

Granvista *Plus* Series

H.264 2Megapixel

Panorama Network Camera

GVP-270

User's Manual



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Notices

This user manual is intended for administrators and users of the GVP-270 Network Camera, including instructions for using and managing the camera on your network. The use of surveillance devices may be prohibited by law in your country. It is the user's responsibility to ensure that the operation of such devices is legal before installing this unit for its intended use.

Before the Network Camera is installed, all the safety and operating instructions should be carefully read and followed to avoid damage due to faulty assembly and installation. This also ensures the product is used properly as intended.

Heed all precautions

- **Do not drop or strike this equipment**
Sensitive electronics inside the camera are vulnerable to excessive strike.
- **Do not install the equipment near any flames or heat sources**
Excessive heat could damage this equipment.
- **Do not cover cloth or to install this equipment in poorly ventilated places.**
Overheating could damage this equipment.
- **Do not expose this equipment to rain or moisture. Do not touch the power connection with wet hands**
Risk of short circuit, electric shock or fire
- **Do not damage the power cord or leave it under pressure**
Risk of fire or shock circuit
- **To reduce the risk of electric shock, do not remove the Cover (or Back).**
No user-serviceable parts inside. Misusage, improper, and negligence could damage this equipment. Need to refer servicing to qualified service personnel.
- **Do not continue to operate if it appears to be faulted.**
If the unit ceases functioning, contact qualified service personnel for help.
- **Any works related to detailed service or repair of this product should be made by qualified personnel only.**

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Support

- If you require any technical assistance, please contact your Longvast International's regional resellers, and you may contact us too. Besides, you can connect to the Longvast International's Internet website of www.longvast.com for any updated information,

Introduction

GVP-270 is a Panorama Network Camera; it is featured with superior H.264-AVC performance and rich functions. Panorama Camera includes a fish-eye lens for 360° wide angle view without blind spot. Thus Panorama Camera is very suitable to view a wide area with single camera such as hallway, store, office, etc.

The H.264-AVC video compression enables to lower bandwidth and storage requirements without compromising image quality; Motion JPEG is supported for increased flexibility, as well as multiple independent video streaming.

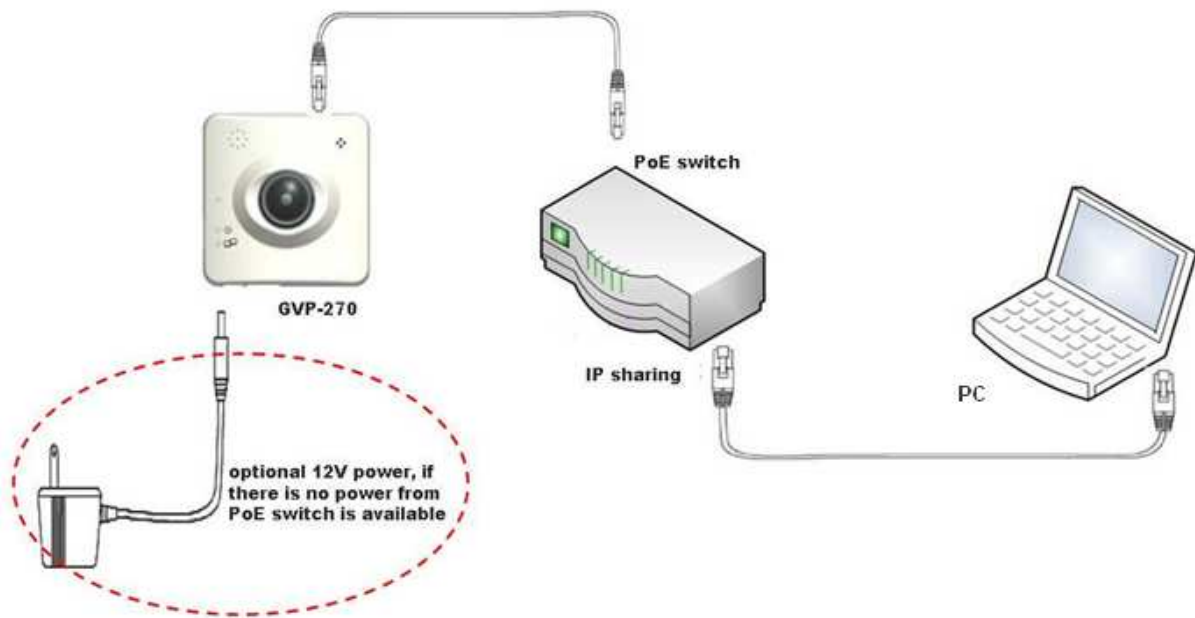
The hardware based panorama video processing ability can provide user multiple video modes including source image, broad view, trio view and quad view. , and it supports Wall, Ceiling, and Wall 720P types of mounting applications.

The GVP-270's e-PTZ function may help changing view angles horizontally or vertically, zoom-in and zoom-out without the need of mechanical moving parts. It can effectively replace the role of traditional PTZ camera and thus save lots of cost in comparison to the use of traditional pan/tilt mechanism.

The camera supports PoE (Power over Ethernet, IEEE802.3af) which can realize an easy installation through a single Ethernet cable that the extension power line costs can be saved. Further functions include two-way audio and micro SD card support for local storage application.

Installation

Hardware Connection



1. Prepare a PC with Ethernet link to the network
2. Preferably connect LAN port (RJ45) of the camera to a PoE typed network switch. If there is no PoE switch available, the user may also use an ordinary switch/hub for network connection, but an 12V/2A power adapter will be required for feeding the needed 12V power into the camera.
3. Check LED status (Power/Network)

Software Installation

The following software is necessary for the proper display and use of the camera from the web site. The software can be found from the Software Package CD.

IP Installer

The IP Installer is used to locate and configure Network Cameras in the LAN. This utility is useful for conveniently configuring the network settings of the device, or for finding a device once the network settings have been modified.

To install the IP Installer, from the Software Package CD, select IP Installer, and then follow the on-screen instructions.

VLC

Though not necessary, this software can also be used for viewing the streaming without a web browser. Besides, the VLC may be helpful in reviewing the recorded video files in the Micro SD card or remote disk. Please refer to the appendix II & III for more details on how to install and use the VLC program.

XVID Codec

An H.264 codec is applied for displaying the video stream and playing the recorded AVI files. If the video stream can't be displayed, or the recorded AVI files can't be played on PC by using MPLAYER program, install this software from the Software Package CD. In other words, this XVID Codec allows users to replay the recorded files by using the Windows MPLAYER which many users are familiar with.

Network Configuration

IP Installer is a utility that provides an easier, more efficient way to configure the IP address and network settings of the devices. It even provides a convenient way to set the network settings for multiple devices simultaneously by using the batch setting function. Moreover, IP Installer can save the network settings for all devices as a backup and restore them when necessary. IP Installer is able to help non-professional users to quickly setup their network cameras to work in a professional manner.

Preparation before IP Assignment

1. Always consult your network administrator before assigning an IP address to your device in order to avoid using a previously assigned IP address. Anomaly will happen if any IP inside the LAN has been used by two different devices.
2. Ensure the device is powered on and correctly connected to the network. This network can be simply a hub, PC and the network camera; and the network camera may directly connect to the PC too (be sure to make the first three digits of the IP addresses to be the same).
3. MAC Address: Each device has a unique Ethernet address (MAC address) shown on the label of the

device as the serial number (S/N) with 12 digits (e.g. 000429-XXXXXX).



- Although the IP Installer is able to find and configure any Network Cameras in the LAN except those that are behind a router, it is a good idea to set the host PC to the same subnet. In order to connect to the web-based user interface of the camera, the host PC must be in the same subnet. For more information about subnets, please consult your network administrator.

Using IP Installer to assign an IP Address to GVP-270

- Once IP Installer has been successfully installed on the PC, double click the IP Installer icon on the desktop, or select it from Start > Programs > IPInstaller > Launch IP Installer.



- Click the “Device Search” tool bar and search the device in the LAN.

IPInstaller V5.33

Device Search **Click this field to search the cameras**

	Model Name	IP Address	MACAddress	Firmware	SubnetMask	Gateway	DNS1	DNS2	DNS3	Http Port
1	GVP-201	192.168.1.097	00-04-29-1e-4c-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
2	GVP-270	192.168.1.020	00-04-29-06-f8-f	2.1.0215_gvpmb	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
3	GVP-231	192.168.1.020	00-04-29-14-cd-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
4	GVP-201W	192.168.1.057	00-04-29-1e-35-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80

Total 4 Devices

Please note that the firewalls of your Windows or Anti-virus software might block IP Installer from searching the cameras. In this case you would need to unblock IP Installer software from the firewalls, or to manually make this IP Installer software an exception to the firewalls.

- From the list, select the device with the MAC Address that corresponds to the device which is to be configured. The MAC address is identical to the unit's S/N (Serial Number).
- Right-click and select the “Single Device Setting” item to open the Property Page for the selected device.

IPInstaller V5.33

Device Search

	Model Name	IP Address	MACAddress	Firmware	SubnetMask	Gateway	DNS1	DNS2	DNS3	Http Port
1	GVP-201	192.168.1.097	00-04-29-1e-4c-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
2	GVP-270	192.168.1.020	00-04-29-06-f8-f	2.1.0215_gvpmb	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
3	GVP-231	192.168.1.020	00-04-29-14-cd-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
4	GVP-201W	192.168.1.057	00-04-29-1e-35-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80

Total 4 Devices

Device Search
Batch Device Setting
Single Device Setting
Open web
Language

- After filling in the properties, click [Set] button to complete the configuration settings in the remote

device.

Property

Device Setting

MACAddress: 00-04-29-06-f8-ff

Firmware: 2.1.0215_gvpmb

Property

IP Address: 192.168.1.20

SubnetMask: 255.255.255.0

Gateway: 192.168.1.1

Http Port: 80

DNS1: 168.95.1.1

DNS2: 61.31.1.1

DNS3: 61.31.233.1

Certification

☒ Use Custom

Username: admin

Password: ****

Set Cancel

Status

```
Microsoft Windows [Version 6.0.6001]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Users\F80Q>ipconfig

Windows IP Configuration

Wireless LAN adapter Wireless Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : gateway
    Link-local IPv6 Address . . . . . : fe80::d84d:e1b8:6a6b:97fe%10
    IPv4 Address. . . . . : 192.168.1.6
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1
```

Type in "ipconfig"

The network camera IP's first three digits must be same as what of the PC's IP.

Must be the same

Example about how to know the user's PC and network information from command prompt

Simply type in "ipconfig" in the Window's Command Prompt screen, press Enter, and you will see the related information which shows you the PC's IP, Subnet Mask, Default Gateway, etc.

The first three numbers of the network camera's IP must be same as the first three numbers of the PC's IP address. In the above example the PC's IP address is 192.168.1.6., and we have set the camera's IP to be 192.168.1.20.

Open the web-based user interface of the selected camera

1. To access the web-based user interface of the selected unit by right-clicking and selecting "Open web" from the slide-bar.
2. If the device has been configured correctly, the default web browser, the Internet Explorer, will open the home page of the selected device.

3. If you find your browser is opened and automatically connected to the camera Home Page, it indicates that you've assigned an IP Address to the unit successfully. Now you can close the IP Installer and start to use your camera.
4. Usually the users no longer need to run the IP Installer software again after configuring and saving the camera settings correctly.

The screenshot shows the IPInstaller V5.33 application window. It features a 'Device Search' table with columns for Model Name, IP Address, MACAddress, Firmware, SubnetMask, Gateway, DNS1, DNS2, DNS3, and Http Port. Five devices are listed. A right-click context menu is open over the second device (GVP-270), showing options: Device Search, Batch Device Setting, Single Device Setting, Open web, and Language.

	Model Name	IP Address	MACAddress	Firmware	SubnetMask	Gateway	DNS1	DNS2	DNS3	Http Port
1	GVP-231	192.168.1.020	00-04-29-14-cd-01	2.1.1_789_gvp	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
2	GVP-270	192.168.1.020		gvpmb	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
3	GVP-221	192.168.1.230		p	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	89
4	GVP-201	192.168.1.100		p	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	78
5	GVP-201	192.168.1.097		p	255.255.255.0	192.168.1.1	168.95.1.1	61.31.1.1	61.31.233.1	80
Total 5 Devices										

Verify and complete the installation from your browser

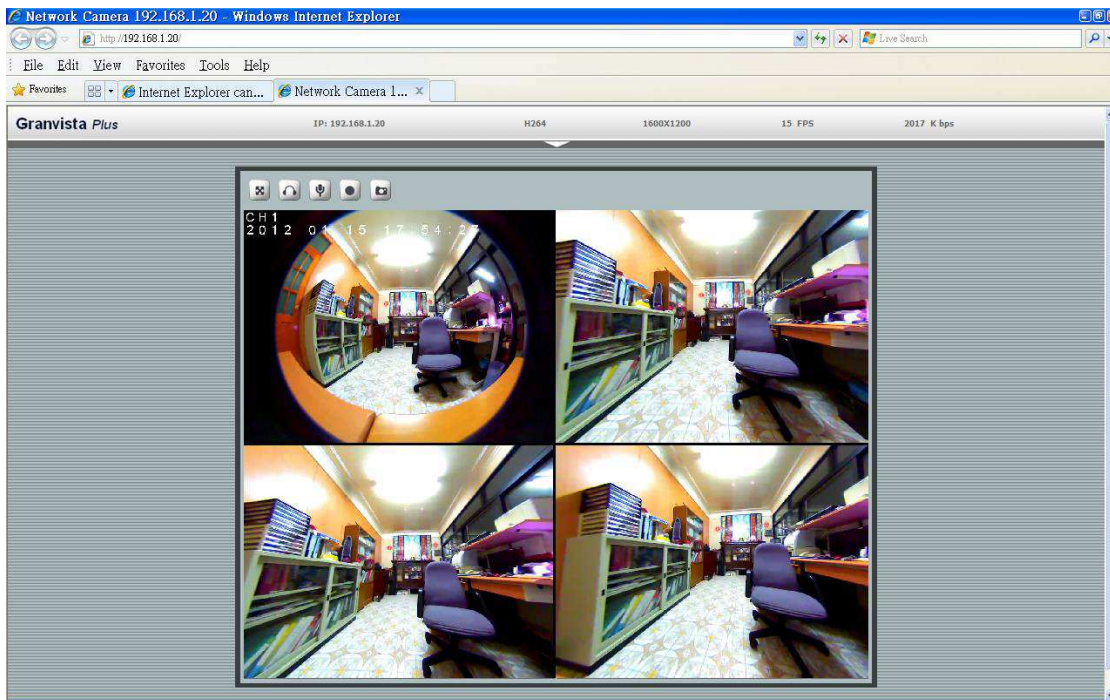
If not able to get the ActiveX downloaded properly, user must temporarily lower the security settings to perform a one-time-only installation of the ActiveX component onto the PC, as described below:

- From the Tools menu, select [Internet Options] -> [Security] -> [Custom Level]
- Set the security level to Low and click [OK].
- Depends on different versions of browser software used, the users may have to set the individual ActiveX settings from "Disable" to "Prompt" or "Enable" if necessary for completing the ActiveX program downloads.
- Restore the security level after the ActiveX installation.



Using the Web User Interface

Start your web browser and enter the URL or IP address in the address field. The home page of the camera is now displayed.



Note: Please do select “Run as administrator” to start the Internet Explorer browser if you are using Win-7 platform, otherwise you may not have the audio function to run properly.

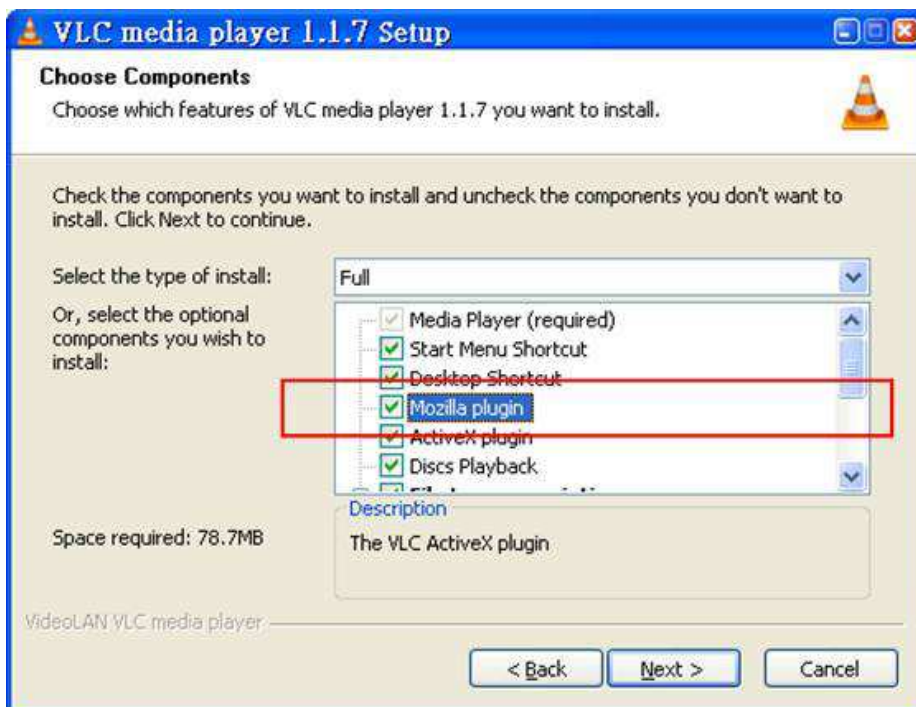
How to make the Mozilla Firefox properly work with the cameras?

Please note that in addition to Microsoft Internet Explorer, other browsers such as Mozilla Firefox, Safari and Google Chrome are also compatible for viewing the screens from Granvista Plus network cameras. However, you may not be able to get full two-way audio supports from Firefox, Safari and Google Chrome due to the WWW browser software's existing support status on the needed plug-ins. If you want to have camera's audio feature with Firefox browser, you would have to install the needed plug-in from VLC.

Similar to Internet Explorer which needs to download the needed ActiveX programs, the Firefox browser will guide the users to download and install the VLC program for the needed plug-in at the first time when it connects to the network cameras, so that it can work properly.

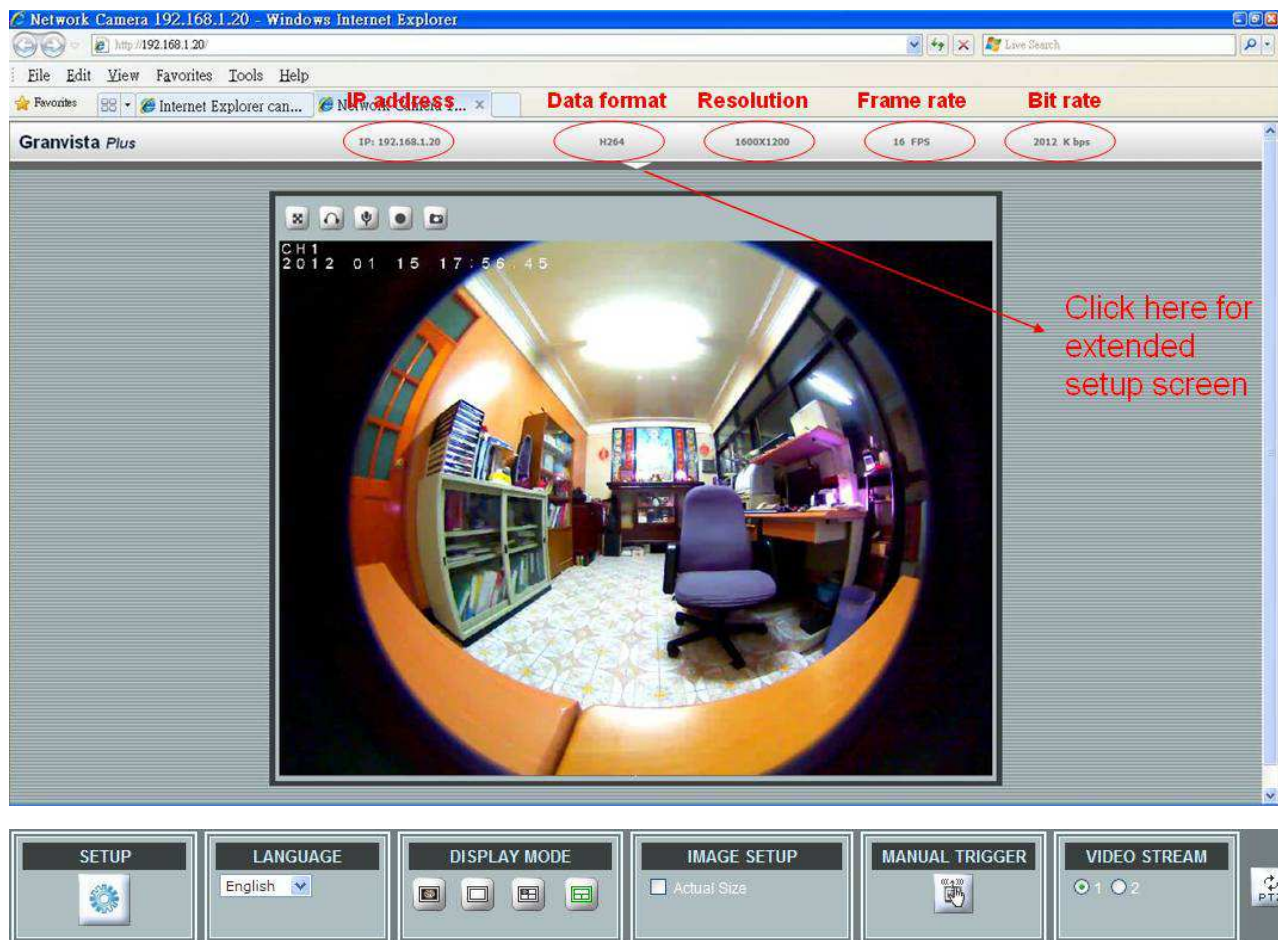
In the process of installing the VLC program, please be sure to check the "Mozilla plugin" option, so that Firefox may work properly with the network cameras.

The VLC program is a very handy shareware that the users will find it helpful when they want to replay the ".mp4" video clips recorded by the cameras. Actually the users may use its streaming function for viewing the camera's real-time screen directly too. Please refer to the "Video/Advanced" introduction for more details.


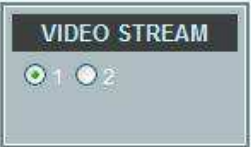


Please note that the example here does not necessarily reflect to the latest version of VLC program.






1. Live View



Button	Description
	Click for more general/advanced camera settings
	Select languages among English, traditional Chinese, simplified Chinese and Spanish. If you like to add customized interfaces with other languages, please refer to the "How to add a new language into the user interface V.1.0.ppt" file in the CD for more details.
	Click for different video display modes
	Check actual size to view the actual size (resolution) of the image Image Setting: To adjust the brightness, hue and saturation

	To manually preset an event in the configuration page
	Choose among different streams for viewing. Due to bandwidth constraints the users may want to choose its 2nd video stream which is of 640x480 or 320x240. This 2nd stream supports digital PTZ function which users should find it helpful. There is a 3 rd stream of fixed 640x480 resolution, and which is for 3G connection only @1fps.



Button	Description
	Full screen
	Listen to the audio input from site. If users are using Vista / Windows 7, please right-click on the desk shortcut or the main program, select "Run as administrator" to start the WWW browser, otherwise the audio function may not work properly.
	Talk function. Both external speaker and built-in speaker can be chosen for best convenience and audio result.
	Record instant live video
	Snapshot the image


Further configurations and options; a prominent button in between is used to expand the further operations.



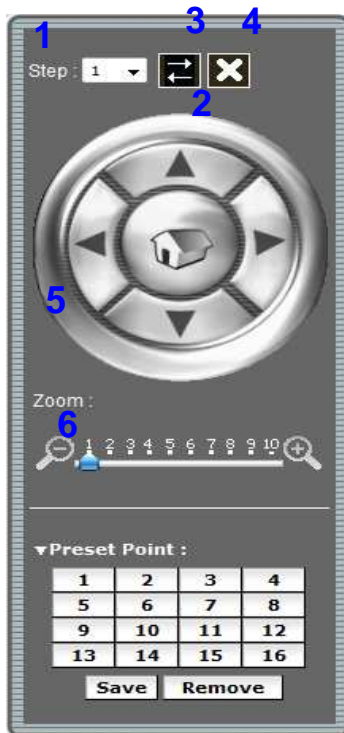
Click on the indicated prominent, and more operational options will show up.



The PTZ function is available in trio view and quad view.

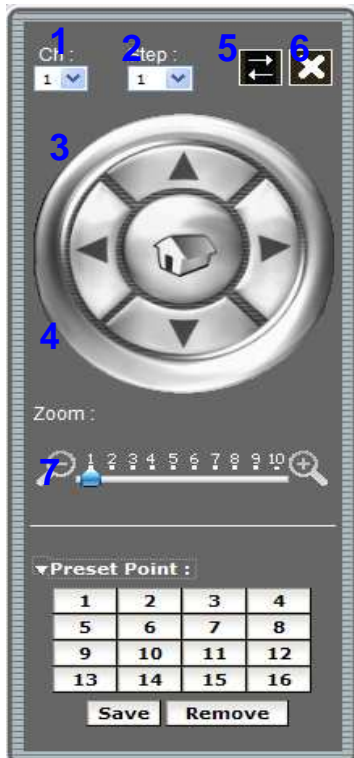
Click on the PTZ  icon, the control panel will pop up for e-PTZ function.

Source-with dual views PTZ control panel:



1. Step: Setting the speed of Pan function. (1~10)
2. Pan Arrow: Click to control Pan function in four different directions.
3. Click, and then the control panel can be moved freely for optimal view adjustment.
4. Close the control panel.
5. Zoom: Digital zoom in/out.(1~10)
6. List of preset points. (1~16)

Trio & Quad view PTZ control panel:



1. Ch : Select the channel. (1~4) & (2~4)
2. Step : Sets the speed of Pan/Tilt function. (1~10)
3. Pan Tilt Arrow : Click to control the Pan/Tilt function.
4. Zoom : Digital zoom in/out. (1~10)
5. Move the control panel.
6. Close the control panel.
7. List of preset points. (1~16)

2. Video

General

The screenshot shows a web-based configuration interface for video settings. At the top, there is a horizontal menu with tabs: 'Live View', 'Video' (which is highlighted with a red underline), 'Camera', 'Event', 'Schedule', 'Network', 'System', and 'Customize'. Below this menu, there is a sub-menu with two tabs: 'General' (which is active and highlighted with a blue underline) and 'Advanced'. The 'General' tab contains an 'OSD Setting' section. This section has three items, each with a checked checkbox: 'Enable', 'Camera Name', and 'Date/Time'. The 'Camera Name' item has a text input field containing 'CH1' and a label '(20 character max)' to its right. At the bottom of the 'General' tab, there is a 'Save' button.

OSD Setting: Enable OSD (Over-Screen-Display) to display camera name or date/time on the image, the camera name must be a continual string, for instance "LivingRoom".

Advanced

Stream 1 Setting	
RTSP Path:	v00
Image Format:	H.264
Resolution:	1600 x 1200
GOP:	15 (2~32)
Video Mode:	CBR
Frame Rates:	15 (5~15 FPS)
Target Bit Rates:	2000 (1000~6000 Kb)

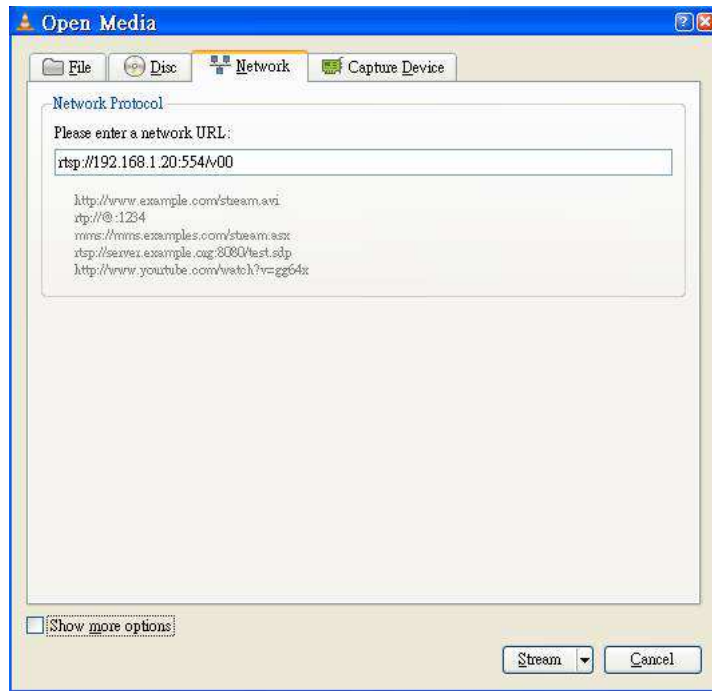
Stream 2 Setting	
RTSP Path:	v01
Image Format:	H.264
Resolution:	640 x 480
GOP:	15 (2~32)
Video Mode:	CBR
Frame Rates:	15 (5~15 FPS)
Target Bit Rates:	600 (512~6000 Kb)

Save

RTSP Path -

The RTSP (Real Time Streaming Protocol) Path is the stream ID used for RTSP client's streaming connection, such as VLC player or Blue Iris program. The default values are **v00** and **v01** for the two streams respectively. The string can be any combination of number or capital/small letters. It can not be empty however. By way of defining the RTSP path names, the system administrator may control whoever may connect to whichever cameras inside the network.

Following is a setting example of RTSP steaming by using VLC program. (The users may access this setup screen from VLC program's Media/Streaming.../Network).



Note: the “port number” of 554 in the example is its RTSP port number which the user has defined for this camera (default value is 554). This port number must be routed in the network router properly if the user likes to receive the video streaming from the web. In other words, if the user likes to use the external web address of <rtsp://219.86.240.234:554/v00> in stead of the LAN address of <rtsp://192.168.1.20:554/v00>.

Virtual Server

Setting up Virtual Servers allows remote users to access services such as Web or FTP on the LAN via public IP Addresses.

No.	Private IP	Private Port	Type	Public Port	Comment	Enabled
1.	192.168.1.100	78	TCP	78	GVP201	<input checked="" type="checkbox"/>
2.	192.168.1.100	553	TCP	553	GVP201	<input checked="" type="checkbox"/>
3.	192.168.1.20	554	TCP	554	GVP-270	<input checked="" type="checkbox"/>
4.	192.168.1.20	80	TCP	80	GVP-270	<input checked="" type="checkbox"/>

The above is a setup screen example of an Internet broadband router. In this example the port 80 is for WWW (HTTP), and the port 554 is for RTSP. These two port numbers must be same as what configured in the camera’s Network/Advanced settings.

HTTP Setting	
HTTP Port:	80 (0 ~ 65535, Default : 80)
RTSP Setting	
RTSP Port:	554 (0 ~ 65535, Default : 554)



Note: the users may right-click and choose VLC program's "Full Screen" mode for better resolution too.

Resolution -

The resolution here describes an image size counted by width and height, e.g. 640x480, referring to **pixel resolution**. The 1st stream is set to be 1600x1200 (2 megapixels), while Stream2 is set to be 640x480 (VGA). Stream3 is in a fixed VGA resolution for 3G mobile which is not shown on PC interface.

Video Mode -

This option allows the selection of two bit-rate modes, the Constant Bit Rate (CBR) or Variable Bit Rate (VBR). CBR refers to the setting of a fixed **Target Bit Rate** (configuration in the range of 1000Kbps to 6000kbps) that would apply in the case of limited bandwidth or/and storage requirement. While CBR concerns a fixed data rate transmitting, the video quality setting is of high priority for VBR mode selected. VBR therefore is configured with the **Quality Level** (Standard, Good, Best). In general, CBR predicts the provided condition; if image activity requires higher bit rates than configured, the frame rate and quality would be affected as not likely to increase bandwidth (bit rate). In spite of the required recording storage estimation, VBR is by way of compensation that adjustable bit rate fits the actual image activity. The default setting is CBR.

Image Format -

H.264 and MJPEG are available for image format selection. The term, "image format", is referring to compression / encoding technique. The selection of image format decides the performance of bandwidth and storage requirement. In the request of same video quality, H.264 contributes to less bandwidth and storage requirement, which is much more efficient than MJPEG. Therefore it is usually a better selection to select

H.264 format if there is no particular reason for MJPEG.

GOP -

In MJPEG /H.264 video coding, GOP (group of pictures) describes how the different types of frames are arranged. The frame types implemented here are **I-frame** (full image information) and **P-frame** (motion-compensated difference information). This setting configures the **GOP length** which is the number of frames before next I-frame appears. Having more I-frames usually increases the stream size, and therefore more bandwidth and storage are required. In other words, the bigger this GOP value, the less bandwidth required.

Frame Rates -

The Frame Rates defines the number of frames that will be displayed per second. The frame rate setting can affect the target bit rate (bandwidth requirement) and storage requirement. The users may want to configure for lower frame rate in case bandwidth and storage sizes are of concerns.

The pre-configured frame rates can usually be fulfilled inside the local areas networks. However, it may not be able to be fulfilled for remote access, or if the network traffic is heavily loaded. For instance, if the camera has been configured to be 15 fps, the user most probably may see full 15 fps speed inside the LAN; however, the user might only be able to see 1-2 fps of video stream if he/she wants to connect from Internet remotely. The codes of the camera have been programmed this way that the camera will have to drop the P-frames inside its buffer on every connection session in case these queued P-frames still can not be sent out to the clients-side timely due to network traffic condition, in case the data buffer is close to be over-flown, so that the user can still see a lower-frame-rate, but still smooth enough video stream when network bandwidth is not sufficient.


3. Camera

General

Live ViewVideoCameraEventScheduleNetworkSystemCustomize

GeneralAdvanced

CH1
2012-02-29 08:17:54



Camera General Setting

Brightness:

0

Hue:

0

Saturation:

20

Contrast:

0

Sharpness:

4

Audio Setting	
<input checked="" type="checkbox"/>	Audio Enable
Encoder:	AAC ▼
Bitrate:	40000
Input of Listen Pattern:	
<input checked="" type="radio"/>	Mic In
<input type="radio"/>	Line In
Output of Talking Pattern:	
<input checked="" type="radio"/>	Speaker Out
<input type="radio"/>	Line Out

Web Record Setting	
Save Path:	
D:\temp\	
File Name:	
video	
Browse	

Web Snapshot Image Setting	
Save Path:	
D:\temp\	
File Name:	
snap	
Browse	

[Default](#) [Save](#)

Camera General Setting:

Brightness: the luminance of image view

Hue: refer to pure a pure color, or described by its name, such as red, green or blue.

Saturation: intensity of a specific color. The 3 correlates are referring image appearance in terms of color/vision. These are adjustable from this page.

Sharpness: to strengthen the clearness of the image

Audio Setting:

Enable this option, so the video stream will be transferring together with the audio data. There are two types of formats of AAC and G711. AAC takes less bandwidth, while its quality is fairly good already, but the users may still want to choose G711 if they want even better audio quality, and if there is no bandwidth and storage size concern.

AAC format must be selected if the users want audio to be recorded together with the video in Schedule or snapped web recording.

In case there is a Granvista Plus series NVR (network video recorder) available in the network for recording, the NVR will set G711 as its default for audio.

Web Record/Snapshot Setting:

Web Record / Snapshot: define the locations where snapshot images and video clips will be stored. The file name is referring to the prefix of the file name of each snapshot image or video clip generated. These two settings' are saved in the web browser such as Internet Explorer, thus the settings will be reset if you reset the web browser software. Users may find it an easy cure to set it up in Windows's Safe Mode when they encounter problem with Vista platform which is stricter and more complicated in security settings than other platforms.

As to the "Web Recording Setting", if you have chosen D:\TEMP as the path and "video" as the file name prefix then the generated files will be saved into the D:\TEMP directory, and their file names will be in the format of "video" plus time tags, such as "video_20120102_101313_770". The "Web Snapshot Image Setting" is configured in the same way.

If users are using Vista / Windows 7, please right-click on the desk shortcut or the main program, select "Run as administrator" to start the WWW browser, otherwise Windows may not allow you to configure properly.

Default:

Set **[camera general setting]** and **[audio setting]** back to default

Note: As mentioned above, this Default command will not change the configuration of **[Web Record Setting]** and **[web Snapshot Image Setting]**

Save:


Save the changes which have been made

Advanced

Live ViewVideoCameraEventScheduleNetworkSystemCustomize

GeneralAdvanced

CH1
2012-02-29 08:19:47



Camera Advanced Setting:

White balance:	Auto
Exposure:	Flicker-free 60 Hz
Max Exposure Time:	1/30 s
Max Gain Control:	36 dB
Power / Network LED Status:	On
Infrared(IR) Cut Filter:	Auto
Day / Night Threshold:	10 (Lux , Default: 20)
Color/Mono Mode:	Auto
Camera Mount:	Wall

Save

White balance: Adjustment to compensate for different environments in terms of light source.

Exposure: Anti-flicker setting for image sensor to fit the frequency of light (power) source. For instance, the power frequency is 50Hz for most European countries, while 60Hz is typically for US. This setting is therefore regionally different. **Note: Default setting is 50Hz**

Max Exposure Time: Referring to the shutter speed.

Max Gain Control: The maximum amplification factor for the incoming light. Similar to the photographic theories, in case of environment of dim light, increase it for optimal result if necessary. On the contrary, turn it down for environments of stronger light if necessary. Usually the users may leave it at max setting without the need to change for best results.

Status LED: Turn on/off the camera status LED. You may want to purposely turn it off if you do not want people to tell whether it is operational or not.

Light Sensor Day / Night Threshold: Adjustment for fine-tuning how dark to turn on the IR LEDs, default is 20 lux. The lower the setting, the darker it will have to be to change to night (mono) mode, and allow Infrared to get into the camera.

Infrared (IR) Cut Filter: The default is automatically switched according to the light intensity. Enable indicates the filter is enable to cut IR light to make sure the color is correct, Disable indicates the filter is disabled and allows the infrared (such as IR LED illuminator) to enter the camera for low-lux surveillance application,

Color/Mono Mode: The default is automatically switched according to light intensity. It can also be forced to display color image even in a low light environment.

Camera Mount: Choose camera mounting type; Wall, Ceiling & Wall 720P

- **Wall Mount:** Choose Wall mount type, go back to Live view, there are 4 kinds of video layout to choose from, including Original view, Broad view, Quad with source view and Trio view.



1: Original view



2: Broad view



3: Quad with source view



4: Trio view



- **Ceiling Mount:** Choose Ceiling mount, go back to live view, there are 2 kinds of video formats to choose from; original view, quad view,



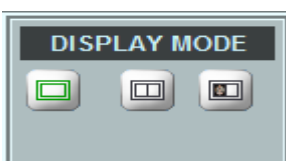
1: Original view



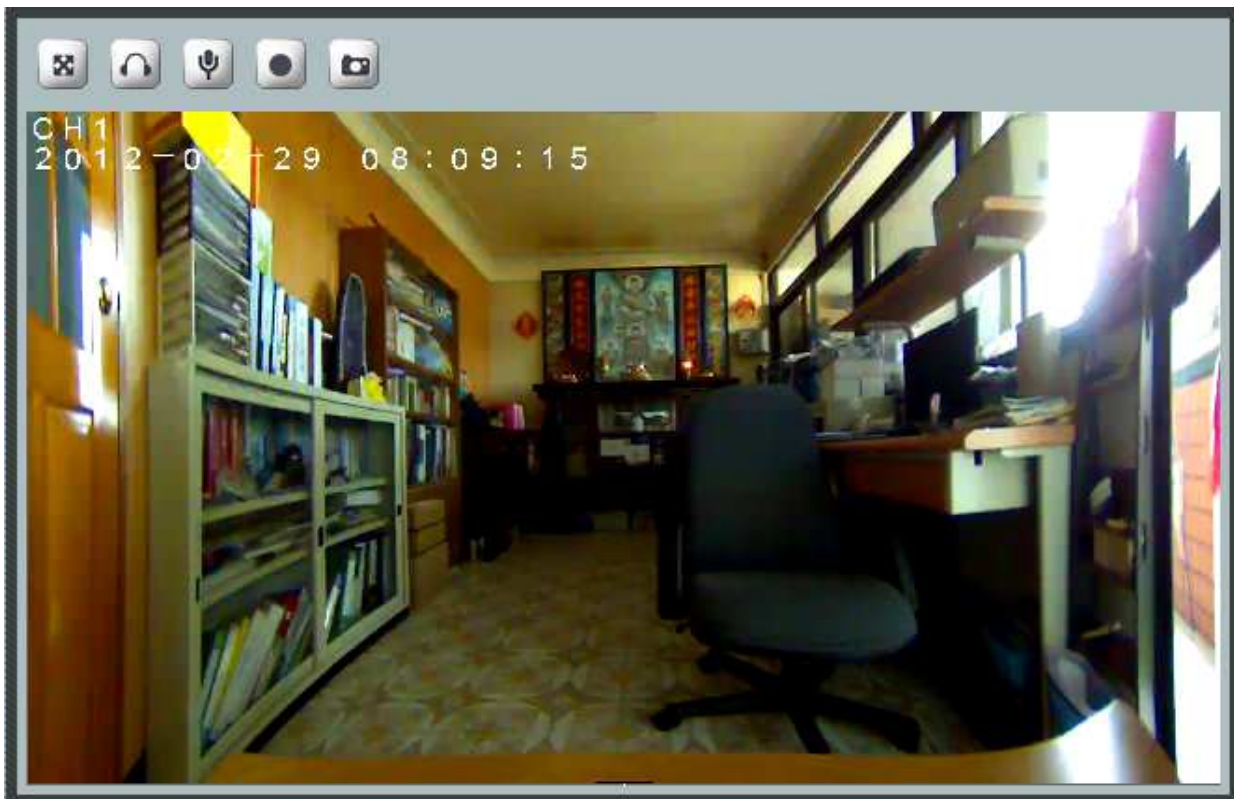
2: Quad view



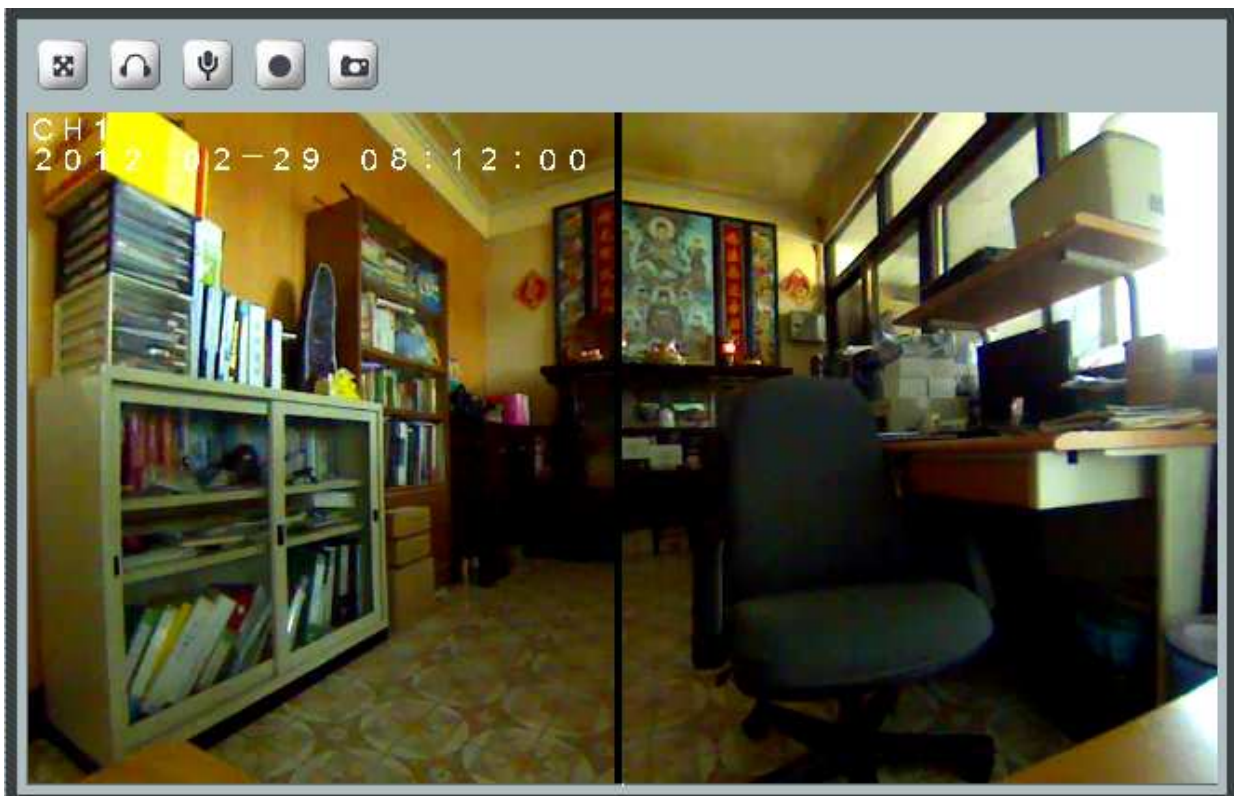
Wall 720P Mount: Choose Wall 720P mount type, go back to Live view, there are 3 kinds of video layout to choose including broad view 、 dual view 、 dual with source view



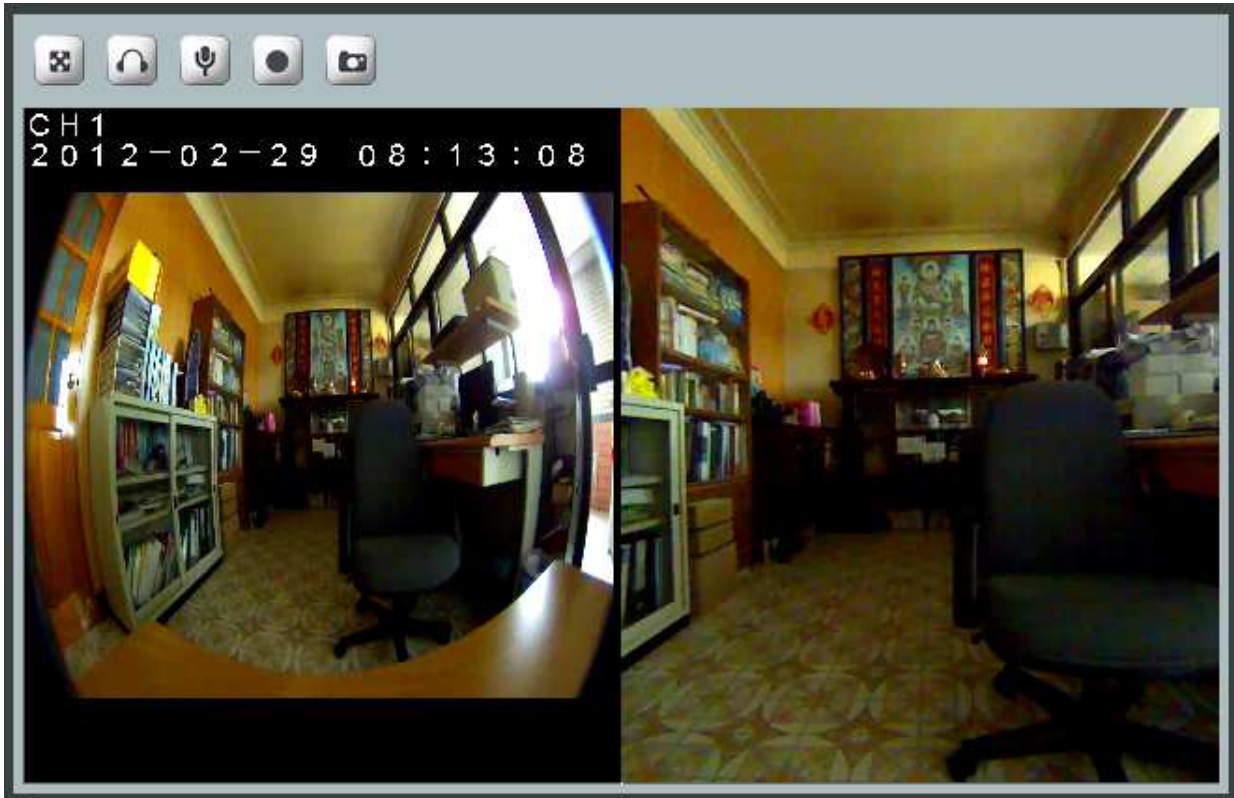
1:Board view



2: Dual view



3: Dual with source view



4. Event

Event handling describes the configurations of events and the corresponding actions. To have an insight into this function, a common example can be storing the captured images or video clips to Micro SD card (up to 32GB in storage size) , a remote disk in LAN (SAMBA), FTP server or Email account (images only), when there is an Event (motion or periodic triggering).

The screenshot displays a web-based configuration interface for an event handling system. At the top, there is a horizontal menu with tabs: Live View, Video, Camera, Event (highlighted with a red underline), Schedule, Network, System, and Customize. Below this, a sub-menu is visible with tabs: Event Server (highlighted with a blue underline), Motion Detection, I/O Ports, and Event Configuration. The main content area is titled 'Event Server List' and contains a table with the following headers: Name, Protocol, Network Address, Upload Path, and User Name. The table body is currently empty. Below the table, there are three buttons: AddFTP.., AddHTTP.., and Remove. A note at the bottom states: (Note: The maximum number of event servers is 10.)

Name	Protocol	Network Address	Upload Path	User Name
------	----------	-----------------	-------------	-----------

AddFTP.. **AddHTTP..** **Remove**

(Note: The maximum number of event servers is 10.)

Event Server

The "Event Server List" lists the configured server(s) that will act as a remote storage or a destination for handling the triggered events. Up to 10 FTP servers can be added in the list.

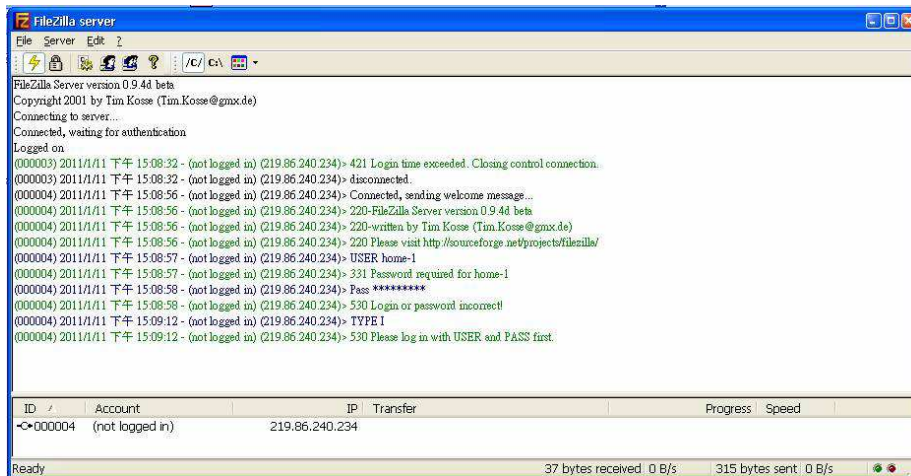
The screenshot shows a web interface for configuring an event server. The main menu at the top includes 'Live View', 'Video', 'Camera', 'Event' (selected), 'Schedule', 'Network', 'System', and 'Customize'. Under the 'Event' tab, there are sub-tabs: 'Event Server' (selected), 'Motion Detection', 'I/O Ports', and 'Event Configuration'. The 'Event Server List' section contains a table with the following headers: 'Name', 'Protocol', 'Network Address', 'Upload Path', and 'User Name'. The table is currently empty. Below the table, there are three buttons: 'AddFTP..', 'AddHTTP..', and 'Remove'. The 'AddFTP..' button is circled in red. Below the buttons, a note states: '(Note: The maximum number of event servers is 10.)'.

Click on the **[Add FTP]** to expand FTP server setting

FTP Server:

- Name: Give a name for the FTP server.
- Network Address: Input the network address of the FTP server, which can be located in LAN or external web, for instance "192.168.1.10" or "219.86.240.234" respectively. Please note that such WEB IP such as "219.86.240.234" can be applicable only when the network is connected to Internet, and it is properly configured in the broadband router.
- Upload Path: Choose the desired upload path for events. If not specifically defined, it will be the default folder configured in the FTP system.
- Port: Input the port number of the FTP server, typically 21.

Remarks: FTP is quite a convenient web application, and it is quite easy to use. Attached below is an example of FTP screen indicates that a Network Camera keeps on talking to the FTP server. In this example the FTP server address can be set as either 192.168.1.10 (LAN) or 219.86.240.234 (WEB) from near end.



Login Information:

- Username / Password: Input the username and password of the FTP

Event ServerMotion DetectionI/O PortsEvent Configuration

Event Server List

Name	Protocol	Network Address	Upload Path	User Name
FTPServer	FTP	192.168.1.10		ipcam

AddFTP..AddHTTP..Remove

(Note: The maximum number of event servers is 10.)

FTP Server

Name:FTPServer
Network Address:192.168.1.10
Upload Path:
Port:21

Login Information

User Name:ipcam
Password:

Save

Click **[Remove]** to delete selected event servers

Please refer to Appendix-I for more information on FPT applications.

HTTP Server:

- Name: Give a name for the HTTP server
- URL: Input the network address of the HTTP server
- Username / Password: Input the username and password of the HTTP

Please note that this function is not for ordinary users, and it is mainly for integrating into CMS or NVR software for handling immediate status or messages.

The screenshot shows a web interface with a top navigation bar containing tabs: Live View, Video, Camera, Event (selected), Schedule, Network, System, and Customize. Below this, a sub-navigation bar has tabs: Event Server (selected), Motion Detection, I/O Ports, and Event Configuration. The main content area is titled 'Event Server List' and contains a table with the following data:

Name	Protocol	Network Address	Upload Path	User Name
NewFTPServer	FTP			Guest
NewHTTPSe...	HTTP	http://		

Below the table are three buttons: 'AddFTP..', 'AddHTTP..', and 'Remove'. The 'Remove' button is circled in blue. A note at the bottom states: '(Note: The maximum number of event servers is 10.)'

Click **[Remove]** to delete selected event servers (circled in blue)


Motion Detection

A snapshot image shows the whole view of the camera covered. To select a motion detection area, click directly on the image, and then change the size and position by dragging and drawing. Up to 10 motion areas (configurations) can be added in the list. Each detection area can be set with its own sensitivity value.

Live ViewVideoCameraEventScheduleNetworkSystemCustomize

Event ServerMotion DetectionI/O PortsEvent Configuration

CH1
2012-02-19 14:37:35



Refresh

Motion Detection List

Windows Area Name

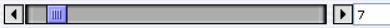
motion-trigger


AddDel

(Note: The maximum number of motion detections is 10.
Set New Motion Detection Area :
1. Click 'Add' and rename the windows area.
2. Drag a detection area on the image.)


Motion Detection Setup

Windows Area Name: motion-trigger

Trigger Level :  7

Sensitivity :  9

(Sensitivity value:0~100[low~High])

Color: #FF0000 

☒ View All Windows

☐ View Selected Window

Save

36

I/O Ports

This model supports 1 photo-coupled relay inputs and 1 relay outputs, see “I/O Terminal Connectors” for detail pin description and application. The tab shows the status of them; with external trigger/alarm devices.

Event Server	Motion Detection	I/O Ports	Event Configuration
Input Ports Setting			
Name:		Input1	
Current State:		high	
Output Ports Setting			
Name:		Output1	
Current State:		low	

Event Configuration

The Event Configuration is to assign the actions responding to the specified events (Trigger Conditions). The table lists the configured events. Click on “**Add...**” or choose an event from the list to expand the panel for detail configurations. “**Remove**” is to delete a selected event.

The screenshot shows the 'Event Configuration' window. At the top, there are 'Add...' and 'Remove' buttons. Below them is a note: 'Note: The maximum number of events is 10. Fu=FTP Upload, Eu=Email Upload, Du=Disk Upload, O=Output Port, En=Email Notification, Hn=HTTP Notification, Tn=TCP Notification.)'. The main section is titled 'Event Type Setup'. It contains a 'Name' field with 'NewEvent' entered. Below that is 'Set min time between trigger' with a value of '00:00:00' and a maximum of '(max 23:59:59)'. The 'Respond to Trigger' section has radio buttons for 'Always' (selected), 'During time between' (with day selection and time fields), and 'Never'. Below this is a 'Trigger by' dropdown. The 'When Triggered...' section contains several checkboxes: 'Upload Images' (checked), 'Select Upload type:' (with a dropdown menu showing 'FTP', 'Email', 'Disk'), 'Activate Output Port', 'Send Email Notification', 'Send HTTP Notification to:' (with a dropdown), and 'Send Message Notification (TCP)'. At the bottom right is a 'Save' button. Numbered callouts are: 1. 'Add...' button; 2. 'Name' field; 3. 'Set min time between trigger' field; 4. 'Respond to Trigger' section; 5. 'When Triggered...' section; 6. 'Save' button.

1. To add an event trigger, click on [Add] and setup panel will be expanded.

2. Give a name to this event.
3. Set the time interval between each trigger.
4. Set the time period for the trigger. Choose “Always” or “During time between” or “Never”.
5. The trigger condition is Motion Detection.

The responding actions can be “Upload images” and “Activate Output Port” and “Send Email Notification” and “Send HTTP Notification to” and “Send Message Notification (TCP)”.

6. Click on [Save] to save the configuration made

5. Schedule

GVP-270 is equipped with a card slot for Micro-SD/SDHC storage. This storage is applied for local video and image recording. The recording function can be launched according to scheduled time frames. The SD card also records the JPEG images responding to an event.

The size of Micro SD card can be up to **32GB**, preferably be at least **Class-4 or even faster grades**.

General

Define the day (specified by days of a week) and time (specified by each single hour) for that the video, or even the audio, will be recorded during the scheduled period. User can select which video stream should be recorded, and the size of each sliced file. When the check box is ticked, recording process starts at the scheduled hours (red blocks). The user may select on "ALL", or the row and column notations for a quicker selection.

Live View Video Camera Event **Schedule** Network System Customize

General Storage

☒ Enabled

Stream: ☒ 1 ☐ 2

Slice File Size: 50 (MB)

Save Device Type: Local Disk

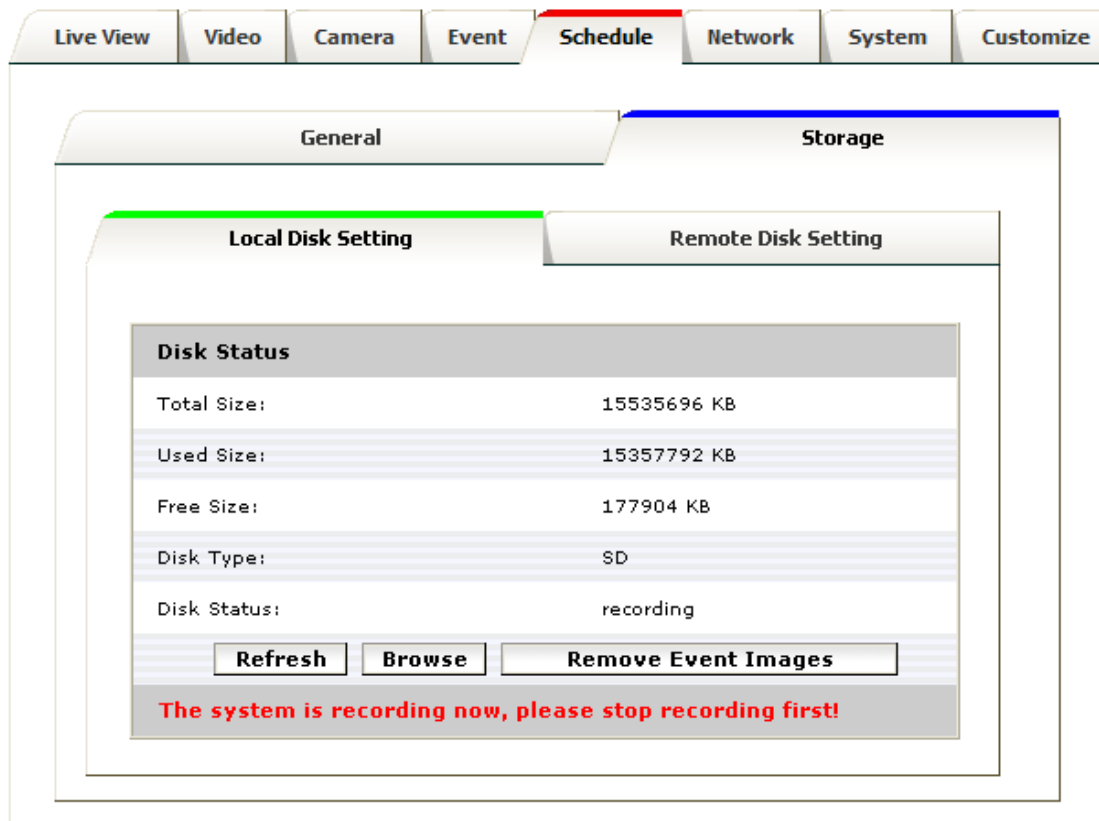
All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								

☒ Scheduled

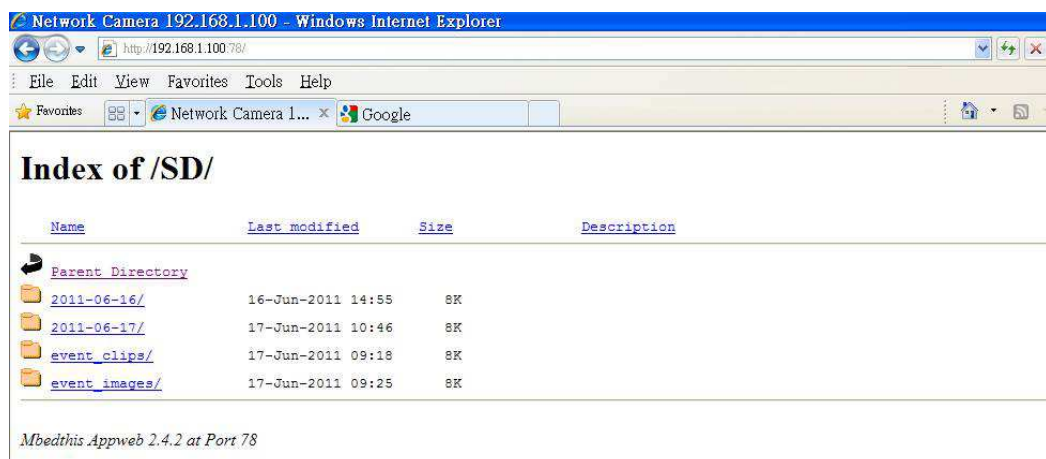
Save

Storage

Display the storage information, includes disk size info, type and status. The warning message (red text) shows when recording is in process; SD card should not be removed during the recording process.



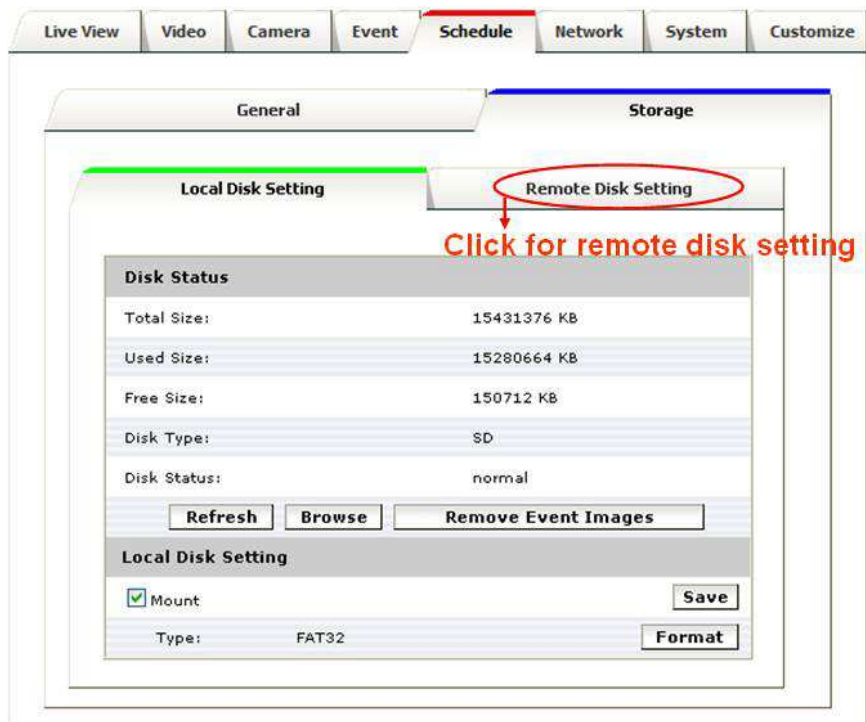
The “**Browse**” button allows viewing the list of recorded files. The web page will then be redirected to the root path of the SD storage (if one is inserted). The list includes couple of folders, the **event_images** which contains all the still images captured by any event trigger, and **folders specified by date** where the recorded video files are located.



The recorded video files are named in date_time format, and the extension file name is “.mp4”. The recorded files can be re-played with VLC or other application programs. Please note that AAC audio format needs to be selected if audio needs to be recorded into the files as well, and the recorded files will be in MP4 format. If the users have selected G711 as the audio format, audio won’t be recoded into the files to save the file spaces, and the recorded files will have the extension file name of H264. The Granvista Plus series NVRs all have

much storage spaces which are able to record superior audio into the files thus the NVR will set G711 audio format as default. The files generated from the recording process are handled on “first-in-first-out” basis. In other words, the oldest folders/files will be deleted when there is not enough space for the new data.

The recorded files may also be recorded into the remote-disk in LAN (Samba) instead of SD card. Please refer to following setup screens with setup tips for more details.



GeneralStorage

Local Disk SettingRemote Disk Setting

Disk Status

Total Size:100413792 KB

Used Size:99181888 KB

Free Size:1231904 KB

Disk Type:SMBFS

Disk Status:normal

Refresh

Remote Disk Setting

☒ Enabled

Type:SMBFS

Remote Disk Path:192.168.1.10/temp
(ex: 192.168.1.1/xxx)

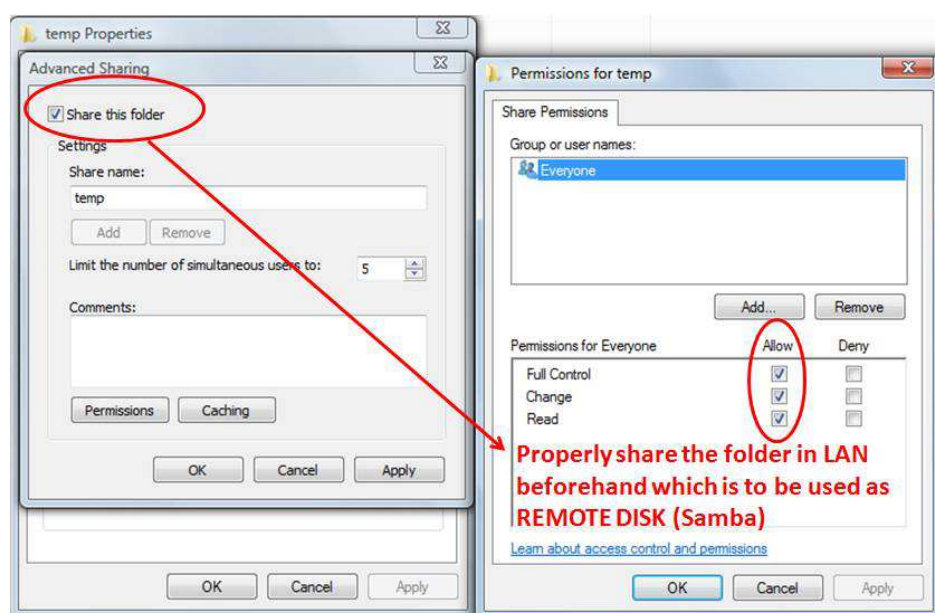
User Name:user

Password:••••••

Save

In the above example, the user has set the “temp” folder in the PC addressed “192.168.1.10” as the shared folder, and the user login name of this PC is “user”. The password setting is same as the password for PC login.

Please note that the remote disk to be utilized in the LAN PC needs to be shared properly beforehand.

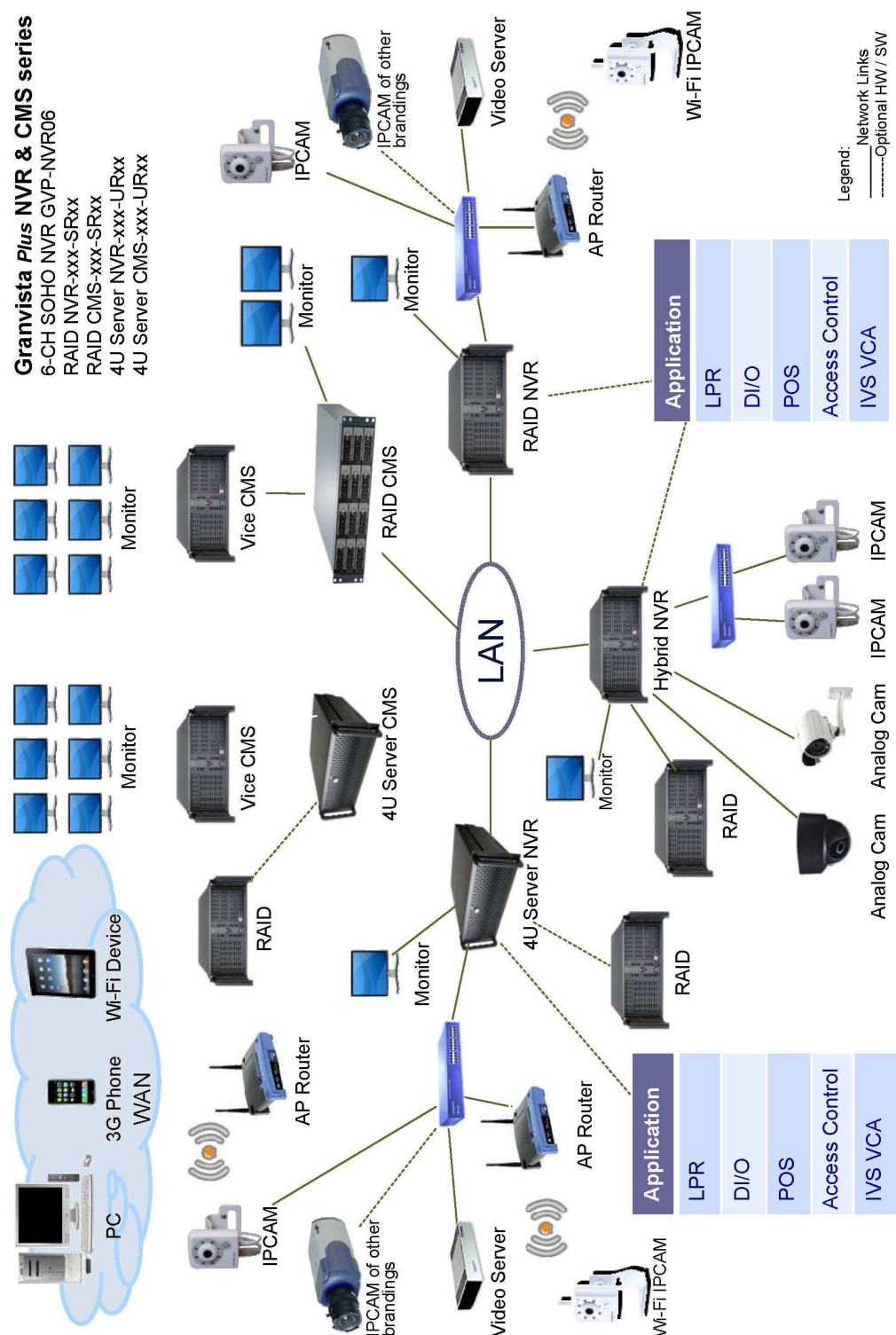


Depends on different resolutions, frame rate, data formats and time frames are configured, a Micro SD of 32GB is able to handle several days of data storage already, and the storage space from Remote-Disk has provided another alternative too. Apparently the camera's recording functionality with Micro SD card or Remote-Disk is able to satisfy users' basic data storage requirements already.

In addition, the users may also take advantages of our Linux-based Granvista Plus NVR for even more advanced and professional applications. Up to 64 connections, or even more, are able to be built into the Granvista Plus series NVRs. Please refer to our web site, or contact us for more details. Attached below is a sample of our SOHO model NVR which may support up to 6 connections.



Granvista Plus NVR / CMS Network Diagram – for users' advanced requirements



6. Network

Network Camera acts as one of the network devices. It therefore allows its “IP” to be assigned, so certain network functionalities can be implementable within this device. This section describes these configurations. Fundamentally, for instance, the IP assignment of the device can be done via **DHCP server**, **manually fixed IP option** or **PPPoE** to obtain IP from service provider.

General

Device IP configuration, includes DHCP, Static IP setting and PPPoE. “Enable ARP/Ping” enable device to accept ARP or ping packets from the network. Disable this option may provide extra security from intentional ping.

The screenshot shows a web interface for network configuration. At the top, there are tabs: Live View, Video, Camera, Event, Schedule, Network (selected), System, and Customize. Below these, there are sub-tabs: General (selected), Advanced, SMTP(E-Mail), DDNS, and Wireless. The General tab contains the following settings:

- ☐ DHCP Service
- ☒ Static IP Address:
 - IP Address: 192.168.1.188
 - Netmask: 255.255.255.0
 - Gateway: 192.168.1.1
 - DNS 1: 168.95.1.1
 - DNS 2: 61.31.1.1
- ☐ PPPoE:
 - User Name: username
 - Password: *****
- (Note : Please make sure 'Email Setting' has been set!)
- ☒ Enable ARP/Ping

At the bottom right of the form is a **Save** button.

Advanced

Enable or configure other network functions.

The screenshot shows a web interface with a top navigation bar containing tabs: Live View, Video, Camera, Event, Schedule, Network (highlighted with a red underline), System, and Customize. Below this is a sub-navigation bar with tabs: General, Advanced (highlighted with a blue underline), SMTP(E-Mail), DDNS, and Wireless. The main content area is titled 'Advanced' and contains several configuration sections:

- NTP Configuration**
 - ☐ Obtain NTP server address via DHCP
 - ☒ Use the following NTP server address:
 - Network address: (host name or IP address)
- HTTP Setting**
 - HTTP Port: (0 ~ 65535, Default : 80)
- RTSP Setting**
 - RTSP Port: (0 ~ 65535, Default : 554)
- Bonjour Setting**
 - ☒ Enable Bonjour
- UPnP Notification**
 - ☒ Enable UPnP
- NAT Traversal Setting**
 - ☐ Enable NAT Traversal

At the bottom of the configuration area is a **Save** button.

NTP: Configure a NTP (Network Time Protocol) server, so that the device system date and time can be synchronized with a specified Time Server. This configuration is provided for one of the potions of system date/time adjustment. If the camera is located in an isolated LAN, in other words it does not have access to web, the user may set the IP of the PC in LAN as its NTP setting, so that the camera's time will be synchronized with the PC.

HTTP: set the HTTP port that will be applied for Web UI access. The default port number of HTTP is "80", but it can be of other figures.

RTSP: set the RTSP (Video) port for video data transmission. The default port number of RTSP is "554", but it can be of other figures.

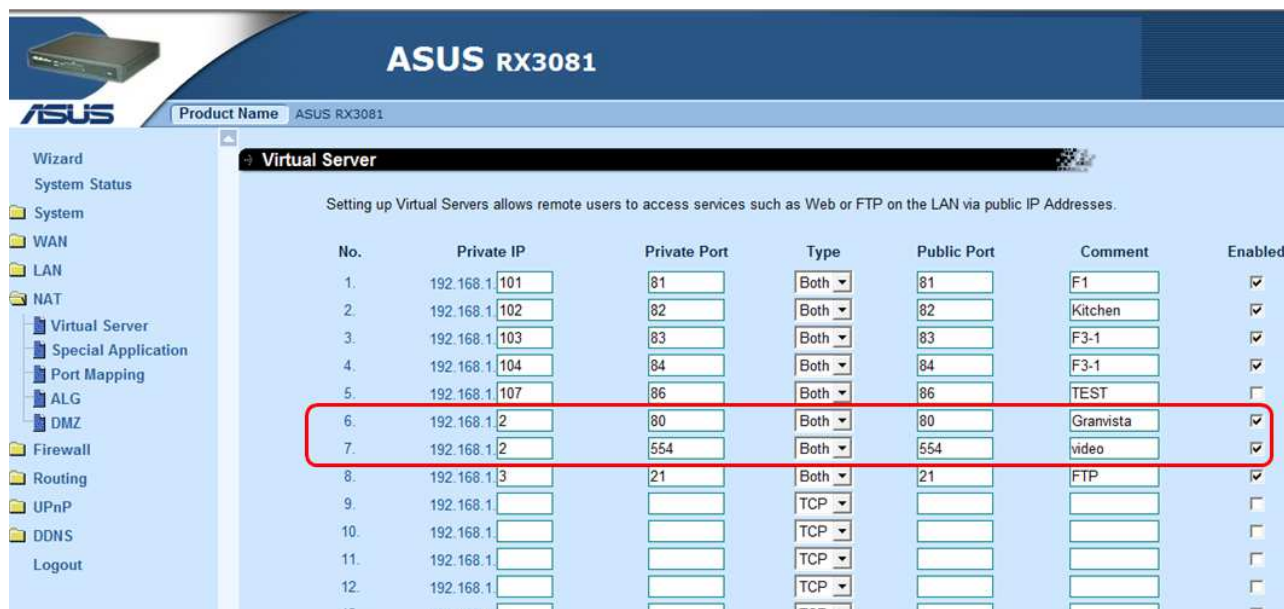
Bonjour: Enable Bonjour service, so that the device can be discovered with “Bonjour” service applied.

UPnP: Enable UPnP, so that the device can be discovered in an UPnP Compliant Network.



NAT Traversal: Enable NAT traversal, so that client from Internet can have access to the devices behind the Router. If user would like to access the Network Camera from Web externally, be sure to also include the RTSP port by duplicating the same IP.

In the following example this Network Camera's LAN IP is of 192.168.1.2., thus the user should type in the full address of <http://192.168.1.2:80> (as port 80 is WWW's default port number thus “:80” can be omitted) in the address field of Internet Explorer to access this network camera. If the user wants to access it from web externally, he would have to properly setup its HTTP port (in this case “80”, or other port number), and the RTSP port (in this case “554”, or other port number)) in the NAT setting of the router beforehand, and then he may access it with the web address (in this example it is <http://219.86.240.234:80> to access it from anywhere of the world via Internet) if the router has connected to Internet.



Note: with UPnP enabled, the IP Sharing device (Router) capable of UPnP function will automatically be noticed with the device's NAT port.

SMTP (E-Mail)

Configure an email host in the device that will send email on behalf of the configured email account in a circumstance like sending an email notice to a specified mail address (Event Configuration), or to send the triggered image. The email settings will be basically same as what used in your email software.

Mail server: The SMTP server (for out-going emails). Please refer to your ISP to get the right Mail server and port number information.

User Name and Password: Complete the Mail Server, Server Port, Authentication information (if required) and the sender's email address.

From (Email Address): What to be shown as the sender name when the email is received. **It does not necessarily need to be a real email account.** In this example the test@longvast.com actually does not exist. For instance, the user may define email names of cam1@longvast.com, cam2@longvast.com, or cam3@longvast.com, etc, which do not exist to help identifying email messages from different cameras by the name of ipcam2@longvast.com.

Send email to: The recipient email address

Following screen shows an example of setting an email account. The users may need to refer to the ISP for more details on the email configuration. In this example the ipcam2@longvast.com Email account will be used to send triggered images or notifications to the info@longvast.com account.

The screenshot shows the 'SMTP(E-Mail)' configuration tab in a web interface. The 'SMTP (email) Setting' section contains the following fields and annotations:

- Mail Server:** mail.longvast.com (Annotated: "The SMTP server of the mail service")
- Server Port:** 25 (Annotated: "Port number of the mail server, must be set correctly")
- Authentication:** ☒ (Annotated: "Email and password of this email account to be used")
- User Name:** ipcam2@longvast.com (Annotated: "Email and password of this email account to be used")
- Password:** [Redacted]
- From (Email Address):** test@longvast.com (Annotated: "What to be shown as the sender when the email is received.")
- Send email to:** info@longvast.com (Annotated: "The recipient email account")

Buttons: 'Test' and 'Save'.

If the setting is successful, click on "Test" button, and then an acknowledgement email with "Email Test OK" message should be received by the recipient immediately. Following is an example of such acknowledgement email after clicking "Test" button.

The screenshot shows an email client interface with the following details:

- Current Folder:** INBOX
- Compose | Addresses | Folders | Options | Search | Help**
- Message List | Unread | Delete** (Previous | Next)
- Subject:** Email Test
- From:** test@longvast.com
- Date:** Mon, September 26, 2011 10:11 am
- To:** info@longvast.com
- Priority:** Normal
- Options:** [View Full Header](#) | [View Printable Version](#) | [Download this as a file](#)

The email body contains the text: "Email Test OK"

DDNS

Dynamic DNS configuration; the network device can be assigned and accessed with a host name instead of IP address by registering this service (Internet access required).

Host Name: Assigned name that will be used for access to the device

User Name/Password: Account authentication for logging to this service

Update Time: Periodically, the device updates its access info to sever in the configured time.

Response: the device responds the connection info.

Following illustrative contents show the users some details about applying DynDNS service. Please note that DynDNS is not the only service available in the world market for DDNS services. Besides, DynDNS provides free services, and they also provide advanced services which are non-free.

The screenshot shows the DynDNS.com website. At the top, there's a navigation bar with links: About, Services, Account, Support, and News. Below this, a login section includes fields for Username and Password, a Log in button, and links for Lost Password? and Create Account. A central banner introduces the 'NEW DynDNS Community' with a 'Join Now' button. To the left of the banner, a section titled 'I'd like to...' lists several services: Remotely access my home computer, Control my DVR from anywhere, Get a free domain name, Safeguard my email, and Protect and speed up my Internet. Below the banner, there are two main service areas: 'Free Dynamic DNS' and 'DNS Hosting & Domains'. The 'Free Dynamic DNS' section explains how to point a hostname to a dynamic or static IP address or URL, with a form to add a new entry (example .dyndns.biz). The 'DNS Hosting & Domains' section explains how to register a domain and point it to an IP address or URL, with a form to add a new entry (example.com). At the bottom, there are four columns of links: Resources (What is DNS?, DNS Tools, Home DNS Solutions, Business DNS Solutions), Services (DNS Hosting, Free Dynamic DNS, Spring Server VPS, Domain Registration), Support (DynStatus, Knowledge Base, 24/7 Premier Support, DNS Update Clients), and Follow Us (Our News, Twitter @dyninc, LinkedIn, DNS Ninjas | Facebook).

This series network device support DynDNS (www.dyndns.org). This section describes how to apply this service to the Network Camera.

Create Account

Create an account or log in to continue

Username:


Password:

Confirm password:

Email:

Confirm email:

Subscribe to: ☒ DynDNS.com newsletter (1 or 2 per month)
☐ Dyn Inc. press releases
☐ Remove HTML formatting from email


Security Image:

Enter the numbers from the above image:

☐ I agree with the [acceptable use policy \(AUP\)](#) and [privacy policy](#).

If you're having difficulty creating your account, for any reason, feel free to [contact us](#).

Already Registered?
Username
Password


[Forgot your password?](#)




Input user name, password and Email that will be created as an account for logging in the service. .

The website has accepted the new account and sent email for verification.

In the received mail from DynDNS, use the link to activate. The account will then be confirmed as the web below shows.

 Username Password
[Lost Password?](#) [Create Account](#)


About Services Account Support News

 **Account Confirmed**


The account `pixord-dns` has been confirmed. You can now [login](#) and start using your account.

Getting Started

- [Surf without the sharks and browse the web faster with Internet Guide](#)
- [Create a dynamic DNS host with your own domain name](#)
- [Create a dynamic DNS host within our Free domains](#)
- [Setup email services](#)
- [Register a domain name](#)



Web filtering
Anti-phishing
Anti-fraud
Anti-malware
Faster web experience
No network settings needed
One-click install!

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Login and use the service

Username Password

[Lost Password?](#) [Create Account](#)

Home	Support	News	
------	---------	------	--

In the login filed, input username and password as the new account created.

My Services
 View, modify, purchase, and delete your services.

[My Zones/Domains](#)
[Add Zone/Domain Services](#)

[My Hosts](#)
[Add Host Services](#)

[Dynamic DNS Pro](#)

[Internet Guide](#)

[Spring Server VPS](#)

[MailHop Outbound](#)

[Network Monitoring](#)

[SSL Certificates](#)

[Recursive DNS](#)

[Support](#)
[Premier Support](#)
[Contact Support](#)
[DNS Service Level Agreement](#)

After logged in, in the **"My Services"** column, click on "Add Host Services".

Fill in a host name as it will be applied to the device. The "IP Address" field can be temporally filled with any IP as it will be updated once the device has registered to the service and reported its current IP value. Click on "Add To Cart" for next stage. The Dynamic DNS host service is free. Just click on "Next".

Checkout from the applying service and activate the added host name.

The information of activated host name will be arranged. Click on "Add New Host" if requiring more host names for other Network Cameras.

Apply Host Name to the Camera

Dynamic DNS Setting

☒ DDNS Enable

Host Name:
(Link to <http://www.dyndns.org>)

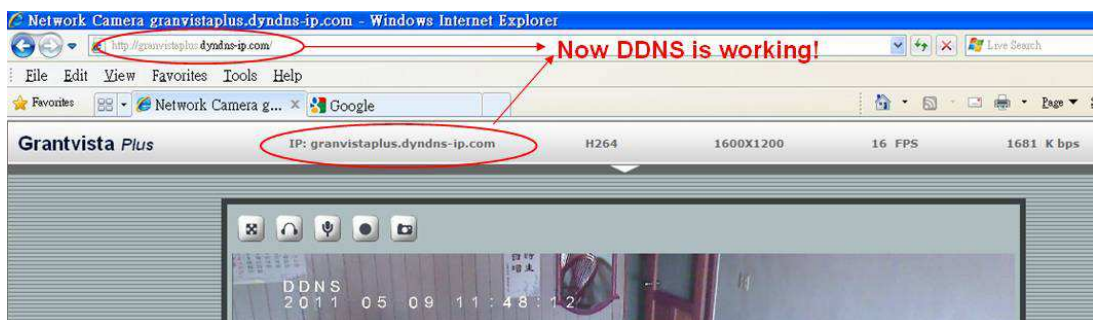
User Name:

Password:

Update Time: (600~86400 Seconds)

Response:

In the device configuration page, Setup -> Network -> DDNS, fill in the applied host name from DynDNS website, the username / password that are for logging in this service. Enable DDNS, and then save the settings. The "Response" will show "yes" message when registering is successful.

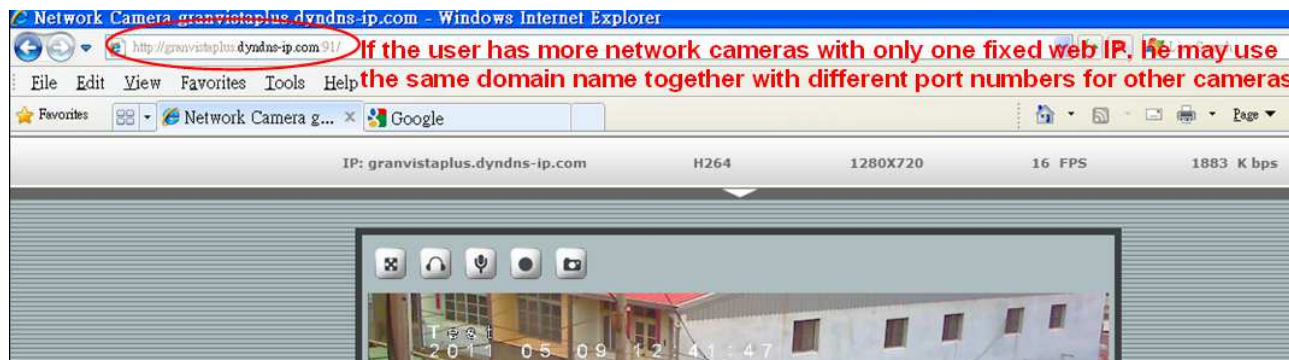


Launch IE and type <http://granvistaplus.dyndns-ip.com/> (for instance) in the URL filed. The page should be directed to the device's live view page. Please note that the address of <http://granvistaplus.dyndns-ip.com/> is equivalent to the address of <http://granvistaplus.dyndns-ip.com:80/>, because the default WWW port number is 80.

In this example the address of <http://granvistaplus.dyndns-ip.com/> is same as <http://219.86.240.234/>. Please refer to the Network setting paragraph in this manual, the user must properly setup the HTTP and RTSP ports in both camera and broadband router's NAT virtual domain settings to make sure camera can be accessed by the address of <http://219.86.240.234/> before the <http://granvistaplus.dyndns-ip.com/> address is able to work properly.

How if the user has only one fixed web IP, for instance 219.86.240.234, while he has many network cameras to implement?

Just like the user may setup the camera address of <http://219.86.240.234:91/>, <http://219.86.240.234:92/>, etc, the address of similar setting of <http://granvistaplus.dyndns-ip.com:91/> or <http://granvistaplus.dyndns-ip.com:92/> can be configured for other network cameras too. Following figure is an example of such DDNS application by using specific port number.



Users may find this DDNS function useful when they do not have fixed IP available. For instance, some Internet Service Providers do not provide fixed IP, and the IP available could be the ones generated randomly after completing login processes through PPPoE protocol. As under such circumstances the users do not know what IP will be generated, therefore they can just keep using the fixed domain names from the DDNS service, as long as the DDNS service has been configured properly.

For this application, following are the procedures:

1. Configure the DDNS settings properly when the IPCAM is running under DHCP or fixed-IP networking mode, make sure that a "yes" status is seen from the DDNS setup page of the IPCAM after clicking "save".
2. Check if the domain name is valid and working by typing in the domain name in the address field of the WWW browser. For instance, type in "<http://granvistaplus.dyndns-ip.com/>" in the address field of IE browser to see if it may connect to the IPCAM properly after configuring the DDNS settings.
3. Go to Setup/Network/General setting page of the IPCAM's user interface, and change the network protocol to PPPoE. Save the settings, and reset the IPCAM by switching the power.
4. Check to see if the IPCAM can still be located and connected by the address of the configured domain name of "<http://granvistaplus.dyndns-ip.com/>".

Note:

Please note that the IPCAM will send back an email to tell the user of its new IP address after it has successfully logged into a network, in case the email settings have been properly configured, and if the camera is connecting to the Internet. The users may also keep track of the new IP addresses from such email feedback.

Information

Live View	Video	Camera	Event	Schedule	Network	System	Customize
<div> <div>Information</div> <div>User</div> <div>Date & Time</div> <div>Server Maintenance</div> <div>Log Service</div> </div>							
System							
Model:		GVP-270					
System up time:		2012-02-19 17:53:13					
Firmware version:		2.1.0215_gvpmb					
MAC Address:		00:04:29:06:f8:ff					
ActiveX Control version:		1.0.1.151					
Ethernet							
Status:		Connected					
Mode:		STATIC					
IP Address:		192.168.1.20					
Netmask:		255.255.255.0					
Default Gateway:		192.168.1.1					
PPPoE							
Status:		No connection					
IP Address:		none					
DNS Server							
Primary DNS IP address:		168.95.1.1					
Secondary DNS IP address:		61.31.1.1					
DDNS							
Status:		no					

User

Login users for Web access and operations; authentication required. The Check box is for anonymous logging to the live view page.

Please be sure not to select the anonymous login unless convenience is more important than privacy. Logging for further configurations will still require user name and password even if anonymous login has been selected.

The screenshot shows the 'User' management interface. The top navigation bar includes 'Live View', 'Video', 'Camera', 'Event', 'Schedule', 'Network', 'System' (active), and 'Customize'. The sub-navigation bar includes 'Information', 'User' (active), 'Date & Time', 'Server Maintenance', and 'Log Service'. The 'User Setting' section has an unchecked checkbox for 'Enable anonymous login (no user name or password required)'. The 'User List' table shows two users: 'admin' and 'tinatung', both in the 'Administrator' group. Below the table are 'Add...' and 'Remove' buttons. The 'User Setup' section contains fields for 'User Name' (tinatung), 'Password', and 'Confirm Password'. The 'User Group' is set to 'Administrator' with radio buttons for 'Administrator', 'Operator', and 'Viewer'. A 'Note' section lists seven rules for user creation. A 'Save' button is at the bottom.

User Name	User Group
admin	Administrator
tinatung	Administrator

User Setup

User Name:

Password:

Confirm Password:

User Group: ☒ Administrator ☐ Operator ☐ Viewer

Note:

1. A user name and password must contain at least one character.
2. Max 14 characters are allowed in user names.
3. The first character in user name must be A-Z or a-z.
4. Only A-Z, a-z and 0-9 are allowed in the user name and password.
5. Max eight characters are allowed in the password.
6. The maximum number of users is 20.
7. The 'admin' user is default user and cannot be deleted.

Save

The authorities of different levels of users are as follows:

Administrator:

Allowed to do any adjustments in camera, is the default user that this account can't be deleted.

Operator:

Allowed to view the live video and change Video & Camera settings in Setup Menu only. (Live View, Video & Camera settings in setup menu)

Viewer:

Only permit to watch the live video, can't get into the Setup Menu. (Live View only in setup menu)

Date & Time

System date/time configuration. Options of synchronizing with PC and NTP server are provided for automatic adjustment in addition to manual setup.

The screenshot shows a web interface for system configuration. At the top, there is a navigation bar with tabs: Live View, Video, Camera, Event, Schedule, Network, System (highlighted in red), and Customize. Below this, there is a sub-navigation bar with tabs: Information, User, Date & Time (highlighted in blue), Server Maintenance, and Log Service. The main content area is titled 'Current Server Time' and 'Set Server Time'. Under 'Current Server Time', there are input fields for Date (2011-05-04) and Time (21:29:52). Under 'Set Server Time', there is a 'Time Mode:' section with two radio buttons: 'Synchronize with computer time' (unselected) and 'Synchronize with NTP server' (selected). Below the selected option, there is a 'Time zone:' dropdown menu showing 'GMT+08 (Beijing, Hong Kong, Shanghai, Taipei)'. There is also a 'Set Manually' radio button (unselected). Below it, there are input fields for Date (2011-05-04) and Time (21:29:30), with examples '(ex: 2008-01-01)' and '(ex: 01:00:00)' respectively. At the bottom of the form, there is a 'Save' button.

Current Server Time	
Date:	2011-05-04
Time:	21:29:52

Set Server Time	
Time Mode:	
<input type="radio"/> Synchronize with computer time	
Date:	2011-05-04
Time:	21:30:19
<input checked="" type="radio"/> Synchronize with NTP server	
Time zone:	
GMT+08 (Beijing, Hong Kong, Shanghai, Taipei) ▼	
<input type="radio"/> Set Manually	
Date:	2011-05-04
Time:	21:29:30
(ex: 2008-01-01)	
(ex: 01:00:00)	

Save

Server Maintenance

This page provides tool for system maintenance; Reboot and Load default settings, as well as functionalities of launching upgrade process, backup/restore user settings and language defines.

Live View

Video

Camera

Event

Schedule

Network

System

Customize

Information

User

Date & Time

Server Maintenance

Log Service

Maintain Server

Reboot

Load default

Firmware Upgrade

Model: GVP-270

Firmware Version: 2.1.0215_gvpmb

MAC Address: 00:04:29:06:f8:ff

ActiveX Version: 1.0.1.151

Specify the firmware to upgrade:

Browse...

Upgrade

Backup

Save all parameters and user-defined scripts to a backup file.

Backup

Upload Setting

Use a saved backup file to return the unit to a previous configuration.

Specify the backup file to use:

Browse...

Upload

Add Language

Choose language: 日本語

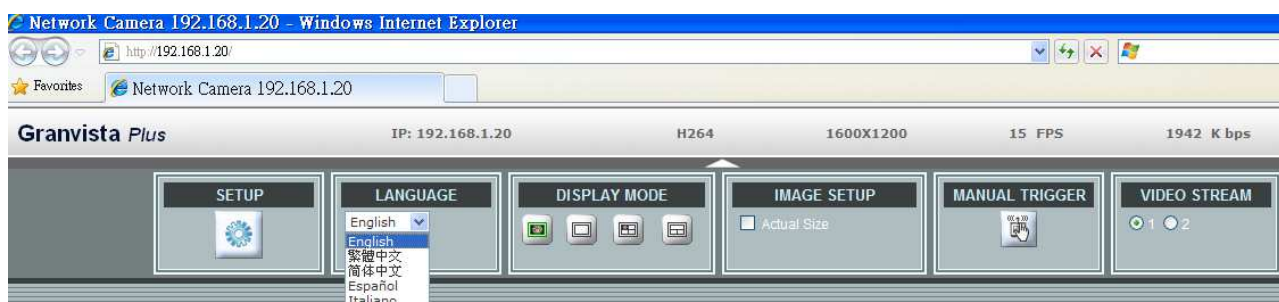
Get a language file from </lang/en/lang.js>

Select language file to upload:

Browse...

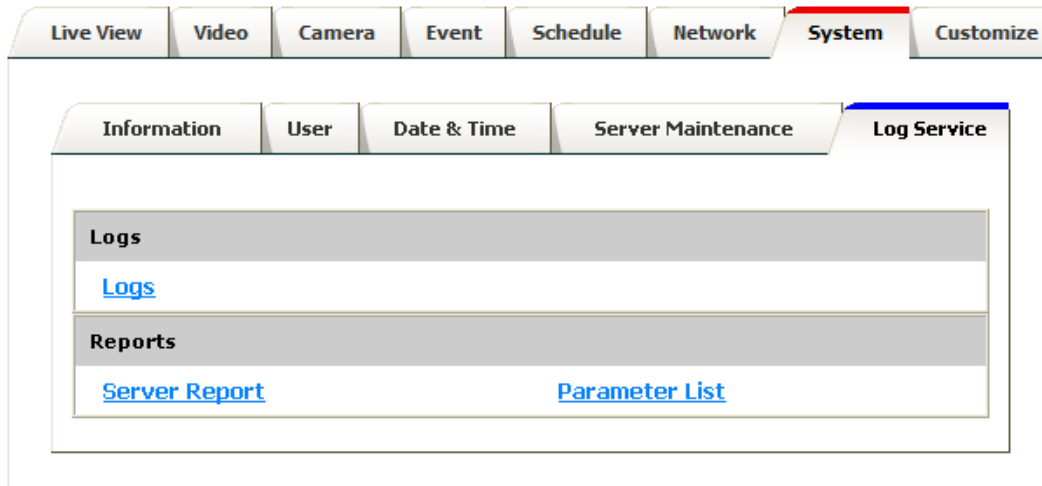
Upload Language

If you like to add customized interfaces with other languages, please refer to the “How to add a new language into the user interface V.1.0.ppt” file in the CD for more details.



Log Service

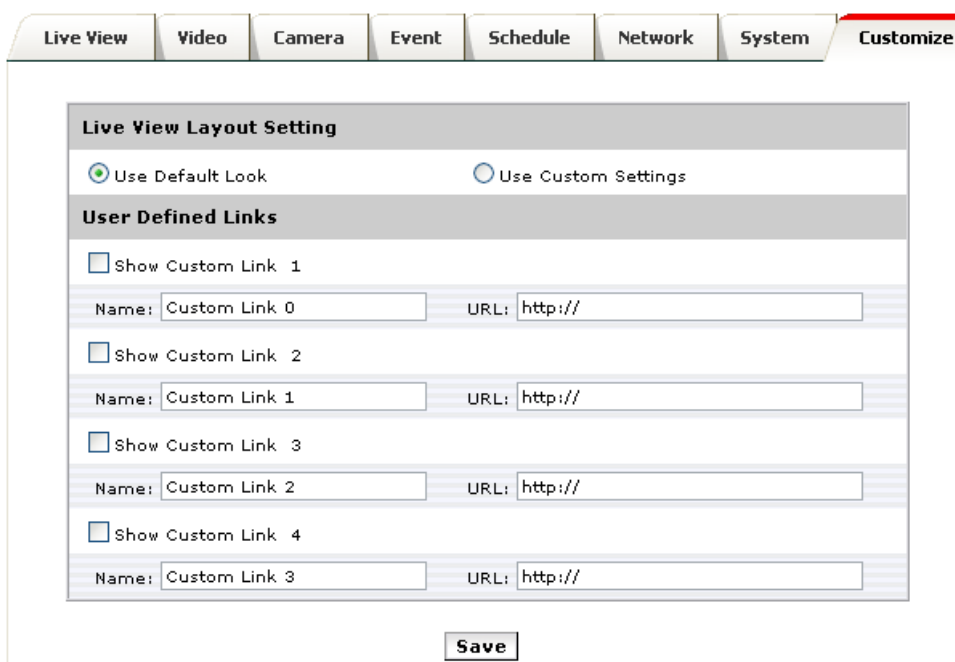
Most system operations and / or process will be kept in a log system. The link provides the review of these records.



The screenshot shows a web interface with a top navigation bar containing tabs: Live View, Video, Camera, Event, Schedule, Network, System (highlighted with a red border), and Customize. Below this, a sub-navigation bar includes Information, User, Date & Time, Server Maintenance, and Log Service (highlighted with a blue border). The main content area is divided into two sections: 'Logs' and 'Reports'. The 'Logs' section contains a single link labeled 'Logs'. The 'Reports' section contains two links: 'Server Report' and 'Parameter List'.

8. Customize

This page provides the function of adjusting the look of live view page. There are two types of layout settings; use default look or use custom settings.



The screenshot shows the 'Live View Layout Setting' page. The top navigation bar is identical to the previous screenshot, with 'Customize' highlighted in red. The sub-navigation bar is not visible. The main content area has a title 'Live View Layout Setting' and two radio buttons: 'Use Default Look' (selected) and 'Use Custom Settings'. Below this is a section titled 'User Defined Links' containing four rows. Each row has a checkbox labeled 'Show Custom Link' followed by a number (1, 2, 3, 4). Each row also has a 'Name' field (containing 'Custom Link 0' through 'Custom Link 3') and a 'URL' field (all containing 'http://'). At the bottom of the page is a 'Save' button.

Use Default Look: the default layout of live/configuration pages

Use Defined Links: Web link(s) will be presented on the live page when enabled. It can be a link to another Network Camera for instance, or other preferred web link.

Use Custom Settings: The modifications allowed are changes of Background / Text Color, Background picture, Title, Description, Logo and etc.

Live View Layout Setting

☐ Use Default Look ☒ Use Custom Settings

User Defined Links

☐ Show Custom Link 1
Name: Custom Link 0 URL: http://

☐ Show Custom Link 2
Name: Custom Link 1 URL: http://

☐ Show Custom Link 3
Name: Custom Link 2 URL: http://

☐ Show Custom Link 4
Name: Custom Link 3 URL: http://

Custom Settings

Modify the Default Look:

Background Color: ☒ Default ☐ Own: White

Text Color: ☒ Default ☐ Own: Black

Background picture: ☒ None ☐ External: http://

Title: ☒ None ☐ Default ☐ Own: Title

Description: ☒ None ☐ Default ☐ Own: Description

Logo Link: ☒ None ☐ Default ☐ Own: http://

Logo: ☐ None ☒ Default ☐ External: http:// ☐ Own

Select image file to upload:

9. FAQ

Check firmware version

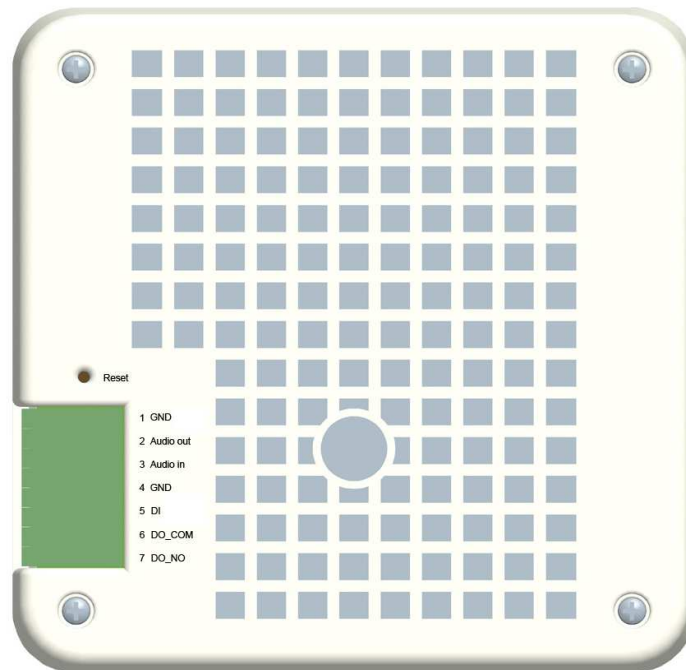
The version code can be found in Setup -> System -> Information, or simply type "version.html" after the URL address, e.g. <http://192.168.1.20/version.html>. Firmware version indicates the functionalities' updates or availability in the camera system. Therefore, in the first step of troubleshooting and then reporting, it helps to locate the found issues. Newer version firmware may have corrected the current bugs.

The screenshot shows the 'System' tab selected in the top navigation bar. Under the 'System' tab, the 'Information' sub-tab is active. The 'System' section displays the following details:

System	
Model:	GVP-270
System up time:	2012-02-20 04:49:35
Firmware version:	2.1.0215_gvpmb
MAC Address:	00:04:29:06:f8:ff
ActiveX Control version:	1.0.1.151

The screenshot shows a Windows Internet Explorer browser window with the title 'loading - Windows Internet Explorer'. The address bar displays the URL <http://192.168.1.20/version.html>. The menu bar includes File, Edit, View, Favorites, Tools, and Help. The Favorites bar shows a single entry 'loading'. The main content area displays the text **2.1.0215_gvpmb**.

Restore to Factory Default



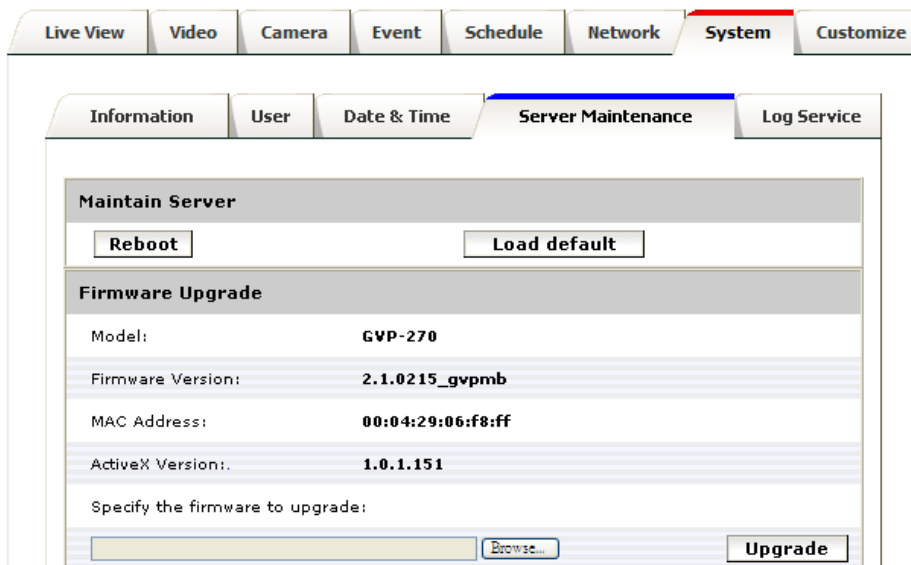
To restore factory default, please follow the steps:

1. Unplug the power jack to turn off the power of the camera.
2. Insert a pin into the reset hole, feeling that a button is being pressed.
3. Plug in the power jack to turn on device, or to plug the power from the PoE switch, in about few seconds the status LED will blink quickly.
4. Release the button (remove the pin from the reset hole). The camera should now be back to factory default.

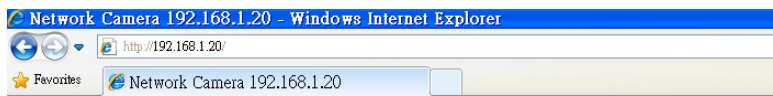
Upgrade device firmware

Firmware upgrade process should be done via the web configuration; **Setup -> Server Maintenance -> Firmware Upgrade**. Before the process, read the instructions and release notes coming with each new released version. For the steps,

1. Check and retrieve the latest firmware bin file.
2. Disconnect all other clients (e.g. streaming requests) to the device.
3. Stop the local (schedule) recording if it was enabled.
4. Go to the Firmware Upgrade page, browse and locate the downloaded firmware bin file, then click on "Upgrade" button.



5. The upgrade should finish in about 10 minutes, depending on file transferring status. The web will then be directed to the system writing progress. **DO NOT DISCONNECT the power and Ethernet connection** while the upgrade is in progress, otherwise software of the unit can be damaged.



Firmware Upgrade

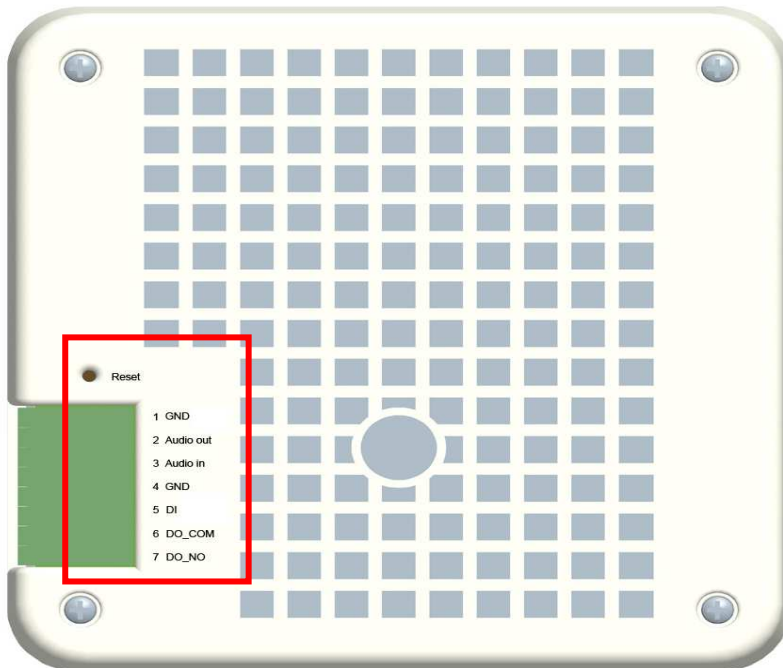
It is strongly recommended to stop any unnecessary jobs while updating firmware.
Please be patient and the updating process may take a long time.
Please waiting about six minutes!

Writing Progress:



6. The power LED (orange one) will be quick/slow flashing during the upgrading process. When it becomes steady on again, camera is ready to be accessed. Check the firmware version. If somehow system is not upgraded, redo above steps. In this case, restore factory default process may be required.

I/O Terminal Connector – Pin Assignment



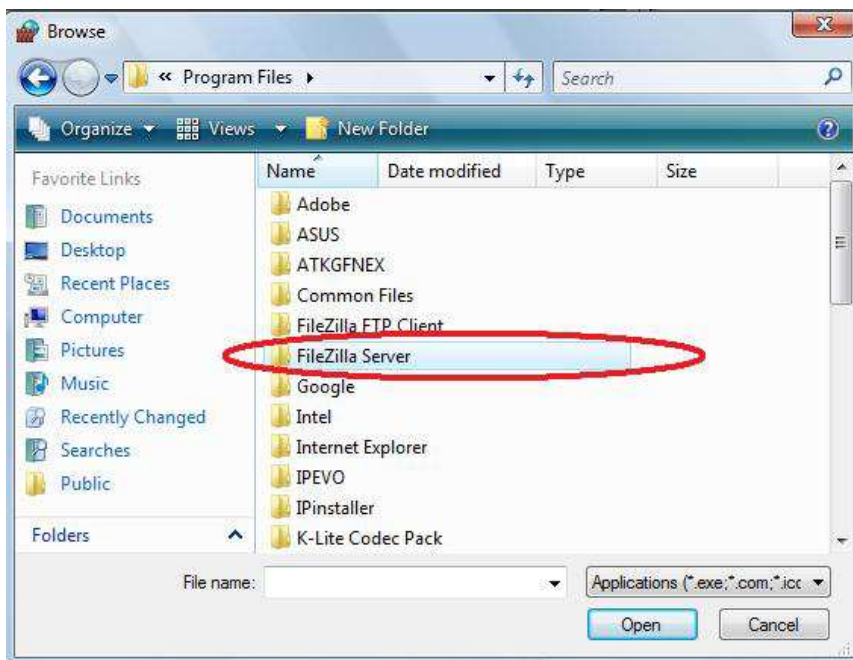
Pin	Function	Description
1	GND	2 way Audio connectors , and connect to GND to activate
2	Audio Out	
3	Audio In	
4	GND	Connect to GND to activate, or leave floating (or unconnected) to deactivate.
5	DI	
6	DO__COM	Digital output implementation; Pin7 to COM (Pin6) is a Photo-coupled relay on Normal Open status. External device can directly connect to the terminals. However the current that will go through the 2 nodes must not exceed 130mA. An external “Relay” can also be connected to the terminals as an implementation. In this case, current (or/and voltage) limitation is specified by the external Relay.
7	DO_NO	

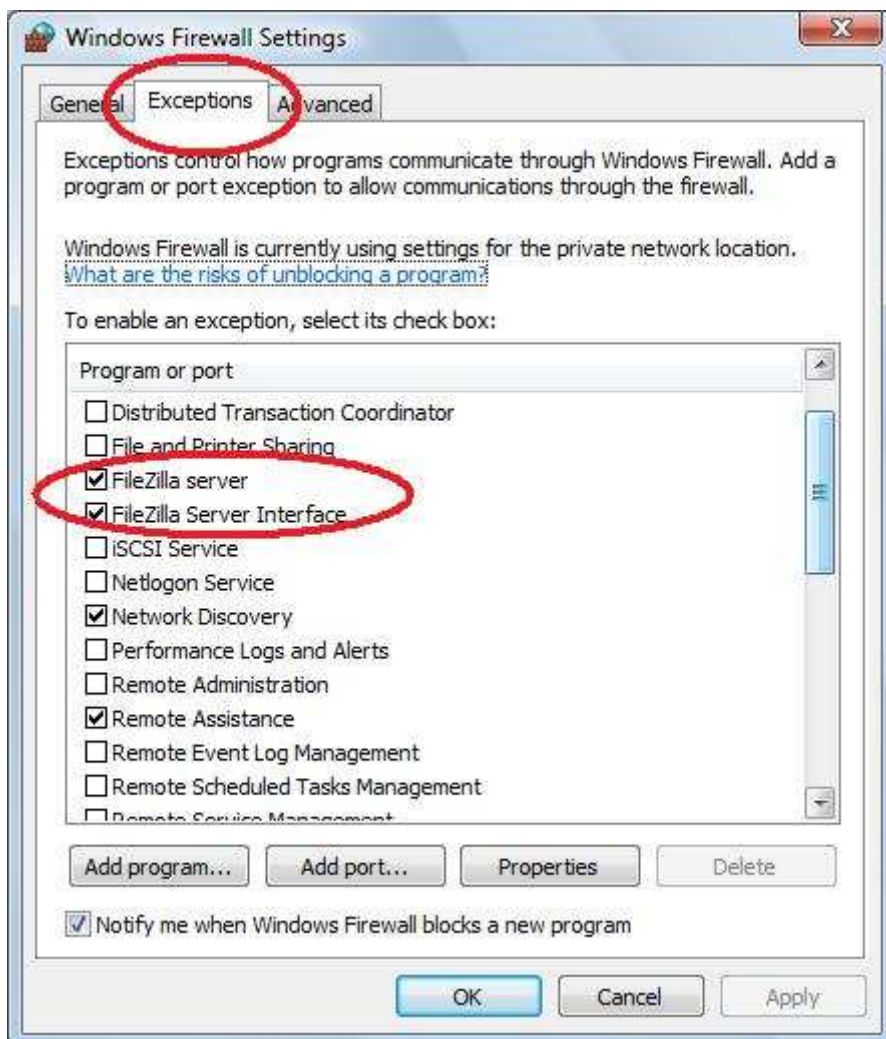
Appendix I: Example of how to set up users' own FTP servers

FTP is quite a convenient application. The users may easily set up their own FTP servers.

Following is an example of using a shareware named FileZilla. Please note that this FileZilla software's copyright belongs to Tim Kosse, <http://filezilla-project.org/>, Longvast International Co., Ltd. has no business relationship with them that users should obey the related copyright laws about using this software.

1. Download the FTP server program from <http://filezilla-project.org/download.php?type=server>. If the users also like to download the FTP client software, they may refer to <http://filezilla-project.org/> for more information.
2. Install the FTP server program, and start the program.
3. The Firewall of Windows or anti-virus software will usually try to stop such FTP server application. Please make these two programs exceptions to the firewalls accordingly.

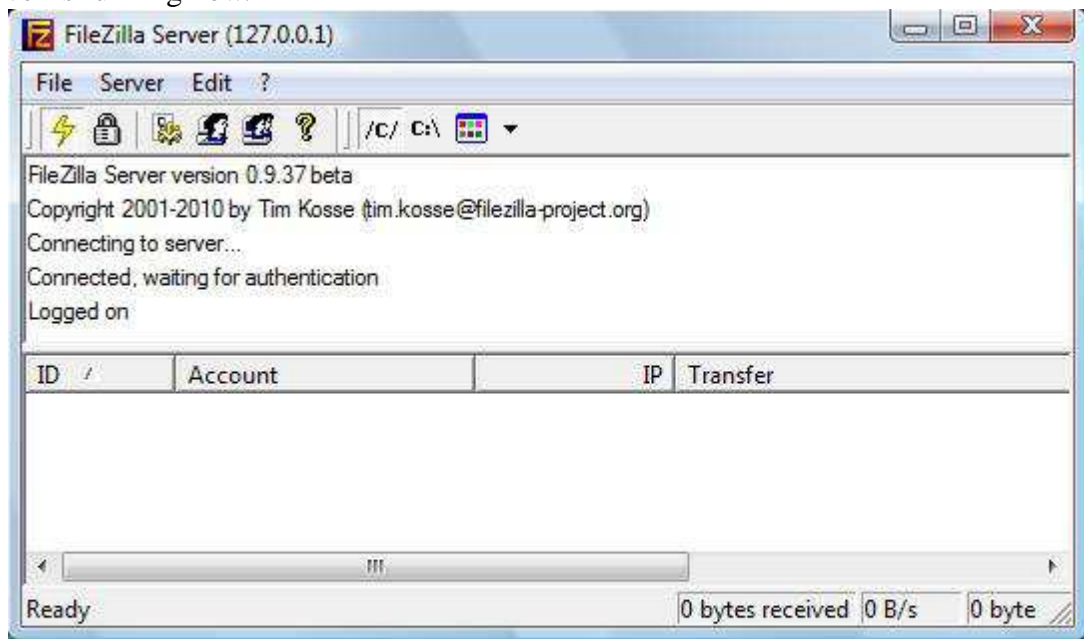




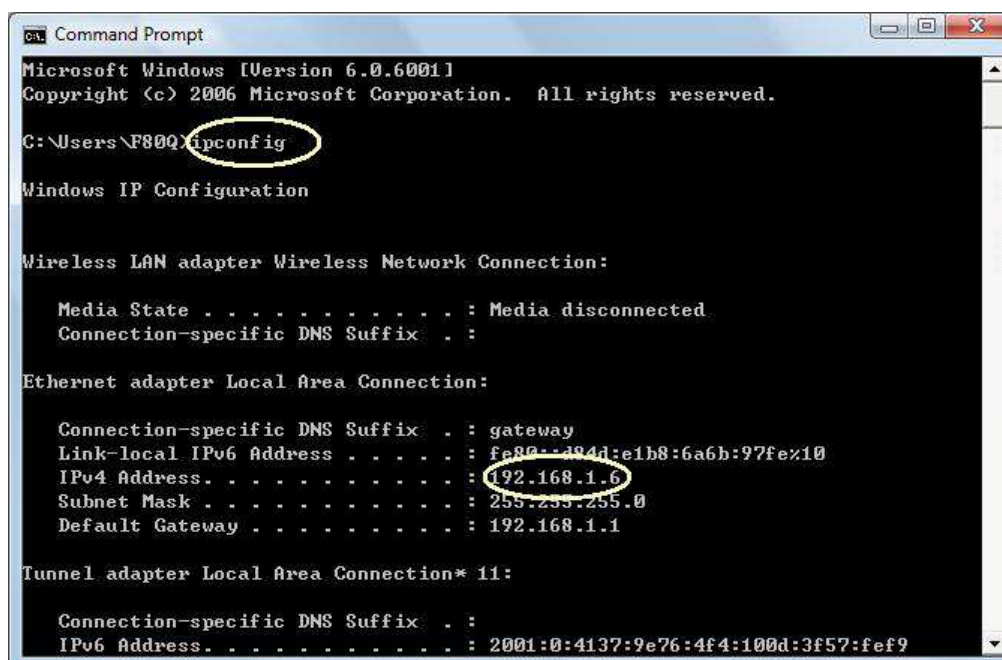
1. Start the FTP server by clicking on the OK button. **Do not change any of the original settings.**



2. The users should see following screen after clicking OK button. It indicates that this FTP server is running now.

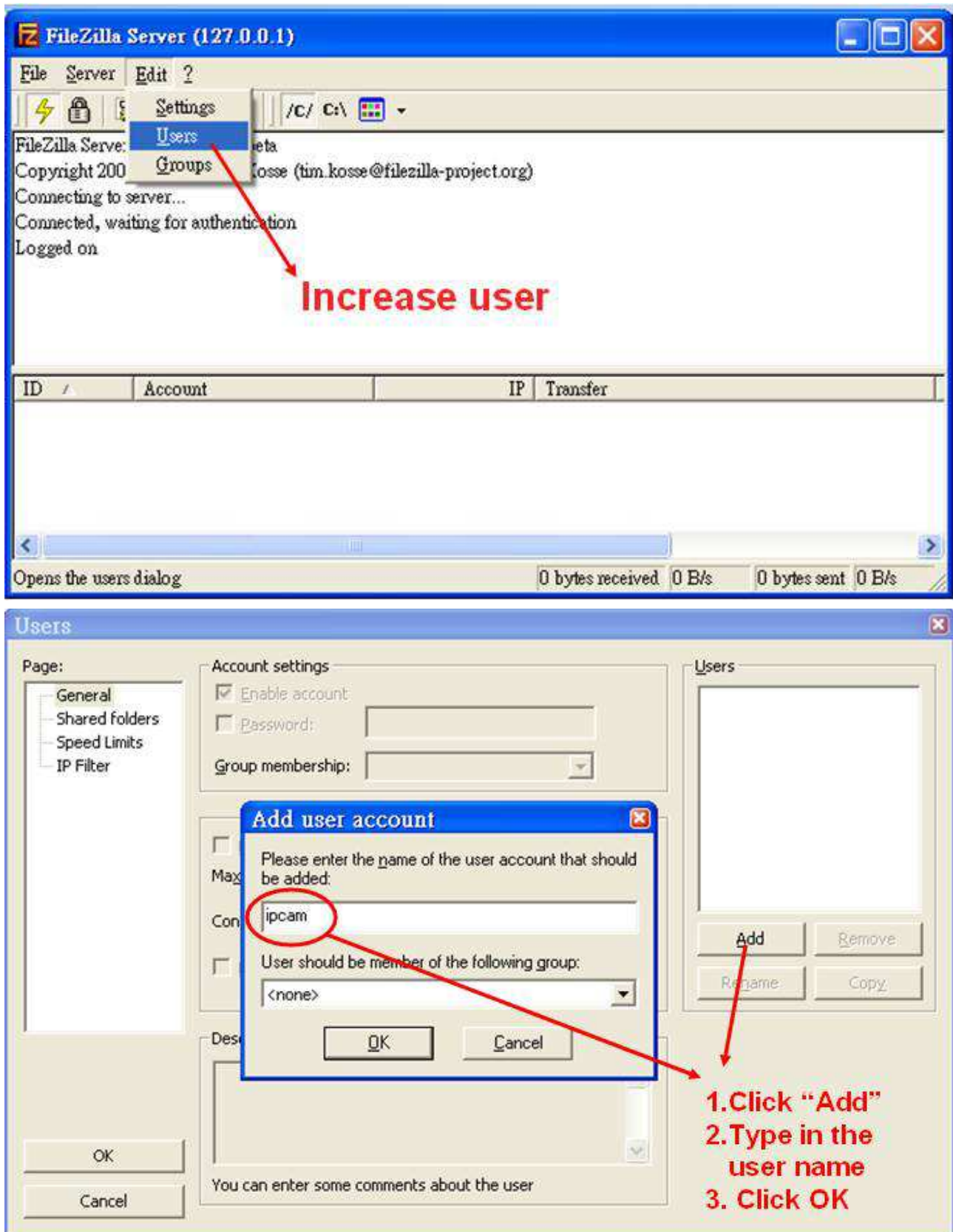


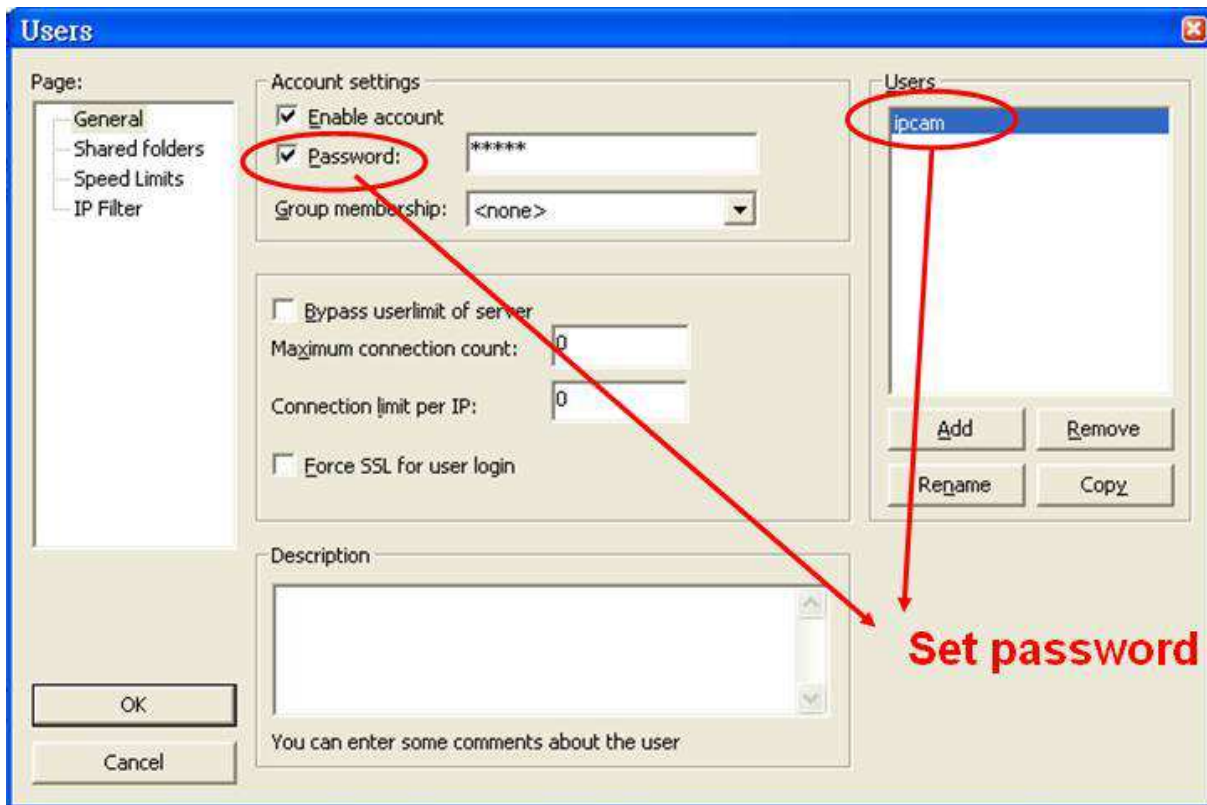
3. Type in "ipconfig" command from the Windows's command screen.



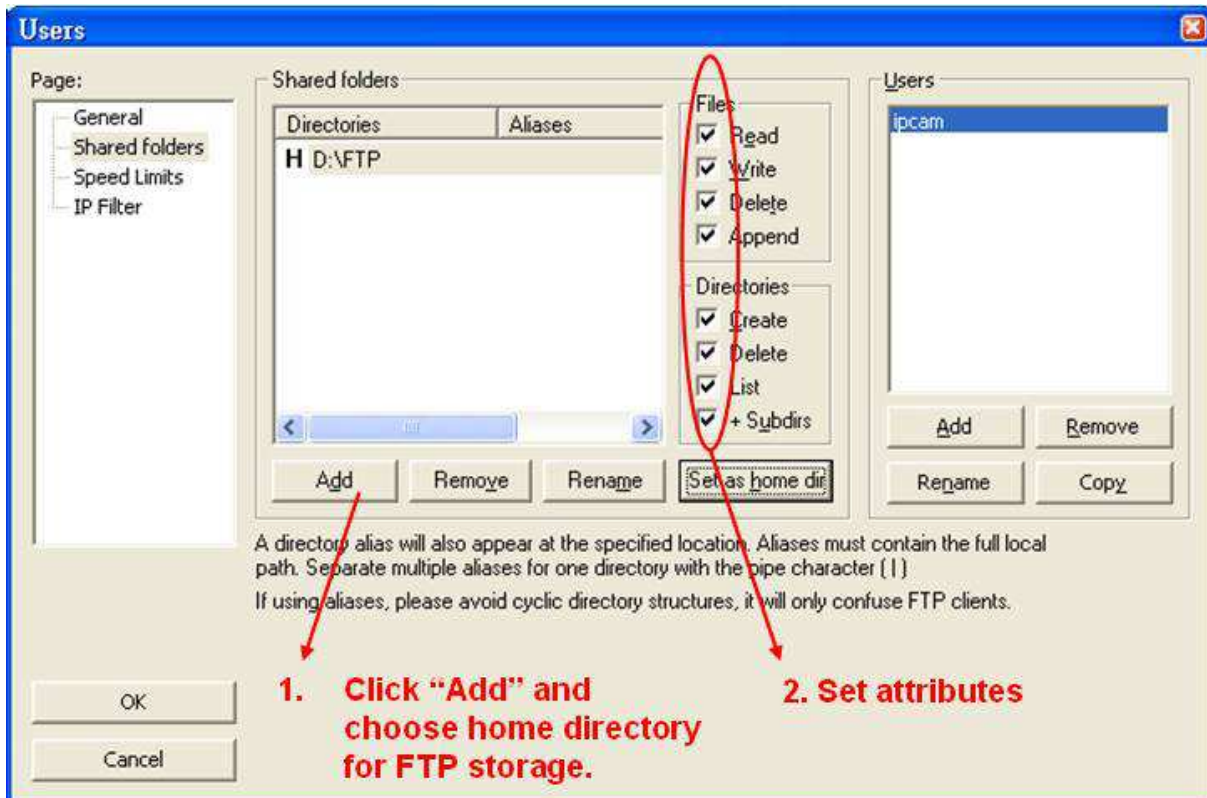
In this command screen, the IP address indicates that the address of PC when FTP server running is of "192.168.1.6".

4. Configure the user names and passwords of the users who are allowed to login into this server.

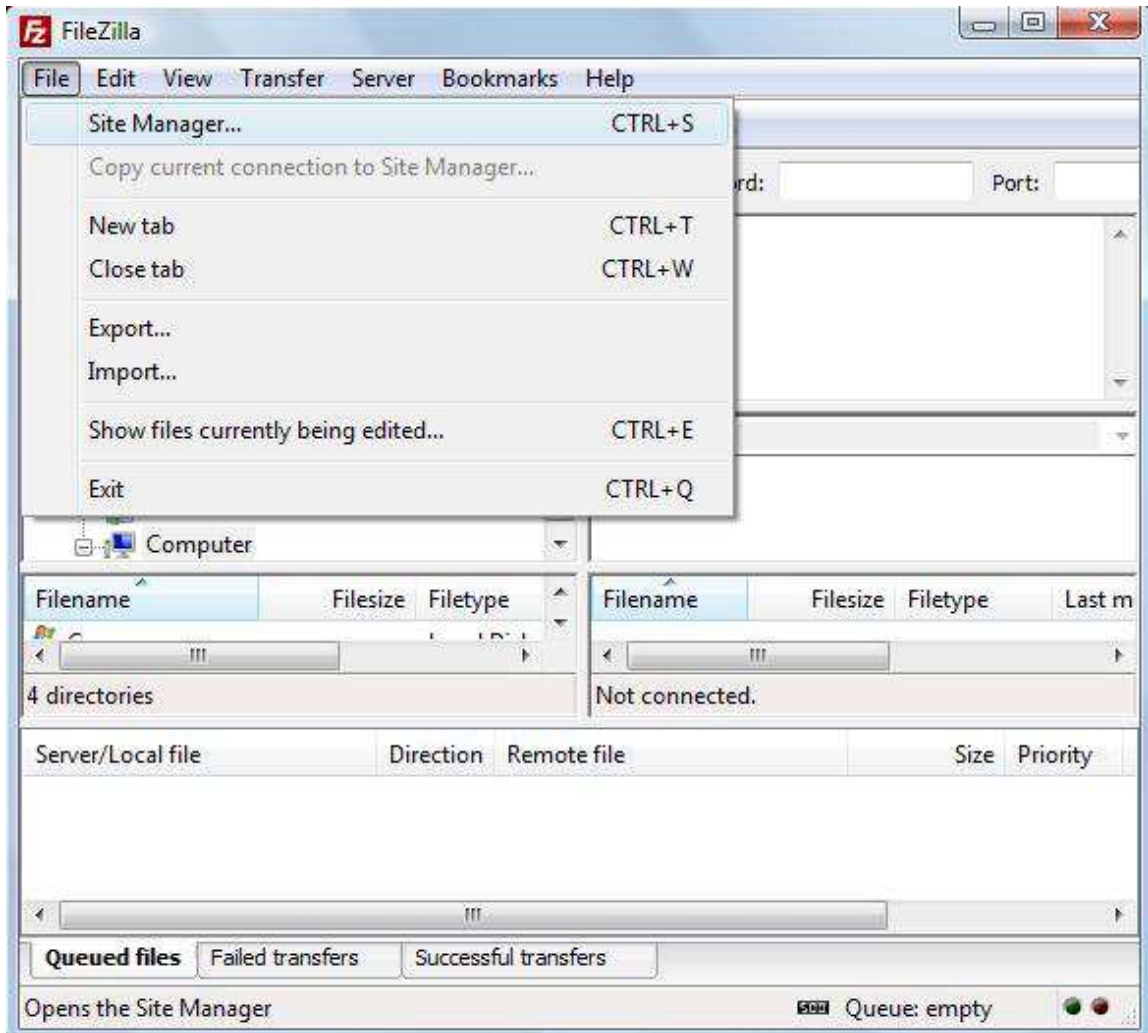


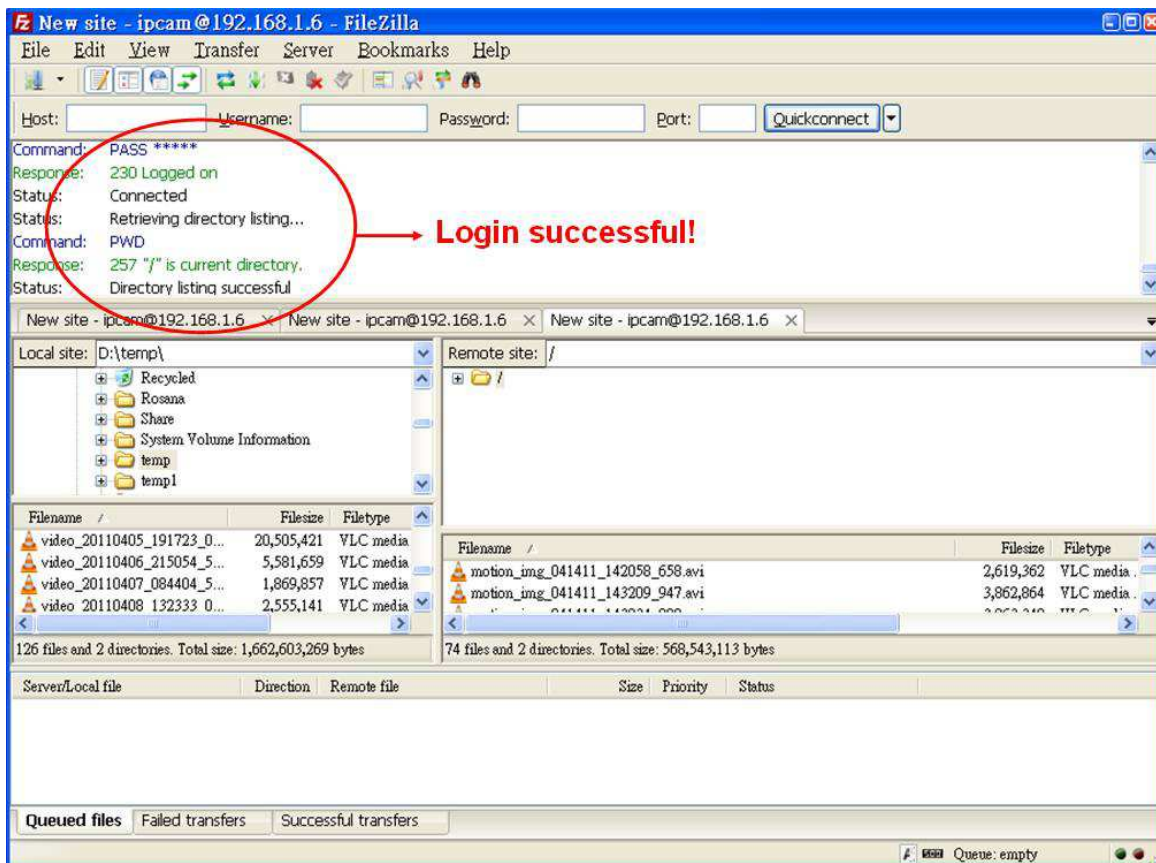
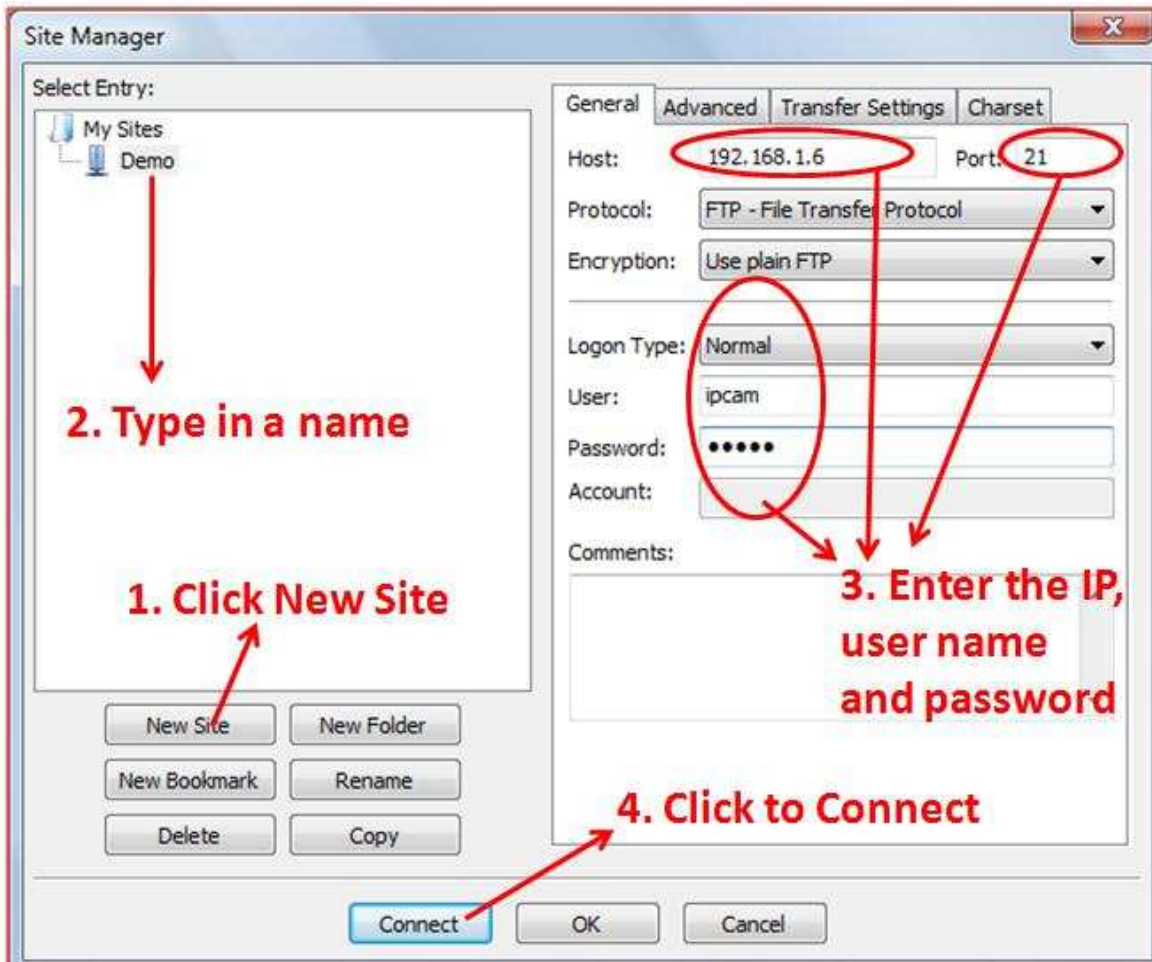


5. Set the default directory of each individual user.

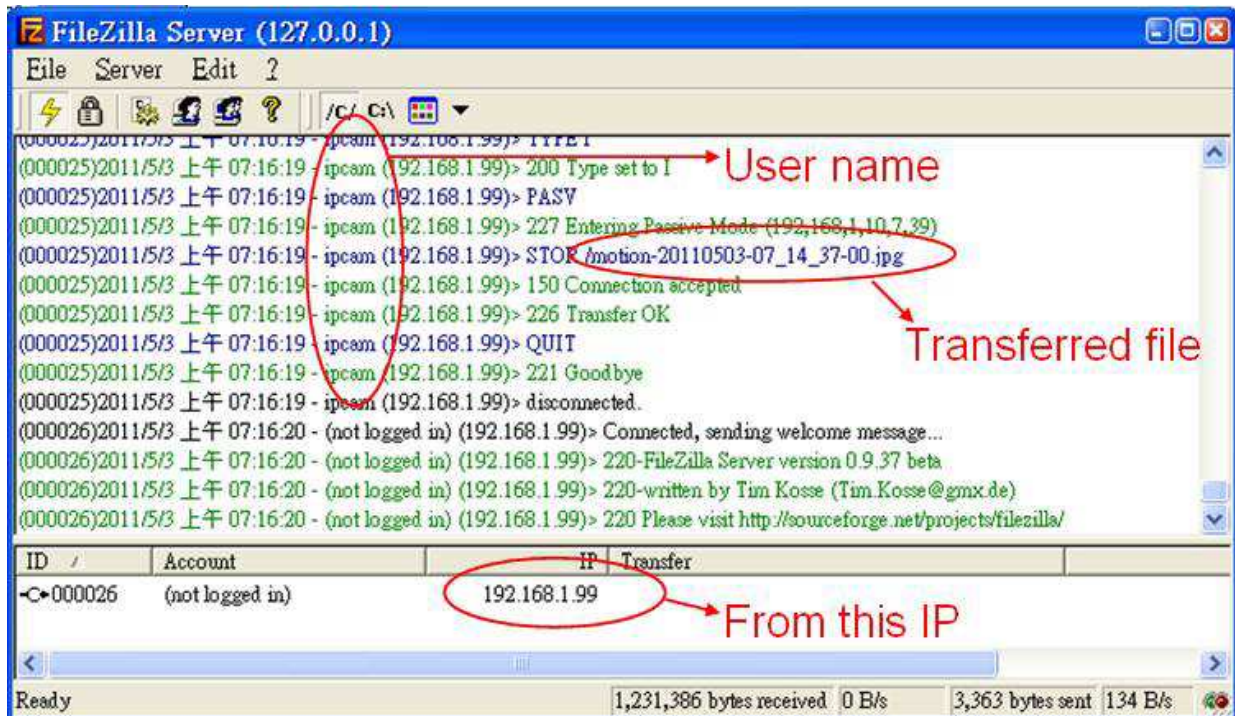


6. Now the FTP server should be ready to go. The users may double-check to see if everything is alright by trying to login by using any FTP client programs with the user IDs and passwords pre-configured. In the following example we use similar Filezilla FTP Client software with the user ID of “ipcam” to login.





7. Now the FTP server is ready to store the event-triggered photo images from the network cameras. Following is a screen which the users may see on the FTP server software when a network camera is transferring photo image files to the FTP server.



8. Please note that this FTP server may also be accessed through Internet externally. Following screen shows an example of how the user may configure his broadband router to make this FTP server accessible from web externally. In case the fixed web IP of this connection is 219.86.240.235, and then the users from outside may access this FTP server from the web address of [FTP://219.86.240.235:21](ftp://219.86.240.235:21) now. In other words the user can access this FTP server by the IP of both 192.168.1.6 or 219.86.240.235 from near end after the NAT Virtual Server is properly routed.

Virtual Server

Setting up Virtual Servers allows remote users to access services such as Web or FTP on the LAN via public IP Addresses.

No.	Private IP	Private Port	Type	Public Port	Comment	Enabled
1.	192.168.1.99	91	Both	91	GVP-201	<input checked="" type="checkbox"/>
2.	192.168.1.99	556	Both	556	GVP-201	<input checked="" type="checkbox"/>
3.	192.168.1.188	92	Both	92	GVP-201W	<input checked="" type="checkbox"/>
4.	192.168.1.188	557	Both	557	GVP-201W	<input checked="" type="checkbox"/>
5.	192.168.1.20	80	Both	80	GVP-NVR06	<input checked="" type="checkbox"/>
6.	192.168.1.6	21	Both	21	FTP server	<input checked="" type="checkbox"/>
7.	192.168.1.		TCP			<input type="checkbox"/>
8.	192.168.1.		TCP			<input type="checkbox"/>

In terms of how to get your fixed web IP address, please refer to your Internet Service Provider for more details. Usually PPPoE is the most common protocol used for getting fixed IP, and following image shows you the setting screen of such PPPoE

ASUS RX3081

Product Name: ASUS RX3081

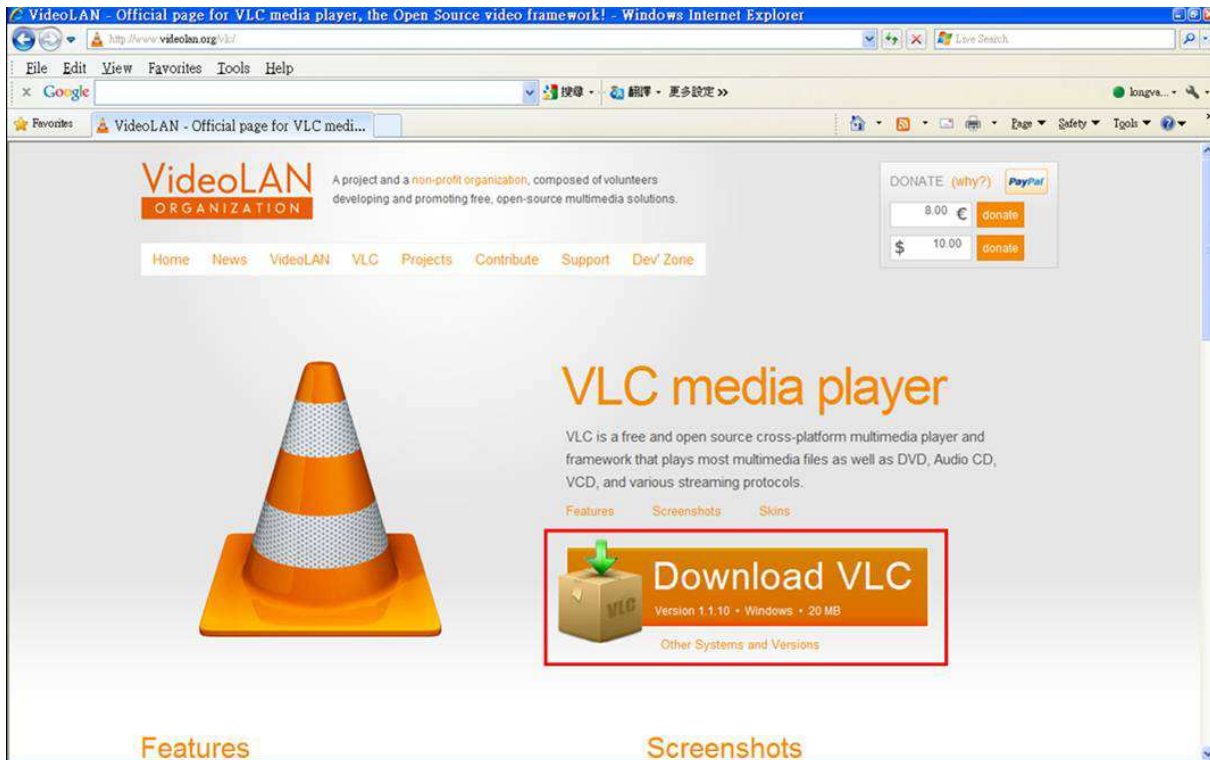
System Status

This page displays the LAN/WAN connection status, firmware/hardware version, and number of connected clients in your network.

WAN	
Cable/DSL	Connected
WAN IP	219.86.240.234
Subnet Mask	255.255.255.0
Gateway	211.78.222.137
Primary DNS	61.31.233.1
Secondary DNS	61.31.1.1
Connection Type	PPPoE
Connection Time	03:10:38
<input type="button" value="Connect"/>	<input type="button" value="Disconnect"/>
LAN	
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
NAT	Enabled
Firewall	Enabled

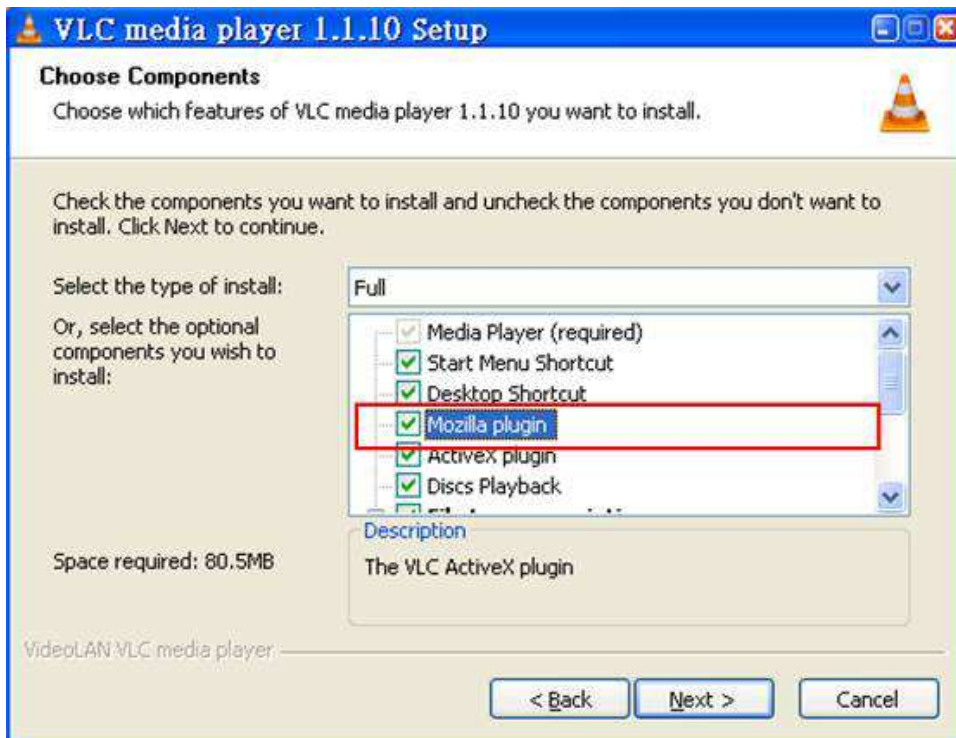
Appendix II: How to install the VLC program

1. You may find this software in the CD, and you may go to <http://www.videolan.org/vlc/> and download VLC program. In this page there is a donation field, and it is all up to the users whether they want to donate to this VideoLAN non-profit Organization. If the users do not want to make donation immediately, just ignore and click on the “Download VLC” icon to proceed with the download.



Note: this VLC shareware is proprietary of the VideoLAN non-profit Organization

2. Install VLC 1.1.10 step by step

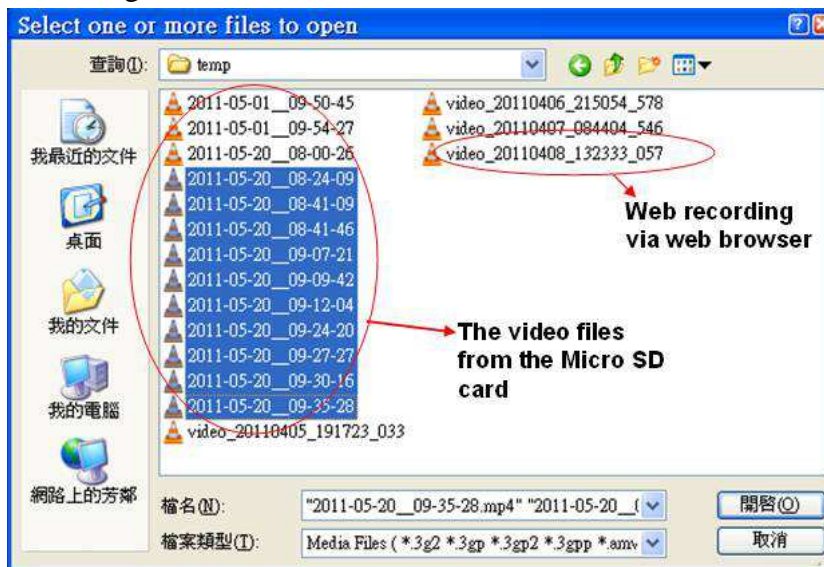


Be sure that the “Mozilla plugin” is selected if the users need to use Firefox as web browser too, in addition to Microsoft Internet Explorer. This plugin is used for audio function.

Appendix III: How to replay the recorded video with VLC program

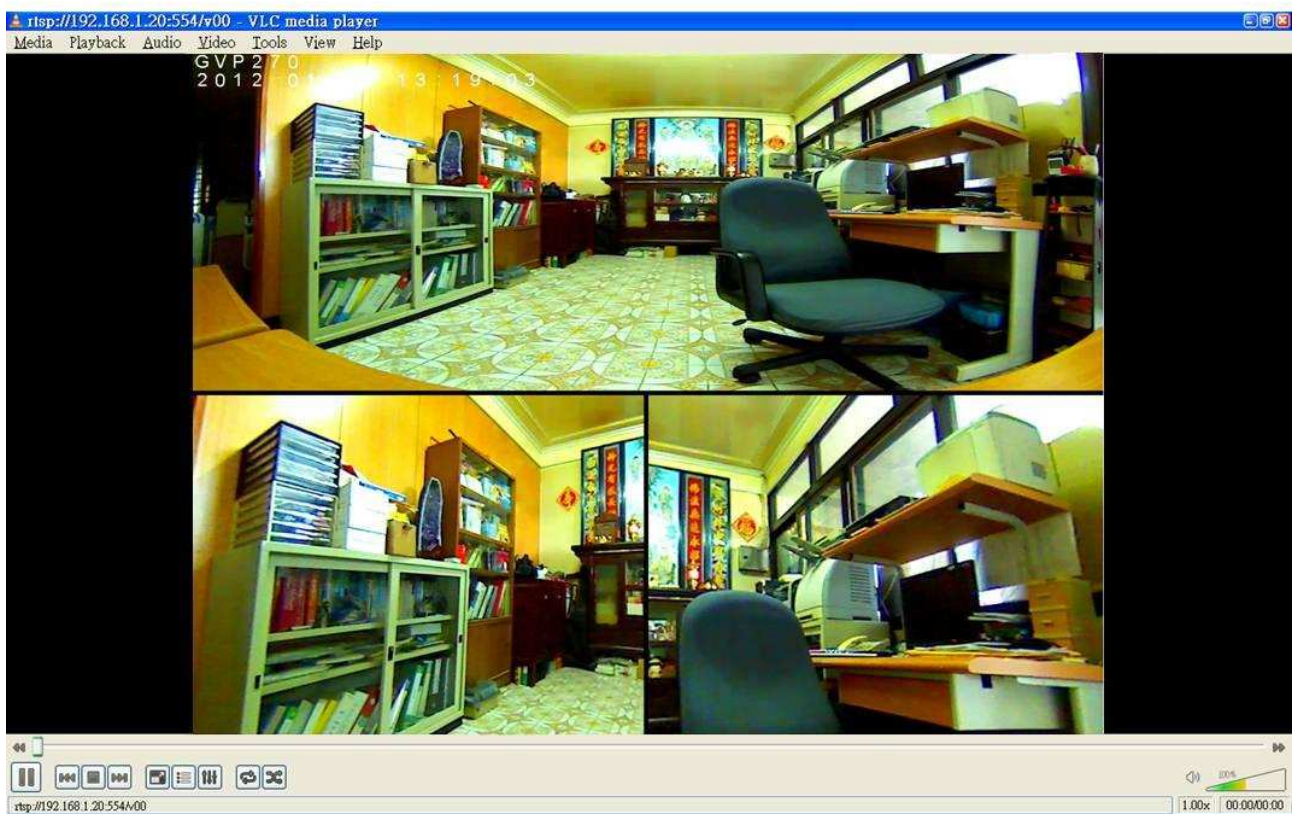
The following image is an example screen showing the video clip files which a user has collected inside a PC folder named “temp”.

There are two types of files in this example. The files with the file format of “YYYY-MM-DD_TT-TT-TT” format are recorded in the Micro SD card, and the ones in the format of “video_YYYYMMDD_TTTTTT_nnn” format are recorded by the web browser’s Web Recording function.



Select whichever file the user want to replay. If the user has selected more than one file then the VLC will replay sequentially. The user may click on the mouse together with combination keypads of CTRL or Shift on the keyboard to select more files altogether.

The multiple-selection is very useful, because the users may need to replay video data for a long period of time either from the SD card or Web Recording function.



Note: the users may right-click and choose “full screen” mode for full-screen display.

Appendix IV: Commands for system integrations

- **<http://N.N.N.N/tmp/snap.jpg>**

The [http://\[IPcam IP\]/tmp/snap.jpg](http://[IPcam IP]/tmp/snap.jpg) command is to retrieve for the 640x480 image which is generated by the cameras at the speed of one image per second. The quality of such image should look good to you too, although it is only VGA.

- **<http://N.N.N.N/cgi-bin/admin/snapshot.cgi>**

You may use "[http://\[IPcam IP\]/cgi-bin/admin/snapshot.cgi](http://[IPcam IP]/cgi-bin/admin/snapshot.cgi)" CGI command to get 1600x1200 images. We recommend not to send this command to camera too frequently, because such CGI command will ask the camera to send out immediate 2megapixel image, while too frequent CGI commands would definitely make the camera unstable, because frequent CGI commands like that have not been expected in its existing codes.

Both kinds of commands mentioned above are different. The [http://\[IPcam IP\]/tmp/snap.jpg](http://[IPcam IP]/tmp/snap.jpg) will not cause too much loading to the cameras, because such 1fps VGA image has already been there already, but the "[http://\[IPcam IP\]/cgi-bin/admin/snapshot.cgi](http://[IPcam IP]/cgi-bin/admin/snapshot.cgi)" CGI command will ask camera to do a lots of works that it will cause heavier loads to the cameras.