CBC (AMERICA) Corp.

DDK3000 Video Encoder

User's Manual

Before Using This Product

The use of surveillance devices may be prohibited by law in your country. The DDK-3000 Video Encoder is a high-performance, web-enabled encoder that can be part of a flexible surveillance system. It is the user's responsibility to ensure that the operation of such devices is legal before installing this unit for its intended use.

It is important to first verify that all contents received are complete according to the list in the "Package Contents" chapter. Take notice of the warnings in the "Quick Installation Guide" before the DDK-3000 Video Encoder is installed, then carefully read and follow the instructions in the "Installation" chapter to avoid problems due to faulty assembly and installation. This will also ensure that the product is used properly.

The DDK-3000 Video Encoder is a network device that can be easily deployed by those who have a basic understanding of TCP/IP networks. The "Troubleshooting" chapter in the Appendix provides remedies to the most common errors in setup and configuration. You should consult this chapter first if you encounter difficulties or a system error.

The DDK-3000 Video Encoder is designed for various applications including video sharing, general security/surveillance, etc. The "How to Use" chapter suggests ways to best utilize the DDK-3000 Video Encoder and ensure proper operations. For more advanced users, the "URL Commands of The DDK-3000 Video Encoder" chapter serves as a helpful reference to customize existing homepages or integrate the device with other web servers.

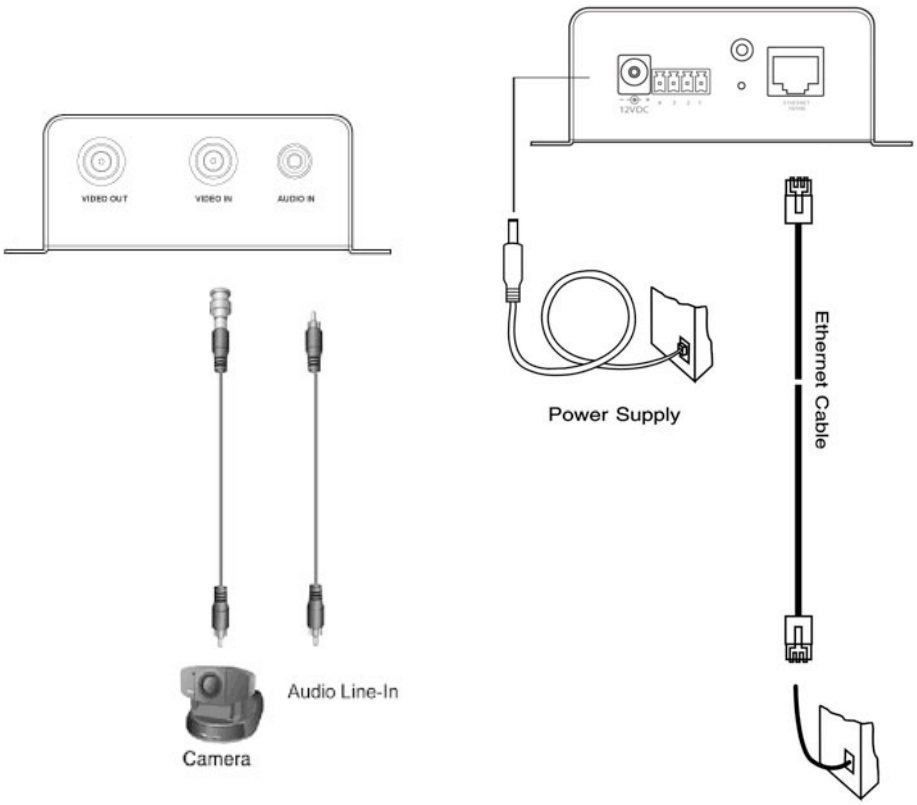
The reader should take care to understand completely the warnings in paragraphs preceded by  . Ignoring these warnings may result in serious hazard or injuries.

Table of Contents

Package Contents

DDK-3000 Video Encoder 	I/O terminal block connector 
12VDC power adapter 	Software CD 

Physical Description



Front Panel

BNC video input

The 75Ohms resistance video port should be used for connecting an external camera. To ensure that the video modulation type is properly detected, the camera should be attached and powered on before the DDK-3000 Video Encoder is powered on.

BNC video output

The looping video-out port can be used to pass through the analog video signal to an NTSC monitor or recording device.

RCA audio input

Audio input is configured via the RCA mono-audio, line-in connector. A pre-amp is required to drive an external microphone used to capture audio.

Rear Panel

Ethernet 10/100 socket

The RJ45 port should be used to connect the DDK-3000 Video Encoder to an Ethernet network via a UTP category 5 cable. Ensure that the encoder is connected to the local area network before applying power to the unit. Distance between the DDK-3000 Video Encoder and the network switch should not exceed 300 feet.

Status LED

The DDK-3000 Video Encoder provides an LED to show its status. Refer to the “Troubleshooting” appendix for detail.

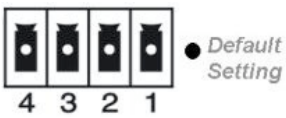
General I/O terminal block

1	DI-	INPUT (Initial state of DI is low)
2	DI+	INPUT (Max. 50mA, 12VDC)
3	SW_COMMON	OUTPUT (open from SW_OPEN at initial state) (close with SW_OPEN when set DO to ON)
4	SW_OPEN	OUTPUT (Max. 1A, 24VDC or 0. 5A, 125VAC)

The DDK-3000 Video Encoder provides a general I/O terminal block with one digital input and one relay switch for device control. Pin 1 and pin 2 can be connected to an external sensor device and the state of voltage will be monitored from the initial state ‘LOW.’ The relay switches of pins 3 and 4 can be used to turn the external device on or off.

Restore button

> ⚠ ***Consult with the dealer of peripheral devices for correct installation.***



A recessed button on the back of the unit can be used to restore the system to factory default settings. Refer to the “Troubleshooting” appendix for details.

Power adapter

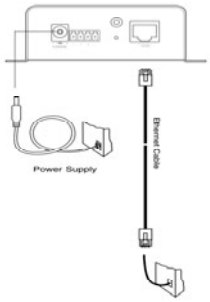
To activate the unit, connect the power jack of the included 12VDC power adapter. Connecting the power adapter should be the last operation when physically installing the DDK-3000 Video Encoder.

Installation

Hardware installation

Before installing one or more DDK-3000 Video Encoders at their desired locations, the administrator should record the serial numbers that can be found on both the unit and on the packing carton.

Cable connection

	To install the DDK-3000 Video Encoder, the unit should first be connected to a network switch via the RJ45 socket. The Ethernet cable should meet UTP category 5 standards and not exceed 300 feet.

Power on

Make sure all cables are correctly and firmly connected before powering the DDK-3000 Video Encoder. Turn on cameras, sensors, or any other alarm inputs and then plug in the 12VDC power adaptor of the DDK-3000 Video Encoder to an AC power socket. When the power adapter is plugged into the utility socket, the front LED will alternate between green and red for several cycles. After completing the self-test, the LED will remain green, indicating that the Video Encoder is in standby mode for receiving an IP address. After getting an IP Address, the LED should blink green every second. Otherwise refer to Appendix A for troubleshooting.

⚠ ***Connect the jack of the power adapter to DDK-3000 Video Encoder prior to plugging the utility end into the utility power socket. This will reduce accidental electrical surge.***

⚠ ***Consult with the dealer of the peripherals for correct installation.***

Installation

In this manual, “User” refers to whoever has access to the DDK-3000 Video Encoder, and “Administrator” refers to the person who can configure the encoder and grant user access to the device.

Following the hardware installation, users can utilize the Installation Wizard program included in the product CD-ROM to locate the DDK-3000 Video Encoder on the network. If multiple encoders are present on the local network, users can differentiate the devices by their serial numbers. The serial number is printed on the packing carton and also on the DDK-3000 Video Encoder. Please refer to the user’s manual of the Installation Wizard for detail.

Once installation is complete, the Administrator should proceed to the next section, “Initial Access to the Video Encoder,” for necessary checks and configurations.

Initial Access to the Video Encoder

Check Network Settings

Once the Installer program has been used to assign an IP address to the DDK-3000 Video Encoder, the unit can be accessed immediately over the local network. The Administrator should complete the network settings on the configuration page of the unit, including the correct subnet mask and IP address of gateway and DNS. Ask your network administrator or Internet service provider for this information. Unless programmed otherwise, the DDK-3000 Video Encoder requires that the Administrator run the Installer program each time it reboots. If the network settings are to remain unchanged, this option should be disabled. Refer to “Network settings” on the System Configuration page for details. If any setting is entered incorrectly and the unit cannot proceed with system setup, the encoder should be reset to factory default settings. Follow the steps in the “Troubleshooting” chapter of the Appendix.

Add Password for Authentication

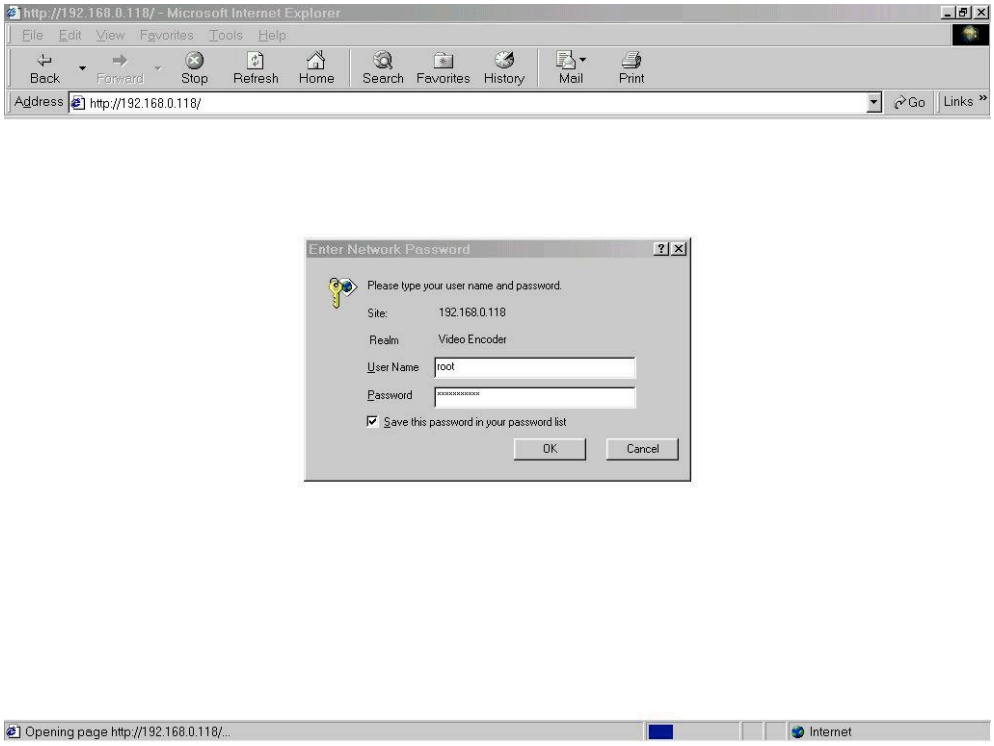
The default Administrator’s password is blank and the DDK-3000 Video Encoder initially will not prompt the user for a password. Following installation, the Administrator should immediately assign a new password as a matter of prudent security practice. Once the Administrator’s password is saved, the DDK-3000 Video Encoder will ask for the user’s name and password before granting access. The Administrator can set up a maximum of twenty (20) user accounts. Each user can access the DDK-3000 Video Encoder but only the Administrator’s password will provide access to the system configuration menus. Some critical functions are exclusive to the Administrator, such as system configuration, user administration, and software upgrades. The user name for the Administrator is permanently assigned as “root.” Once the password is changed, the browser will display an authentication window to ask for the new password. Once the root password is set, there is no provision for the Administrator to recover it. The only option is to restore the unit to the factory default settings.

How to Use

Authentication

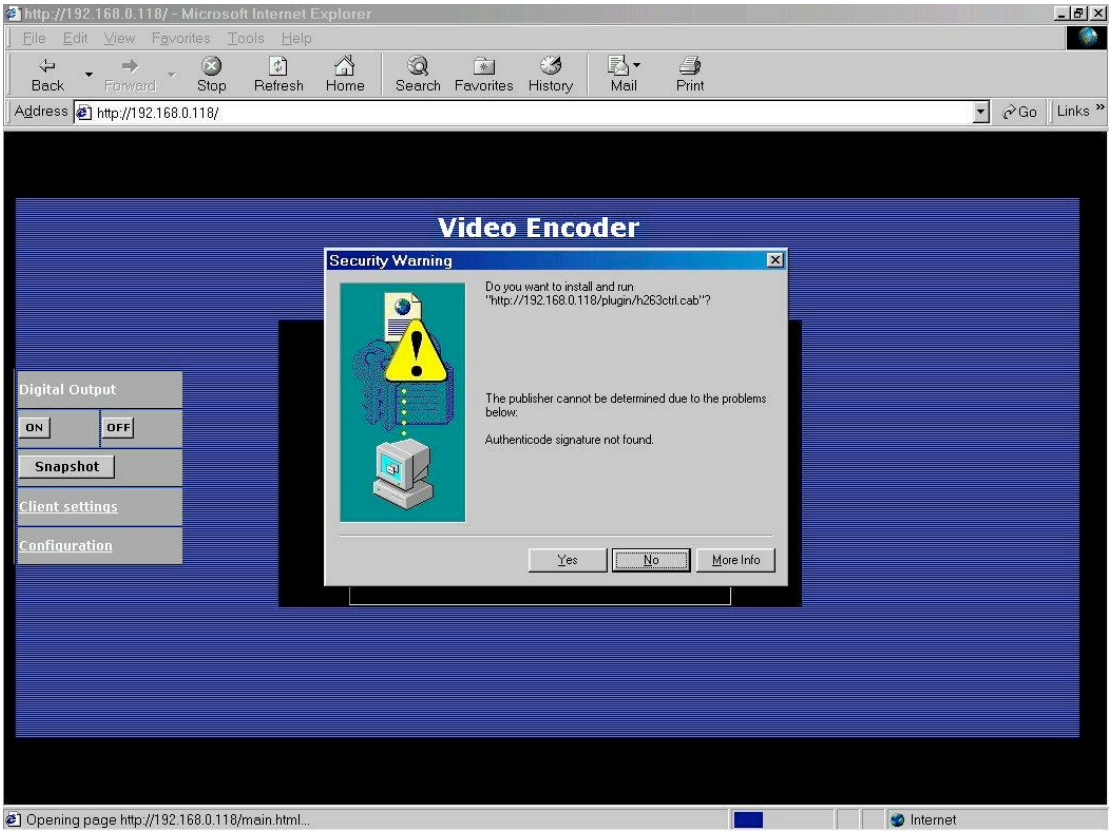
After the user opens the Web browser and enters the URL of the DDK-3000 Video Encoder, an authentication window will appear requesting a username and password. Upon connection, the following images are displayed.

The first image below shows the login address window and the second shows the authentication screen. The user may check the option box to save the password for future convenience.



Installing Plug-in

During initial access to the DDK-3000 Video Encoder in Windows, the web browser will normally prompt for permission to install a pop-up plug-in for the DDK-3000 Video Encoder. The permission request depends on the Internet security settings of the user's PC or notebook. If the highest security level is selected, the computer may prohibit installation of the plug-in. This plug-in has been registered for security and is required to display the video in the browser. Users should click on Yes to proceed. If the web browser does not allow the user to continue to install, check the Internet security options and lower the security levels or contact your networking supervisor for help.



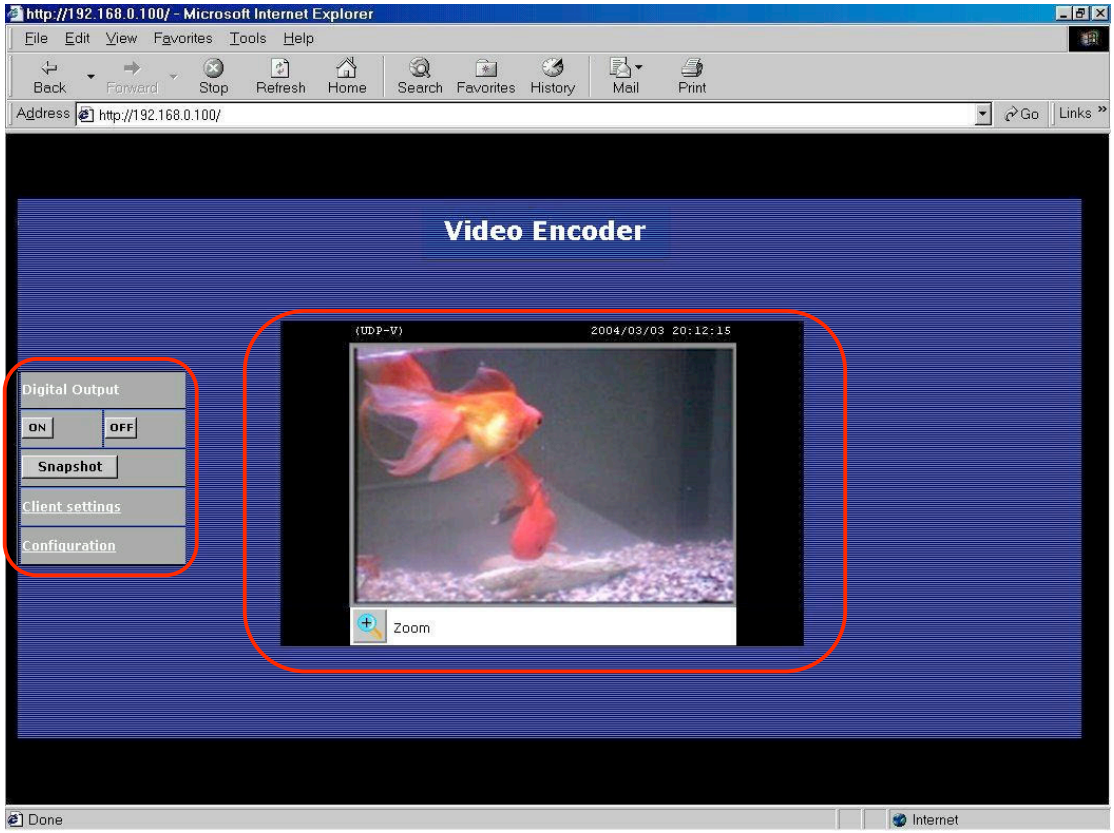
User Accessibility

Main screen with camera view

The main page layout has two parts:

- Configuration functions: The encoder can be configured using this interface.
- Camera View: What the camera sees.

Click on the configuration link to the left of the image window to enter the configuration page.



Digital Zoom

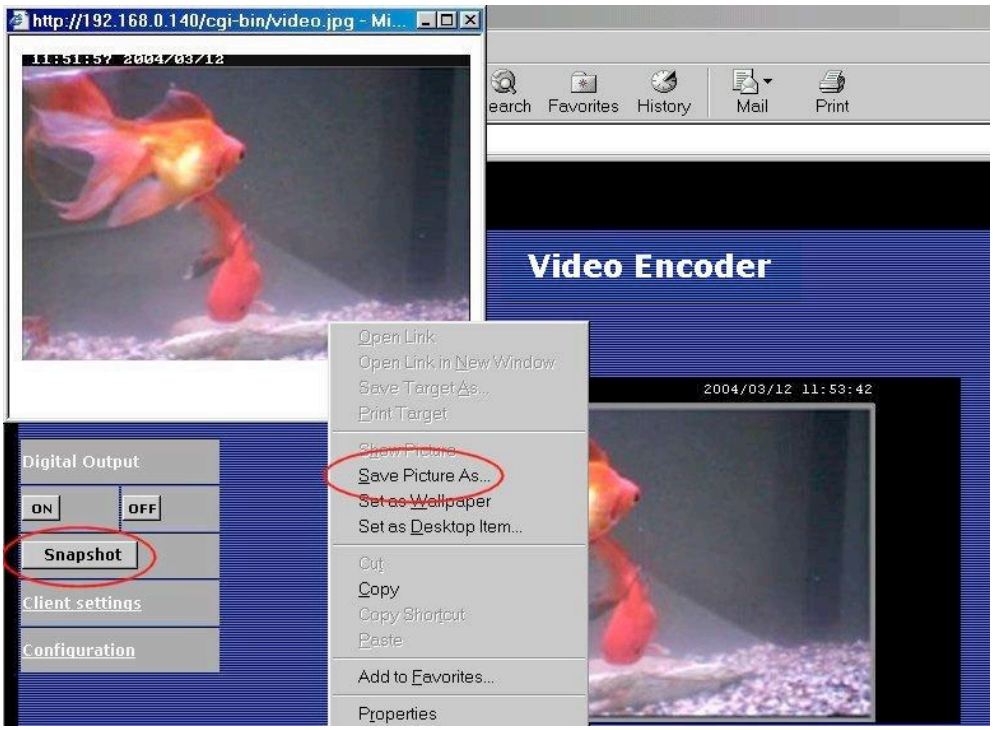
Selecting the magnifier icon under the camera view will enable the digital zoom control. Uncheck "Disable digital zoom" and use the slider control to change the zoom factors.

Digital Output

Clicking the "On" or "Off" button turns the digital output to either on or off status. This feature can be used to activate a relay switch remotely, turn on a light, etc.

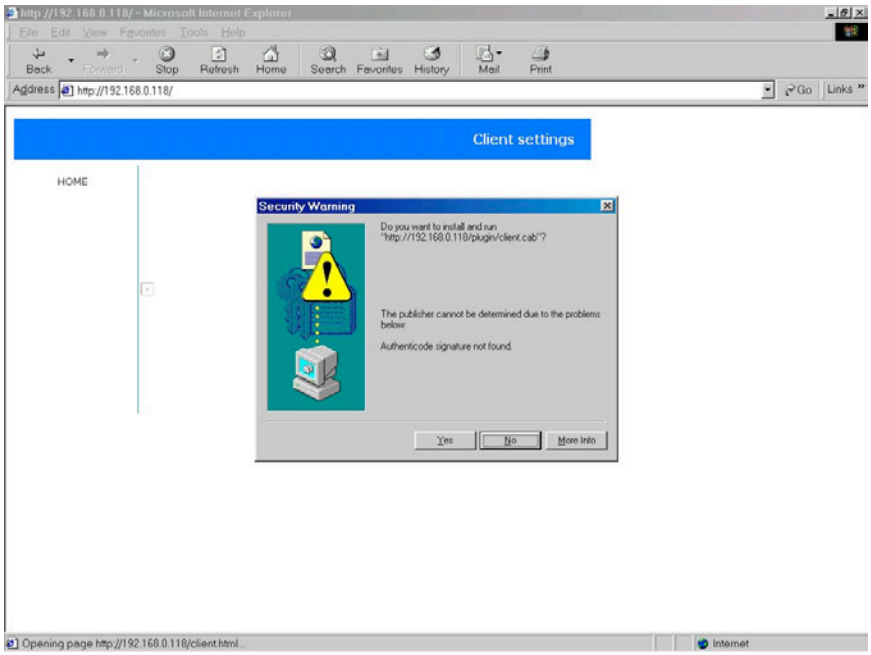
Snapshot

An image can be captured through the web browser by clicking the Snapshot button, after which a new window will pop up to show the snapshot. Right-clicking on the image will display an option to save the image to the user's hard drive.



Client settings

When first accessing the “Connection type” page in Windows, the web browser will prompt the user for a new plug-in installation to support the DDK-3000 Video Encoder. This plug-in has been registered for certification and is required to change the PC parameters at the client’s site. The user should click Yes to install the plug-in. If the web browser does not allow the user to complete the installation, check the Internet security settings to lower the security level or contact the IT or networking supervisor.



There are two options listed on the Client settings page:

- Media Option, which allows users to specify if audio should be muted
- Protocol Option, which lists the available communication protocols that can be established between the client and the encoder

There are three protocols choices to optimize usage:

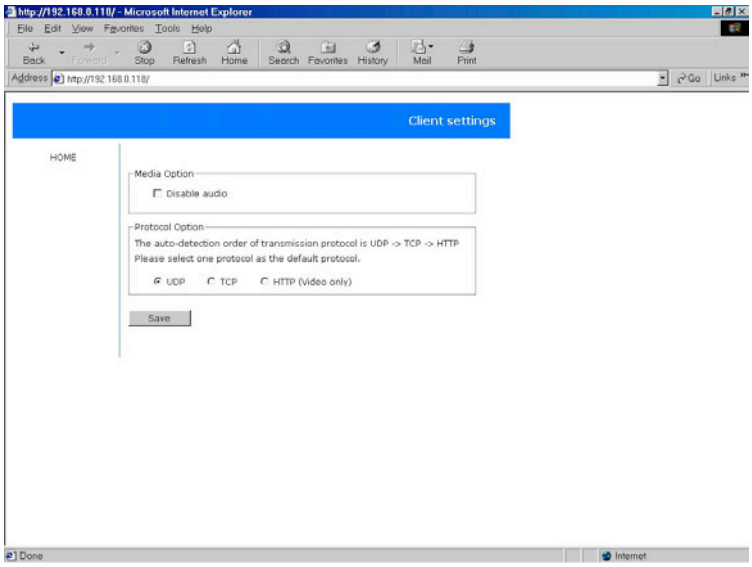
- UDP
- TCP
- HTTP

The UDP protocol enables real-time audio and video transmission. However, some packets may be lost during heavy network traffic bursts, which can impact the video quality.

Selecting the TCP protocol will normally result in less packet loss, thereby producing better video quality. Choosing this protocol may, however, increase latency resulting in a slight delay in the video transmission depending upon the network infrastructure.

The HTTP protocol should be selected if the network is protected by a firewall and only allows HTTP Port (80) to be opened. In this mode, only video is available and audio will not be sent. If no special need is required, UDP protocol is recommended.

Generally speaking, the client's choice will be in the order of UDP — TCP — HTTP. After the DDK-3000 Video Encoder is successfully connected, "Protocol Option" will indicate the selected protocol. The selected protocol will be saved to the user's PC and will automatically be established during the next connection. If the network environment changes, or the user wants to manually change the transmission protocol, simply open the Client settings page, select the desired option, save, and return HOME to re-connect.



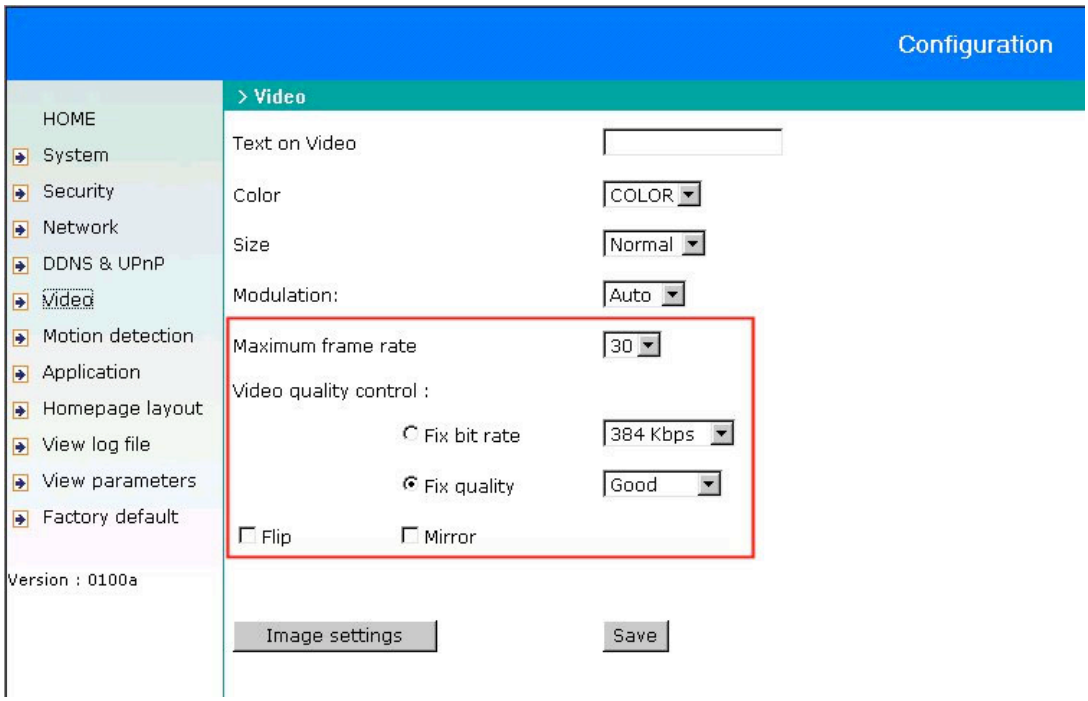
<url> *http://<DDK-3000 Video Encoder>/protocol.html*

<DDK-3000 Video Encoder> is the domain name or the original IP address of the DDK-3000 Video Encoder.

Administrator Accessibility

Fine-tuning for Optimum Performance

Optimum performance of the DDK-3000 Video Encoder generally equates to having a high frame rate, high-resolution video image at the lowest possible network bandwidth. The three factors, “Maximum frame rate,” “Fix bit rate,” and “Fix quality,” on the Video Configuration page, should be adjusted to achieve the best possible performance based on the available bandwidth.



For Best Real-time Video Images

To achieve optimum real-time video, the available network bandwidth should be capable of transmitting a minimum of 20 image frames per second. If a broadband network is available, transmission rates will normally exceed 1 Mbps. In this environment, set the “Fix bit rate” to 1000Kbps or 1200Kbps, and set “Fix quality” at the highest quality. The maximum frame rate is 25 fps in a PAL system and 30 fps in an NTSC system.

For instance, if network bandwidth is limited to 384 Kbps, you can fix the bit rate at a lower setting and set the maximum frame rate to 25 fps or 30 fps. If the video images are inconsistent, you may want to slow the maximum frame rate down to 20 fps in order to lower the rate of data transmission. This will produce better video quality. If your network bandwidth is below 384 Kbps, set the “Fix bit rate” according to your bandwidth and try to get the best performance by fine-tuning the “Maximum frame rate.”

On a slow network, choosing a higher frame rate will decrease the video quality. It is therefore important to test a combination of settings to achieve the best overall video quality. Another way to improve the video image quality is to select “Half” in the “Size” option, which will reduce the screen size. Video quality will also be impacted by the number of users simultaneously connected to the encoder, even when the parameters have initially been finely tuned.

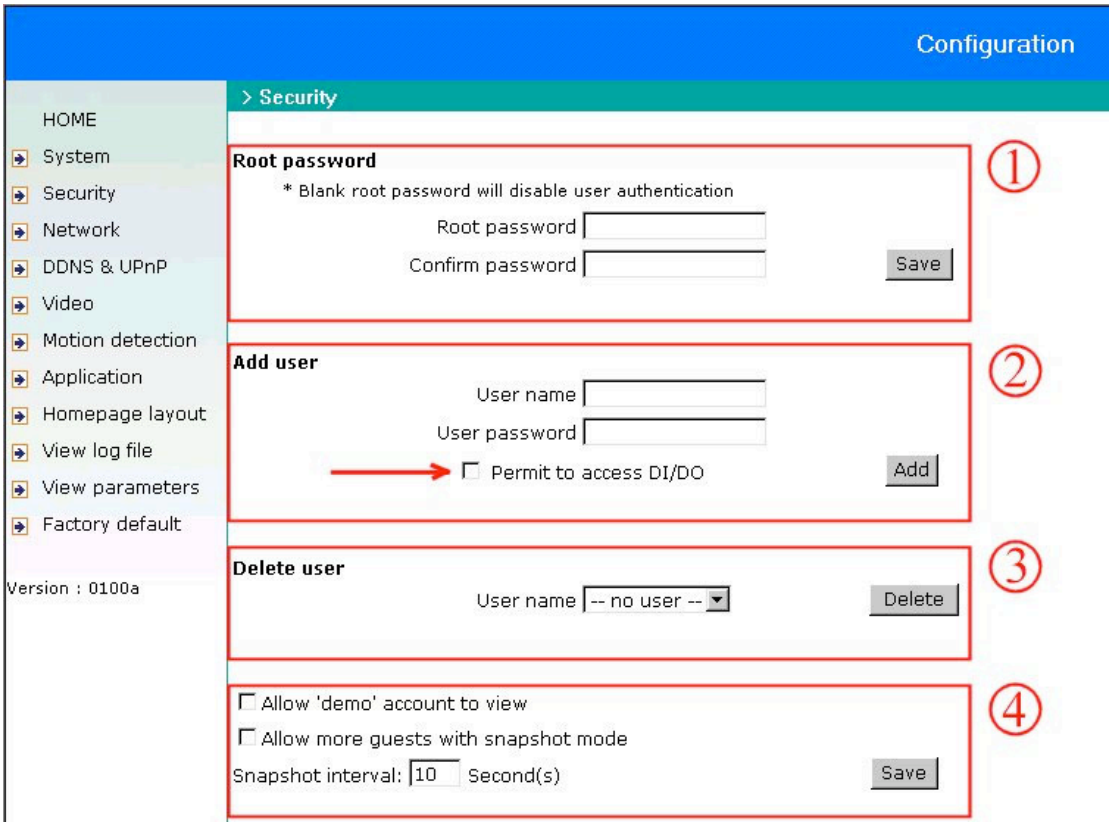
Optimum Quality Images

To achieve the best video quality, the “Fix quality” setting should be “Detailed” or “Excellent,” and the “Maximum frame rate” should match your network’s bandwidth. If your network is slow and you encounter distortion in the video images, go to the TCP protocol in “Connection type” and choose a different mode of transmission. This may increase the amount of latency in the video, although the quality should improve.

Somewhere Between Real-time and Clear Images

If you have a broadband network, set “Fix quality” at “Normal” or better, rather than setting “Fix bit rate.” You can also fix the bandwidth according to your actual network speed and adjust the frame rate. It is recommended that you start at 30 fps and adjust downward for best results, but not below 15 fps. If the image quality does not improve, select a lower bandwidth setting. Once again, it is important to test a variety of settings in order to identify the combination that works best in your particular network environment.

Establishing accounts for new users



Protecting DDK-3000 Video Encoder with passwords

By default, the DDK-3000 Video Encoder is shipped without a password. That means anyone can access the DDK-3000 Video Encoder and its configuration settings, as long as the IP address is known. It is necessary for the administrator to assign a password if others will have access to the DDK-3000 Video Encoder. This will allow multiple users to view the video without having access to the configuration menu. The administrator should enter a root password and confirm it in section 1 above. This password is used to identify the administrator. Up to 20 additional users (without administrator rights) can then be added in section 2. An option to access DI/DO (digital input/output) is also provided for each account, allowing the administrator to prohibit certain users from controlling any devices attached to the encoder. Users can be deleted from section 3.

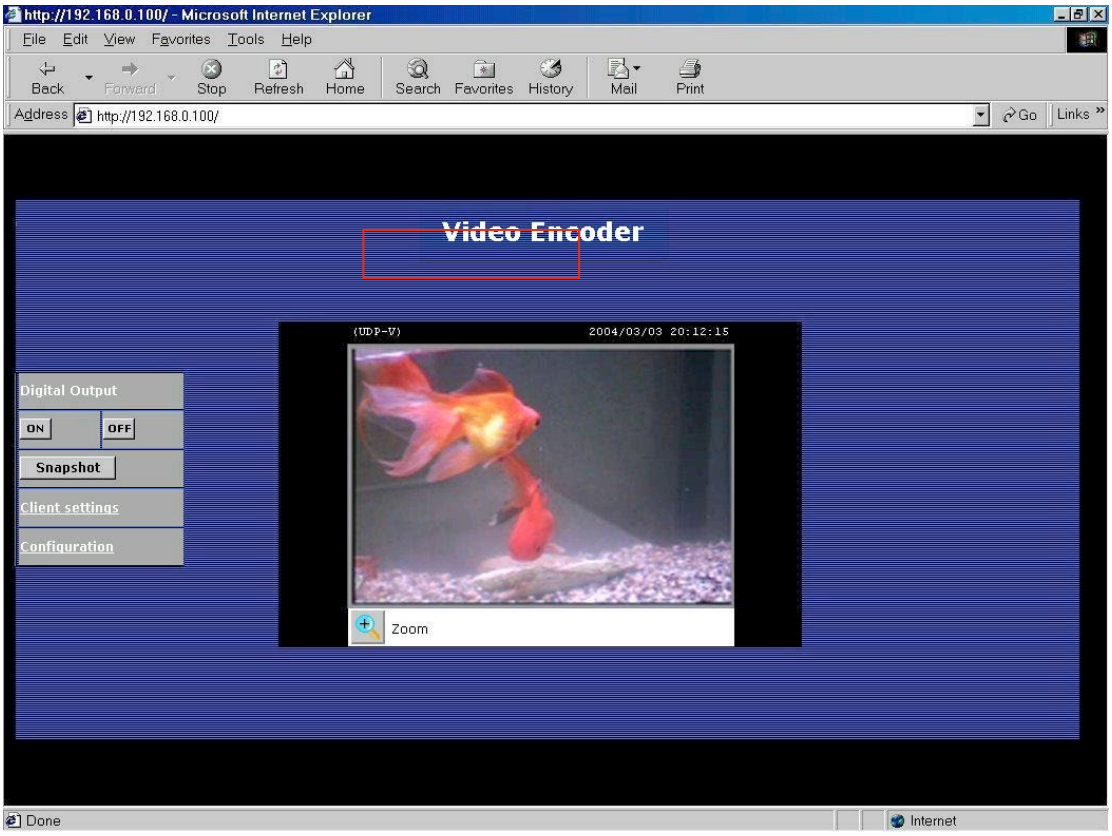
More flexible options for viewers

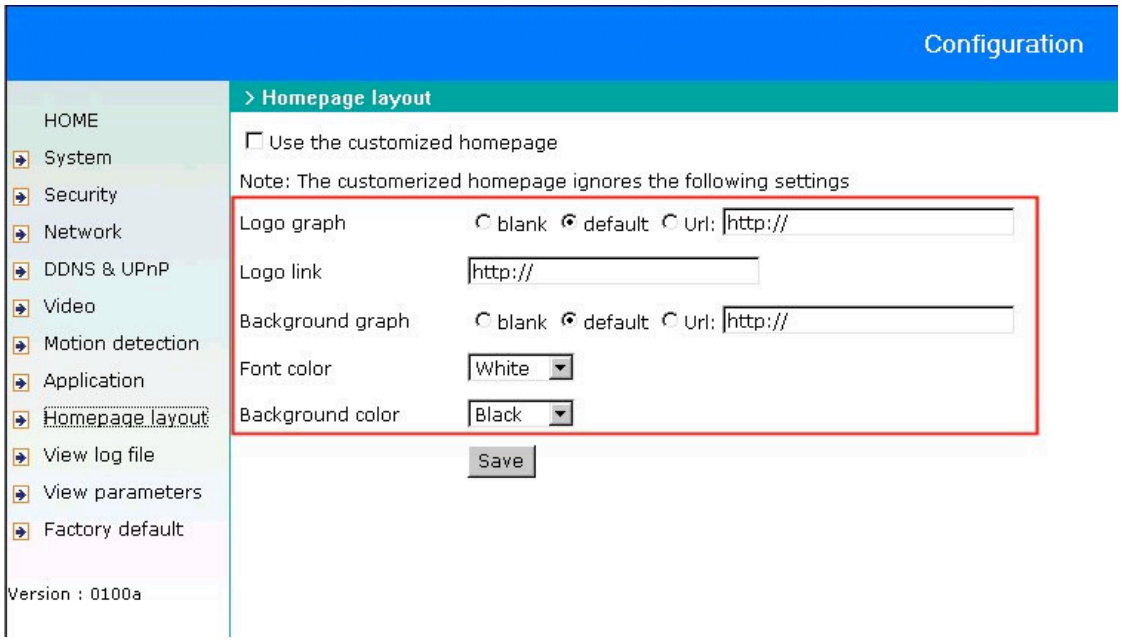
As indicated in section 4 above, options are available to accommodate additional users. Selecting the first option will allow anyone using “demo” as the user name to connect without a password. The Administrator can also decide if additional users should be allowed to access the video when the number of simultaneous users exceeds the limit. If this option is enabled, the users who are creating the overload will have access only to snapshot images rather than motion video.

Change homepage layout

To change the subject text of homepage

1. Click the “Configuration” on homepage.
2. Change the text in “Host name.”
3. Click the “Save” button.





To change the font color

1. Click “Configuration” on homepage.
2. Click “Homepage layout” in the left column.
3. Find “Font color” and pull down the list to choose a color.
4. Click the “Save” button.

* The font color you select should contrast against the background.

To change the background

1. Click “Configuration” on homepage.
2. Click “Homepage layout” in the left column.

To display simple color without any image:

1. Find “Background graph” and choose “blank.”
2. Find “Background color” and pull down the list to choose a color.
3. Click the “Save” button.

*Choose an appropriate background color that will contrast with the font.

To use an image from another website as your background:

1. Find “Background graph” and choose “URL.”
2. Type the URL of the image on the Internet in the edit box, for example:
   `http://dgl.microsoft.com/thumbnails/j023/j0235217(t).gif`
3. Click the “Save” button.

To change the default background image stored in the DDK-3000 Video Encoder:

1. Find “Background graph” and choose “default.”
2. Click the “Save” button.
3. Prepare an image file with size less than 131000 bytes and rename it as “wallppr.jpg.”
4. Open an FTP client program and connect to the DDK-3000 Video Encoder. The user name and password is the same as the Administrator’s.
7. Transfer wallppr.jpg from the local folder to the DDK-3000 Video Encoder.
8. Close the FTP program and reload the homepage of the DDK-3000 Video Encoder.

To change the image logo at the upper left corner of the homepage:

1. Click “Configuration” on the homepage.
2. Click “Homepage layout” in the left column.

To remove any logo:

1. Find “Logo graph” and choose “blank.”
2. Click the “Save” button.

To use an image from another web site as your logo:

1. Find “Logo graph” and choose “URL.”
2. Type the URL of the image on the Internet in the edit box, for example: `http://dgl.microsoft.com/thumbnails/j023/j0234430(t).gif`
3. Click the “Save” button.

To change the default logo stored in the DDK-3000 Video Encoder:

1. Find “Logo graph” and choose “default,”
2. Click the “Save” button,
3. Prepare an image file with size less than 65000 bytes and rename it to logo.gif.
4. Open an FTP client program and connect to the DDK-3000 Video Encoder. The user name and password is as same as the Administrator’s.
5. Transfer logo.gif in local folder to the DDK-3000 Video Encoder.
6. Close the FTP program and reload the homepage of the DDK-3000 Video Encoder.

To add a hyperlink to the logo image:

1. Find “Logo link” and type the hyperlink in the edit box, for example: `http://www.mywebsite.com`.
2. Click the “Save” button.

How to design a homepage to replace the current one

1. Prepare a homepage with size less than 65000 bytes and rename it to “user.htm.”
2. Insert the html codes of the video object, the bold text in the following example, into the appropriate position in user.htm. Note that the codes of the video object must be copied exactly, including the letter case.

```
****** Example homepage begin ******

<html>

<head>

<title>Example – custom homepage</title>

</head>

<body background="/pic/wallppr.jpg">

<p>

 <a href="/setup/config.html">

 <img src="http://dgl.microsoft.com/thumbnails/j023/j0234430(t).gif" align="left"
width="64" height="64">

 </a>

 <font size="7" face="Comic Sans MS" color="#FF0000">

DDK-3000 Video Encoder Demo

</font>

</p>

<p align="left">

<!-- Copy the next bold line to where you want to show the image coming from DDK-
3000 Video Encoder. This line is remark only and is hidden on homepage. //-->

<OBJECT ID=VAMCtrl></OBJECT>

</p>

</body>
```

3. Open an FTP client program and connect to the DDK-3000 Video Encoder. The user name and password is the same as the Administrator’s.
4. Transfer user.htm in the local folder to the DDK-3000 Video Encoder.
5. Close the FTP program and reload the homepage of the DDK-3000 Video Encoder.
6. Click “Configuration” on homepage.
7. Click “Homepage layout” in the left column.
8. Check “Use the customized homepage.”
9. Click the “Save” button and return to homepage.

* The user.htm only provides plain text content that scripts and URL of external resources can be used to adorn the homepage. Refer to tutorials of writing HTML and scripts.

If the customized homepage goes wrong and cannot display, link to the "Homepage layout" page, "http://<IP address of DDK-3000 Video Encoder>/setup/layout.html," to disable "Use the customized homepage."

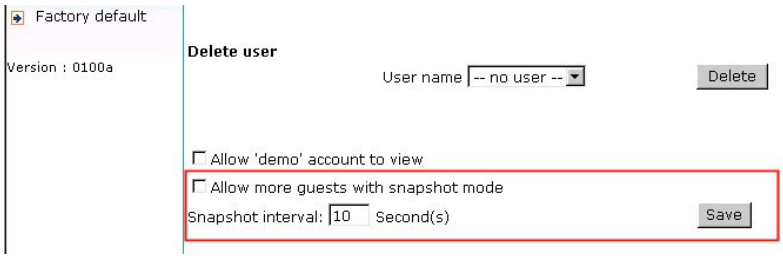
Build a multimedia web attraction site

Demo on multiple sites – mid-scale service

The DDK-3000 Video Encoder can support up to 10 users simultaneously. After installation, any camera attached to the DDK-3000 Video Encoder can be viewed simply by entering the IP address of the encoder in the web browser.

Product demo for e-business – large-scale service

If the number of users exceeds the limit, the DDK-3000 Video Encoder can allow the "overload" viewers to see the snapshots in JPEG mode, on the homepage. These are still images and will be periodically refreshed automatically. It needs a script function supported by the web browser.

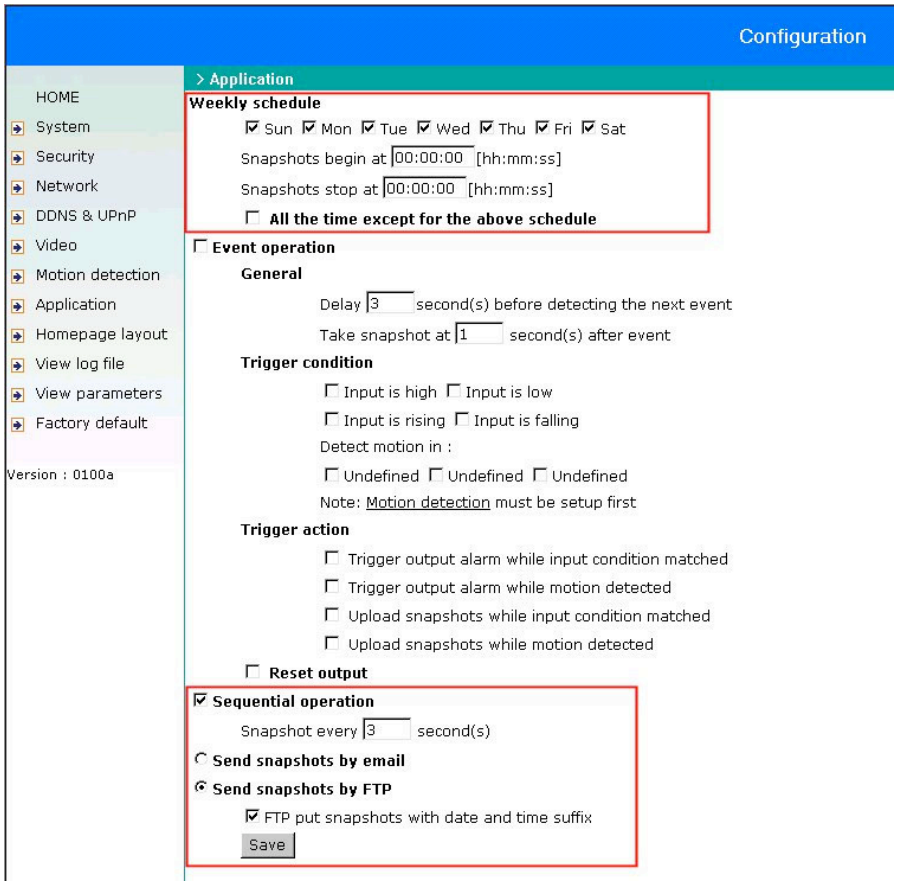


1. Click "Configuration" on homepage.
2. Click "Security" in the left column.
3. Go to the page bottom and check "Allow more viewers with snapshot mode."
4. Set the snapshot interval to refresh the still image automatically. The longer the snapshot interval is, the better the snapshot mode works for more viewers.

To increase substantially the number of simultaneous viewers, a host server, capable of handling a large volume of network traffic, can be configured on the network to receive and refresh incoming images from the DDK-3000 Video Encoder. The host should be set up as an FTP server with the DDK-3000 Video Encoder configured as an FTP client to upload the pictures. Access to the DDK-3000 Video Encoder will then be independent of the number of viewers and the picture quality will remain constant.

To set up the FTP function:

1. Click "Configuration" on homepage.
2. Click "Network" in the left column.
3. Enter the FTP-related settings including Encoder, user name and password, and the upload path if specified by the web space.
4. Click save and wait for system restart.



5. Click “Application” in the left column.
6. Select the weekday and daily schedule you want to upload the pictures.
7. Select “Sequential operation” and set the interval.
8. Select FTP without date time suffix as the upload method and click on save.
9. The image file uploaded to the web space is named “video.jpg.” Ensure that the file successfully uploaded to the correct folder.
10. Prepare a homepage with the embedded image reference to the image file uploaded via FTP in advance.

If the host server has no FTP service, an auto-refresh homepage can be used to poll the most recent image from the DDK-3000 Video Encoder periodically. This is most efficient when using a free web space provider as the FTP service may be limiting.

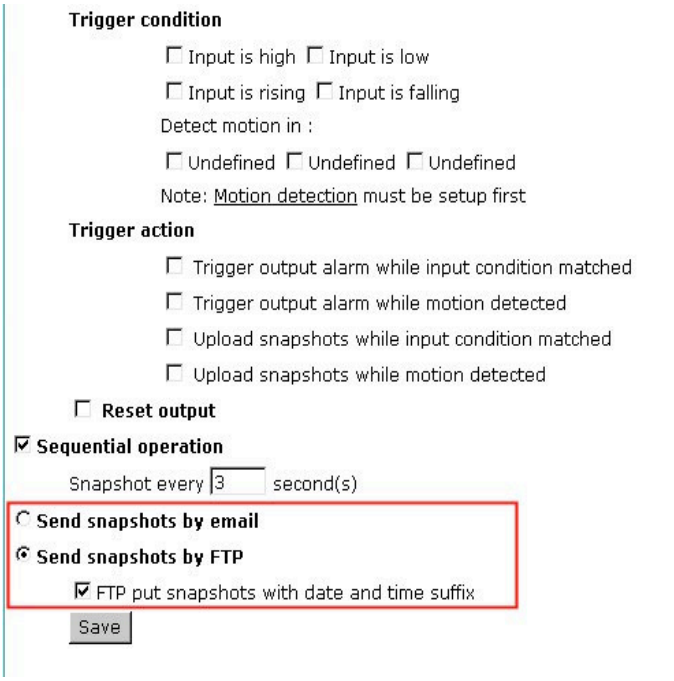
Prepare an auto-refresh homepage as in the following example. The URL of the image is `http://"IP address of the DDK-3000 Video Encoder"/cgi-bin/video.jpg`. Modify the IP address according to your DDK-3000 Video Encoder. Define the refresh interval according to your network bandwidth for best result. If the refresh rate is too fast and there are a large number of visitors, this may overload the DDK-3000 Video Encoder and slow the response.

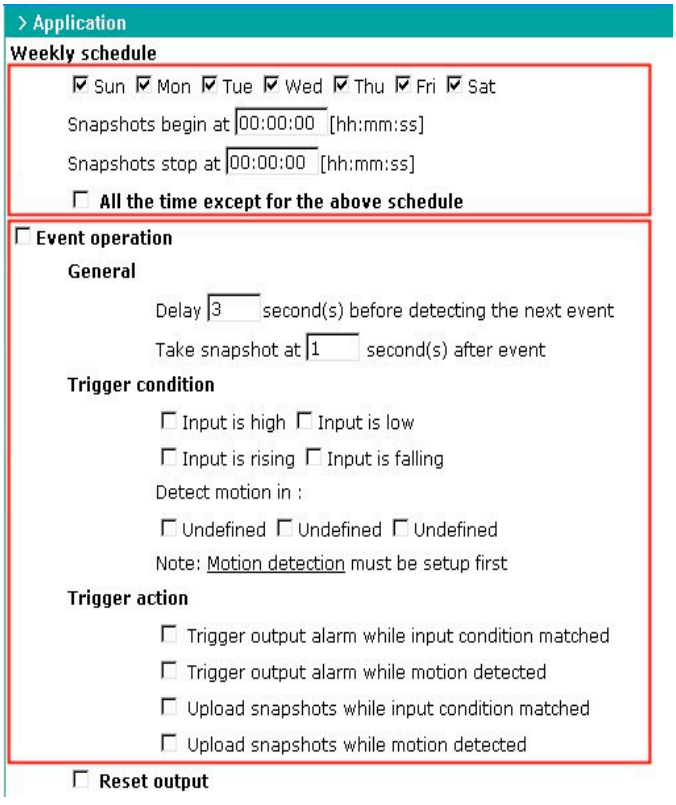
```
****** Example homepage begin ******

<html>

<head>

<title>Example - auto refresh</title>

</head>

<body background="/pic/wallppr.jpg">

<p align=left>

 <font size="7" face="Comic Sans MS" color="#FF0000">

 DDK-3000 Video Encoder Demo

 </font>

</p>

<p align=left>

<!-- Begin of scripts to auto refresh the image. Change the IP address in
the image URL and refreshrate if necessary. //-->

<script language=javascript>

var image="http://192.168.0.203/cgi-bin/video.jpg";    //IMAGE URL

var refreshrate=5;         //SECONDS BETWEEN REFRESH

var imgwidth=352;        //IMAGE WIDTH

var imgheight=240;        //IMAGE HEIGHT (NTSC:240; PAL:288)

function refresh(){

document.images["pic"].src=image+"?"+new Date();

setTimeout('refresh()', refreshrate*1000);}

document.write('<img src="'+image+'" height="'+imgheight+'"
width="'+imgwidth+'" name="pic">');
```

Build a security application

The Administrator can combine options on the application page to perform many useful security functions. For example, trigger events can be activated from attached devices or through the built-in motion detection. In response to these events, the encoder can then be programmed to either upload snapshots over the Internet or activate other attached devices. To upload the snapshots, users can choose either email or FTP according to their needs. Both e-mail and FTP use the network settings on the Network page. Refer to the definition section for detailed configuration.

1. Click “Configuration” on homepage.
2. Click “Application” in the left column.
3. Check the weekdays as needed and insert a desired time in the “Snapshots begin” and “Snapshots end” fields to monitor the trigger conditions every day.
4. Check the “Event operation.” The trigger condition can be set to respond to detected motion or status of the attached device.
5. Set the delay before detecting next event to avoid continuous false alarms following the original event.
6. Set the delay to take snapshots after event to capture the direction of the moving objects.

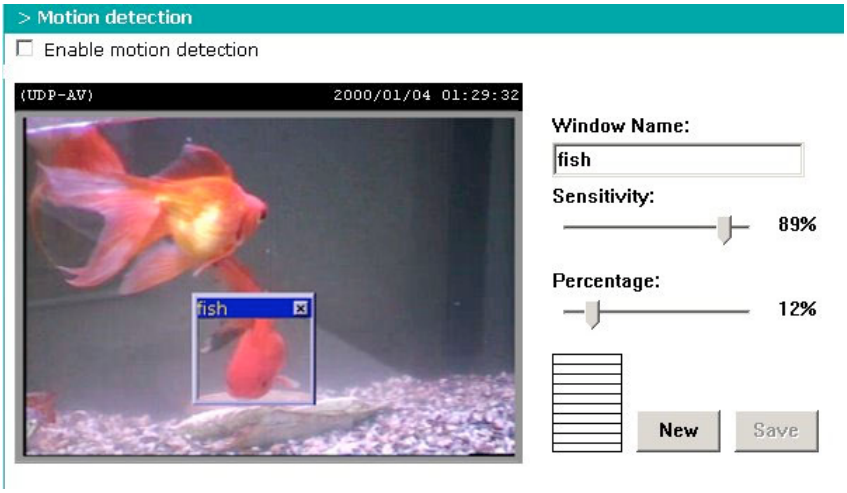




Send snapshots when motion is detected

If no external sensor is available, the Administrator can use the built-in motion detection to monitor any movement and send snapshots via email for security check.

1. Click “Motion detection” in the left column.
2. Check “Enable motion detection.”
3. Click on new to have a new window to monitor video.
4. Type in a name to identify the new window.
5. Use the mouse to resize the window or drag the title bar to move it.
6. Fine-tune using the “Sensitivity” and “Percentage” fields to best suit the camera’s environment. Very high “Sensitivity” will detect the slightest motion while a high “Percentage” setting will not detect small objects.
7. Clicking on “Save” enables the activity display box. A green flare-up in the box means the motion detected in the window is below the benchmark set by Administrator while a red flare-up means it is over the benchmark.



8. Click “Application” in the left column.
9. Check the window name set in step 10.
10. Check “Upload snapshots while motion detected,” if you prefer to e-mail the snapshots.
11. Check “Send snapshots by email.”
12. Click Save to validate.

Software revision upgrade

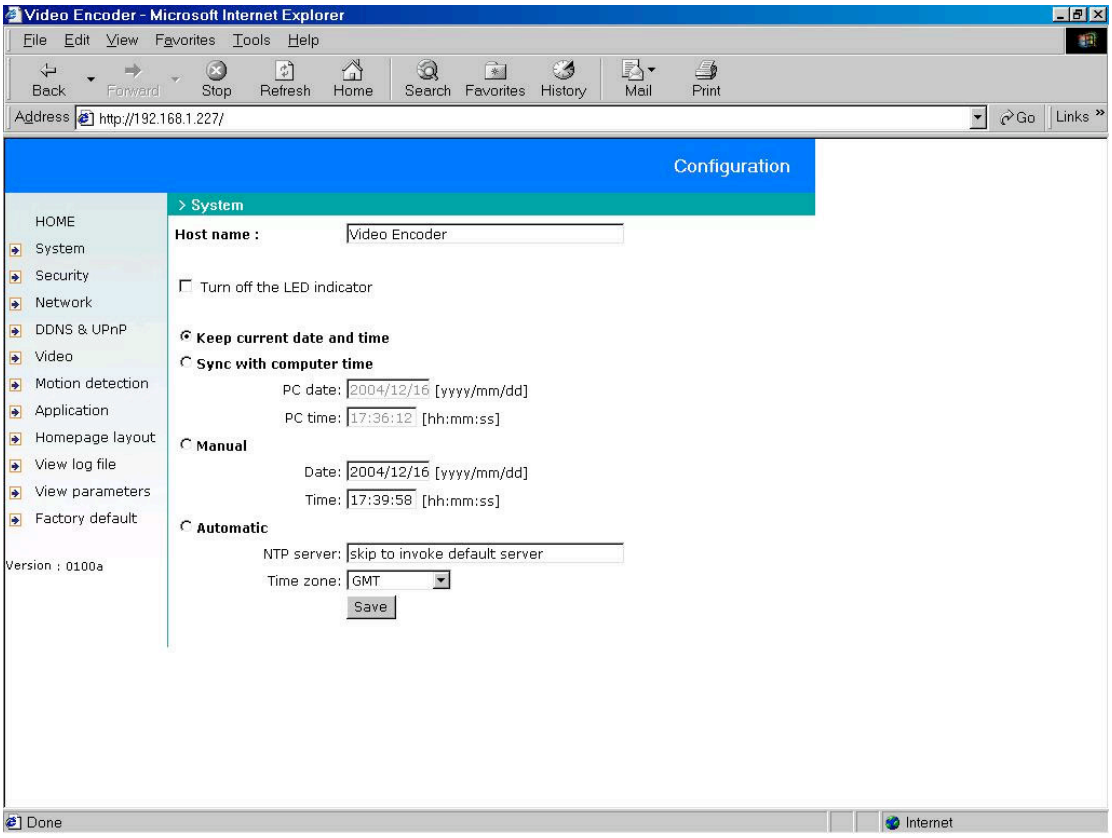
As new firmware becomes available, it can be obtained from the supplier of your DDK-3000 Video Encoder. An easy-to-use Upgrade Wizard is provided to upgrade the DDK-3000 Video Encoder quickly. The upgrade function is available only to the Administrator. To upgrade the system, follow the procedures below.

1. Download the firmware file named FLASH.BIN.
2. Run the Upgrade Wizard and follow the prompts. Refer to the instructions of the Upgrade Wizard for details.
3. After the upgrade process, the system will automatically restart.

⚠ ***If power fails during the writing process of Flash memory, the program in the memory of the DDK-3000 Video Encoder may be destroyed permanently. If the DDK-3000 Video Encoder cannot restart properly, ask your dealer for technical assistance***

Configuration Settings

Only the Administrator can access system configuration. Each category in the left column will be explained in the following pages. The bold texts represent the specific phrase on the Option pages. The Administrator may type the URL below the figure to enter the frame page of configuration directly. If the Administrator also wants to set certain options through the URL, read the reference appendix for details.



<url> *http://<DDK-3000 Video Encoder>/setup/config.html*

<DDK-3000 Video Encoder> is the domain name or original IP address of the DDK-3000 Video Encoder.

System parameters

Host name. Displays above the image at the top of the main page.

Turn off the LED indicator. Check this option to turn off the LED on the DDK-3000 Video Encoder that indicates that the unit is in operation.

Keep current date and time. Click this to maintain the current date and time displayed on the DDK-3000 Video Encoder. An internal real-time clock maintains the date and time even when power to the system is disconnected.

Sync with computer time. Synchronizes the date and time of the DDK-3000 Video Encoder with the local computer. The read-only date and time of the PC displays as updated.

Manual. Displays a date and time according to what is entered by the Administrator. Notice the format in the related field while doing the entry.

Automatic. Synchronizes with the NTP server over the Internet whenever the Video Encoder starts up. It will fail if the assigned time server cannot be reached.

NTP Encoder. Assigns the IP address or domain name of the time server. Leaving the text box blank connects the DDK-3000 Video Encoder to the default time server.

Time zone. Adjusts the time with that of the time servers for local settings.

Remember to click on Save to validate the changes immediately. Otherwise, the correct time will not be synchronized.

Security settings

Root password. Changes the Administrator's password by entering a new password identically in both text boxes. The typed entries will display as asterisks for security purposes. After the user presses Save, the web browser will ask the Administrator for the new password before permitting access.

Add user. Type the new user's name and password and press Add to insert the new entry. The new user displays in the user name list. There is a maximum of twenty user accounts. Each user can have the privilege to **Permit for I/O control**.

Delete user. Pulls down the user list to find the user's name. Press Delete to remove the user account.

Allow 'demo' account to view. Click this to permit anyone who types in "**demo**" as user name. No password is needed for the demo account. Note that a demo account is restricted to view only.

Allow more viewers with snapshot mode. A maximum of 10 users can view the video simultaneously. Enabling this option will allow an 11th viewer, as an overload viewer, to see only still images. These still images are automatically refreshed by the interval defined below. This feature must be supported by the java script capability of the web browsers.

Snapshot interval. Defines the refresh rate of the still image in the homepage seen by the overload viewers.

Network settings

Any changes made to this page will restart the system in order to validate the changes. Make sure every field is entered correctly before clicking Save.

Reset IP address at next boot. By default, this option is enabled in order to assign an IP address automatically when the DDK-3000 Video Encoder boots up. **Once the IP address and other network settings have been correctly configured, this option should be disabled.**

General

IP address. Necessary for network identification.

Subnet mask. Used to determine if the destination is in the same subnet. The default value is "255.255.255.0."

Default router. The gateway used to forward frames to destinations in a different subnet. Invalid router settings will fail the transmission to destinations in different subnet.

Primary DNS. The primary domain name server that translates hostnames into IP addresses.

Secondary DNS. Secondary domain name server that backs up the Primary DNS.

SMTP

When the SMTP server supports SMTP authentication, users need to give the valid user name and password to send e-mail via the Encoder.

1st SMTP (mail) Server. The domain name or address of the destination e-mail server.

1st SMTP account name. The applicable user name on the destination e-mail Encoder.

1st SMTP password. The applicable user password on the destination e-mail server.

1st Recipient e-mail address. The e-mail address of the recipients of snapshots or log file. Multiple recipients must be separated by a semi-colon (;).

2nd SMTP (mail) Server. The domain name or IP address of another e-mail server to be used if the primary server is unreachable.

2nd SMTP account name. Registered user name on the backup e-mail server.

2nd SMTP password. Registered password on the backup e-mail server.

2nd Recipient e-mail address. The e-mail address of recipients for the backup server.

Sender email address. The e-mail address of the sender.

FTP

Local FTP Server port. This can be anything other than the default port 21. The user can change this value from 1 to 65535. After changing the port, the destination FTP client program must change the Encoder port of connection accordingly.

1st FTP Server. The domain name or the IP address of the destination FTP server. The following user settings must be configured correctly for remote access.

1st FTP user name. Registered user name on the external FTP server.

1st FTP password. Registered password on the external FTP sever.

1st FTP remote folder. Applicable folder on the destination FTP server. The string must conform to that of the destination FTP server. Some FTP servers cannot accept a preceding slash symbol before the path without virtual path mapping. Refer to the instructions for the destination FTP server for details. The folder privilege must also be granted to permit file uploading.

Primary FTP passive mode. If the DDK-3000 Video Encoder is located inside a network protected by a firewall, data connection for FTP may be prohibited. By selecting passive mode, the FTP can bypass the rule and allow snapshot upload to proceed. If the passive mode is selected, the DDK-3000 Video Encoder will automatically connect in active mode if the external FTP server does not support passive mode.

2nd FTP Server. The domain name or IP address of the backup FTP server.

2nd FTP user name. Granted user name on the backup FTP server.

2nd FTP password. Granted password on the backup FTP server.

2nd FTP remote folder. Granted folder on the backup FTP server.

Secondary FTP passive mode. Passive mode setting for the backup FTP server.

HTTP

HTTP port. This can be any value other than the default port 80. Once the port is changed, users must be notified of the change in order for the connection to be successful. For instance, when the Administrator changes the HTTP port of the DDK-3000 Video Encoder whose IP address is 192.168.0.100 from 80 to 8080, the users must type in the web browser: `http://192.168.0.100:8080` instead of `http://192.168.0.100`.

Streaming

Control channel port. This can be anything other than the default port 5001 in order to work with the port opened by the firewall.

Audio channel port. This can be anything other than the default port 5002 in order to work with the port opened by the firewall.

Video channel port. This can be anything other than the default port 5003 in order to work with the port opened by the firewall.

Improve audio quality in low bandwidth environment. If the DDK-3000 Video Encoder seems to work in a low bandwidth network environment, the user can select this option to improve audio quality by sacrificing some real-time synchronization.

Mute. Forces the transmission protocol to HTTP and disable audio.

> ***Some invalid settings may result in the system failing to respond. Change the configuration only if necessary and consult with your network supervisor or experienced users for correct settings. Once the system has lost contact, refer to Appendix A for reset and restore procedures.***

DDNS and UPnP settings

Enable DDNS. Turns on the DDNS function.

Provider. The provider list contains four hosts that offer Dynamic DNS services. It is recommended that you connect to the service provider's website to determine the service charges.

Host name. If users want to use DDNS service, this field must be completed. Input the hostname that is registered in the DDNS Encoder.

Username/E-mail. The Username or E-mail field is necessary for logging in the DDNS Encoder or notifying users of the new IP address. Note: when this field is input as **Username**, the following field must be input as "Password."

Password/Key. Input the password or key to get the DDNS service.

Enable UpnP. This turns the UPnP function on or off. When UPnP is turned off, the camera cannot be found through network neighbors in MS Windows XP. If the UPnP network component is installed in Windows XP, the hostname of the DDK-3000 Video Encoder will be shown with bracketed IP address in the Network neighbors. Ex: DDK-3000 Video Encoder (192.168.0.96). That is: The hostname of the DDK-3000 Video Encoder is "*DDK-3000 Video Encoder*," and the IP address of the DDK-3000 Video Encoder is *192.168.0.96.*

Save. Saves current settings for the DDNS service and UPnP function.

Video codec parameters

Text on video. Displays in the black bar above the video window with a timestamp. The timestamp is captured from the date and time of the DDK-3000 Video Encoder that is maintained by a built-in real-time clock.

Color. Selects appropriate option for color or monochrome video display.

Size. There are five options for three video sizes. "Half" is the quarter size of "Normal." "Half x 2" has the same image size as "Normal" but displays lower quality video to consume less network bandwidth. "Normal" is the quarter size of "Double." "Normal x 2" has the same image size as "Double" but displays a lower quality video that requires less network bandwidth.

Modulation. The type of video modulation depends on the type of camera. The type is auto-detected during initialization, but the Administrator can still set it manually.

There are three dependent parameters provided for video performance adjustment:

- **Maximum frame rate**. Limits the maximum refresh frame rate, which can be combined with the "Video quality control" to optimize the bandwidth utilization and video quality. If the user wants to fix the bandwidth utilization regardless of the video quality, choose "Fix bit rate" and select the desired bandwidth. The video quality may be compromised if the encoder is programmed to transmit maximum frame rate while the bandwidth setting is limited.
- **Flip.** Rotates the video image vertically.
- **Mirror**. Rotates the video image horizontally.

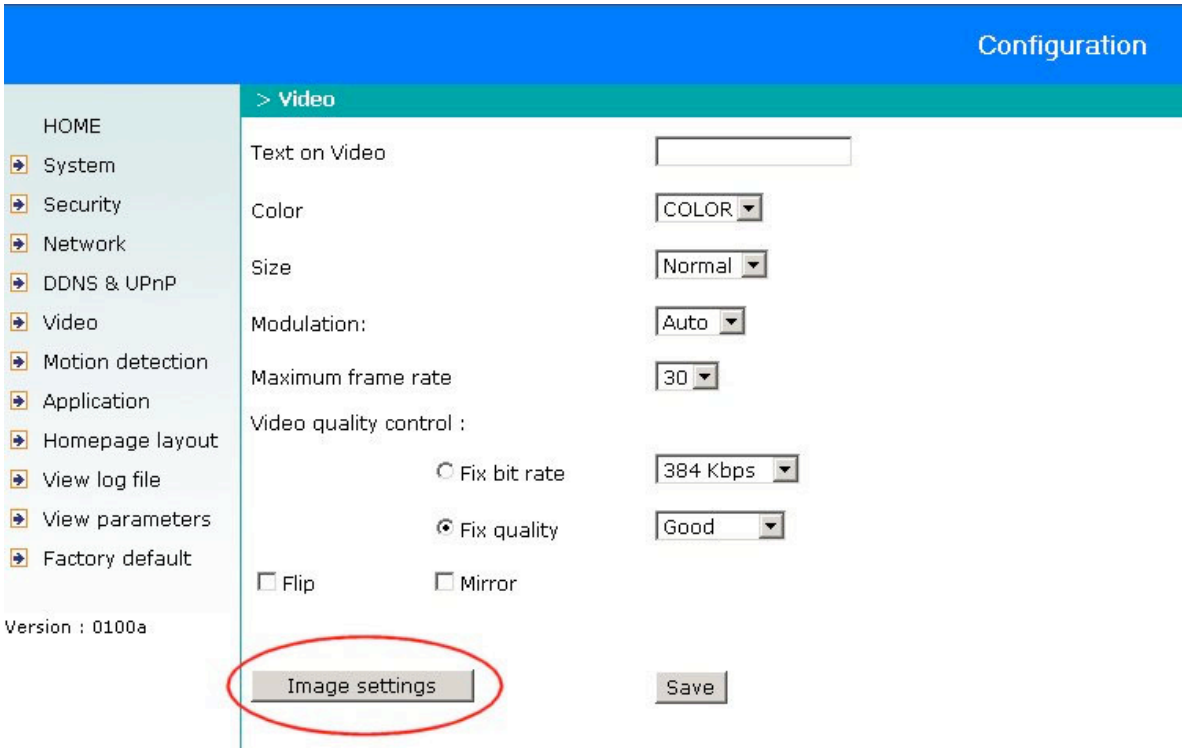


Image settings Calls up another window for manual adjustment of the video image's brightness, contrast, hue, and saturation. Each field has eleven levels ranging from -5 to +5.

Press Preview to fine-tune the image.

When you are satisfied with the image, press Save to keep the image settings.

Restore Recalls the original settings without incorporating the changes.

Motion detection

Enable motion detection. Turns on motion detection.

New Adds a new window. A maximum of three windows can exist simultaneously. Use the mouse to click, hold, and drag the window frame to resize, or the title bar to move. Click the 'X' in the upper right-hand corner of the window to delete the window. Remember to save in order to validate the changes.

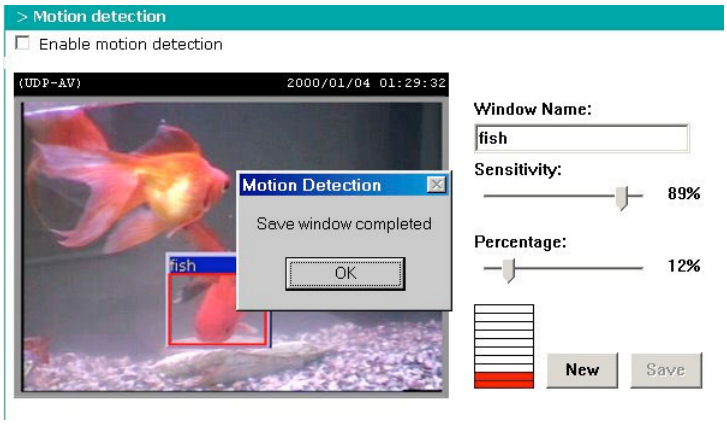
Save Saves the related window settings. A graphic bar will rise or fall depending on variations in the image. A green flare-up indicates that the movement detected is below the monitoring threshold level and a red flare-up means the detected movement exceeds the monitored level. When the bar flares red, the detected window will also be outlined in red. When viewed from the homepage, the monitored window is hidden but the red frame will appear when motion is detected.

Window Name. Appears at the top of the window.

Sensitivity. Establishes the degree to which movement will be detected. Inserting a high number will cause the slightest motion to be detected.

Percentage. Determines the ratio of movement in the monitoring window. Higher sensitivity and lower percentage will allow easier detection of motion.

The following figure shows the screen after pressing Save. The monitoring window has been outlined in red and the graphic bar flares red since the goldfish is moving.



Application settings

Weekly schedule

Sun ~ Sat. Selects the days of the week to perform the following operations.

Snapshots begin at. Sets the time to start operations.

Snapshots stop at. Sets the time to stop operations.

Setting identical begin time and stop time indicates 24-hour operation.

All the time except for the above schedule. Sets the schedule all the time except for the above in a week.

Event operation

Delay second(s) before detecting next event. Sets the time delay before restarting to check on the triggering condition when the current condition is triggered.

Take snapshots at second(s) after event. After the camera has taken a snapshot when a condition is triggered, another snapshot will be taken after this configured interval, in seconds.

Trigger condition. There are four conditions relative to the digital input and the three windows for motion detection. More than one condition can be selected at once. Select the appropriate digital input condition that suits the characteristics of the external device:

- **high, low.** Selects level-triggering via external voltage input
- **rising, falling**. Controls edge-triggering. There are three windows for motion detection. Each can be assigned a name. If motion detection has not been set up, “undefined” will display instead of the window title. If this happens, click on “Motion detection” and a prompt will direct the User to the configuration page for motion detection.
- **Trigger action**. There are four options for two types of action. Multiple conditions can be selected simultaneously. While choosing to trigger an output alarm, the digital output will short both pins and complete the external device’s circuit. The normal state is open. Either e-mail or FTP can be used to transmit uploaded snapshots. The snapshot names will be “vpre.jpg,” “vtrg.jpg,” and “vpos.jpg,” respectively. The names signify the snapshots before an event, during an event, and after an event. The date and time suffix may also be added as an option. Confirm the external mail or FTP server settings in the network configuration.
- **Reset output**. Select and save this option to reset the external device to its original state.

Sequential operation

Snapshot every second(s). The DDK-3000 Video Encoder will send snapshots at the specified intervals to the destination address using the method selected below. This operation is still subject to the conditions set in the weekly schedule.

Send snapshots by e-mail. Selects the uploading method following the intervals set above. The snapshot named “video.jpg” will be attached to the e-mail with the subject title “Periodic snapshots.”

Send snapshots by FTP. The snapshots will be uploaded to the external FTP server with the file name defined in the next option. This can also be used to refresh the captured images stored in the external web server to build creative homepages.

FTP put snapshots with date and time suffix. Sets up the snapshot capture date and time, which can be used to differentiate the snapshot file names easily in either the sequential or event operation. For instance, “video@20030102030405.jpg” means the JPEG image was captured in the year 2003, January the 2nd, at 3 o’clock, 4 minute, and 5 second. If this suffix is omitted, the file named “video.jpg” on the external FTP server will be refreshed at the specified interval.

Homepage layout settings

Use the customized homepage. Check this option to use “user.htm” uploaded by the Administrator instead of the default one. Refer to the section “Administrator’s capability” for detail usage. The following options related to the default homepage will not affect the “user.htm”:

- **Logo graph**. The logo located at the upper left corner of homepage can be hidden, a custom logo can be inserted by the Administrator, or any image on the Internet that can be located via URL can be displayed. The default logo is stored in memory and can be changed by FTP. The maximum size is 32000 bytes. Though the file name is fixed to “logo.gif,” the image can be any file format as long as the web browser can read it. Refer to the section “Administrator Accessibility” for instructions on how to change the default logo.
- **Logo link**. When users click on the logo image, a new window displays to show the homepage of the given URL. Clearing the URL will disable the link function.
- **Background graph**. The background image can be hidden to show only the background color, a default image that can be inserted by the Administrator, or any image on the Internet that can be located via URL. The default background image is stored in memory and can be changed by FTP. The maximum size is 131000 bytes. Though the file name is fixed to “wallppr.jpg”, it can be any file format as long as the web browser can read it. Refer to the section “Administrator’s capability” for how to change the background image.
- **Font color**. Selects any color for the text in the homepage.
- **Background color**. Selects any color for the homepage background. It can be seen when the background image is not displayed.

Viewing system log

Click the link on the configuration page to view the system log file. The content of the file provides useful information about configuration and connection after system boot-up.

Viewing system parameters

Click on this link on the configuration page to view the entire system's parameter set. The content is the same as those in CONFIG.INI.

Restore factory default settings

Click on the link on the configuration page to restore the factory default settings. Any changes made so far will be lost and the system will be reset to the initial factory settings. After clicking on the "Restore" button and making confirmation, the system will restart and require the installer program to set up the network again.

Appendix

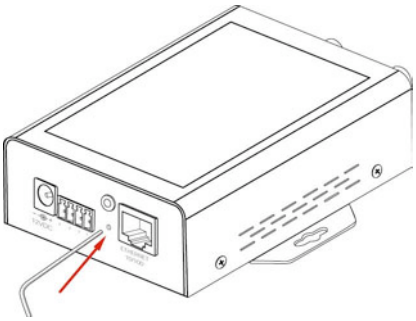
A. Troubleshooting

Status LED

After powering up, the DDK-3000 Video Encoder performs a self-diagnostic to detect any hardware defects. The following table lists the normal LED patterns. In case of any fatal error, the LED will blink in a pattern other than those below.

Condition	LED color
During self-diagnostic after power on	Blinking interchanged green and red
Ethernet signal is lost	Steady red until Ethernet is detected
Before network is setup	Steady green until IP address is confirmed
After network is setup	Blink green every second
Any hardware failure	Other patterns

Reset and restore



Restoring the factory defaults will erase any previous settings. Reset or restore the system after power on.

There is a button recessed in the pinhole beside the Ethernet socket. It is used to reset the system or restore the factory default settings. Resetting the encoder will return the system back to its original state. If the system still has problems after reset, restore the factory settings and install again.

RESET

Insert probe to depress the button.

RESTORE

1. Insert probe to depress and hold the button continuously.
2. Wait for self-diagnostic to run twice (10 sec.)
3. Withdraw the probe as soon as the second self-diagnostic starts

B. Frequently asked questions

Q What if I forget my password?

A After the Administrator's password is assigned, access to the DDK-3000 Video Encoder needs authentication. If you are one of the managed users, you should request the password from the Administrator. If you are the Administrator, there is no way to recover the root password except by restoring factory default. Refer to Appendix A for the procedures.

Q Why can I not watch video from the DDK-3000 Video Encoder after authentication?

A There are many possible scenarios regarding this problem.

1. If you have just installed the DDK-3000 Video Encoder and are unable to watch the video, check if the heartbeat LED is blinking or the camera is properly connected. If the heartbeat LED is dim, perform the software installation again.
2. If the DDK-3000 Video Encoder is properly installed and you are accessing the DDK-3000 Video Encoder for the first time using Internet Explorer, adjust the security level of Internet Explorer to allow installation of ActiveX plug-ins.
3. If the problem still exists after adjustment, and the message over the image window reads "connecting," the network traffic may be too congested.

Q What is the plug-in for?

A The plug-in provided by the DDK-3000 Video Encoder is used to display motion pictures and audio in Internet Explorer. If your system does not allow installation of any plug-in software, the security level of the web browser may need to be lowered. It is recommended that you consult your network supervisors in your office regarding adjustment of the security level. Software installation may be regulated in some offices.

Q Why is the timestamp different from the system time of my PC or notebook?

A The timestamp is based on the system time of the DDK-3000 Video Encoder. It is maintained by a real-time clock inside the unit and can be automatically synchronized with a time server if the DDK-3000 Video Encoder is connected to the Internet and the function is enabled. Differences of several hours may result from the time zone setting.

Q Can I install the attached video camera on the ceiling?

A Yes. There are flip and mirror options on the video configuration page to correct the images for upside-down installation.

Q The image is not clear enough.

A Make sure the attached analog camera is properly installed and focused. The image settings and white balance can be fine-tuned to achieve the best visual effect. Also ensure that the power line frequency matches the local utility to synchronize and minimize the effect of flickering fluorescent lights.

Q Why does the image not refresh regularly?

A Some anti-virus programs filter the received web content. It takes time to perform data examination and affects streaming applications such as the video. However it only affects the HTTP mode of the DDK-3000 Video Encoder. If the network allows only HTTP mode, disable the web filtering function of the anti-virus program temporarily. During the period, users should be aware of the risk of malicious network activity.

Q I have opened motion detection windows, but it does not work.

A If the motion detection windows are set up and names are assigned, check to see if the function is enabled in the first line. While it is enabled, adjust the sensitivity and percentage and monitor the level indicator for best results.

Q I cannot hear any sound while watching.

A If "V_ONLY" appears above the image, click on connection type to uncheck "Disable audio." If "V" appears instead of "AV," the sound card in your PC may not be properly installed. If "AV" displays, check the audio source of the DDK-3000 Video Encoder.

Q How many users are allowed to watch the DDK-3000 Video Encoder at the same time?

A Too many users requesting real-time multimedia content will jam the network. For best results, the DDK-3000 Video Encoder is designed to accommodate a maximum of ten (10) users to watch and listen to the DDK-3000 Video Encoder at the same time. For a larger number of users, it is recommended to use an intermediary web server to host the retrieving content from the DDK-3000 Video Encoder.

Q How fast is the video rate of the DDK-3000 Video Encoder?

A The MPEG-4 codec engine can process 30 frames per second internally. However the total performance is subject to many coefficients as follows:

- Network throughput
- Bandwidth share
- Number of users
- The complexity and detail of objects and activity in the field of view
- The processing capability of the PC or notebook computer that is responsible for displaying images.

Q How can I keep the DDK-3000 Video Encoder as private as possible?

A The DDK-3000 Video Encoder is designed for surveillance purposes and has many flexible interfaces. The user authentication and special confirmation in installation can keep the DDK-3000 Video Encoder from unauthorized access. You may also change the HTTP port to a non-public number. The demo account is good to separate guests from normal users and thus you can easily block guests at any time. You can check the system log to examine any abnormal activities and trace the origins.

Q Why can I not access the DDK-3000 Video Encoder when I set up some options in the application?

A Since the DDK-3000 Video Encoder is a "network device," any incorrect network settings will make it inaccessible. If this happens, restore the factory default settings by following the procedures in Appendix A.

C. URL commands of the Video Encoder

For some customers who already have their own web site or web control application, the DDK-3000 Video Encoder can be easily integrated through convenient URLs. This section lists the commands in URL format corresponding to the basic functions of the erase DDK-3000 Video Encoder.

Capture update Snapshot of JPEG image

/cgi-bin/video.jpg

The DDK-3000 Video Encoder will return the most up-to-date snapshot in JPEG format.

Query status of the digital input

/cgi-bin/getdi.cgi

The DDK-3000 Video Encoder will return the status of digital input.

Drive the digital output

/cgi-bin/setdo.cgi?do=<state>

The state is either “H” or “L.” “H” (high) indicates that NC is connected with COMMON and “L” (low) indicates that NO is connected with COMMON.

For instance, typing `http://192.168.0.201/cgi-bin/setdo.cgi? Do=h` in the address bar of the web browser will command the DDK-3000 Video Encoder, with IP address 192.168.0.201, to set digital output to connect to NC with COMMON.

Restore factory default settings

/setup/restore.cgi

The DDK-3000 Video Encoder will automatically restart after restoring factory default configurations.

Restart system

/setup/reset.cgi

Restart the DDK-3000 Video Encoder without warning.

Page URL

The configuration page has a frame layout including an option list frame and an option page frame. Referenced URLs, except for the configuration page, direct users to the option page frame only. Some pages, such as image quality setting and preset setting, open in new windows for preview.

Only the Administrator can access these URLs.

Homepage name	Referenced URL
connection type page	/client. html
Configuration page	/setup/config. html
system option	/setup/system. html

security option	/setup/security. html
network option	/setup/network. html
video option	/setup/video. html
motion detection	/setup/motion. html
image quality option	/setup/image. html
application option	/setup/app. html
homepage layout option	/setup/layout. html
system log	/setup/logfile. html
system parameters	/setup/parafile. html
set factory default	/setup/factory. html

System resource URL

There are some images used on the homepage when the homepage layout is in image mode. The Administrator may use the following links to show the images saved in the DDK-3000 Video Encoder on another page.

Resource name	Referenced URL
system logo image	/pic/logo.gif
background image	/pic/wallppr.jpg

General format of command URL

Every configuration can be set through URL using the POST method by the Administrator only.

<general format>

URL[?[name=value][&name=value]……]

<method>

POST

<authorized user>

root

System configuration URL

URL: /setup/system.cgi

NAME	VALUE	DESCRIPTION
host	<text string shorter than 15 characters>	system name
Ledoff	yes	turn off front LED
	No	turn on front LED
method	keep	keep date and time unchanged
	auto	use NTP Encoder to synchronize
	manu	directly adjust date and time
date	<yyyy/mm/dd>	year, month and date separated by slash
time	<hh:mm:ss>	hour, minute and second separated by colon
ntp	<domain name or IP address>	NTP Encoder
zone	-12 ~ 12	time zone, 8 means GMT +8:00

Security configuration URL

URL: /setup/security.cgi

NAME	VALUE	DESCRIPTION
Rootpass	<text string shorter than 15 characters>	change root password
Username	<text string shorter than 15 characters>	add new user
Userpass	<text string shorter than 15 characters>	new user's password
Deluser	<text string shorter than 15 characters>	existing user name
Action	<blank>	validate demo users with "open"
Open	yes	grant for demo account
	no	prohibit for demo account
Dido	yes	permission for DIDO access
	no	prohibit for DIDO access

Network configuration URL

URL: /setup/network. cgi

NAME	VALUE	DESCRIPTION
reset	yes	enable installation at next boot

NAME	VALUE	DESCRIPTION
	no	disable installation at next boot
Ip	<IP address>	Network Camera's IP address
subnet	<IP address>	subnet mask
router	<IP address>	default gateway
domain	<text string shorter than 40 characters>	domain name of Network Camera
Dns1	<IP address>	primary DNS Encoder
Dns2	<IP address>	secondary DNS Encoder
smtp1	<domain name or IP address>	primary SMTP Encoder
smtp1Usr	<string shorter than 39 characters>	user name for primary SMTP Encoder
smtp1pass	<string shorter than 39 characters>	password for primary SMTP Encoder
mail1	<string shorter than 80 characters>	mail recipient address
smtp2	<domain name or IP address>	secondary SMTP Encoder
smtp2Usr	<string shorter than 39 characters>	user name for secondary SMTP Encoder
smtp2pass	<string shorter than 39 characters>	password for secondary SMTP Encoder
mail2	<text string shorter than 80 characters>	mail recipient address
returnemail	<text string shorter than 80 characters>	return email address
Ftpp	<number less than 65535>	FTP port
ftp1	<domain name or IP address>	primary FTP Encoder
ftpuser1	<text string shorter than 15 characters>	user name for primary FTP Encoder
ftppass1	<text string shorter than 15 characters>	password for primary FTP Encoder
ftpfolder1	<text string shorter than 40 characters>	upload folder in primary FTP Encoder
Pasv1	yes	access FTP Encoder in passive mode
	no	access FTP Encoder in active mode
ftp2	<domain name or IP address>	secondary FTP Encoder
ftpuser2	<text string shorter than 15 characters>	user name for secondary FTP Encoder
ftppass2	<text string shorter than 15 characters>	password for secondary FTP Encoder
ftpfolder2	<text string shorter than 40 characters>	upload folder in secondary FTP Encoder
Pasv2	yes	access FTP Encoder in passive mode

NAME	VALUE	DESCRIPTION
	no	access FTP Encoder in active mode
http	<number less than 65535>	HTTP port
cport	<number less than 65535>	control Channel port
aport	<number less than 65535>	audio Channel port
vport	<number less than 65535>	video Channel port
band	yes	optimal for the low bandwidth
	no	keep the original way
mute	yes	disable audio
	no	enable audio

DDNS & UPnP configuration URL

URL: /setup/ddns.html

NAME	VALUE	DESCRIPTION
enddns	anything	Enable DDNS function. This option must be resent whenever the URL is called, if DDNS function is to be enabled.
provider	1	DynDNS.org(Dynamic)
	2	DynDNS.org(Custom)
	3	TZO.com
	4	dhs.org
host	<text string shorter than 40 characters>	The hostname of the Network Camera
usermail	<text string shorter than 40 characters>	The login username of DDNS Encoder or the email address registered in DDNS Encoder.
passkey	<text string shorter than 40 characters>	The login password of DDNS Encoder or the key given by the DDNS Encoder.
enupnp	anything	Enable UPnP function. This option must be resent whenever the URL is called, if UPnP function is to be enabled.

Video configuration URL

URL: /setup/video. cgi

NAME	VALUE	DESCRIPTION
text	<text string shorter than 15 characters>	enclosed caption
color	B/W	monochrome
	<other than B/W>	color
Size	1	half
	2	half x 2
	3	normal
	4	normal x 2
	5	double
mode	Auto	auto detect the camera type
	NTSC	set the camera type to NTSC
	PAL	set the camera type to PAL
quality	fixb	fix bit rate
	<other than fixb>	fix quantization
quan	1	lowest quality of video
	2	lower quality of video
	3	normal quality of video
	4	higher quality of video
	5	highest quality of video
bitrate	64000	set bit rate to 64K bps
	128000	set bit rate to 128K bps
	256000	set bit rate to 256K bps
	384000	set bit rate to 384K bps
	512000	set bit rate to 512K bps
	768000	set bit rate to 768K bps
	1000000	set bit rate to 1000K bps
	1200000	set bit rate to 1200K bps
frame	1	set maximum frame rate to 1 fps
	2	set maximum frame rate to 2 fps

NAME	VALUE	DESCRIPTION
	3	set maximum frame rate to 3 fps
	5	set maximum frame rate to 5 fps
	10	set maximum frame rate to 10 fps
	15	set maximum frame rate to 15 fps
	20	set maximum frame rate to 20 fps
	25	set maximum frame rate to 25 fps
	30	set maximum frame rate to 30 fps
flip	yes	flip image
	no	normal image
mirror	yes	mirror image
	no	normal image

Image quality configuration URL

URL: /setup/image. cgi

NAME	VALUE	DESCRIPTION
Brightness	<-5 ~ 5>	adjust brightness of image
Contrast	<-5 ~ 5>	adjust contrast of image
Hue	<-5 ~ 5>	adjust hue of image
Saturation	<-5 ~ 5>	adjust saturation of image
Preview	<not required>	not save the parameters
Restore	<not required>	recall the original settings
Save	<not required>	save the parameters

Application configuration URL

URL: /setup/app.cgi

NAME	VALUE	DESCRIPTION
emode	<not required>	event mode application
smode	<not required>	sequential mode application

NAME	VALUE	DESCRIPTION
smethod	mail	upload snapshots by email
	ftp	upload snapshots by FTP
suffix	<not required>	FTP file with date and time suffix
delay	<integer>	seconds delay to detect next event
inter	<integer>	seconds delay to capture post-event
dihigh	< not required >	set DI high as trigger condition
dilow	< not required >	set DI low as trigger condition
dirise	< not required >	set DI rising as trigger condition
difall	< not required >	set DI falling as trigger condition
motion1	< not required >	set motion window1 as trigger condition
motion2	< not required >	set motion window2 as trigger condition
motion3	< not required >	set motion window3 as trigger condition
ioalarm	< not required >	trigger DO when DI condition matched
mdalarm	< not required >	trigger DO when motion detected
ioupload	< not required >	upload snapshot when DI condition matched
mdupload	< not required >	upload snapshot when motion detected
sinter	<integer>	seconds interval for sequential mode
sbegin	<hh:mm:ss>	time to start sequential mode
send	<hh:mm:ss>	time to stop sequential mode

Homepage layout configuration URL

URL: /setup/layout.cgi

NAME	VALUE	DESCRIPTION
cuslogo	blank	hide logo
	def	use default logo
	url	use image from URL
logourl	<text string shorter than 80 characters>	URL of image for logo
linkurl	<text string shorter than 80 characters>	URL to link when clicking on logo

NAME	VALUE	DESCRIPTION
cusback	blank	hide background image
	def	use default background
	url	use image from URL
backurl	<text string shorter than 80 characters>	URL of image for background
fcolor	<0 ~ 15>	color index for font
bcolor	<0 ~ 15>	color index for background

D. Technical specifications

System

CPU: Trimedia PNX1300
RAM: 8MB SDRAM
ROM: 2MB FLASH ROM

Networking

Protocol

TCP/IP, HTTP, SMTP, FTP, Telnet, NTP, DNS, DHCP, DRM, DDNS and UPnP

Physical

10BaseT Ethernet or 100BaseT Fast Ethernet

Video

Algorithm supported

MPEG4(short header mode)

Video Inputs

1 BNC composite video input
NTSC/PAL auto-sensing

Features

Adjustable image size, quality and bit rate
Timestamp and text overlay
3 motion detection windows

Resolution

NTSC

Up to 30 frames at 176x120
Up to 30 frames at 352x240
Up to 10 frames at 704x480

PAL

Up to 25 frames at 176x144
Up to 25 frames at 352x288
Up to 10 frames at 704x576

Audio

Algorithm supported

24Kbps

Audio Inputs

1 RCA mono audio input

General I/O

1 sensor input(max. 12VDC 50mA)
1 relay output(max. 24VDC 1A, 125VAC 0.5A)

LED indicator

Dual color status indicator

Dimension

130mm(L) * 80mm(W) * 35mm(H)

Weight

NET. 356g

Power

Consumption: near 5.4W
Universal switching power supply included
Input: 100-240VAC, 50/60Hz, 0.4A
Output: 12VDC, 1.5A

Operating Environment

Temperature: 0-50°C/32-122°F
Humidity: 95%RH

Viewing system requirement

Operating system

Microsoft Windows 98SE/ME/2000/XP

Browser

Internet Explorer 5.x or above