1-Channel Video Server
IVS-110
User’s Manual

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

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

FCC Caution

To assure continued compliance. (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: ( 1 ) This device may not cause harmful interference, and ( 2 ) this Device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

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

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

CE Mark Warning

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

WEEE Regulation

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

Revision

User's Manual for PLANET 1-Channel Internet Video Server
Model: IVS-110
Rev: 3.0 (April, 2009)
Part No. EM-IVS110v3
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1. Introduction

The PLANET IVS-110 allows the conversion of any analog camera into a fully functional IP camera. It can stream digitized video over an office network in the same way that current IP cameras do. With the use of an IVS-110 attached to an analog camera, all elements of an existing surveillance system can be upgraded and network into a new IP surveillance system. The IVS-110 can send live video and audio via the internet to a web browser anywhere over the world.

The IVS-110 takes surveillance with 2-way audio. When adding a speaker on IVS-110, it can remotely talk to anyone. The IVS-110 is compliant with IEEE803.2af standard PoE interface. It can help you to locate the video server in the place where is no power outlet. Connected analog camera can work without power adapter; you can plug the power cable from the IVS-110 power out port to your camera power-in.

Multi-profile stands for simultaneously video stream. The IVS-110 can generate MPEG-4 and M-JPEG streaming in the meantime to different users. Moreover, the resolution can be different from one user to another. This state-of-art design is considerable to fit in various network environments. Up to 10 simultaneous users can have access to the IVS-110 at any point in time.

1.1 Overview

This user’s manual explains how to operate the 1-Channel Internet Video Server from a computer. Basically, the user’s manual is written to be read on the computer display. However, users might consider printing it out to access easily and read it before you operate the video server.

1.2 Features

- AXIS compatible SDK
- 3GPP for 3G mobile remote applications
- Multi-profile encoder supports MPEG-4 and M-JPEG video compression simultaneously, 30fps for all resolution
- Supports PoE (IEEE802.3af compliant) interface
- 2-way audio supported
- Plug-N-Watch is able to simplify system integration in existing network environment
- Because of supporting TCP/IP networking, SMTP e-mail, and HTTP public network standards, IVS-110 can be applied and utilized to a mixed IP network environment
- Easy configuration: Network administrators can configure and manage IVS-110 via Windows-based utility or web interface
- DDNS, PPPoE and FTP upload supports provide more alternatives in surveillance network
- Motion Detection, the motion detection feature can monitor any suspicious movement in specific area
1.3 Package Contents

User can find the following items in the package for IVS-110:

- IVS-110 x 1
- Power adapter x 1
- Power Cable x 1
- Installation software and manual CD x 1
- Quick Start Guide x 1

**NOTE :**

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

2. Using the power supply that is not the one included in IVS-110 packet will cause damage and void the warranty for this product.

3. If IVS-110 is obtaining power from a PoE device, you don’t have to connect the power adapter.
2. Basic Setup

This chapter provides details of installing and configuring the IVS-110

2.1 System Requirements

<table>
<thead>
<tr>
<th>Network Interface</th>
<th>10/100MBase-TX Ethernet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring System</td>
<td>Recommended for Internet Explorer 6.0 or later</td>
</tr>
<tr>
<td>Basic System Hardware</td>
<td>- CPU: Pentium 4, 3.0GHz or above</td>
</tr>
<tr>
<td></td>
<td>- Memory Size: 512 MB (512 MB or above Recommended)</td>
</tr>
<tr>
<td></td>
<td>- VGA card resolution: 1024 x 768 or above</td>
</tr>
<tr>
<td></td>
<td>- VGA card memory: 64 MB or above</td>
</tr>
<tr>
<td></td>
<td>- Sound card: Necessary</td>
</tr>
<tr>
<td></td>
<td>- <strong>Network bandwidth</strong>: In VGA resolution mode, minimum upload bandwidth is 1Mbps.</td>
</tr>
</tbody>
</table>

**NOTE:** The listed information is minimum system requirements only. Actual requirement will vary depending on the nature of your environment.
### 2.2 Physical Details

**Identification of IVS-110 cables**

**Front Panel**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LAN Socket</strong></td>
<td>The LAN socket is a RJ-45 connector for connections to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use Category 5 “straight through” cable to connect the IVS-110 to a 100Mbps Fast Ethernet network switch or hub. The LAN socket is compliant with IEEE802.3af standard PoE interface. <strong>NOTE</strong>: If you need to connect the IVS-110 to PC or notebook directly, you should use cross over cable instead.</td>
</tr>
<tr>
<td><strong>Video-in Jack</strong></td>
<td>You can install an analog camera and connect it to video-in jack.</td>
</tr>
<tr>
<td><strong>12V DC-Out Jack</strong></td>
<td>The output power is 12V DC. This is used to supply 12V DC power to one external camera. The output power is 12V DC, 400mA maximum.</td>
</tr>
<tr>
<td><strong>DI/DO/RS-485 Connector</strong></td>
<td>The IVS-110 provides a terminal block with 6 pins of connectors for DI/DO and RS-485 interface. Please refer to the section 3.6.1 and Appendix B in manual for more information.</td>
</tr>
</tbody>
</table>
2.3 Hardware Installation

1. Attach video source to IVS-110

To use IVS-110, user must supply video source to IVS-110. Connect the BNC terminal of camera to the IVS-110’s video input and make sure to power on camera first.

2. Attach Audio source to IVS-110 (option)

If user needs not only video stream but also audio stream, then the audio source should be attached to IVS-110. Connect the RCA terminal of audio device’s line output to the IVS-110’s RCA input and make sure to power on your camera or audio device first.

3. Plug an Ethernet cable into IVS-110

Connect an Ethernet cable to the LAN socket located on the IVS-110’s panel and attach it to the network. If there has a PoE switch in your network, you can connect the IVS-110 LAN cable to this PoE switch to obtain power. The power adapter is unnecessary when IVS-110 is connected to a PoE switch.

4. Connect RS-485 (option)

When users would like to apply a camera with P/T/Z function, they usually need to connect their communication port (for camera control) through RS-485. After RS-485 was correctly connected to D+ and D-, the remote users could control the camera movement through internet.
5. Connect the external power supply to IVS-110

Plug in power adapter and connect to power source. If there has a PoE switch in your network, you can connect the IVS-110 LAN cable to this PoE switch to obtain power. The power adapter is unnecessary when IVS-110 is connected to a PoE switch. After power on, IVS-110 will start to operate. Once you have installed the IVS-110 well, the status LED will turn green. It means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the IVS-110, the LED will flash green.

6. Connect the power supply to one external camera (option)

The IVS-110 can provide 12V DC out to supply one external camera. The output current is 400mA maximum.

2.4 Initial Utility Installation

This chapter shows how to quick set up your IVS-110. The IVS-110 is with the default settings. However to help you find the networked camera quickly the windows utility-IP Wizard can search the cameras in the network that shall help you to configure some basic setting before you started advanced management and monitoring.

1. Insert the bundled CD into the CD-ROM drive to launch the autorun program. Once completed, a welcome menu screen will appear. Please click video server mode name to next page.

2. Click the “IP Wizard” hyperlink; you will see the InstallShield Wizard dialog box as below.

   NOTE: If the welcome screen does not appear, click “Start” at the taskbar. Then, select “Run” and type “D:\Utility\IPWizard\setup.exe”, assume D is your CD-ROM drive.
3. The “Welcome to the InstallShield Wizard for IP Wizard” will display on the screen and click “Next” to continue.

4. Please click “Next” to install with original settings, or you may click “Change…” button to modify the install folder then press “Next” to continue.
5. Please click “Install” to start the installation.

![Installation Window]

6. Please click “Finish” to complete the installation.

![Finish Window]

7. Please double-click the utility icon on the desktop then you will see the IVS-110 utility.

![Utility Icon]
2.5 IP Wizard

When you installed the IVS-110 on a LAN environment, you may execute IP Wizard to discover IVS-110’s IP address and set up related parameters in the IVS-110.

Search Button:

When click Search button, a searching window will pop up. IP Wizard is starting to search IVS-110 on the LAN. The message “No Network Devices Is Found” will appear on this window if IP Wizard cannot find any camera on the LAN. Otherwise, existed cameras will be listed. If total quantity is over, please move the cursor to Information Box. Click on the left button of the mouse and the Information Box of the Listing Window will roll upward automatically; on the contrary, move the cursor to the Information Box on the top of Listing Window and click on the left button of the mouse and Listing Window will roll downward.
**Wizard Button:**

When IP Wizard finds your camera, **Wizard** button will become available. Please select the device you would like to configure in the Information Box. The device will turn into yellow which means this device is selected; please press **“Wizard”** button. Or you could double click the mouse left key on the selected camera. Relative settings will be carried out. Details of Install Wizard will be specified as Section 2.6.

![Wizard Button Image]

**About Button:**

When click “About” button, you will see the version information of IP Wizard shown in the pop-up dialog box.

![About Button Image]

**Exit Button:**

Click “**Exit**” button will close the IP Wizard Program.
2.6 Configure With IP Wizard

After pressing Installation Wizard, please key in Username and Password of the device when login dialog box appears on the screen. You can login the setup page if authorized name and password is correct. Default username/password for machine login: admin/<no password>

Wizard Page 1: Username and Password

This page is about the change of the authorized user name and password of the selected device. If you don’t want to change them, please click “Next” to move to the next page. Press “Exit” button if you don’t want to set up right now. If you want to change authorized name or password, you have to check the box in front of ID or New Password. Authorized Username should contain at least 5~20 characters and New Password should contain at least 4~8 characters.
This page is about the select of Static IP or DHCP ON.

**LAN**
You can configure this IVS-110 to obtain its address automatically or manually assign. If there is a DHCP server in your network environment and you select "DHCP IP", IVS-110 can automatically obtain an IP address. If you don’t have DHCP server or you want to use fixed IP address, please select “Static IP” and fill in the following fields with proper parameters.

**IP Address**
IP address is a unique number for identifies this device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200

**Subnet Mask**
Subnets allow network traffic between hosts to be separated based on the network's configuration. In IP networking, traffic takes the form of packets. IP subnets advance network security and performance to some level by organizing hosts into logical groups. Subnet masks contain four bytes and usually appear in the same "dotted decimal" data. For example, a very common subnet mask in its binary demonstration 11111111 11111111 11111111 00000000 will usually be shown in the corresponding, more readable form as 255.255.255.0.

**Def. Gateway**
A gateway is a piece of software or hardware that passes information between networks. You’ll see this term most often when you either log in to an Internet site or when you're transient email between different servers.

**DNS1**
When you send email or position a browser to an Internet domain such as xxxxx.com, the domain name system translates the names into IP addresses. The term refers to two things: the conventions for naming hosts and the way the names are control across the Internet.

**DNS2**
The same function as DNS1. It is optional, not necessary.
Note: If no IP address is assigned after 30 seconds, the IVS-110 will work with its default IP address `192.168.0.20`. User may now open your web browser, and key in `http://192.168.0.20` in the address bar of your web browser to logon IVS-110’s web configuration page.

Wizard Page 3: Confirmation
This page shows the new configurations. If it is correct, please press “Submit” icon and the setting information will be save to your IVS-110. Click on “Exit” to close this window.
2.7 UPnP Function

**NOTE:** Windows 2000 does not support UPnP feature.

2.7.1 Windows XP

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

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

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

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

![Networking Services dialog box](image)

Please click **Next** to continue.

![Windows Components Wizard dialog box](image)
The program will start installing the UPnP automatically. You will see the below pop-up screen, please wait while Setup configures the components.

Please click Finish to complete the UPnP installation
Double-click **My Network Places** on the desktop, the “My Network Places” will display on the screen and double-click the UPnP icon with IVS-110 to view your device in an internet browser.

2.7.2 Windows Vista

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

Go to **Start > Control Panel > Network and Internet > Network and Sharing Center**, and turn on **Network Discovery**.
Double-click **My Network Places** on the desktop, the “My Network Places” will display on the screen and double-click the UPnP icon with IVS-110 to view your device in an internet browser.
2.8 Setup ActiveX to use the IVS-110

The IVS-110 web pages communicate with the IVS-110 using an ActiveX control. The ActiveX control must be downloaded from the IVS-110 and installed on your PC. Your Internet Explorer security settings must allow for the web page to work correctly. To use the IVS-110, user must setup his IE browser as follows:

2.8.1 Internet Explorer 6 for Windows XP

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

Set the first 3 items

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

By now, you have finished your entire PC configuration for IVS-110.
2.8.2 Internet Explorer 7 for Windows XP

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

Set the first 3 items

• *Allow previously unused ActiveX control to run…*

• *Allows Script lets*

• *Automatic prompting for ActiveX controls*

By now, you have finished your entire PC configuration for IVS-110.
2.8.3 Internet Explorer 7 for Windows Vista

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

- Enable “Automatic prompting for ActiveX controls”
- Prompt “Initialize and script active controls not marked….”

![Security Settings - Internet Zone](image1)

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

- Enable “Automatic prompting for ActiveX controls”
- Prompt “Initialize and script active controls not marked….”

![Security Settings - Trusted Sites Zone](image2)

By now, you have finished your entire PC configuration for IVS-110.
3. Web-based Management

This chapter provides setup details of the IVS-110’s Web-based Interface.

3.1 Introduction

The IVS-110 can be configured with your Web Browser. Before configure, please make sure your PC is under the same IP segment with IVS-110.

3.2 Connecting to IVS-110

- Use the following procedure to establish a connection from your PC to the IVS-110.
- Once connected, you can add the IVS-110 to your Browser’s Favorites or Bookmarks.

Start the web browser on the computer and type the IP address of the IVS-110. The Default IP:

```
http://192.168.0.20
```

The login window of IVS-110 will appear, Default login username/password is:

admin/ <no password>

NOTE: If the User name and Password have been changed with IP Wizard, please enter the new User name and Password here.
Web browser may display the “Security Warning” window, select “Yes” to install and run the ActiveX control into your PC.

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

**NOTE:** If you log in the IVS-110 as an ordinary user, setting function will be not available. If you log in the IVS-110 as the administrator, you can perform all the settings provided within the device.
3.3 Live View

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

<table>
<thead>
<tr>
<th>Monitor Image Section</th>
<th>The image shot by the IVS-110 is shown here. The date and time are displayed at the top of the window.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Profile</td>
<td>The IVS-110 support multi-profile for both MPEG-4 and M-JPEG simultaneously. User can chose the proper and/or preferred profile here.</td>
</tr>
<tr>
<td>ActiveX Control</td>
<td>The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.</td>
</tr>
<tr>
<td>2-Way Audio</td>
<td>The IVS-110 supports 2-way audio function. User can chose to enable or disable this function by toggling the icon below</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Disable audio uploading function" /> : Disable audio uploading function.</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Enable audio uploading function" /> : Enable audio uploading function.</td>
</tr>
<tr>
<td>De-Interlace</td>
<td>The device also supports de-interlace function inside ActiveX. User can chose to enable or disable this function by toggling the icon below.</td>
</tr>
</tbody>
</table>
### Setting Menu

This function is detail setting for IVS-110 that only available for user logged into IVS-110 as administrator.

<table>
<thead>
<tr>
<th>Item</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>Configure Network settings such as DHCP, DDNS, 3GPP, PPPoE and UPnP</td>
</tr>
<tr>
<td>Camera</td>
<td>Adjust camera parameters</td>
</tr>
<tr>
<td>System</td>
<td>Configure system information, date &amp; time, maintenance, and view system log file.</td>
</tr>
<tr>
<td>Video</td>
<td>Configure bit rate and frame rate of video profiles</td>
</tr>
<tr>
<td>Audio</td>
<td>Configure audio parameters</td>
</tr>
<tr>
<td>User</td>
<td>Setup user name, password and login privilege</td>
</tr>
<tr>
<td>E-Mail</td>
<td>Setup E-Mail configuration</td>
</tr>
<tr>
<td>Object Detection</td>
<td>Setup Object detection</td>
</tr>
<tr>
<td>Event Server</td>
<td>This device is a client site and configure information to upload images to server</td>
</tr>
<tr>
<td>Event Schedule</td>
<td>Configure the schedule while event triggered</td>
</tr>
</tbody>
</table>

### Streaming Protocol

User can select proper streaming protocol according to networking environment.

### Language

The device could provide multiple languages to meet customer’s requirement.

### Video Information

Display video information including video format, resolution, frame rate and bit rate.
### PTZ Control

Click to display the following control panel:

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hide PTZ Control</strong></td>
<td>Click the icon will hide the PTZ control function.</td>
</tr>
<tr>
<td><strong>Camera Direction</strong></td>
<td>Control camera up/down/left/right and home position.</td>
</tr>
<tr>
<td><strong>Zoom control</strong></td>
<td>Press <strong>WIDE</strong> to zoom out, and press <strong>TELE</strong> to zoom in.</td>
</tr>
<tr>
<td><strong>Focus control</strong></td>
<td>To focus on a nearby object, press <strong>NEAR</strong>. To focus on a distant object, press <strong>FAR</strong>. By pressing ONE PUSH AF, the focus is set to the optimum position automatically.</td>
</tr>
<tr>
<td><strong>Camera Speed</strong></td>
<td>Choose the speed of Pan and Tilt.</td>
</tr>
<tr>
<td><strong>Preset</strong></td>
<td>Add/Update the preset positions or go to one of these positions.</td>
</tr>
<tr>
<td><strong>Tour</strong></td>
<td>Select one of the camera tours. Camera tour is comprised by series of preset locations.</td>
</tr>
<tr>
<td><strong>Go Tour</strong></td>
<td>Execute the selected camera tour.</td>
</tr>
<tr>
<td><strong>Auto Pan</strong></td>
<td>Execute the auto pan of camera. While auto pan is running, the camera will swing the camera automatically. Note that the speed of auto pan is fixed and cannot be adjustable.</td>
</tr>
</tbody>
</table>
3.4 ActiveX Control

The plug-in ActiveX control supports a lot of functions by clicking the left mouse button. Note that this feature only supports on the ActiveX control within Microsoft® Internet Explorer.

On the ActiveX control icon, click the LeftMouseButton, then a menu pop-up. This menu provides features that are unique to the ActiveX control. These features include:

- “Digital Zoom”
- “Record”
- “Snapshot”
- “Voice”
- “Statistics”
- “About”
3.4.1 Digital Zoom
Click Digital Zoom to activate this function as above. User can drag or scale the box over the video to adjust zoom ratio and position.

3.4.2 Record
Click Record to activate this function. Press Record button to start recording. The video file is saved as ASF format into your local PC. While you want to stop it, press Stop to stop recording. Select Browser, the pop-up window to select the save path and file name prefix, select OK to continue.

After stop recording, list the files, this file is named as Video_yyyymmddhhmmss.asf
The ASF files can be display by the standard Windows Media Player, but it needs the DirectX 9.0 or later version to be installed.

NOTE: Default save path is “C:\Documents and Settings\All user\Desktop”
3.4.3 Snapshot

Click Snapshot to activate this function. Press Snapshot button to take a picture. The image file is saved as JPEG format into your local PC. Select Browser, the pop-up window to select the save path and file name prefix, select OK to continue.

If you like to retrieve the saved image, select the file to display the saved image by using any one of graph editing tools.

NOTE: Default save path is “C:\Documents and Settings\All user\Desktop”

3.4.4 Voice

Click Volume to activate this function. These have two control bars for speaker and microphone volume. Scroll this control bar to adjust the audio attribute. Check the volume mute will mute the speaker output.
3.4.5 Statistics
Click Statistics to activate this function. A window will be popup to show the statistics information of the streaming status. Note that this information is the statistics between the device and your local PC.

3.4.6 About
Click About to show the ActiveX information
3.5 Network
Use this menu to configure the network to connect the device and the clients.

3.5.1 Network
This section provides the menu of connecting the device through Ethernet cable.

MAC Address
Display the Ethernet MAC address of the device. Note that user cannot change it.

Obtain an IP address automatically (DHCP)
DHCP: Stands for Dynamic Host Configuration Protocol. Enable this checked box when a DHCP server is installed on the network to issue IP address assignment. With this setting, the IP address is assigned automatically. If this device cannot get an IP address within limited tries, the device will assign a default IP address, 192.168.0.20, by itself as the default IP address.

IP address, Subnet mask, Gateway, 1st DNS, 2nd DNS server
If you do not select Obtain an IP address automatically, then you need to enter these network parameters by yourself.

IP Address
This address is a unique numbers that identifies a computer or device on the WAN or LAN. These numbers are usually shown in groups separated by periods, for example: 192.168.0.200
<table>
<thead>
<tr>
<th>Subnet Mask</th>
<th>Subnets allow network traffic between hosts to be separated based on the network's configuration. In IP networking, traffic takes the form of packets. IP subnets advance network security and performance to some level by organizing hosts into logical groups. Subnet masks contain four bytes and usually appear in the same &quot;dotted decimal&quot; data. For example, a very common subnet mask in its binary demonstration 11111111 11111111 11111111 00000000 will usually be shown in the corresponding, more readable form as 255.255.255.0.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gateway</td>
<td>A gateway is a piece of software or hardware that passes information between networks. You'll see this term most often when you either log in to an Internet site or when you're transient email between different servers.</td>
</tr>
<tr>
<td>Primary DNS</td>
<td>When you send email or position a browser to an Internet domain such as xxxxx.com, the domain name system translates the names into IP addresses. The term refers to two things: the conventions for naming hosts and the way the names are control across the Internet.</td>
</tr>
<tr>
<td>Secondary DNS</td>
<td>The same function as DNS1. It is option not necessary</td>
</tr>
<tr>
<td>Note:</td>
<td>need to reboot the device to take this setting effect.</td>
</tr>
<tr>
<td>HTTP Port</td>
<td>The device supports two HTTP ports. The first one is default port 80 and this port is fixed. This port is very useful for Intranet usage. The second HTTP port is changeable. Users could assign the second port number of http protocol, and the WAN users should follow the port number to login. If the http port is not assigned as 80, users have to add the port number in back of IP address. For example: <a href="http://192.168.0.20:80">http://192.168.0.20:80</a>. If multiple devices are installed on the LAN and also required to be accessed from the WAN, then the HTTP Port can be assigned as the virtual server port mapping to support multiple devices. When the configuration is finish, please click &quot;OK&quot; to save and enable the setting.</td>
</tr>
</tbody>
</table>
3.5.2 DDNS server

DDNS: Stands for Dynamic Domain Name Server

The device supports DDNS. If your device is connected to xDSL directly, you might need this feature. However, if your device is behind a NAT router, you will not need to enable this feature. Because DDNS allows the device to use an easier way to remember naming format rather than an IP address. The name of the domain is like the name of a person, and the IP address is like his phone number. On the Internet we have IP numbers for each host (computer, server, router, and so on), and we replace these IP numbers to easy remember names, which are organized into the domain name. As to xDSL environment, most of the users will use dynamic IP addresses. If users want to set up a web or a FTP server, then the Dynamic Domain Name Server is necessary. For more DDNS configuration, please consult your dealer.

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

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

### 3.5.3 PPPoE

PPPoE: Stands for Point to Point Protocol over Ethernet

A standard builds on Ethernet and Point-to-Point network protocol. It allows IVS-110 connect to Internet with xDSL or cable connection; it can dial up your ISP and get a dynamic IP address. For more PPPoE and Internet configuration, please consult your ISP.

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

The procedures are

• Connect to a LAN by DHCP or Fixed IP
• Access the device, enter Setting ➔ Network ➔ PPPoE as below

![PPPoE Configuration](image)

<table>
<thead>
<tr>
<th>PPPoE</th>
<th>To enable or disable the PPPoE service here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name</td>
<td>Type the user name for the PPPoE service which is provided by ISP.</td>
</tr>
<tr>
<td>Password</td>
<td>Type the password for the PPPoE service which is provided by ISP.</td>
</tr>
<tr>
<td>IP Address, Subnet Mask, and Gateway</td>
<td>Shows the IP information got from PPPoE server site.</td>
</tr>
<tr>
<td>Status</td>
<td>Shows the Status of PPPoE connection.</td>
</tr>
</tbody>
</table>
3.5.4 Streaming

RTSP is a streaming control protocol, and a starting point for negotiating transports such as RTP, multicast and Unicast, and for negotiating codecs. RTSP can be considered a "remote control" for controlling the media stream delivered by a media server. RTSP servers typically use RTP as the protocol for the actual transport of audio/video data.

| Network | DDNS | PPPoE | Streaming | UPNP | IP Filter | IP Notification |

| RTSP Port | 554 | (554 - 65535) |
| RTP Port | 50060 | 50699 | (1024 - 65535) |

**RTSP Port**
Choose the RTSP port. The RTSP protocol allows a connecting client to start a video stream. Enter the RTSP port number to use. The default value is 554.

**RTP Port**
Specify the range of transmission port number of video stream. The default range is 50000 to 50999. User can specify a number between 1024 and 65535.

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

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

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

**Dialing procedure**
1. Choose a verified player (PacketVideo or Realplayer currently)
2. Use the following URL to access: `rtsp://host/mpeg4/media.3gp`
   Where host is the host name or IP address of the camera.

**Compatible 3G mobile phone**
Please contact your dealer to get the approved list of compatible 3G phone.
3.5.5 UPnP

UPnP is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled Network Camera. If your operating system is UPnP enabled, the device will automatically be detected and a new icon will be added to “My Network Places.” If you do not want to use the UPnP functionality, it can be disabled.

In addition, this device also provides UPnP IGD function for NAT traversal easily. Use NAT traversal when your device is located on an intranet (LAN) and you wish to make it available from the other (WAN) side of a NAT router. With NAT traversal properly configured, all HTTP traffic to an external HTTP port in the NAT router will be forwarded to the device.

<table>
<thead>
<tr>
<th>Network</th>
<th>DNS</th>
<th>PPPoE</th>
<th>Streaming</th>
<th>UPnP</th>
<th>IP Filter</th>
<th>IP Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UPnP</strong></td>
<td>![Disable] ![Enable]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Friendly Name</strong></td>
<td>IVS-110 - 000346F00033</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>UPnP NAT Traversal</strong></td>
<td>![Disable] ![Enable]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Port Range</strong></td>
<td>32768 - 65535 (1 - 65535)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External IP Address</strong></td>
<td>(readonly)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**UPnP**
To enable or disable the UPnP service here.

**Friendly Name**
Shows the friendly name of this device here.

**UPnP NAT Traversal**
When enabled, the device will attempt to configure port mapping in a NAT router on your network, using UPnP™. Note that UPnP™ must be enabled in the NAT router first.

**Port Range**
The port range will open in NAT router.

**External IP Address**
Show the IP address and port for WAN access through Internet. If NAT traversal is configured successfully, user can use this IP address and port to access this device.
3.5.6 IP Filter

You can enter different user's IP address which are allowing enter or denying by the device.

<table>
<thead>
<tr>
<th>IP Filter</th>
<th>Enable or disable the IP filter function here.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP Filter Policy</td>
<td>Choose the filter policy where is denying or allowing.</td>
</tr>
</tbody>
</table>

Filter IP List:
- Filter IP
- Add
- Delete
- Delete All
3.5.7 IP Notification

In case the IP address is changed, system is able to send out an email to alert someone if the function is enabled.

<table>
<thead>
<tr>
<th>Network</th>
<th>DDNS</th>
<th>PPPoE</th>
<th>Streaming</th>
<th>UPNP</th>
<th>IP Filter</th>
<th>IP Notification</th>
</tr>
</thead>
</table>

**SMTP Notification (e-mail)**

- **Send To**
  - Type the receiver’s e-mail address. This address is used for reply mail.
- **Subject**
  - Type the subject/title of the E-mail.
- **TCP Notification**
  - If enable this function, then the “Send to” and “Subject” field need to be filled.
- **TCP Server**
  - Type the server name or the IP address of the TCP server.
- **TCP Port**
  - Set port number of TCP server.
- **Message**
  - The message will be sent to FTP server.

**TCP Notification**

- **TCP Notification**
  - If enable this function, then the “TCP Server”, “TCP Port”, and “Message” fields need to be filled.
- **TCP Server**
  - Type the server name or the IP address of the TCP server.
- **TCP Port**
  - Set port number of TCP server.
- **Message**
  - The message will be sent to FTP server.

**HTTP Notification**

- **HTTP Notification**
  - If enable this function, then the fields below need to be filled.
- **URL**
  - Type the server name or the IP address of the HTTP server.
- **HTTP Login Name**
  - Type the user name for the HTTP server.
- **HTTP Login Name**
  - Type the user name for the HTTP server.
- **Proxy Address**
  - Type the address of the HTTP server.
- **Proxy Port**
  - Set port number of the HTTP server.
- **Proxy Login Name**
  - Type the user name for the HTTP server.
- **Proxy Login Password**
  - Type the password for the HTTP server.
- **Custom parameters**
  - Enter custom parameters for the HTTP server.

**SMTP Notification (e-mail)**

- **Send To**
  - Type the receiver’s e-mail address. This address is used for reply mail.
- **Subject**
  - Type the subject/title of the E-mail.
- **TCP Notification**
  - If enable this function, then the “Send to” and “Subject” field need to be filled.
- **TCP Server**
  - Type the server name or the IP address of the TCP server.
- **TCP Port**
  - Set port number of TCP server.
- **Message**
  - The message will be sent to FTP server.

**HTTP Notification**

- **HTTP Notification**
  - If enable this function, then the fields below need to be filled.
- **URL**
  - Type the server name or the IP address of the HTTP server.
- **HTTP Login Name**
  - Type the user name for the HTTP server.
- **HTTP Login Password**
  - Type the password for the HTTP server.
- **Proxy Address**
  - Type the address of the HTTP server.
- **Proxy Port**
  - Set port number of the HTTP server.
- **Proxy Login Name**
  - Type the user name for the HTTP server.
- **Proxy Login Password**
  - Type the password for the HTTP server.
- **Custom parameters**
  - Enter custom parameters for the HTTP server.

**SMTP Notification (e-mail)**

- **Send To**
  - Type the receiver’s e-mail address. This address is used for reply mail.
- **Subject**
  - Type the subject/title of the E-mail.
- **TCP Notification**
  - If enable this function, then the “Send to” and “Subject” field need to be filled.
- **TCP Server**
  - Type the server name or the IP address of the TCP server.
- **TCP Port**
  - Set port number of TCP server.
- **Message**
  - The message will be sent to FTP server.

**HTTP Notification**

- **HTTP Notification**
  - If enable this function, then the fields below need to be filled.
- **URL**
  - Type the server name or the IP address of the HTTP server.
- **HTTP Login Name**
  - Type the user name for the HTTP server.
- **HTTP Login Password**
  - Type the password for the HTTP server.
- **Proxy Address**
  - Type the address of the HTTP server.
- **Proxy Port**
  - Set port number of the HTTP server.
- **Proxy Login Name**
  - Type the user name for the HTTP server.
- **Proxy Login Password**
  - Type the password for the HTTP server.
- **Custom parameters**
  - Enter custom parameters for the HTTP server.
<table>
<thead>
<tr>
<th><strong>HTTP Login Password</strong></th>
<th>Type the password for the HTTP server.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proxy Address</strong></td>
<td>Type the server name or the IP address of the HTTP Proxy.</td>
</tr>
<tr>
<td><strong>Proxy Port</strong></td>
<td>Set port number of Proxy.</td>
</tr>
<tr>
<td><strong>Proxy Login Name</strong></td>
<td>Type the user name for the HTTP Proxy.</td>
</tr>
<tr>
<td><strong>Proxy Login Password</strong></td>
<td>Type the password for the HTTP Proxy.</td>
</tr>
<tr>
<td><strong>Custom Parameter</strong></td>
<td>User can set specific parameters to HTTP server.</td>
</tr>
<tr>
<td><strong>Message</strong></td>
<td>The message will be sent to HTTP server.</td>
</tr>
</tbody>
</table>
3.6 Camera
Use this menu to set the function of the camera of IVS-110

3.6.1 Picture

<table>
<thead>
<tr>
<th></th>
<th>Picture</th>
<th>PTZ Setting</th>
<th>Preset Setting</th>
<th>Tour Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brightness</td>
<td>50</td>
<td>(0 – 100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharpness</td>
<td>50</td>
<td>(0 – 100)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contrast</td>
<td>50</td>
<td>(0 – 100)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Brightness**
Large value will brighten camera.

**Sharpness**
Large value will sharpen camera.

**Contrast**
Large value will contrast camera heavily.
3.6.2 PTZ Setting

<table>
<thead>
<tr>
<th>Camera Protocol</th>
<th>PTZ Protocol Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The Network Camera is connected to built-in IVS-110 and controls this device thru RS485 bus.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Camera Address</th>
<th>Baud Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>This is the communication speed between network module and IVS-110. Note that please DO NOT changes the default value except on special purpose. If so, user needs to check and set value properly for both sides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Baud rate</th>
<th>Camera ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>9600</td>
<td>This is the camera ID set in speed dome camera. Note that please DO NOT changes the default value except on special purpose. If so, user needs to check and set value properly for both sides</td>
</tr>
</tbody>
</table>
3.6.3 Preset Setting

This page provides the edit tool to modify or delete the "Preset Setting" item by item.

3.6.4 Tour Setting

Up to 64 positions can be preset, and the camera can be programming to move to the preset position sequentially.

Tour Name
The group name of the sequence of camera tour. The maximum number of camera tour is 16.
<table>
<thead>
<tr>
<th><strong>Running</strong></th>
<th>Enable or disable this camera tour.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preset</strong></td>
<td>Set the sequence of the tour. Maximum 16 points can be assigned. The selected preset position is added in the Sequence list from 1 to 16.</td>
</tr>
<tr>
<td><strong>Wait Time</strong></td>
<td>Type a period of time during which the camera is to stay at each preset point, between 0 to 36000 seconds.</td>
</tr>
</tbody>
</table>

To use the camera tour function, user must preset some camera positions first. The maximum number of preset points is 64.
3.7 System
Use this menu to perform the principal settings of IVS-110.

3.7.1 System

Device Title
You can enter the name of this unit here. It’s very useful to identify the specific device from multiple units.

Software Version
This information shows the software version in the device.

Log
User can check the system log information of the device, including the Main Info, Appended Info, Operator IP, and so on ...
3.7.2 Date & Time

You can setup the time setting of IVS-110, make it synchronized with PC or remote NTP server. Also, you may select the correct time zone of your country.

- **Server Date & Time**
  - Displays the date and time of the device

- **PC Time**
  - Displays the date and time of the connected PC

- **Adjust**
  - **Manual setting**: Click this option to set time and date manually
  - **Synchronize with NTP**: Click this option if you want to synchronize the device’s date and time with those of time server called NTP server (Network Time Protocol)
  - **Synchronize with PC**: Click this option to enable time synchronization with PC time

- **NTP Server Name**
  - Type the host name or IP address or domain name of the NTP server.

- **NTP Sync. Interval**
  - Select an interval between 1 and 23 hours at which you want to adjust the device’s time referring to NTP server

- **Time Zone**
  - Set the time difference from Greenwich Mean Time in the area where the device is installed.

- **Daylight Saving**
  - Check this item to enable daylight saving adjustment.

- **Daylight Saving Start Time**
  - Sets up the date and time of daylight saving start time.
### Daylight Saving Stop Time
Sets up the date and time of daylight saving stop time.

### Daylight Saving Offset
Sets up the date of daylight saving offset.

## 3.7.3 Maintenance

<table>
<thead>
<tr>
<th>Hard Factory Default (Include the network setting)</th>
<th>Hard Factory Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Default (Except the network setting)</td>
<td>Factory Default</td>
</tr>
<tr>
<td>Backup Setting</td>
<td></td>
</tr>
<tr>
<td>Restore Setting</td>
<td>BROWSE... Restore Setting Reset</td>
</tr>
<tr>
<td>Firmware Upgrade</td>
<td>BROWSE... Firmware Upgrade Reset</td>
</tr>
<tr>
<td>System Restart</td>
<td>Restart</td>
</tr>
</tbody>
</table>

### Hard Factory Default (Include the network setting)
Recall the device hard factory default settings. Note that click this button will reset all device’s parameters to the factory settings (including the IP address).

### Factory Default (Except the network setting)
The unit is restarted and most current settings are reset to factory default values. This action will not reset the network setting.

### Backup Setting
To take a backup of all of the parameters, click this button. If necessary, it will then be possible to return to the previous settings, if settings are changed and there is unexpected behavior.

### Restore Setting
Click the “Browse” button to locate the saved backup file and then click the “Restore Setting” button. The settings will be restored to the previous configuration.

### Firmware Upgrade
The device supports new firmware upgrade.

1. Close all other application programs which are not necessary for firmware update.
2. Make sure that only you access this device at this moment.
3. Disable Motion Detection function.

4. Select “Firmware name”

5. Select the Firmware binary file. (Note that it must make sure that the Firmware only applies to this device, once update, it will be burned into FLASH ROM of system.)

6. Once the firmware file was selected, select “Upgrade”.

7. The upgrade progress information will be displayed on the screen.

8. A message will be shown while the firmware upgraded. Once the upgrading process completed, the device will reboot the system automatically.

9. Please wait for 80 seconds, and then you can use IP Wizard to search the device again.

**Warning!!!** The download firmware procedure cannot be interrupted. If the power and/or network connection are broken during the download procedure, it might possibly cause serious damage to the device.

Please be aware that you should not turn off the power during updating the firmware and wait for finish message.

Furthermore, do not try to upgrade new firmware if it’s not necessary.

| System Restart | The device is restarted without changing any of the settings. |
3.8 Video

This device provides more video profiles as below to support different request to each client simultaneously. Each user can choose his preferred video profile as his request independently.

3.8.1 Common

There are some important information can be embedded into image, including date, time, and/or text.
3.8.2 MPEG4/VGA

<table>
<thead>
<tr>
<th>Video Type</th>
<th>MPEG4 mode in this profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>It's VGA mode (640x480) in this profile</td>
</tr>
<tr>
<td>Bit rate Control</td>
<td>Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) or Variable Bit Rate (VBR). For CBR, the video bit rate is between 384kbps and 4096kbps. User can set the desired bit rate to match the limitation of bandwidth. For VBR, user should choose the quality level to set the video quality rather than bit rate. The quality level is between 1 and 100. The higher value is the better quality.</td>
</tr>
<tr>
<td>Max Frame Rate</td>
<td>Defines the targeted frame rate of this profile. For example, set the frame rate to 15 fps, then the image will be updated for 15 frames per second. User can set the desired max frame rate versus video quality under the limited bandwidth.</td>
</tr>
</tbody>
</table>
### 3.8.3 MPEG4/QVGA

<table>
<thead>
<tr>
<th>Video Type</th>
<th>It’s MPEG4 mode in this profile.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>It’s QVGA mode (320x240) in this profile.</td>
</tr>
<tr>
<td>Bit rate Control</td>
<td>Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) or Variable Bit Rate (VBR). For CBR, the video bit rate is between 128kbps and 1024kbps. User can set the desired bit rate to match the limitation of bandwidth. For VBR, user should choose the quality level to set the video quality rather than bit rate. The quality level is between 1 and 100. The higher value is the better quality.</td>
</tr>
<tr>
<td>Max Frame Rate</td>
<td>Defines the targeted frame rate of this profile. For example, set the frame rate to 15 fps, then the image will be updated for 15 frames per second. User can set the desired max frame rate versus video quality under the limited bandwidth</td>
</tr>
</tbody>
</table>
### 3.8.4 MPEG4/QQVGA

| Video Type | It's MPEG4 mode in this profile. |
| Resolution | It's QQVGA mode (160x120) in this profile. |
| Rate Control | Defines the rate control method of this profile. There are two options: Constant Bit Rate (CBR) or Variable Bit Rate (VBR). For CBR, the video bit rate is between 24kbps and 320kbps. User can set the desired bit rate to match the limitation of bandwidth. For VBR, user should choose the quality level to set the video quality rather than bit rate. The quality level is between 1 and 100. The higher value is the better quality. |
| Max Frame Rate | Defines the targeted frame rate of this profile. For example, set the frame rate to 15 fps, then the image will be updated for 15 frames per second. User can set the desired max frame rate versus video quality under the limited bandwidth. |
### 3.8.5 VIDEO/JPEG

<table>
<thead>
<tr>
<th></th>
<th><img src="image" alt="Configuration Table" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video Type</strong></td>
<td>JPEG</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>320x240</td>
</tr>
<tr>
<td><strong>Rate Control</strong></td>
<td>Quality 90</td>
</tr>
<tr>
<td><strong>Max Frame Rate</strong></td>
<td>50</td>
</tr>
</tbody>
</table>

#### Video Type
It's JPEG mode in this profile.

#### Resolution
User can select VGA, QVGA, or QQVGA mode as the resolution of this JPEG profile.

#### Rate Control
The quality level is between 1 and 100. The higher value is the better quality.

#### Max Frame Rate
Defines the targeted frame rate of this profile. For example, set the frame rate to 15 fps, then the image will be updated for 15 frames per second. User can set the desired max frame rate versus video quality under the limited bandwidth.
### 3.9 Audio

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio</td>
<td>To enable or disable audio function</td>
</tr>
<tr>
<td>Audio Mode</td>
<td>To select Simplex or Full duplex (2-way audio) mode</td>
</tr>
<tr>
<td>Input Gain</td>
<td>To adjust gain of input audio</td>
</tr>
<tr>
<td>Output Gain</td>
<td>To adjust gain of output audio</td>
</tr>
</tbody>
</table>
3.10 User

Use this menu to set the user names and password of the Administrator and up to 10 users, and access right of each user.

**Viewer Login**
- **Anonymous**
- **Only users in database**

<table>
<thead>
<tr>
<th>User Name</th>
<th>Access Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>Administrator</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User List</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Name (1 - 20 Digits)</td>
</tr>
<tr>
<td>Password (8 - 12 Digits)</td>
</tr>
<tr>
<td>Verify Password (8 - 12 Digits)</td>
</tr>
<tr>
<td>Access Right (Administrator, Viewer)</td>
</tr>
</tbody>
</table>

**User Name**
Enter the user’s new account here which you want.

**Password**
Enter the user’s new password here.

**Verify Password**
Please enter the user’s new password here again to confirm.

**Access Right**
Administrator can access every function in this device. However, Viewers only can view the video and access limited function.

**Add, Update, and Remove**
Manage the user’s account of viewer user.
3.11 E-Mail

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

<table>
<thead>
<tr>
<th>Setting</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SMTP Server</td>
<td>Type the SMTP server name or the IP address of the SMTP server.</td>
</tr>
<tr>
<td>Test</td>
<td>Send a test mail to mail server to check this account is available or not.</td>
</tr>
<tr>
<td>SMTP Port</td>
<td>Set port number of SMTP service.</td>
</tr>
<tr>
<td>SMTP Authentication</td>
<td>Select the authentication required when you send an e-mail.</td>
</tr>
<tr>
<td>Authentication User Name</td>
<td>Type the user name for the SMTP server if Authentication is Enable.</td>
</tr>
<tr>
<td>Authentication Password</td>
<td>Type the password for the SMTP server if Authentication is Enable.</td>
</tr>
<tr>
<td>E-mail To</td>
<td>Type the receiver's e-mail address.</td>
</tr>
<tr>
<td>E-mail From</td>
<td>Type the sender's E-mail address. This address is used for reply e-mails.</td>
</tr>
<tr>
<td>E-mail Subject</td>
<td>Type the subject/title of the e-mail.</td>
</tr>
</tbody>
</table>
3.12 Object Detection

Use this menu to specify motion detection window 1 to window 4 and set the conditions for detection while observing a captured image.

To add or delete the motion windows. User can specify up to 4 Included and/or Excluded windows to monitor the video captured by this device. By dragging mouse on the image, you can change the position and size of the selected motion window accordingly.

These windows can be specified as Included or Excluded type.

- **Included**
  Windows target specific areas within the whole video image

- **Excluded**
  Windows define areas within an Include window that should be ignored (areas outside Include windows are automatically ignored)

**Name**
Name of the specified motion window.

**Object Size**
Defines the object size of motion detection. The higher object size will only larger objects trigger motion detection. The lower object size will even small objects trigger motion detection too. Generally speaking, the smaller size will be easier to trigger event.
Sensitivity
Defines the sensitivity value of motion detection. The higher value will be more sensitivity.

3.13 Event Server
Setup FTP/TCP/HTTP server configuration

3.13.1 FTP Server
You may setup FTP parameters for further operation of Event Schedule. That’s, if users want to send the alarm message to an FTP server, it will need to configure parameters here and also add at least one event schedule to enable event triggering as SMTP.

<table>
<thead>
<tr>
<th>FTP Server</th>
<th>TCP Server</th>
<th>HTTP Server</th>
</tr>
</thead>
</table>

**Name**
User can specify multiple FTP paths as wish. Therefore, user needs to specify a name for each FTP setting.

**FTP Server**
Type the server name or the IP address of the FTP server.

**Test**
Check the FTP server whether this account is available or not.

**FTP Login Name**
Type the user name for the FTP server.

**FTP Login Password**
Type the password for the FTP server.

**FTP Port**
Set port number of FTP service.

**FTP Path**
Set working directory path of FTP server.

**FTP Passive Mode**
Select passive or active mode connecting to FTP server.
3.13.2 TCP Server

In addition to send video file to FTP server, the device also can send event message to specified TCP server.

<table>
<thead>
<tr>
<th>Name</th>
<th>TCP Server</th>
<th>TCP Port</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name**
User can specify multiple TCP servers as wish. Therefore, user needs to specify a name for each TCP server setting.

**TCP Server**
Type the server name or the IP address of the TCP server.

**TCP Port**
Set port number of TCP server.
### 3.13.3 HTTP Server

The device also can send event message to specified HTTP server.

**Name**
User can specify multiple HTTP servers as wish. Therefore, user needs to specify a name for each HTTP server setting.

**URL**
Type the server name or the IP address of the HTTP server.

**Test**
Check the HTTP server whether it is available or not.

**HTTP Login Name**
Type the user name for the HTTP server.

**HTTP Login Password**
Type the password for the HTTP server.

**Proxy Address**
Type the server name or the IP address of the HTTP Proxy.

**Proxy Login Name**
Type the user name for the HTTP Proxy.

**Proxy Login Password**
Type the password for the HTTP Proxy.

**Proxy Port**
Set port number of Proxy.
3.14 Event Schedule

3.14.1 Setting
This menu is used to specify the schedule of Events and activate the some actions provided by this device.

<table>
<thead>
<tr>
<th>Name</th>
<th>Name of the Event or Schedule.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable</td>
<td>Enable or disable this Event or Schedule.</td>
</tr>
<tr>
<td>Type</td>
<td>Schedule start with Event trigger or Schedule trigger.</td>
</tr>
<tr>
<td>Enable Time</td>
<td>Define the feasible time slot.</td>
</tr>
<tr>
<td>Trigger by</td>
<td>Select the triggered sources with event trigger.</td>
</tr>
<tr>
<td>Action</td>
<td>Define the actions once event triggered.</td>
</tr>
</tbody>
</table>

**Example.** If you want to upload image from camera to FTP server periodically. You will need to configure some parameters as below:
**NOTE:** Camera will send a 15sec recording file to FTP server every min.

### 3.14.2 Record

You can select which file type you would like to record and set a prefix file name.

<table>
<thead>
<tr>
<th>Name</th>
<th>Name of the Event or Schedule.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Record File Type</strong></td>
<td>You can select AVI or JPEG format for event recording.</td>
</tr>
<tr>
<td><strong>Record File Prefix</strong></td>
<td>You can set a prefix file name for the recording file. The max you can enter 20 digitals.</td>
</tr>
</tbody>
</table>

![Diagram of record settings](image)
Appendix A: Reset Factory Default Settings

There is a button hidden in the pinhole above the Alarm I/O connector. This button is used to restore the factory default settings. Sometimes restarting the IVS-110 will make the system back to a normal state. If the system still got problem after reset, user can restore the factory default settings and install it again.

**Restore the IVS-110:**

1. Press and hold the button down continuously.
2. Wait at least 3 seconds and release the button. Then the IVS-110 has been restored to factory default settings and reboot again.

**Note:** Restoring the factory default setting will lose the all previous settings included IP address forever. User will need to run the IP Wizard program to search the device and configure it to let the device work properly again.
Appendix B: PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It’s also a very useful tool to confirm IVS-110 installed or if the IP address conflicts with any other devices over the network.

If you want to make sure the IP address of IVS-110, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the IVS-110.

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

If you want to detect any other devices conflicts with the IP address of IVS-110, also can utilize the PING command but you must disconnect the IVS-110 from the network first.
Appendix C: Bandwidth and Video Size Estimation

The frame rate of video transmitted from the IVS-110 depends on connection bandwidth between client and server, video resolution, codec type, and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements for your IVS-110.

The required bandwidth depends on content of video source. The slow motion video will produce smaller bit rate generally and fast motion will produce higher bit rate vice versa. Actual results generated by the IVS-110 may be varying.

<table>
<thead>
<tr>
<th>Image Resolution</th>
<th>Average range of Data Sizes for JPEG mode</th>
<th>Average bit rate for MPEG4 mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>160 x 120 (QQVGA)</td>
<td>3 ~ 6k byte per frame</td>
<td>64kbps~384kbps @ 30fps</td>
</tr>
<tr>
<td>320 x 240 (QVGA)</td>
<td>8 ~ 20k byte per frame</td>
<td>128kbps~768kbps @ 30fps</td>
</tr>
<tr>
<td>640 x 480 (VGA)</td>
<td>20 ~ 50K byte per frame</td>
<td>256kbps~4096kbps @ 30fps</td>
</tr>
</tbody>
</table>

**Note:** Audio streaming also takes bandwidth around 5 kbps to 64kbps. Most xDSL/Cable modem upload speeds may not even reach up to 128 kbps. Thus, you may not be able to receive any video while streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

**MJPEG**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Quality setting</th>
<th>fps setting</th>
<th>Current stream</th>
<th>Current fps</th>
</tr>
</thead>
<tbody>
<tr>
<td>320*240 CIF</td>
<td>Best</td>
<td>5 fps</td>
<td>around 2300Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Best</td>
<td>15 fps</td>
<td>around 6700Kbps</td>
<td>14.7fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Best</td>
<td>25 fps</td>
<td>around 14300Kbps</td>
<td>28 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Normal</td>
<td>5 fps</td>
<td>around 400Kbps</td>
<td>4.2 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Normal</td>
<td>15 fps</td>
<td>around 1200Kbps</td>
<td>13 fps - 14 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Normal</td>
<td>25 fps</td>
<td>around 1700Kbps</td>
<td>30fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Lowest</td>
<td>5 fps</td>
<td>around 350Kbps</td>
<td>4.2 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Lowest</td>
<td>15 fps</td>
<td>around 1100Kbps</td>
<td>13 - 14fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>Lowest</td>
<td>25 fps</td>
<td>around 2000Kbps</td>
<td>25 fps</td>
</tr>
<tr>
<td>Resolution</td>
<td>Stream setting</td>
<td>fps setting</td>
<td>Current stream</td>
<td>Current fps</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>-------------</td>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>384Kbps</td>
<td>5 fps</td>
<td>373Kbps - 388Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>1024Kbps</td>
<td>5 fps</td>
<td>1024Kbps - 1036Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>2048Kbps</td>
<td>5 fps</td>
<td>around 1800Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>384Kbps</td>
<td>20 fps</td>
<td>around 550Kbps</td>
<td>22 fps</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>1024Kbps</td>
<td>20 fps</td>
<td>around 1400Kbps</td>
<td>20 fps</td>
</tr>
<tr>
<td>640*480 VGA</td>
<td>2048Kbps</td>
<td>20 fps</td>
<td>around 2600Kbps</td>
<td>16 - 17 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>200Kbps</td>
<td>5 fps</td>
<td>183Kbps - 200Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>1024Kbps</td>
<td>5 fps</td>
<td>760Kbps - 800Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>2048Kbps</td>
<td>5 fps</td>
<td>around 850Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>200Kbps</td>
<td>25 fps</td>
<td>around 240Kbps</td>
<td>28 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>1024Kbps</td>
<td>25 fps</td>
<td>around 1100Kbps</td>
<td>30 fps</td>
</tr>
<tr>
<td>320*240 CIF</td>
<td>2048Kbps</td>
<td>25 fps</td>
<td>around 1600Kbps</td>
<td>30 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>128Kbps</td>
<td>5 fps</td>
<td>117Kbps - 121Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>1024Kbps</td>
<td>5 fps</td>
<td>around 176Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>2048Kbps</td>
<td>5 fps</td>
<td>around 220Kbps</td>
<td>5 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>128Kbps</td>
<td>25 fps</td>
<td>around 155Kbps</td>
<td>30 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>1024Kbps</td>
<td>25 fps</td>
<td>around 520Kbps</td>
<td>30 fps</td>
</tr>
<tr>
<td>160*120 QCIF</td>
<td>2048Kbps</td>
<td>25 fps</td>
<td>around 1000Kbps</td>
<td>30 fps</td>
</tr>
</tbody>
</table>
Appendix D: DDNS Application

1. Preface

If you have a Cable modem or xDSL, this is a great way to host your own Networked Device or other TCP/IP Service. Get your own domain like www.yourname.com, www.yourname.com.tw etc. (Note: This domain must be registered with Internic via registration authorities such as Network Solutions, DirectNIC, Register.com etc). Your domain name's dynamic IP address is automatically tracked by a DDNS server.

Host your own Networked Device and much more no matter what your computer's IP address may be and even if you have dialup, DSL or cable modem internet connection where your computer's IP address changes all the time!! DDNS service supports all top level domain names including but not limited to .com, .net, .org, .to, .uk etc.

2. Ethernet Network Environment

Normally, DDNS service is only necessary for the users that could only obtain dynamic IP addresses. As to the users that could obtain the static valid IP address, they do not usually have to apply the DDNS service. Before we decide if DDNS is necessary for the users, we have to check what kind of Ethernet network environment we have to install our Networked Device on.

(1) Environment of Fixed Valid IP Network

If users could obtain valid IP addresses, they could save the effort to apply DDNS service. Because the IP address in this environment is fixed, users could input the IP address or domain name of demo site directly in the IE browser.

(2) Environment of Dynamic IP Network

If users is under an environment of dynamic IP network (Dial-up xDSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the Networked Device in order to let the outside administrator be able to access through internet.
3. **Application Steps – DDNS & Domain Name**

   (1). Visit the following web site: [http://www.dyndns.org/](http://www.dyndns.org/)

   (2). Click “Account”

   ![DynDNS Account Page](image)

   (3). After the columns show up at the left side, click “Create Account”.

![DynDNS Account Page](image)
(4). Fill the application agreement and necessary information.

a. Username
b. E-mail address and confirmation
c. Password and confirmation
d. Submit all the input information and finish creating an account

Click these two options
(5). Check your e-mail mailbox. There will be an e-mail with a title “Your DynDNS Account Information”. Click the hyperlink address to confirm the DDNS service that you just applied. Then DDNS you applied activated.

Your DynDNS Account 'kkkkkkk' has been created. You need to visit the confirmation address below within 48 hours to complete the account creation process:

https://www.dyndns.com/account/confirm/0DDGDYN7SsqUtKJCGba6yQ

Our basic service offerings are free, but they are supported by our paid services. See http://www.dyndns.com/services/ for a full listing of all of our available services.

If you did not sign up for this account, this will be the only communication you will receive. All non-confirmed accounts are automatically deleted after 48 hours, and no addresses are kept on file. We apologize for any inconvenience this correspondence may have caused, and we assure you that it was only sent at the request of someone visiting our site requesting an account.

Sincerely,
The DynDNS Team

(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS server.
(7). If the correct username and password are input, you can see the following picture at the top-right of the login page.

(8). Click the “Services”.

(9). Click the “Dynamic DNS”.

(10). Click the “Create Hosts”.

---

The free Dynamic DNS service allows you to alias a dynamic IP address to a static hostname in any of the *namecheap* we offer, allowing your computer to be more easily accessed from various locations on the Internet. We provide the service, for up to five (5) hostnames, free to the Internet community.

The Dynamic DNS service is ideal for a home website, file server, or just to keep a pointer back to your home PC so you can access those important documents while you’re at work. Using one of the available third-party update clients you can keep your hostname always pointing to your IP address, no matter how often your ISP changes it. No more fumbling to find that piece of paper where you wrote down your IP address, or emailing all your friends every time it changes. Just tell them to visit yourname.dns.org instead.
(11). We could create a domain name without any charge at this step. First, we input the host name. (No.1) Then we pick a domain that is easy to remember. Finally (No.2), click the “Add Host” to submit the domain name information. (No.3)

4. Setup the DDNS and PPPoE of Network Device

At last, users have to enter the web page of Networked Device and setup the necessary information of DDNS and PPPoE after the application of DDNS service. Please check the user manual to access the DDNS and PPPoE pages. After saving the modification, restart the device. The external users could browse the Networked Device by the input of their domain name.