

netCAM

User's Guide

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Revision History

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2.0.1	June 17, 2004	Release netCAM User Guides / James
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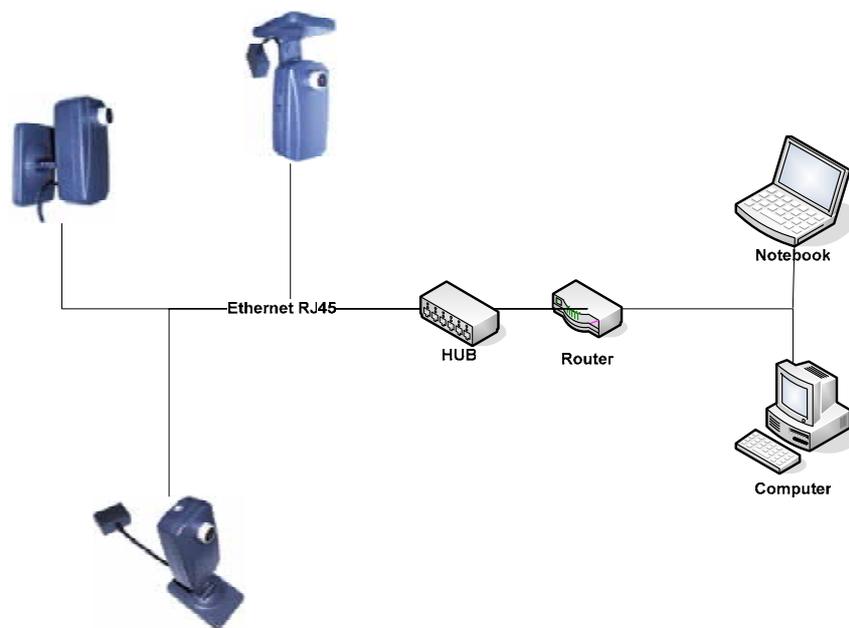
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1. Product Overview

1.1 Introduction

Thank you for choosing 3JTech products for netCAM. netCAM is a colored camera with Built-in IP address, Ethernet Software Stacks and Protocols. Plug netCAM directly to a RJ45 Ethernet port and you will be able to watch camera sites real-time anywhere in the world. Furthermore you will be able to control the camera from any PC/Notebook over the Internet through a standard web browser. Connecting directly to Ethernet network system, netCAM is a standalone digital network camera with a built-in CPU and web server transmitting high quality images.

1.2 Sample Environment



1.3 Package Contents

- 1 x netCAM Camera.
- 1 x Warranty Card.
- 1 x Operating CD (User's Manual/Software)
- 1X Quick Installation Guide.
- 1 x RJ45 Ethernet cable.
- 1 x RJ22 Power Adapter & Trigger I/O Connection.
- 1 x For US standard AC plug

1.4 Hardware Features

The following information contains the physical description of netCAM. This includes the functions and the locations of each connector and indicator. The information provides useful reference when installing the product. Please familiarize yourself with netCAM.

1.4.1 Exterior

Camera Sensor Micron VGA CMOS Sensor 1/4
Resolution 640x480
Illumination 2.0 Lux
Lens F: 4.5 mm, F: 2.8

1.4.2 Image

Video Format JPEG/MJPEG
Frame Rate 30fps@QVGA, 20ftp,
15fps@VGA
Video Resolution 320x240, 640x480
Light Frequency 50Hz, 60Hz
Brightness control Yes
Contrast control Yes
Saturation Yes

1.4.3 Hardware/System

CPU ARM7 32bit RISC CPU
SDRAM 16 MB
Flash ROM 2 MB
OS Linux 2.4 kernel
Image Processor TOPRO TP6800
Ethernet RJ-45, 10/100 Base-T auto-sensed

Note: User will be able to update and download the latest firmwares via internet.

SW_2: Software reset and reset to **default IP (192.168.1.99)**
Please hold for 5 seconds)



SW_1: H/W Power Reset

2. netCAM Installation

2.1 System Requirements

2.1.1 Local Area Network:

10Base-T Ethernet or 100BaseTX Fast Ethernet

2.1.2 System Requirement:

ActiveX Enabled and Compliant Web Browser (e.g. Microsoft Internet Explore 5.0 or later)

CPU: Pentium III, 450MHz or above

Memory Size: 128MB recommended

VGA card resolution: 800x600 or above (e.g. support Overlay function VGA card)

OS (Operating System): Windows XP, 2000

Other suggestion requirement: CD-ROM.

2.2 Network Configuration

You will require to download ActiveX applets in order to view your camera. Before you connect to the camera, please open your web browser and enter <http://61.56.193.43> to obtain the applet.



To begin configuring netCAM, please enter the default IP address (192.168.1.99) in your web browser. administrator **user's name** and **password** when netCAM is accessed.

netCAM can be manually configured if you cannot connect to the netCAM. You will have to modify your local network settings. For more detail please see **Appendix D - How to setup IP address of your PC.**

Default	Use's name: root
	Password: admin



netCAM requires an IP address for users to access. There are three different IP configurations; PPPoE, DHCP and Fixed IP.

If you are using dial up ADSL connecting to the Internet, it is recommended to select **PPPoE** as default connection. If your network supports DHCP, simply select **DHCP**. Otherwise, you might have to assign a fixed IP for netCAM. The factory default is on fixed IP mode. Connect your netCAM to the network by plugging a RJ-45 Ethernet wire between the device and your local network socket.

The factory defaults of your netCAM are listed below:

IP Address	192.168.1.99
Netmask	255.255.255.0
Gateway	disabled
DNS	disabled

You will need a client PC to configure the netCAM via network. It is recommended to use the following settings on your PC. (more details in **Appendix D - How to setup IP address of your PC**)

IP Address	192.168.1.11
Subnet mask	255.255.255.0
Gateway	disabled
DNS	disabled

Launch your web browser (e.g. IE or NETSCAPE) and type the IP address <http://192.168.1.99/> on the address bar of the browser and press "Enter". Once successfully connect to netCAM, you will be able to see login pages.

Note: **ActiveX** functions need to be activated on your computer to setup netCAM. (more details in **Appendix C -How to Setup ActiveX functions of your PC.**)

3 Using netCAM

Before using netCAM, users must have Active X control installed on the computer or notebook.

The camera's default screen will appear as the shown below upon successful log in. If the picture screen does not appear or Internet Explore shows an error page, refer to the troubleshooting section in **Appendix C - How to Setup ActiveX functions of your PC.**



netCAM has 2 main sections for its operation; **ActiveX** and **Config**.

Supporting Web Browsers:
Internet Explorer 5.0 or above
Netscape 6.0 or above

3.1 Functions

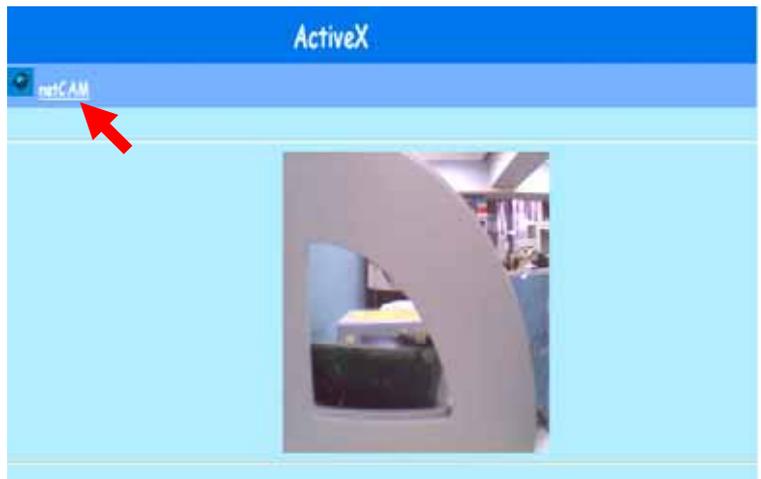
3.1.1 Camera View (Main Page)

netCAM will take a snapshot when initiated. The taken picture will be pasted on the webpage shown as the figure below. On top of the screen, there are 2 main functions; **ActiveX** and **Config**.



3.1.1.1 ActiveX

Click on **ActiveX** will enable the live stream camera image. You will be able to view live feeding images through the website. If you wish to terminate the Live Video, click "**netCAM**" to return the netCAM main page.

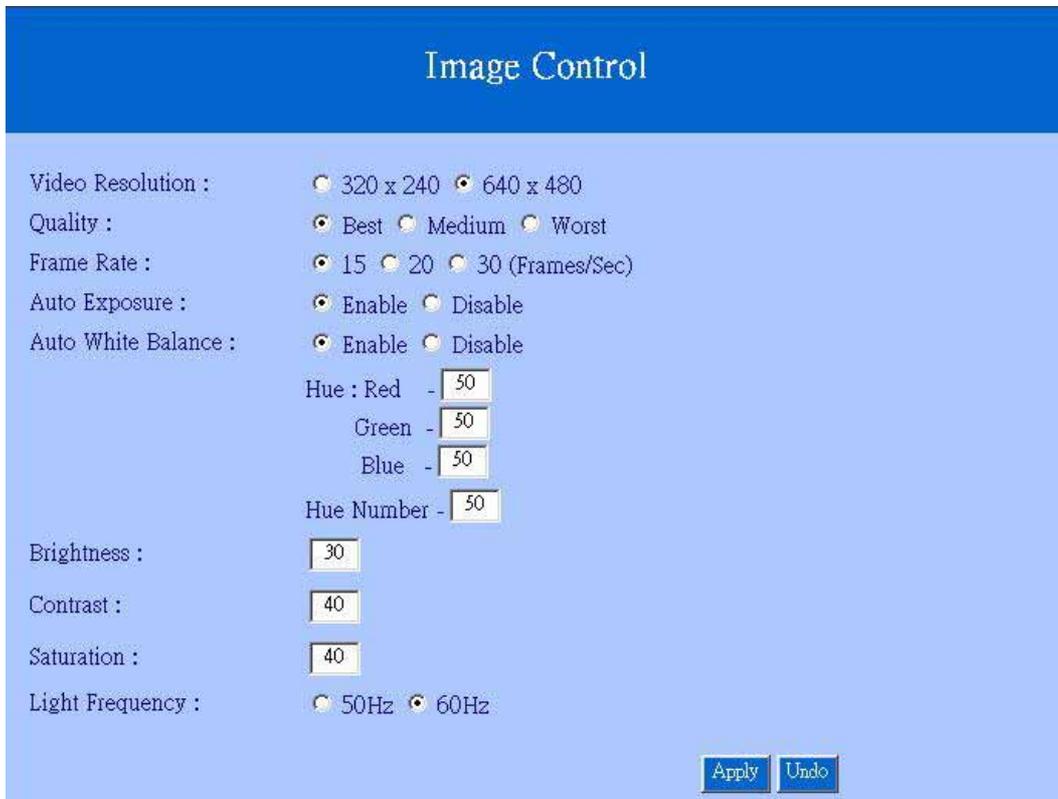


3.1.1.1 Config

You will be able to setup the camera through **Config** function.

3.1.2 Image Control

Image Control will change image's color and illumination. You can regulate "**Video Resolution**", "**Frame Rate**", "**Light Frequency**" and "**Color Control**".



3.1.2.1 Video Resolution: 320*240 / 640*480:

Set the camera output video resolution size. Higher resolution will provide greater video details, but it will require higher bandwidth then lower resolution.

Video Resolution : 320 x 240 640 x 480

3.1.2.2 Quality: Best / Medium / Worst:

Select netCAM output Video quality. Better quality video will have higher clarity image. Likewise it will require higher bandwidth and more time to process.

Quality : Best Medium Worst

3.1.2.3 Frame Rate: 15 / 20 / 30 (Frames/Sec):

Higher frame rate will provide smoother image.

Frame Rate : 15 20 30 (Frames/Sec)

3.1.2.4 Auto Exposure: Enable / Disable:

Enabling netCAM Auto Exposure function will automatically adjust exposure levels.

Auto Exposure : Enable Disable

3.1.2.5 Auto White Balance: Enable / Disable:

Enabling Auto White Balance will allow the camera to adjust ideal white balance.

Auto White Balance : Enable Disable

Hue : Red -
Green -
Blue -
Hue Number -

3.1.2.6 Hue: Red / Green / Blue / Number:

Manually adjust netCAM's Hue condition; you can modify the Red / Green and Blue color's hue or the total hue.

3.1.2.7 Brightness:

Adjust netCAM's brightness of the camera manually.

Brightness :

Contrast :

3.1.2.8 Contrast:

Adjust netCAM's contrast manually.

Saturation :

3.1.2.9 Saturation:

Adjust netCAM's Saturation manually.

3.1.2.10 Light Frequency:

Adjust the light frequency to suit your area of operation. 50 Hz and 60 Hz variants are available to accommodate the different light frequencies found in USA (60 Hz) and Europe (50 Hz) for optimal image quality.

Light Frequency : 50Hz 60Hz

After the changes are complete, please click “**Apply**” button to store the settings. Otherwise click the “**Undo**” button undo the changes.

3.2 Network/Admin

3.2.1 Basic Setup

You can select **PPPoE**, **DHCP** or **Fixed IP** according to the local network environment.



3.2.1.1 Host Name & Domain Name:

Some ISPs required these names as identifications to their network. You may have to check with your ISP to see if your Broadband Internet Service has been configured with a host and domain name. In most cases, leaving fields blank should also work.

Host Name:
Domain Name:

3.2.1.2 MAC Address:

Show the current netCAM MAC address.

IP Address (MAC Address: 00-00-11-11-22-34)

3.2.1.3 Acquire PPPoE IP address:

The IP address assigned by PPPoE may be outside your local area network. If the **Get an IP Address by PPPoE/Modem** is selected, you must set up the **PPPoE** configuration. It includes assigning the user name and password. You can set up to allocate “**Dynamic DNS**”.

Get an IP address by PPPoE

3.2.1.4 Get an IP address by DHCP:

If your camera is set as **Get an IP address by DHCP**. Then **Get an IP address by DHCP** you do not need to assign an IP address. DHCP will automatically release the IP address for netCAM. To avoid DHCP IP changed, you need to set the “**Dynamic DNS**”. Otherwise changes of IP address will cause camera accessing error.

3.2.1.5 Specify an IP address:

Please specify your netCAM IP address by yourself. Please do not assign the same IP address as other Network devices.

Specify an IP address

3.2.1.6 Subnet Mask Address:

Set only when necessary, else leave it as default. Default Subnet Mask Address is 255.255.255.0

Subnet Mask Address::

3.2.1.7 Default Gateway IP Address:

Your ISP will provide you with the Gateway IP Address. If the camera is set to **Get an IP Address by PPPoE**, these values will be assigned by your ISP.

Default Gateway IP Address:

3.2.1.8 Domain Name Servers:

Your ISP will provide you with at least one DNS IP Address. Multiple DNS IP setting is also common. The first available DNS entry is used in most cases. If the device is set to **Get an IP Address by PPPoE/Modem**, these values will be assigned by your ISP.

Domain Name Server 1:

After changes are done, click the “**Apply**” button to store the new settings. Otherwise click the “**Undo**” button return to previous settings.

3.2.2 Network Status

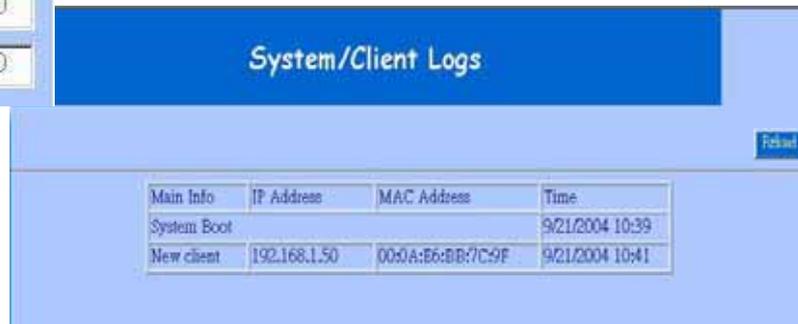
Network status will show the current IP address details. You will not be able to modify them here. If you wish to modify these settings, please set them up at basic setting. Click the “**Reload**” button to load the latest details.

IP Address	192	168	1	100
Network Mask	255	255	255	0
Default Gateway	192	168	1	1
Domain Name Server 1	168	95	1	1
Domain Name Server 2	0	0	0	0
Domain Name Server 3	0	0	0	0



3.2.3 System/Client Logs

System/Client Logs will display detail of the [Client Login Time], [IP address] and [MAC Address] information.



3.2.4 Device Admin (Multiport Setup)

Information regarding netCAM will be displayed. You can change the administrator password, MAC Address or Multiport defaults.

3.2.4.1 Product Name:

This is registry the products name in netCAM's firmware.

Product Name: IPCam

3.2.4.2 Version:

This is the current firmware version in netCAM (with date and time).

Version: Build Aug 31 2004 10:17:51 [software update](#)

You can also click "**software update**" to upload the latest firmware onto your netCAM.

Note: When updating firmware, it is important **NOT TO UNPLUG** the camera's power source or Ethernet connection. Interrupting firmware uploading may cause permanent damages.

3.2.4.3 Administrator Password:

Please type the new password and again at the confirming section to reconfirm in order to change the Administrator's login password,. Click "**Apply**" button for update.

Administrator Password

Password Change:

Password Confirm:

Note: Please remember your Administrator password. If the password is forgotten, please restore netCAM's Factory setting by referring to **Appendix A - Restore Factory Default Settings**)

3.2.4.4 MAC Address:

Camera Mac Address is given upon factory and cannot be modified.

MAC Address: 00 . 00 . 11 . 11 . 22 . 34

3.2.4.5 Reset Device:

Reset Device: Yes No

Reset your netCAM and restart without losing any stored information. Please select "**Yes**", and then click the "**Apply**" button.

3.2.4.6 Factory Defaults:

Reset your netCAM and restore factory default settings. All storage information will be cleared. Please select

Factory Defaults: Yes No

"**Yes**", and then click the "**Apply**" button. This will function as hardware's factory reset.

3.2.4.7 Multiport Defaults:

Check "**Yes**" to allow opening additional ports for accessing the camera. After enabling new access port, enter eg. **http://<CAMERA IP Address>: 8080** on web browser address column to access the camera.

Multiport Defaults: Yes No

port number:

3.2.5 PPPoE Setup

3.2.5.1 PPPoE:

Check **Enable** to enable PPPoE function. Click **Disable** to disable this function.

3.2.5.2 User Name / Password:

Input PPPoE User Name and Password for PPPoE account provided by your ISP. Click **Apply** button to update. This entry is required by certain ISPs when using PPPoE connection.

PPPoE Management:

3.2.5.3. PPPoE Management:

Display current PPPoE status.

3.2.6 Dynamic DNS

Dynamic DNS (http://www.dyndns.org)

Dynamic DNS: Enable Disable (Not Update)

Domain Name:

User Name:

Password:

Apply Undo

3.2.6.1 Enable / Disable Dynamic DNS:

Select “**Enable**” or “**Disable**” to start or stop the Dynamic DNS mechanism. ISP will dynamically allocate an IP address for the camera/router. Do the setup, if you connect to the Internet by ADSL/Cable modem, and you wish to map the dynamic IP address to a Domain Name.

Dynamic DNS: Enable Disable (Not Update)

3.2.6.2 Domain Name:

Enter a domain name in this field to map the IP address of your broadband router.

Domain Name:

3.2.6.3 User Name:

Enter the username of your Dynamic DNS Service

User Name:

3.2.6.4 Password:

Enter the password in the “Password” field to access the dynamic DNS.

Password:

3.2.7 FTP Service

FTP Service

Enable: Enable Disable

Server URL:

User:

Password:

Remote Path:

Apply Undo

3.2.7.1 FTP service:

netCAM is able to upload images/video captures at the rate of 1 picture per second to FTP site specified by the user. Select “**Enable**” or “**Disable**” use the FTP service.

Enable: Enable Disable

3.2.7.2 Server URL:

Define Upload FTP URL address. (Without the path of the FTP server)

Server URL:

User:

Password:

3.2.7.3 User & Password:

Input the the user name and the password required to login the FTP server.

3.2.7.4 Remote Path:

Please enter the remote FTP path which the images will be stored.

Remote Path:

3.2.8 User Management

You can create accounts to restrict anonymous users from accessing the camera. There are three security levels; Admin, User and Guest. You can create up to maximum of 16 accounts for different level users.

3.2.8.1 Security Levels:

1. Admin: Highest

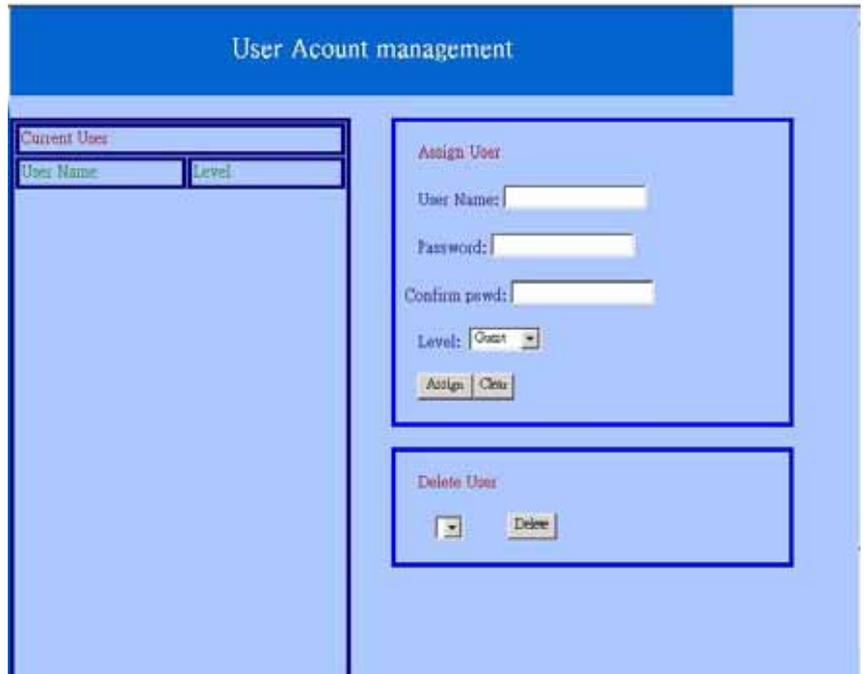
Admin will be able to enter all setups and change the settings.

2. User: Medium

User can change settings such as Camera View, Image Control, Ftp Service, Email Service, and NTP service.

3. Guest: Lowest

Guest can only do viewings.



Admin accounts cannot be changed to Guest or User level.
The maximum account is 16 (excluding root).

Appendix A - Restore Factory Default Settings

Press and hold the **Reset** button for 5 seconds to reset the camera to its factory defaults. The Green indicator LED light will lid when it is finish reset procedure.



SW_2: Software reset and reset to
Default IP (192.168.1.99)
Parameter (Please Push 5 /Sec)

SW_1: H/W Power Reset

Note: You will need to reconfigure your camera settings after resetting the camera. The netCAM will recover to the factory default username (**root**) and password (**admin**). The network settings on your camera will also be restored to the default value. Therefore you may need to reconfigure the camera using the netCAM IP Lite.

Appendix B - Factory Default Value

Image Control Setup

Item	Default Value
Video Resolution	640 x 480
Quality	Best
Frame Rate	15
Auto Exposure	Enable
Auto White Balance	Enable
Hue: Red	50
Hue: Green	50
Hue: Blue	50
Hue:General Number	50
Brightness	30
Contrast	40
Saturation	40
Light Frequency	60 Hz

Basic Setup

Item	Default Value
Host Name	*Blank
Domain Name	*Blank
IP Address	Specify an IP address 192.168.1.99
Subnet Mask Address	255.255.255.0
Default Gateway IP address	192.168.1.254
Domain Name Server 1	168.95.1.1
Domain Name Server 2	*Blank
Domain Name Server 3	*Blank

Note: Blank means there is no Value.
Mac address will be assigned by the 3JTech and cannot be changed

Device Admin

Item	Default Value
Administrator	admin
Password	
MAC Address	*Default by factory
Reset Device	No
Factory Defaults	No
Multiport Defaults	No
Multiport Defaults Port Number	0

PPPoE Setup

Item	Default Value
PPPoE	Disable
User Name	*Blank
Password	*Blank

Dynamic DNS Setup

Item	Default Value
Dynamic DNS	Disable
Domain Name	*Blank
User Name	*Blank
Password	*Blank

FTP Service setup

Item	Default Value
FTP Service	Disable
Server URL	*Blank
User Name	*Blank
Password	*Blank
Remote Path	*Blank

User Account Management

Item	Default Value
User Name	*Blank
Password	*Blank
Confirm Password	*Blank
Level	Guest

Appendix C - How to Setup ActiveX functions for your PC

All the **ActiveX** functions must be enabled in the computer. To ensure **ActiveX** is enabled, please follow the steps as below:

- 1) Open Internet Explorer,
- 2) Select **Tools** on top of the IE menu bar,
- 3) Select **Internet Options**,
- 4) Go to **Security**,
- 5) Select **Custom Levels**,
- 6) Activate all the **ActiveX** controls and click **OK**,
- 7) Go to our **netCAM** site.

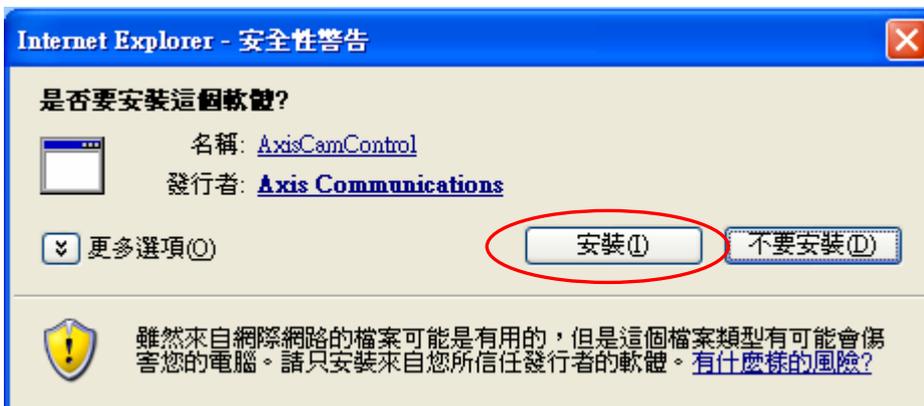
(3JTech netCAM website IP address : <http://61.56.193.43>

Dynamic DNS : <http://3jtech.dyndns.org> .)

Please wait few seconds for the Applet to download.



Once activated the ActiveX controls and downloaded the applet program, you are ready to browse the camera sites! And NOW, you can connect to your netCAM for settings.
(netCAM website the default IP address <http://192.168.1.99/> .)

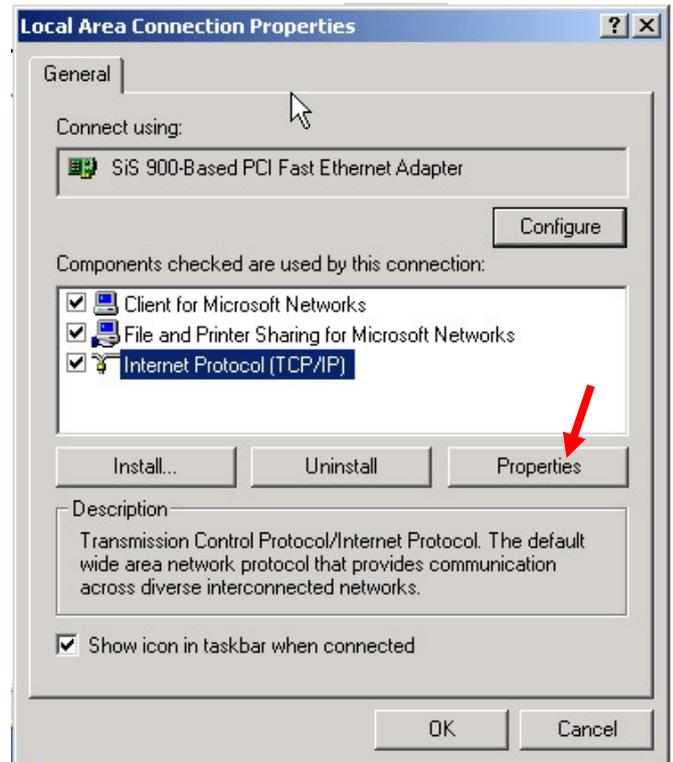
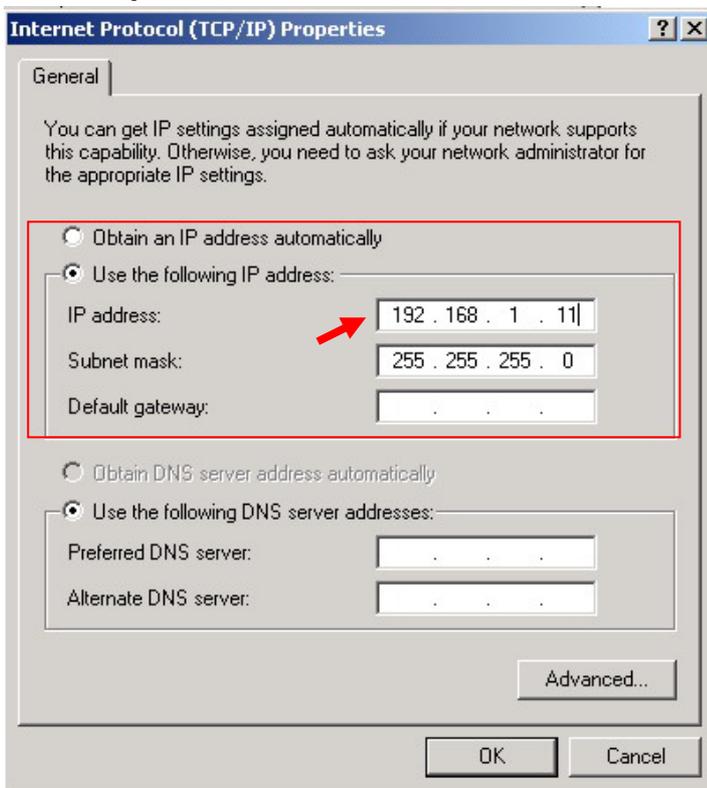


There are two methods to view camera sites via the Internet Explorer. You can either input the IP address with port number or enter the Domain Name to connect camera site.

Appendix D - How to setup IP address of your PC

Please follow the following illustration procedure to setup IP address on your PC.

1. Open “**Control Panel**”, execute “**Network and Dial-up connection**”.
2. Click “**Local Area Connection**”, right click and select **Properties**.
3. Choose “**Internet Protocol (TCP/IP)**”, click **Properties**.



4. After configuring **IP Address** and **Subnet mask**, press “**OK**”.
5. Press “**OK**” in “**Internet Protocol (TCP/IP)**”.

Thank you for choosing 3JTech products; we hope you enjoy this netCAM and keep your eyes opened for additional functions to our products! If you have any questions, please email us at tech@3jtech.com or tech@3jtech.com.tw.