

User's Manual

Ultra-mini SIP PoE IP Camera

▶ ICA-4130S / ICA-4230S



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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution

To assure continued compliance, for example, only shielded interface cables are used when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

WEEE Regulation



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User's Manual for PLANET Ultra-mini SIP PoE IP Camera
Model: ICA-4130S / ICA-4230S
Rev: 1.00 (March.2014)
Part No. EM-ICA-4130S_ICA-4230S_v1.0

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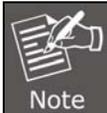
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Chapter 1. Product Introduction

1.1. Package Contents

The package should contain the following:

- IP Camera Unit x 1
- Camera Mount Kit x 1
- User's Manual CD-ROM x 1
- Quick Installation Guide x 1



1. If any of the above items are missing, please contact your dealer immediately.
2. The IP camera is powered by PoE, power supply is not necessary and included in the package.

1.2. Overview

Compact Design Solution with SIP-based IP Surveillance

PLANET ICA-4130S/4230S Ultra-mini IP Camera with PoE are designed for easy installation with versatile functions. The cameras feature a megapixel sensor and support H.264, MPEG-4 and M-JPEG compression formats to deliver excellent picture quality for different applications. Integrated with SIP/VoIP protocol, the cameras provide more aggressive and efficient solution to dealing with event triggers via video phone. It is perfect for remote and discreet monitoring of indoor areas such as homes, small businesses, boutiques, restaurants, hotels, residences, etc.

Day & Night Functionality

The ICA-4130S/4230S brings the clearest vision by featuring 0.5 lux illumination and day/night mode switching. To adapt to constantly changing lighting conditions, the ICA-4230S comes with a removable IR-cut filter and built-in IR illuminator which enable the cameras to provide color video when there is sufficient light, and black/white video in dark conditions. The ICA-4230S is able to maintain clear images 24 hours a day.

Exceptional Image quality

Together with powerful image processing attributes like Back Light Compensation (BLC) and 3D Digital Noise Reduction (3DNR) technology, the ICA-4130S/4230S is able to adjust the exposure of the entire image to properly expose the subject in the foreground and remove noises from video signal. Thus, it brings an extremely clear and exquisite picture quality even under any challenging lighting conditions.

Camera Tampering and Audio Detection

Provided with individually configurable motion detection zones, the ICA-4130S/4230S can record video or trigger alarms and alerts when motion is detected in user-specified areas of the camera image. Also, its built-in microphone enables the system to capture the sound that is within the camera's surveillance range. The system will trigger the audio detection alarm when sounds like screams, glass breaking, etc. are detected.

Advanced Event Management

The ICA-4130S/4230S features industry-led SIP/VoIP for audio, alarm, intercom and video streaming for mobile phones and video phones. When the event is triggered, the administrator can receive alarm, video even audio via video phones. Besides, the administrator is able to view status of remote site via video phone aggressively at any time. With this function, the ICA-4130S/42530S provides more instant, efficient response method to deal with events or prevent events from happening when compared with other even actions (FTP, Email, SD Card, etc.).

Flexible Installation and Power Functionality

The ICA-4130S/4230S incorporates IEEE 802.3af Power over Ethernet standard and is able to be powered via the network cable from a PoE power sourcing equipment such as PoE Switch and PoE injector. It thus eliminates the need for extra power cables and reduces installation costs while increases the deployment flexibility. The ICA-4130S/4230S is ONVIF compliant and interoperable with other brands in the market. Moreover, the camera features 3-axis mechanical design for fast and easy adjustment of the camera's viewing angle, allowing you to precisely position the camera. The ICA-4130S is indisputably the ideal choice for reliable and high performance surveillance.

1.3. Features

➤ Camera

- SIP 2.0 (RFC3261) compliant
- 1/2.5" Progressive CMOS
- 3.6mm Fixed Lens provides 96 degrees horizontal / 72 degrees vertical angle of view
- 0.5 lux minimum illumination at F1.2
- Removable IR-cut Filter for Day & Night Function (For ICA-4230S)
- Built-in IR illuminators, effective up to 10 meters (For ICA-4230S)

➤ Video / Audio

- H.264 / MPEG-4 and M-JPEG video compression simultaneously
- Simultaneous multi-stream support
- H.264 high profile, main profile and baseline
- Max. resolution 1080P at 30fps (For ICA-4230S)
- 3DNR to improve picture quality at low lux
- Supports e-PTZ advanced function
- Built-in microphone

➤ Network and Configuration

- Compliant with IEEE 802.3af PoE
- RTSP / UPnP / HTTPS protocols selectable

➤ Easy Installation & Management

- 3-axis mechanical design
- ONVIF/PSIA compliant for interoperability
- Motion detection, privacy mask and image snapping
- Intelligent motion / audio / network disconnect / tamper detection alarm triggers
- Watermark prevents video from tampering
- Micro SD/SDHC card local video recording supported

- Easy configuration and management via Windows-based utility or web interface

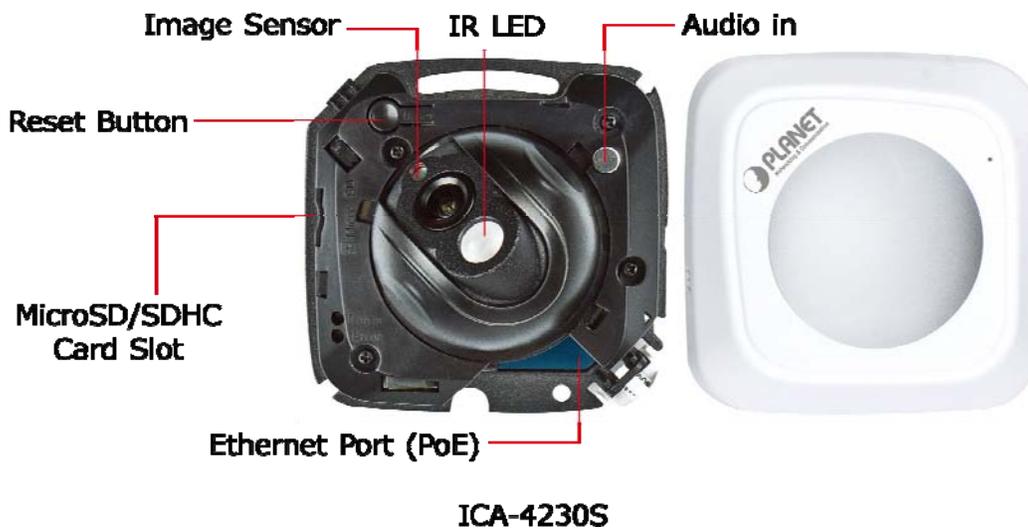
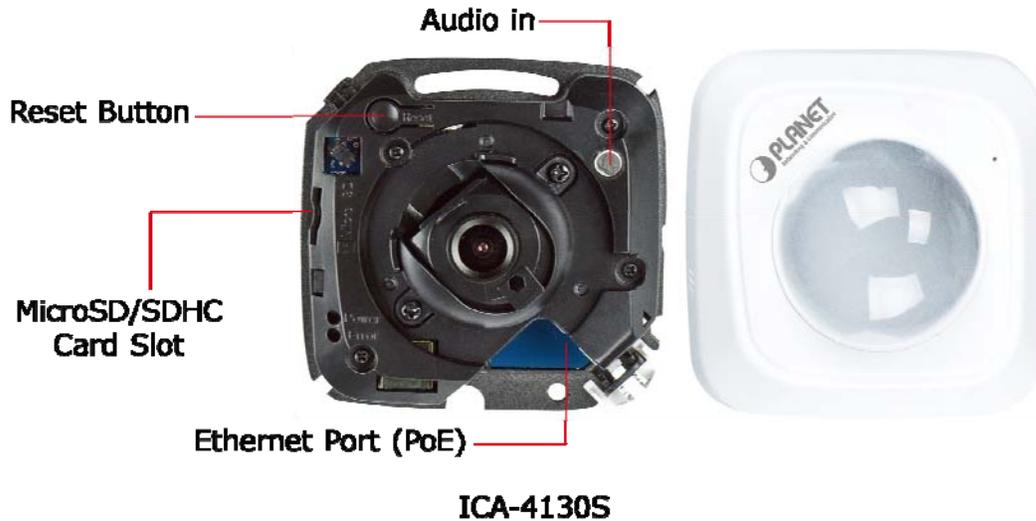
1.4. Product Specifications

Product	ICA-4130S	ICA-4230S
Camera		
Image Device	1/2.5" Progressive CMOS	
Lens	3.6 mm,	4.0mm
Effective Pixels	1280 x 960 pixels	1920 x 1080 pixels
Min Illumination	0.5 lux @ F1.2, B/W: 0.2 lux @ F1.2	0.5 lux @ F1.2, B/W: 0 lux @ F1.2
Shutter Time	Auto, 1/100000s~1/5s	
IR Distance	N/A	10m
Video		
Video Encoder	H.264 / MPEG-4 / M-JPEG	
Video Resolution	H.264: 1280 x 960 / 1280 x 720 / 704 x 576 / 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192 M-JPEG: 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192 MPEG-4: 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192	H.264: 1920 x 1080 / 1600 x 1200 / 1280 x 960 / 1280 x 720 / 704 x 576 / 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192 M-JPEG: 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192 MPEG-4: 640 x 480 / 640 x 368 / 320 x 240 / 320 x 192
Frame Rate	30fps (1280 x 960), 30fps (1280 x 720), 30fps (704 x 576)	30fps (1920 x 1080) 30fps (1600 x 1200) 30fps (1280 x 960), 30fps (1280 x 720), 30fps (704 x 576)
Image Setting	Brightness / Contrast / Saturation	
Streaming	Simultaneous multi-profile streaming Streaming over UDP, TCP, or HTTP Controllable frame rate and bit rate Constant and variable bit rate (MPEG4 / H.264) I-frame Interval	
Audio		
Audio Streaming	Built-in microphone	
Audio Compression	G.711	
Audio Input	Adjustable audio input gain	
Network and Configuration		
Network Standard	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3af	
Network Protocol	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP, UPNP, SIP	
Security	Password protection, IP address filtering	
Users	5 clients on-line monitoring at the same time	
System Integration		
Application Programming Interface	Open SDK/API for software integration ONVIF Compliant	

VoIP Standard	SIP 2.0 (RFC3261)	
Intelligent Video	Motion detection Privacy mask Backlight compensation 3D Noise Reduction	
Alarm Triggers	Motion detection Network disconnect Tampering detection Audio detection	
Alarm Events	FTP upload, email upload, SD Card record and SIP Phone	
Environment		
Power Requirements	IEEE 802.3af (Class 2)	
Power Consumption	4W	4W max. 6W max. (with IR-cut filter on)
Operating Temperature	-10 ~ 60 degrees C	
Operating Humidity	0 ~ 90% (non-condensing)	
Dimensions (W x D x H)	85 x 85 x 46.1 mm	85 x 85 x 54mm
Weight	125g	150g
Emission	CE, FCC	
Connectors	10/100 Mbps Ethernet, RJ-45 Micro SD/SDHC card	

Chapter 2. Hardware Interface

2.1 Physical Description



Interface	Description
Audio In	The Camera has a built-in microphone. This microphone allows outputting voice to video SIP phone or triggering alarm.
Ethernet Port (PoE)	The camera is compliant with IEEE802.3af and only powered by PoE switch or Injector.
Reset Button	1. This button is used to restore all the factory default settings. Sometimes restarting the camera will make the system back to a normal state. If the system still got

	<p>problems after restart, user can restore the factory default settings and install it again.</p> <p>2. Press and hold it for at least 5 seconds. Don't release the button until the light of error LED is flashing continually. Then the device has been restored to default settings and reboot again.</p> <p>Note: Restoring the factory default setting will lose all the previous settings including IP address forever. User needs to run the PLANET Smart Discovery Lite program to search the device and configure it to let the device work properly again.</p>
MicroSD/SDHC Card Slot	Supports MicroSD card up to 64GB. Please don't insert or take out the card when the IP camera is operating.
IR LED	IR distance up to 10m (ICA-4230S only)
Image Sensor	1/2.5" CMOS sensor

2.2 Hardware Installation

1. Open white cover of camera

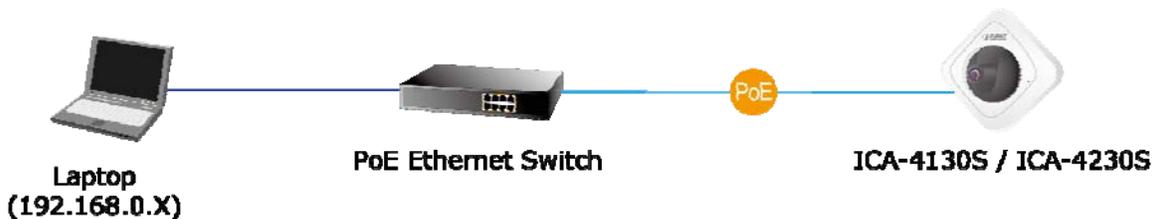


2. Adjust the lens angle and focus

Secure the screws and adjust the lens angle and focus.

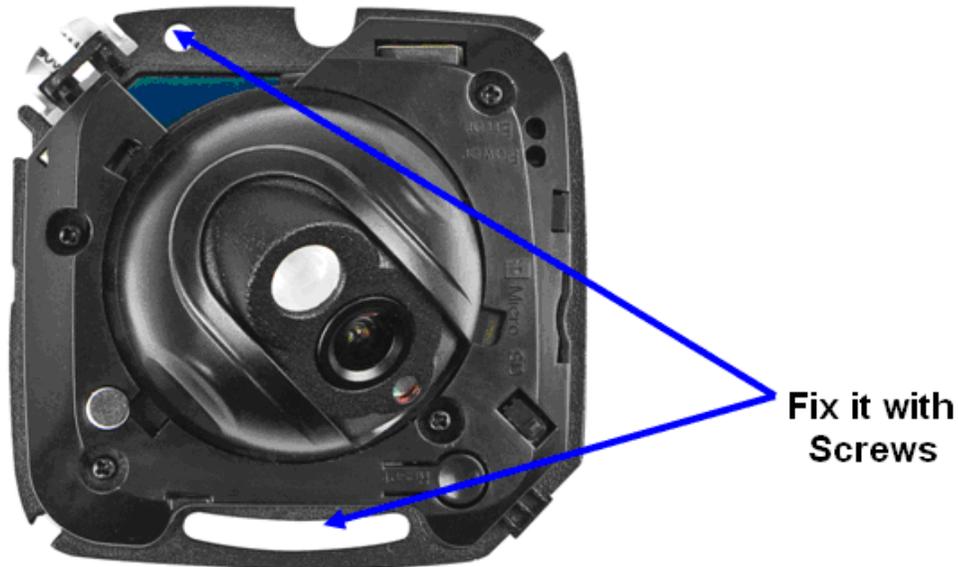
3. Plug an Ethernet cable into the Camera

Connect an Ethernet cable to the LAN socket located on the Network Camera and attach it to the network.



4. Place the Camera on the table or fix it onto the ceiling or wall

Use two screws to fix the Network Camera onto the ceiling or wall. You could also put the Network Camera on the table directly.



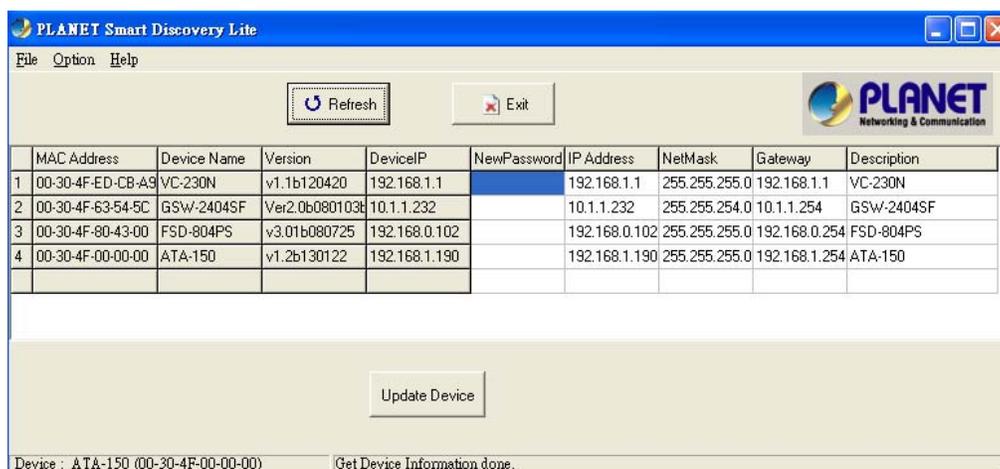
5. Replace the white cover of camera

Once you have installed the IP Camera well and powered it on, the power LED light (red) will turn on. It means the system is booting up successfully.

2.3 Initial Utility Installation

This chapter shows how to quickly set up your Internet camera. The camera is with the default settings. However, to help you find the networked camera quickly, the windows utility PLANET Smart Discovery Lite can search the cameras in the network that can help you to configure some basic settings before you start advanced management and monitoring.

1. Insert the bundled CD into the CD-ROM drive to launch the auto-run program. Once completed, a welcome menu screen will appear.
2. Click the "Utility" hyperlink; you will see the dialog box as shown below.



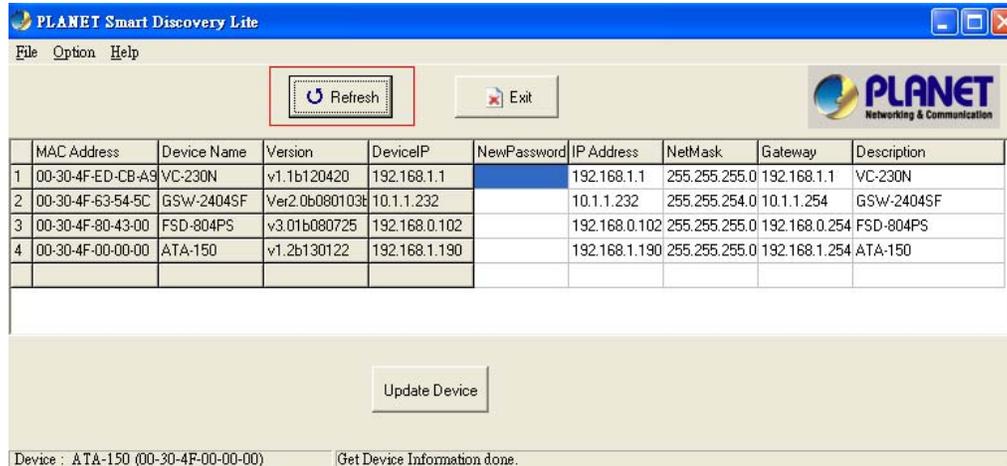
2.4 Preparation

When you install the Internet Camera in a LAN environment, you may execute PLANET Smart Discovery Lite to discover the camera's IP address and set up related parameters in the camera.

2.4.1 Search by PLANET Smart Discovery Lite

Here is the way to execute PLANET Smart Discovery Lite to discover the camera's IP address and set up related parameter in a camera.

Search



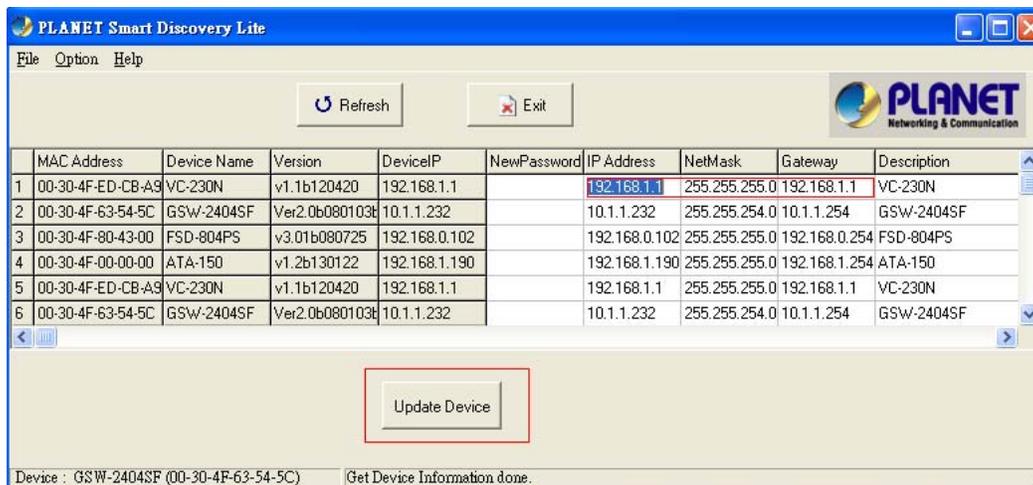
	MAC Address	Device Name	Version	DeviceIP	NewPassword	IP Address	NetMask	Gateway	Description
1	00-30-4F-ED-CB-A9	VC-230N	v1.1b120420	192.168.1.1		192.168.1.1	255.255.255.0	192.168.1.1	VC-230N
2	00-30-4F-63-54-5C	GSW-2404SF	Ver2.0b080103b	10.1.1.232		10.1.1.232	255.255.254.0	10.1.1.254	GSW-2404SF
3	00-30-4F-80-43-00	FSD-804PS	v3.01b080725	192.168.0.102		192.168.0.102	255.255.255.0	192.168.0.254	FSD-804PS
4	00-30-4F-00-00-00	ATA-150	v1.2b130122	192.168.1.190		192.168.1.190	255.255.255.0	192.168.1.254	ATA-150

Update Device

Device : ATA-150 (00-30-4F-00-00-00) Get Device Information done.

2.4.2 Configuring Network by PLANET Smart Discovery Lite

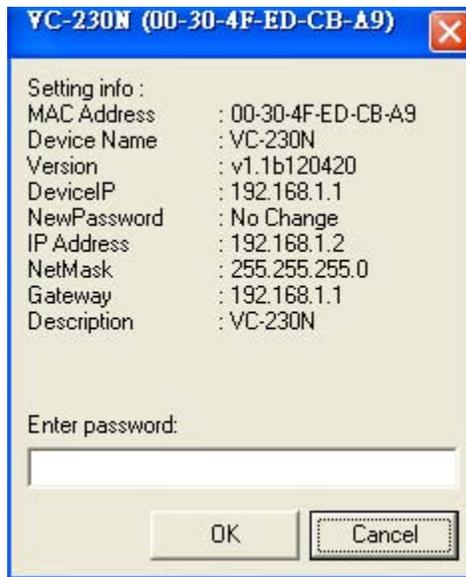
In case you want to change the IP-related parameters of wired interface, please select the Internet Camera you want to configure. Related settings will be carried out as shown below.



	MAC Address	Device Name	Version	DeviceIP	NewPassword	IP Address	NetMask	Gateway	Description
1	00-30-4F-ED-CB-A9	VC-230N	v1.1b120420	192.168.1.1		192.168.1.1	255.255.255.0	192.168.1.1	VC-230N
2	00-30-4F-63-54-5C	GSW-2404SF	Ver2.0b080103b	10.1.1.232		10.1.1.232	255.255.254.0	10.1.1.254	GSW-2404SF
3	00-30-4F-80-43-00	FSD-804PS	v3.01b080725	192.168.0.102		192.168.0.102	255.255.255.0	192.168.0.254	FSD-804PS
4	00-30-4F-00-00-00	ATA-150	v1.2b130122	192.168.1.190		192.168.1.190	255.255.255.0	192.168.1.254	ATA-150
5	00-30-4F-ED-CB-A9	VC-230N	v1.1b120420	192.168.1.1		192.168.1.1	255.255.255.0	192.168.1.1	VC-230N
6	00-30-4F-63-54-5C	GSW-2404SF	Ver2.0b080103b	10.1.1.232		10.1.1.232	255.255.254.0	10.1.1.254	GSW-2404SF

Update Device

Device : GSW-2404SF (00-30-4F-63-54-5C) Get Device Information done.



You can move your mouse to IP Address, NetMask and Gateway column to change parameters and then just click **“Update Device”** button. Enter password to complete network configuration settings.

Chapter 3. Web-based Management

This chapter provides setup details of the Internet Camera's Web-based Interface.

3.1. Introduction

The Internet Camera can be configured with your Web Browser. Before configuring, please make sure your PC is under the same IP segment with Internet Camera.

3.2. Connecting to Internet Camera

- A. Use the following procedure to establish a connection from your PC to the Internet Camera.
- B. Once connected, you can add the camera to your Browser's Favorites or Bookmarks.

Start the web browser on the computer and type the IP address of the camera.
The Default IP: "<http://192.168.0.20>"



The login window of Internet Camera will appear,
Default login **username/password** is: **admin / admin**



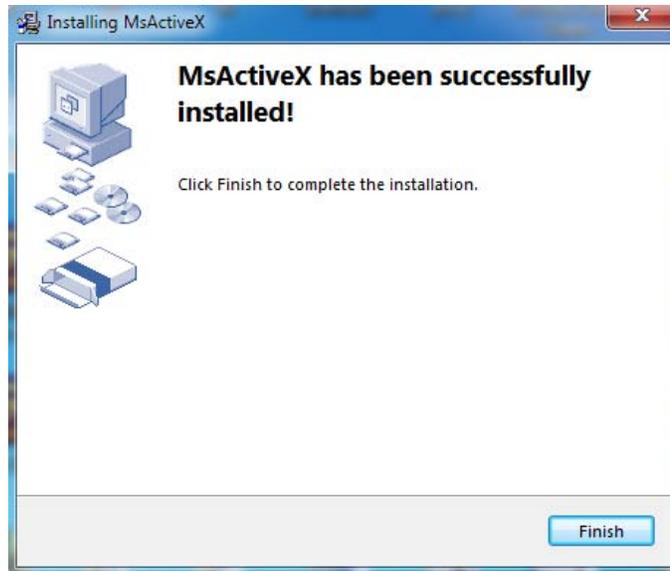
After it is logged on, you should see the following message in the middle of the screen:

Click here to download and install controls manually. Please refresh the page after install. If you still don't see the video, please add trusted sites.

Click on the message, and click **Save As**.



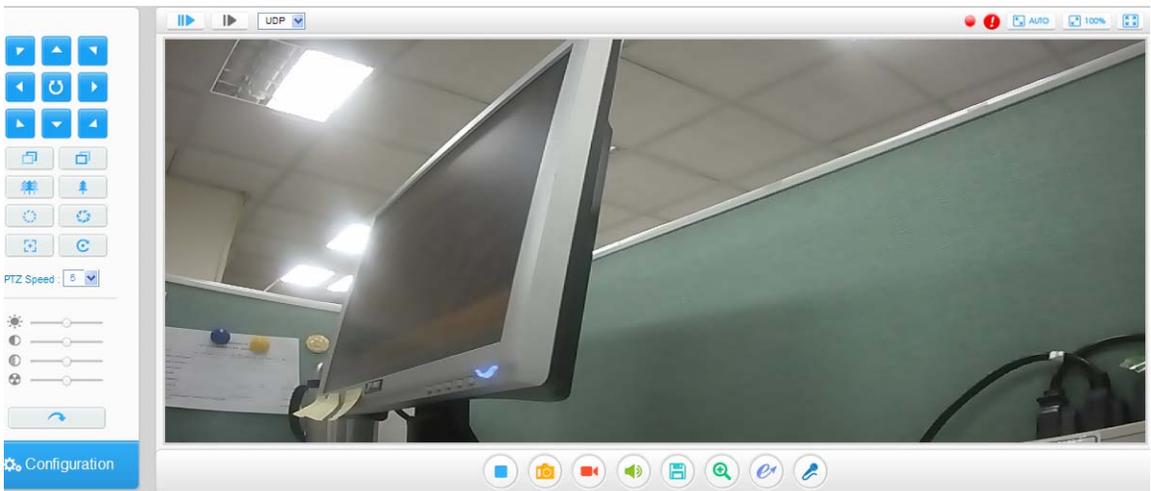
When MsActiveX.exe is saved on desktop, please click the program to install.



After refreshing the Web page, the first image will be displayed. You should be able to see the images captured from the Internet Camera on the web page now. For advanced functions, please refer to instructions given in the following chapter.

 Note	<p>If you log in the camera as an ordinary user, setting function will not be available. If you log in the camera as the administrator, you can perform all the settings provided within the device.</p>
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3.3 Live View



Parameter	Description
 <p>PTZ Control</p>	Navigation key is used to control the direction. The rotation key is used for auto-rotation.
 <p>Focus</p>	Adjust focus of the lens
 <p>Zoom</p>	Adjust the focal length of the lens
 <p>Iris</p>	Adjust the size of iris
 <p>PTZ Speed</p>	Auxiliary Focus and Lens Initialization PTZ rotation speed control (1~10)
 <p>Brightness</p>	A brighter scene appears if a higher level of brightness is chosen.
 <p>Contrast</p>	The difference in color and light between parts of an image
 <p>Saturation</p>	A vivid scene appears if a higher level of saturation is chosen.
 <p>Sharpness</p>	Large value will sharpen camera.
 <p>Default Setting</p>	Restore brightness, contrast, saturation and sharpness to default settings
 <p>Configuration</p>	Click to access the configuration page



Start Talking

The icon does not show until Audio function is enabled.



ePTZ

The icon does not show up until the resolution of primary streaming is configured to 720P; able to use PTZ to move the position (only support under 720P).



Digital Zoom

When enabled, you can zoom in on a specific area of video image with your mouse wheel.



Saving Option

Set the saving path of PC for capturing and recording



Mute

Enable Audio Input/output. It can also be set on Audio configuration page.



Recording

Click to start recording video and save to the configured path. Default path is C: VMS\+-1\MS_Record. Click again to stop recording



Snapshot

Click to capture the current image and save to the configured path. Default path is C:VMS\+-1\ IMAGE-MANUAL

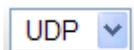


Stop

Switch off the current video stream on the screen



Choose the Stream (primary or secondary) to show on the current video window



TCP or UDP protocol selection



Recording

When an alarm occurs, the camera starts recording if "Save Into SD Card" of alarm action is enabled



Alarm

When an alarm occurs, the icon will show up

 **Window Size** Click to display images in a window size

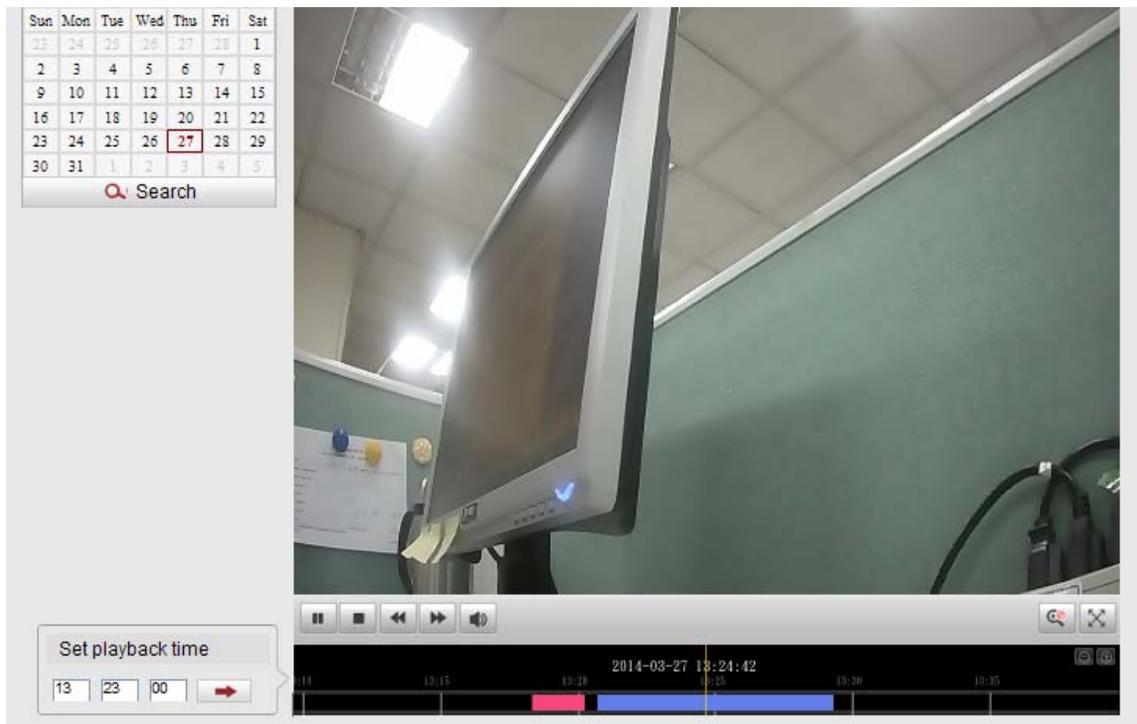
 **Real Size** Click to display images in a real size

 **Full Screen** Click to display images in a full-screen

 **Note** PTZ control and related functions (Focus, Zoom...) are for PTZ camera series only.

3.4 Playback

Playback only displays videos on SD card. There are two types of videos stored in SD card: event trigger and schedule recording. The videos recorded manually on local PC are not included.



Parameter	Description
Calendar Search	Search video by calendar. The “Do not have file” message will show up if the date doesn’t have any video file.

Set Playback Time Search video files of the period



Control Button

The buttons include pause, playback (stop), backward, forward, and mute.



Digital Zoom

Digital Zoom for specific zoom



Full Screen

Click to display images in a full-screen. Click right button of mouse, select full screen and disable it, then it will display images in a normal size



Time Scale

Increase or decrease time scale



Video Type

Red: Videos of motion alarm triggered

Blue: Videos of schedule recording

3.5 Basic Settings

3.5.1 Video

OSD (On Screen Display) content and video time can be displayed to enrich the video information. Stream parameters can also be set on this page to adapt to different network environments and demands.

On Screen Display(OSD)

Show Video Title:	<input type="checkbox"/>
Video Title:	<input type="text" value="text1"/>
Text Position:	<input type="text" value="Top-Left"/>
Show Timestamp:	<input type="checkbox"/>
Date Position:	<input type="text" value="Top-Right"/>
Date Format:	<input type="text" value="DD/MM/YYYY"/>

Parameter	Description
Show Video Title	Check the checkbox to show video title
Video Title	OSD content customized
Text Position	OSD display position on the image
Show Timestamp	Check the checkbox to display date on the image

Date Position	Date display position on the image
----------------------	------------------------------------

Date Format The format of date

Video Settings

Primary Stream Settings

Video Codec: H.264

Frame Size: 720P(1280*720)

Maximum Frame Rate: 25 fps

Bit Rate: 4096 kbps

Bit Rate Control: VBR

Profile: High

I-frame Interval: 20 Frame(1-30)

EPTZ:

Secondary Stream Settings

Enable:

Video Codec: H.264

Frame Size: 320*192

Maximum Frame Rate: 25 fps

Bit Rate: 512 kbps

Bit Rate Control: VBR

Profile: Base

I-frame Interval: 20 Frame(1-30)

Primary Stream Settings

Parameter	Description
Video Codec	H.264/MPEG-4/MJPEG available (Main stream only supports H.264)
Frame Size	Options include 5M(2560 × 1920), 3M(2048 × 1536), 1080P(1920 × 1080), 2M(1600 × 1200), 1.3M(1280 × 960), 720P(1280 × 720), D1 (704 × 576)
Maximum Frame Rate	Maximum refresh frame rate of per second
Bit Rate	Transmitting bits of data per second
Bit Rate Control	CBR: Constant Bitrate. The rate at which a codec's output data should be consumed is constant. VBR: Variable Bitrate. VBR files vary the amount of output data per

	time segment
Profile	High / Main / Base selection
I-frame Interval	Set the I-frame interval to 1~30
EPTZ	EPTZ is simply “electronic pan-tilt-zoom”. The function is supported in 720P only.

Secondary Stream Settings

Parameter	Description
Video Codec	H.264/MPEG-4/MJPEG available
Frame Size	The optional resolutions of the secondary stream depend on the Codec of the primary stream and the secondary stream
Maximum Frame Rate	Maximum refresh frame rate of per second
Bit Rate	Transmitting bits of data per second
Bit Rate Control	CBR: Constant Bitrate. The rate at which a codec's output data should be consumed is constant. VBR: Variable Bitrate. VBR files vary the amount of output data per time segment
Profile	High / Main / Base selection
I-frame Interval	Set the I-frame interval to 1~30



Note

If you log in the camera as an ordinary user, setting function will be not available. If you log in the camera as the administrator, you can perform all the settings provided within the device.

When the configuration is finished, please click “**Save**” to save and enable the setting.

3.5.2 Image

General Settings

Exposure Region:	Full View <input type="button" value="v"/>
Outdoor/Indoor Mode:	Indoor <input type="button" value="v"/>
Power Line Frequency:	60HZ <input type="button" value="v"/>
IR Light sensor sensitivity:	MEDIUM <input type="button" value="v"/>
Day/Night Mode:	Auto Mode <input type="button" value="v"/> <input type="button" value="Profile"/>

Day/Night Mode

Day/Night Mode	Exposure Level	Maximum Exposure Time	IR-CUT Interval	IR-CUT	IR LED	Color Mode
Night Mode:	5	1/30	10	Off	On	B/W
Day Mode:	5	1/30	10	On	Off	Color

Schedule Mode

Timer	Exposure Level	Maximum Exposure Time	IR-CUT Interval	IR-CUT	IR LED	Color Mode
<input type="checkbox"/> 00:00 - 00:00	5	1/30	10	Off	Off	B/W
<input type="checkbox"/> 00:00 - 00:00	5	1/30	10	Off	Off	B/W
<input type="checkbox"/> 00:00 - 00:00	5	1/30	10	Off	Off	B/W
<input type="checkbox"/> 00:00 - 00:00	5	1/30	10	Off	Off	B/W
<input type="checkbox"/> 00:00 - 00:00	5	1/30	10	Off	Off	B/W

Save Reset Close

Advanced Settings

Video Orientation: Normal

Noise Reduction:

Spatial Reduction: Off

Temporal Reduction: Off

Parameter	Description
Exposure Region	<p>Full View, Custom, and BLC are selectable</p> <p>Full view: Calculate the full range of view and offer appropriate light compensation.</p> <p>Custom: This option enables you to add customized windows as inclusive or exclusive regions manually.</p> <p>BLC (Back Light Compensation): This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation.</p>
Outdoor/Indoor Mode	Select indoor or outdoor mode according to your needs
Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode
IR Light Sensor Sensitivity	Low / Medium / High, the default setting is Medium
Day/Night Mode	Select Day/Night/Auto/Customize mode. Day and night will auto switch under auto mode.
Profile	Set Day/Night Mode, here you can do different settings under each mode.

Exposure Level	Set the exposure level to 0~10
Maximum Exposure Time	Set the maximum exposure time to 1/5~1/100000
IR-cut Interval	IR-cut switch time between each mode
IR-cut	Choose to turn on or turn off under the mode
IR-LED	On / Off switch
Color Mode	Here you can choose B/W or color mode under Day/Night mode.
Schedule Mode	Here you can customize your special demands for different time, then the Day mode and Night mode will switch according to your settings.
Video Orientation	<p>Normal: Remain the image in normal direction</p> <p>Flip Horizontal: Flip the image horizontally</p> <p>Flip Vertical: Flip the image vertically</p> <p>Rotating 180°: The image is presented upside down</p>
Spatial Reduction	Enable/disable spatial reduction
Temporal Reduction	Enable/disable temporal reduction

3.5.3 Audio

Audio

Enable Audio:

Audio Input:

Input Gain:

Alarm Level:

[Save](#)

Parameter	Description
Enable Audio	Check the checkbox to enable audio feature.
Input Gain	Input audio gain level
Alarm Level	Alarm will be triggered if voice alarm is enabled and input gained volume is higher than the alarm level.

3.5.4 Network

IP Address Configuration

Get IP address automatically
 Use fixed IP address:

IP Address:
 Subnet Mask:
 Default Router:
 Primary DNS:

Other Settings

HTTP Enable:
 HTTP Port:
 HTTPS Enable:
 HTTPS Port:
 RTSP Port:
 Multicast Group Address:
 RTP Size:
 ONVIF RTSP Custom:
 FTP Port:

[Save](#)

Parameter	Description
Obtain an IP address automatically (DHCP)	<p>Enable this checked box when a DHCP server is installed on the network to issue IP address assignment. With this setting, the IP address is assigned automatically. If this device cannot get an IP address within limited tries, the device will assign a default IP address for 192.168.0.20</p> <p>If you do not select “Obtain an IP address automatically”, then you need to enter these network parameters by yourself.</p>
IP Address	<p>This address is a unique number that identifies a computer or device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200.</p>
Subnet Mask	<p>Subnets allow network traffic between hosts to be separated based on the network's configuration. In IP networking, traffic takes the form of packets. IP subnets advance network security and performance to some level by organizing hosts into logical groups. Subnet masks</p>

	contain four bytes and usually appear in the same "dotted decimal" data. For example, a very common subnet mask in its binary demonstration 11111111 11111111 11111111 00000000 will usually be shown in the corresponding, more readable form as 255.255.255.0.
Default Router	A gateway is a piece of software or hardware that passes information between networks. You'll see this term most often when you either log in to an Internet site or when you're transient email between different servers.
Primary DDNS	When you send email or position a browser to an Internet domain such as xxxxx.com, the domain name system translates the names into IP addresses. The term refers to two things: the conventions for naming hosts and the way the names are controlled across the Internet.
HTTP Port	Web GUI log on port
HTTPS Port	The port of communications protocol for secure communication over a computer network. The default port setting is 443.
RTSP Port	Port to connect Network Camera via RTSP protocol
Multicast Group Address	Support multicast
RTP Size	RTP is designed for end-to-end, real time, transfer of stream data. The default RTP size is 8000
ONVIF RTSP Custom	If you want to remote access the camera via ONVIF, you need to enter your public IP here.
FTP Port	The default port setting is 21.

3.5.5 Date and Time

Current System Time

Date:

Time:

Set the System Time

Time Zone:

Daylight Saving Time:

Synchronize with computer time

Date:

Time:

NTP server

Manual

Parameter	Description
Time Zone	Choose a time zone for your location; the default time zone is 'United States-Central Time'.
Daylight Saving Time	Enable the daylight saving time.
Synchronize with Computer Time	Synchronize the time with your computer.
NTP Server	Synchronize the time with configured SNTP server and selected time zone; the default NTP Server is 'pool.ntp.org'.
Manual	Set the system time Manually.

3.6 Advanced Settings

3.6.1 SIP

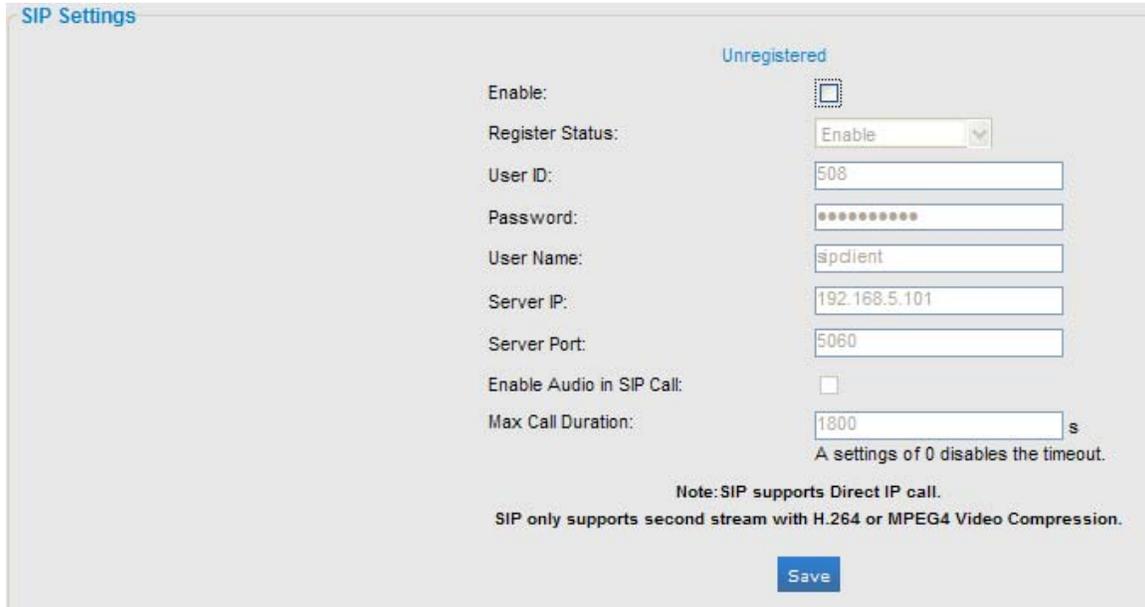
The Session Initiation Protocol (SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks.

This page allows user to configure SIP related parameters.

PLANET cameras can be configured as SIP endpoint to call out when alarm is triggered, or allow permitted number to call in to check the video if the video IP phone is used.

To use this function, the settings on SIP page must be configured properly.

1. Before using the SIP, you need to register an account for the camera from the SIP server;
2. Register another user account for the SIP device from the same SIP server;
3. Call the camera User ID from the SIP device; you will get the video on the SIP device.



Parameter	Description
Unregistered	SIP registration status. Display “Unregistered” or “Registered”
Enable	Start or stop using SIP
Register Status	Choose to use Enable mode or Disable mode. Enable mode means to use with a registered account. Disable mode refers to SIP without a registered account; just use the IP address to call.
User ID	SIP username, or telephone number from ITSP
Password	SIP account password
User Name	SIP account name
Server IP	FQDN or IP of SIP server from VoIP service provider.(IPPBX)
Server Port	The default server port is 5060
Enable Audio in SIP Call	Start or stop using Audio

Max. Call Duration The max. call duration when SIP is used.



(1) SIP supports Direct IP call.

(2) SIP only supports second stream with H.264 or MPEG4 video compression.

Alarm Phone List

Phone Type: Phone Number

Phone Number:

Remark Name:

Duration: From : To :

White List

Phone Type: Phone Number

Phone Number:

Enable White List Number Filter:

Parameter	Description
Phone Type	Phone Number (Call by phone number) & Direct IP Call (Check to accept peer to peer IP call)
Phone Number	Call by phone number or IP address
Remark Name	Display name
Duration	The time schedule to use SIP
Enable White List Number Filter	Including the phone number or IP address on the white list



In alarm phone list, the port column (refer to server port, eg. 5060) must be input when Direct IP Call of phone type is chosen. Otherwise, the video stream can't be displayed in video SIP phone.

3.6.2 UPnP

UPnP

Enable:

Name:

Type:

Protocol Name	External Port	Internal Port	Status
HTTP	<input type="text" value="21202"/>	<input type="text" value="80"/>	Invalid
RTSP	<input type="text" value="23202"/>	<input type="text" value="554"/>	Invalid

Parameter	Description
Enable	Start or stop using UPnP
Name	Display name
Type	Auto / Manual selection

3.6.3 DDNS

DDNS allows you to access the camera via domain names instead of IP address. It manages to change IP address and update your domain information dynamically.

DDNS

DDNS is not running

Enable DDNS:

Provider:

Easy DDNS:

User Name:

Password:

Easy Domain Name:

Parameter	Description
Enable DDNS	Start or stop using DDNS
Provider	Supports DDNS from now dyndns.org, freedns.afraid.org, www.no-ip.com, www.zoneedit.com and planetddns.com. The default provider is planetddns.com. User is able to go to www.planetddns.com to apply a login account, password and register a host name.
Enable Easy DDNS	Easy Domain Name will be created automatically by referring to device MAC address when Easy DDNS is enabled. With this function user is not necessary to register a host name in PLANET DDNS

	manually in advance
User Name	The user name is used to log into DDNS
Password	The password is used to log into DDNS
Easy Domain Name	The domain name is applied for this device

3.6.4 SMTP

You may set up SMTP mail parameters for further operation of Event Schedule. That is, if users want to send the alarm message out, it will need to configure parameters here and also add at least one event schedule to enable event triggering.

SMTP Settings

User Name:	<input type="text" value="hdipnc"/>
Sender Email Address:	<input type="text" value="hdipnc@sina.com"/>
Password:	<input type="password" value="••••••••"/>
Server Address:	<input type="text" value="smtp.sina.com"/>
Server Port:	<input type="text" value="25"/>
Recipient Email Address:	<input type="text" value="user@domain.com"/>

Parameter	Description
User Name	Type the user name for the SMTP server if Authentication is enabled.
Sender Email Address	Type the sender's E-mail address. This address is used for reply e-mails.
Password	Type the password for the SMTP server if Authentication is enabled.
Server Address	Type the SMTP server name or the IP address of the SMTP server
Server Port	Set port number of SMTP service
Recipient Email Address	Type the receiver's e-mail address
Test	Send a test mail to mail server to check whether this account is available or not.

3.6.5 FTP

You may set up FTP parameters for further operation of Event Schedule. That is, if users

want to send the alarm message to an FTP server, it will need to configure parameters here and also add at least one event schedule to enable event triggering as SMTP.

FTP Settings

Server Address:

Server Port:

User Name:

Password:

FTP Folder Name:

[Save](#) [Test](#)

Parameter	Description
Server Address	Type the server name or the IP address of the FTP server
Server Port	Set port number of FTP service
User Name	Type the user name for the FTP server
Password	Type the password for the FTP server
FTP Folder Name	Set working directory path of FTP server, eg. VOLUME2/PLANET
Test	Check the FTP server whether this account is available or not

3.6.6 Alarm

Alarm Event

Enable Alarm:

Trigger Type: Motion Detection [Set Motion Region](#) [Schedule Settings](#)

Network Lost

Audio Alarm

Tampering Alarm

Trigger Duration:

Parameter	Description
Enable Alarm	Start or stop using Alarm
Motion Detection	Trigger alarm when any movement is detected in motion detection monitored area. The image is divided into 4 x 3 areas, and you can select your preferred areas. Set Motion Region and Schedule Settings will enable when the Motion Detection is checked. The provided sensitivity levels of Motion Settings are low, medium and

high. The motion alarm will not be triggered if the Motion Detection Time Schedule is not enabled and worked with Set Motion Region together.

Network Lost	Trigger alarm when the network connection is down or network cable is tampered
Audio Alarm	Trigger alarm when the input gained volume is higher than alarm level. (Audio Input must be enabled in advance)
Tampering Alarm	Trigger alarm when the cover of case is tampered
Trigger Duration	Length of time an alarm lasts

Motion Settings



Select All Clear All

(Please click the screen for setting!)

Sensitivity: MEDIUM

Save Close

Motion Detection Time Schedule

<input checked="" type="checkbox"/>	Period1	Period2	Period3	
<input checked="" type="checkbox"/> Sunday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Monday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Tuesday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Wednesday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Thursday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Friday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days
<input checked="" type="checkbox"/> Saturday	00:00-24:00	00:00-00:00	00:00-00:00	Copy to Other Days

Save Clear

Alarm Action

Upload Via FTP: File Format: AVI

Upload Via SMTP: File Format: AVI

Save Into SD Card: File Format: AVI
(Please insert SD card.)

Play Buzzer:

Voice Alarm to SIP Phone:
(Please open the SIP.)

Alarm Setting

Record Video Sections: 5 seconds

Snapshot Stream: Primary Stream

Snapshot: 1 (1-5)

Save

Parameter	Description
Upload Via FTP	Upload alarm recording files to the configured FTP server
Upload Via SMTP	Upload alarm recording files to SMTP with the configured format
Save into SD Card	Save alarm recording files into the SD card inserted
Play Buzzer	Play specific audio file when an alarm is triggered
Voice Alarm to SIP Phone	Choose to call the sip phone when alarm is triggered
Record Video Sections	Recording time when alarm is triggered
Snapshot Stream	Choose primary stream or secondary stream to snapshot
Snapshot	Number of snapshot

3.6.7 Privacy Mask

Privacy Masking is used to protect personal privacy by concealing parts of the image from view with a masked area. Examples of this use would be masking windows of domestic properties or car number plates which are not subject to surveillance.

After enabling the privacy masking, you can select a region No.1-4 and type of mask. Then draw a square covering your sensitive area by mouse. Click 'set' will bring the masking into effect. Click 'Clean' to cancel a specific privacy masking area.

Privacy Mask



Enable:

Region: 1 Set Clean

Type: White

Save

3.6.8 SD Card

Files will be seen on this page when they are configured to save onto SD card. You can configure time schedules of video recording every day and save video files to SD card.



Files are visible once SD card is inserted. Don't insert or plug out SD card when powered on.

Record Settings

Enable cyclic storage

Schedules Expires In weeks Infinite Loop

File Format: AVI Record Frame Type: All

Snapshot Stream: Primary Stream Snapshot: (1-5)

Save Clear

SD Card Explorer

Total Size: Free Size: Used Size: Format UnMount

From: : : To: : :

Parameter	Description
Enable Cyclic Storage	When the function is enabled, it will record data circularly.
Schedules Expires	Set expire time of video files.
Infinite Loop	Video files will not expire. Old ones will be deleted when there is not enough space.
File Format	AVI / JPG/ All
Record Frame	All / Key

Type	
Snapshot Stream	Choose primary stream or secondary stream to snapshot
Snapshot	Number of snapshot
Format	Format the SD card
Unmount	Unmount the SD card. Once unmounted, the files will not be listed.

3.6.9 PTZ

PTZ Settings

Protocol: Pelco-D Pelco-P

Baudrate:

[Save](#)

Parameter	Description
Protocol	Select the PTZ protocol your camera supports
Baud Rate	Select the baud rate from the drop down menu. Baud rate is the number of distinct symbol changes (signaling events) made to the transmission medium per second in a digitally modulated signal or a line code.

3.6.10 User

Three privilege levels are available, including admin, operator and viewer. Up to 10 users can be added to this system. It is also able to log on the web with anonymous viewing, no need to enter the username and password.

Manage privilege

Allow anonymous viewing:

Save

Account Management

User Name:

User Password:

Confirm User Password:

Privilege: Administrator Operator Viewer

(You can only add 10 users)

Save **Clear**

User Name	Privilege	Edit	Delete
admin	Administrator		
operator	Operator		
viewer	Viewer		

Parameter	Description
Administrator	An administrator can manage all configuration pages of the device, including change of user password, add or delete users (the default user 'admin' cannot be deleted).
Operator	An operator can manage all configuration pages except the user page.
Viewer	A viewer can't change any settings.

3.6.11 Access List

General settings

Maximum number of concurrent streaming:

Filter

IPv4 access list

IP Address	Delete
Rule: <input type="text" value="Single"/> IP address: <input type="text"/> Add	

Enable access list filtering:

Filter type: Allow Deny

Save

Parameter	Description
Maximum Number of Concurrent Streaming	Select the maximum number of concurrent streaming. Options include No Limit, 1, 2, 3, 4, 5.
Rule	Single / Network / Range types
IP Address	The input format of IP address relays on Rule selection.
Enable Access List Filtering	Able to access or restrict access for some IP addresses
Filter Type	Access or restrict access

3.6.12 Logs

The logs contain the information about the time and IP that have accessed the camera through web.

Logs
2014-03-26 00:01:33 [ALARM]:Motion Alarm,
2014-03-26 00:04:27 [ALARM]:Motion Alarm,
2014-03-26 00:05:13 [ALARM]:Motion Alarm,
2014-03-26 00:06:26 [ALARM]:Motion Alarm,
2014-03-26 00:07:02 [ALARM]:Motion Alarm,
2014-03-26 00:07:33 [ALARM]:Motion Alarm,
2014-03-26 00:10:35 [ALARM]:Motion Alarm,
2014-03-26 00:10:35 [ALARM]:Motion Alarm,
2014-03-26 00:13:46 [ALARM]:Motion Alarm,
2014-03-26 00:14:51 [ALARM]:Motion Alarm,
2014-03-26 00:16:09 [ALARM]:Motion Alarm,
2014-03-26 00:18:38 [RTSP]:stop one session,IP=192.168.2.95
2014-03-26 00:18:56 [RTSP]:start one session,IP=192.168.2.95
2014-03-26 00:19:04 [ALARM]:Motion Alarm,
2014-03-26 00:22:40 [ALARM]:Motion Alarm,
2014-03-26 00:24:37 [RTSP]:stop one session,IP=192.168.2.95
2014-03-26 00:30:04 [ALARM]:Motion Alarm,
2014-03-26 00:31:03 [ALARM]:Motion Alarm,
2014-03-26 00:34:41 [ALARM]:Motion Alarm,
2014-03-26 00:35:11 [ALARM]:Motion Alarm,
2014-03-26 00:35:56 [ALARM]:Motion Alarm,

3.7 System

All information about the hardware and software of the camera can be checked on this page.

System

Device Name:	<input type="text" value="IPCAM"/>
Product Model:	ICA-4230S
Hardware Version:	V1.2
Software Version:	21.4.12.70
Kernel Version:	2.2.0.5
MAC Address:	00:30:4F:02:02:EF
System Up Time Since:	1 days 9 minutes

3.8 Maintenance

The software can be upgraded by the following steps

1. Browse and select the upgrading file.
2. Click the 'update' button after it prompts upload file successfully. After the system reboots successfully, the update is done.



Note Do not disconnect the power of the device during the update. The device will be restarted to complete the upgrading.

Upgrade Firmware

Hardware Version:	V1.2
Software Version:	21.4.12.70
Kernel Version:	2.2.0.5
Firmware File:	<input type="text"/> <input type="button" value="Browse..."/>

Note: Do not disconnect the power of the device during the upgrade. The device will be restored after the upgrading.

Maintenance

Reboot the device:	<input type="button" value="Reboot"/>
Reset settings, except IP address, to factory default:	<input type="button" value="Restore"/>
Export configuration file:	<input type="button" value="Export"/>
Configuration file:	<input type="text"/> <input type="button" value="Browse..."/>

Parameter	Description
Firmware File	Select the firmware used to upgrade
Reboot	Click 'Reboot' button to restart the device immediately
Restore	Click 'Restore' button to restore the camera to factory default settings
Export	Click this button to export the configuration file
Upload	Click this button to import the old configuration file

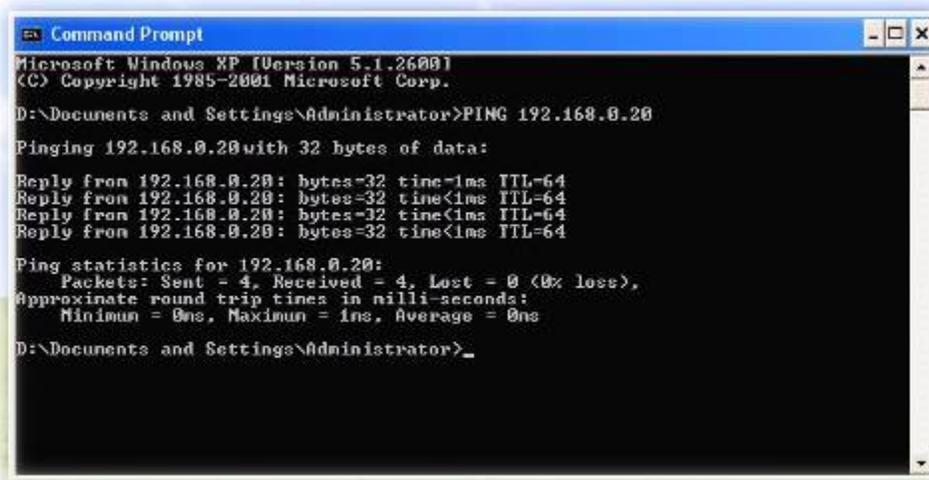
Appendix A: PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It's also a very useful tool to confirm Internet Camera installed or if the IP address conflicts with any other device over the network.

If you want to make sure the IP address of Internet Camera, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the Internet Camera.

The replies, as illustrated below, will provide an explanation to the problem.



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

D:\Documents and Settings\Administrator>PING 192.168.0.20

Pinging 192.168.0.20 with 32 bytes of data:

Reply from 192.168.0.20: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.0.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

D:\Documents and Settings\Administrator>_
```

If you want to detect any other device which conflicts with the IP address of Internet Camera, you also can utilize the PING command but you must disconnect the Internet Camera from the network first.

Appendix B: Bandwidth and Video Size Estimation

The frame rate of video transmitted from the Internet Camera depends on connection bandwidth between client and server, video resolution, codec type, and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements for your Internet Camera.

The required bandwidth depends on content of video source. The slow motion video will produce smaller bit rate generally and fast motion will produce higher bit rate and vice versa. Actual results generated by the Internet Camera may be varying.

Image Resolution	Average range of data sizes for JPEG mode	Average bit rate for MPEG4 mode	Average bit rate for H.264 mode
320 x 240	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480	20 ~ 50K byte per frame	512kbps~3072kbps @ 30fps	384kbps~1536kbps @ 30fps
1920 x 1080	200 ~ 500k byte per frame	-	1536kbps~10000kbps @ 30fps
2048 x 1536	300 ~ 750k byte per frame	-	2048kbps~12000kbps @ 30fps



Audio streaming also takes bandwidth around 32kbps. Some xDSL/Cable modem upload speeds could not even reach up to 128 kbps. Thus, you may not be able to receive good quality video while also streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

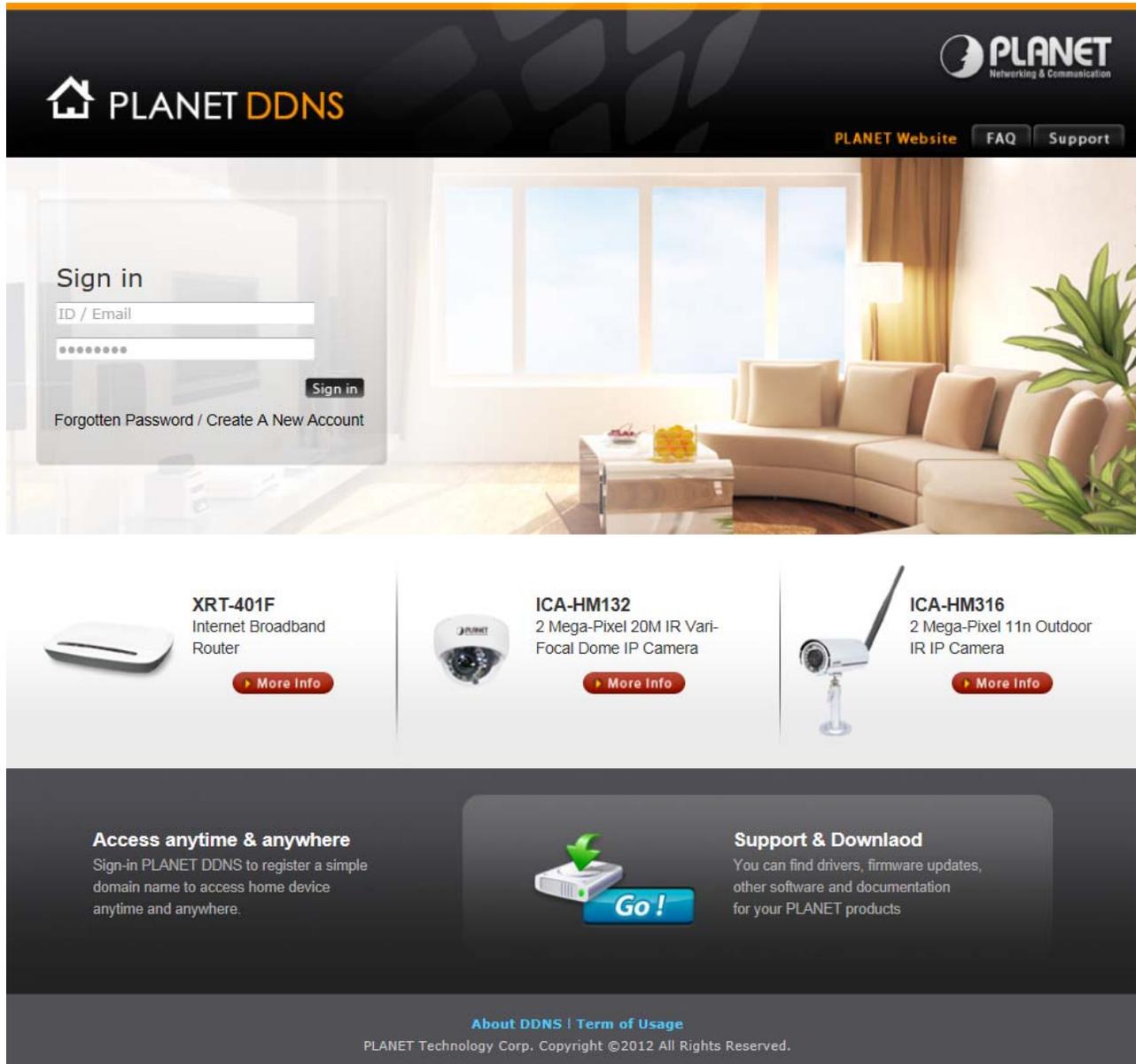
Appendix C: DDNS Application

1. Configuring PLANET DDNS steps:

Step 1: Enable DDNS option through accessing web page of NAS

Step 2: Select DDNS server and register an account if you have not used yet.

Let's take dyndns.org as an example. Register an account in <http://planetddns.com>



PLANET DDNS

PLANET Website FAQ Support

Sign in

ID / Email

.....

Sign in

Forgotten Password / Create A New Account

XRT-401F
Internet Broadband Router
[More Info](#)

ICA-HM132
2 Mega-Pixel 20M IR Vari-Focal Dome IP Camera
[More Info](#)

ICA-HM316
2 Mega-Pixel 11m Outdoor IR IP Camera
[More Info](#)

Access anytime & anywhere
Sign-in PLANET DDNS to register a simple domain name to access home device anytime and anywhere.

Support & Download
You can find drivers, firmware updates, other software and documentation for your PLANET products

[About DDNS](#) | [Term of Usage](#)

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Appendix D: Configuring Port Forwarding Manually

The device can be used with a router. If the device wants to be accessed from the WAN, its IP address needs to be set up as fixed IP address, also the port forwarding or Virtual Server function of router needs to be set up. This device supports UPnP traversal function. Therefore, user could use this feature to configure port forwarding of NAT router first. However, if user needs to configure port forwarding manually, please follow the steps as shown below:

Manually installing the device with a router on your network is an easy 3–step procedure as follows:

1. Assign a local/fixed IP address to your device
2. Access the Router with your Web browser
3. Open/Configure Virtual Server Ports of your Router

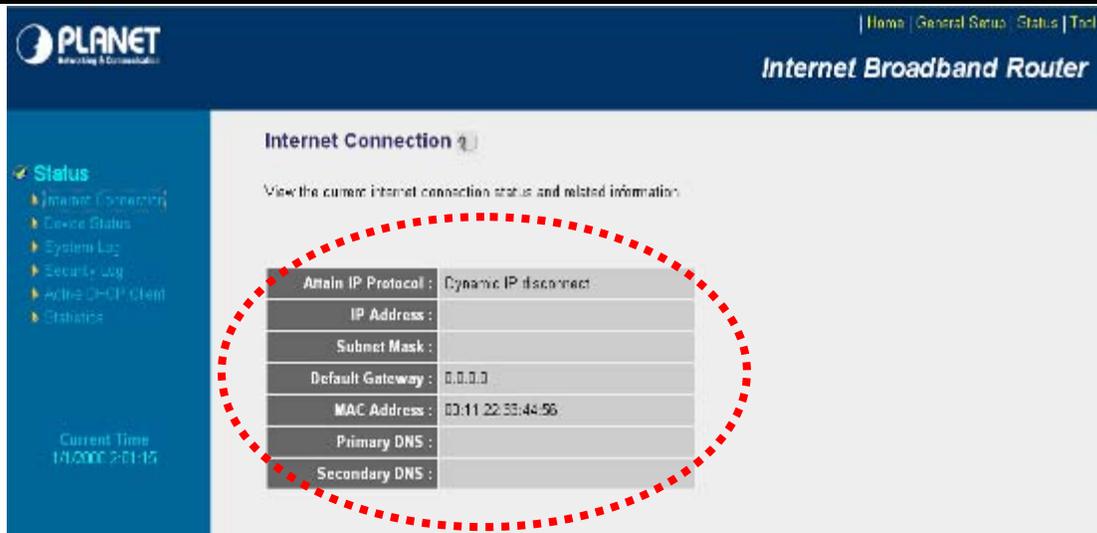
1. Assign a local/fixed IP address to your device

The device must be assigned a local and fixed IP Address that allows it to be recognized by the router. Manually set up the device with a fixed IP address, for example, *192.168.0.100*.

2. Access the Router with Your Web browser

The following steps generally apply to any router that you have on your network. The PLANET WNRT-620 is used as an example to clarify the configuration process. Configure the initial settings of the router by following the steps outlined in the router's **Quick Installation Guide**.

If you have cable or DSL service, you will most likely have a dynamically assigned WAN IP Address. 'Dynamic' means that your router's WAN IP address can change from time to time depending on your ISP. A dynamic WAN IP Address identifies your router on the public network and allows it to access the Internet. To find out what your router's WAN IP Address is, go to the **Status** screen on your router and locate the WAN information for your router. As shown on the following page the WAN IP Address will be listed. This will be the address that you will need to type in your web browser to view your camera over the Internet. Be sure to uncheck the **Reset IP address at next boot** button at the top of the screen after modifying the IP address. Failure to do so will reset the IP address when you restart your computer.



Your WAN IP Address will be listed here.

3. Open/set Virtual Server Ports to enable remote image viewing

The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, these ports need to be made accessible over the Internet. This is accomplished using the **Virtual Server** function on the router. The Virtual Server ports used by the camera must be opened through the router for remote access to your camera.

Follow these steps to configure your router's Virtual Server settings

- Click **Enabled**.
- Enter a unique name for each entry.
- Select **Both** under **Protocol Type (TCP and UDP)**
- Enter your camera's local IP Address (**192.168.0.100**, for example) in the **Private IP** field.
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, click **Add**.

A check mark appearing before the entry name will indicate that the ports are enabled.



Note

Some ISPs block access to port 80. Be sure to check with your ISP so that you can open the appropriate ports accordingly. If your ISP does not pass traffic on port 80, you will need to change the port the camera uses from 80 to something else, such as 8080. Not all routers are the same, so refer to your user manual for specific instructions on how to open ports.

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PLANET Networking & Communication

Internet Broadband Router

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Virtual Server ?

You can configure the Broadband router as a Virtual Server so that remote users accessing services such as the Web or FTP at your local site via Public IP Addresses can be automatically redirected to local servers configured with Private IP Addresses. In other words, depending on the requested service (TCP/UDP) port number, the Broadband router redirects the external service request to the appropriate internal server (located at one of your LAN's Private IP Address).

Enable Virtual Server

Private IP	Private Port	Type	Public Port	WAN Port	Comment
<input type="text"/>	<input type="text"/>	Both <input type="text"/>	<input type="text"/>	WAN1 <input type="text"/>	<input type="text"/>

Current Virtual Server Table:

Private IP	Private Port	Type	Public Port	WAN Port	Comment	Select
192.168.0.100	80	TCP+UDP	80	WAN1	ICA-HM230	<input type="checkbox"/>

Enter valid ports in the **Virtual Server** section of your router. Please make sure to check the box on this line to enable settings. Then the device can be accessed from WAN by the router's WAN IP Address.

By now, you have finished your entire PC configuration for this device.

Appendix E: Power Line Frequency

COUNTRY	VOLTAGE	FREQUENCY	COMMENTS
Argentina	220V	50 Hz	*Neutral and line wires are reversed from that used in Australia and elsewhere.
Australia	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though <i>nominal</i> voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
Austria	230V	50 Hz	
Brazil	110/220V*	60 Hz	*127V found in states of Bahia, Paraná (including Curitiba), Rio de Janeiro, Paulo and Minas Gerais (though 220V may be found in some hotels). Other areas are 220V only, with the exception of Fortaleza (240V).
Canada	120V	60 Hz	
China	220V	50 Hz	
Finland	230V	50 Hz	
France	230V	50 Hz	
Germany	230V	50 Hz	
Hong Kong	220V*	50 Hz	
India	230V	50 Hz	
Italy	230V	50 Hz	
Japan	100V	50/60 Hz*	*Eastern Japan 50 Hz (Tokyo, Kawasaki, Sapporo, Yokohoma, and Sendai); Western Japan 60 Hz (Osaka, Kyoto, Nagoya, Hiroshima)
Malaysia	240V	50 Hz	
Netherlands	230V	50 Hz	
Portugal	230V	50 Hz	
Spain	230V	50 Hz	
Sweden	230V	50 Hz	
Switzerland	230V	50 Hz	
Taiwan	110V	60 Hz	
Thailand	220V	50 Hz	
United Kingdom	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though nominal voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
United States of America	120V	60 Hz	