



User's Manual

2 Mega-Pixel Outdoor IR IP Camera

► ICA-HM316 / ICA-HM316W



Copyright

Copyright © 2013 by PLANET Technology Corp. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of PLANET.

PLANET makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties, merchantability or fitness for any particular purpose. Any software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (and not PLANET, its distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software. Further, PLANET reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

All brand and product names mentioned in this manual are trademarks and/or registered trademarks of their respective holders.

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. (example-use only shielded interface cables 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 2Mega-Pixel Outdoor IR PoE / Wireless IP Camera
Model: ICA-HM316 / ICA-HM316W
Rev: 2.00 (January. 2013)
Part No. EM-ICAHM316 / ICA-HM316W

Table of Content

Chapter 1. Product Introduction	6
1.1 Package Contents	6
1.2 Product Description	6
1.3 Features	7
1.4 Product Specification.....	8
Chapter 2. Hardware Interface	10
2.1 Physical Description	10
2.1.1 Identification of ICA-HM316 cable	10
2.1.2 ICA-HM316 I/O Control Instruction.....	11
2.2 Hardware Installation	13
2.2.1 Physical Installation	13
Chapter 3. Initial Utility Installation.....	15
3.1 Search and Configure Network by PLANET IP Installer	15
3.2 Setup ActiveX to use the Internet Camera	20
3.2.1 Internet Explorer 6 for Windows XP	20
3.2.2 Internet Explorer 7 for Windows XP	21
3.2.3 Internet Explorer 7 for Windows Vista.....	22
3.3 Using UPnP of Windows XP or Vista.....	23
3.3.1 Windows XP	23
3.3.2 Windows Vista	28
Chapter 4. Installation Guide	31
4.1 System Requirements.....	31
4.2 Before You Begin	31
4.2.1 Connecting to Internet Camera	31
Chapter 5. Web Configuration for Live View	34
5.1 Live View	34
5.2 Configuration	37
Chapter 6. Camera configuration.....	38
6.1 System.....	38
6.1.1 System Information	38
6.1.2 User Management.....	40
6.1.3 System Update	41
6.2 Network	42
6.2.1 IP Setting	42
6.2.2 PPPoE.....	43
6.2.3 DDNS	43
6.2.4 Mail & FTP & SAMBA	47
6.2.5 Wireless Setting.....	47
6.3 A/V Setting	50
6.3.1 Image Setting	50
6.3.2 Video Setting.....	50
6.3.3 Audio.....	53
6.4 Event List	54
6.4.1 Event Setting.....	54
6.4.2 Schedule	55
6.4.3 I/O Setting.....	56
6.4.4 Log List.....	58
Appendix A: Factory Default.....	59

Appendix B: PING IP Address.....	60
Appendix C: 3GPP Access	61
Appendix D: Bandwidth and Video Size Estimation	62
Appendix E: Planet DDNS Application.....	63
Appendix F: Configure Port Forwarding Manually	64
Appendix G: Troubleshooting & Frequently Asked Questions	67

Chapter 1. Product Introduction

1.1 Package Contents

The package should contain the followings:

- IP Camera Unit x 1
- Power Adapter x 1
- Screw package x 1
- Stand x 1
- 5dbi Antenna x 1 (ICA-HM316W only)
- User's Manual CD-ROM x 1
- Quick Installation Guide x 1

NOTE: 1. *If any of the above items are missing, please contact your dealer immediately.*

2. *Using the power supply that is not the one included in Internet Camera packet will cause damage and void the warranty for this product.*

1.2 Product Description

Superb UXGA Quality with outdoor-ready for Professional Surveillance

The PLANET ICA-HM316 / ICA-HM316W Network Camera with IR Illuminator is a high resolution camera for round-the-clock surveillance over IP networks. This camera supports H.264, MPEG-4, and JPEG compression formats and delivers excellent picture quality in 2 Mega-Pixel resolutions at 15 frames per second (fps). The ICA-HM316W provides users High performance 802.11b/g/n connectivity and secured wireless transmission up to 150Mbps through the IEEE 802.11b/g/n wireless technology and WEP / WPA encryptions. The IP66-rated housing protects the camera body against rain and dust and ensures operation under extreme weather conditions, which makes it an ideal solution for outdoor applications, e.g. surveillance of buildings, roads, parking areas, garages, railway stations and airports.

Day & Night functionality

To adapt to constantly changing lighting conditions, the ICA-HM316 / ICA-HM316W come with a removable IR-cut filter and built-in IR illuminators, which enables the camera to provide color video when there is sufficient light, and black/white video in dark conditions. The camera is able to maintain clear images 24 hours a day.

Exceptional Image quality with Varifocal

With 3.6~16mm Varifocal lens, the ICA-HM316 / ICA-HM316W meet various demand of installations, for instance, traffic monitoring on two more lanes or focus on one specified lane. The result is that an extremely clear and exquisite picture quality.

Advanced event management

The ICA-HM316 / ICA-HM316W also supports a number of advanced features that give the camera increased flexibility and capabilities, including Auto-iris for improve the image quality to

avoid over exposure, AV out for perform the two-way audio function and inputs/outputs for connecting external devices such as door sensors and relays to activate light or close doors.

Flexible installation and Power functionality

The ICA-HM316 / ICA-HM316W incorporate Power over Ethernet supplies power to the camera via the network, eliminating the need for power cables and reducing installation costs. The ICA-HM316 is ONVIF-compliant and therefore interoperable with other manufacturer's products, it's also included 64-CH central management software; the ICA-HM316 / ICA-HM316W is indisputably the top choice for reliable and high performance surveillance.

1.3 Features

➤ **Camera**

- 1/3.2" 2MP progressive scan CMOS sensor
- 3.6~16 mm Vari-focal, DC Auto-iris Lens
- 0 lux Minimum Illumination at F1.2
- Maximum resolution 1600 x 1200
- Removable IR-cut Filter for Day & Night Function

➤ **Video / Audio**

- H.264 / MPEG-4 and M-JPEG video compression simultaneously
- Simultaneous multi-stream support
- Up to 30fps for 1280 x 720 and 15fps for 1600 x 1200 resolutions
- Two-way audio support with enhanced audio quality

➤ **Network and Configuration**

- Compliant with IEEE 802.3af PoE interface for flexible deployment (ICA-HM316 only)
- IEEE 802.11b/g/n wireless LAN with WEP and WPA encryption (ICA-HM316W only)
- Auto MDI/MDI-X supported
- RTSP / UPnP / 3GPP / HTTPS protocols selectable

➤ **Easy Installation & Management**

- Onvif compliant for interoperability
- Built-in 35 IR Illuminators, effective up to 25 Meters
- IP66 outdoor classifications for rigorous environment
- Built-in Samba client for NAS
- 3GPP for 3G mobile remote applications
- Digital Input/Outputs for integration with sensors and alarms
- Cam Viewer 3 Central management software supported

1.4 Product Specification

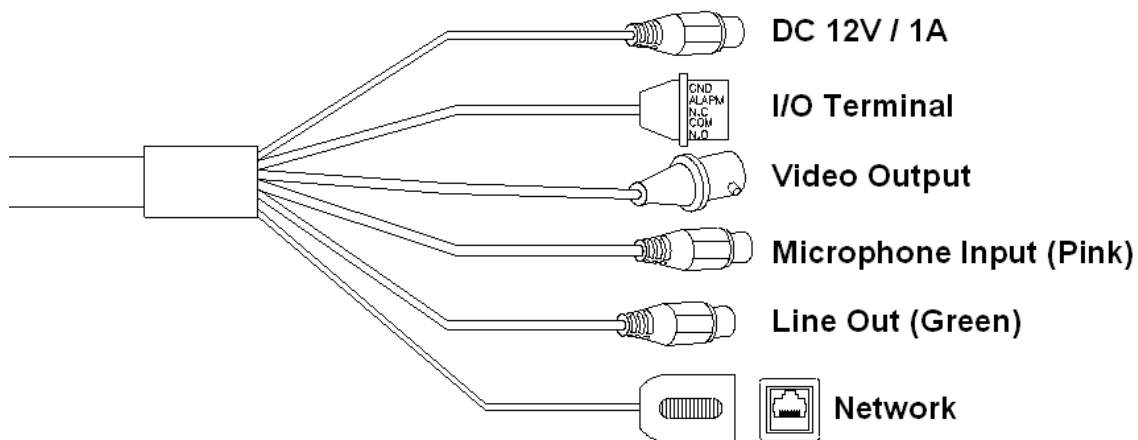
Model	ICA-HM316	ICA-HM316W
Camera		
Image Device	1/3.2" 2 Mega-Pixel progressive scan CMOS sensor	
Lens	Vari-focal 3.6~16 mm, DC Auto-iris Mechanical IR Cut Filter Angle of view : horizontal: 20.8 ~ 75.4 Degree / vertical: 15.7 ~ 54.9 Degree	
Min Illuminator	0 lux @ F1.2	
IR Illumination LED	IR LED*35, 850nm Built-in IR illuminators, Effective up to 25 meter	
Effective Pixels	1600 x 1200 pixels	
Image		
Video Encoder	H.264 / MPEG-4 / M-JPEG	
Video Profile	H.264: UXGA / 720p / SXGA / VGA / QVGA / QCIF M-JPEG: UXGA / 720p / SXGA / VGA / QVGA MPEG-4: QCIF (Only for 3GPP)	
Frame Rate	Up to 30fps for all resolutions	
Image Setting	Brightness, sharpness, contrast, AGC, Night Mode Text, time and date overlay	
Streaming	Simultaneously multi-profile streaming M-JPEG streaming over HTTP Supports 3GPP mobile surveillance Controllable frame rate and bandwidth Constant and variable bit rate (MPEG-4 / H.264)	
Audio		
Audio Streaming	Two-way Audio	
Audio Encoder	RTSP:G.711 3GPP:AMR	
Microphone	External microphone input	
Audio Output	Phone Jack	
Network and Configuration		
Network Standard	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.11b/g/n
Antenna connector	-	5dBi Dipole Antenna
Frequency	-	2.4GHz ~ 2.4835GHz
RF Transmit Power	-	OFDM: 14 dbm CCK: 17 dbm
Receiver Sensitivity	-	11b 1M: -90 dbm 11M: -85 dbm

		11g 6M: -87 dbm 54M: -70 dbm 11n (BW20) MCS0: -85 dbm MCS7: -67 dbm 11n (BW40) MCS0: -84 dbm MCS7: -64 dbm
Data Rate	-	IEEE 802.11b Standard Data Rates: 1, 2, 5.5 and 11Mbps IEEE 802.11g Standard Data Rates: 6, 9, 12, 18, 24, 36, 48, 54Mbps IEEE 802.11n Standard Data Rates: Legacy and High Throughput Modes, supports 20 / 40MHz Bandwidth MCS0~7 (150Mbps PHY Rate Rate)
Supported Protocols	IPv4, TCP, UDP, HTTP, SMTP, FTP, NTP, DNS, DDNS, DHCP, UPnP, RTSP, RTP, RTCP, PPPoE, 3GPP, ICMP	
Security	Password protection, user access log	WEP 64/128, WPA, WPA2, TKIP, AES
Users	10 simultaneous unicast users	
System Integration		
Application Programming Interface	Open API for software integration SDK	
Alarm Triggers	Intelligent video motion detection and external input 3-zone video motion detection	
Alarm Events	File upload via FTP, email and SAMBA. External output activation Configurable Pre/Post alarm buffering	
General		
Power Supply	12V DC, 1A IEEE 802.3af Class 0	12V DC, 1A
Power Consumption	PoE Max: Max 10.8 W while IR LED ON / Max 7.7 W while IR LED OFF	IR on: 6.24W IR off: 4.44W
Housing	Weather-proof IP66-rated housing	
Operating Temperature	-20 ~ 50 degree C	
Operating Humidity	20 ~ 80% (non-condensing)	
Weight	958g	905g
Dimension (Φ x L)	83mm x 180 mm	
Emission	CE, FCC	
Connectors	10/100 Mbps Ethernet, RJ-45 DC power jack Terminal block for 1 alarm input , 1 output and factory default reset External MIC input Audio out Composited video out	10/100 Mbps Ethernet, RJ-45 Optional RP-SMA Type DC power jack Terminal block for 1 alarm input , 1 output and factory default reset External MIC input Audio out Composited video out

Chapter 2. Hardware Interface

2.1 Physical Description

2.1.1 Identification of ICA-HM316 cable



1. RJ-45 LAN socket: Connect to PC or Hub/Switch.

For connect to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use CAT-5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.

2. Power Jack: The input power is DC 12V.

NOTE: ONLY use package power adapter supplied with the Internet. Otherwise, the product may be damaged.

3. I/O Control Instruction

I/O terminal connector – used in application, for e.g., motion detection, event triggering, alarm notifications

4. Video Output

The internet camera also provides composite video output. User can use BNC video cable to connect the internet camera with a TV monitor or VCR.

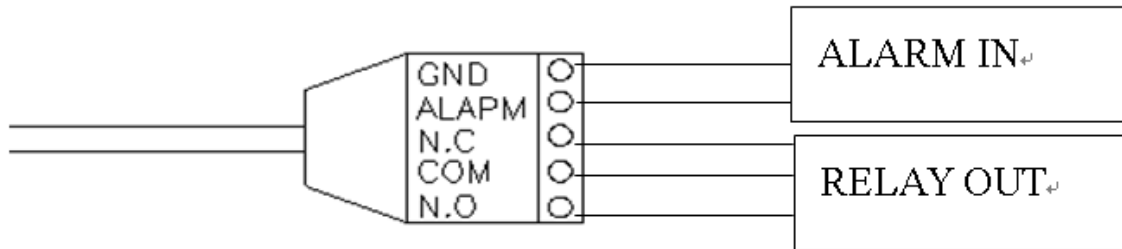
5. MIC in (audio in)

Connect a microphone to the network camera.

6. Line out (audio out)

Connect a loud speaker to the network camera. This is for voice alerting and two-way audio.

2.1.2 ICA-HM316 I/O Control Instruction



1. Digital Input (GND + Alarm)

An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. When a signal is received the state changes and the input becomes active.

2. Relay output (COM +N.O.) / (COM+N.C.)

An output to relay switch, for example: LEDs, Sirens, etc

3. Digital Input/Alarm Input

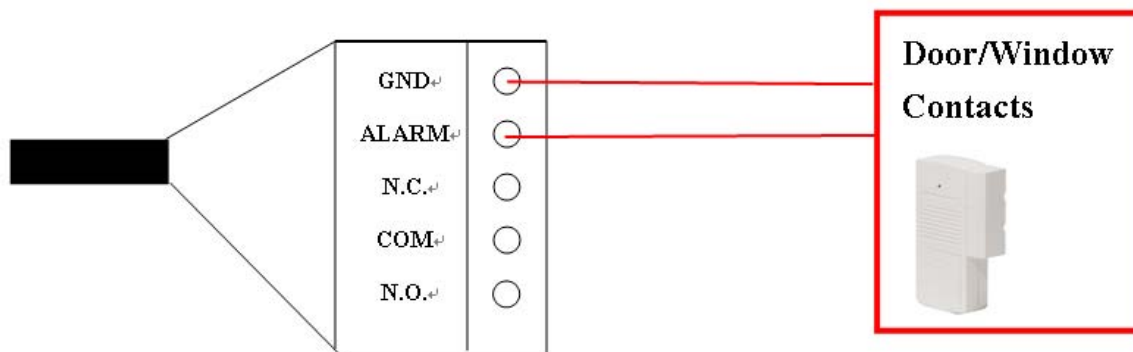
- 1) GND (Ground): Initial state is LOW
- 2) Alarm: Max. 50mA, DC 3.3V

4. Relay Output

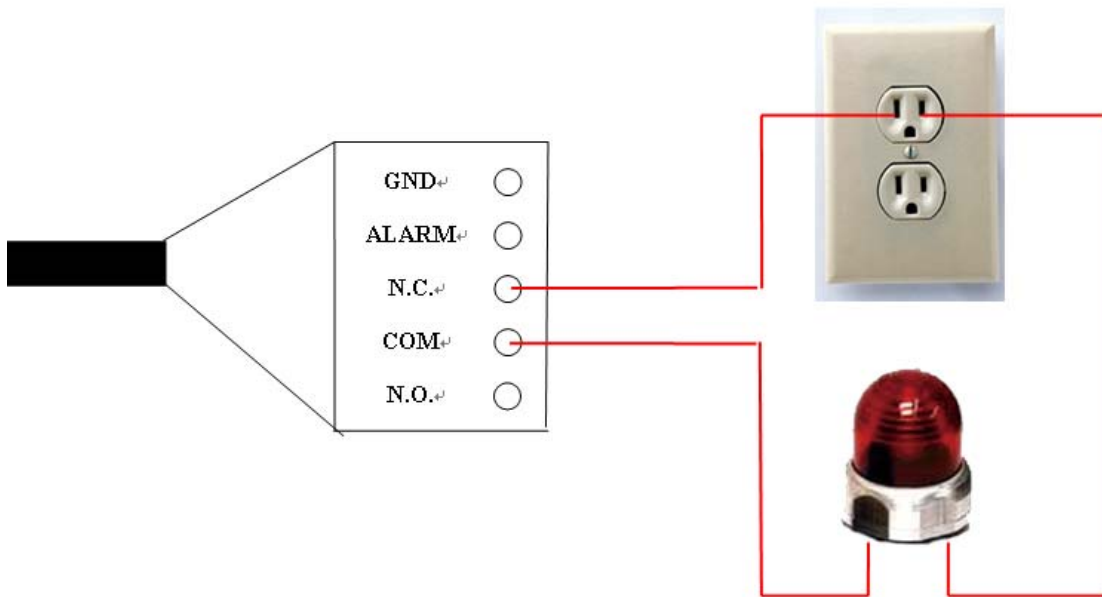
- 1) N.C. (Normally Close): Max. 1A, 24VDC or 0.2A, 110~240VAC
- 2) COM: (Common)
- 3) N.O. (Normally Open): Max. 1A, 24VDC or 0.2A, 110~240VAC

Relay

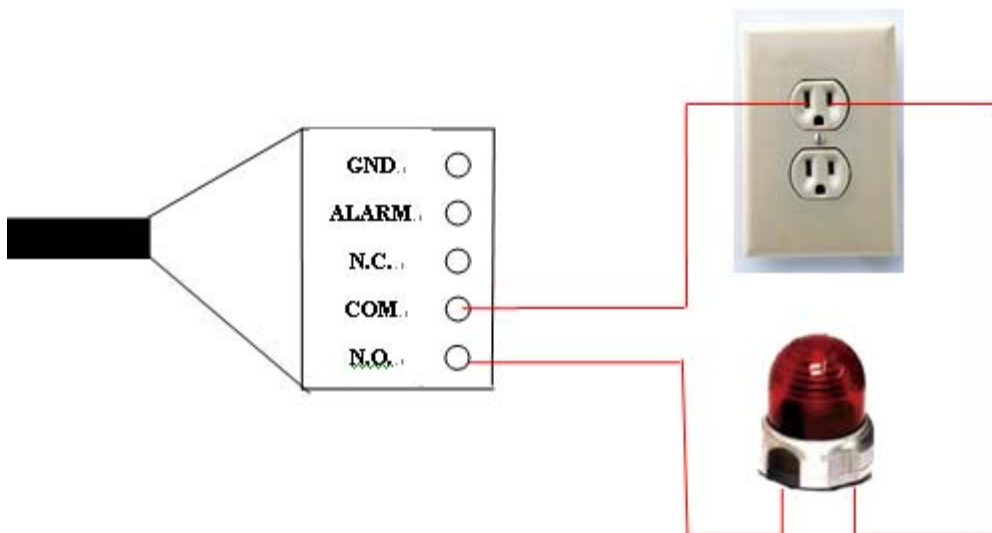
1. Digital Input connection



2. Relay Output Connection



Or



2.2 Hardware Installation

2.2.1 Physical Installation

1. Connect an Ethernet cable

Connect the LAN cable on the camera to the network device (hub or switch).

NOTE: If there has an IEEE802.3af PoE switch in your network, you can connect the camera LAN cable to this PoE switch to obtain power. The power adapter is unnecessary when Internet camera is connected to a PoE switch.

2. Attach the power supply

Plug in power adapter and connect to power source. After power on, the camera will start to operate.

NOTE:

1. Only use the power adapter supplied with Internet camera Otherwise, the product may be damaged.
2. The power adapter is unnecessary when Internet camera is connected to a PoE switch. Otherwise, the product may be damaged when Internet camera is connected to a PoE switch and power adapter simultaneously.

3. Attach BNC connector

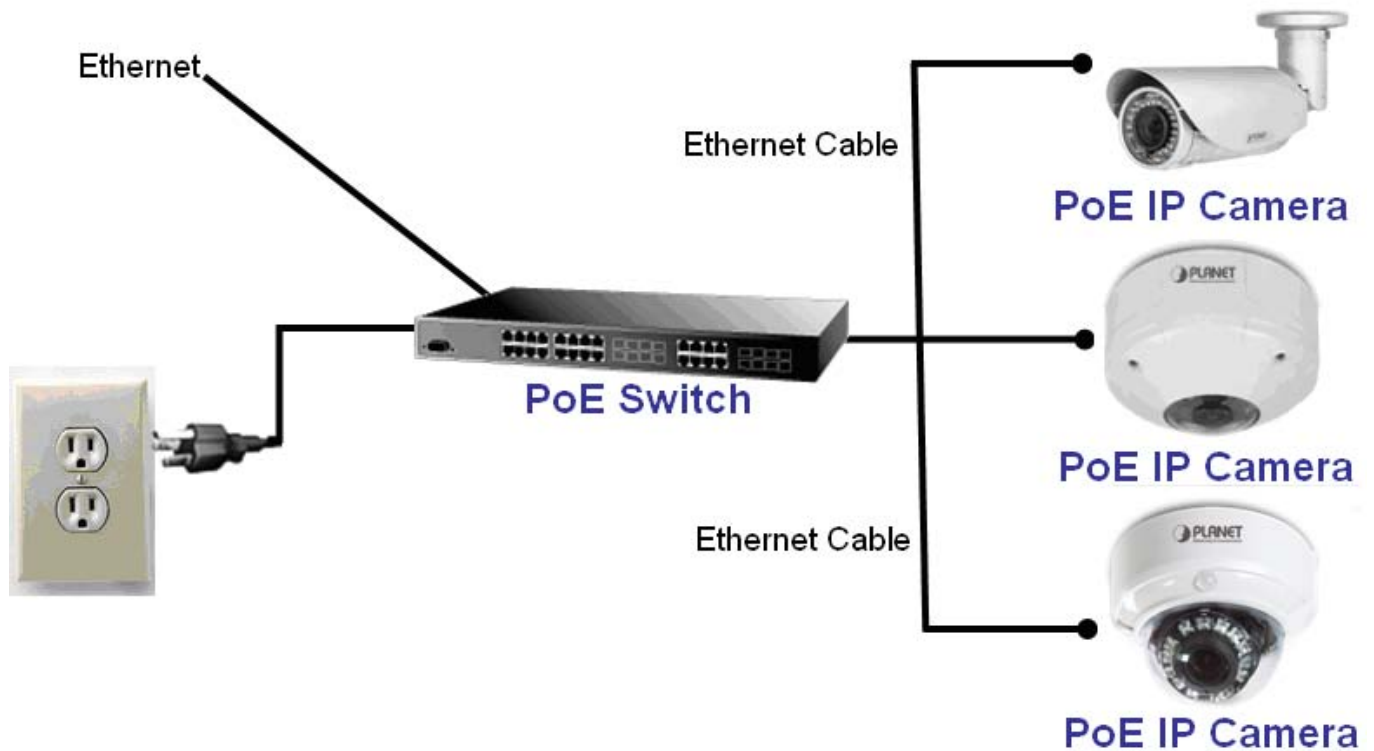
Connect the video BNC connector to a monitor set if necessary check camera viewing angle and focus.

4. Attach Speaker to camera (option)

If user needs not only video stream but also audio stream, then the speaker should be attached to camera.

5. PoE (Power Over Ethernet)

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.



Chapter 3. Initial Utility Installation

This chapter shows how to quick set up your H.264 camera. The camera is with the default settings. However to help you find the networked camera quickly the windows utility PLANET IP Installer can search the cameras in the network that shall help you to configure some basic setting before you started 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 "PLANET IPInstaller" hyperlink; you will see the dialog box as below.

NOTE: If the welcome screen does not appear, click "Start" at the taskbar. Then, select "Run" and type "D:\Utility\PLANETIPInstaller\PLANETIPinstaller.exe", assume D drive is your CD-ROM drive.

When you installed the camera on a LAN environment, you may execute PLANET IP Installer to discover camera's IP address and set up related parameters in the camera.

3.1 Search and Configure Network by PLANET IP Installer

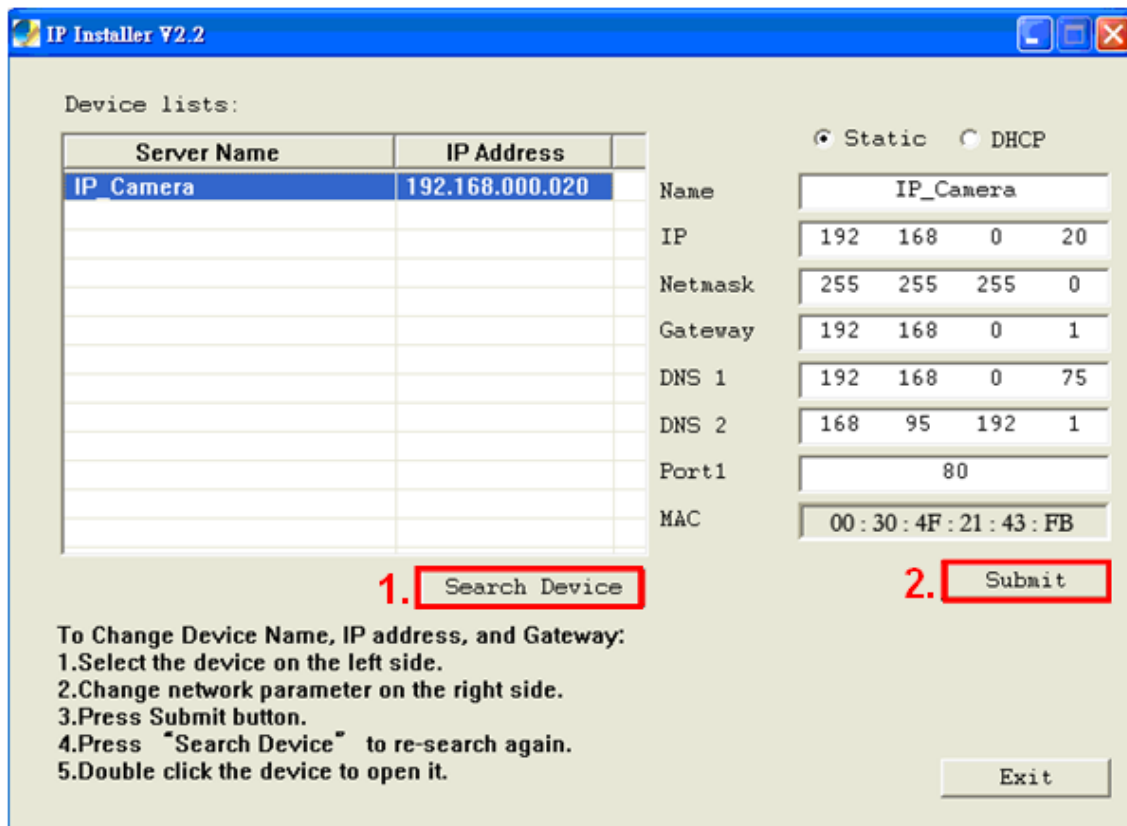
When you installed the Camera on a LAN environment, you have two easy ways to search your Cameras by PLANET IP Installer or UPnP discovery. Here is the way to execute PLANET IP Installer to discover Camera's IP address and set up related parameter in a Camera.

Search and Configure Network

1. OS: Windows XP SP2 or above. If the following "Windows Security Alert" popup, please click "Unblock".

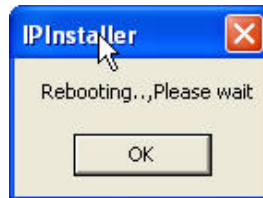


2. The GUI of IP Installer is as follows (Default IP: 192.168.0.20).



(1) IP Installer will search all IP Cameras connected on LAN. The user can click "**Search Device**" to search again.

(2) Click one of IP Cameras listed on the left side of IP Installer, then the network configuration of that IP Camera will be listed on the right side. If parameters changed, click on “**Submit**”. Then, the network configuration will be changed. Just click “**OK**” to reboot



(3) Please make sure the subnet of PC IP address and IP CAM IP address are the same.

IP CAM IP address: 192.168.0.20

PC IP address: 192.168.0.100

(4) Different Subnets:

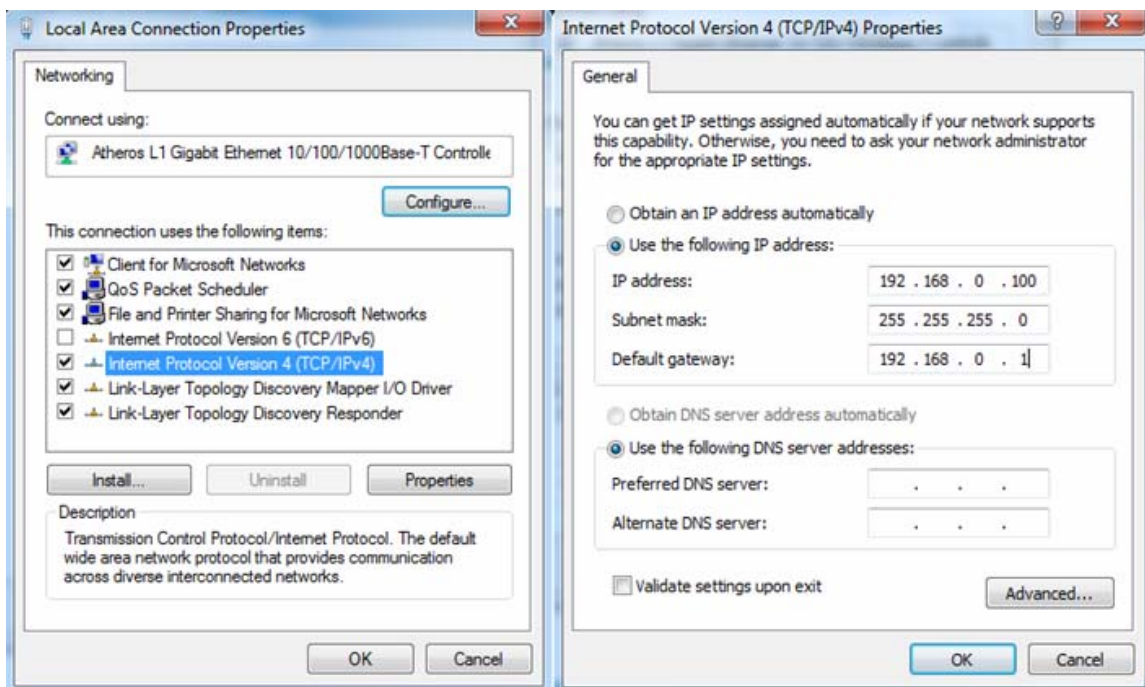
IP CAM IP address: 192.168.0.20

PC IP address: 192.168.1.100

(5) To Change PC IP addresses:

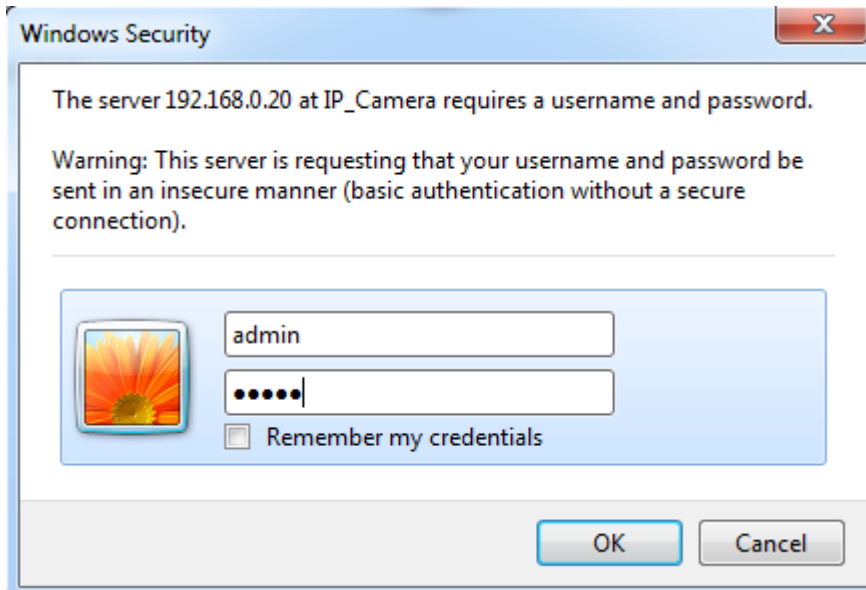
Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera IP subnet or PC IP subnet accordingly.

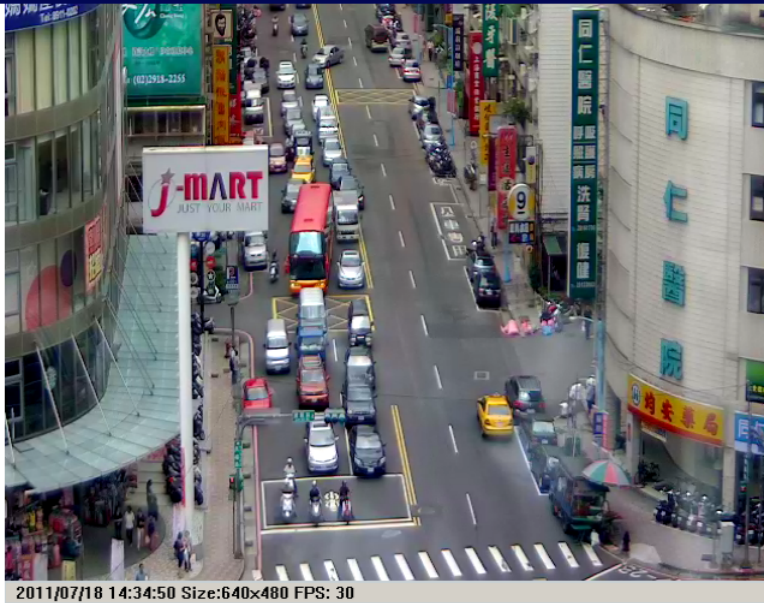


(6) A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of PLANET IP Installer. An IE browser will be opened.

(7) Then, please key in the default “**Username: admin**” and “**Password: admin**” in the following message box.



(8) If the user name and password are input correctly, the following web page will be displayed.



default

Streaming 1

Chatting: ☐

Online Visitor : 3

Relay Out: ☐ ON ☒ OFF

3.2 Setup ActiveX to use the Internet Camera

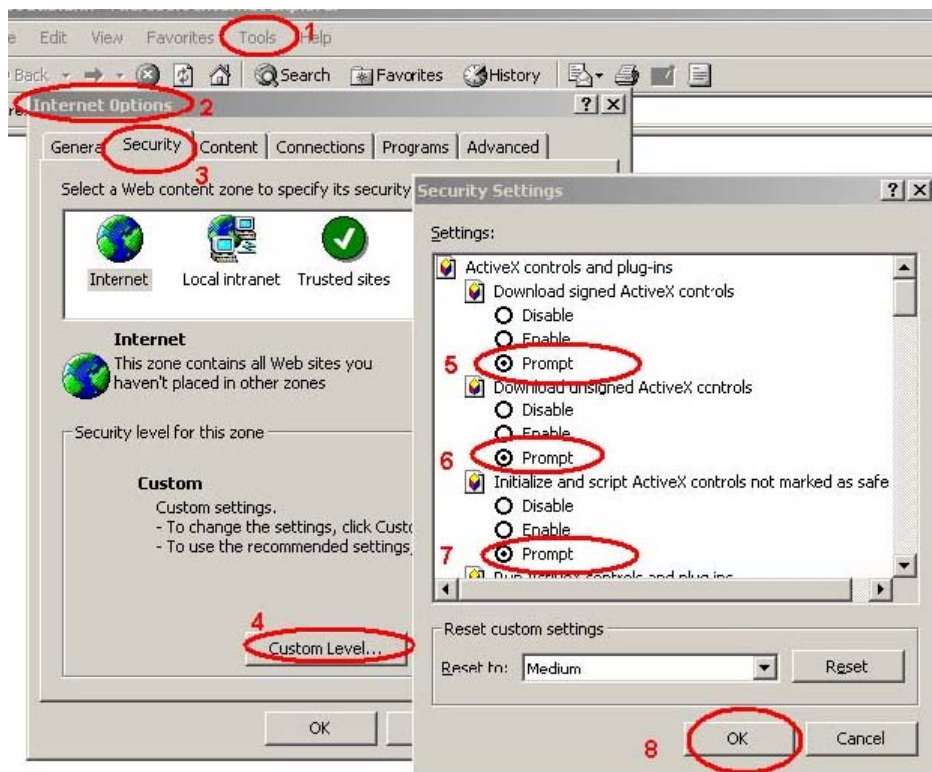
The Internet camera web pages communicate with the Internet camera using an ActiveX control. The ActiveX control must be downloaded from the Internet camera and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the Internet camera, user must setup his IE browser as follows:

3.2.1 Internet Explorer 6 for Windows XP

From your IE browse → "Tools" → "Internet Options..." → "Security" → "Custom Level...", please setup your "Settings" as follow.

Set the first 3 items

- Download the signed ActiveX controls
- Download the unsigned ActiveX controls
- Initialize and script the ActiveX controls not masked as safe to Prompt



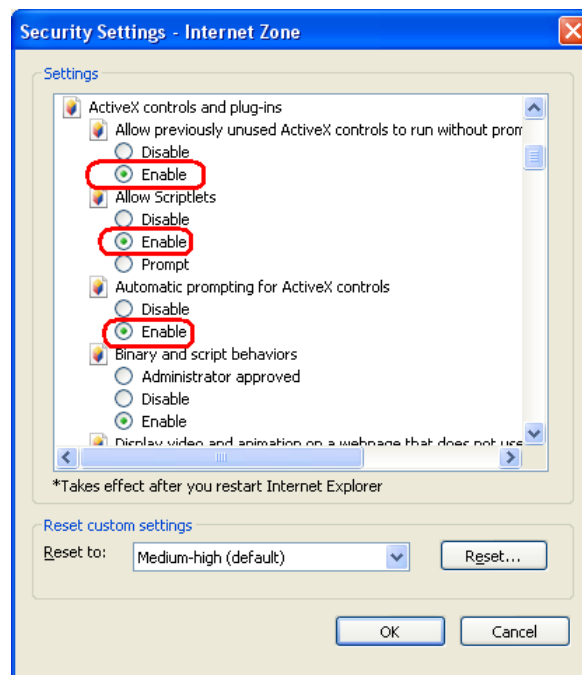
By now, you have finished your entire PC configuration for Internet camera.

3.2.2 Internet Explorer 7 for Windows XP

From your IE browse → "Tools" → "Internet Options..." → "Security" → "Custom Level...", please setup your "Settings" as follow.

Set the first 3 items

- *Allow previously unused ActiveX control to run...*
- *Allows Script lets*
- *Automatic prompting for ActiveX controls*

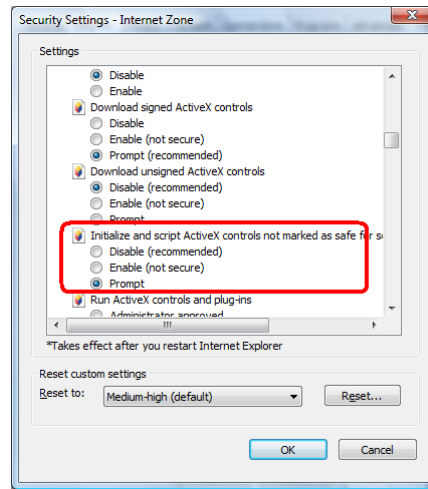
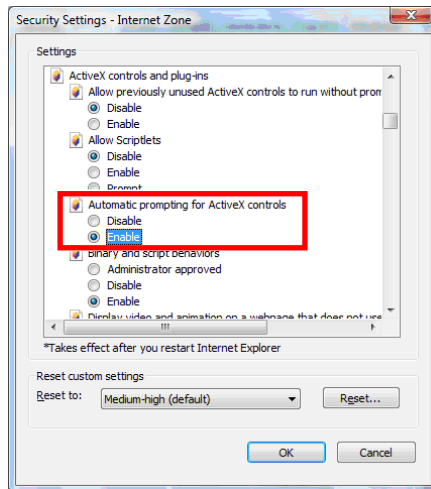


By now, you have finished your entire PC configuration for Internet camera.

3.2.3 Internet Explorer 7 for Windows Vista

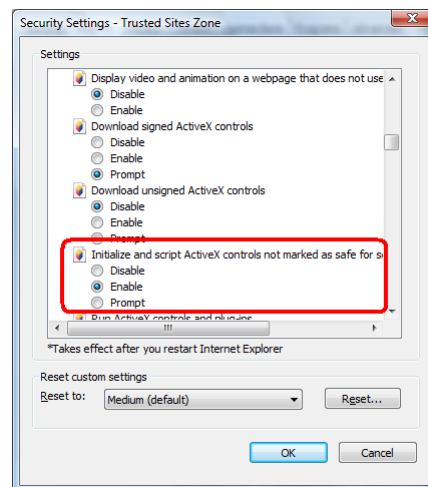
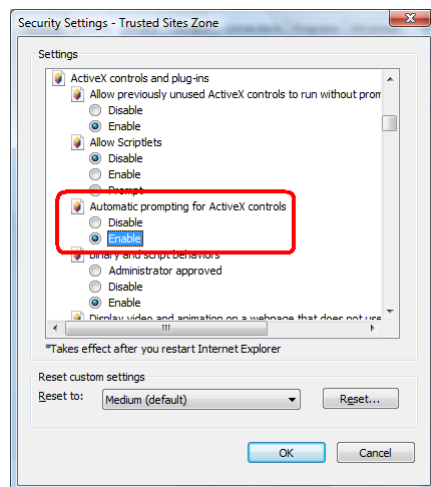
From your IE browse → "Tools" → "Internet Options..." → "Security" → "Internet" → "Custom Level...", please setup your "Settings" as follow.

- Enable "Automatic prompting for ActiveX controls"
- Prompt "Initialize and script active controls not marked as safe for s..."



From your IE browse → "Tools" → "Internet Options..." → "Security" → "Trusted Sites" → "Custom Level...", please setup your "Settings" as follow.

- Enable "Automatic prompting for ActiveX controls"
- Prompt "Initialize and script active controls not marked as safe for s..."



By now, you have finished your entire PC configuration for Internet camera.

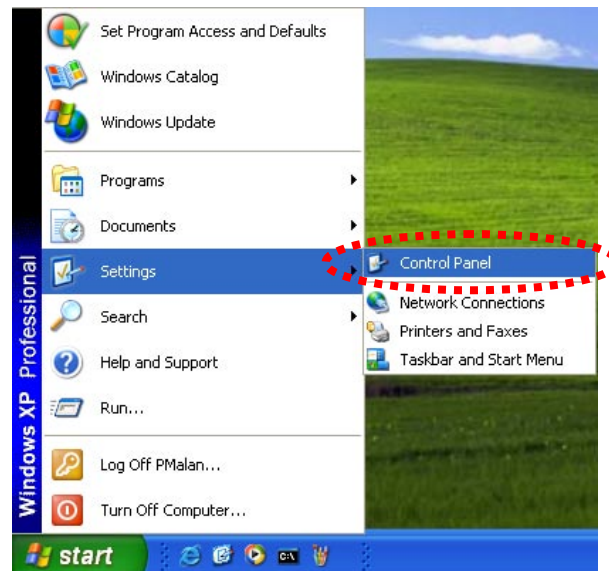
3.3 Using UPnP of Windows XP or Vista

3.3.1 Windows XP

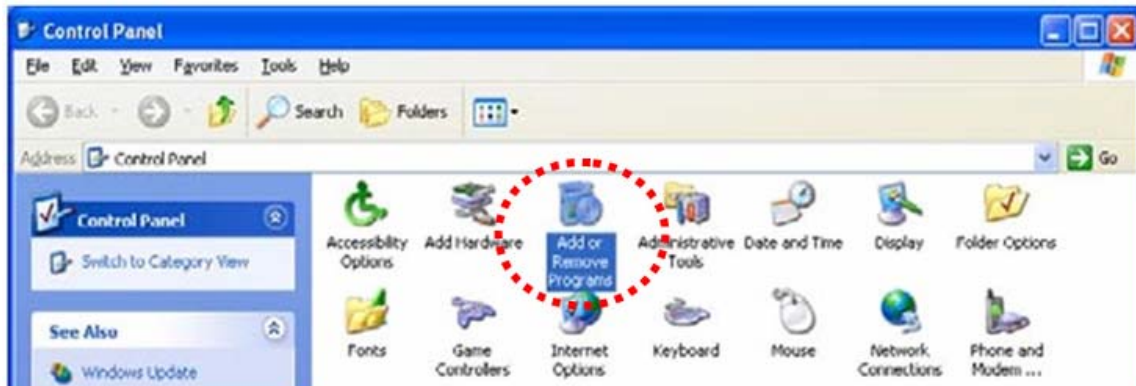
UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP, of your PC is UPnP enabled, the device will be very easy to configure. Use the following steps to enable UPnP settings only if your operating system of PC is running Windows XP.

NOTE: Windows 2000 does not support UPnP feature.

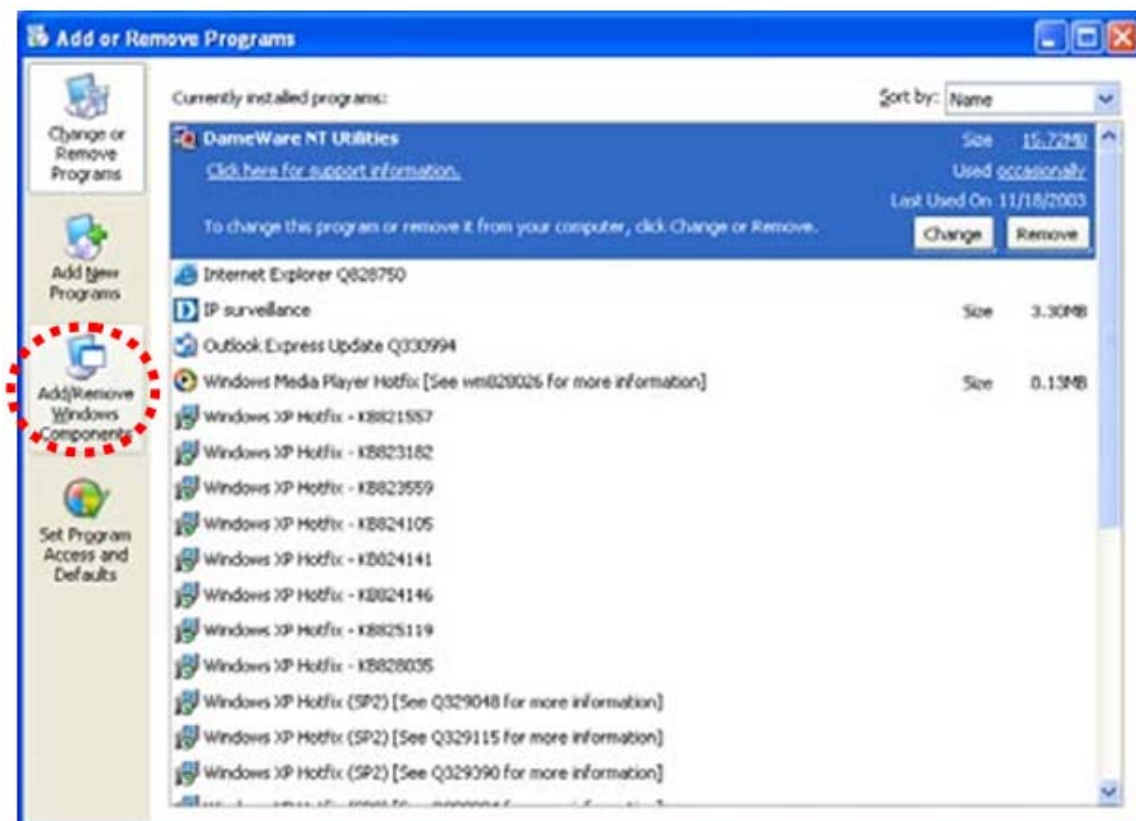
Go to **Start > Settings**, and Click Control Panel



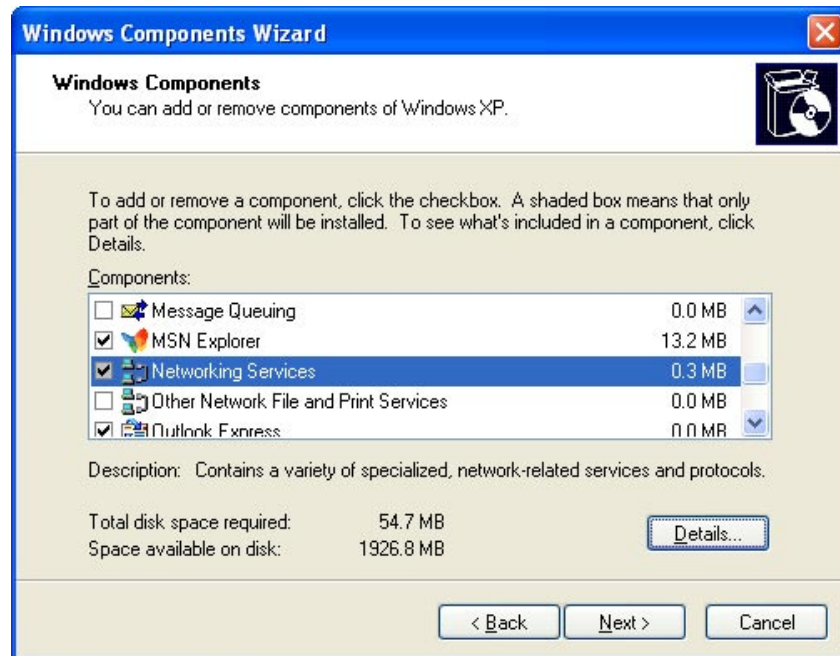
The “Control Panel” will display on the screen and double click “Add or Remove Programs” to continue



The “Add or Remove Programs” will display on the screen and click **Add/Remove Windows Components** to continue.



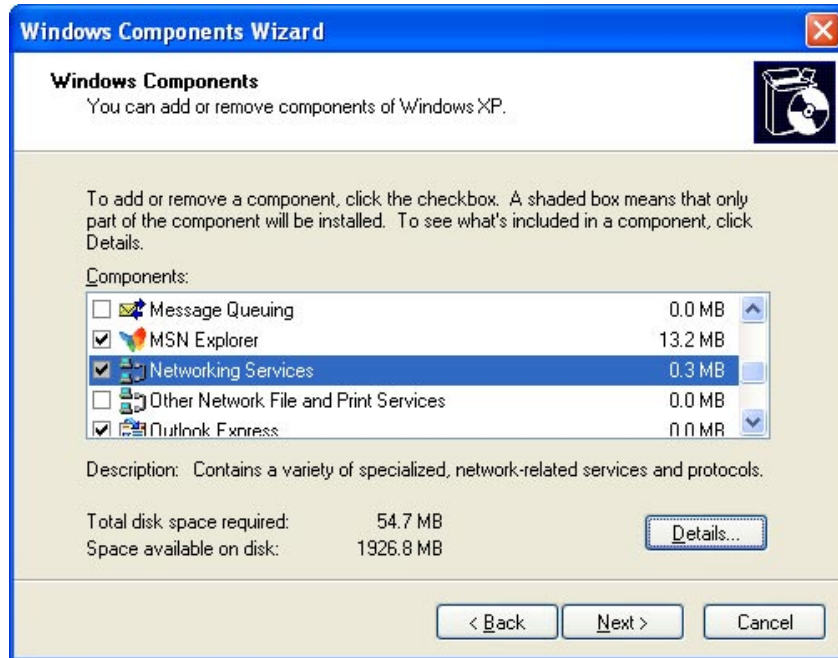
The following screen will appear, select **“Networking Services”** and click **“Details”** to continue



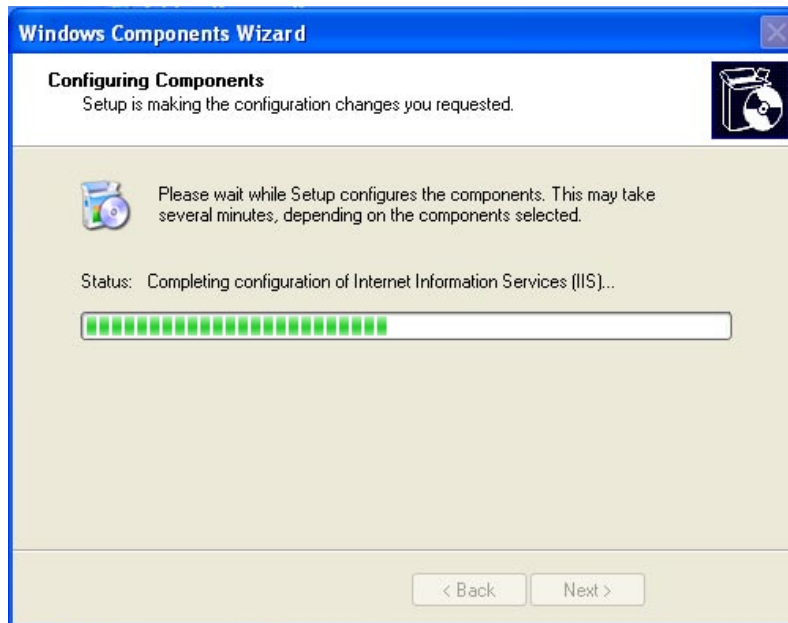
The **“Networking Services”** will display on the screen, select **“Universal Plug and Play”** and click **“OK”** to continue.



Please click **"Next"** to continue



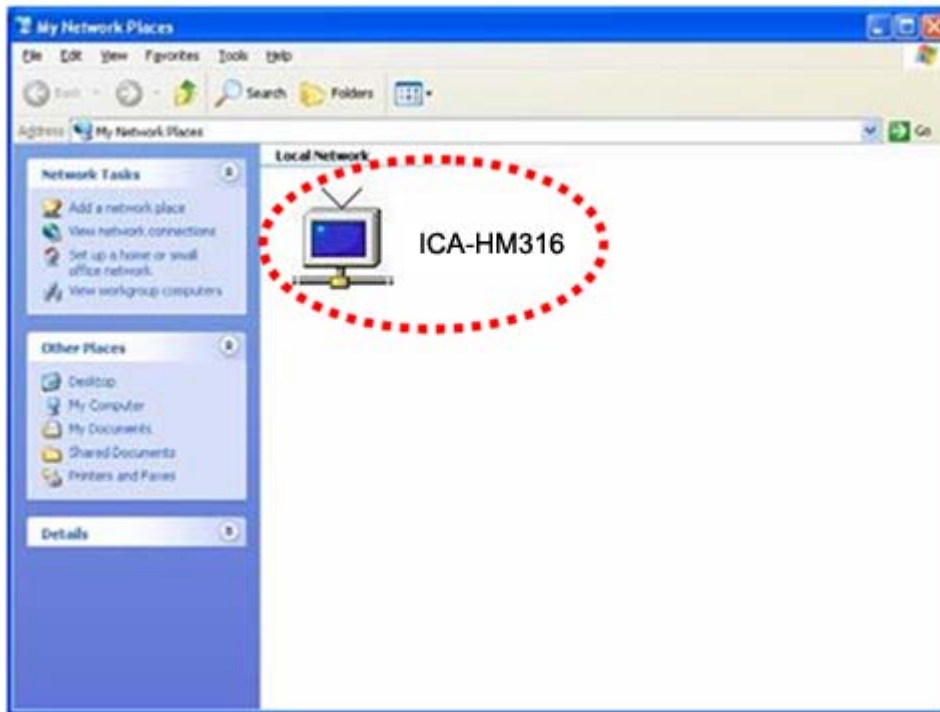
The program will start installing the UPnP automatically. You will see the below pop-up screen, please wait while Setup configures the components.



Please click **"Finish"** to complete the UPnP installation



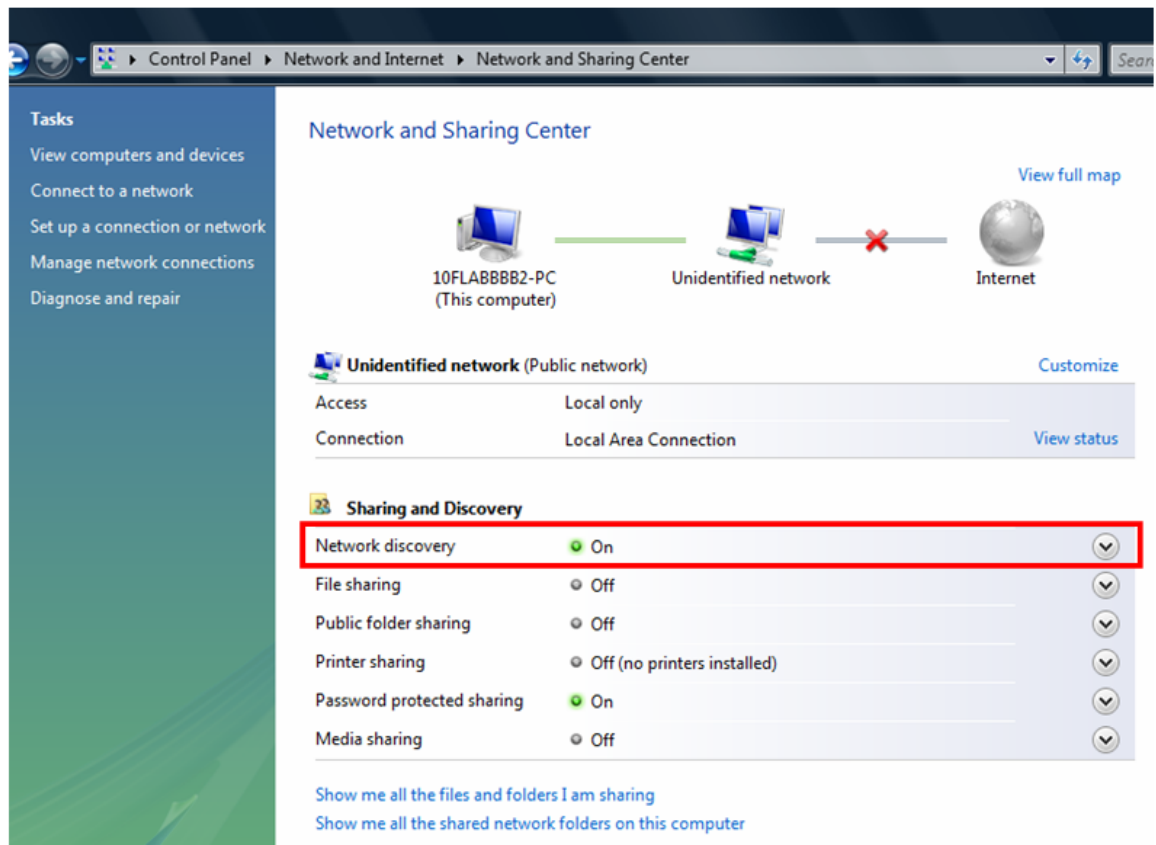
Double-click **"My Network Places"** on the desktop, the **"My Network Places"** will display on the screen and double-click the UPnP icon with Internet camera to view your device in an Internet browser.



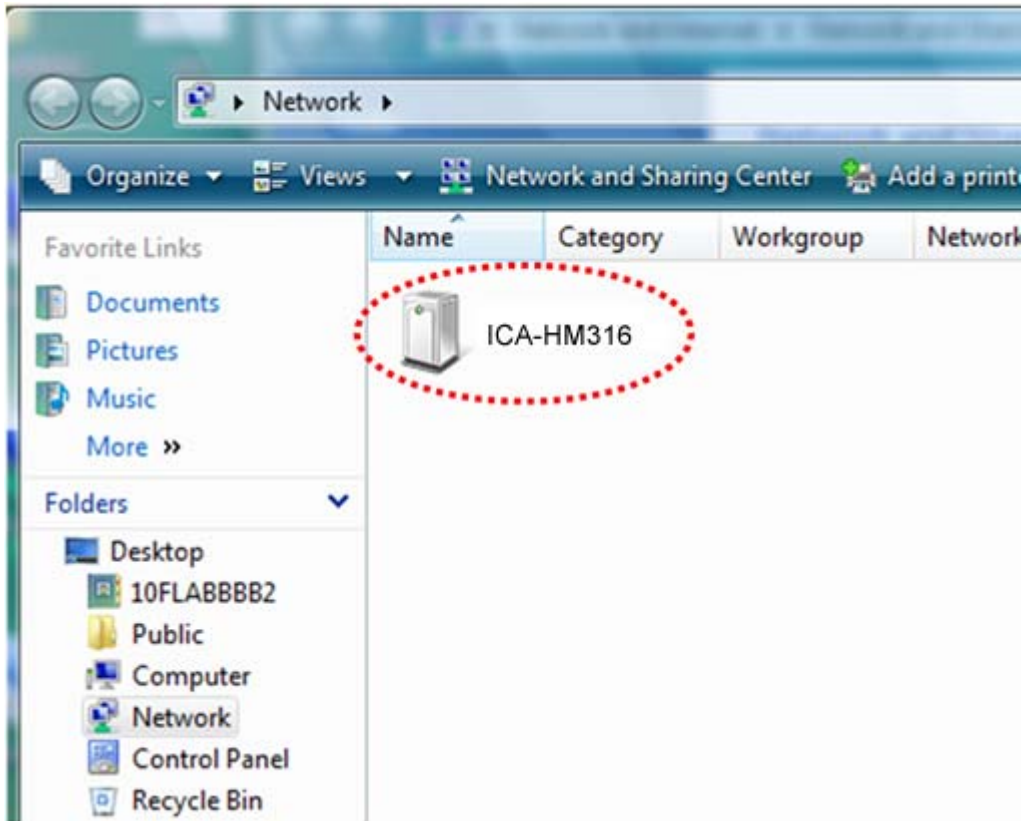
3.3.2 Windows Vista

UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows Vista, of your PC is UPnP enabled, the device will be very easy to configure. Use the following steps to enable UPnP settings only if your operating system of PC is running Windows Vista.

Go to **Start > Control Panel > Network and Internet > Network and Sharing Center**, and turn on **“Network Discovery”**.



Double-click “**My Network Places**” on the desktop, the “**My Network Places**” will display on the screen and double-click the UPnP icon with Internet camera to view your device in an Internet browser.



Chapter 4. Installation Guide

4.1 System Requirements

Network Interface	10/100Base-TX Ethernet
Monitoring System	Recommended for Internet Explorer 8.0 or later
System Hardware (Suggested)	<ul style="list-style-type: none"> · CPU: Intel Core i3-530 · Memory Size : 2048 MB (1024 MB or above Recommended) · VGA card resolution : 1920 x 1200 · VGA card memory : 512 MB or above
System Hardware (Minimum)	<ul style="list-style-type: none"> · CPU: Intel C-2.8G · Memory Size : 512 MB · VGA card resolution : 1280 x 1024 · VGA card memory : 64 MB

NOTE:

The listed information is minimum system requirements only. Actual requirement will vary depending on the nature of your environment.

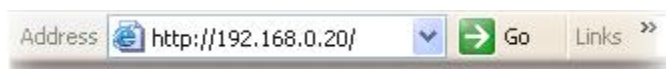
4.2 Before You Begin

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

4.2.1 Connecting to Internet Camera

- Use the following procedure to establish a connection from your PC to the camera.
- 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/> “

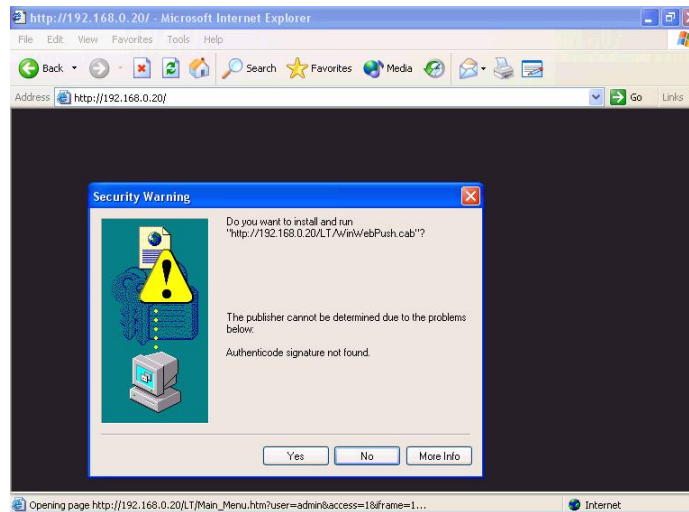


The login window of Internet camera will appear, Default login **username/password** is:
admin / admin

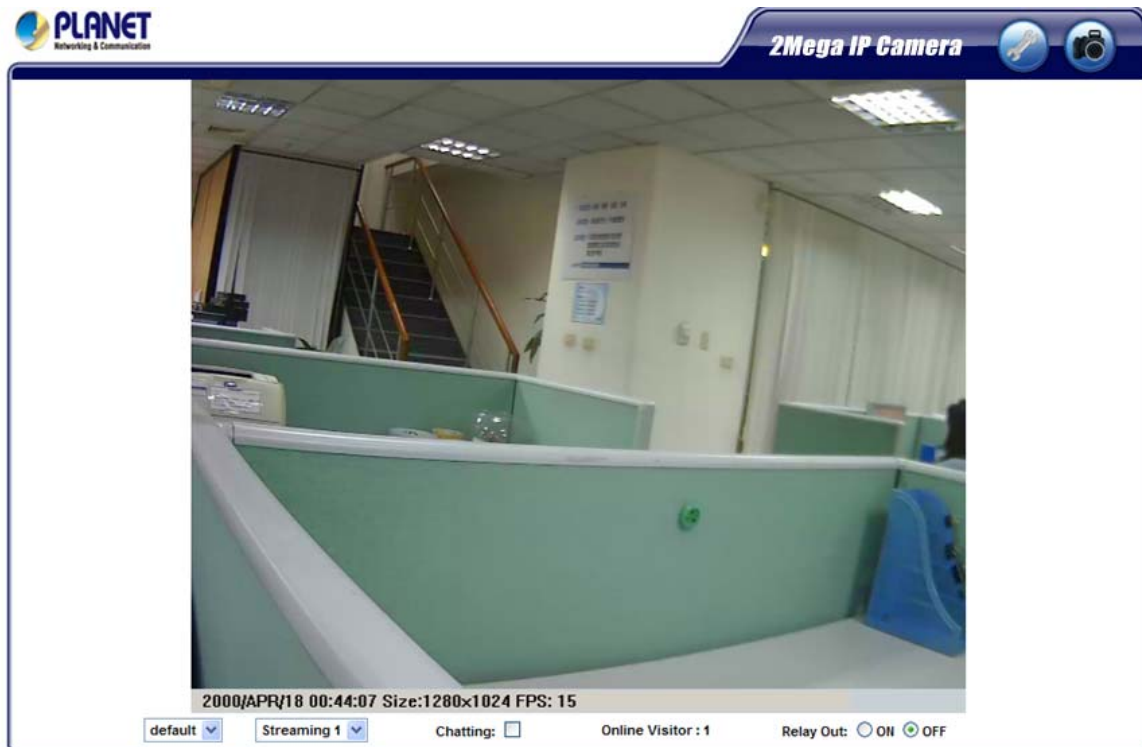


NOTE: If the User name and Password have been changed with PLANET IP Installer, please enter the new User name and Password here.

Web browser may display the “**Security Warning**” window, select “**Yes**” to install and run the ActiveX control into your PC.



After the ActiveX control was installed and run, the first image will be displayed.





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.

Chapter 5. Web Configuration for Live View

5.1 Live View

Start-up screen will be as follow no matter an ordinary users or an administrator.



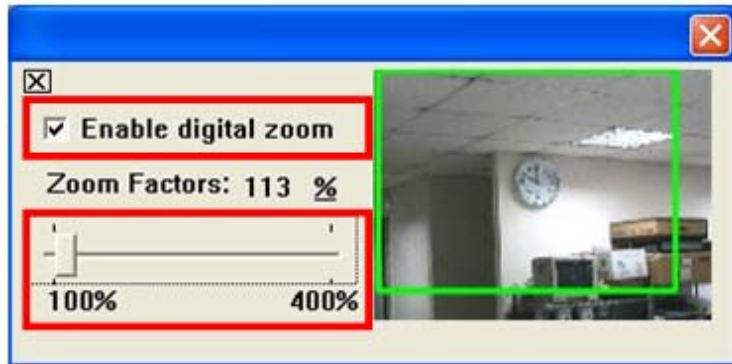
(1)Configure	 to the administration page.
(2)Snapshot	 Snapshot
(3)Status Bar	Show system time, video resolution, and video refreshing rate.
(4)Screen Size	Select video screen “ default , 1/2x , 1x , 2x ” for view currently camera screen size.
(5)Streaming Select	Select video streaming source (When streaming 2 setting in 『Video Setting』 is closed, this function will not display)

(6)Chatting Function	IP Camera supports 2-way audio. Click the “ Chatting ” check box. Then you can use microphone which connects to the PC to talk to server side, which is IP Camera side
(7)Online Visitor	Shows how many people connect to this IP camera.
(8)Relay Control	Control the relay which is connected to this camera.

Double-click the video; it will change to full screen mode. Press “**Esc**” or double-click the video again, it will change back to normal mode. Right-Click the mouse on the video, it will show a pop-up menu.





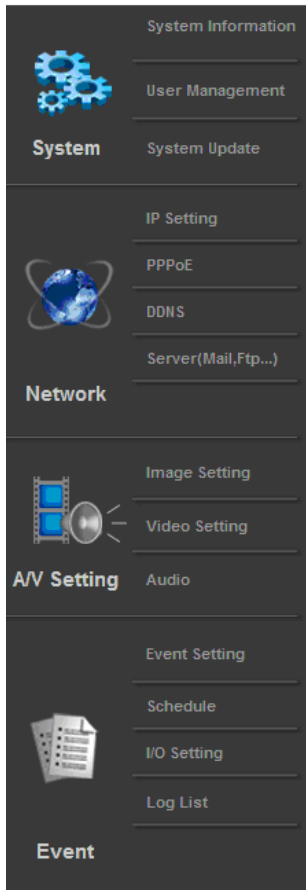
(1)Snapshot	Save a JPEG picture.
(2)Record Start	Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select “ Record Stop ”. The video format is AVI. Use Microsoft Media Player to play the recorded file.
(3)Mute	Turn of the audio. Click again to turn on it.
(4)Full Screen	Full-screen mode.
(5)ZOOM	Enable zoom-in and zoom-out functions. Select “ Enable digital zoom ” option first within the pop-up dialogue box and then drag and drop the bar to adjust the zoom factors.



5.2 Configuration



Click  to get into the administration page. Click  to go back to the live video page.



System Information	
Server Information	
MAC Address:	00:30:4F:21:43:FB
Server Name:	PLANET IP Camera <input type="checkbox"/> Status Bar
LED Indicator:	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Language :	<input checked="" type="radio"/> English <input type="radio"/> 繁體中文 <input type="radio"/> 简体中文 <input type="radio"/> French <input type="radio"/> Russian <input type="radio"/> Italian <input type="radio"/> Spanish <input type="radio"/> German <input type="radio"/> Portuguese <input type="radio"/> Polish <input type="radio"/> Japanese
OSD Setting	
Time Stamp:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Text:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
<input checked="" type="radio"/> OSD_Display <input type="radio"/> Text Edit	
Time Setting	
Server Time:	2011/5/13 16:12:10 Time Zone: GMT+08:00
Date Format:	<input checked="" type="radio"/> yy/mm/dd <input type="radio"/> mm/dd/yy <input type="radio"/> dd/mm/yy
Time Zone:	GMT+08:00
<input type="radio"/> NTP :	
NTP Server :	198.123.30.132
Update :	6 Hour
Time Shift :	0 Minutes [-1440..1440]
<input type="radio"/> Synchronize with PC's time	
Date :	2011/5/13
Time :	16:14:29
<input type="radio"/> Manual	
Date :	2011/5/13
Time :	16:9:54
<input checked="" type="radio"/> The date and time remain the same	
<input type="button" value="Apply"/>	

Chapter 6. Camera configuration

6.1 System

6.1.1 System Information

1. Server Information: Set up the camera name, select language, and set up the camera time.

System Information	
Server Information	
MAC Address:	00:30:4F:00:00:0F
Server Name:	ICA-HM316 <input type="checkbox"/> Status Bar
LED Indicator:	<input checked="" type="radio"/> ON <input type="radio"/> OFF
Language :	<input checked="" type="radio"/> English <input type="radio"/> 繁體中文 <input type="radio"/> 简体中文 <input type="radio"/> French <input type="radio"/> Russian <input type="radio"/> Italian <input type="radio"/> Spanish <input type="radio"/> German <input type="radio"/> Portuguese <input type="radio"/> Polish

Server Name	This is the Camera name. This name will show on the IP Installer.
Select language	There are English, Traditional Chinese, Simplified Chinese, French, Russian, Italian, Spanish, German, Portuguese and Polish to select. When change, it will show the following dialogue box for the confirmation of changing language.




2. OSD Setting: Select a position where date & time stamp / text showing on screen.

OSD Setting	
Time Stamp:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Text:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
<div>Test</div> <div>Text Edit</div>	

Moreover, click Text Edit can entry to adjust the OSD contents which is including Size and Alpha of text.

Finally, click  button to reserve the setting.

Text Edit




Text Edit

Text

Size

Alpha



3. Server time setting : Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.

Time Setting

Server Time: 2000/1/2 10:22:26 Time Zone: GMT+08:00

Date Format: ☒ yy/mm/dd ☐ mm/dd/yy ☐ dd/mm/yy

Time Zone:

☐ NTP :

NTP Server :

Update : Hour

Time Shift : Minutes [-1440..1440]

☐ Synchronize with PC's time

Date :

Time :

☐ Manual

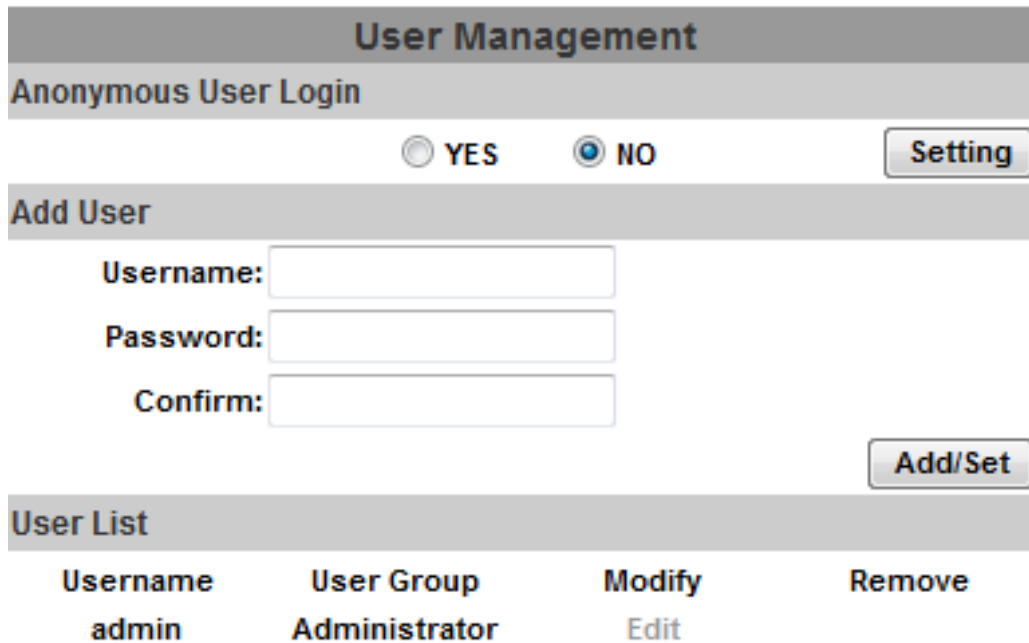
Date :

Time :

☒ The date and time remain the same

6.1.2 User Management

IP CAMERA supports three different users, administrator, general user, and anonymous user.



The 'User Management' interface includes a 'Setting' button for 'Anonymous User Login' (YES/NO), an 'Add User' section with fields for Username, Password, and Confirm, and an 'Add/Set' button. Below is a 'User List' table:

Username	User Group	Modify	Remove
admin	Administrator	Edit	

Anonymous User Login	Yes : Allow anonymous login No : Need user name & password to access this IP camera
Add user	Type the user name and password, then click “Add/Set”.

Click “edit” or “delete” to modify the user



The 'User Setup' dialog box, titled 'User_Setting - Microsoft Internet Explorer', contains fields for Username (pre-filled with 'admin'), Password, and Confirm, along with an 'OK' button.

6.1.3 System Update

System Update

Firmware Upgrade

Firmware Version: V1.0.28_PL

New Firmware:

Reboot System

Factory Default

Setting Management

Save As a File: Right click the mouse button on Setting Download and then select Save As to save current system's setting in the PC.

New Setting File:

Firmware Upgrade	To update the firmware online, click " Browse... " to select the firmware. Then click "Upgrade" to proceed.
Reboot System	Re-start the IP camera.
Factory default	Delete all the settings in this IP camera.
Setting Management	User may download the current setting to PC, or upgrade from previous saved setting.

Setting download:

Right-click the mouse button on Setting Download → Select "**Save AS...**" to save current IP CAM setting in PC → Select saving directory → Save

Upgrade from previous setting:

Browse → search previous setting → open → upgrade → Setting update confirm → click [index.html](#). to return to main page

6.2 Network

6.2.1 IP Setting

IP Camera supports DHCP and static IP.

IP Setting		
IP Assignment		
<input type="radio"/> DHCP <input checked="" type="radio"/> Static		
IP Address:	<input type="text" value="192.168.0.20"/>	
Subnet Mask:	<input type="text" value="255.255.255.0"/>	
Gateway:	<input type="text" value="192.168.0.1"/>	
DNS 0:	<input type="text" value="168.95.1.1"/>	
DNS 1:	<input type="text" value="8.8.8.8"/>	
Port Assignment		
Web Page Port:	<input type="text" value="80"/>	
RTSP Port :	<input type="text" value="554"/>	
RTP Start Port:	<input type="text" value="5000"/>	[1024..10000]
RTP End port:	<input type="text" value="9000"/>	[1025..10000]
UPnP		
UPnP:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	
UPnP Port Forwarding:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled	
External Web Port:	<input type="text" value="80"/>	
External RTSP Port:	<input type="text" value="554"/>	

DHCP	Using DHCP, IP Camera will get all the network parameters automatically.
Static IP	Please type in IP address, subnet mask, gateway, and DNS manually.
Port Assignment	<p>User may need to assign different port to avoid conflict when setting up IP assignment.</p> <p>(1) Web Page Port: setup web page connecting port and video transmitting port (Default: 80)</p> <p>(2) RTSP Port: setup port for RTSP transmitting (Default: 554)</p> <p>(3) RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.</p>

UPnP	This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to "My Network Places." Note: UPnP must be enabled on your computer.
ONVIF	The IP camera supports ONVIF v1.01 / v1.02 standard for to integration.

Please follow the procedure to activate UPnP

6.2.2 PPPoE

PPPoE: Stands for Point to Point Protocol over Ethernet

A standard builds on Ethernet and Point-to-Point network protocol. It allows Internet camera connects to Internet with xDSL or cable connection; it can dial up your ISP and get a dynamic IP address. For more PPPoE and Internet configuration, please consult your ISP.

It can directly connect to the xDSL, however, it should be setup on a LAN environment to program the PPPoE information first, and then connect to the xDSL modem. Power on again, then the device will dial on to the ISP connect to the WAN through the xDSL modem.

The procedures are:

- (1) Select "**Enabled**" to use PPPoE.
- (2) Key-in Username and password for the ADSL connection.
- (3) Send mail after dialed : When connect to the Internet, it will send a mail to a specific mail account. For the mail setting, please refer to "**Mail and FTP**" settings.

PPPoE

PPPoE Setting

☐ **Enabled** ☒ **Disabled**

Username:

Password:

Send mail after dialed

☐ **Enabled**

Subject:

6.2.3 DDNS

DDNS: Stands for Dynamic Domain Name Server

The device supports DDNS If your device is connected to xDSL directly, you might need this feature. However, if your device is behind a NAT router, you will not need to enable this feature.

Because DDNS allows the device to use an easier way to remember naming format rather than an IP address. The name of the domain is like the name of a person, and the IP address is like his phone number. On the Internet we have IP numbers for each host (computer, server, router, and so on), and we replace these IP numbers to easy remember names, which are organized into the domain name. As to xDSL environment, most of the users will use dynamic IP addresses. If users want to set up a web or a FTP server, then the Dynamic Domain Name Server is necessary. For more DDNS configuration, please consult your dealer.

Your Internet Service Provider (ISP) provides you at least one IP address which you use to connect to the Internet. The address you get may be static, meaning it never changes, or dynamic, meaning it's likely to change periodically. Just how often it changes, depends on your ISP. A dynamic IP address complicates remote access since you may not know what your current WAN IP address is when you want to access your network over the Internet. The solution to the dynamic IP address problem comes in the form of a dynamic DNS service.

The Internet uses DNS servers to lookup domain names and translates them into IP addresses. Domain names are just easy to remember aliases for IP addresses. A dynamic DNS service is unique because it provides a means of updating your IP address so that your listing will remain current when your IP address changes. There are several excellent DDNS services available on the Internet and best of all they're free to use. One such service you can use is www.DynDNS.org. You'll need to register with the service and set up the domain name of your choice to begin using it. Please refer to the home page of the service for detailed instructions or refer to Appendix E for more information.

DDNS

DDNS Setting

☒ Enabled ☐ Disabled

Provider:

PLANET DDNS

Hostname:

test03.planetddns.c

Username:

test03

Password:

Schedule Update:

60

Minutes

Logs

[2013/01/03 14:14:57] PLANET DDNS:Updating!

Apply

Note:

1. Schedule Update: Depends on the input time of Schedule Update, it will update DDNS's web site automatically. The time range is from 5 to 5000 minutes.
*0: It will not update.
2. dyndns.org & 3322.org: Update once per day is recommended (1440 minutes per day). If updated too frequently, it will be blocked.

DynDns.org, the procedures are:

- (1) Enable this service
- (2) Key-in the DynDNS server name, user name, and password.
- (3) Set up the IP Schedule update refreshing rate.
- (4) Click "**Apply**"
- (5) If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

DDNS Setting, the procedures are:

- (1) Please enable this service
- (2) Key-in user name.
- (3) IP Schedule update is default at 5 minutes
- (4) Click "**Apply**".

DDNS

DDNS Setting

☒ Enabled ☐ Disabled

Provider:

PLANET DDNS

Hostname:

test03.planetddns.c

Username:

test03

Password:

Schedule Update:

5

Minutes

Logs

[2013/01/03 14:20:28] PLANET DDNS:http://test03.planetddns.com

[2013/01/03 14:20:28] PLANET DDNS:Updating!

[2013/01/03 14:19:54] PLANET DDNS:Failed,Please check your DNS setting.

[2013/01/03 14:18:54] PLANET DDNS:Updating!

[2013/01/03 14:18:19] PLANET DDNS:Failed,Please check your DNS setting.

[2013/01/03 14:17:19] PLANET DDNS:Updating!

[2013/01/03 14:16:59] PLANET DDNS:Failed,Please check your DNS setting.

[2013/01/03 14:15:59] PLANET DDNS:Updating!

[2013/01/03 14:15:57] PLANET DDNS:Failed,Please check your DNS setting.

[2013/01/03 14:14:57] PLANET DDNS:Updating!

Apply

DDNS Status

- (1) Updating : Information update
- (2) Idle : Stop service
- (3) DDNS registration successful, can now log by `http://<username>.ddns.camddns.com` : Register successfully.
- (4) Update Failed, the name is already registered : The user name has already been used. Please change it.
- (5) Update Failed, please check your Internet connection : Network connection failed.
- (6) Update Failed, please check the account information you provide : The server, user name,

and password may be wrong.

6.2.4 Mail & FTP & SAMBA

To send out the video via mail or ftp, please set up the configuration first.

Mail & FTP	
Mail Setting	
Login Method:	Account ▼
Mail Server:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="password"/>
Sender's Mail:	<input type="text"/>
Receiver's Mail:	<input type="text"/>
Bcc Mail:	<input type="text"/>
Mail Port:	25 (Default 25)
<input type="button" value="Test"/>	
FTP Setting	
FTP Server:	<input type="text"/>
Username:	<input type="text"/>
Password:	<input type="password"/>
Port:	21
Path:	/ <input type="text"/>
Mode:	PORT ▼
Create the folder:	Yes ▼ (ex:Path/20100115/121032m.avi)
<input type="button" value="Test"/>	
<input type="button" value="Apply"/>	

6.2.5 Wireless Setting

Wireless Setting

Status of Wireless Networks

SSID	Mode	Security	Signal Strength
CL-GUEST	Infrastructure	OFF	47
UMG_WIFI	Infrastructure	OFF	61
iRoot	Infrastructure	WEP	41
	Infrastructure	WEP	41

Wireless Setting

MAC Address: 00:0D:F0:5B:1F:EA

Mode: Ad-hoc

Operation Mode: Auto

SSID:

Channel: 6

Security: WEP

WEP Setting

Authentication: Open System

Encryption: 64 bit

Key Type: HEX (10 character max)

Key 1: ☒

Key 2: ☐

Key 3: ☐

Key 4: ☐

Apply

●Wireless Setting

Mode	There are Infrastructure and Ad-hoc. Infrastructure is for connecting with the router. Ad-hoc is for connecting with PC. There is "Channel" to select only when user uses Ad-hoc mode. e.g. If one PC's channel is 1, the other's channel has to 1, too.
SSID	Based on AP setting.
Channel	This is only be used when the user selects Ad-hoc mode in order to avoid conflict.
Security	It supports "None", "WEP", "WPA-PSK" security encryption based on the setting of the Router.

●WEP Setting

Authentication	There are Open System and Shared Keys, it is based on different encryptions. This has to be the same as the Router's setting.
Encryption	There are 64 bits and 128 bits. This is based on Key Type based on the Router's setting.
Key Type	There are HEX and ASCII. When selecting HEX, the user only can input 0~9 characters and use A, B, C, D, E, and F. When selecting ASCII, the user can input any character.
Key 1~4	Based on Key Type to input characters.



NOTE


To have better Wireless performance and image quality, please fine tune the angle of the antennas of both ends, i.e. the IP Camera and the Access Point (or link partner). Besides checking the Strength of your IP Camera, please also check the Client Strength from your Access Point to the IP Camera, weak receive strength or channel interference to the Access Point could results in bad image quality.

6.3 A/V Setting

6.3.1 Image Setting

For the security purpose, there are three areas can be setup for privacy mask. Click **"Area"** button first and pull an area on the above image. Finally, click **"Save"** button to reserve the setting. Adjust **"Brightness"**, **"Contrast"**, **"Hue"**, **"Saturation"** to get clear video. Moreover, the ICA-HM316I supports **"Back Light Compensation(BLC)"**, **"Night Mode"** and **"Video Orientation"**.

Camera



Privacy Mask

Area 1
Area 2
Area 3
Save

Image Setting

Brightness:

0

Contrast:

0

Sharpness:

0

Back Light Compensation:

☐ ON
 ☒ OFF

Night Mode:

Max 30 frame rate

Video Orientation:

☐ Flip
 ☐ Mirror

Default

6.3.2 Video Setting

User may select 2 streaming output simultaneously:

Streaming 1 Setting	Basic mode and Advanced mode.
Streaming 2 Setting	Basic mode, Advanced mode, and 3GPP mode



NOTE

Max Video Frame Rate for both streaming combined is 30 FPS.

Video System: click the drop down list to select the system type “NTSC/PAL”.

Video Setting	
Video System:	NTSC ▼

Streaming 1 and 2 Basic Mode:

Streaming 1 Setting	
<input checked="" type="radio"/> Basic Mode <input type="radio"/> Advanced Mode	
Resolution:	1600x1200 ▼
Quality:	Best ▼
Video Frame Rate:	15 FPS ▼
Video Format:	H.264 ▼
RTSP Path:	<input type="text"/> ex:rtsp://IP_Address/ Audio:G.711

Resolution	There are 8 resolutions can be chosen. 1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x144
Quality	There are 5 levels to adjust: Best/ High/ Standard/ Medium/ Low The higher the quality is, the bigger the file size is. Also not good for Internet transmitting
Video Frame Rate	The video refreshing rate per second.
Video Format	H.264 or JPEG.
RTSP Path	RTSP output name.

Streaming 1 and 2 Advanced Mode :

Streaming 1 Setting

☐ Basic Mode ☒ Advanced Mode

Resolution:

Bitrate Control Mode: ☐ CBR ☒ VBR

Video Quantitative:

Video Bitrate:

Video Frame Rate:

GOP Size: GOP = 15

Video Format:

RTSP Path: ex:rtsp://IP_Adress/ Audio:G.711

Resolution	There are 8 resolutions can be chosen. 1600x 1200, 1280x1024, 1280x960, 1280x720, 800x600, 640x480, 320x240, 176x144
Bitrate Control Mode	There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use. CBR : 32Kbps~4Mbps (the higher the CBR is, the better the video quality is) VBR : 1(Low) ~10(High) – Compression rate, the higher the compression rate, the lower the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.
Video Frame Rate	The video refreshing rate per second.
GOP Size	It means " Group of Pictures ". The higher the GOP is, the better the quality is.
Video Format	H.264 or JPEG.
RTSP Path	RTSP output name.

3GPP Streaming mode:

3GPP Streaming Setting

☐ Enabled ☒ Disabled (Resolution=176x144, FPS=5, Format=MPEG4)

3GPP Path: ex:rtsp://IP_Address/3g Audio:AMR
ex:rtsp://IP_Address/3gx No Audio

Enable or Disable	Enable or Disable 3GPP Streaming.
3GPP Path	3GPP output name.



NOTE

3GPP mode suggested setting: 176x144 resolutions, 5FPS, MPEG4 format.

6.3.3 Audio

The ICA-HM316 supports 2-way audio. User can send audio from ICA-HM316 Built-in mic to remote PC; User can also send audio from remote PC to ICA-HM316's external speaker.

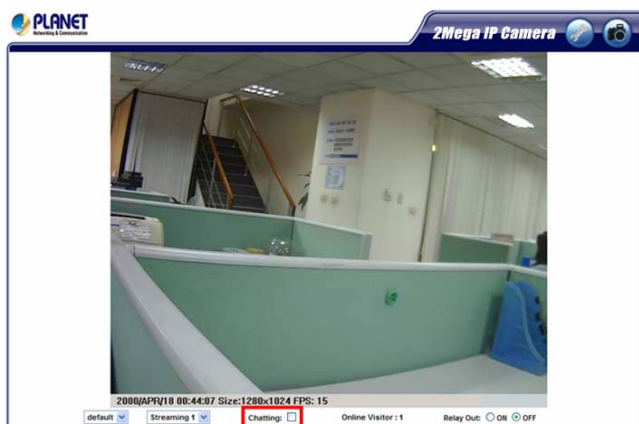
(1) Audio from IP camera built-in mic to local PC: select “**Enable**” to start this function.

Audio

IP Camera to PC

☒ Enabled ☐ Disabled

(2) Audio from local PC to ICA-HM316: Check “**chatting**” in the browsing page.




6.4 Event List

The ICA-HM316 provides multiple event settings.

6.4.1 Event Setting

Event Setting

Motion Detection



Area Setting:

Area 1	Area 2	Area 3
Sensitivity: 5 ▼	Sensitivity: 5 ▼	Sensitivity: 5 ▼

☐ Area 1: ☐ E-mail ☐ FTP ☐ Out1 ☐ Samba

☐ Area 2: ☐ E-mail ☐ FTP ☐ Out1 ☐ Samba

☐ Area 3: ☐ E-mail ☐ FTP ☐ Out1 ☐ Samba

Subject: PLANET IP Camera Warning!

Interval: 10 sec ▼ a period of time between every two motions detected.

☐ Based on the schedule

Record File

File Format: AVI File(with Record Time Setting) ▼

Record Time Setting

Pre Alarm: 5 sec ▼ **Post Alarm:** 5 sec ▼


Apply

Motion Detection	IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server and SAMBA, trigger the relay. To set up the motion area, click "Area Setting". Using mouse to drag and draw the area. The same operation for area 2 and 3.
Record File Setting	IP CAMERA allows 3 different types of recording file to change its record size. When motion/alarm is triggered, there are 3 different types of record mode. (1) AVI File (With Record File Setting) (2) Multi-JPEG (With Record File Setting), only with JPEG compression format. (3) Single JPEG (Single File with Interval Setting)
Record Time Setting	Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered. Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

6.4.2 Schedule

Schedule	After complete the schedule setup, the camera data will be recorded according to the schedule setup.
Snapshot	After enable the snapshot function, user can select the storage position of snapshot file, the interval time of snapshot and the reserved file name of snapshot.

Schedule																								
All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								

 With schedule setup.

Snapshot	
<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled	
Snapshot:	<input type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Samba
Interval:	<input type="text" value="10"/> Second(s) [1..50000]
File Name:	<input type="text" value="Snapshot"/>

6.4.3 I/O Setting

The ICA-HM316 supports 1 input/ 1 output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay and SAMBA.

I/O Setting	
Input Setting	
Input 1 Sensor:	<input type="text" value="N.O"/>
Input 1 Action:	<input type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Out1 <input type="checkbox"/> Samba
Subject:	<input type="text" value="GPIO In Detected!"/>
Interval:	<input type="text" value="10 sec"/>
<input type="checkbox"/> Based on the <u>schedule</u>	
Output Setting	
Mode Setting:	<input checked="" type="radio"/> OnOff Switch <input type="radio"/> Time Switch
Interval:	<input type="text" value="10 sec"/>



NOTE

Please connect to propriety relay box to reduce the risk of electric shock & damaged.

Alarm Input Setting	By GPIO I/O port input that provides related action while I/O input triggered.
GPIO Output Setting	By GPIO I/O port output that provides On/Off Switch, Slide Switch & Pan/Tilt Module for using with relay box.

GPIO pin define please refer to the part of Front / Back plane & I/O port pin assignment.

GPIO 0	ALARM INPUT Normal: 3.3V (The voltage differential from GPIO pin & GND) Active: 0V (GPIO 0 & GPIO1 link to PIN2 GND)
GPIO 1	
GPIO 2	ALARM OUTPUT Normal: 3.3V (The voltage differential from GPIO pin & GND) Active: 0V (GPIO 0 & GPIO1 link to PIN2 GND)
GPIO 3	

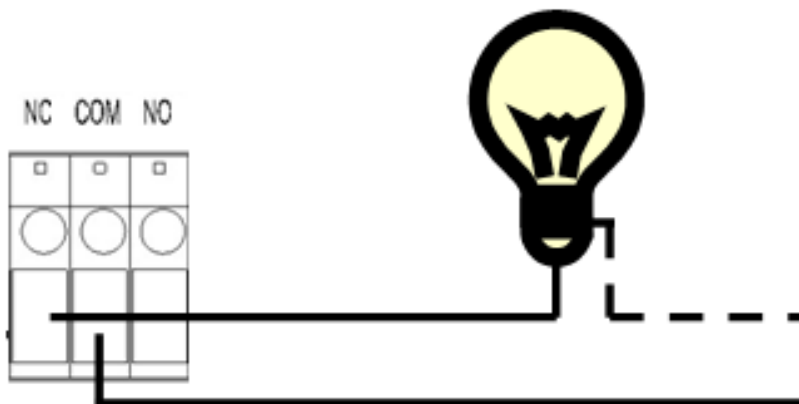
GPIO INSTALLATION EXAMPLE 1

Trigger a normal off (Normal Open) alarm siren on when event/motion occur at COM:



GPIO INSTALLATION EXAMPLE 2

Trigger the normal on (Normal Close) indoor illumination off when event / motion occur at COM:



6.4.4 Log List

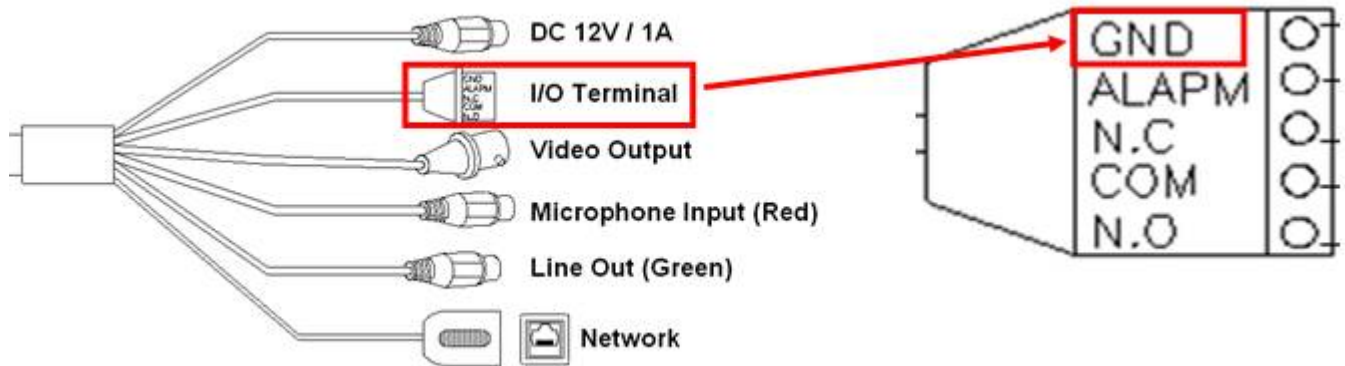
Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

Log List	
System Logs	Logs
Motion Detection Logs	Logs
I/O Logs	Logs
All Logs	Logs

Appendix A: Factory Default

To recover the default IP address and password, please follow the following steps.

1. Removing an Ethernet cable. (Please unplug the power, and remove the Ethernet cable too)
2. Plugging “a pink default cable” into “GND”.



3. Plug power cable. (Plug in the power, please don't plug the Ethernet cable.)
4. When camera starts again, please wait 10 seconds, and then remove the pink default cable.
5. Then unplug the power, after 5sec, re-plug the power and plug Ethernet cable.
6. Use the IPInstaller utility to search your ICA-HM316.
7. Re-login the camera using the default IP (<http://192.168.0.20>), and user name (admin), password (admin).

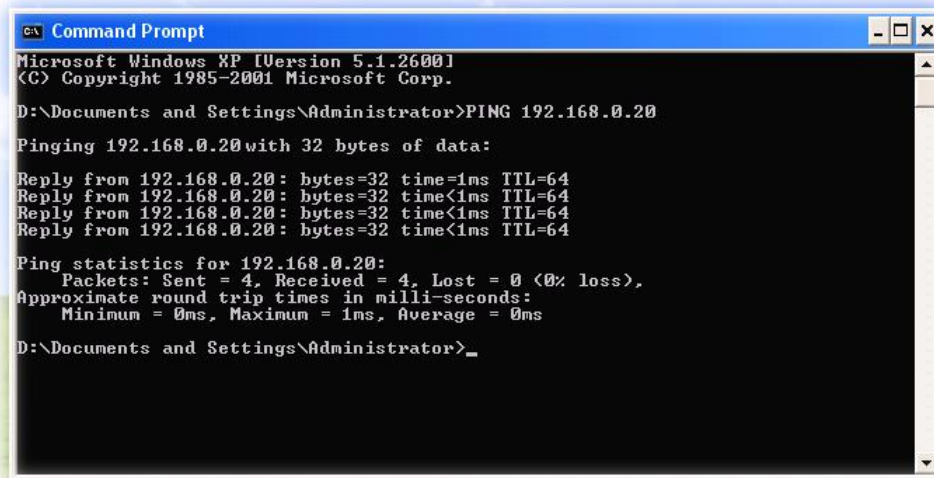
Appendix B: PING IP Address

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 devices 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.



```
C:\ Command Prompt
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
Reply from 192.168.0.20: bytes=32 time<1ms TTL=64
Reply from 192.168.0.20: bytes=32 time<1ms TTL=64
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 devices conflicts with the IP address of Internet camera, also can utilize the PING command but you must disconnect the Internet camera from the network first.

Appendix C: 3GPP Access

To use the 3GPP function, in addition to previous section, you might need more information or configuration to make this function work.

**NOTE**

To use the 3GPP function, it strongly recommends to install the Networked Device with a public and fixed IP address without any firewall protection.

RTSP Port:

Port 554 is the default for RTSP service. However, sometimes, some service providers change this port number for some reasons. If so, user needs to change this port accordingly.

Dialing procedure:

1. Choose a verified player (PacketVideo or Realplayer currently)
2. Use the following default URL to access:

rtsp://IP-Address/3g

Where *host* is the host name or IP address of the camera.

Compatible 3G mobile phone:

Please contact your dealer to get the approved list of compatible 3G phone.

**NOTE**

Besides IP camera and 3G mobile phone. You will also need to make sure the ISP and company has provided the 3GPP service to you.

Appendix D: 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 vice versa. Actual results generated by the Internet camera may be varying.

Image Resolution	Average range of data sizes for M-JPEG mode	Average bit rate for MPEG-4 mode	Average bit rate for H.264 mode
160 x 120 (QQVGA)	3 ~ 6k byte per frame	64kbps~256kbps @ 30fps	32kbps~192kbps @ 30fps
320 x 240 (QVGA)	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480 (VGA)	20 ~ 50K byte per frame	512kbps~2048kbps @ 30fps	384kbps~1536kbps @ 30fps
1280x1024 (SXGA)	100 ~ 200k byte per frame	NA	512kbps~3076kbps @ 15fps
1600x1200 (UXGA)	600 ~ 1500k byte per frame	NA	640kbps~6144kbps @ 15fps



NOTE

Audio streaming also takes bandwidth around 5 kbps to 64kbps. Most xDSL/Cable modem upload speeds may not even reach up to 128 kbps. Thus, you may not be able to receive any video while 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.

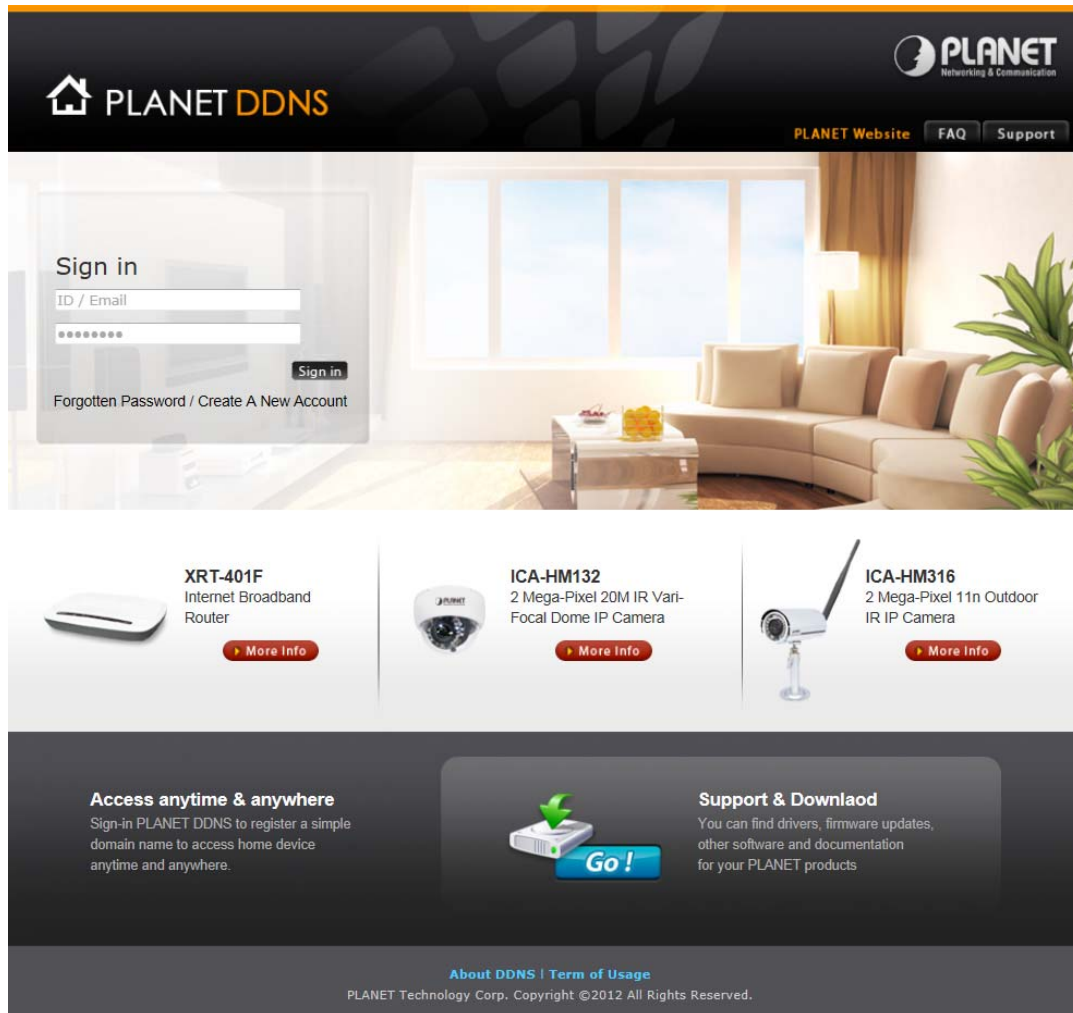
Appendix E: Planet DDNS Application

Configure PLANET DDNS steps:

Step 1 Enable DDNS option through accessing web page of ICA-HM316 series.

Step 2 Select on DDNS server provide, and register an account if you do not use yet.

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



The screenshot shows the PLANET DDNS website. At the top, there's a navigation bar with the PLANET logo, a home icon, and links for 'PLANET Website', 'FAQ', and 'Support'. The main content area features a 'Sign in' form with fields for 'ID / Email' and a password, a 'Sign in' button, and links for 'Forgotten Password' and 'Create A New Account'. Below the form, there are three product tiles: 'XRT-401F Internet Broadband Router', 'ICA-HM132 2 Mega-Pixel 20M IR Vari-Focal Dome IP Camera', and 'ICA-HM316 2 Mega-Pixel 11n Outdoor IR IP Camera'. Each tile includes an image of the product and a 'More Info' button. At the bottom, there's a section titled 'Access anytime & anywhere' with a description of the service, a 'Support & Download' section with a 'Go!' button, and a footer with 'About DDNS | Term of Usage' and 'PLANET Technology Corp. Copyright ©2012 All Rights Reserved.'

Appendix F:

Configure 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 setup as fixed IP address, also the port forwarding or Virtual Server function of router needs to be setup. 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 below:

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

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 setup 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.



[Home](#) | [General Setup](#) | [Status](#) | [Tool](#)

Internet Broadband Router

Status

- Internet Connection
- Device Status
- System Log
- Security Log
- Active DHCP Client
- Statistics

Current Time
1/1/2000 2:01:15

Internet Connection

View the current internet connection status and related information.

Attain IP Protocol :	Dynamic IP disconnect
IP Address :	
Subnet Mask :	
Default Gateway :	0.0.0.0
MAC Address :	00:11:22:33:44:56
Primary DNS :	
Secondary DNS :	

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 (e.g., **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.

The screenshot shows the 'Virtual Server' configuration page of a Planet Internet Broadband Router. The page has a dark blue header with the Planet logo and navigation links: Home, General Setup, Status, and Tool. A left sidebar contains a menu with System, WAN, LAN, Wireless, QoS, NAT (selected), and Firewall. The NAT section is expanded, showing options like Port Forwarding, Virtual Server (highlighted), Special applications, UPnP Setting, and ALG Settings. The main content area is titled 'Virtual Server' with a help icon. It contains a descriptive paragraph about configuring the router as a Virtual Server. Below this is a section to 'Enable Virtual Server' with a checked checkbox. A table for adding new virtual servers has columns for Private IP, Private Port, Type (dropdown), Public Port, WAN Port (dropdown), and Comment. Below the table are 'Add' and 'Reset' buttons. A 'Current Virtual Server Table' section shows an existing entry with Private IP 192.168.0.100, Private Port 80, Type TCP+UDP, Public Port 80, WAN Port WAN1, and Comment ICA-HM230. It includes a 'Select' checkbox and buttons for 'Delete Selected', 'Delete All', and 'Reset'. At the bottom right are 'Apply' and 'Cancel' buttons.

PLANET
Networking & Communication

| Home | General Setup | Status | Tool |

Internet Broadband Router

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"/>	WAN1	<input type="text"/>

Add Reset

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"/>

Delete Selected Delete All Reset

Apply Cancel

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 access from WAN by the router's WAN IP Address.

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

Appendix G: Troubleshooting & Frequently Asked Questions

Features	
The video and audio codec is adopted in the device.	<p>The device utilizes H.264, MPEG-4 and M-JPEG triple compression to providing high quality images. Where H.264 and MPEG-4 are standards for video compression and M-JPEG is a standard for image compression.</p> <p>The audio codec is defined as AMR for 3GPP and G.711 for RTSP streaming.</p>
The maximum number of user accesses the device simultaneously.	The maximum number of users is limited to 10. However, it also depends on the total bandwidth accessed to this device from clients.
Install this device	
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	<p>Username = admin and Password = admin.</p> <p>Note that it's all case sensitivity.</p>
Forgot the username and password	<p>Follow the steps below.</p> <p>(1)Remove power, and press and hold the button in the back of IP CAMERA.</p> <p>(2)Power on the camera. Don't release the button during the system booting.</p> <p>(3)It will take around 30 seconds to boot the camera.</p> <p>(4)Release the button when camera finishes proceed.</p> <p>(5)Re-login the camera using the default IP (http://192.168.0.20), and username (admin), password (admin).</p>
Forgot the IP address of the device.	Check IP address of device by using the PLANET IP Installer program or by UPnP discovery or set the device to default by Reset button.
PLANET IP Installer program cannot find the device.	<ul style="list-style-type: none"> • Re-power the device if cannot find the unit within 1 minutes. • Do not connect device over a router. PLANET IP Installer program cannot detect device over a router. • If IP address is not assigned to the PC which running PLANET IP Installer program, then PLANET IP Installer program cannot find device. Make sure that IP address is assigned to the PC properly.

	<ul style="list-style-type: none"> Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up this device. Check the firewall setting of your PC or Notebook.
Internet Explorer does not seem to work well with the device	Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
PLANET IP Installer program fails to save the network parameters.	Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Can not work with NAT router	Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function.
Some IP cameras are working but others are failed	Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera from Internet Explorer	<ul style="list-style-type: none"> Maybe the IP Address of the Network Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. Make sure the Internet connection and setting is ok. Make sure enter the IP address of Internet Explorer is correct. If the Network Camera has a dynamic address, it may have changed since you last checked it. Network congestion may prevent the web page appearing quickly. Wait for a while. <p>The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN.</p> <ul style="list-style-type: none"> Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address. The port number assigned in your Network Camera might not be available via Internet. Check your ISP for available port. The proxy server may prevent you from connecting directly to the Network Camera, set up not to use the proxy server. Confirm that Default Gateway address is correct. The router needs Port Forwarding feature. Refer to your router's

	<p>manual for details.</p> <ul style="list-style-type: none"> ● Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. ● Access the Network Camera from the Internet with the global IP address of the router and port number of Network Camera. ● Some routers reject the global IP address to access the Network Camera on the same LAN. Access with the private IP address and correct port number of Network Camera. ● When you use DDNS, you need to set Default Gateway and DNS server address. ● If it's not working after above procedure, reset Network Camera to default setting and installed it again.
Image or video does not appear in the main page.	<ul style="list-style-type: none"> ● The first time the PC connects to Network Camera, a pop-up Security Warning window will appear to download ActiveX Controls. When using Windows XP, or Vista, log on with an appropriate account that is authorized to install applications. ● Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
How to check the device's ActiveX is installed on your computer	<p>Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "Web Watch2 Control". The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the device's home page. Most likely, the ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.</p>
Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".	<p>Setup the IE security settings or configure the individual settings to allow downloading and scripting of ActiveX controls.</p>
The device work locally but not externally.	<ul style="list-style-type: none"> ● Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the device to be accessible outside your LAN. ● Make sure that the device isn't conflicting with any other web server running on your LAN. ● Check the configuration of the router settings allow the device to be accessed outside your local LAN. ● Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.

The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	<ul style="list-style-type: none"> • The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. • Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	<ul style="list-style-type: none"> • Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. • Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	<ul style="list-style-type: none"> • Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Video quality of the device	
The focus on the Camera is bad.	The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on the lens can degrade the image quality.
The color of the image is poor or strange.	<ul style="list-style-type: none"> • Adjust White Balance. • To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. • The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	<ul style="list-style-type: none"> • If the object is dark, the image will flicker. Make the condition around the Camera brighter.