Audio-in provides for an external mono microphone. Audio out can be connected to a public address system or an active speaker with a built-in amplifier. A pair of headphones can also be attached.

2. Status LED Indicator

The LED will light up after the camera has successfully completed the boot process. The Status LED indicator in the rear of the camera can be set to light whenever the unit is accessed, or be shut off.

Status LED (rear) A	Green	Shows steady green for normal operation, flashing when the camera is accessed.	
		Note: The Status LED can be configured to be unlit.	
		Steady during startup, reset to factory default or when restoring settings.	
	Amber	Flashes every 0.2 sec during firmware upgrade.	
		(On:0.2 sec, Off: 0.2 sec)	
		Note: Startup or reboot may have failed if the status LED shows steady amber for over 1 minute.	
	Unlit	No network connection.	

3. Reset Button

Pressing the reset button will restore the camera to its factory default settings, as described in *Resetting to the Factory Default Settings*.

4. MicroSD/SDHC Card Slot

The microSD/SDHC card slot can be used for local recording and firmware upgrade.

Note: Apacer 4GB Class 6/Transcend 8GB Class 6/Kingston 16GB Class 2, SanDisk 16GB Class 2/SanDisk 32GB Class 4 MicroSDHC card are recommended, since they have passed the SD Card QVL (Qualified Vender List) test.

5. Video Out Connector (CAM3361 only)

Video Out Connector is used for connecting monitors with BNC ports.

6. Network Connector

The camera connects to the network via a standard RJ-45 network connector. The camera detects the speed of the local network (10/100BaseT). The camera also supports PoE (Power-over-Ethernet), and can be powered directly through the network cable.

7. Power Connector

The power connector is provided for solutions without PoE.

8. I/O Terminal Connector

The I/O terminal connector provides an RS-485 interface, one transistor output, two digital inputs, and connection points for auxiliary DC power and GND.

The I/O terminal connector provides the interface to:

- I transistor output For connecting external devices such as relays and LEDs. Devices can be activated by Output buttons on the Live View page or by an Event. The output will show as active (in Event Configuration > Port Status) if the alarm device is activated.
- 2 digital inputs An alarm input for connecting devices that can toggle between an open and closed circuit, for use with devices such as PIRs, door/window contacts, glass break detectors, etc. When a signal is received the state changes and the input becomes active (shown under Event Configuration > Port Status).
- Auxiliary Power and GND

CUD			
GND	Pin 1	Ground	Description
(not to power this camera)	Pin 2	Electrically connected in parallel with the connector for the power supply, this pin provides an auxiliary connector for main power to the unit. This pin can also be used to power auxiliary equipment with a maximum current of 100mA.	Voltage: 12V DC, Max: 1.2W
DI1(Digital Input)	Pin 3	Connect to GND to activate, or leave floating (or unconnected) to deactivate.	Must not be exposed to voltages greater than 30V DC
DI2 (Digital Input)	Pin 4	Connect to GND to activate, or leave floating (or unconnected) to deactivate.	Must not be exposed to voltages greater than 30V DC
DO(Digital Output)	Pin 5	Uses an open- collector NPN transistor with the emitter connected to the GND pin. If used with an external relay, a diode must be connected in parallel with the load, for protection against voltage transients.	Max load = <100mA Max voltage = 24V DC (to the transistor)
RS-485A	Pin 6	Data transmission connector for control of external devices. (ex. Pan/Tilt scanners)	Тх
RS-485B	Pin 7	Data transmission connector for control of external devices. (ex. Pan/Tilt scanners)	Tx



### Cable Functions for CAM3351



1. Power Connector

The power connector is provided for solutions without PoE.

2. Network Connector

The camera connects to the network via a standard RJ-45 network connector. The camera detects the speed of the local network (10/100BaseT). The camera also supports PoE (Power-over-Ethernet), and can be powered directly through the network cable.

3. Reset Cable

To reset the device to the factory default settings:

- 1.) Make sure the device is in operation mode.
- 2.) Poke the little hole on the reset cable cover or press and hold the red button with a needle after removing the cable cover until the camera restarts (about 2 seconds). The status LED will change to amber during startup.



3.) When the status indicator changes back to green (which may take up to 1 minute), the process is complete. The default IP address is 192.168.88.10 if not assigned by a DHCP server.

4.) Note:

(1) Resetting to the factory default settings using the reset cable will cause all parameters (including IP address) to be reset. To reset the unit without changing parameters, disconnect and reconnect the power connector.

(2) Camera resets can also be performed under System > Reset ToFactory Default on the web interface.

### **Cable Functions for**

### CAM3351R4/3351R6/3364LV/3341LV



1. Network Connector

The camera connects to the network via a standard RJ-45 network connector. The camera detects the speed of the local network (10/100BaseT). The camera also supports PoE (Power-over-Ethernet), and can be powered directly through the network cable.

# 2.4. Installation

## Installation for CAM3xxx Series (except compact cameras)

1. Use the screw hole indicator sticker to mark the desired camera position on the ceiling. Use the sticker as a guide, and make one cable entry hole and four screw holes on a flat surface with the electric drill.



2. Fix the camera bracket on the surface with screws and screw anchors.



- 3. Run the cable through the bracket.
- 4. Join the camera with the bracket.
- 5. The bracket is suggested to be tightened after positioning the camera to ensure the weatherproof characteristics of the camera are maintained. Use the L type hexagon spanner to screw the bracket joint tight.



6. Remove the front cover with a Phillips head screwdriver, unscrew the zoom puller on the lens and adjust the desired view angel as needed. Re-tighten the zoom puller. Unscrew the focus puller on the lens and adjust the focus as required. Re-tighten the focus puller and install the front cover back on the camera.



camera is logged in.

# Installation for compact cameras - CAM3351/3361LV/3461LV

1. Use the camera bracket to mark the desired camera position on a flat interface. Make one cable entry hole and three screw holes on the surface with the electric drill.



2. Fix the camera bracket on the surface with screws and screw anchors.



CAM3351R3/3361LV/3461LV



3. Join the camera with the bracket. Loose the connecting screw to adjust the camera's viewing point to upward, downward, left and right.



CAM3351

### CAM3351R3/3361LV/3461LV



The bracket is suggested to be tightened after positioning the camera to ensure the waterproof characteristics of the camera are maintained.



### CAM3351R3/3361LV/3461LV



- 4. Connect the camera to the network with the network connector.
- 5. PoE (802.3af) is supported. You can also connect the power connector to the power adapter, and then connect the adapter to a power outlet.
- 6. Check if the live view display normally after the camera is logged in. Please refer to *Logging to the System* section for more details.

# 2.5. Camera Deployment

# Camera Deployment for CAM3xxx Series

# (except compact cameras)



# Camera Deployment for compact cameras -CAM3351/3361LV/3461LV



# 2.6. Before You Start

Please prepare a PC with Windows (XP or above) and web browsers (Internet Explorer 6.0 or above) installed.

# Chapter 3. Connecting to the Network Camera

This section demonstrates how to connect to the network camera through two methods:

- Web Browser A simple web-based interface. Internet Explorer is the recommended web browser for use with network cameras, and our examples will be from this browser. Usage on other browsers will be similar.
- RTSP Player These include common streaming media players, such as *RealPlayer* or *Quicktime Player*. These players can provide live view of the camera using the Real-Time Streaming Protocol (RTSP).

# 3.1. Connecting with a Web Browser

## Obtaining IP address through the IP Utility

The IP address can be obtained using the IP Utility in your product CD:

- 1. Double click Start SearchToolInstall.exe to begin the utility installation.
- After the installation is complete, click the Auto Search button or click
   Camera > Search in the menus.

🔍 Auto Search 🔅 Update Firmware 🥞 S	File Group Camera 🕝 Reboot	Camera Help Login User Manager
All Devices(18)	Name CAM220( CAM2321 CAM2321 CAM1300 CAM2321	Search Configuration Maintenance Device Group Link to Camera Properties

The camera search will begin, and a status bar will display the search progress.

3. The details of the camera will display after the search is finished.

D	etails						
	Number	Name	IP	Model	MAC	Status	NetMask
	1	👰 CAM2320	172.18.6.147	CAM2320	00D02360022F	New	255.255.254.0
	2	👰 CAM2311	172.18.7.61	CAM2311	000C0CA006AA	New	255.255.254.0
	3	🔮 CAM3365	172.18.6.80	CAM3365	00D02360022C	New	255.255.254.0
	4	🔮 CAM1300	172.18.6.215	CAM1300	000C0CA006F1	New	255.255.254.0

Note: (1) The search may take up to 2 minutes, depending on your network configuration. (2) If your network does not have DHCP service, the default IP address is 192.168.88.10.

### **Connecting to the Network Camera**

Launch the web browser (Microsoft ® Internet Explorer 6.0 or higher is recommended). Enter the IP address of the network camera in the address bar of your browser and press enter.

You can also Click the Link to Camera button or click Camera > Link to Camera in the IP Utility menu bar. The camera's live view webpage will open in a browser window.



## Logging into the System

The following information will prompt for logging in:

User Name:		
Password:		
r assword.		
	ОК	Cancel
_		

- **Username** The username for the domain. **Default is always** *admin*.
- **Password** The password for the domain. **Default is always** admin.

Click OK.

## Installing Active X Components in Internet Explorer

You may be prompted to install ActiveX® components when accessing the network camera's Live View page; click **Yes** when prompted. You will be able to access the camera after installation is completed. Under Windows, this action may require administrator privileges.

If the dialog box suggests that you are not allowed to install ActiveX components, try resolving the problem using the following steps:

- 1. In Internet Explorer, open Tools> Internet Options> Security. Click the Custom level button.
- Search for *Download signed ActiveX controls*. Under this heading select
   Prompt and then click OK.

Security S	ettings		? 🛛
Settings:			
Active Do Do Do Do Do Do Do Do Do Do Do Do Do	X controls and plu ownload signed Ac Disable Enable Prompt Disable Enable Enable Prompt itialize and script 4 Disable Enable Enable Prompt	ig-ins itiveX controls ActiveX controls ActiveX controls not	marked as safe
<			>
Reset cus Reset to:	tom settings Medium	OK	Reset Cancel

- **3.** Continue installing the Active X components.
- 4. After installing ActiveX, go to Tools> Internet Options> Trusted Websites> Sites and add the IP Address of the camera.

## Logging Out of the System

Logging off of the camera can be performed by closing the browser window.

Users can also choose to click the **Logout** link located at the top of the screen.

Live View	T	Settings	Log	out	Help
Streams	С	1	2		

### Using the Help Interface

While using the web interface, you may click on the **Help** link located under the title bar. This will bring up a pop-up containing the IP Camera Help manual.

# 3.2. Connecting with an RTSP Player

Connections through RTSP Media Players such as *Real Player* and *QuickTime Player* are supported. We will use Real Player as an example in this section.

- 1. Launch Real Player.
- 2. Select File > Open URL, to open a URL dialog box.
- 3. Enter the camera URL in the address bar.

Open	
Ŷ	Type the location of a clip or web page, and RealPlayer will open it for you.
Open:	rtsp://172.16.80.169/stream1
	OK Cancel Browse

Note: The format for RTSP is: rtsp://<IP Address>/<Access>, where <Access> can be found at Settings> Network> Port Settings> RTSP Setting. By default the <Access> value should be stream1 and stream2.

4. Click OK, the stream should begin playing.

### Connecting with a Mobile Device RTSP Player

In order to access streaming video on 3GPP mobile devices, please make sure the network camera is already online and connected to the Internet. In the IP field under the *IP Address* section of the window, enter the IP address of the IP camera.

- Change the settings under Settings > Video & Audio > Stream2: Set the image format as MJPEG4, resolution as QVGA (320x240 or below, and constant bit rate as 128 Mbps or below.
- 2. Launch the RTSP Player on the 3GPP mobile device and enter the URL address for the camera. The video should start playing.

Note: The format for RTSP is: rtsp://<IP Address>/<Access>, where <Access> can be found at Settings> Network> Port Settings> RTSP Setting. By default the <Access> value should be stream1 and stream2.

# Chapter 4. Configuration through the Web Interface

Camera configurations can be done through web interface and IP Utility. \*\*For web interface, please look into <u>this chapter</u>; for IP Utility, please refer to <u>Chapter 5</u>.

		Web Interface	IP Utility
General	Basic Settings	V	Х
	User Account	V	Х
	Date & Time	V	Х
Network	Network Configuration	V	Set IP Only
	Port Settings	V	Х
	UpnP	V	Х
	Wifi Setting	V	Х
Video & Audio Settings	Basic Settings	V	Х
	Image Appearance Settings	V	Х
	Video Streams	V	Х
	Audio Settings	V	Х
PTZ	RS-485 Settings/PTZ Settings	V	Х
Recording	Recording Basic Settings	V	Х
	Recorded File Management	V	Х
Event Notification	Event Server	V	Х
	Motion Detection	V	Х
	Tampering Detection	V	Х
	DI & DO	V	Х
	Event Settings	V	Х
System	MicroSD Card Management	V	Х
	System Status	V	V
	System Log	V	Х
	Firmware Upgrade	V	V
	Resetting to Factory Default Settings	V	Х

	Export/Import	V	Х
	Reboot	V	V
Camera Search		Х	V
Login		V	V
Properties		Х	V
Delete from Tool		Х	V
Clearing and Setting Status		Х	V
Camera Group Actions		Х	V
Configuration Settings		Х	V
Focus Tool		Х	V

# 4.1. Interface Layout

This section demonstrates the layout of the network camera's main interface. The 4 main areas on the interface are:



- 1. Menu Bar The links on this bar allow users to toggle between liveview and settings screens, as well as logout and pull up the help menu.
- 2. Live View Controls These controls allow users to configure the live view streams and camera live view functionality.
- **3.** Button Bar These controls allow the user to quickly access common features such as live view window resizing, video and still frame capture, interface language, and audio controls.
- **4.** Live View Window This portion of the screen displays the stream selected in the Live View Control section of the web interface.

# **Control Descriptions**

Control	Description
	Adjust Window Size: When clicked, the display window size can be adjusted manually to fit the screen. The screen size changes back to the actual image size (resolution).
	<b>Full-Screen:</b> Goes to full-screen when clicked; press "ESC" to return to windowed view.
	Image Capture: When clicked, captures the current screen as an image in a new pop-up window. The location for saving the image can be changed under <u>Settings &gt; Recording &gt; Recording Basic Settings.</u> The file name is set to "Camera Name"+yyyymmdd_hhmmss (the Camera Name can be changed under <u>Settings &gt;</u> <u>General &gt; Basic Settings</u> ).
(Official data	Manual Record: When clicked, records the current live video. Stops recording when clicked again. The location for storing the video can be changed under <u>Settings &gt;</u> <u>Recording &gt; Recording Basic Settings.</u>
	Audio-In: Turned off by default; clicking once allows audio to be transmitted from a local microphone to the camera. Clicking again stops audio transmission. Multiple users may access the live view page and receive audio from the camera, but only one user at once is allowed to send audio to the camera.
	<b>Mute:</b> Mutes the audio captured by the camera when clicked, un-mutes the audio when clicked again.
	<b>Volume:</b> Sets to the current computer volume; Dragging the slider adjusts the volume.

Control	Description					
Language English	Language: Sets the UI language. Available languages include English, Simplified Chinese, and Traditional Chinese.					
Streams 1	<b>Streams:</b> Allows users to choose which camera stream to view. The indicator above the stream will turn light green when the stream is selected.					
Streams 1 2 Type MJPEG V Size H: 264 H: 264 UIPEG Digital Zoom V	<b>Video Format:</b> Sets the compression format for the current stream. Available formats are H.264, MPEG4, and MJPEG.					
Size VGA(640x480) ▼ SXGA(1280x1024) Digital HD720(1280x720) VGA(640x480) Digital QVGA(320x240)	Image size (resolution): Sets the resolution of the stream currently selected. Options are available for each stream: 1536P (2048 x 1536), 1080P (1920 x 1080), SXGA (1280 x 1024), 720P (1280 x 720), VGA (640 x 480), QVGA (320 x 240) for stream 1 and VGA (640 x 480), QVGA (320 x 240), QQVGA (160 x 120) for stream 2.					
Digital Zoom	Digital Zoom: When clicked, activates digital zoom in the current live-view stream. 2 options are available when clicked:					
Digital Output	To set the digital output as high voltage or ground or off can be done here.					
Optical Zoom:	To magnify the image, change its focal length to vary its view from 0 to 16.					
Focus: Near Far	Change the depth of field by adjusting the Near and Far steps.					

Control	Description
One Push AF	AutoFocus can be achieved by pressing this button.
P-IRIS level:	P-IRIS level can be adjusted Manually or Automatically. Manual
	Auto
	10 F1.8

# 4.2. Settings

Camera settings may be changed by clicking on the **Settings** link located in the title bar. This will bring up a menu list of configuration menus for all major camera settings.

### General

General setting menus are found under **Settings > General**.

**Basic Settings** 

Live View   Settings   Logou	ut   Help		admin 2014-05-16 15:28:39
S General	General > Basic Settings		
>Basic Settings	Host Name		
User Account	Host Name:	CAM4311-00d0236093cf	
Date & Time			
	Camera Name		
>> Network			
>> Video & Audio	Camera Name:	CAM4311 (Valid characters: A-Z, a-z, 0-9, Chinese, space)	
» PTZ	LED Indicator		
» Recording	System Status LED:	LED default on, flashing during camera access	
>> Event Notification		LED default off, flashing during camera access	
» System		LED default on, off during camera access	
		○ LED always off	
	IR LED:	○ Off ○ On ④ Auto	
	Fan Control:	Always On     Normal Mode	
		OK	

Basic settings may be accessed under **General > Basic Settings**. The following settings can be made:

- Host Name: by default set to "model name + MAC address"; displays on the center of the main page. Users may replace the default name with a new name consisting of alphanumeric characters, spaces and the ":" character.
- Camera Name: by default set to "model name"; after selecting Camera Name" from Settings > Video & Audio > Basic Settings, the Camera Name will show on the display. Users may replace the default name with a new name consisting of alphanumeric characters, spaces and the ":" character.
- System Status LED: changes the behavior of the status LED on the front of the camera. There are four possible behaviors:

- LED on when camera is on LED default on, flashing during camera access.
- **LED on during camera access** LED default off, flashing during camera access
- LED off during camera access LED default on, off during camera access
- LED always off LED always off

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

#### **User Account**

The User Account section, found under **General** > **User Account**, controls the user account information and privileges.

Live View   Settings   Logou	t   Help	admin 2015-06-08 16:20:44
Seneral	General > User Account	
Basic Settings	User Account	
>User Account		
	User Name	User Group
Date & Time	admin	Administrator
	guest	Operator
>> Network	Max account number is 10.	
>> Video & Audio		Add Edit Remove
» PTZ	User Login Settings	
>> Recording	Enable access without login	
>> Event Notification	Maximum number of simultaneous viewers li	mited to: 5 [110]
>> System		
		OK

There are two pre-configured accounts:

- **admin** This is the default administration account, and cannot be deleted.
- guest This is an account with only live view capability.

There are also two basic settings under user account settings:

- Enable access without login Checking the checkbox will allow users to view the camera stream without having to login.
- Maximum number of simultaneous viewers limited to Enter a number from 1 to 10 in this field to limit the number of users that can view the live view stream for this camera. This option will only be displayed once you add an account.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

#### **Adding Accounts**

In **General > User Account** under the **User Account** heading, click on "Add". Up to 10 accounts can be added to the system.

Add User Account	
User Account	
User Name:	test1
User Group:	Administrator
Password:	•••••
Confirm password:	•••••
ОК	Cancel

All User Names and Passwords must be combinations of alphanumeric characters, ":", "-", "\_" between 4 and 20 characters in length, and must begin with an alphabet letter. Fill out the following fields:

- User Name The identifier name used to login to the system.
- User Group The system allows for 2 types of users.
  - Administrator Administrators have full access privileges.
  - **Operator** Operators can only access the live view page.
- Password A passkey used to control user access. The password must be a combination of alphanumeric characters, ":", "-", "\_" between 4 and 20 characters in length, and must begin with an alphabet letter. This password should be retyped in the Confirm password field, to ensure that the correct key is saved.

Click **OK** when finished to add the user to the system.

#### **Editing Accounts**

Edit User Account	
User Account	
User Name:	guest
User Group:	Operator
Password:	••••
Confirm password:	• • • • •
ОК	Cancel

In General > User Account under the User Account heading, select an existing account by clicking on the account entry. The entry will be highlighted in yellow. Clicking Edit will allow you to change the following fields:

- User Group The system allows for 2 types of users.
  - Administrator Administrators have full access privileges.
  - **Operator** Operators can only access the live view page.
- Password A passkey used to control user access. The password must be a combination of alphanumeric characters, ":", "-", "\_" between 4 and 20 characters in length, and must begin with an alphabet letter. This password should be retyped in the Confirm password field, to ensure that the correct key is saved.

Click **OK** when finished to save any changes.

**Note:** Only accounts that are not currently logged-in can be edited.

#### **Deleting Accounts**

In General > User Account under the User Account heading, select an existing account by clicking on the account entry. The entry will be highlighted in yellow. Click Remove and, when prompted to confirm deletion, click OK to remove the account.

#### Date & Time

Live View   Settings   Logou	it   Help				adn	nin 2015-06-08	16:25:39
🕇 General	General > Date & Time						
Basic Settings	Current Date & Time						
User Account	Date: 2015-06-08	Time	: 16:25:37				
>Date & Time							
	Time Zone Settings						
>> Network	Time Zone:	(GMT +8:00) Beijing Perth	Singapore Hong Kong Ta	ainei 🗸			
» Video & Audio		North Cortes and Contraction	, onigupore, riong rong, re	aipor -			
» PTZ	Time Settings						
>> Recording	Synchronize wit	h NTP server(Periodically synd	shronize clock with Internet se	ervers)			
>> Event Notification	NTP server:	64.236.96.53					
>> System	O Manual Update						
ojotom	Date:		Tin	ne:			
						1	
	<ul> <li>Synchronize wit</li> </ul>	h Computer Time					
	Date:	2015-06-08	Tin	ne:	16:25:39		
	David Sabt Caudaa						
	Day Light Saving						
	Enable Day Light Saving						
	Start Time:	Month Day	Hour Minute				
	otan mile.						
	End Time :	January 🗸 1 🗸	00 🗸 : 00 🗸				

Date and time settings can be accessed at General > Date & Time.

Current Date & Time displays the current system date and time.

#### **Time Zone Settings**

The time zone can be set using the dropdown menu. This menu is only applicable when selectable when **Synchronize with NTP Server** is chosen under **Time Settings**.

#### **Time Settings**

There are 3 ways to set the system time:

- Synchronize with NTP server NTP is a protocol for synchronizing the system clock to an external server. If this option is chosen, enter the IP address of a known NTP server in the NTP Server field. You must also choose the appropriate time zone under Time Zone Settings.
- Manual update Updates the time manually. Choose the appropriate date and enter a time for the system.
- Synchronize with computer time Synchronizes the time with the computer's internal clock.

Day Light Saving

Users can set the Day Light Saving Time by ticking on Enable Day Light Saving.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

### Network

The network settings, including network configuration, port configuration, and universal plug and play (UPnP) settings are used to configure camera connectivity. These settings are found under the **Settings > Network** context.

Live View   Settings   Logou	it   Help			admin 2015-06-08 16:28:13
» General	Network > Network Configuration			
℅ Network	IP & DNS Settings			
Network Configuration	<ul> <li>Get IP address Automatically</li> </ul>			
Port Settings	O Use fixed IP address			
UPnP	IP address:	172.30.10.46		
Wifi	Subnet mask:	255.255.255.0		
SNMP	Default Gateway:	172.30.10.254		
HTTPS	Primary DNS:	192.168.99.13		
	Secondary DNS:	192.168.99.14		
>> Video & Audio				
» PTZ	IPV6 &DNS Setting			
» Recording	Get IPv6 Address Automaticall	ly		
>> Event Notification	Use fixed IPv6			
>> System	IP address:			
	Prefix length:			
	Default Router:			
	Primary DNS:			
	Secondary DNS:			
	PPPoE Settings			
	Enable PPPoE			
	User Name:			
	Password:			
	Confirm Password:			
	DDNS Settings			
	Enable DDNS			
	DDNS Server :	×		
	Host Name:			
	User Name:			
	Password:			
		ОК	Cancel	

**Network Configuration** 

These settings are used to configure basic network access for the camera. They are found under **Network > Network Configuration**.

Most of these settings vary with your specific hardware setup; therefore the defaults are set for common SOHO level usage. If you are using the camera in

an enterprise environment, please check with your IT department to determine the correct settings for this section.

#### **IP & DNS Settings**

These settings are used determine the IP address of the network camera.

- Get IP address automatically Automatically acquires IP address from a DHCP service. This is the default setting.
- Use fixed IP address Sets a fixed IP address. You must also manually fill in IP address, Subnet mask, Default gateway, Primary DNS, and Secondary DNS fields. The network camera can be connected to the network upon completion.

#### IPV6 & DNS Settings

This only works if your network environment and hardware equipment support IPv6.

- Get IPv6 address automatically the network camera will listen to router advertisements and be assigned with a link-local IPv6 address accordingly.
- Use fixed IPv6 address Sets a fixed IPv6 address. You must also manually fill in IP address, Prefix length, Default gateway, Primary DNS, and Secondary DNS fields. The network camera can be connected to the network upon completion.

#### **PPPoE Settings**

This feature is disabled by default. Connecting to the network using PPPoE (Point-to-Point Protocol over Ethernet) requires a user name and password from your ISP (Internet Service Provider). Select **Enable PPPoE** and fill in valid user name and password to connect the camera to the Internet.
### **DDNS Settings**

DDNS (Dynamic Domain Name Server) is a protocol that enables the camera to maintain a static connection address, even when its IP changes. Access using this feature is disabled by default.

Connecting using DDNS requires registration on third-party websites for DDNS services. Select desired DDNS service website, check the **Enable DDNS** option, and fill in valid user name and password. You can then access the camera through the registered domain name.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

### **Port Settings**

Ports are a software construct used to multiplex the transmission information to and from the camera. They act as separate endpoints within an IP address where software "listens" for incoming information. This section, which can be accessed under **Network > Port Settings**, includes *HTTP Port Settings*, *RTSP Settings* and *RTP Multicast Settings*.

veView Port:       6002       (1-32767)         SP Settings       stream1       eq. rtsp://IP address/stream1         sccess Name for Stream 1:       stream2       eq. rtsp://IP address/stream1         sccess Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         TSP port:       554       Note: RTSP port must be a valid port number.         TP port for video:       5500       Note: RTP port for video must be a valid port num         TCP port for video:       5501       Note: RTCP port for video must be a valid port num         TCP port for audio:       5502       Note: RTCP port for audio must be a valid port num         TCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         tP packet Size:       16384       (1448-16384)         PMulticast Settings       still       5102         RTP Multicast Video Port1:       5102         RTP Multicast Video Port2:       5104         RTP Multicast Video Port2:       5104	eView Port 6002 (1-32767)  P Settings  cess Name for Stream 1: stream1 eq. rtsp://P address/stream1 cess Name for Stream 2: stream2 eq. rtsp://P address/stream2 SP port: 554 Note: RTSP port must be a valid port number. P port for video: 5500 Note: RTCP port for video must be a valid port number. CP port for video: 5501 Note: RTCP port for video must be a valid port number. CP port for audio: 5502 Note: RTCP port for audio must be a valid port number. CP port for audio: 5503 Note: RTCP port for audio must be a valid port number. p packet Size: 16384 (1448-16384)  Muticast Settings  RTP Multicast Video Port1: 5100 RTP Multicast Video Port2: 5104 RTP Multicast TL: 15	TTP Port: 8	0	
TSP Settings         Access Name for Stream 1:       stream1       eq. rtsp://IP address/stream1         Access Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         RTSP port       554       Note: RTSP port must be a valid port number.         RTP port for video:       5500       Note: RTP port for video must be a valid port num         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTCP port for audio:       6503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         TP Multicast Settings         PTP Multicast Video Port1:       6100         RTP Multicast Video Port2:       6104         RTP Multicast Video Port2:       6104	P Settings         ccess Name for Stream 1:       stream1 = eq. rtsp://IP address/stream1         ccess Name for Stream 2:       stream2 = eq. rtsp://IP address/stream2         SP port:       554         P port for video:       5500         CP port for video:       5501         CP port for video:       5501         Vettings       5502         P port for audio:       5503         Vettings       5503         Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503         Note: RTCP port for audio must be a valid port number.         p Packet Size:       16364         Multicast Settings         Plenable RTP Multicast       5100         RTP Multicast Video Port1:       5100         RTP Multicast Video Port1:       5102         RTP Multicast Video Port1:       5102         RTP Multicast Video Port1:       5102         RTP Multicast Group Address:       239.225.76.55         RTP Multicast TTL:       15	LiveView Port: 6	002	(1-32767)
TSP Settings         Access Name for Stream 1:       stream1       eq. rtsp://IP address/stream1         Access Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         RTSP port       554       Note: RTSP port must be a valid port number.         RTP port for video:       5500       Note: RTP port for video must be a valid port num         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTCP port for audio must be a valid port num         RTP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         TP Multicast Settings         TP Multicast Video Port1:       5100         RTP Multicast Video Port2:       5104         RTP Multicast Croup Addrese:       P00 005 75 /5	P Settings         cess Name for Stream 1:       stream1       eq. rtsp://IP address/stream1         cess Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         SP port       554       Note: RTSP port must be a valid port number.         P port for video:       5500       Note: RTCP port for video must be a valid port number.         CP port for video:       5501       Note: RTCP port for video must be a valid port number.         CP port for audio:       5502       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5501       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         cP port for audio:       5100       RTP Multicast Video Port1:       5100         RTP Multicast Video Port2:			
Access Name for Stream 1:       stream1       eq. rtsp://IP address/stream1         Access Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         RTSP port:       554       Note: RTSP port must be a valid port number.         RTP port for video:       5500       Note: RTP port for video must be a valid port number.         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTCP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         PMulticast Settings       5102       RTP Multicast Audio Port1:         F100       F102       F104         RTP Multicast Video Port2:       5104         RTP Multicast Crown Address:       500.057.056	cess Name for Stream 1:       stream1       eq. rtsp://IP address/stream1         cess Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         SP port       554       Note: RTSP port must be a valid port number.         P port for video:       5500       Note: RTP port for video must be a valid port number.         CP port for video:       5501       Note: RTP port for video must be a valid port number.         CP port for audio:       5502       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         P port for audio:       5503       Note: RTCP port for audio must be a valid port number.         P port for audio:       16384       (1448-16384)         Multicast Settings       Interact Settings       Interact Settings         P nulticast Video Port1:       5100       Interact Settings         RTP Multicast Video Port2:       5104       Interact Settings         RTP Multicast Group Address:       239.225.76.55       Interact Settings         RTP Multicast TTL:       15       Interact Settings	TSP Settings		
Access Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         RTSP port:       554       Note: RTSP port must be a valid port number.         RTP port for video:       5500       Note: RTP port for video must be a valid port num         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         TP Multicast Settings	cess Name for Stream 2:       stream2       eq. rtsp://IP address/stream2         SP port       554       Note: RTSP port must be a valid port number.         P port for video:       5500       Note: RTCP port for video must be a valid port number.         CP port for video:       5501       Note: RTCP port for video must be a valid port number.         P port for audio:       5502       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         p Packet Size:       16384       (1448-16384)         Multicast Settings	Access Name for Stream 1:	stream1	eq. rtsp://IP address/stream1
RTSP port:       554       Note: RTSP port must be a valid port number.         RTP port for video:       5500       Note: RTP port for video must be a valid port num         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTCP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         TP Multicast Settings	SP port:       554       Note: RTSP port must be a valid port number.         P port for video:       5500       Note: RTP port for video must be a valid port number.         CP port for video:       5501       Note: RTCP port for video must be a valid port number.         SP port for audio:       5502       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         SP packet Size:       16384       (1448-16384)         Multicast Settings	Access Name for Stream 2:	stream2	eq. rtsp://IP address/stream2
RTP port for video:       5500       Note: RTP port for video must be a valid port num         RTCP port for video:       5501       Note: RTCP port for video must be a valid port num         RTP port for audio:       5502       Note: RTP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         Rtp Packet Size:       16384       (1448-16384)         TP Multicast Settings	P port for video: 5500   ICP port for video: 5501   Note: RTCP port for video must be a valid port number.   P port for audio: 5502   ICP port for audio: 5503   ICP port for audio: 16384     IP Packet Size: 16384     Intrast Settings     Intrest Settings     Intrast Settings </th <th>RTSP port</th> <th>554</th> <th>Note: RTSP port must be a valid port number.</th>	RTSP port	554	Note: RTSP port must be a valid port number.
RTCP port for video:       5501       Note: RTCP port for video must be a valid port nu         RTP port for audio:       5502       Note: RTCP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         RTP Packet Size:       16384       (1448-16384)         TP Multicast Settings	CP port for video:       5501       Note: RTCP port for video must be a valid port number.         P port for audio:       5502       Note: RTCP port for audio must be a valid port number.         CP port for audio:       5503       Note: RTCP port for audio must be a valid port number.         p Packet Size:       16384       (1448-16384)         Multicast Settings       Image: Setting Seting Seting Setting Setting Setting Setting Setting Se	RTP port for video:	5500	Note: RTP port for video must be a valid port number.
RTP port for audio:       5502       Note: RTP port for audio must be a valid port num         RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port num         Rtp Packet Size:       16384       (1448-16384)         CTP Multicast Settings       16384       (1448-16384)         CTP Multicast Settings       5100       100         RTP Multicast Audio Port1:       5102         RTP Multicast Video Port2:       5104         PTR Multicast Croup Address:       000 005 70 55	P port for audio: 5502   Note: RTP port for audio must be a valid port number.   CP port for audio:   5503   Note: RTCP port for audio must be a valid port number.   p Packet Size:   16384   (1448-16384)      Multicast Settings   I Enable RTP Multicast   RTP Multicast Video Port1:   5100   RTP Multicast Audio Port1:   5102   RTP Multicast Video Port2:   5104   RTP Multicast Group Address:   239.225.76.55   RTP Multicast TTL:	RTCP port for video:	5501	Note: RTCP port for video must be a valid port number.
RTCP port for audio:       5503       Note: RTCP port for audio must be a valid port nu         Rtp Packet Size:       16384       (1448-16384)         TP Multicast Settings       (1448-16384)         Charlen RTP Multicast       100         RTP Multicast Video Port1:       5100         RTP Multicast Audio Port1:       5102         RTP Multicast Video Port2:       5104	CP port for audio: 5503   p Packet Size: 16384     Multicast Settings     Benable RTP Multicast   RTP Multicast Video Port1:   5100   RTP Multicast Video Port1:   5102   RTP Multicast Video Port2:   5104   RTP Multicast Group Address:   239.225.76.55   RTP Multicast TTL:	RTP port for audio:	5502	Note: RTP port for audio must be a valid port number.
Rtp Packet Size:       16384       (1448-16384)         TP Multicast Settings	Implement   Multicast Settings     Implement     Implement <th></th> <th></th> <th></th>			
TP Multicast Settings	Multicast Settings         Image: Im	RTCP port for audio:	5503	Note: RTCP port for audio must be a valid port number.
RTP Multicast Video Port1:     5100       RTP Multicast Audio Port1:     5102       RTP Multicast Video Port2:     5104	RTP Multicast Video Port1:5100RTP Multicast Audio Port1:5102RTP Multicast Video Port2:5104RTP Multicast Group Address:239.225.76.55RTP Multicast TTL:15	RTCP port for audio: Rtp Packet Size:	5503 16384	Note: RTCP port for audio must be a valid port number.
RTP Multicast Audio Port1:     5102       RTP Multicast Video Port2:     5104       RTP Multicast Croup Address:     620,005,70,55	RTP Multicast Audio Port1:     5102       RTP Multicast Video Port2:     5104       RTP Multicast Group Address:     239.225.76.55       RTP Multicast TTL:     15	RTCP port for audio: Rtp Packet Size: TP Multicast Settings	5503 16384	Note: RTCP port for audio must be a valid port number.
RTP Multicast Video Port2: 5104	RTP Multicast Video Portz:     5104       RTP Multicast Group Address:     239.225.76.55       RTP Multicast TTL:     15	RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Pol	5503 16384 t1: 5100	Note: RTCP port for audio must be a valid port number.
R I R MUNICARI L'IOUD ADDIARS' 1000 005 70 55	RTP Multicast Group Address:     239,225,76,55       RTP Multicast TTL:     15	RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Por RTP Multicast Audio Por	5503 16384 11: 5100 11: 5102	Note: RTCP port for audio must be a valid port number.
	RTP Multicast TL: 15	RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Poi RTP Multicast Audio Poi RTP Multicast Video Poi	t1: 5100 t1: 5102 t2: 5104	Note: RTCP port for audio must be a valid port number.
RTP Multicast TTL: 15		RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Por RTP Multicast Audio Por RTP Multicast Video Por RTP Multicast Video Por	t1: 5100 t1: 5102 t2: 5104 dress: 239.225	Note: RTCP port for audio must be a valid port number. (1448-16384)
		RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Pol RTP Multicast Audio Pol RTP Multicast Video Pol RTP Multicast Group Ad RTP Multicast TTL:	t1: 5100 t1: 5102 t2: 5104 dress: 239.225. 15	Note: RTCP port for audio must be a valid port number. (1448-16384)
		RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Por RTP Multicast Audio Por RTP Multicast Video Por RTP Multicast Group Ad RTP Multicast TTL:	5503 16384 16384 11: 5100 11: 5102 12: 5104 dress: 239,225. 15	Note: RTCP port for audio must be a valid port number. (1448-16384)
		RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Por RTP Multicast Audio Por RTP Multicast Video Por RTP Multicast Video Por RTP Multicast TrL:	5503 16384 11: 5100 11: 5102 12: 5104 dress: 239.225. 15	Note: RTCP port for audio must be a valid port number. (1448-16384)
OK	OK	RTCP port for audio: Rtp Packet Size: TP Multicast Settings Enable RTP Multicast RTP Multicast Video Pol RTP Multicast Audio Pol RTP Multicast Video Pol RTP Multicast Group Ad RTP Multicast TTL:	5503 16384 11: 5100 11: 5102 12: 5104 dress: 239,225, 15 0K	Cancel Note: RTCP port for audio must be a valid port number. (1448-16384)

changed unless there is a specific reason to do so.

### **HTTP Port Settings**

The HTTP port number is used access the camera via the HTTP protocol.

The LiveView Port number is used to transmit live-view information.

### **RTSP Settings**

Real-Time Streaming Protocol (RTSP) is a protocol used to establish and control media sessions between end points.

You may change the access name for stream 1, stream 2, the RTSP port number, the RTP port for video, the RTCP port for video, RTP port for audio, and RTCP port for audio.

Note: The RTP port number must be an even number. After entering the RTP port number, the RTCP port number will automatically be set to the RTP port number + 1.

### **RTP Multicast Settings**

Tick Enable RTP Multicast to set up multicast via the RTP protocol. The RTP Multicast video/audio port and group address can also be set.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

### UpnP

Live View   Settings   Logou	ut   Help				admin	2014-05-13	15:19:02
Seneral	Network > UPnP						
S Network	UPnP Settings						
Network Configuration	Enable UPnP						
Port Settings	Friendly Name:	CAM4311					
>UPnP	Interval:	100		[10 Sec - 300 Sec]			
Wifi							
SNMP							
HTTPS							
			ОК	Cancel			
Video & Audio							
» PTZ							
>> Recording							
>> Event Notification							
>> System							

Universal plug and play (UPnP) is a protocol that simplifies the implementation of networks by allowing new hardware to connect seamlessly

to a network. The settings for this feature can be found under Network > UPnP.

To enable UPnP, first check the **Enable UPnP** box. If you wish to change the default values, there are two fields that can be edited.

- Friendly Name An identifier for the camera on the network.
- Interval The time between camera-sent UPnP updates.

Click **OK** to activate UPnP or **Cancel** to abort the changes before you leave the page. Once activated, the camera will be visible to other devices on the network.

Note: If the computer does not have UPnP installed, you can add it by going to Start > Control Panel > Add or Remove Programs. In the Add or Remove Programs page, select Add/Remove Windows Components > Networking Services and click Details. Select UPnP from the popup window, and OK out to install UPnP services.

# Wifi

Wifi functionality is not supported for CAM3xxx series.

Live View   Settings   Logou	ut   Help	admin 2014-05-13 15:23:10
» General	Network > WiFi Setting	
➤ Network		
Network Configuration		
Port Settings		
UPnP		
>Wifi		
SNMP	WiEi function is not suppo	ortedi
HTTPS	with Hundron is not suppo	nicu:
>> Video & Audio		
» PTZ		
» Recording		
>> Event Notification		
» System		

#### **SNMP**

Live View   Settings   Logou	ut   Help			admin 2014-05-13 15:24:32
>> General	Network > Network Configuration			
Vetwork	SNMP Config			
Network Configuration	Enable SNMPv1, SNMPv2c			
Port Settings	Read/Write community:			
UPnP	Read only community:			
Wifi				
>SNMP	Enable SNMPv3			
HTTPS	Read/Write Security Name:			
	Authentication Type:	MD5		
>> Video & Audio	Authentication Password:			
» PTZ	Encryption Type	AES		
>> Recording	Encryption Password:			
>> Event Notification	Read Only Security Name:			
>> System	Authentication Type:	SHA 🗸		
Jystem	Authentication Password:			
	Encryption Type	DES 🗸		
	Encryption Password:			
		ОК	Cancel	

The Simple Network Management Protocol is an application layer protocol that facilitates the exchange of management information between network devices. It helps network administrators to remotely manage network devices and find, solve network problems with ease. The settings for this feature can be found under **Network > SNMP**.

• The SNMP consists of the following three key components:

1. Manager: Network-management station (NMS), a server which executes applications that monitor and control managed devices.

2. Agent: A network-management software module on a managed device which transfers the status of managed devices to the NMS.

3. Managed device: A network node on a managed network. For example: routers, switches, bridges, hubs, computer hosts, printers, IP telephones, network cameras, web server, and database.

Before configuring SNMP settings on the this page, please enable your NMS first.

To enable SNMP, check the Enable SNMPv1, SNMPv2c box.

Select this option and enter the names of Read/Write community and Read Only community according to your NMS settings. For example: 111/222.

SNMP Config		
Enable SNMPv1, SNMPv2c		
Read/Write community:	111	
Read only community:	222	

### check the Enable SnMPv3

This option contains cryptographic security, a higher security level, which allows you to set the Authentication password and the Encryption password.

- Security name: According to your NMS settings, choose Read/Write or Read Only and enter the community name.
- Authentication type: Select MD5 or SHA as the authentication method.
- Authentication password: Enter the password for authentication (at least 8 characters).
- Encryption password: Enter a password for encryption (at least 8 characters).

Click **OK** to activate SNMP or **Cancel** to abort the changes before you leave the page. Once activated, the camera will be visible to other devices on the network.

HTTPS (for certain models only)

Live View   Settings   Logou	t   Help admin 2014-05-13 15:52:33
» General	Network > Network Configuration
S Network	Installed Certificate
Network Configuration	Create Self-Signed Certificate Automatically
Port Settings	Create Self-Signed Certificate Manually
UPnP	Create
Wifi	
SNMP	Certificate Info
>HTTPS	Subject Name:
	State:
>> Video & Audio	
» PTZ	
» Recording	Remove
>> Event Notification	
» System	

Hypertext Transfer Protocol Secure (HTTPS) is a communications protocol for secure communication over a computer network, with especially wide deployment on the internet.

Select **Create Self-Signed Certificate Automatically** and click **"Create"** to have the certification authority automatically. Once succeed, you will see the **Certificate Info** in the next section of this web page.

Live View   Settings   Logou	t   Help	admin 2014-05-13 15:56	6:08
>> General	Network > Network Configuration		
S Network	Installed Certificate		
Network Configuration	Create Self-Signed Certif	icate Automatically	
Port Settings	Create Self-Signed Certif	icate Manually	
UPnP		Create	
Wifi			
SNMP	Certificate Info		
>HTTPS	Subject Name:	C=TW,ST=Asia,L=Asia,O=PROPHET Technology Inc.,OU=PROPHET Technology Inc.	
		CN=ipcam@surveon.com,V=3650	
>> Video & Audio	State:	active	
» PTZ			
» Recording		Remove	
>> Event Notification			
>> System			

Click "Remove" to delete the set certificate if you wish to change the setting.

Or **Select Self-Signed Certificate Manually** and click **"Create"** to have the certification authority manually. A window will be prompted for creating certificate information.

Certificate Setting	
Country:	TW
State Or Province:	Asia
Locality:	3650
Organization Unit:	PROPHET Technology Inc.
Common Name:	172.30.10.109
Validity(1~9999Days):	TW
ОК	Cancel

Edit the information in the files if necessary and click "OK" to confirm the setting. Once succeed, you will see the **Certificate Info** in the next section of this web page.

Live View   Settings   Logou	it   Help	admin 2014-05-13 16:07:37
>> General	Network > Network Configuration	n
S Network	Installed Certificate	
Network Configuration	Create Self-Signed Cert	ficate Automatically
Port Settings	Create Self-Signed Cert	ificate Manually
UPnP		Create
Wifi		
- MAMP	Certificate Info	
>HTTPS	Subject Name:	C=TW,ST=Asia,L=3650,O=PROPHET Technology Inc.,OU=PROPHET Technology Inc.
		CN=ipcam@surveon.com,V=TW
>> Video & Audio	State:	active
» PTZ		
>> Recording		Remove
>> Event Notification		
» System		

Click "Remove" to delete the set certificate if you wish to change the setting.

# Video & Audio Settings

Video and audio are the heat of a network camera's functionality. The settings for video and audio can be found under **Settings > Video & Audio**. Under this section, you can access basic video and audio settings, video appearance parameters, video stream settings, as well as audio parameters.

Live View   Settings   Logo	ut   Help				admin	2014-05-16 15:33:48
» General	Video & Audio > Basic Settings					
>> Network	Basic Settings					
Video & Audio	Video Orientation:	Elip		Mirror		
Basic Settings	BNC Out:	○ NTSC		PAL	O Disable	
Image Appearance	Stream Buffer	<ul> <li>Off</li> </ul>		⊖ On		
Video Streams	FPS\BitRate Display	<ul><li>Off</li></ul>		⊖ On		
ROI	Text Overlay Settings					
Privacy Mask	Include Date	Include Time		Camera Name		
Audio	Video Codec Setting					
» PTZ	H.264 Profile:	O BaseLine	○ Main	High		
» Recording						
>> Event Notification						
>> System		ОК		Cancel		

### **Basic Settings**

Basic settings pertain to simple live-view tweaks. These parameters can be found under Video & Audio > Basic Settings.

### • Video Orientation

In certain mounting situations, the default video output may not be oriented correctly. This setting allows you to change the orientation of the output video.

- Flip flips the image vertically.
- Mirror flips the image horizontally.

### BNC Out

- NTSC
- o PAL
- o Disable

# • Stream Buffer

- o Off
- o On

# • FPS\BitRate Display

- o Off
- o On

# **Text Overlay Setting**

The text overlay involves is the text displayed in the black bar at the top of the output screen. You can display multiple text messages at the same time. (Only the camera name will display if the resolution is 160 x 120).

- Include Date Displays the current date.
- Include Time Displays the current time.
- Camera Name Displays the name of the camera.

### Video Codec Setting

H.264 profile can be further set to:

- **BaseLine** restricts the encoder to certain basic features only for mobile applications.
- Main is used for standard-definition digital TV broadcasts that use the MPEG-4 format as defined in the DVB standard.
- High is used for high-definition broadcasts and disc storage applications.

### **Image Appearance Settings**

These settings, found under Video & Audio > Image Appearance, deal with the video output of the camera. There are two tabs, *Image Attributes* and *Sensor Configuration*, as well as *Advanced Settings*.

>> Network	Image Appearence Setting	js					
Video & Audio	2	012-08-01	15:16:01	Image Adjustme	ent		
Basic Settings				Image Attribut	tes	Sensor Configuration	L.,
>Image Appearance				Brightness:	_		50
Video Streams							
Audio				Saturation:			60
» PTZ				Contrast:			65
>> Recording				Sharpness :			5
>> Event Notification							
>> System							
	Advanced Settings						
	Lens Type:	Manual	•				
	Frequency:	60Hz	•				
	Denoise Level		15				
	White Balance:	AWB	•				
	Max Shutter Speed:	1/30	•				
	Min Shutter Speed:	1/100000	•				
	AGC		50				
	Day/Night Mode:	Auto	•				
	Night Threshold:	10	Day to N	light (0~254)			
	Day Threshold:	20	Night to	Day (1~255)			

Image Appearance (for CAM3351)

These parameters deal with the image lighting and color. All parameters are values ranging from (0) to (100). Dragging the slider to the right increases the value, while dragging to the left lowers the value. The adjustments will be displayed in real-time in the window to the left of the sliders.

• Brightness - Adjusts the perceived light intensity of the image.

**Note:** In certain situations, the sensor may experience banding issues. In these cases, please raise the brightness.

- Saturation Adjusts the colorfulness of a color relative to its own brightness.
- **Contrast** Adjusts the overall difference in the light vs dark areas.
- Sharpness Adjusts the edge contrast of the image.

### **Sensor Configuration**

Image Adjustment			
Image Attributes	Sensor Confi	guration	L
D-WDR:	© Off	On	
D-WDR Level:		_	1

The Sensor Configuration can be accessed by clicking on the tab to the right of the Image Attributes tab. The following parameters can be changed:

- D-WDR Specifies if the wide dynamic range (WDR) function is activated. If activated, the WDR function will attempt to preserve detail at contrast extremes.
  - D-WDR Level- Specifies the WDR correction level ranging from 1 (least) to 10 (most).

# **Advanced Settings**

Advanced Settings		
Lens Type:	Manual	•
Frequency:	60Hz	•
Denoise Level		15
White Balance:	AWB	•
Max Shutter Speed:	1/30	•
Min Shutter Speed:	1/100000	•
AGC		50
Day/Night Mode:	Auto	•
Night Threshold:	10	Day to Night (0~254)
Day Threshold:	20	Night to Day (1~255)
	ОК	Default

- Lens Type Chooses the lens type installed on the camera.
  - **Fix Lens** -A fixed lens is installed, and DC-iris adjustments are not possible.
  - **DC-IRIS** A lens with an adjustable DC-iris is installed, and connected to the port at the back of the camera.
- Frequency The user can choose to compensate for 50Hz or 60Hz lighting.
- **Denoise** Removes video noises.
- White Balance This setting allows users to choose the color balancing method used.
  - AWB Automatically chooses white level.
  - **MWB** The user must specify the red and blue gain levels to achieve the correct white level.
    - **R** Gain The gain applied to the red video channel.
    - **B** Gain The gain applied to the blue video channel.
- Max Shutter Speed -users can choose the Max Shutter Speed from 1/30, 1/60, 1/120, 1/1000 and 1/10000.
- Min Shutter Speed -- users can choose the Min Shutter Speed from 1/30, 1/60, 1/120, 1/250, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/10000 and 1/100000.
- AGC Gain Automatic gain control (AGC) adjusts the video gain level to a variety of inputs. This setting provides a baseline value for the AGC. Values higher than this will be darkened, and values that are lower will be brightened. AGC should be adjusted so that the area of interest is best lit.
- **Day/Night Mode** Sets the day (color) and night (black and white, IR cut filter off where applicable.) Night mode sacrifices color information to produce a clear picture with less light.
  - Auto The camera will determine when the light levels require a switch.
    - Night Threshold The threshold which the camera will switch to night mode.
    - Day Threshold The threshold which the camera will switch back to day mode.

- Day mode Forces day mode.
  - Chroma Suppress Reduces the false color phenomena.
- Night mode Forces night mode.
- Schedule for day mode Allows the user to set a time for day/night transitions.
  - From: The time, in hours and minutes, when the camera will be in day mode.
  - To: The time, in hours and minutes, when the camera will switch to night mode.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

# Image Appearance (for CAM3361)

Live View   Settings   Logou	ut   Help					admin	2013-10-29 13:21
» General	Video & Audio > Image A	ppearance					
>> Network	Image Appearence Se	ttings					
Video & Audio		2013-10-	29 13:21	:34	Day/Night Mode Adjus	st	
Basic Settings					Mode Panel		
►Image Appearance					Day/Night Mode:	Auto mode	~
Video Streams					Night Threshold:	10	(0~254) OK
Audio					Day Threshold :	20	(1~255) OK
» PTZ					D IDIO:	Manual	
» Recording					P-IRIS:	Jivianuai	~
>> Event Notification					P-IRIS level:		50
2 Pystem							
	0.0	) NU-LA					
	Image Attributes	Basic Settings	Advance Settings	Sensor A	Attributes		
				50			
	Brightness:			- 50			
	Contrast:						
	Saturation:			65			
	Sharpness:	_		- 70			
				Default			

### Day/Night Mode Adjust

Mode Panel

**Day/Night Mode** - Sets the day (color) and night (black and white, IR cut filter off where applicable.) Night mode sacrifices color information to produce a clear picture with less light.

• Auto - The camera will determine when the light levels require a switch.

Day/Night Mode Adjus	st
Mode Panel	
Day/Night Mode:	Auto mode
Night Threshold:	10 (0~254) OK
Day Threshold :	20 (1~255) OK
P-IRIS:	Manual 🔽
P-IRIS level:	50

- Night Threshold The threshold which the camera will switch to night mode.
- Day Threshold The threshold which the camera will switch back to day mode.
- P-IRIS
  - Auto Adjust the P-Iris automatically.
    - P-Iris Sensitivity
    - P Iris Level
  - **Manual** -Adjust the P-Iris manually.
    - P Iris Level

• Day mode - Forces day mode.

Day/Night Mode Adju	st
Mode Panel	
Day/Night Mode:	Day mode
Chroma Suppress:	75
P-IRIS:	Manual 🔽
P-IRIS level:	50

- Chroma Suppress Reduces the false color phenomena.
- P-IRIS
  - Auto Adjust the P-Iris automatically.
    - P-Iris Sensitivity
    - P Iris Level
  - **Manual** -Adjust the P-Iris manually.
    - P Iris Level

• **Night mode** - Forces night mode.

st	
Night mode	~
Manual	~
	50
	st Night mode Manual

- P-IRIS
  - Auto Adjust the P-Iris automatically.
    - P-Iris Sensitivity
    - P Iris Level
  - **Manual** -Adjust the P-Iris manually.
    - P Iris Level

• Schedule for day mode - Allows the user to set a time for day/night transitions.

st
Schedule for day mode 🗸
6:0 (HH:MM) OK
18:0 (HH:MM) OK
Manual 🔽
50

- From: The time, in hours and minutes, when the camera will be in day mode.
- $\circ\,$  To: The time, in hours and minutes, when the camera will switch to night mode.
- P-IRIS
  - Auto Adjust the P-Iris automatically.
    - P-Iris Sensitivity
    - P Iris Level
  - **Manual** -Adjust the P-Iris manually.
    - P Iris Level

# Image Appearance (for CAM3371)

Live View   Settings   Logout	Help					admin	2013-12-23 10:44:09
>> General	Video & Audio > Image Ap	opearance					
>> Network	Image Appearence Set	ttings					
>> Video & Audio				Da	ay/Night Mode Adju	ist	
>> PTZ					Mode Panel		
Secording					Day/Night Mode:	Auto mode	~
Recording Basic Settings					Night Threshold:	10	(0~254) OK
Recorded File Management					Day Threshold :	20	(1~255) OK
					One Push AF Nea	r << <	> >> Far
						Wide	3 Tele
					Open-Iris	Focus Calibration	Calibration
>> Event Notification	O Day 🔘	Night					
>> System	Image Attributes	Basic Settings	Advance Settings	Sensor Attrib	utes		
	Back Light:	Disable (	O BLC O HSBLC				
				Default			

### Day/Night Mode Adjust

Mode Panel

**Day/Night Mode** - Sets the day (color) and night (black and white, IR cut filter off where applicable.) Night mode sacrifices color information to produce a clear picture with less light.

• Auto - The camera will determine when the light levels require a switch.

Day/Night Mode Adjust	
Mode Panel	
Day/Night Mode: Auto mode	~
Night Threshold: 10	(0~254) OK
Day Threshold : 20	(1~255) OK
One Push AF Near << <	> >> Far
Wide	3 Tele
✓ Open-Iris Focus Calibratio	on: Calibration

- Night Threshold The threshold which the camera will switch to night mode.
- Day Threshold The threshold which the camera will switch back to day mode.
- One Push AF
  - Focus can be arranged to near or far.
  - Wide and Tele can also be arranged to have a better range.
  - Focus Calibration can be achieved by pressing the "Calibration" to have a best focus result.

• Day mode - Forces day mode.

### Day/Night Mode Adjust

Mode Panel	
Day/Night Mode:	Day mode
Chroma Suppres	s: 75
One Push AF Nea	ar << < >>> Far
	Wide Tele
Open-Iris	Focus Calibration: Calibration

- Chroma Suppress Reduces the false color phenomena.
- One Push AF
  - Focus can be arranged to near or far.
  - $\circ$  Wide and Tele can also be arranged to have a better range.
  - Focus Calibration can be achieved by pressing the "Calibration" to have a best focus result.

• **Night mode** - Forces night mode.

### Day/Night Mode Adjust

Mode Panel		
Day/Night Mode:	Night mode	>
One Push AF Nea	r << < >	>> Far
	Wide	Tele
Open-Iris	Focus Calibration:	alibration

- One Push AF
  - Focus can be arranged to near or far.
  - Wide and Tele can also be arranged to have a better range.
  - Focus Calibration can be achieved by pressing the "Calibration" to have a best focus result.

• Schedule for day mode - Allows the user to set a time for day/night transitions.

Day/Night Mode Adj	ust	
Mode Panel		
Day/Night Mode:	Schedule for day mod	e
From:	6:0 (HH:MM)	ок
To:	18:0 (HH:MM)	ок
One Push AF Nea	ar << < >	>> Far
	Wide	16 Tele
✓ Open-Iris	Focus Calibration:	alibration

- From: The time, in hours and minutes, when the camera will be in day mode.
- $\circ\,$  To: The time, in hours and minutes, when the camera will switch to night mode.
- One Push AF
  - Focus can be arranged to near or far.
  - Wide and Tele can also be arranged to have a better range.
  - Focus Calibration can be achieved by pressing the "Calibration" to have a best focus result.

### **Image Attributes**

🖲 Day 🛛 🔿	Night		
Image Attributes	Basic Settings	Advance Settings	Sensor Attributes
Brightness:			50
Contrast:	_		30
Saturation:	_		65
Sharpness:	_		70

These parameters deal with the image lighting and color. All parameters are values ranging from (0) to (100). Dragging the slider to the right increases the value, while dragging to the left lowers the value. The adjustments will be displayed in real-time in the window to the left of the sliders.

• Brightness - Adjusts the perceived light intensity of the image.

**Note:** In certain situations, the sensor may experience banding issues. In these cases, please raise the brightness.

- **Contrast** Adjusts the overall difference in the light vs dark areas.
- Saturation Adjusts the colorfulness of a color relative to its own brightness.
- Sharpness Adjusts the edge contrast of the image.

### **Basic Settings**

• Day	Night			
Image Attributes	Basic Settings	Advance Settings	Sensor Attributes	
AGC	_		45	
Exposure	AUTO		$\checkmark$	
Max Shutter Spe	ed: 1/25		~	
Min Shutter Spee	ed: 1/50000		~	
Slow Shutter:	<ul> <li>OFF</li> </ul>	○ x2 (	⊃ x4	

- AGC Gain Automatic gain control (AGC) adjusts the video gain level to a variety of inputs. This setting provides a baseline value for the AGC. Values higher than this will be darkened, and values that are lower will be brightened. AGC should be adjusted so that the area of interest is best lit.
- Exposure Sets how the camera captures images. Longer shutter times allow more light into the sensor, resulting in a cleaner picture, however longer shutter times can result in motion blur.
- Max Shutter Speed users can choose the Max Shutter Speed from 1/30, 1/60, 1/120, 1/1000 and 1/10000.
- Min Shutter Speed users can choose the Min Shutter Speed from 1/30, 1/60, 1/120, 1/250, 1/500, 1/750, 1/1000, 1/1500, 1/2000, 1/10000 and 1/100000.
  - $\circ$  Slow Shutter Slows the shutter speed to 1/2 or 1/4.

### **Advanced Settings**

🖲 Day 🛛 🔿	Night				
Image Attributes	Basic Settings	Advance Settings	Sensor Attributes		
Frequency:	50Hz		×		
Denoise	Off		$\checkmark$		
White Balance:	AWB		$\checkmark$		
DWDR:	Off		$\checkmark$		
LSC:	On		$\checkmark$		
DEFOG:	Off		$\checkmark$		

- Frequency The user can choose to compensate for 50Hz or 60Hz lighting.
- **Denoise** Removes video noises.
- White Balance This setting allows users to choose the color balancing method used.
  - **AWB** Automatically chooses white level.
  - **MWB** The user must specify the red and blue gain levels to achieve the correct white level.
    - **R** Gain The gain applied to the red video channel.
    - **B** Gain The gain applied to the blue video channel.
- DWDR Specifies if the wide dynamic range (WDR) function is activated. If activated, the WDR function will attempt to preserve detail at contrast extremes.
- LSC(Lens Shading Compensation) Lens shading is the reduction in light falling on the image sensor away from the center of the image caused by physical obstructions. To suppress the lens shading effect on the corners is called the lens shading compensation. DEFOG-Adjusts picture quality during bad weather conditions.
- **Defog** Adjusts picture quality during bad weather conditions.

### **Sensor Attributes**

• Day	Night			
Image Attributes	Basic Settings	Advance Settings	Sensor Attributes	
Back Light:	O Disable	O BLC		
HSBLC Grid:	Off		$\checkmark$	
HSBLC Level:			50	

- Black light
  - BLC (Backlight compensation) Adjusts video gain to automatically correct the exposure of objects that are strongly backlit. This brightens the image, at the cost of overexposing areas of high illumination.
    - BLC Area View Users can choose to view the area for BLC effect. When it is opened, you will see the grids showing on the live view screen.
    - BLC Level
  - HSBLC (High Suppression Backlight Compensation) Backlight compensation helps resolve detail in darker areas even when brightly lit objects are in view. Highlight suppression goes further, darkening full white areas to achieve optimum video quality.
    - HSBLC Grid Users can choose to view the areas for HSBLC effect. When it is opened, you will see four squares showing on the live view screen.
    - HSBLC Level

# Image Appearance (for CAM3471V/-M/-MP, CAM3571M/-VP, CAM3371EV/-EM, CAM3351R4/-R6, CAM3361LV, CAM3461LV)

Video & Audio > Image Ap	pearance						
Image Appearence Set	tings						
	2013-10	)-30 10:	27:32	Mode Panel			
				Day/Night Mode:	Day mode	~	
				Chroma Suppress:	On	~	
				Suppress Level:			60
				Suppress Start:			40
				Suppress End:			20
Day Drafile	O Night Drofile						
Image Adjust	Exposure	Luminance Ctrl	White Balance	Noise Reduction	Edge Enhance	Lens Corr	ection
Brightness:	_		45				
Contrast:	_		45				
Gamma Mode:	● De	efault 🔿 User-	defined				
Saturation:	_		35				
Sharpness:	_						

### Model Panel

- Day/Night Mode Sets the day (color) and night (black and white, IR cut filter off when applicable.) Night mode sacrifices color information to produce a clear image quality.
  - Auto mode- The camera will determine when to switch.
  - Day mode Forces day mode.
    - Chroma Suppress Reduces the false color phenomena.
    - Suppress Level The strength of spatial frequency can be adjusted from 0 to 100.
    - Suppress Start Suppression can be started from 0 to 100.
    - Suppress End -Suppression can be ended from 0 to 100.
  - Night mode Forces night mode.

• Schedule for day mode - Allows users to set a day/night transition time.

### Day Profile/Night Profile

Day Profile	O Night Profile				
Image Adjust	Exposure Luminance Ctrl	White Balance	Noise Reduction	Edge Enhance	Lens Correction
Brightness:		45			
Contrast:		45			
Gamma Mode:	● Default   ○ User-de	efined			
Saturation:		35			
Sharpness:		80			
		Default			

The parameters deal with the image lighting and color. Dragging the slider to increase and lower the value. The adjustments will be shown in the preview window.

### Image Adjust

• Brightness - Adjusts the perceived light intensity of the image.

**Note:** In certain situations, the sensor may experience banding issues. In these cases, please raise the brightness.

- **Contrast** Adjusts the overall difference in the light vs dark areas.
- Gamma Adjusts the color error of the image.
- Saturation Adjusts the colorfulness of a color relative to its own brightness.
- Sharpness Adjusts the edge contrast of the image.

### **Exposure**

Da	ay Profile O Night age Adjust Expose	t Profile ure Luminance Ctrl	White Balance	Noise Reduction	Edge Enhance	Lens Correction
	Frequency	60Hz			_	
	requency.	0012				
E	Exposure Mode:	○ Fixed ●	Auto			
N	Max Shutter Speed:	1/30	~			
I	Min Shutter Speed:	1/100000	$\checkmark$			
			_			
	WDR:	OFF O DWDR				
			Default			
	Max Shutter Speed: Min Shutter Speed: WDR:	1/30 1/100000 • OFF O DWDR	<ul> <li>✓</li> <li>✓</li> <li>HDR</li> </ul>			

The parameters deal with the image lighting and color. Dragging the slider to increase and lower the value. The adjustments will be shown in the preview window.

- Frequency -Reduces flickering caused by the difference in frequency of the system and the environment lighting. The user can choose to compensate for a 50Hz or 60Hz lighting.
- Exposure Mode -Sets how the camera captures images. Longer shutter times allow more light into the sensor, resulting in a cleaner picture, however longer shutter times can result in motion blur.
  - Fixed
  - Auto -The camera will automatically change the shutter speed and gain balance between image quality and frame rate when there is insufficient light to preserve both.
- Max Shutter Speed -Can be selected from 1/1 to 1/1000000.
- Min Shutter Speed -Can be selected from 1/1 to 1/1000000.
- WDR Can be set as off to disable this functionality, set as DWDR or HDR (for CAM3471V/-M/-P only) to enable the functionalities.

### Luminance Ctrl

Day Profile	O Night Profile					
Image Adjust	Exposure	Luminance Ctrl	White Balance	Noise Reduction	Edge Enhance	Lens Correction
Auto Iris:	ON		~			
Target Lumina	ance:	- W-	109			
AGC	_		53			
		ĺ	Default			

- Auto Iris Adjusts the iris automatically.
- Target Luminance Adjusts the lightness of the image.
- AGC Automatic gain control (AGC) adjusts the video gain level to a variety of inputs. This setting provides a baseline value for the AGC. Values higher than this will be darkened, and values that are lower will be brightened. AGC should be adjusted so that the area of interest is best lit.

### White Balance

Image Adjust	Exposure	Luminance Ctrl	White Balance	Noise Reduction	Edge Enhance	Lens Correct
White Balance:	MWB		~			
R Gain:	_	-11-	50			
B Gain:	_		60			
		ĺ	Default			

This setting allows users to choose the color balancing method used.

- AWB Automatically chooses white level.
- MWB The user must specify the red and blue gain levels to achieve the correct white level.
  - **R Gain** The gain applied to the red video channel.
  - **B Gain** The gain applied to the blue video channel.

### **Noise Reduction**

Day Profile     Night	Profile	White Delegat		Edu Estara	
Image Adjust Exposi	ure Luminance Ctri	White Balance	Noise Reduction	Edge Enhance	Lens Correction
De-noise Mode	BLEND	~			
Normal Strength:		164			
Motion Adaptive:	OFF	~			
Current Weight:		9			
Reference Strength:		7			
		Default			

- **De-noise Mode** Removes video noises.
  - **OFF** Can be set to disable this functionality
  - 2DNR Reduces noises.
  - **3DNR** Reduces noises in low light conditions and even with moving objects.
  - **BLEND** Blends 2DNR and 3DNR to create clear images.
- Normal Strength Ranges from 0 to 164.
- Motion Adaptive Sets as ON to Deinterlace
- Current Weight Ranges from 0 to 9.
- **Reference Strength** -Ranges from 0 to 7.
# • Edge Enhance

Day Profile     Image Adjust	Night Profile Aposure Luminance Ctrl White Balance Noise Reduction Edge Enhance Lens Correction
Noise Sensitivity:	10
Edge Strength Clip:	10
	Default

- Noise Sensitivity Senses the noise.
- Edge Strength Clip Enhances the edges of the image.

# Lens Correction

Day Profile	light Profile				
Image Adjust E	posure Luminance Ct	trl White Balance	Noise Reduction	Edge Enhance	Lens Correctio
Lens Correction:	Disable	$\checkmark$			
	,				
		Default			

Correct the barrel distortions and pincushion distortions of images while using wide-angle lenses.

	out F Help				admin	2015-04-21 14.13.4
>> General	Video & Audio > Image A	ppearance				
	Image Appearance Se	ttings				
>> Network	The second se	The state of the s	Day/Night	Setting F	ocus Panel	Lens Adjustmen
	-		Smart S	hutter	Smart AE	Smart AF
🖇 Video & Audio						
Basic Settings			Day/Nig	nt Mode: 10	ay mode	•
>Image Appearance			E Suppr	ia ess:		60
Video Streams	-		and the second			
Privacy Mask Settings	1	the second secon	Table Land			
Audio			_			
	Second and an over 1 and 1 and 1					
₩ PTZ						
>> PTZ						
PTZ Recording	Oay Profile	<ul> <li>Night Profile</li> </ul>				
<ul> <li>PTZ</li> <li>Recording</li> <li>Event Notification</li> </ul>	Day Profile     Basic	Night Profile     Advance				
PTZ Recording Event Notification	Day Profile     Basic     Brightness:	Night Profile Advance       45	Exposure Mode:	Auto		
PTZ     Recording     Event Notification     System	Day Profile     Basic     Brightness:     Contrast	<ul> <li>Night Profile</li> <li>Advance</li> <li>45</li></ul>	Exposure Mode: Max Shutter Spec	Auto d: 1/25	>	
PTZ     Recording     Event Notification     System	Day Profile     Basic     Brightness:     Contrast:     Saturation:	<ul> <li>Night Profile</li> <li>Advance</li> <li>45</li></ul>	Exposure Mode: Max Shutter Spee Min Shutter Spee	Auto id: 1/25 d: 1/10000		
PTZ     Recording     Event Notification     System	Day Profile     Basic     Brightness:     Contrast:     Saturation:     Sharpness:	<ul> <li>Night Profile</li> <li>Advance</li> <li>45          <ul> <li></li></ul></li></ul>	Exposure Mode: Max Shutter Spee Min Shutter Spee	Auto 1/25 d: 1/10000		
PTZ     Recording     Event Notification     System	Day Profile     Basic     Brightness:     Contrast:     Saturation:     Sharpness:     AGC	Night Profile           Advance           45	Exposure Mode: Max Shutter Spee WDR:	Auto 1/25 d: 1/10000 Off	× × ×	

# Image Appearance (for CAM3471HEM/3471HEV)

## **Day/Night Setting**

- Day/Night Mode Sets the day (color) and night (black and white, IR cut filter off when applicable.) Night mode sacrifices color information to produce a clear image quality.
  - Auto mode- The camera will determine when to switch.
  - Day mode Forces day mode.
    - Chroma Suppress Reduces the false color phenomena.
  - Night mode Forces night mode.
  - Schedule for day mode Allows users to set a day/night transition time.
    - From Set the starting time for the scheduled day mode.
    - To Set the ending time for the scheduled day mode.
  - o Digital Input -
    - High Profile Switch to Day or Night mode when the DI status is high.
    - Low Profile -Switch to Day or Night mode when the DI status is low.

## Day Profile/Night Profile

Selecting the Day Profile or the Night Profile according to the Day/Night Setting you have set: Day Profile for Day Setting and Night Profile for Night Setting. The parameters deal with the image lighting and color. The adjustments will be shown in the preview window. Use the **Default** button to have the settings back to the defaults.

Day Profile	O Night Profile				
Basic	Advance				
Brightness: Contrast: Saturation: Sharpness:	45 55 65	<ul> <li>(0~100)</li> <li>(0~100)</li> <li>(0~100)</li> <li>(0~100)</li> </ul>	Exposure Mode: Max Shutter Speed: Min Shutter Speed: WDD:	Auto 1/25 1/10000	] ] ]
AGC	60	<b>(</b> 0~100)	WDIX.	[0π 🗸	]
			Default		

#### Basic

• Brightness - Adjusts the perceived light intensity of the image.

**Note:** In certain situations, the sensor may experience banding issues. In these cases, please raise the brightness.

- **Contrast** Adjusts the overall difference in the light vs dark areas.
- Saturation Adjusts the colorfulness of a color relative to its own brightness.
- Sharpness Adjusts the edge contrast of the image.
- AGC Automatic gain control (AGC) adjusts the video gain level to a variety of inputs. This setting provides a baseline value for the AGC. Values higher than this will be darkened, and values that are lower will be brightened. AGC should be adjusted so that the area of interest is best lit.
- Exposure Mode -Sets how the camera captures images. Longer shutter times allow more light into the sensor, resulting in a cleaner picture, however longer shutter times can result in motion blur.
  - Fixed

- Auto -The camera will automatically change the shutter speed and gain balance between image quality and frame rate when there is insufficient light to preserve both.
- Shutter Speed -Can be selected from 1/1 to 1/10000.
- WDR Attempts to preserve detail at contrast extremes and handles multiple exposure zones to give both the highlight and low light areas a proper exposure.
  - **Off** Disable this functionality.
  - **DWDR** Specifies the DWDR correction level manually, ranging from 1 (least) to 9 (most) or automatically.
  - True WDR the shutter speed by average
    - HDR level Auto / Low / Middle / High
  - BLC Backlight Compensation allows the camera to adjust the exposure of the entire image to properly expose the subject in the foreground.

# Advanced

- Gamma Mode- Adjusts the color error of the image.
  - **Default -** Automatically chooses gamma level.
  - User-defined The user must specify the gamma level
    - 0.30-1.00.
- Target Luminance Adjusts the lightness of the image, 0-255.
- Dead Pixel Correction Investigates and corrects dead pixel, 0-255.
- De-noise Mode Removes video noises.
  - **OFF** Can be set to disable this functionality
  - **2D** Reduces noises.
    - Manual
    - Auto
  - **3D** Reduces noises in low light conditions and even with moving objects.
    - Low
    - Middle

- High
- Whit Balance: This setting allows users to choose the color balancing method used.
  - **AWB** Automatically chooses white level.
  - **MWB** The user must specify the red and blue gain levels to achieve the correct white level.
    - **R Gain** The gain applied to the red video channel.
    - **G** Gain The gain applied to the green video channel.
    - **B** Gain The gain applied to the blue video channel.
- Smart IR Adjusts the shutter time automatically to make the image clear without overexposures.
  - $\circ$  Off
  - **On**

### **Focus Panel**

The parameters deal with the focus. The adjustments will be shown in the preview window.

THE OWNER	2815-84-21 15:57:85	Day/Night Setting	Focus Panel	Lens Adjustment
		Smart Shutter	Smart AE	Smart AF
=		One Push AF Nea	r	> >> Far
			<	1
	A A		Wide	Tele
			Focus Calibratio	n: Calibration

One Push AF: Auto Focus can be achieved by pressing this button.

Near / Far: Change the depth of field by adjusting the Near and Far steps.

Wide: Offers expanded visual perspective.

**Tele:** Normalizes the size and distance difference between near and far objects, and can make the depth of field appear shallower.

Calibration: Calibrates the focus.

# Lens Adjustment

Live View   Settings   Log	out   Help		admin	2015-04-21 16:26:05
» General	Video & Audio > Image Appearance			
>> Network	Image Appearance Settings	15:25:85 Day/Night Setting	Focus Panel Smart AE	Lens Adjustment Smart AF
💙 Video & Audio			Manual	
Basic Settings		F-IRIS.	Jivianuai	
>Image Appearance		P-IRIS level:	-	80
Video Streams				
Privacy Mask Settings				
Audio				
» PTZ	-			
>> Recording				

- P-IRIS: Can be adjusted Manually or Automatically.
  - Manually
    - P-IRIS Level: 0-100.
  - o **Auto** 
    - P-IRIS Sensitivity: 0-100.
    - P-IRIS Level: F11-F1.4

### **Smart Shutter**

This functionality is used for capturing precise images of fast-moving objects by adjusting the shutter speed automatically to avoid captured images going blurry or dragging using the conventional shutter settings.



- Enable: On / Off this functionality.
  - **Hide/Show:** show/hide the enabled smart shutter window.
  - Window: up to 3 windows can be set.

## Smart AE

Smart AE (Smart Auto Exposure): The conventional cameras adjust the general exposure and allow either underexposed shadows or overexposed highlights. The Smart AE automatically adjusts the exposure based on a targeted area to bring out the proper exposure for the overall image.



• Enable: On / Off this functionality.

- **Hide/Show:** show/hide the enabled smart shutter window.
- **AE Region Window:** Move the window to the area where you'd like to set as a target area.

# Smart AF

The Smart AF allows users to apply auto focus on a targeted area, showing the clear image of the region that really matters.

Live View   Settings   Log	out   Help	_			admin	2015-04-21 16:57:25
» General	Video & Audio > Imag	e Appearance				
	Image Appearance	Settings				
>> Network		BE		Day/Night Setting	Focus Panel	Lens Adjustment
			The second	Smart Shutter	Smart AE	Smart AF
Video & Audio		-		Enchles	On	kal bida
Basic Settings		T		Enable.	Iou	
>Image Appearance			AF Region	An		
Video Streams			Commence	<u> </u>		
Privacy Mask Settings		1		-		
Audio						
» PTZ	-				Save	
» Recording						

- Enable: On / Off this functionality.
  - Hide/Show: show/hide the enabled smart shutter window.
  - **AF Region Window:** Move the window to the area where you'd like to set as a target area.

### Video Streams

The configuration for video streams, including resolution, frame rate and image quality parameters can be found under Video & Audio > Video Streams.

Live View   Settings   Logou	it   Help			admin 2014-05-14 11:32:
» General	Video & Audio > Video Streams			
>> Network	Video Stream 1 Settings			
Video & Audio	Video Format:	H.264	~	
Basic Settings	Video Resolution:	1080P(1920x1080)	$\checkmark$	
Image Appearance	Video Frames per Second:	20	$\checkmark$	15 (1~30)
>Video Streams	Key Frame Interval:	1 sec	$\checkmark$	
ROI	Video Quality Settings			
Privacy Mask	Constant Bit Rate:	6 Mbps	$\checkmark$	4096 (32-10240)kbps
Audio	Fixed Quality:	Medium	~	
N 017				
	Video Stream 2 Settings			
» Recording	Video Format:	H.264	~	
>> Event Notification	Video Resolution:		$\checkmark$	
» System	Video Frames per Second:	30	$\checkmark$	15 (1~30)
	Key Frame Interval:	1 sec	$\checkmark$	
	Video Quality Settings			
	Constant Bit Rate:		$\checkmark$	512 (32-10240)kbps
	Fixed Quality:	Medium	$\sim$	
	When No Motion Settings			
	Enable			
	Video Stream 1			
	Video Frames per Second:	15	(1-30)	
	Constant Bit Rate:	6144	(32-10240)kbps	
	Video Stream 2			
	Video Frames per Second:	30	(1-30)	
	Constant Bit Rate:	512	(32-10240)kbps	change to no motion)
	No wouldn't ost Setting.		10 3 (Norman	change to no motion)
	When Network Disconnection Set	tina		
		ung		
	Enable			
	Video Stream 1	20	(1.20)	
	Constant Bit Bate:	E10	(1-30)	
	Video Stream 2	512	(32-20460)K0ps	
	Video Frames per Second:	30	(1-30)	
	Constant Bit Rate:	512	(32-20480)kbps	
		ОК		Cancel

The page is split into settings for 2 streams. Common settings are:

Video & Audio > Video Streams	
Video Stream 1 Settings	
Video Format:	H.264
Video Resolution:	960P(1280x960)
Video Frames per Second:	○ 30  ■ 15 (1~30)
Key Frame Interval:	1 sec 💌
Video Quality Settings	
Constant Bit Rate:	○ 4 Mbps ● 4096 (32-10240)kbps
Fixed Quality:	Medium 🗸
Video Stream 2 Settings	
Video Format:	H.264
Video Resolution:	
Video Frames per Second:	○ 30  ■ 15 (1~30)
Key Frame Interval:	1 sec
Video Quality Settings	
Constant Bit Rate:	○ 512 (32-10240)kbps
Fixed Quality:	Medium

- Video format The compression format for the video stream.
  - **H.264** Provides the best compression, and clear picture, but is processor intensive.
  - **MPEG4** Provides more compression that MJPEG, but loses picture quality.
  - MJPEG Provides minimal compression, with the best picture quality. Each frame is stored as a discrete JPEG. This option is only available in Stream 1.
- Video Resolution Sets the resolution of the video output. The following options are available: QSXGA (2560x1920, Stream 1 only), QXGA (2048x1536, Stream 1 only), 1080P (1920 x 1080, Stream 1 only), SXGA (1280 x 1024, Stream 1 only), 960P (1280x960, Stream 1 only), 720P (1280 x 720), D1 (720x480), VGA (640x480), QVGA (320x240, Stream 2 only).
- Video Frames per Second- Sets the number of frames per second. 1, 3, 5, 10, 15, 20, 25, 30 FPS are possible values. You can also choose to type in the values you want (the range is from 1~30).

- Key Frame Interval Sets the period between minimally compressed recovery frames that don't require other video frames to decode. 1/4s, 1/2s, 1s, 2s, 3s, and 4s are possible values.
- Video Quality Settings Sets the quality of the video image.
  - Constant Bit Rate In this mode, the camera will maintain a constant bit rate output, regardless of video quality. Bit rates available are dependent on the video resolution chosen, and range from 256 kbps to 6 Mbps. You can also choose to type in the values you want (the range is from 32~10240).
  - Fixed quality In this mode, the camera will attempt to maintain a constant quality output, up to a maximum bandwidth of 10 Mbps.

#### Settings can be further defined when no motions occur.

Enable this option to adjust the Video Frames, Constant Bit Rate for Video Stream 1 and 2.

When No Motion Settings		
Enable		
Video Stream 1		
Video Frames per Second:	15	(1-30)
Constant Bit Rate:	6144	(32-10240)kbps
Video Stream 2		
Video Frames per Second:	30	(1-30)
Constant Bit Rate:	512	(32-10240)kbps
No Motion Post Setting:		31 s (Normal change to no motion)

# Settings can be further defined when the network disconnection occur.

Enable this option to adjust the Video Frames, Constant Bit Rate for Video Stream 1 and 2.

When Network Disconnection Set	ing
✓ Enable	
Video Stream 1	
Video Frames per Second:	20 (1-30)
Constant Bit Rate:	512 (32-20480)kbps
Video Stream 2	
Video Frames per Second:	30 (1-30)
Constant Bit Rate:	512 (32-20480)kbps

Video Streams (for CAM3471V/-M/-MP, CAM3571M/-VP, CAM3371EV/-EM, CAM3351R4/-R6, CAM3361LV, CAM3461LV)

The configuration for video streams, including field of view, resolution, frame rate and image quality parameters can be found under Video & Audio > Video Streams.

FoV can be defined as the width and height of a scene to be monitored. Different Fields of View are available for selection, 3MP 1536P (Max. 30fps), 5MP 1920P (Max. 14fps, for CAM3571 only) and Full HD 1080P (Max. 60fps).

Video & Audio > Video Streams		
Field of View		
Field of View:	3MP 1536P(Max. 30fps)	
Video Stream 1 Settings		
Video Format:	H.264	
Video Resolution:	1536P(2048x1536)	
Video Frames per Second:	20     20     20	(1~60)
Key Frame Interval:	1 sec 💌	
Video Quality Settings		
Constant Bit Rate:	● 6 Mbps    6144	(32-20480)kbps
O Fixed Quality:	Medium 🗸	
Video Stream 2 Settings		
Video Format:	H.264	
Video Resolution:	QVGA(320x240)	
Video Frames per Second:	<ul> <li>30</li> <li>30</li> </ul>	(1~60)
Key Frame Interval:	1 sec	
Video Quality Settings		
Constant Bit Rate:	● 512 kbps    512	(32-20480)kbps
O Fixed Quality:	Medium 🗸	
	OK Cancel	

The page is split into settings for 2 streams. Common settings are:

- Video format The compression format for the video stream.
  - **H.264** Provides the best compression, and clear picture, but is processor intensive.
  - **MPEG4** Provides more compression that MJPEG, but loses picture quality.
  - **MJPEG** Provides minimal compression, with the best picture quality. Each frame is stored as a discrete JPEG. This option is only available in Stream 1.
- Video Resolution Sets the resolution of the video output. The following options are available: 1536P (2048 x 1536, Stream 1 only), 1080P (1920 x 1080, Stream 1 only), SXGA (1280 x 1024, Stream 1 only), 720P (1280 x 720, Stream 1 only), VGA (640x480), QVGA (320x240), QQVGA (160x120, Stream 2 and MPEG4 only).
- Video Frames per Second Sets the number of frames per second. 1, 3, 5, 10, 15, 20, 25, 30 FPS are possible values. You can also choose to type in the values you want (the range is from 1~30).
- Key Frame Interval Sets the period between minimally compressed recovery frames that don't require other video frames to decode. 1/4s, 1/2s, 1s, 2s, 3s, and 4s are possible values.
- Video Quality Settings Sets the quality of the video image.
  - Constant Bit Rate In this mode, the camera will maintain a constant bit rate output, regardless of video quality. Bit rates available are dependent on the video resolution chosen, and range from 32 kbps to 10 Mbps. You can also choose to type in the values you want (the range is from 32~10240).
  - Fixed quality In this mode, the camera will attempt to maintain a constant quality output, up to a maximum bandwidth of 10 Mbps.

# **ROI Settings**

t   Help		admin 2013-06-11 17:46:22
Video & Audio > ROI		
Enable Different Quality With ROI		
ROI Setting		
CAM2441 2013-06-11 17:46:23 window2	Window Settings	L
window1	Window Name:	window1 Max. Number of windows is 3.
	Delta Quality:	5 (-10~+10)
	Encoding Frame Interval:	500 (0~10 Window Settings
	New	Save Remove
Background Window Encoding Frame Interval:		(1~1000)
ОК	Cancel	

Use the Region of Interest (ROI) to execute different functions in one image.

- Window Settings
  - Window Name Specify a name for a different window.
  - **Delta Quality** Can be selected from -10 to +10.
  - Encoding Frame interval Can be selected from 1 to 1000.
- **Background Window Encoding Frame Interval** Can be selected from 1 to 1000.

# Privacy Mask Setting

Video & Audio > Privacy Mask Setting	
Enable Privacy Mask	
Privacy Mask Setting	
2014-05-14 13:32:19	Window Sottings
	Window Settings
	Window Name:
	Color Red 🔽
and the second	
The second s	New Save Remove
and the second se	
the second s	

Use **New** button to create privacy mask on the video, up to 3 masks can be created. The window name and the mask color can be further defined.

### **Audio Settings**

The audio settings, under Video & Audio > Audio Settings, contain parameters dealing with audio coming from the cameras built in mic, or an external microphone.

Live View   Settings   Logo	ut   Help				admin 2014	-05-14 13:36:50
» General	Video & Audio > Audio					
>> Network	Audio Settings					
Video & Audio	Audio In:	Off	O On			
Basic Settings Image Appearance	Line Selection					
Video Streams	Audio In:	Line In				
ROI	Codec Settings					
Privacy Mask						
>Audio	Audio Codec:	G711 U-Law	~			
» PTZ						
» Recording			OK	Cancel		
>> Event Notification		_				
>> System						

The audio settings, under Video & Audio > Audio Settings, contain parameters dealing with audio coming from the cameras built in mic, or an external microphone.

- Mute Selects whether or not to mute the incoming audio from the camera.
- Audio In Selects the source for the camera audio feed. Line In specifies an external source connected to the camera's line-in port, while Microphone is the camera's internal microphone.

**Note:** For models with built-in microphone, Microphone option can be selected in *Line Selection*.

• Audio Codec - G.711 U-law, G.711 A-law, and ADPCM are methods for digitally encoding audio signals. Only one bit rate, 32 Kbps, is currently supported. Audio will be encoded at this bit rate.

# PTZ

Note: CAM 3361 does not support PTZ functionalities.

RS-485 is a control standard that is used as a basis for controlling point-tiltzoom (PTZ) cameras or mounts. The PTZ menu **Settings > PTZ> RS-485** 

Live View   Settings   Logou	ut   Help			admin 2010-07-26 17:16:02
» General	PTZ > RS-485 Settings			
>> Network	RS-485 Settings			
>> Video & Audio	Baud Rate:	9600 🔽		
S PTZ				
>RS-485 Settings	PTZ Settings			
Recording     Event Notification     System	I Fnable PTZ PTZ Decoder Address PTZ Protocol	1 Pelco-P		
		ОК	Cancel	

Settings allows configuration of the RS-485 controls.

The following parameters are configurable:

- Baud rate The baud rate to be used with the RS-485 device. Options are 2400, 4800, 9600, 19200, 11520 bd.
- Enable PTZ This check box activates PTZ service, allowing PTZ controls to be displayed.
  - PTZ decoder address The address of the PTZ decoder, which decodes commands and turns them into electrical signals to drive the PTZ mechanism. This address is a discreet number based on PTZ decoder's connection.
  - **PTZ protocol** The protocol used by the PTZ. Two of the most common protocols are supported: Pelco-D and Pelco-P.

# Recording

The Recording menu, **Settings> Recording**, deals with recording settings and managing recorded video files.

### **Recording Basic Settings**

Recording basic settings, **Recording > Recording Basic Settings** are parameters which deal with the recording location and scheduling.

Live View   Settings   Logou	t   Help		admin 2013-07-30 13:24:16
» General	Recording > Recording Basic Setting	S	
>> Network	Record to Memory Card when con	nection is lost	
>> Video & Audio	Enable Recording		
>> PTZ	Network Bandwidth Using:	1536 (0~10240)kbps	
>Recording Basic Settings	Passive download by NVR Se	erver(private format)	
Recorded File Management	Manual Record Setting		
>> Event Notification	Manual Record To:	C:\Users\Joyce.Chou\AppData\Loc Browse	
» System		eq. C.wr.Camerai/Vecoru/	
	Event/Schedule Record Setting		
	Event/Schedule Record To:	O microSD Card	
		Remote Storage	
		O ISCSI Storage	
		OK Cancel	

The following parameters can be configured within this menu:

# • Record to Memory Card when connection is lost

When enabled, video will automatically be recorded onto the microSD card if the network connection is lost. When a network connection is re-established, recording will switch back to the remote destination. If this feature is turned off, there will be no recording at all when if network connection is lost.

- Enable Recording Tick it if you want the video to be recorded on to the micro SD card.
- Connection Resume Send to FTP Tick Enable Recording if you want the video to be uploaded to FTP automatically after the network connection is recovered.

Network Bandwidth Using - The speed limitation of the FTP.

• Passive download by NVR Server (private format)

- Manual Record Setting
  - Manual Record To Defines the path for manual recording.
  - $\circ$  Screenshots and image recordings will be saved in this location.
- Event/Schedule Record Setting Allows users to set the destination for event or scheduled recording.
  - o microSD Card
  - $\circ$  Remote Storage

ISCSI Storage - Before selecting the ISCSI Storage as your recording destination, settings of Event Server under the Event Notification should be done to enable the ISCSI Storage. Go to Event Notification > Event Server to set the ISCSI Storage Settings.

### Settings > Event Notification > Event Server

ISCSI Storage Settings	
Initiator Mada Nama:	an 2011 12 com comerci 004022602642
Initiator Node Name.	Iqn.2011-12.com.camera.000023603003
Server Address:	
Port:	0 Target
CHAP logon information	
User Name:	
Target Secret:	
Perform mutual auther	tication
User Name:	
Target Secret:	

Live View   Settings   Logou	ut   Help			admin 2015-06-08 16:55:38
» General	Event Notification > Event Server			
>> Network	Email Settings			
>> Video & Audio	SSL			
» PTZ	Sender Email Address:		eg:template@gmail.com	
>> Recording	Recipient Email Address:		eg:template@gmail.com	
S Event Notification	Server Address:			
>Event Server	User Name:			
Event Alert Action	Password:			
Motion Detection	SMTP Server Port:	25	Test	
Tampering Detection	FTP Settings			
DI & DO	Sonior Address:			
Event Settings	ETP Server Port	21		
-	Liser Name:			
>> System	Password:			
	FTP Folder Name:			
	HTTP Servers			
	HTTP			
	URL:		eg:http://www.google.com	
	Port:	0		
	User Name:			
	Password:			
	705.0			
	TCP Servers			
	TCP			
	IP Address:	•		
	Port	U		
	NAS Settings			
	Soprar Addross:			
	User Name:			
	Password:			
	Folder Name:			
	ISC SI Storage Settings			
	Initiator Node Name:	iqn.2011-12.com.camera:0	0d02360b713	
	Server Address:			
	Port:	0	Target	
	CHAP logon information			
	User Name:			
	Target Secret:			
	Perform mutual auther	ntication		
	User Name:			
	i arget Secret:		]	
		OK	Cancel	
		0	11.00	

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

### **Recorded File Management**

This section, located at **Recording > Recorded File Management** allows users to manage videos recorded on the microSD cards.

Live View   Settings   Logou	ut   Help						admin 2015-06-08	16:56:51
» General	Recording >	Recorded File Management						
>> Network	Recorded	File Management						
>> Video & Audio	From:		To:	0	YYY-MM-DD hh:r	nm:ss)	Search	
» PTZ		File Name	Media Type	<ul> <li>Trigger Typ</li> </ul>	e Locked	Play	Download	]
Secording	Current F	age:0 ,Total Page:0 Forwar	d To:			<<	< > >>	
Recording Basic Settings								
Recorded File Management					Loc	VUnlock	Remove	
>> Event Notification								
» System								

## Locating Video Files

To locate video files from a specific time frame, enter a begin and end time in the **From:** and **To:** fields below, and click **Search**.

Each video file will have an entry containing:

- Time The time the video was recorded, also the filename of the entry: YYYY\_MM\_DD\_HH\_MM\_SS.avi
- Media Type The encoding/compression method
- **Trigger Type** What type of action triggered this recording eg. if it was alarm recording or scheduled recording.
- Locked The lock state of the alarm.

The video records located will be split into pages. The information on these

- << Click to go to the first page of the recorded files list.
- < Click to go to the previous page of the recorded files list.
- > Click to go to the next page of the recorded files list.
- >> Click to go to the last page of the recorded files list.
- Forward To: This dropdown can be used to skip to a page number.

You may also narrow the entries displayed by clicking on the **Media Type** column. This will give you the option of choosing *All*, *H264*, *MPEG4*, or *MJPEG* types. The system will only show video files of the format selected.

Managing Video Files

Once you have located the video files of interest you may select them by checking the box in the leftmost column of the entry. You can also select all displayed entries by checking the box in the header row.

There will be two buttons in each entry:

- Play Plays the video file in local helper application.
- Download Downloads video files. Select one or more video files and click Download; Choose location to save the video file(s) onto your local PC.

Other actions that you can perform:

- Lock/Unlock Locks/Unlocks video files. Locked files cannot be removed. Select one or multiple video files and click Lock/Unlock. When a file is locked, the Locked status will display yes.
- **Remove** Manually deletes stored video files. Select one or more video files and click **Remove** to delete the file(s).

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

Note: The video files shown in Recorded File Management are files stored in the microSD card. You can also record live video by clicking the record button in the Live View screen, which will be stored directly into your local computer, and are not managed by this function. Please refer to the section on <u>Manual Record</u> for more information on this functionality.

# **Event Notification**

Event Notification settings, found under **Settings > Event Notification**, deal with the event detection, scheduled recording, and notification abilities of the camera.

### **Event Server**

The event server, which can be configured under **Event Notification > Event Server**, is the communications center of the camera. This section deals with the configuration of E-mail and FTP notifications, HTTP and TCP triggers, NAS settings and ISCSI Storage settings.

Live View   Settings   Logou	ut   Help			admin 2015-06-08 16:55:38
» General	Event Notification > Event Server			
>> Network	Email Settings			
>> Video & Audio	SSL			
» PTZ	Sender Email Address:		eg:template@gmail.com	
>> Recording	Recipient Email Address:		eg:template@gmail.com	
S Event Notification	Server Address:			
>Event Server	User Name:			
Event Alert Action	Password:			
Motion Detection	SMTP Server Port:	25	Test	
Tampering Detection	FTP Settings			
DI & DO	Server Address:			
Event Settings	ETP Server Port	21		
	User Name:			
>> System	Password:			
	FTP Folder Name:			
	HTTP Servers			
	HTTP			
	URL:		eg:http://www.googie.com	
	Port:	0		
	User Name:			
	Password:			
	TCP Servers			
	IP Address:			
	Port	0		
	NAS Settings			
	Server Address:			
	User Name:			
	Password:			
	Folder Name:			
	ISCSI Storage Settings			
	Initiator Node Name:	iqn.2011-12.com.camera:0	0d02360b713	
	Server Address:			
	Port	0	Target	
	CHAP logon information			
	User Name:			
	Target Secret			
	Perform mutual auther	ntication		
	User Name:			
	Target Secret:			
		OK	Cancel	
		UN	Gancer	

## **Email Settings**

Email settings are used to configure e-mail notifications.

- Sender Email Address The return e-mail address for notifications. This should be your notification address.
- **Recipient email address** The e-mail address notification emails will be sent to. Only one email address can be entered.
- Server address The IP or address of the e-mail server.
- User Name The user name of the notifications e-mail account.
- **Password** The password of the e-mail account.
- SMTP Server Port the SMTP port of the email server; Default 25.
- **Test** Click this button to send a test email. E-mails will only be sent if all parameters are entered correctly.

# **FTP Settings**

FTP settings are used to configure recording to a remote location via the file transfer protocol.

- Server Address The address of the FTP server.
- FTP Server Port The port number of the FTP server; Default 21.
- User Name The user name of the FTP account.
- **Password** The password of the FTP account.
- **FTP Folder Name** The name of the folder on the FTP site which video files will be stored in.

# Http Servers

- URL The address.
- **Port** The port number for the web service. It is usually 80.
- User Name The username of the camera. The default user name is admin.
- Password The password of the camera. The default password is admin.

**TCP Servers** 

- IP Address The address of the TCP server.
- **Port** The port number of the TCP server.

## **NAS Settings**

NAS settings are used to configure recording to network attached storage.

- Server Address The address of the NAS server.
- User Name The user name of the NAS account.
- **Password** The password of the NAS account.
- Folder Name The name of the CIFS account folder on the server.

## **ISCSI Storage Settings**

- Initiator Node Name Your Internet Small Computer System Interface's name.
- Server Address Your server address.
- Port
  - CHAP logon information

User Name - Your user name.

**Target Secret** - Created to manage the connections between an iSCSI device and the servers that need to access it.

 Perform mutual authentication - Two parties authenticating each other suitably.

User Name - Your user name.

**Target Secret** - Defines the portals (IP addresses) that can be used to connect to the iSCSI device, as well as the security settings that the iSCSI device requires to authenticate the servers that are requesting access to its resources.

## **Event Alert Action**

Live View   Settings   Logou	ıt   Help			admin 2012-08-06 17:06:24
» General	Event Notification > Event Alert A	Action		
>> Network	General Settings			
>> Video & Audio	Set Time Interval Between T	riggers (sec): 5	(>=5sec)	
» PTZ				
>> Recording	HTTP Trigger Settings			
Sevent Notification	DI1:	cgi/param.cgi?action=update&U	Test	
Event Server	Motion:	cgi/param.cgi?action=update&U	Test	
>Event Alert Action	Network Resume:	cgi/param.cgi?action=update&U	Test	
Motion Detection				
Tampering Detection	Network Resume Settings			
DI & DO	NVR Server IP Address:			
Event Settings				
» System				
		ОК	Cancel	

### **General Settings**

• Set Time Interval between Triggers (sec)

#### **HTTP Trigger Settings**

Set the CGI rule for HTTP triggers.

- **DI1** /surveon-cgi/param.cgi?action=update&USER=admin&PWD=admin&System.LiveViewPor=6002.
- **DI2** -/surveon-cgi/param.cgi?action=update&USER=admin&PWD=admin&System.LiveViewPor=6002.
- Network Resume -

/surveon-cgi/param.cgi?action=update&USER=admin&PWD=admin&System.LiveViewPor=6002.

#### **Network Resume Settings**

• NVR Server IP Address - The IP address of the NVR server.

The system will start to ping this IP for three times, and if the results are different, the network connection will be defined as lost. The video will be recorded automatically to the micro SD card, and when the connection is recovered, it will be uploaded to the FTP.

Note: Please refer to Recording Basic Settings section for more details.

## **Motion Detection**

The motion detection functionality of the camera can be found under **Event** Notification > Motion Detection.



### **Motion Detection Window Management**

Motion detection is activated by checking the Enable Motion Detection box.

Click the *Window Settings* tab to enter the window configuration, and click **New** to add a new detection window. A maximum of 3 motion detection windows can be added. Each new window will be created with a default name *Window N*, where *N* is the number of the window. After creating the window, clicking it will select the window. You can drag and resize the window using your mouse. You can also change the following parameters:

You can also change the following parameters:

- Window Name Tthe name of the motion detection window.
- **Trigger Interval** The time interval between motion triggers. Options available are: 200 ms , 400 ms, 800 ms, and 1000 ms.
- **Trigger Threshold** The percentage change in the window before a motion alarm is triggered.
- **Sensitivity** The sensitivity of the motion box.

Click **Save** to save all settings. Settings of existing windows can also be changed by selecting the window and changing the settings. To delete a window, select a window in and click **Remove**.

# Activity Status Display

The Activity Status Display tab displays the amount of motion detected in a selected window. By raising the **Sensitivity** of the window the motion values for a given motion, which are in shown in yellow, will be higher. When the motion value reaches or crosses the **Trigger Threshold**, denoted by the red line, a motion event will be triggered. Use Activity Status Display to check if the setting of threshold is reasonable. For smaller motions below the set number, the motions won't trigger alarm. Motion alarm handling and notifications can be configured under <u>Event Settings</u>.

Basic	Settings						
Wir	ndow Setting	6	Activit	y Statu	s Disp	olay	
100							
90							
80							
70							
60						_	
50					_		
40			1				
30							
20			-				
10			-				
0				Trigg	er Thr	eshold	:74

Activate Motion Detection By: Auto/Schedule

Motion detection is activated by checking the Enable Motion Detection box.

Activate Motion Detection By: denotes when motion detection will be triggered as an event.

- Auto As long as Enable Motion Detection is checked, an event is triggered.
- Schedule Selecting this option allows to manually schedule the

Activate Motion Det	ection By:					
O Auto						
Schedule						
🗹 Sun	🗆 Mon 🗖 Tue	🗆 Wed	🗖 Thu	🗹 Fri	🔽 Sat	
	From: 22:0	)	To:	06:00	(hh:mm)	

times motion detection will be active. Select the days of the week that Motion Detection is active by checking the corresponding boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.

**Tampering Detection** 

Note: CAM 3361 does not support tampering detection.

Tampering detection is similar to motion detection in that it detects where there is a sudden unexpected change in the whole camera view. Parameters for this feature are found under **Event Notification > Tampering Detection**.

Tampering alarm handling and notifications can be configured under <u>Event</u> <u>Settings.</u>

Live View   Settings   Logou	ut   Help				admin 2014-05-15 14:01:18	
» General	Event Notification > Tampering Detection					
>> Network	Tampering Detection Settings					
>> Video & Audio	Tampering Detection:	O On	Off			
» PTZ	Tampering Sensitivity:	Normal	$\checkmark$			
» Recording						
Sevent Notification						
Event Server						
Event Alert Action			ОК	Cancel		
Motion Detection						
>Tampering Detection						
DI & DO						
Event Settings						
» System						

The tempering detection parameters include:

- Tampering Detection Turns tampering detection on or off.
- Tampering Sensitivity Sets the sensitivity of Tampering Detection. Options are Very Low, Low, Normal, High, and Very High. Higher sensitivities can detect more tampering attempts, but also increase the chances that the camera will produce a false alarm.

## DI & DO

Digital Input (DI) and Digital Output (DO) stand are used for event triggering. The camera has 1 DO and 2 DI ports. Settings for these ports can be found under **Event Notification > DI & DO**. Conditions for DI and DO triggering, as well as notifications for can be set under <u>Event Settings</u>.

### **Digital Input**

The two inputs are listed as Input1 and Input2 and connect to external circuits such as window break detectors. These inputs can be tested by clicking the **Test** button in the input entry.

Each input has a Normal Status:

• Normal Open - the DI requires a low voltage input, with the following configuration.



It is triggered when it does not receive this input.

• Normal Close - the DI requires a high voltage input (+12V), with the following configuration.



It is triggered when it does not receive this input.

• Off - DI inputs are closed at all times. The camera will not respond to any signals on this DI.

# **Digital Output**

The camera can also be configured to send signals through the digital output. Each output has a **Normal Status**:

• **High** - DO outputs a high voltage when triggered, and is connected to the output circuit in the following manner:



• Low - DO acts as a ground when triggered, and is connected to the output circuit in the following manner:



• Off - Closes DO output; no signals will be sent.

## **Event Settings**

Event settings deal with alarm handling and notification, as well as feature scheduling. These settings can be found under the **Event Notification** > **Event Settings** menu.

Live View   Settings   Logou	it   Help			admin 2014-05-15 15:20:18			
>> General	Event Notification > Event Settings						
>> Network	Event List						
>> Video & Audio	Name	Enable	Туре	Actions			
» PTZ	123	Enable	DI,Motion Detection,Video Loss & Tamperi	FTP,Record,Trigger DO			
>> Recording			Add	Edit Remove			
Sevent Notification							
Event Server Schedule List							
Event Alert Action	Name	Enable	Condition	Actions			
Motion Detection	1234	Enable	Recurrence Pattern	Trigger DO			
Tampering Detection							
DI & DO			Add	Edit Remove			
>Event Settings							
» System							

The event handler is rule based. There are lists for both two types of rules:

- Event List Contains rules based on triggered events such as motion detection or DI triggers.
- Schedule List Contains time-based rules.

Each rule has an action list. When the conditions for rule are met, the actions specified by the rule are carried out. Users may perform the following actions in both Event and Schedule lists:

- Add Clicking on the Add button adds a new rule to a list.
- Edit A selected rule may be edited by clicking on the Edit button.
- **Remove** A selected rule may be deleted by clicking on the **Remove** button.

# Adding/Editing an Event Rule

ent Notification > Event Settings > Add Trigg	ered Events	
General		
Name : Set Time Interval Between Triggers (sec) :		(max hh:mm:ss)
nable Triggering By		
Always		
O Recurrence Pattern		
○ Never		
Friggered By		
Motion Detection		
On Boot		
Video Loss & Tampering Detection		
Disk Full		
DI		
Day>Night		
□ Night>Day		
Trigger Actions Streams : 1		
Email		
FTP		
Record		
Trigger DO		
ĺ	ОК	Cancel

The Add and Edit screens contain the following triggering actions:

Note: If editing a rule that has not been triggered, the rule will not be triggered after until after editing is complete. If the rule is triggered, any changes will not be applied until the current trigger is resolved.

### General

The following general fields should be filled in:

- Name Specifies the name of the Event.
- Minimum time interval between triggers The time frame in which a subsequent trigger of the same event will be ignored (maximum 23:59:59).

### Enable Triggering By

The next step is to specify the frequency of trigger response. 3 options are available:

- Always The default setting; Triggers event when conditions are met.
- **Recurrence Pattern** Enables triggering only if conditions are met during a specified time period. To specify the period, select the days of the week that the trigger is active by checking the corresponding boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.

C Recurrence Pattern									
	🗆 Sun	🗆 Mon	🗖 Tue	☑ Wed	🗖 Thu	🗆 Fri	🗖 Sat		
From : 01:00					To :	03:00	(hh:mm)		

• Never - The event is never triggered.

### Triggered By

After the frequency is selected, triggering conditions can be set. Multiple conditions can be set at once. Available options include:

- Motion Detection Trigger when motion is detected.
  - In Window Specifies the detection window that will trigger the event.

Please refer to the section on Motion Detection for details.

- On Boot Trigger when camera reboots.
- Video Loss & Tampering Detection Trigger when video signal is lost or tampering is detected. Please refer to the section on <u>Tampering</u> <u>Detection</u> for more detail.
- Disk Full Trigger when the SD disk installed in the camera is full.
• **DI** - Trigger when a DI trigger occurs. For more information please refer to the section on DI & DO.

#### When Triggered

The actions to take when trigger conditions are met are configured here.

Trigger Actions	
Streams : 1	•
🗹 Email	
Subject :	
Additional Information :	
<ul> <li>Snapshot</li> </ul>	C Video
FTP	
Snapshot	C Video
Record	
Trigger DO	
Trigger duration:	5 sec

The following options are available:

- **Streams** Selects the stream from which the snapshot or recording will be obtained.
- Email E-mails notifications to the email address specified in the Event Server settings. If this option is chosen, fill in the following:
  - Subject The subject line of the notification e-mail.
  - Additional Information Contents of the notification e-mail.
  - Snapshot/Video Clip Choose to send a snapshot or video attachment from 5s before to 30s after the trigger.
- FTP uploads a snapshot or video clip to a FTP location specified in the <u>Event Server</u> settings.
  - Snapshot/Video Clip Choose to upload a snapshot or video file from 5 seconds before to 30 seconds after the trigger. Files are sent as attachments.
- **Record** Records video to the server specified in the <u>Event Server</u> settings and the microSD card when triggered. The video clip stored on both remote storage server and local storage is a video file 35 seconds in length (5 seconds before and 30 seconds after the trigger)
- Trigger DO A Digital output signal is sent when triggered.

Trigger Duration - The length of time that the DO signal is sent. Options are 1, 2, 5, 10, 20 or 30 seconds. For more information please refer to the section on DI & DO.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

#### Adding/Editing a Scheduled Rule

The Add and Edit screens contain the following actions:

Name:	schedule1		
Set Time Interval (When Activated):	01:12	(hh:mm)	
ctivate Event Time By			
ctivate Event Time By			
C Always			
C Always			

**Note:** If editing a rule that has not been triggered, the rule will not be triggered after until after editing is complete. If the rule is triggered, any changes will not be applied until the current trigger is resolved.

#### General

The following general fields should be filled in:

- Name Specifies the name of the Event.
- Set Time Interval (When Activated) The trigger time of the event (00:00 to 23:59).

#### Enable Triggering By

The next step is to specify the frequency of trigger response. 3 options are available:

- Always The default setting; Triggers event when conditions are met.
- **Recurrence Pattern** Enables triggering only if conditions are met during a specified time period. To specify the period, select the days of the week that the trigger is active by checking the corresponding boxes, and fill in a start time and end time for motion detection in the **From:** and **To:** boxes.

Recurrence	e Pattern					
🗖 Sun	🗆 Mon	🗆 Tue	✓ Wed	🗖 Thu	🗖 Fri	🗖 Sat
	F	rom : 01:	00	To :	03:00	(hh:mm)

• Never - The event is never triggered.

#### When Triggered

The actions to take when trigger conditions are met are configured here.

Trigger Actions	
Streams : 1	I I I I I I I I I I I I I I I I I I I
🗹 Email	
Subject :	
Additional Information :	
<ul> <li>Snapshot</li> </ul>	C Video
FTP	
Snapshot	C Video
Record	
Trigger DO	
Trigger duration:	5 sec

The following options are available:

- **Streams** Selects the stream from which the snapshot or recording will be obtained.
- **Email** E-mails notifications to the email address specified in the <u>Event Server</u> settings. If this option is chosen, fill in the following:
  - **Subject** The subject line of the notification e-mail.
  - Additional Information Contents of the notification e-mail.
  - Snapshot/Video Clip Choose to send a snapshot or video attachment from 5s before to 30s after the trigger.
- FTP uploads a snapshot or video clip to a FTP location specified in the Event Server settings.
  - Snapshot/Video Clip Choose to upload a snapshot or video file from 5 seconds before to 30 seconds after the trigger. Files are sent as attachments.
- **Record** Records video to the server specified in the <u>Event Server</u> settings and the microSD card when triggered. The video clip stored on both remote storage server and local storage is a video file 35 seconds in length (5 seconds before and 30 seconds after the trigger)
- Trigger DO A Digital output signal is sent when triggered.
  - Trigger Duration The length of time that the DO signal is sent. Options are 1, 2, 5, 10, 20 or 30 seconds. For more information please refer to the section on <u>DI & DO</u>.

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

## **System**

The system settings, which deal with hardware and firmware parameters, logs, and configuration lists, can be found under **Settings > System.** 

	t   Help					admin	2015-06-08 17
» General	System > Storage Management						
Network	Storage Status						
Video & Audio	Storage Devices	Status	Total Size	Free	Used	Use(%)	
PTZ	micro SD Card	no					
	ISCSI	no					
Recording	NAS	no					
Event Notification	Basaward:		Format				
Storage Management	Storage Management Available Recording Time:	0 min					

#### Storage Management

MicroSD class 2/4/6 cards can be accessed for offline video storage and upgrade purposes. MicroSD installed in the camera can be managed under System > Storage Management.

#### **Storage Status**

The status of the current storage device can be obtained under *Storage Status*:

- Storage Devices -micro SD Card, ISCSI, NAS
- **Status** If a readable card is present, this will show *ready*, otherwise *no* will be shown.
- Total Size The size of the card.
- Free The total space left on the card.
- Used The occupied space on the card.
- Use(%) The percentage of the card that has been used.
- Format User may need to type in the administrator password to format the storage device.

#### Storage Management

- Available Recording Time Calculates how much recording time is available based on current settings.
- Storage Recycle Settings Turning the function On will clear the storage device once it is full.
- Max Duration for Automatic Disc Save \_\_\_\_ Hours If storage recycling is activated, the card will save recordings continuously. (99999 hours max.)
- Max Duration for Automatic Disc Cleanup \_\_\_\_ Hours, When The Disk Is Full. - If storage recycling is activated, the card will be cleared when this number of days has elapsed. (100 days max. Locked files will not be cleared)

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

### System Status

Live View   Settings   Logou	it I Help			admin 2015-06-08 17:06:37
» General	System > System Status			
>> Network	System Status			
>> Video & Audio	IP Address:	172.30.10.46		
	MAC Address:	00:D0:23:60:B7:13		
» PTZ	Subnet Mask:	255.255.255.0		
» Recording	Default Router:	255.255.255.127		
>> Event Notification				
System	Boot Loader:	V1.0.A01		
Storage Management	Firmware Version:	V2.4.D16		
System Status				
System Log	Send system status to tech	nnical support.	Email	
Firmware Upgrade				
Reset To Factory Default				
Export/Import & Reboot				

The camera status can be found under System > System Status.

This section displays useful system information including:

- IP Address
- MAC Address
- Subnet Mask
- **Default Router** address
- microSD Card Capacity Status
- Boot Loader Version
- Firmware Version

Clicking on the **Email** button will send the system status information out to the notification e-mail address specified in <u>Event Server</u> for troubleshooting or reference purposes.

#### System Log

The system log, **System > System Log**, provides a log for system messages and events. The log lists important information such as login information, changes to camera settings (both successful and unsuccessful), triggered events, and error messages.

This information can be very useful in the event of a camera failure or unauthorized entry.

Live View   Settings   Logou	t   Help admin 2014-05-15 14:46:57
>> General	System > System Log
>> Network	Log List
>> Video & Audio	Feb 19 00:20:36: UI:user admin get event list failed, return -1
	Feb 19 00:20:36: geteventlist/g_ruleCount=0
<u>"PIZ</u>	Feb 19 00:20:30. Of additing get Schedule faite faited, fedure 1
N December	Feb 19 00:01:28: STREAM:Del client ip:172.30.10.37 Success, Current user count:0,max
W Recording	user enable:5
N Event Natification	Feb 19 00:00:40: STREAM:unsupported msg cmd [124]
Event Notification	
System	Feb 19 00:00:40: Revice event: type:124 1d:1 Value0:1 Value1:255 Value2:255
• oystem	Feb 19 00:00:30: STREAM: Start success.Play streams using
microSD Card Management	rtsp://172.30.10.109/ <streamname></streamname>
System Status	Feb 19 00:00:30: STREAM:add user success!client ip:172.30.10.37 Current user
eystern etalae	count:1,maxenable:5
System Log	Fab 10 00.00.20. STREAM.exects new tests of ftp mid(1011)
Eirmwore Ungrade	reb 19 00:00:30: SIREAM:Create new task off_itp pid[1011]
Filliware Opgrade	Feb 19 00:00:30: STREAM:create new task ENT Handle pid[1012]
Reset To Factory Default	
Export/mport & Reboot	Feb 19 00:00:30: STREAM:create new task CheckLinkStatus pid[1010]
Experimpertartebeer	
	reb 19 00:00:30: SIREAM:create new task ittcping_server_checker pia[1009]
	Feb 19 00:00:30: STREAM:create new task top worker pid[1008]
	Feb 19 00:00:30: STREAM:create new task http_worker pid[1007]
	Feb 19 00:00:26:Cam_server.m_model:4311
	May 15 14:08:46: Ulruser admin get event list failed, return -1
	May 15 17.00.10. geteventilb/g_iutecount-0
	Note: Send system Log to Technical Support.
	Email Developed
	Enali Download

Clicking **Email** will send the log out as an email the notification e-mail address specified in <u>Event Server</u>; Clicking **Download** will begin the browser download process to download the log to the local PC.

#### Firmware Upgrade

Upgrading with a firmware file on a PC:

- 1. Power ON the device.
- 2. Connect to the camera through a web browser and go to System >

#### Firmware Upgrade.

Live View   Settings   Logou	ut   Help			admin 2015-06-08 17:07:27
>> General	System > Firmware Upgrade			
<ul> <li>» Network</li> <li>» Video &amp; Audio</li> <li>» PTZ</li> <li>» Recording</li> </ul>	Firmware Upgrade Specify the Firmware to Upgrade: Configuration Upgrade		Browse	
>> Event Notification				
<ul> <li>System</li> <li>Storage Management</li> <li>System Status</li> <li>System Log</li> <li>Firmware Upgrade</li> <li>Reset To Factory Default</li> </ul>	Keep Customized Configurations     Keep Network Setting     Upgrade All Configurations	Upgrade	Cancel	
Export/import & Reboot				

 Choose "Specify the firmware to upgrade". Click Browse...and locate the file [cam number]fw.

#### **Configuration Upgrade**

- Keep customized configuration to keep current configuration settings.
- Keep Network Setting to keep current network configuration.
- Upgrade all configurations to clear all settings back to factory defaults.

Click **Upgrade** to start the upgrade. Upon completion of firmware upgrade, the camera will reboot (you will be logged off).

The LED will flash amber during the firmware upgrading. The camera will start reboot after firmware upgrade completed. When the LED indicator turns green, the firmware is upgraded successfully.

If the status LED shows steady amber for over 1 minute, the camera will become unresponsive and the upgrade process may have failed. Please contact with your dealer for technical support. If the status LED shows steady amber for over 1 minute, the camera will become unresponsive and the upgrade process may have failed. Please contact with your dealer for technical support.

#### **Resetting to Factory Default Settings**

To reset the device to the factory default settings:

- 1. Make sure the device is in operation mode.
- 2. Using a needle or similar object to press and hold the Reset button until the camera restarts (about 2 seconds). The status LED will change to amber during startup.
- 3. When the Status Indicator changes to back to Green (which may take up to 1 minute), the process is complete. The default IP address is 192.168.88.10 if not assigned by a DHCP server.

**Note:** Resetting to the factory default settings using the Reset button will cause all parameters (including the IP address) to be reset. To reset the unit without changing parameters, disconnect and reconnect the power connector.

Camera resets can also be performed under System> Reset To Factory Default.

Live View   Settings   Logou	t   Help	admin 2014-05-15 14:59:48
>> General	System > Reset To Factory Default	
>> Network	Reset To Factory Defaults	
» Video & Audio	Reset All Configurations to Factory Defaults	
» PTZ	Reset All Configurations to Factory Defaults Except Network Configuration	
>> Recording		
>> Event Notification		
😆 System	OK	
microSD Card Management		
System Status		
System Log		
Firmware Upgrade		
➤Reset To Factory Default		
Export/Import & Reboot		

There are 2 types of reset.

• Reset All Configurations to Factory Defaults

• Reset All Configurations to Factory Defaults Except Network Configuration.

Click **OK** after choosing a reset option to perform a reset.

Alternately, you may press the "Reset" button on the bottom of the camera to perform a complete reset of the camera (no configurations retained). To reset the camera by pressing the "Reset" button on the bottom of the camera, press and hold the "Reset" button for 3 seconds. During this time, the LED indicator in front of the camera will blink in red.

## Export/Import & Reboot

Live View   Settings   Logou	ıt   Help			admin 2015-06-08 17:08:18
» General	System > Export/Import & Reboot			
>> Network	Export/Import & Reboot			
>> Video & Audio				
» PTZ	Restart Camera:	Apply		
>> Recording	Export Configuration:	Export		
>> Event Notification				
System	Export Log:	Export		
Storage Management	luce of Ocoffeeee lines		<b></b>	( Arrely
System Status	Import Configuration:		Browse	Арріу
System Log				
Firmware Upgrade				
Reset To Factory Default				
>Export/Import & Reboot				

In certain situations it may be necessary to restart your network camera (network settings changed, DHCP added, etc). The settings under **System > Export/Import & Reboot** allow you to restart the camera.

This menu also contains options to export configuration details (for backup or replication purposes), as well as import configuration details. The following options are available:

- Restart Camera Resets the camera when Apply is clicked.
- Export Configuration Export the camera's settings and configurations by clicking Export, this will start a browser dialogue to download the configuration.
- Export Log
- Import Configuration Imports previously exported camera settings. The field should contain the path for the camera configuration file. Click Browse: to browse your PC for the configuration file. Click Apply to import the settings.

# Chapter 5. Configuration through the IP Utility

Camera configurations can be done through web interface and IP Utility. \*\*For IP Utility, please look into <u>this chapter</u>; for web interface, please refer to <u>Chapter 4</u>.

		Web Interface	IP Utility
General	Basic Settings	V	Х
	User Account	V	Х
	Date & Time	V	Х
Network	Network Configuration	V	Set IP Only
	Port Settings	V	Х
	UpnP	V	Х
	Wifi Setting	V	Х
Video & Audio Settings	Basic Settings	V	Х
	Image Appearance Settings	V	Х
	Video Streams	V	Х
	Audio Settings	V	Х
PTZ	RS-485 Settings/PTZ Settings	V	Х
Recording	Recording Basic Settings	V	Х
	Recorded File Management	V	Х
Event Notification	Event Server	V	Х
	Motion Detection	V	Х
	Tampering Detection	V	Х
	DI & DO	V	Х
	Event Settings	V	Х
System	MicroSD Card Management	V	Х
	System Status	V	V
	System Log	V	Х
	Firmware Upgrade	V	V
	Resetting to Factory Default Settings	V	Х

	Export/Import	V	V
	Reboot	V	V
Camera Search		Х	V
Login		V	V
Properties		Х	V
Delete from Tool		Х	V
Clearing and Setting Status		Х	V
Camera Group Actions		Х	V
Focus Tool		Х	V

# 5.1. Overview

The IP Utility is a set of tools for network cameras. It includes tools to create, modify, delete and manage groups within the camera; The IP Camera Utility also provides tools to perform simple connectivity configuration, firmware upgrades and reboot operations. The utility is intended to simplify the configuration and management of multiple cameras.

# 5.2. Installing the IP Utility

Install the IP Utility with the following steps:

1. Start SearchToolInstall.exe to begin the utility installation dialog:

🛃 IP Utility	
Welcome to the IP Utility Setup Wizard	
The installer will guide you through the steps required to install IP Utility on your computer.	
WARNING: This computer program is protected by copyright law and international treaties Unauthorized duplication or distribution of this program, or any portion of it, may result in se or criminal penalties, and will be prosecuted to the maximum extent possible under the law.	vere civil
Cancel < Back N	ext >

2. Click Next to continue with installation.

🛃 IP Utility 🔽 🗖 🔀
Select Installation Folder
The installer will install IP Utility to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Eolder: C:\Program Files \IP Utility\ Disk Cost
Install IP Utility for yourself, or for anyone who uses this computer:
⊙ Just me
Cancel < Back Next >

- 3. Fill in the Folder field to specify the installation path. Clicking Browse... pulls up a file system browser. Clicking Disk Cost will display free space and the space the utility will take up on disks.
- Choose if you wish to install the application for the current user only (Just me) or all users on this computer (Everyone).
- Click Next to continue. The system will respond with a ready screen. Click Next again. The system will respond by displaying installation progress.
- You may click Cancel at any time before finishing introduction, or
   Back if it is available to cancel or jump back a step. Click Close when after installation is complete. The software is ready to use at this

# 5.3. IP Utility Basics

## Starting the IP Utility

To start the IP Utility, double-click the IP Utility shortcut on your desktop or go to Start > Program Files > IP Utility> IP Utility.

**Note:** On startup, the utility will automatically scan for IP Cameras on the same subnet as the computer. In some cases this may result in longer wait times.

## **IP Utility Main Screen**

The IP Utility main screen is divided into 3 sections:

IP Camera Utility		File Group Camer	a Help			- ×
🔍 Auto Search 🐐 Update Firmware 🔗 F	Reboot 💿 Link to Ca	mera 💔 Set IP 💽 Focus	s Tool			
Camera Group	Details					
	Number	Name	IP	Model	MAC	Status
	1	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
MyGroup	2	CAM2321	172.30.10.102	CAM2321	00D023603BB3	online
<u> </u>	3	CAM2301	172.30.10.69	CAM2301	00D0236012B9	online
	4	CAM3371	172.30.10.39	CAM3371	00D023602BAE	online
	5	CAM2311	172.30.10.62	CAM2311	00D023603021	online
	6	CAM1320	172.30.10.143	CAM1320	00D02360117A	online
1			2			

- 1. Camera Group Display displays group details
- 2. Camera Detail Display displays camera details
- 3. Function Buttons and Menus this section contains alternative access methods for functions that can be done within the Camera Group and Camera Detail Displays. This manual does not discuss this section separately.

# Exiting the IP Utility

To exit the IP utility, click the X button on the top right corner of the screen or choose **File > Exit** from the menu bar.

# 5.4. Camera Actions

This section displays camera information, including the IP, Name, Model, MAC Address, Status and Network Mask.

## Search

Search updates the details for the cameras listed, as well as locates any new cameras connected on the same subnet. The search is performed every time the IP utility starts. To perform search again:

 Click the Auto Search button or click Camera > Search in the menus. The search will begin, and a status bar will display the search progress.

IP Camera Utility		File Group	Camera Help		_		- ×
🔍 Auto Search 🙀 Update Firmware 🍙	Reboot 💿 Link	to Camera 📲 Set IP	Login		_		
			User Manager				
Camera Group	Details		Search				
All Devices(6)	Number	r Name	Conliguration	•	el	MAC	Status
Online Devices(6)	1	@ CAM232	Maintenance	•	2321	00D0236037A0	online
WGroup	2	CAM232 <sup>-</sup>	Device Group	•	2321	00D023603BB3	online
	3	CAM230 <sup>-</sup>	Link to Camera		2301	00D0236012B9	online
	E 4	CAM337	Properties		3371	00D023602BAE	online
	5	CAM2311	172.30.10.62	CAM	2311	00D023603021	online
	6	CAM1320	172.30.10.143	CAM	1320	00D02360117A	online
	•		m				•

**Note:** The search may take up to 2 minutes, depending on your network configuration.

## Login

Before performing camera actions, most cameras require that proper login credentials are supplied. To login to a camera:

1. Right click the camera you wish to set. Select Login from the popup, the system responds with the *Login* window. Alternatively, click the camera entry and choose Login from the Camera menu.

IP Camera Utility			File Group (	Camera Help				×
🔍 Auto Search 🐐 Update Firmware 🎯	Reboot 🍕	Link to C	amera 💔 Set IP 💽	Focus Tool			_	
Camera Group	Detail	s			_			
	N	umber	Name	IP		Model	MAC	Status
Online Devices(6)		1	CAM2324	Login .		CAM2321	00D0236037A0	online
Giffine Devices(0)		2	CAM23	Liser Manager	02	CAM2321	00D023603BB3	online
······································		3	CAM23	Configuration	9	CAM2301	00D0236012B9	online
		4	CAM33	Maintenance	9	CAM3371	00D023602BAE	online
		5	CAM23	Basic focus tool	2	CAM2311	00D023603021	online
		6	CAM13	Device Group	43	CAM1320	00D02360117A	online
				Soloct All	·			
				DecelectAll				
				Deselect All				
				Delete from tool				
				Properties				
	٠							۱.

IP Camera Utility			File Group	Camera Help				- ×
🔍 Auto Search 👫 Update Firmware 👩	Reboot	💿 Link to C	amera 🦞 Set IP	Login 🔓				
Comora Croup		-ile		Oser Manager Search				
	Det	Numbor	Namo	Configuration			MAC	Status
All Devices(6)		1	CAM232	Maintananaa		2321	00D023603740	online
Offline Devices(0)		2	CAM222	Davias Group		221	000022602882	online
		2	@ CAM232	Link to Comoro	•	201	00D023003DD3	online
		3	@ CAM230	Broportion		2301	00D0236012B9	online
		4	@ CAM337	Properties 470 00 40 00		3/1	00D023602BAE	onine
		5	CAM2311	172.30.10.62	CAN	2311	00D023603021	online
		6	@ CAM1320	172.30.10.143	CAN	1320	00D02360117A	online
	4							
	•			III				•

2. Fill in the user name and password.

Login	×
User Name:	
Password:	
HTTP Port:	80
Stream Port:	6002
	OK Cancel

3. Click OK to set the username and password.

**Note:** To perform further configuration, please make sure that the User set here has administrator privileges. The default Username/Password for cameras is admin/admin.

## **Properties**

The properties of a camera can be viewed by following these steps:

- 1. Select a camera by checking the box in the first column of its listing.
- Right click the camera and select Properties, or select Camera > Properties from the menu bar.

IP Camera Utility		File Group Can	nera Help			X
🔍 Auto Search  Update Firmware 🎯 F	Reboot 💿 Link to C	amera 🎁 Set IP 💽 Fo	icus Tool			
Auto Search & Update Firmware Camera Group All Devices(6) Comine Devices(0) MyGroup	Reboot Link to C	Amera ¥ Set IP © Fo Name CAM2321 © CAM2321 © CAM2301 © CAM2301 © CAM2301 © CAM2311 © CAM2311 © CAM1320	IP 172 30 10 71 Login User Manager Configuration + Maintenance + Basic focus tool Device Group + Select All Deselect All Delete from Tool Properties	Model CAM2321 CAM2321 CAM2301 CAM3371 CAM2311 CAM1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 00D023602BAE 00D023603021 00D02360117A	Status online online online online online
	<					4

IP Camera Utility			File Group	Ca	imera Help				- ×
🔍 Auto Search 👫 Update Firmware 👩	Re	boot 💿 Link to C	amera 🦞 Set IP		Login				
					Oser Manager				
Camera Group		Details	Norra		Search			1140	Ctatua
All Devices(6)		Number	CAM222		Configuration		• BI	MAC 00D022602740	Status
Offline Devices(0)		. 2	CAM232		Device Group		0221	00D023603PR0	online
		. 2	@ CAM230		Link to Camera		301	00D023603883	online
			CAM230	-	Properties		371	00D023602BAE	online
		□ <del>-</del>	@ CAM2311		172 30 10 6245	C	AM2311	00D023603021	online
		. 6	@ CAM1320		172 30 10 143	c	AM1320	00D02360117A	online
			- 0/ MITO20		112.00.10.110			000020001111	-
		٠			m				+

The Camera Information popup will display with camera details.

Camera Inform	ation 🔀
IP:	172.18.6.57
Status:	ОК
DHCP:	Yes
MAC:	00D0236009E8
Name:	CAM2321
Network	255.255.254.0
Model:	CAM2321
Firmware:	1.4.A10T
ок	Cancel

## **Delete from Tool**

- 1. Select one or more cameras by checking the box in the first column of their listing.
- 2. Right click the camera(s) which you want to delete from the tool and select **Delete from Tool.** The camera will be removed from the listings.

IP Camera Utilit	у 📻		File Group Ca	mera Help			
🔍 Auto Search 👫 Update Firmware 🌘	🕉 Reboot 🌾	) Link to C	amera 🚏 Set IP 👩 F	ocus Tool			
Camera Group	Detai	s					
All Devices(6)	N	lumber	Name	IP	Model	MAC	Status
Online Devices(6)		1	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
Offline Devices(0)		2	CAM2321	Login	CAM2321	00D023603BB3	online
		3	CAM2301	User Manager	CAM2301	00D0236012B9	online
		4	CAM3371	Configuration	CAM3371	00D023602BAE	online
		5	CAM2311	Maintenance >	CAM2311	00D023603021	online
		6	CAM1320	Basic focus tool	CAM1320	00D02360117A	online
				Device Group			
				SelectAll			
				Deselect All			
			L	Delete from Tool			
			ι.	Properties			
	-						•

# Select All

In a group context, right clicking a camera, and selecting **Select All** will select all the cameras in the group.

IP Camera Utility		File Group C	amera Help									
🔍 Auto Search 🤹 Update Firmware 💿 Reboot 💿 Link to Camera 🦞 Set IP 💽 Focus Tool												
Camera Group	Details Numb	er Name 1 © CAM2321 2 © CAM2321 3 © CAM2301 4 © CAM3371 5 © CAM2311 8 © CAM1320	IP 472 30 40 Login User Mana Configurat Maintenan Basic focu Device Gro SelectAI DeselectA Delete fron Properties	Model 21 CAM2321 ager AM2321 AM2321 AM3371 ce AM3371 AM3371 AM3371 AM3371 AM320 JI n Tool	MAC 00D0236037A0 00D023603BB3 00D0236012B9 00D023602BAE 00D023603021 00D02360117A	Status online online online online online						
	•			III		•						

## **Rebooting Camera**

In certain cases it may be necessary to reboot the camera. To do this:

- 1. Select a camera by checking the box in the first column of its listing.
- 2. Click the **Reboot** button or select **Camera > Configuration > Reboot** from the menu bar.

IP Camera Utility		File Group Camer	a Help			
🍳 Auto Search 👫 Update Firmware 🎯	Reboot 🕤 🕤 Link to C	amera 🦹 Set IP 💽 Focus	s Tool			
Camera Group	Details			_		
⊡	Number	Name	IP	Model	MAC	Status
Online Devices(6)	1	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
Offline Devices(0)	2	CAM2321	172.30.10.102	CAM2321	00D023603BB3	online
	3	CAM2301	172.30.10.69	CAM2301	00D0236012B9	online
	<b>4</b>	CAM3371	172.30.10.39	CAM3371	00D023602BAE	online
	5	CAM2311	172.30.10.62	CAM2311	00D023603021	online
	6	CAM1320	172.30.10.143	CAM1320	00D02360117A	online

IP Camera Utility			File Group	Camera He	lp		_		- ×
🔍 Auto Search 🤺 Update Firmware 🔗 F	Reboot	💮 Link to C	amera 🦞 Set IP	Login User Mar	ager				
Camera Group	Det	ails		Search					
Enter All Devices(6)		Number	Name	Configura	ation	•		Download Configuration	Status
		1	CAM232 <sup>-</sup>	Maintena	nce	•		Update Configuration	online
Offline Devices(0)		2	CAM232 <sup>-</sup>	Device Gr	roup	+		Reboot	nline
		3	CAM230 <sup>-</sup>	Link to Ca	amera		2301	000023001289	online
		4	CAM337 <sup>1</sup>	Propertie	s		3371	00D023602BAE	online
		5	@ CAM2311		172.30.10.62	CAM	2311	00D023603021	online
		6	CAM1320		172.30.10.143	CAM	1320	00D02360117A	online
	Í								
	1								

The camera will reboot. If further configuration is needed, perform the **Login** function again after the reboot is completed.

## Set IP

The IP Address of a camera can be set by following these steps:

1. Click the **Set IP** button.

IP Camera Utility		File Group Ca	amera Help			×
🔍 Auto Search 🐐 Update Firmware 📀	Reboot 💮 Lin	k to Camera 💏 Set IP 🚺 F	Focus Tool			
Camera Group	Details	6.13	10	_		
⊡	Numbe	er Name	IP	Model	MAC	Status
	1	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
Offline Devices(0)	2	@ CAM2321	172.30.10.102	CAM2321	00D023603BB3	online
	. 3	@ CAM2301	172.30.10.69	CAM2301	00D0236012B9	online
	E 4	@ CAM3371	172.30.10.39	CAM3371	00D023602BAE	online
	E 6	@ CAM2311	172.30.10.62	CAM2311	00D023603021	online
	_ e	CAM1320	172.30.10.143	CAM1320	00D02360117A	online
	•					

2. You can choose to obtain an IP address from DHCP or assign a fixed IP.

Assig	m IP Address						
Ca	mera						
	Name	IP	Netmask	Gateway	DNS	DHCP	Logged In/Logged Out
	CAM1301	172.18.7.29	255.255.254.0	172.18.7.254	192.168.1.23	Yes	Logged Out
						_	
					Select All	De	eselect All Login

- **3.** Select one or more cameras by checking the box in the first column of their listing. Click **Select All.**
- A Login window will pop up. Fill in the user name and password. Click OK.

Login						
User Name:						
Password:						
HTTP Port:	80					
Stream Port:	6002					
OK Cancel						

Click **OK** to save or **Cancel** to abort the changes before you leave the page.

## Link to Camera Web Interface

Link to Camera

- 1. Select a camera by checking the box in the first column of its listing.
- Double click the selected camera or select Camera > Link to Camera in the menu bar. The camera's live view webpage will open in a browser window.

IP Camera Utility			File Group	Camera Help		_		- ×
🔍 Auto Search 👫 Update Firmware 🙆	Reboot (	🗈 Link to C	amera 📲 Set IP	Login				
				User Manager				
Camera Group	Deta	ls		Search				
e- I Devices(6)	1	lumber	Name	Configuration	+	el	MAC	Status
Online Devices(6)		1	CAM232	Maintenance	+	2321	00D0236037A0	online
Gffline Devices(0)		2	CAM232	Device Group	•	2321	00D023603BB3	online
		3	CAM230	Link to Camera 🔓		2301	00D0236012B9	online
		4	CAM337	Properties		3371	00D023602BAE	online
		5	@ CAM2311	172.30.10.62	CAM	2311	00D023603021	online
		6	CAM1320	172.30.10.143	CAM	1320	00D02360117A	online
	•			III				•

### Link to Camera User Manager

This function links to the user management page of the selected camera.

- 1. Select a camera by checking the box in the first column of its listing.
- Right click the camera and select User Manager or click Camera > User Manager in the menu bar. The camera's user management webpage will open in a browser window.

IP Camera Utility		File Group Came	ra Help			
🔍 Auto Search 🐐 Update Firmware 🎯 I	Reboot 🍥 Link to Ca	amera 🏋 Set IP 💽 Focu	is Tool		_	
Auto Search * Update Firmware	Number           ✓         1           ✓         1           ✓         2           ✓         3           ✓         4           ✓         5           ✓         6	amera ¥≸ SetIP	IP 172 20 40 74 Login User Manage Comiguration Maintenance Basic focus to Device Group Select All Deselect All	Model M2321 M2321 M2301 M3371 M2311 M2311 M1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 00D023602BAE 00D023603021 00D02360117A	Status online online online online online
	<		Delete from T Properties	ool		

IP Camera Utility			File Group	Camera Help				- X
🔍 Auto Search 🙀 Update Firmware 🧔	Reboot (	💿 Link to C	Camera 🚏 Set IP	Login				
				User Manager 🔓				
Camera Group		IIS Number 1 2 3 4 5 6	Name © CAM232 @ CAM232 @ CAM230 @ CAM230 @ CAM337 @ CAM2311 @ CAM1320	Search Configuration Maintenance Device Group Link to Camera Properties 172.30.10.62 172.30.10.143	CAN CAN	2321 2321 2301 3371 2311 1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 00D023602BAE 00D023603021 00D02360117A	Status online online online online online
	<			m				

# 5.5. Camera Group Actions

The *Camera Group* frame contains a simple tree containing group listings. There are two pre-defined subsections.

- All Devices contains all the cameras in the tool, as well as predefined groups New Devices and Warnings/Errors
- **MyGroup** contains only user defined groups.

## **Add Group**

1. Right click the *MyGroup* root, and choose **Add Group** or choose **Add** 

Group from the Group menu.



IP Camera Utility	File	Group Camera	Help			- ×
🔍 Auto Search 🐐 Update Firmware 🎯	Reboot 💿 Link to Camera	Add Group	- C2		_	
Camera Group	Details	Rename Grou	p			
All Devices(6)	Number	Name	IP	Model	MAC	Status
				11		

The system responds with the *Add Group* popup.

2. In the *New Group Name* field, type in a group name.

Add Group	
New Group Name:	
ок	Cancel

3. Click OK to add the group. The group will appear under *MyGroup* 

**Note:** Camera group names can contain upper and lower-case letters, numerals and the \_ symbol. Cameras can belong to more than one group.

## **Delete Group**

- 1. Expand *MyGroup* and right-click the group you wish to delete.
- 2. Choose **Delete Group** to delete the group. Alternatively, click the group and choose **Delete Group** from the **Group** menu.

IP Camera Utility		File Group Camer	ra Help			
🔍 Auto Search  🏘 Update Firmware 🏾 🞯	Reboot 💿 Link to	Camera 🚏 Set IP 👩 Focu	s Tool			
Camera Group	Details					
All Devices(6)	Number	Name	IP	Model	MAC	Status
	1	CAM2311	172.30.10.62	CAM2311	00D023603021	online
Offline Devices(0)	2	CAM1320	172.30.10.143	CAM1320	00D02360117A	online
B. WGroup						
Rename Group						
Delete Group						
	<u>जे</u>					
	1					
			III			•

IP Camera Utility		File Group Came	ra Help			
🔍 Auto Search 📫 Update Firmware 👩 I	Reboot 💿 Link to	Camera 1 Add Group				
		Delete Gro	up 🔎			
Camera Group	Details	Name	ioup	Madal	MAC	Statua
All Devices(6)     Online Devices(6)		CAM2311	172 30 10 62	CAM2311	00D023603021	online
Offline Devices(0) 	2	@ CAM1320	172.30.10.143	CAM1320	00D02360117A	online
	•		III			- F

3. The system will ask to confirm the deletion. Click Yes to delete the group.

Note: Groups may be deleted, even if they contain cameras.

## **Rename Group**

- 1. Expand *MyGroup* and right-click the group you wish to rename.
- Choose Rename Group. Alternatively, click the group and choose Rename Group from the Group menu.



IP Camera Utility		File Group Came	ra Help			- ×
🔍 Auto Search 🙀 Update Firmware 🎯	Reboot 💿 Link to C	amera 👔 🛛 Add Group				
	_	Delete Grou	up			
Camera Group	Details	Rename G	roup			
All Devices(6)	Number	Name © CNU0244	170 20 40 60	Model	MAC	Status
Offline Devices(0)		CAM2311	172.30.10.62	CAM23TT	00D023603021	onine
MGCroup		UNIT 1320	172.30.10.143	CANI 1320	000023001174	omne
	•					4

The Rename Group popup appears.

3. Enter a new group name in the New Group Name field.

Rename Group	×
New Group Name:	
OK Cancel	

4. Click OK to save your changes.

**Note:** Camera group names can contain upper and lower-case letters, numerals and the \_ symbol.

## Move to Group

This function moves the selected camera(s) from a group to another group.

- 1. From the *Camera Group* window select a group under *MyGroup*.
- **2.** Select one or more cameras from the existing group by checking the box in the first column of their listing.
- Right click the camera and select Device Group > Move to Group, or select Camera > Device Group > Move to Group from the menu bar.

IP Camera Utility			File Group Ca	imera Help			- ×
🔍 Auto Search 📫 Update Firmware 🎯 I	Reboot 🤇	Link to C	amera 🦞 Set IP 👩 F	ocus Tool			
Auto Search & Update Firmware ()	Reboot	Link to C s umber 1 2	amera 💱 Set IP 💽 F Name 🔮 CAM2311 🎯 CAM1320	Login User Manager Configuration Maintenance Basic focus tool Device Group Select All Deselect All Detete from Tool Properties	Model CAM2311 CAM1320 Copy to Group Move to Group	MAC 00D023603021 00D02360117A	Status online online
	•			III			

IP Camera Utility			File Group	Camera	Help			_		- ×
🔍 Auto Search 🐐 Update Firmware 🎯 I	Reboot	💿 Link to Ca	imera 🦞 Set IP	Lo	jin Managar					
Camera Group	Deta	ils	_	Se	er Manager arch					
All Devices(6)		Number	Name	Co	nfiguration		۲	el	MAC	Status
Online Devices(6)		1	CAM231	Ма	intenance		•	2311	00D023603021	online
Offline Devices(0)		2	CAM132	De	vice Group		►		Copy to Group	online
New(2)				Lin	k to Camera				Move to Group	
				Pro	perties		_	-	M	
	1									
	•					III				- F
4. In the Select Group pop-up box select the destination group.

Camera Group	
All Devices(6)	
Offline Devices(0)	
MyGroup	
New(2)	

**5.** Click **OK** to move the selected camera(s) to the group.



#### Copy to Group

This function copies the selected camera(s) from a group to another group.

- 1. From the *Device Group* window select a group.
- **2.** Select one or more cameras from the existing group by checking the box in the first column of their listing.
- Right-click the camera(s) and select Device Group > Copy to Group, or select Camera > Device Group > Copy to Group from the menu bar.

IP Camera Utility			File Group Camera	He	elp			- ×
🔍 Auto Search  Update Firmware 🧔	Reboot	💿 Link to Ca	amera 🎁 Set IP 👩 Focus	Tool				
Auto Search * Update Firmware Camera Group All Devices(6) Goline Devices(0) MyGroup New(2)	Rebool	Link to Cr Ilink to Cr Ilink to Cr 1 2	amera VS Set IP Set IP Focus Name CAM2311 Cogin User Manager Configuration Maintenance Basic focus tool Device Group Select All Deslect All Delete from Tool Properties	+ +	IP 172.30.10.62 172.30.10.143 Copy to Group Move to Group	Model CAM2311 CAM1320	MAC 00D023603021 00D02360117A	Status online online
1	1			_				•

IP Camera Utility		File Group	Camera Help				- ×
🔍 Auto Search 😽 Update Firmware 🥱 i	Reboot 💿 Link t	o Camera 🦞 Set IP	Login				
			User Manager				
Camera Group	Details		Search				
	Number	Name	Configuration	•	əl	MAC	Status
Online Devices(6)	1	CAM232	Maintenance	•	2321	00D0236037A0	online
Gffline Devices(0)	2	CAM232 <sup>-</sup>	Device Group	•		Copy to Group	online
New(2)	3	CAM230 <sup>-</sup>	Link to Camera		2301	00D0236012B9	online
<u> </u>	<b>a</b> 4	CAM337 <sup>1</sup>	Properties		3371	00D023602BAE	online
	5	CAM2311	1 172.30.10.62	CA	M2311	00D023603021	online
	6	CAM1320	0 172.30.10.143	3 CA	M1320	00D02360117A	online
	4						

4. In the Select Group pop-up box select the destination group.

samera ereap	
All Devices(6)	
MyGroup	

**5.** Click **OK** to copy the selected camera(s) to the group.

## 5.6. Configuration Settings

Configuration can be downloaded and updated by selecting **Camera > Configuration**, or the process can be automated by downloading the configuration from one camera using the **Download Configuration** function, and then using the **Update Configuration** function to upload the changed configuration file.



IP Camera Utility			File Group	Camera Help				- ×
🔍 Auto Search 🐐 Update Firmware 🤕	Reb	oot 💿 Link to ( Details	Camera 🦞 Set IP	Login User Manager Search				
□, all Devices(6)		Number	Name	Configuration	- ŀ.		Download Configuration	Status
Online Devices(6)	1	1	CAM232	Maintenance	100		Update Configuration	online
Offline Devices(0)	Ĩ	2	CAM232 <sup>-</sup>	Device Group	•		Reboot	online
MyGroup	1	3	CAM230 <sup>-</sup>	Link to Camera		2301	00D0236012B9	online
INEW(2)	[	4	CAM337 <sup>-</sup>	Properties		3371	00D023602BAE	online
	[	5	@ CAM2311	172.30.10.62	CAM	2311	00D023603021	online
	1	6	CAM1320	) 172.30.10.143	CAM	1320	00D02360117A	online

#### **Download Configuration**

This function downloads a configuration file.

- 1. Select a camera by checking the box in the first column of its listing.
- Right-click the camera which you want to download from and select Configuration > Download Configuration, or select Camera > Configuration > Download Configuration from the menu bar. The Download Configuration popup will display.

Download Configuration		×
		Browse
Download	Cancel	

- **3.** Click the **Browse** button to browse the computer and locate a destination.
- 4. Click **Download** to download the configuration file to the destination.

#### **Update Configuration**

- 1. Select one or more cameras by checking the box in the first column of their listing.
- 2. Right-click the camera(s) which you want to update to and select Configuration > Update Configuration, or select Camera > Configuration > Update Configuration from the menu bar. The Update Configuration popup will display.

Update Configuration	
Update Cancel	Browse

- 3. Click the **Browse** button to browse the computer and locate a configuration file.
- 4. Click **Update** to upload the configuration file to the camera(s).

# 5.7. Firmware Actions

### Update Firmware

Once a new version of the camera firmware is obtained, the firmware can be updated using the following steps:

boot Camera Details  Number  1  2  3  4  5  6  6  File boot Camera Details Number	Yi Set IP       Focus Tool         Name       Configuration         CA       Login         CA       User Manager         CA       Basic focus too         CA       Basic focus too         CA       Device Group         Select All       Delete from To         Properties       Properties	IP 10.71 10.102 10.69 Update 10.143 ol 10.143	Model CAM2321 CAM2321 CAM2301 e Firmware CAM1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 0D023602BAE 0D023603021 00D02360117A	Status online online online online online
Details          Number         1         2         3         4         5         6         6         File         boot © Link to Camera         Details         Number	Name CA Login User Manager CA Basic focus too CA Basic focus too CA Basic focus too Select All Delete from To Properties CA Select All Delete from To CA Select All Delete from To Properties CA Select All Delete from To Properties Select All Delete from To Properties Select All Delete from To Properties CA Select All Delete from To Properties Select All Delete from To Properties Select All CA Select All Delete from To Select All CA Select All Delete from To Select All CA Select All	IP 10.71 10.69 ↓ Update 0.143 01 10.143 10.143	Model CAM2321 CAM2321 CAM2301 e Firmware CAM1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 00023602BAE 00D023603021 00D02360117A	Status online online online online online
Number       1       2       3       4       5       6       6   File boot CLink to Camera Details Number	Name CA Ca Login User Manager Ca Ca Maintenance CA Basic focus to CA Device Group Select All Destet from To Properties CA Group Camera He String Camera He C	IP 10.71 10.102 10.69 Update 10.143 ol 10.143	Model CAM2321 CAM2321 CAM2301 e Firmware CAM1320	MAC 00D0236037A0 00D023603BB3 00D0236012B9 0D023602BAE 00D023603021 00D02360117A	Status online online online online online online online online
<ul> <li>File</li> <li>boot Camera</li> <li>Details</li> <li>Number</li> </ul>	e Group Camera He ¥∳ Set IP ⊙ Focus Tool	m blp			
Number					
· · · · · · · · · · · · · · · · · · ·	Name	IP	Model	MAC	Status
	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
	CAM2301	172.30.10.102	CAM2321	00D0236012B9	online
	CAM2301	172 30 10 39	CAM2301	00D023602B4E	online
	CAM2311	172 30 10 62	CAM2211	00D023603021	online
	CAM1320	172 30 10 1/3	CAM1320	00D023601174	online
		4     CAM3371       5     CAM2311       6     CAM1320	4       CAM3371       172.30.10.39         5       CAM2311       172.30.10.62         6       CAM1320       172.30.10.143	4     CAM3371     172,30.10.39     CAM3371       5     CAM2311     172,30.10.62     CAM2311       6     CAM1320     172,30.10.143     CAM1320	4       ● CAM3371       172.30.10.39       CAM3371       00D023002BAE         5       ● CAM2311       172.30.10.62       CAM2311       00D023603021         6       ● CAM1320       172.30.10.143       CAM1320       00D02360117A

Note: You must be logged into the camera to update the camera firmware.

- 1. Select one or more cameras by checking the box in the first column of their listing.
- 2. Click the Update Firmware button; right-click the camera(s) which you want to update to and select Maintenance > Update Firmware; or select Camera > Maintenance > Update Firmware from the menu bar. The Update Firmware popup will display.

Update Firmware	X
	Browse
Update Cancel	

- 3. Click the **Browse** button to browse the file system and locate a firmware file.
- 4. Click **Update** to upload the firmware to the camera(s).

## 5.8. Focus Tool

The Focus Tool is used as a reference for focus precision. Click the Focus Tool button to open it.

IP Camera Utility	, 📻		File Group Camera	a Help			<b></b> X
🔍 Auto Search 🙀 Update Firmware 🧔	Reboot (	) Link to C	Camera 🦞 Set IP 🗿 Focus	s Tool			
Camera Group	Detai	ls		- C			
All Devices(6)	N	lumber	Name	IP	Model	MAC	Status
		1	CAM2321	172.30.10.71	CAM2321	00D0236037A0	online
Gffline Devices(0)		2	CAM2321	172.30.10.102	CAM2321	00D023603BB3	online
New(2)		3	CAM2301	172.30.10.69	CAM2301	00D0236012B9	online
		4	CAM3371	172.30.10.39	CAM3371	00D023602BAE	online
		5	CAM2311	172.30.10.62	CAM2311	00D023603021	online
		6	CAM1320	172.30.10.143	CAM1320	00D02360117A	online
	4						
	•						•

Information of *Best Focus Value*, *Current Focus Value* and *Focus Percent* will be shown at the bottom of the Focus Tool Window. You can click **Refresh** to get a new data after focus adjustment is done.



**Note:** When the Focus Percent is higher, the focus is more precise.