Grand Wi-Fi Camera

Wi-Fi Cam + IP Cam + PC Cam

User's   Manual

The information in this document is subject to change without notice.

Federal Communications Radio Frequency Interference Statement.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, Pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual 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 of television reception, which can be determined by turning the equipment off or on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Notice :

(1) The changes or modifications not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.
(2) Shielded interface cables and AC power adapter, if any must be used in order to comply with the emission limits.

IMPORTANT NOTE :
To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.
THIS DEVICE COMPLIES WITH PART 15 OF THE
FCCRULES. OPERATIONS 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 INTERFEERENCE THAT MAY
CAUSE UNDESRIED OPERATION

Printed in Taiwan R.O.C.

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CHAPTER 1

Welcome to Wi-Fi Camera
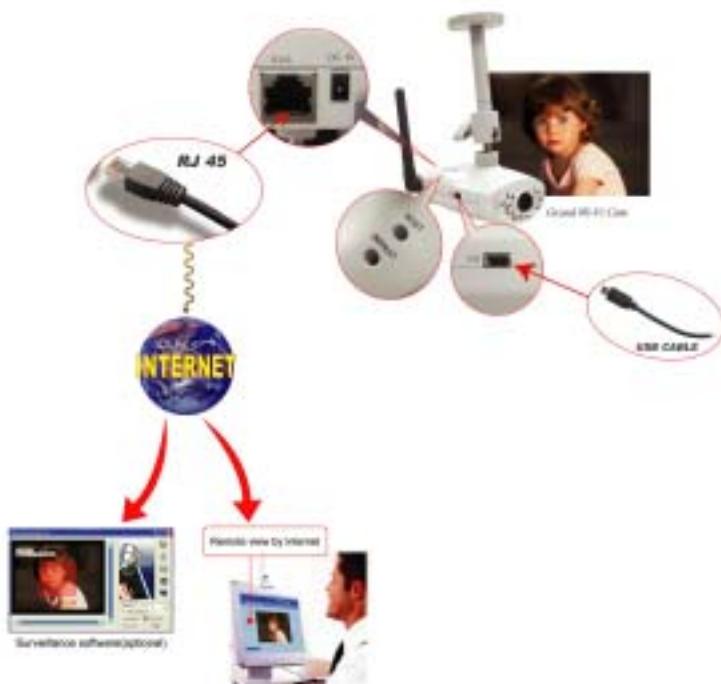
1.1 Introduction

Nowadays, more and more people are aware of their personal, home and office security and are finding solution to protect themselves. With our **Grand Wi-Fi Camera**, It provides you the ideal solution to operate with Internet Explorer web browser.

Grand Wi-Fi Camera built-in a high-speed image and network processor and It is a powerful embedded device with many Internet services such as Email, FTP, DDNS, PPPoE, NTP, User Manager, and Image Control. The **Grand Wi-Fi Camera** includes a high quality CMOS sensor with 6 infrared LEDs that provide image in the dark.

1.2 Product Features

1. High Resolution Image Processor (640*480:15fps, 320x240:30fps) with built-in MJPEG encoder.
2. Ethernet RJ-45,10/100 Base-T auto-sense.
3. Remote view through the IE browser using an IP address
4. infrared LEDs to provide images in the dark.
5. Supports many valuable Internet services: Email, FTP, PPPoE, Dynamic DNS, NTP service, User Management, and Image Quality Control.
6. USB 1.1 Interface, compatible with Microsoft MSN and NetMeeting.

1.3 System and network environment

1. LAN: 10Base-T Ethernet or 100Base TX Fast Ethernet
2. More than one fixed IP address is recommended
3. A 10/100Base-T switch HUB is required
4. Microsoft Internet Explore 5.0 or above
5. Pentium4 1.3GHz CPU or above
6. 64MB RAM or above
7. VGA card with 8MB Memory at 800x600 or above
8. Windows 2000/XP is recommended

Important: **A fixed IP address is not required to access camera from the Internet. However if your IP address is dynamic, you need to ask your Internet Service Provider for the Dynamic DNS service.**

1.4 Package Contents

1. Grand Wi-Fi Camera
2. Scaffold
3. Screw (for Reset & Default Key use)
4. User's Manual
5. Driver CD (Surveillance software is optional)
6. USB Cable
7. RJ-45 Cable (crossover wire)
8. 5V DC Adapter

CHAPTER 2

## Hardware Description and Connection

2.1 Hardware description

1. Camera switch : change the mode between Web Camera (USB) and IP Camera
2. Connector and Interface : USB 1.1, RJ45 and Power adapter
3. Reset and Default :
   a. Reset : When you change the mode between Web Cam and IP Camera or set the IP Camera, you must reset (reboot) the system
   b. Default : **If you forget the IP address or ID Password, you can Press "Default" until the Ready LED is off.**
original default parameters
   c. Default IP address: http://192.168.1.100
      Default User ID: root
      Default User Password: admin
4. The indicator LED :
   a. Power LED : The light will be turned on, when you connect the power supply to the Power connector.
   b. Link LED : When IP Camera is connected to the network, this light will be turned on.
   c. 10/100 T Base LED : Check whether the network status is in high speed or not.

   d. Ready : **In IP Camera mode, after the ready LED is on about 40 ~ 50 seconds the IP Camera will be operational.**
5. 6 infrared LEDs and night-vision lens

2.2 First time configuring the IP Camera

For first time configuration, please connect IP Camera and your computer as the following figure:
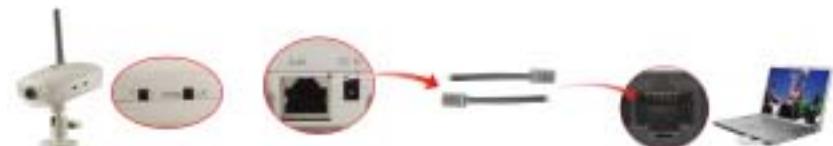
Step1 : Change the switch to the mode "IP Camera" and reset the camera
Step2 : Connect IP Camera and Computer with RJ45 Cable directly
Step3 :

When the LED is on and waiting for 40 ~ 50 seconds, then you must configuring the IP address on your computer

IP Configuration
1. Access **Network settings** by clicking **Start => Settings => Control Panel**
2. Double click the **"Network"** and **"Dial-up Connections"** icon.
3. Double-click the **"Local Area Connection"** icon for the Ethernet adapter,and click the **"Properties"** button.
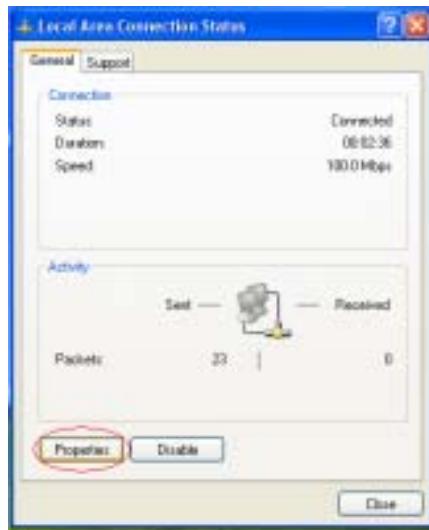
Local Area Connection 1 Status Screen

In the **Local Area Connection Properties box**, please select the item **"Internet Protocol (TCP/IP)"**, and click the **"Properties"** button.
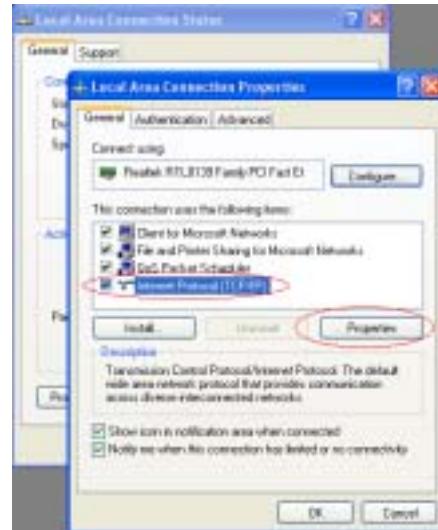

4. **The IP Configuration :** Please change the parameters of **IP address** / **net**

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mask address / **Gateway IP** and **DNS address**. We suggest that you use the same IP parameter as the following sample figure.
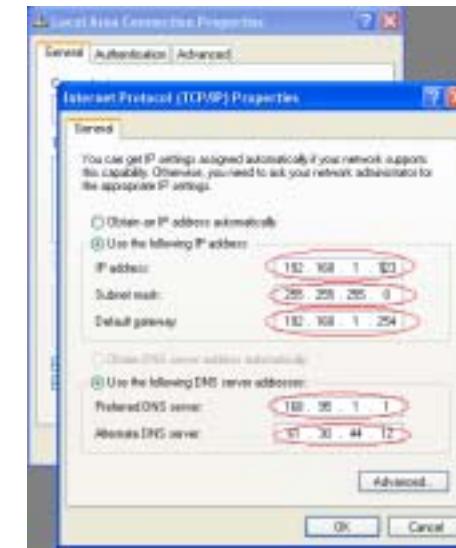
Important: Please remember the original parameters because you will need to restore those after completing the IP Camera configuration.

1. Input the **IP address** based on the default network **192.168.1.x** (where x is between 1 and 254), and use **255.255.255.0** for the Subnet mask. The Default Gateway is 192.168.1.254.
2. Please make sure that the IP address is not the same with other network device's IP Address (Such as the IP Camera's 192.168.1.100).

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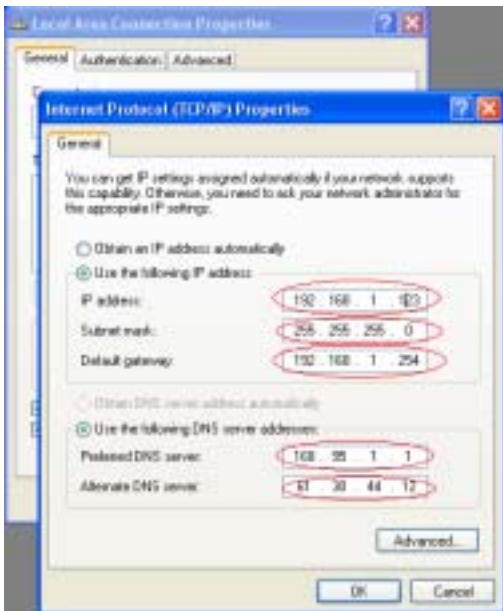
TCP/IP Properties Screen

3. Enter the **DNS address**, which differs according to your network setting. You may need to ask your network provider (ISP).

2.3 Access the IP Camera via Internet Explorer

Default IP Camera's IP address is 192.168.1.100. To open IP Camera's home page, please type **http://192.168.1.100** in Internet Explorer's address bar and press **"Enter"** on your keyboard and then login with user name: **root**, password: **admin**.

Login Screen

Default User Name: root
Default Password: admin
Default IP address: 192.168.1.100

If no connection can be established then you have to modify your network setting. The IP Camera can be used to manually configure the camera's network settings. Please see our **Appendix A: Network Problem Utilities** for more detail.

Important: If you forget the address or ID Password, please click the "Default" button on the body until the ready light been turned off.

2.4 WEB Browser Configuration

1. From any PC on the local network, start Internet Explorer and enter the camera's IP address in the address bar, as the picture below
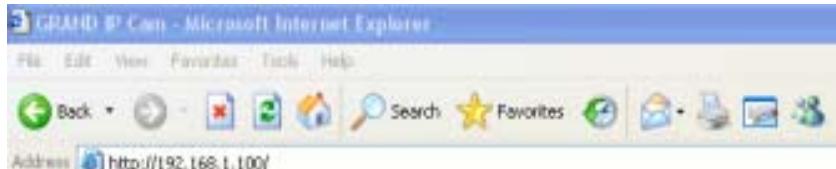

**IP Camera's IP Address in Internet Explorer**

2. The first time accessing the web server, it will need to install an ActiveX component on your Internet Explorer. You may need to change the default setting on **Internet Explore Security.**

Internet Explore Security Setting:

Step1 : click **"Tool"** => **"Internet Options"** => **"Security"** => **"Default Level"**.
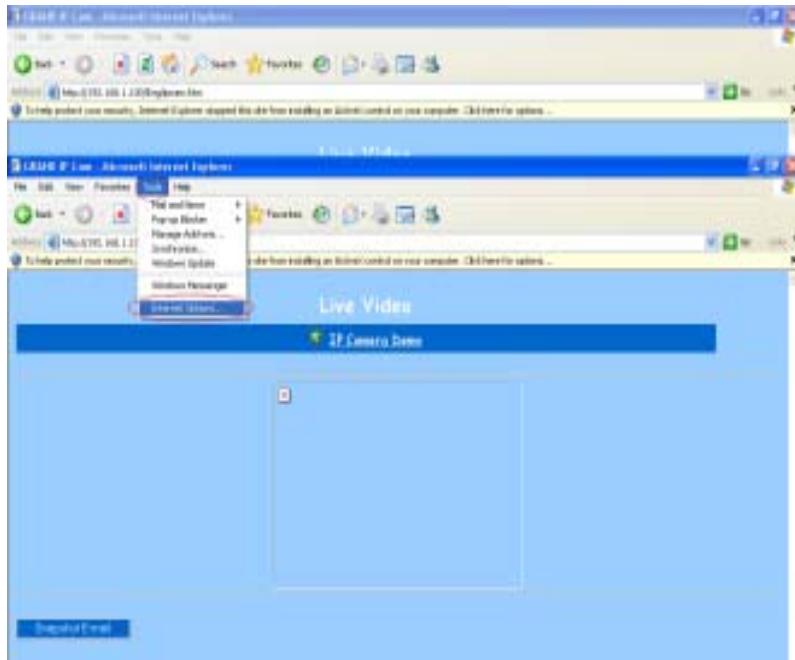
Internet Explorer Internet Options

Internet Explorer Security Modify

Step2 : Then, please click **"Custom Level"** and set the parameter as the following figure
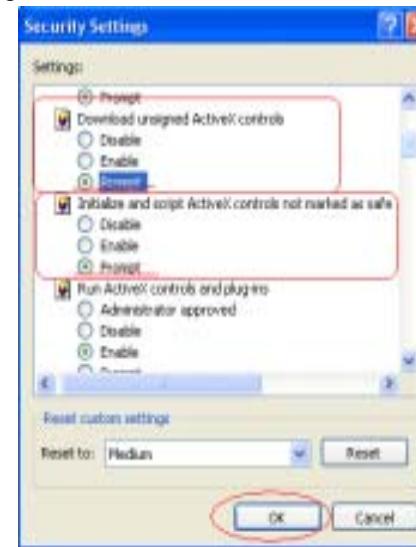
ActiveX Security Settings

3. Please remember to select Enable for the two items: **"Download unsigned ActiveX controls"** and **"Initialize and script controls not marked as safe"** If you want to learn more, please refer to the troubleshooting section In **Chapter 5: Frequency Ask Questions**.

4. Snapshot E-mail: Send the Live Video Screen capture via E-mail, please refer the setting about **[Configuration]** => **[Advanced Configuration]** => **[E-mail service Setup]**.

2.5 IP Address Configuration:

Please click **Basic Setup** to go to the Page: http://192.168.1.100/Eng/BasicSetup.htm
Depending on your network setup, you can see the following figures.
If you will use a fixed IP Address, please set the following parameters including Subnet Mask, Gateway IP Address, and Domain Name Service. You can ask your Broadband Internet Service Provider for the details.

**Important: After you complete the setting for IP Camera, please remember to restore the IP address parameter on your computer**.

2.6 MAC Address Configuration (If you have more than one IP Cameras, you must to do this)

Click **Device Admin** to go to the Page: http://192.168.0.100/Eng/Admin.htm
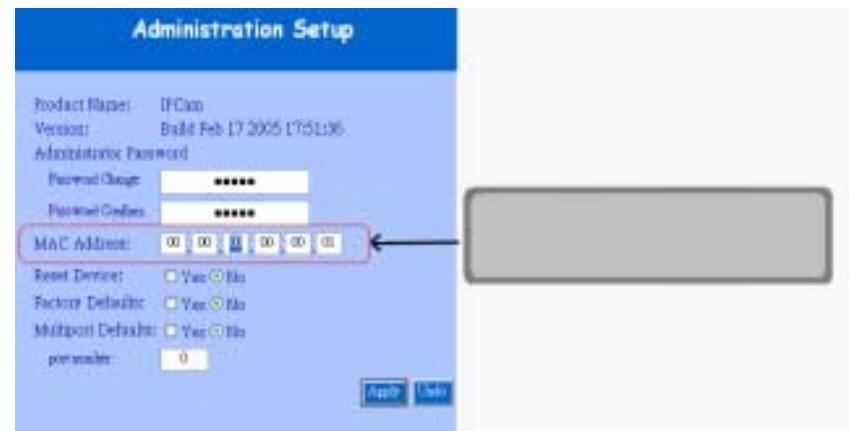
Important: Each IP Camera should have its own unique Mac Address, so you can not use the default address "00-00-00-00-00-01." Please input a unique MAC Address as shown in the figure.

2.7 How to Connect to Internet with ADSL
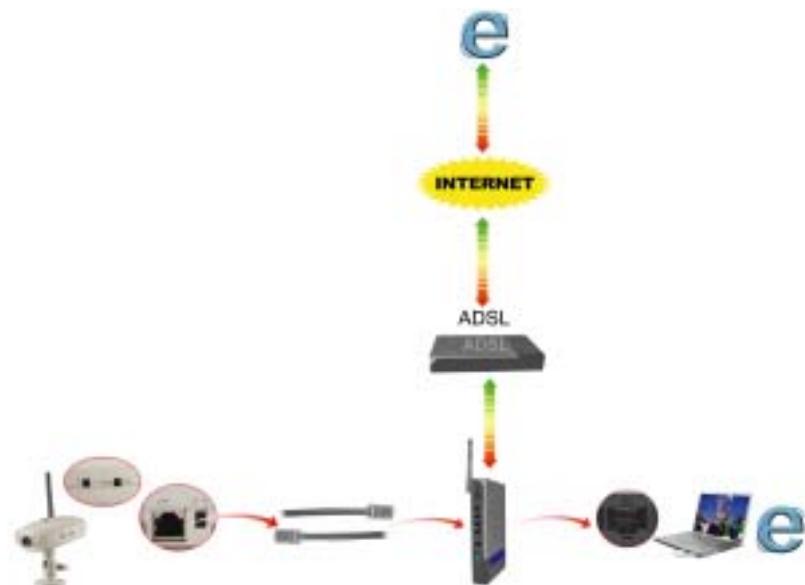
If you want to connect the IP Camera to the Internet and local ethernet at the same time, you must use the function "ADSL PPPoE"

Step1 : Click **Basic Setup** and select "Get an IP Address by PPPoE"

Step2 : Click **PPPoE** to go to http://192.168.1.100/Eng/PPPoE.htm and type the ID and Password for ADSL modem


2.8 WEB Camera (USB Camera) Configuration
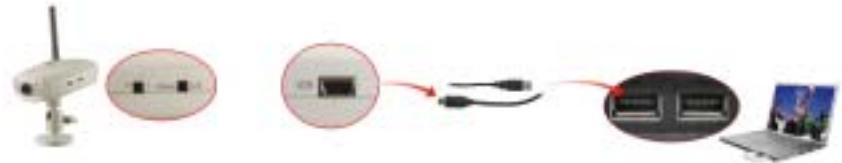
Step1 : Change the switch to the mode "Web Camera" and reset the camera.

Step2 : Connect IP Camera and Computer with USB Cable directly.

Step3 : Install the USB driver on the software CD.
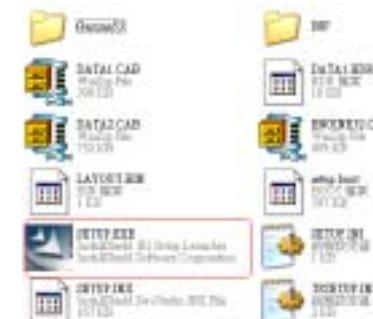
Step4 : Open Microsoft NetMeeting or MSN Messenger, then you can control the Image with MSN or NetMeeting.

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Chapter 3

Basic Configuration

3.1 Image control

In this chapter, we will introduce some basic configuration of GRAND Wi-Fi Camera.

Image Control

There are some control items:

1. Video Resolution: 320*240 / 640*480: Select IP Camera output Video Resolution. The higher resolution will be clearer than the smaller, but it will occupy larger bandwidth.

2. Quality: Best / Medium / Worst: Select IP Camera output Video quality. The better resolution will be clearer, but it will also occupy larger bandwidth.

3. Frame Rate: 15 / 20 / 30 (Frames/Sec): Select IP Camera output Video Frame Rate. The resolution 640*480 only supports 15 FPS(Frames/sec)

4. Auto Exposure: Enable / Disable: Enables or disables the IP Camera's Auto Exposure function, which automatically modulates light condition.

5. Auto White Balance: Enable / Disable: the Auto White Balance function, which automatically modulates white color for the best condition.

6. Hue Red / Green / Blue / Number: Modulate IP Camera's Image performance (Hue, Brightness, Contrast, Saturation)
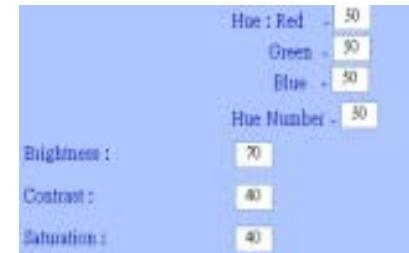
In the dark, we suggest raising the "brightness condition**"**

7. Light Frequency: Adjust the light frequency to suit your country. 60 Hz is used in USA and 50 Hz is used in Europe.

After adjust those parameters, please click the **"Apply"** button to save the setting. Otherwise click the **"Undo"** button to discard those modifications.

3.2 Basic LAN configuration

IP Camera Setting – Basic LAN Setup

1. Host Name & Domain Name: If you do not know this one, you can ignore this item

Host Name:
Domain Name:

2. MAC Address: Show current MAC address used by the IP Camera.

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

3. Get an IP address by PPPoE: If **"Get an IP Address by PPPoE"** is selected, you must also setup the **PPPoE** configuration to login the ADSL Modem.

○ Get an IP address by PPPoE

4. Get an IP address by DHCP: If your network uses DHCP to assign IP address then you won't need to manually assign IP address by yourself.

○ Get an IP address by DHCP

5. Specify an IP address: Specify your GRAND IP Camera II's IP address by yourself. Don't assign the same IP address as another network device.

⊙ Specify an IP address 192 . 168 . 1 . 100

6. Subnet Mask Address: Default Subnet Mask Address is: 255.255.255.0

Subnet Mask Address::   255 . 255 . 255 . 0

7. Default Gateway IP Address: This setting depends on your Internet Service Provider.

Default Gateway IP Address: 192 . 168 . 1 . 254

8~10. Domain Name Server: Your Internet Service provider will provide you with at least one DNS IP Address.

Domain Name Server 1:   168 . 95 . 1 . 1

3.3 Wireless Setup

Note: This function is only used by GRAND Wi-Fi Camera

Wireless LAN Setup

1. Wireless opmode: Ad Hoc / Infrastructure: Switch the Wi-Fi Camera wireless mode as Ad Hoc mode (point to point), or Infrastructure mode (Broadcast).

Wireless opmode: ○ Ad Hoc ⊙ Infrastructure

Ad Hoc: If you want to connect the Wi-Fi camera and PC or notebook directly, please select this mode. Make sure your notebook includes the Wireless LAN Card (802.11b) and you must set the parameter for 802.11b to Ad Hoc.

Infrastructure: If there is a wireless AP (Access Point), please select this mode.

2. SSID: SSID is like the User ID which is used by the Wireless Lan.

SSID:

3. WEP Enable / Disable: Enable/Disable the wireless WEP encryption

WEP Enable/Disable: ⊙ Enable   ○ Disable

4. WEP Key Length: 64 bits (10 digits) / 128 bits (26 digits): Change the
WEP key length; this parameter must be the same as your
Wireless Access Point (AP)

5. WEP Key (HEX mode): Assign WEP digital Number Key. The digital
numbers must the same as the WEP Key which was used by the
Wireless AP (Access Point).

6. IP setup: you can use the same parameter in the **Basic Setup**

3.4 Network Status

Shows the current Ethernet information, as in the following figure.

Network Status

3.5 System / Client Log

System / Client Log

Show System / Client Logs; please click the **"Reload"** button to load the
latest logs. The logs display details of the [Client Login Time] [IP address]
[MAC Address] information.

Chapter 4

Advance Configuration

This chapter introduces advanced configuration for the IP Camera.

4.1 Device administration Setup

Administration Setup

1. Administrator Password: You can modify the Administrator's login password then click the **"Apply"** button to update.

Default User ID: root
Default User Password: admin
Caution: Please remember your Administrator password. If you have forgotten your administrator password, please refer to chapter5's FAQ.

4. MAC Address: To modify the GRAND IP Camera II's MAC address, type a unique MAC address then click the **"Apply"** button to update the setting. You should use the MAC address that is printed on the case.

5. Reset Device: Yes / No: Reset your GRAND IP Camera II and restart without lost any storage information. Please select **"Yes"**, and then click the **"Apply"** button.

6. Factory Defaults: Yes / No: Reset your GRAND IP Camera II and restart with factory default information. All storage information will clear. Please select **"Yes"**, and then click the **"Apply"** button. This is the same as the Hardware factory reset.

7. Multiport Defaults: Yes / No: Check **"Enable"** to allow you to configure the broadband router from WAN side. To access the setting page from external side, enter **"http://<WAN IP Address>: 8080"** in the web browser

4.2 PPPoE Setup

IP Camera Setting – PPPoE Setup

1. PPPoE: Enable / Disable: Click **"Enable"** to enable the PPPoE function. You can then connect the IP Camera with an ADSL modem

2. User Name / Password: Input PPPoE User Name and Password for automatic login using PPPoE. Click **"Apply"** button to update.

3. PPPoE Management: Shows the current PPPoE status.

4.3 Dynamic DNS Setup

IP Camera Setting – Dynamic DNS Setup

1. Dynamic DNS: Enable / Disable (Not Update): Select "Enable**"** or "Disable**"** to use or not use the Dynamic DNS mechanism. If you connect to Internet using ADSL/Cable modem the ISP will dynamic allocate an IP address to your router. If you want the dynamic IP address mapping to static Domain Name, you can set the Dynamic DNS Settings.

2. Domain Name: Input a domain name in this field that you want to map to IP address of your broadband router.

3. User Name: Input the user name of your Dynamic DNS Service

4. Password: Input a password to access the dynamic DNS.

5. Server: Input the server address of the dynamic DNS server.

4.4 FTP Service Setup

IP Camera Setting – FTP Service Setup

1. FTP service: Enable / Disable: Select "Enable**"** or "Disable**"** to upload captured images to a FTP server. The GRAND IP Camera will automatically capture the image and upload to FTP Server

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

3. User & Password: The user name and the password to login the FTP
server.

4. Remote Path: The folder path to storage those images.

4.5 E-Mail Service Setup

IP Camera Setting – E-Mail Service Setup

1. E-Mail service: Enable / Disable: Select "Enable" or "Disable" to send
the captured images via E-mail service.

2. Mail Server: Input your mail server to send this e-mail (POP3 Server)

3. Sender's Address: Input the e-Mail address to send this e-Mail.

4. E-mail address To: Enter the e-Mail address to receive this e-Mail.

5. Subject: Enter the E-mail Subject for the mail receiver

6. Interval In Minute: Set the interval the E-mail will be sent

4.6 NTP Timer Service Setup

IP Camera Setting – NTP Time Service Setup

1. Enable Time Zone: Enable / Disable: Enable / Disable Time Zone
reference

2.Time Zone: Select your locate Time Zone area. It will reference the GMT
location time for your GRAND IP Camera II.
Note: Time Server must be enabled to use this function.

3. Enable Time Server: Enable / Disable: Enable / Disable reference time
form the Time Server. This is the recommended setting on the Internet
environment.

4. Time Server IP address: Input reference Time Server IP address. Enter the IP Address of the Time Server in this field. The IP address will be listed with the time server information on the web.

Time Server IP address: 161.53.40.3

5. Current time: Shows the current time in this format:

Sep 01, 2004 13:30:42

6. Apply/Cancel: After making sure all the settings are correct, click the **"Apply"** button to save the setting.

4.7 User Management

User Account Setup

1. Current User: Lists the currently stored User Name and information.

2. Assign User: Add a new user and assign password and Level

Level: There are 3 different levels you can select. These are Guest / User and Admin.

3. Delete User: Delete the User account.

4. Reload: Reload the list of currently registered users.

CHAPTER 5

TROUBLESHOOTING

Please check the following chart for a possible solution to the problem you are experiencing, a minor adjustment may eliminate the problem.

Frequently Asked Questions

IP Camera Installation

Q: What username and password can I use for the first time to access the IP Camera or after a factory default reset?

A: default User Name = root
default password = admin
default IP Address 192.168.1.100

Q: What should I do if I forget my username and password?

A: Restore the factory default settings by pressing the **DEFAULT** button until the ready LED is turned off. You can then access the IP Camera using the default username and password.

Q: Does the IP Camera work with a firewall?

A: Yes, but you will need to do port and local virtual IP forwarding in the firewall setup.

Q: I cannot access the IP Camera from a web browser.

A1: Please use the command "Ping" (**Appendix A**) to check the connection, if the response show "Request timed out," it may be caused by an incorrect IP Address setting. Please refer to **Chapter 2.2 First time configuring the IP Camera** to correct the possible problem.

A2: Check the Ethernet LED around the IP camera. It should blink Green and orange light. If not, check that both ends of the Ethernet cable are connected.

A3: Our RJ-45 Cable is a crossover wire, this cable only can be connected with Switch-Hub or connected with IP Camera and computer directly, If you want to connect with a older Hub, please remember to use a standard (straight-through) RJ-45 Cable.

A4: Confirm that the virtual/local IP address or port which was used by the camera (default = 80) have been forwarded to the camera. Please refer to your gateway / router's manual.

Q: Internet Explorer displays the following message: "Your current security settings prohibit downloading ActiveX controls".

A: Restore the default IE security settings (Medium) or configure the individual settings to allow downloading and scripts of signed ActiveX controls. Refer to **Appendix B: Internet Explore Security Settings** for more detail.

Q: There are no images available through the web browser?

A: The ActiveX may be disabled. Please make sure ActiveX has been enabled in the Internet Options menu. Please see **Appendix B: Internet Explore Security Settings** to configure your Internet Explorer.

Q: What can I do if I have more questions?

A: To obtain the newest information and support for your IP Camera, please visit our website at: http://www.grand.com.tw for additional FAQ's and troubleshooting tips.

You may also write E-mail for Technical Support, please make sure to have the following information before your questions:

Router Brand / Model:

Broadband Internet Service Type DSL / Cable Modem or others):

Broadband Internet Service Provider:

Appendix A: Network Problem Utilities

Microsoft Windows 2000/XP includes many network information utilities to determine various network configurations. To determine your IP address and network settings, please follow the procedures below.

1. Click on **"Start"** => **"Run"** and type in: **cmd** and then press **"ENTER"**
2. Type command: **ipconfig** and then press **"ENTER"**.
3. This will display your network card's IP address, Subnet Mask, and Default Gateway. Please remember it as you will need it later.
4. Use the command "**Ping**" to get the status of network connection, the default IP is 192.168.1.100 for the IP Camera. Please type in the same command windows: ping XXX.XXX.XXX.XXX. The XXX.XXX.XXX.XXX is your IP Camera's IP address. For example: **ping 192.168.1.100**.
5. If you can see the following report, the connection is working.

```
Pinging 192.168.1.100 with 32 bytes of data:

Reply form 192.168.1.100: bytes=32 time<1ms TTL=128
Reply form 192.168.1.100: bytes=32 time<1ms TTL=128
Reply form 192.168.1.100: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.100:
Packets: Sent = 4, Received =4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

6. If there is no response on this address you wll see

```
Pinging 192.168.1.100 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.100:
Packets: Sent = 4, Received =0, Lost = 4 (100% loss),
```

This indicates that the connection is not working and you will need to check the network settings.

Appendix B: Internet Explore Security Settings

The IP Camera's web environment communicates using both JavaScript and ActiveX control technologies. The ActiveX control must be downloaded form the camera and installed on your PC. There are four things that your Internet Explorer security settings must allow for the web page to work correctly.

      1.   Download signed ActiveX controls
      2.   Run ActiveX control and Plug-ins
      3.   Script ActiveX controls marked safe for scripting
      4.   **Active Scripting (Java Scripts)**

All these things are enabled by the default Internet Explorer Security settings. You can restore the default settings in Internet Explorer by clicking **"Tool**"=> **"Internet Options**"=> **"Security**"=> **"Default Level**".
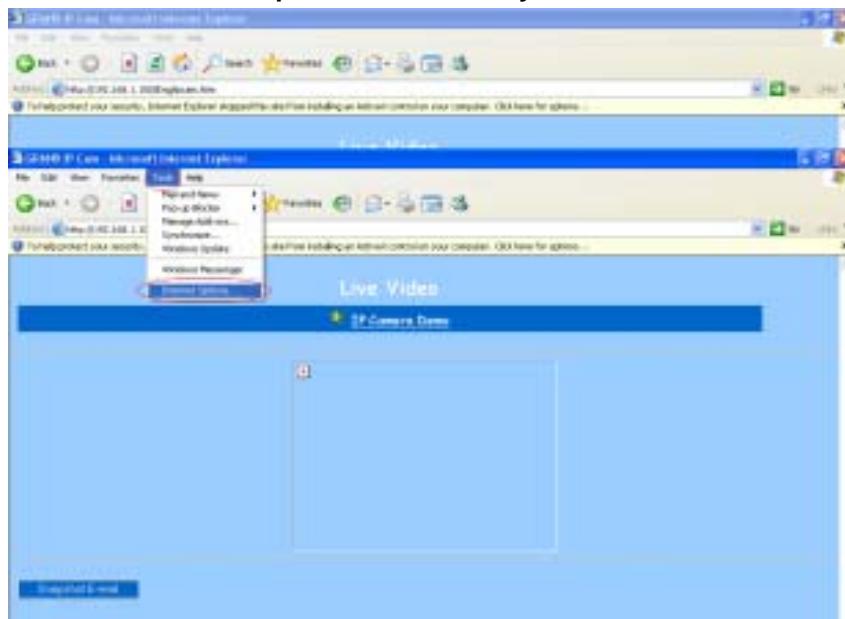

Internet Explorer Internet Options

Internet Explorer Security Modify

You can also click **"Custom Level"** and set the parameter as the following figure:
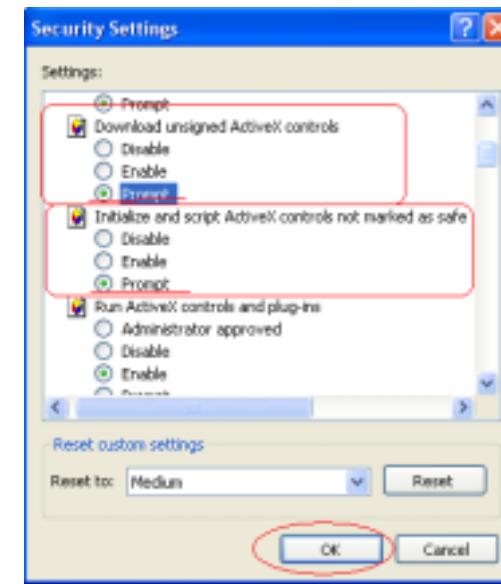
ActiveX Security Settings

You can click the ActiveX Help to learn how to install and setup ActiveX

Appendix C: Internet Explore displays error

message or crash

1. Please remove the Microsoft MSN Tool or MSN Tool Bar outlined in the
   following steps.


2. Click start->control panel->Add or Remove
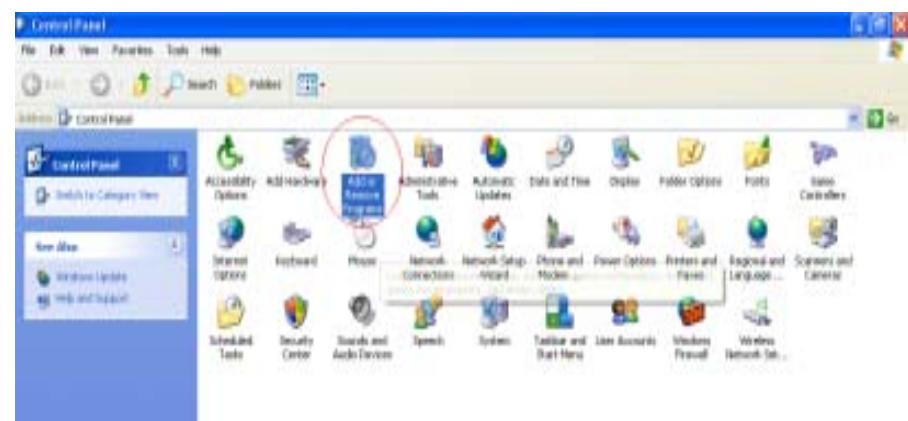
3. Remove the MSN Tool Bar
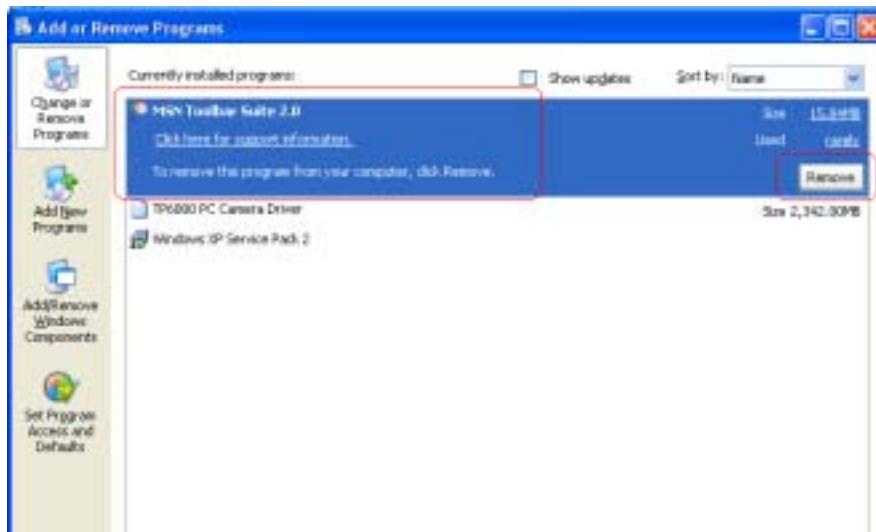
Appendix D: How to use the virtual IP to connect

IP Camera and Internet.

If your network Architecture likes the following figure,
You will need to do port and local virtual IP forwarding in the firewall
or gateway setup

Step1 : In this Page Device administrator Setup, please enable the
function "Multiport Defaults" and assign a port number for the
IPCam

Step2 : Setup you firewall or gateway, and assign a Local Virtual IP:192.168.1.100 and open a port 8888 for the IPCam, the following figure is just a example, you need to ask your Internet Service Provider

Step3 : In the Remote Computer, please open the Internet Explorer, and input the IP address: http://61.30.13.40:8888

Product S/N:	
Name:	
TEL No.:	FAX No.:
E-mail address:	
Full Address:	
Other add-on cards:	
Problem description:	