

DWHVT SERIES

Technical Manual



What is Network Video Server?

This manual is to provide instructions on how to operate the DWHVT and is directed to system administrators and users. Users should read this manual carefully before installing this unit. It is based on Version 1.04 of DWHVT.

All information including the specifications in this manual are subject to change without any prior notice. Manufacturer shall not imply or guarantee that any information included in this manual is proper for the purposes of the user's specific application. Manufacturer shall not be responsible for any adverse consequences caused by the use of the information in this manual.

Safety Warnings

This product and/or user manual include warnings and/or cautions that can affect the product, its performance and the user. Users shall fully understand and comply with the warnings

Electromagnetic Compatibility-EMC

Use of this product is limited to commercial use.



Technical support

Contact your dealer if technical support or after-sales service is required. For technical requirements or inquiries, manuals or software updates, visit us at the following web sites.

Company web site: <http://www.digital-watchdog.com>

Warnings

- Do not open the cover of the device. Doing so can cause system damage or electric shock. Contact a qualified technician or your dealer for the repair of this product. Manufacturer is not responsible for any damage or injury sustained by opening, altering the hardware and/or assembling/disassembling of the unit by the end user.

- Electric shock or fire may result when liquids, foreign objects or substances are introduced into the unit. If this occurs, discontinue use, power down the unit and contact your dealer immediately.

- This equipment is susceptible to electric surge damage. Use of an Uninterruptible (UPS) or otherwise conditioned power supply is recommended.

- Avoid installing the unit in locations where severe vibration, high humidity or direct sunlight existence.

- Do not place a heavy load on top of this unit.

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the battery manufacturer's instructions.

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Appendix 1. Trouble Shooting

1. Introduction

1.1. Network Video Server

DWHVT is a device that transmits video motion pictures and audio data via a network in real-time. The server converts the analog video signals and audio signals into digital data and compresses them for on-line transmission.

Since the server has a built-in web server and network interface, it does not require additional hardware, software or programming (beyond inserting the initial IP address) to view live video transmissions. After configuring the IP address, connecting the camera(s) and network cable and you are completely ready for remote monitoring.

You can now monitor real-time video and audio by accessing your DWHVT via a Internet browser session whenever and wherever network access is available.

1.2. DWHVT

DWHVT is available in a One and Four channel network video server that transmits motion pictures in high resolution with bi-directional audio in real-time via the network. DWHVT supports various network environments such as high-speed Internet, cable, xDSL, LAN or WAN.

DWHVT compresses video in MPEG4, which is 4 to 5 times more than still image compression algorithms such as JPEG or Wavelet. This makes real-time monitoring available through low bandwidth networks such as xDSL, WAN or Cable networks.

DWHVT provides the perfect interactive audio transmission capability using the ADPCM Codec. In addition to sending live audio from a remote location, DWHVT can transmit audio to another DWHVT using a microphone or PC headset. DWHVT can call a person at the serve point using the "CALL" function button on the browser interface.

1.3. Main Features

DWHVT is designed to meet various user's needs and usages, such as IT related applications, remote monitoring and Internet broadcasting with an easy to use interface.

Highly Efficient MPEG4 Video Compression

DWHVT supports 4 to 5 times more efficient transmission as compared to similar products based on the existing still image compression methods (JPEG and Wavelet). Under the same conditions, if the size of motion pictures and audio by still image compression method is 7.0 - 8.0 Kbytes, DWHVT based on MPEG4 compresses images up to 1.5 – 2.0 Kbytes (320 x 240) per frame to transmit 15 - 20 frames per second via 256Kbps bandwidth and 30 frames per second in 512K bps bandwidth or better. However, the image sizes can be increased depending on resolution the objects viewed and the amount of motion.

Interactive Audio

In addition to the real-time motion picture and audio transmission, DWHVT provides an interactive audio transmission function. It allows users to simultaneously hear audio and watch images of a remote location where the DWHVT server is installed, providing more precise information of the situation. Furthermore, "CALL" feature offered by DWHVT enables users to experience one on one multimedia communications.

Interface to External Equipment

DWHVT supports pan/tilt/zoom camera devices, sensor and alarm and various interfaces with other security equipment for your customized monitoring system.

Various Network Environments

DWHVT supports networks of various bandwidths such as LAN, WAN, Internet and xDSL, etc. using static IP as well as Dynamic IP addressing for each DWHVT unit.

Local Recording and Playback

If internal or external storage like HDD (2.5") or USB or Compact Flash is installed, DWHVT provides the total security solutions via network. DWHVT stores live video and audio into local storage device. Users can search and playback files at any time and anywhere the network access is available. The features of Local recording and playback are as below.

- Simultaneous recording, search, playback and backup operation in 16 channel based interface
- Weekly schedule
- Audio synchronized recording
- Continuous, Motion, Sensor, Video loss and Network disconnection triggered schedule recording
- Intelligent time-map based playback
- Thumbnail playback
- User friendly full web environment

Transmitter and receiver convertible

In case of the TRX model, DWHVT can be used as a Transmitter, Receiver or Transceiver. In case the of TX or RX model, DWHVT can be used as a Transmitter or Receiver. Users are recommended to contact a technical support agency to change the TX/RX from Transmitter to Receiver or vice versa.

1.4. Suggested Applications

- ◆ Remote monitoring of construction sites, factories and office
- ◆ Security control of buildings, garages and convenience stores
- ◆ Remote monitoring and control of facilities at unmanned base stations, water supply and drainage
- ◆ Real-time traffic conditions and image information of tourist resorts
- ◆ Monitoring of infants and children at home or at child care centers
- ◆ Online and web promotion of Internet broadcasting stations

1.5. Technical specifications of DWHVT series

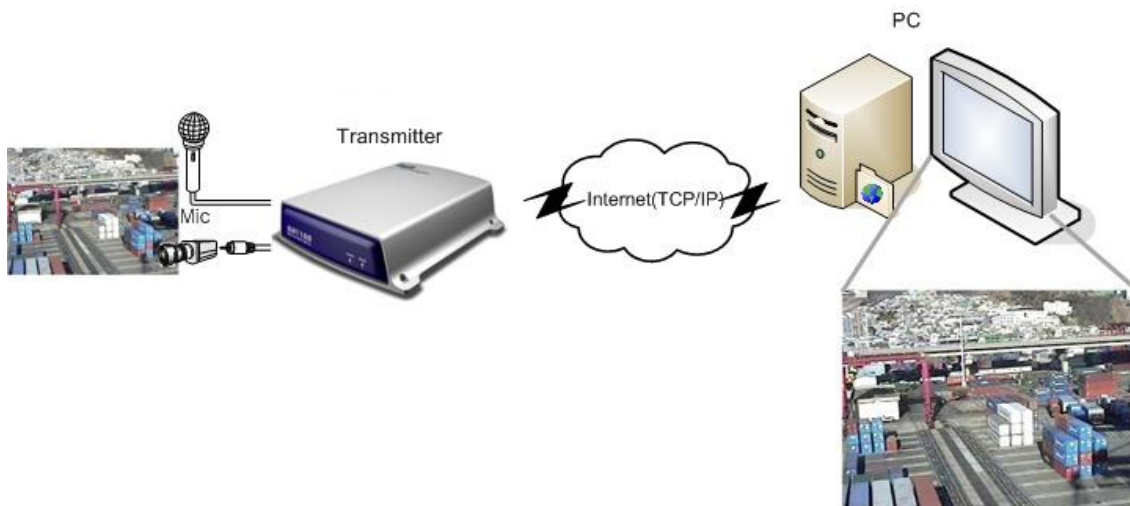
Item		1CH Transmitter / Receiver	1CH Transceiver	4CH Transmitter	4CH Receiver
Video /Audio	No. of Ch	1	1	4	4
	Output	Dx: Loop Rx: NTSC/PAL	NTSC/PAL	Dx: Quad	Rx: NTSC/PAL
	Video codec.	MPEG4			
	Max. Resolution	NTSC : 720x480 / PAL : 720x576			
	Frame rate(fps)	NTSC: 30 / PAL:25			
	Audio In	•	•	•	•
	Audio Out	•			
	Audio codec.	ADPCM			
Network	Interface	10/100 Base-T			
	PPPoE/DHCP	•			
	DDNS support	•			
Interface	RS232/RS485	1/1			
	CF / HDD(2.5")	Optional			
	USB	•			
	Relay/Sensor	1/2			
	Web Server	Built in			
Features	Motion Detection	•			
	Firmware Upgrade	On Web			
	E-mail notification	•			
	Storage	USB/CF/HDD			
Local Recording	Features	Audio recording, Weekly schedule, Pre-post recording 16 channel simultaneous monitoring, playback and backup Continuous, motion, sensor, no-signal and network-fail triggered recording			
	Special features	Network-fail recording and automatic backup to Central Management unit.			
Application		E-map, Multiple site management system CMS (Central Management System) 64ch recording system			
Watch dog		•			

1.6. Connection Examples

Depending on the type of DWHVT, the following connections are possible

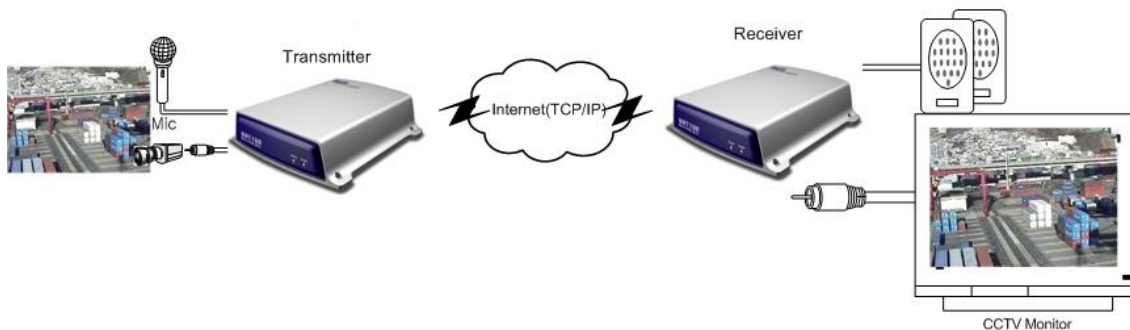
Ex1) One-way monitoring using PC

Transmitter & Receiver (PC)



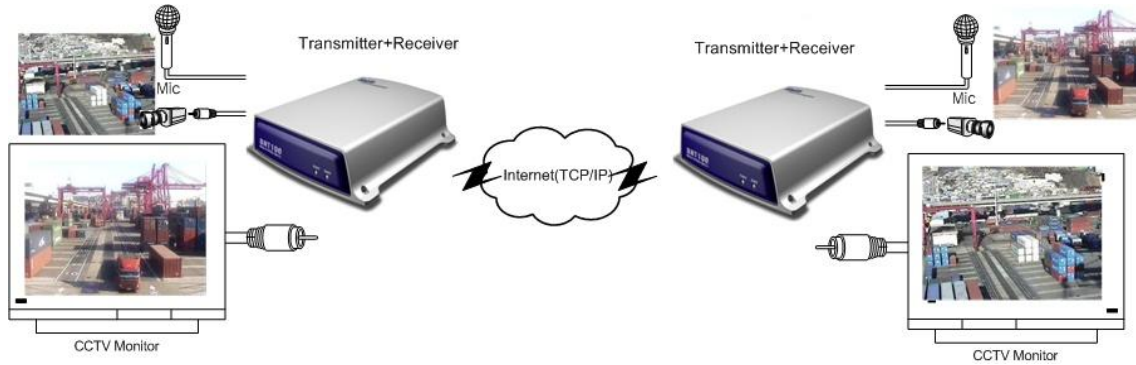
Ex2) One-way monitoring without PC

Transmitter & Receiver + CCTV monitor



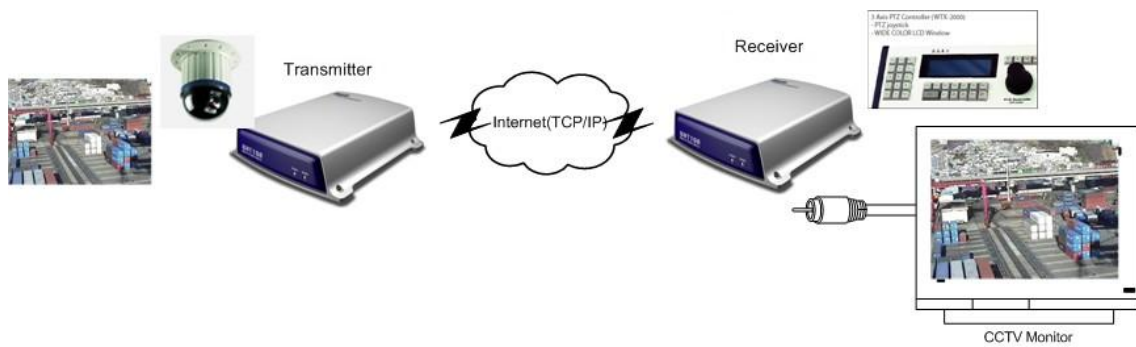
Ex3) Two-way monitoring

Transmitter + CCTV monitor & Receiver + CCTV monitor



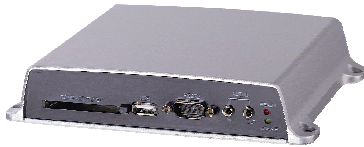
Ex4) Remote SPD control

Transmitter + SPD & Receiver + CCTV monitor + Keyboard



2. Hardware

2.1. Hardware Inventory



DWHVT Server



Setup Crossover LAN Cable



DC 5V / 1.5A Power Adapter
(Input : 100AVC to 250VAC, 50 – 60 Hz)



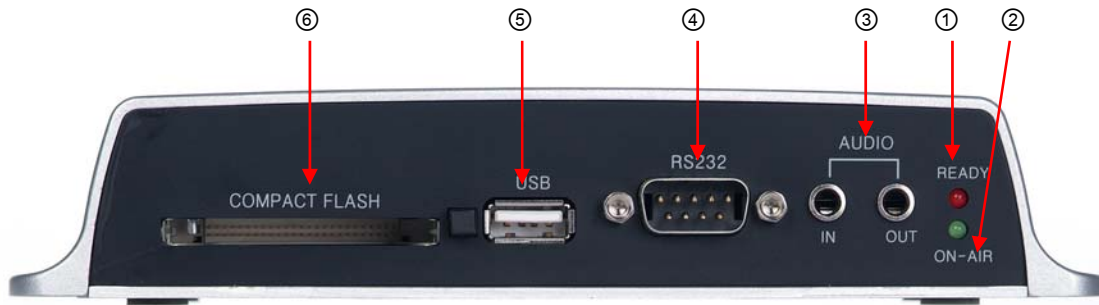
Terminal Block



Including IP Setup Tool, User Manual, Active-X Software

2.2. Chassis Descriptions

2.2.1. Front



① Ready LED

Indicates the unit has completed initialization and is ready to access.

② On Air LED

Indicates that one or more users are connected to the unit.

③ Audio Input/Output Connector

Connect audio 'Out' to the output connector of a speaker.

Audio 'IN' is an audio input port for 'line in'. It allows you to connect audio input device with audio input level of 0.2-2V (line-in level normally). **For both of input and output, from stereo signal, only RIGHT signal will be used.**

④ RS-232 port

The RS-232 port is used as console monitoring or can be used as an external signal input port.

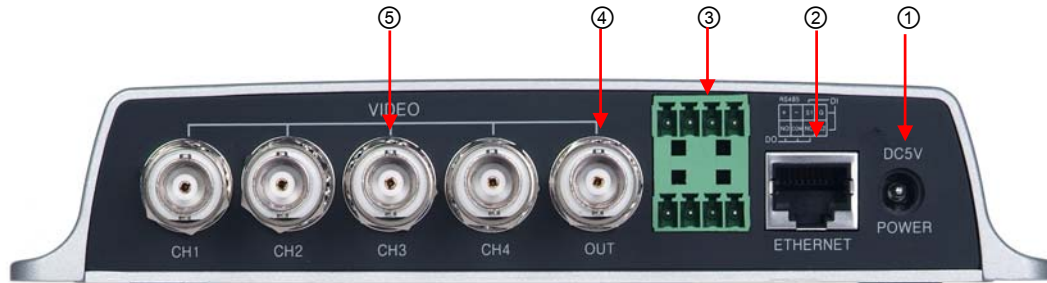
⑤ USB port

The USB type external HDD storage can be used as an external storage device.

⑥ Compact Flash port

The Compact Flash type storage device can be used as an external storage device.

2.2.2. Rear



① Power Input connector (DC 5V)

Warning: Check power adapter voltage before plugging it in as the wrong voltage will permanently damage the device.

② Ethernet connector (10/100 Base-T Ethernet)

③ Data I/O connector

Sensor Input connector (S1, G, S2): Connect up to 2 dry contact input sensors.

Data Output (DO) connector (NC, NO, COM): Check if the alarm device is Normally Open (NO) type or Normally Close (NC) type before connection.

RS-485(+, -): Connect pan, tilt and zoom available camera or unit.

④ Video Out

One channel video output is supportable.

⑤ Input connectors

Connect BNC connectors to Max. 4 cameras and you have to set camera signal type (NTSC or PAL) on administrator's page.

Warning: The maximum input voltage for DO is 24V (1A).

Check if you are using the right adapter of the power.

Please refer to this important note. Otherwise, it causes fatal damage of unit.

In addition, manufacturer does not have responsibility for the maintenance in this case.

3. Installation

This section presents how to install DWHVT on static IP environment. Refer to section 5 for more information about the installation on dynamic IP environment.

3.1. Overview

- Check that you have received all parts
- Connect DWHVT to a configuration PC
- Assign an IP address to DWHVT using IP Setup wizard.
- Access DWHVT home page to set DWHVT operational configurations.
- Place DWHVT at its final location

3.2. Check that you have received all parts

Check the items received in the box against the parts list located in Chapter 2 of this manual. Any missing parts should be reported immediately to your dealer for replacement.

3.3. Connect DWHVT to a configuration PC

Select a PC or laptop running any Microsoft Windows OS, with

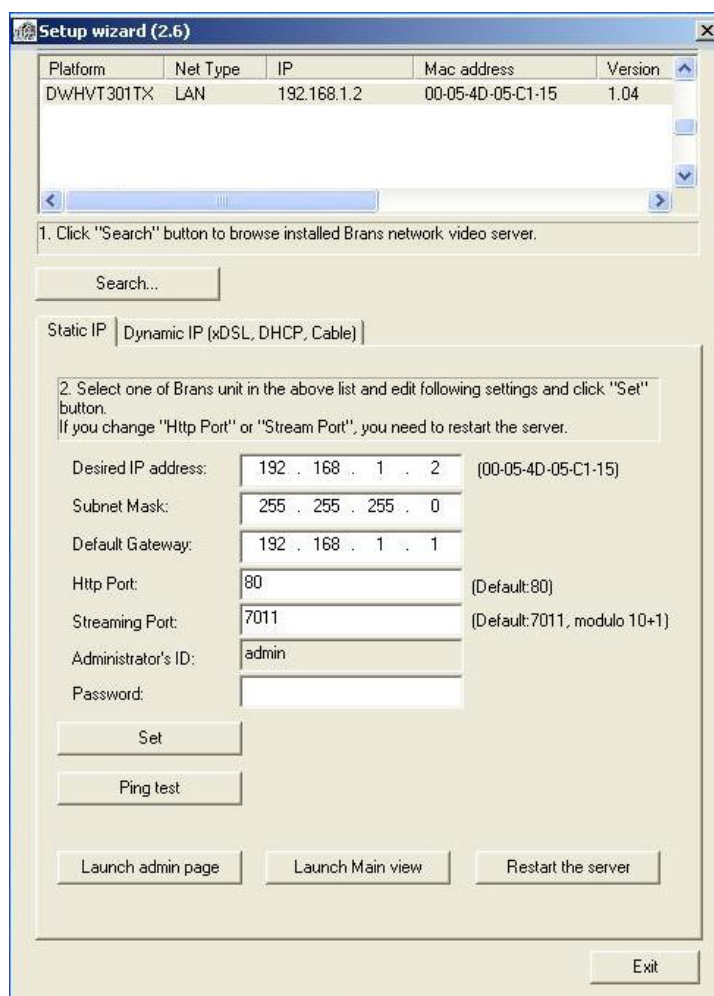
- A 10base-T Ethernet adapter or PCMCIA card, and
- A crossover LAN cable with RJ45 connectors (for direct connect to DWHVT), or 2 straight LAN cables with RJ45 connectors (for connection via a HUB), and
- Microsoft Internet Explorer 4.0 or higher with Active-X Control plug-in.
- Connect DWHVT to a configuration PC
- Connect the crossover cable between the PC/laptop and the Ethernet port of DWHVT, or
- Connect the straight LAN cables to the PC/laptop and the Ethernet port of DWHVT and connection each to the Hub.

3.4. Assign an IP address to DWHVT using IP Setup wizard

Follow the below procedures.

3.4.1. Run IP Setup wizard

Run 'IPSetup.exe' on the CD from the installing PC on **THE SAME SUBNET.**



3.4.2. Browsing DWHVT unit

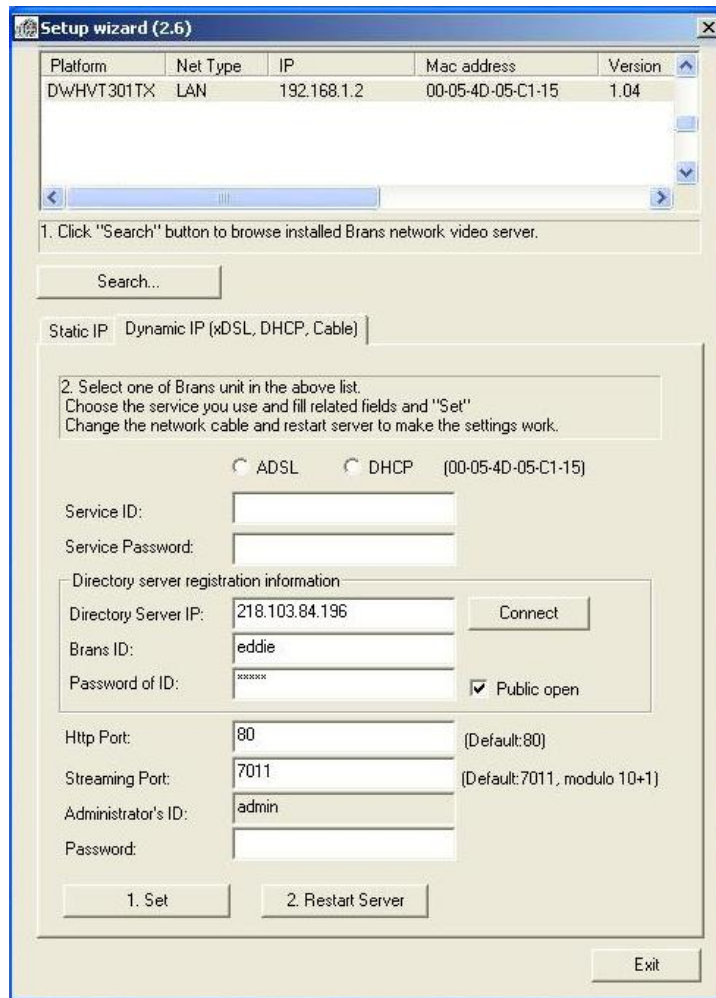
Click 'Search' button to detect DWHVT unit on the same subnet. DWHVT which needs to be installed will be shown with its Mac address and the factory default IP address with

IP Address: 192.168.1.2

Subnet Mask: 255.255.255.0

Gateway: 192.168.1.1

Select DWHVT to be installed and set the IP address, subnet mask, default gateway and administrator's password which is set as 'pass' of it's initial value by clicking 'Set' button.



When you need to change 'Http port' or 'Streaming port', you're requested to restart the Unit by clicking 'Restart the server'. The port no. of 'Streaming Port' has to be set with modulo of 10 plus 1 such as 7011, 7021, 7031 etc.

3.4.3. Confirm the communication

To confirm the communication, click the 'Ping test' button. Confirmation of communication should look like below.

```
Reply from 192.168.1.2: byte=32 time=2ms TTL=225
Reply from 192.168.1.2: byte=32 time=2ms TTL=225
Reply from 192.168.1.2: byte=32 time=2ms TTL=225
Reply from 192.168.1.2: byte=32 time=2ms TTL=225
```

Communication failure would look like below.

```
Request timed 'OUT'
Request timed 'OUT'
Request timed 'OUT'
Request timed 'OUT'

Ping statistics for 192.168.1.2:
```

If some, or all, of the packets are lost, repeat the 'ping' command again. If you keep getting the 'Request timed Out' message, check the following:

- DWHVT is connected to power and turned on
- Cable connections (between DWHVT and PC or DWHVT, PC and HUB).
- IP addresses assigned to DWHVT and PC are **in the same subnet mask**

If these checks are okay, then rerun IP Setup and reassign the IP to DWHVT.

3.5. Setup of DWHVT

Access DWHVT admin page to set DWHVT operational configurations

- In the IP Setup program click the 'Launch admin page' button or
- Open your web browser
- Enter the IP address in the URL box in the browser as below:
http://(IP address)/admin_login.html

Example:

http://192.168.1.2/ admin_login.html

To access the administrator's page, an ID and Password are required.

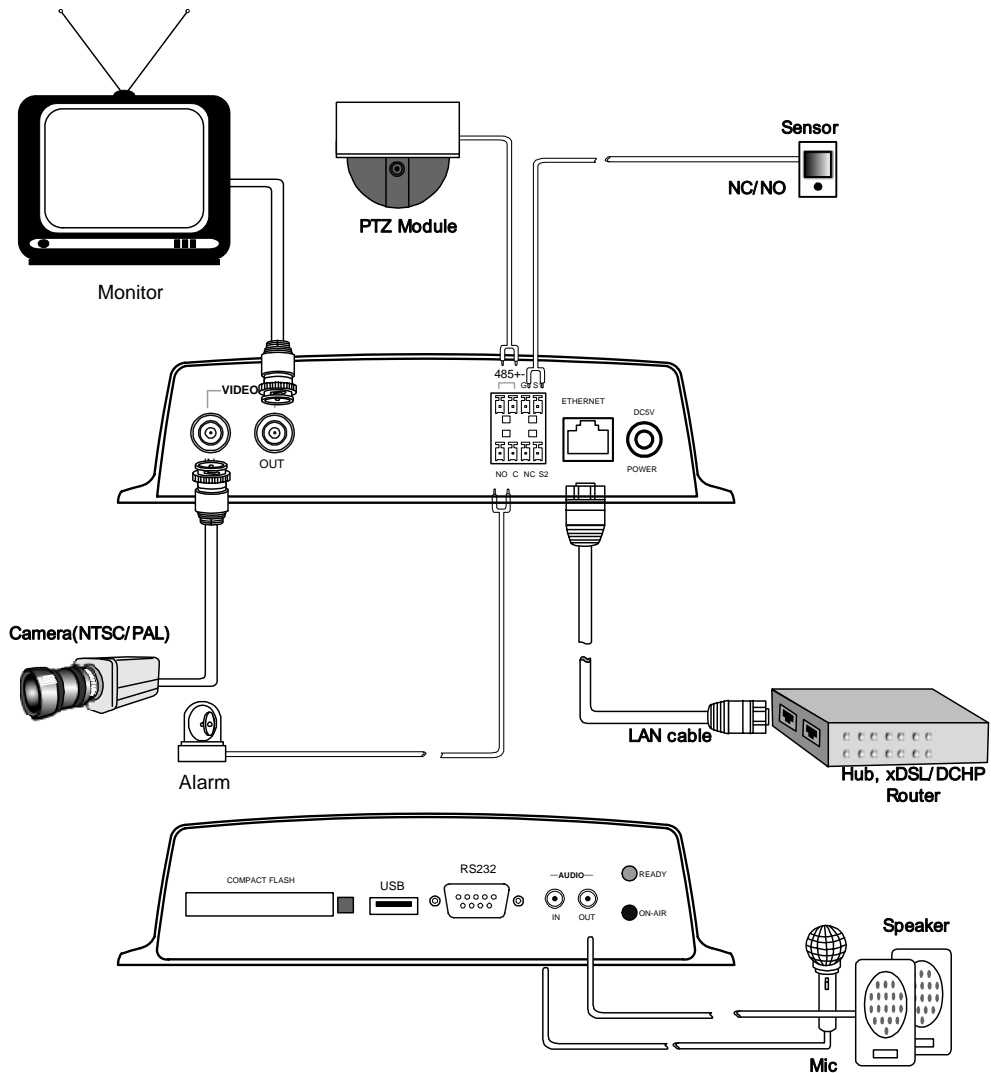
Defaults are ID="admin", Password="pass". Thereafter, for effective system security, the administrator's ID and Password should be changed. For further information, see Chapter 5.

► **Place DWHVT at its final location**

1. Hook up cameras, alarms, etc. and confirm operation of the system.

(Refer to the following connection diagram)

- a. Attach power cable
- b. Attach camera inputs
- c. Attach alarm sensor inputs, if required
- d. Attach PTZ controller, if required
- e. Attach microphone input device, if required
- f. Attach LAN cable
- g. Power up DWHVT



<External device Connection Diagram>

2. After power-up, the READY lights should light within 1 minute.
3. Connect to DWHVT via the browser and the On-Air light should come on.
 - a. Open your web browser.
 - b. Enter the IP address in the URL box in the browser as shown below:
http://(IP address)
Example:
http://192.168.1.2

DWHVT user's log in page will be displayed. The default Guest Account ID and Password are both "guest".

Remote Monitoring System Network Video Server	User ID : <input type="text" value="guest"/>	<input type="radio"/> Live Viewer
	Password : <input type="password" value="•••••"/>	<input type="radio"/> File Viewer
		<input type="button" value="Log-in"/>



"Only authorized users are allowed to access the server.
If you do not have an ID and a password, type in "guest" for both ID and password.
Otherwise, please refer to the administrator"

<Main Login Window>

NOTE: DWHVT browser interface requires the Active-X Control plug-in for Internet Explorer. If the Active-X Control plug-in is not installed, you will be prompted to install the plug-in before the DWHVT interface launches. Answer "YES" to the question about installation the plug-in. After installation, DWHVT browser interface should be displayed.



<Active-X for Live viewer>



<Active-X for File viewer>



<Active-X for Schedule setting>

If video is not displayed, check that the camera and network cables are properly installed on the DWHVT unit. If trouble persists, please refer to the Trouble Shooting appendix.

4. Real-time Video Monitoring

4.1. Accessing the DWHVT Server

Run Internet Explorer 4.0 or higher on the user's PC, enter the DWHVT IP address you want to connect to and press the ENTER key.

4.1.1. Auto-installation of the Client Viewer Program

The first time you access DWHVT home page, the client viewer software is automatically downloaded and installed to allow you to view the MPEG4 video images. As noted in Chapter 3, you must have the Active-X Control plug-in installed in your browser. If it is not already installed, you will be prompted to do so at this time.

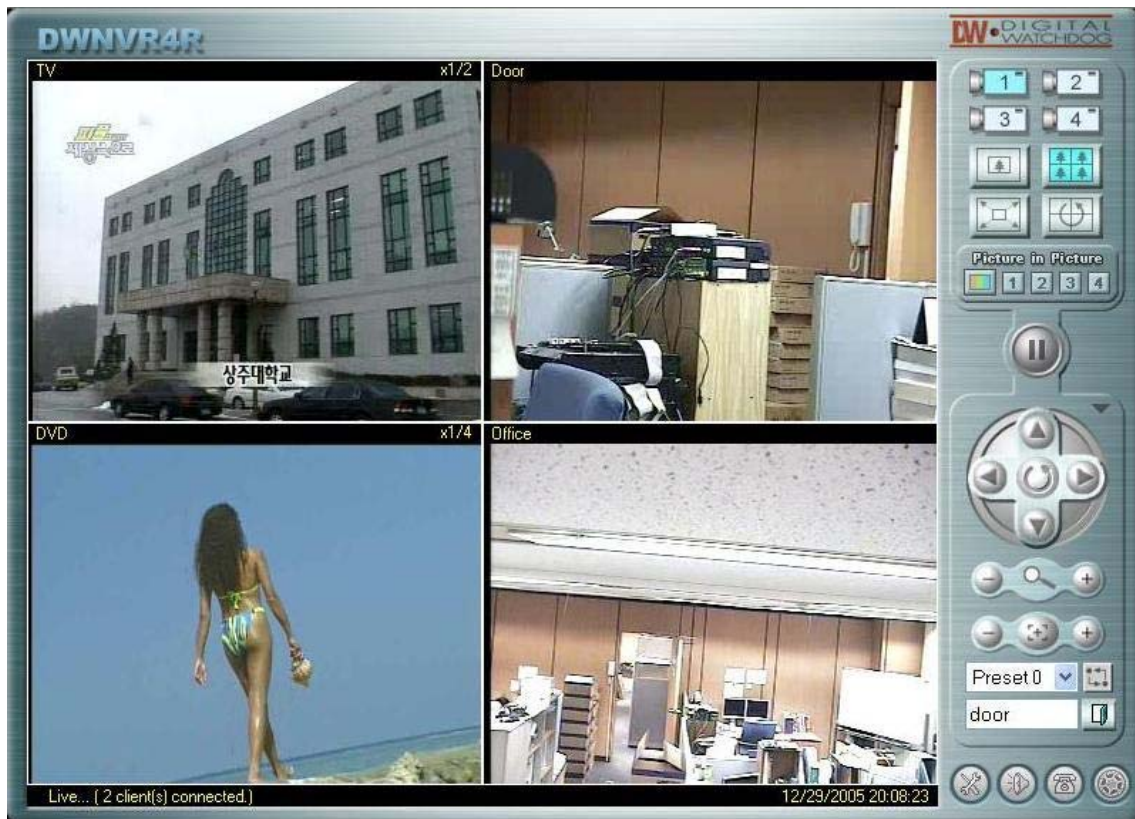
4.1.2. User Login

The user must login in through the login page described in the previous chapter. The default login for users is 'guest' for both ID and Password. The system administrator can change or remove the default ID and Password, assigning individual IDs and Passwords to each user.

The login page allows the user to choose the viewer for Live (Main) or the File viewer. The Live viewer lets you login into live monitoring and control viewer. The File viewer lets you login into file playback related viewer that will be described in detail on the next chapter.

4.2. Live Viewer

When the installation of the client program is complete and your login is accepted, the main viewer of DWHVT server is automatically connected and begins displaying video.



<Live viewer>

4.2.1. Image Display Panel

The image display panel can display up to 4 channels, the resolution of each channel is 320x240. The display panel has the following components.

Title Bar

Displays the title of the channel as entered in Administration.

Status Display Bar

Displays the current time and date at the server site, and the number of clients connected

Title Bar



<Status Display Bar>

4.2.2. Video Control Panel



The control panel allows the user control over camera display in the Main Viewer.

Camera Selection



Allows selection of a single channel for view/display & DO relay

View Selection



View selection allows the user to configure the channel display mode.



Single channel display

Displays the selected channel



Quad channel display

Displays 4 channels simultaneously



Full screen display

Zooms in the single channel to fill the display area



Sequence channels

Will be sequenced every 5 seconds (Duration time is fixed)

Pause/Play Button



Pause

Stops transmission of video images. Button then changes to the Play button.



Play

Resumes transmission of the video images.

Picture in Picture (Only 4CH DWHVT Model)



PIP provides same video image or others in the bottom right of the selected channel.

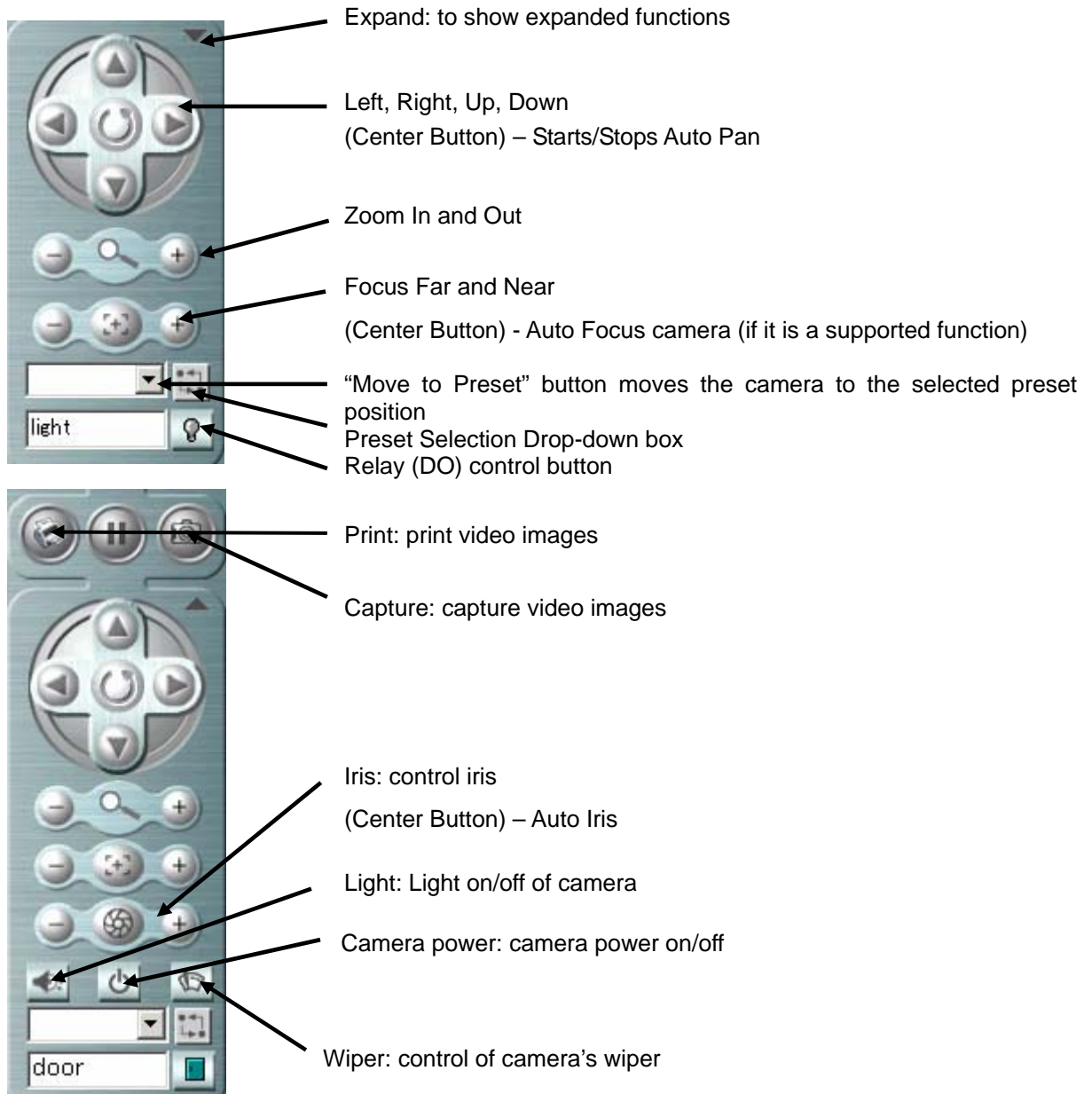
PIP button PIP channel button



4.2.3. PTZ Control Panel

The PTZ control panel allows the user to control most functions supported by a particular PTZ camera, including pan, tilt, zoom, auto pan, focus, auto focus and location presets. PTZ control is available to those users whose ID authorizes them to control PTZ cameras.

PTZ Control Layout



4.2.4. Go to Admin page



The Admin button brings you to the login screen for the Administration page for DWHVT setup described on the next chapter.

4.2.5. Audio mute



The Audio button will enable or mute audio sound. The default button display is ON.

4.2.6. Call



The Call button initiates and ends two-way audio transmission. Going OFF HOOK rings the optional interphone device at the server end or opens the microphone in a speaker / microphone device.

4.2.7. Transfer to File Viewer



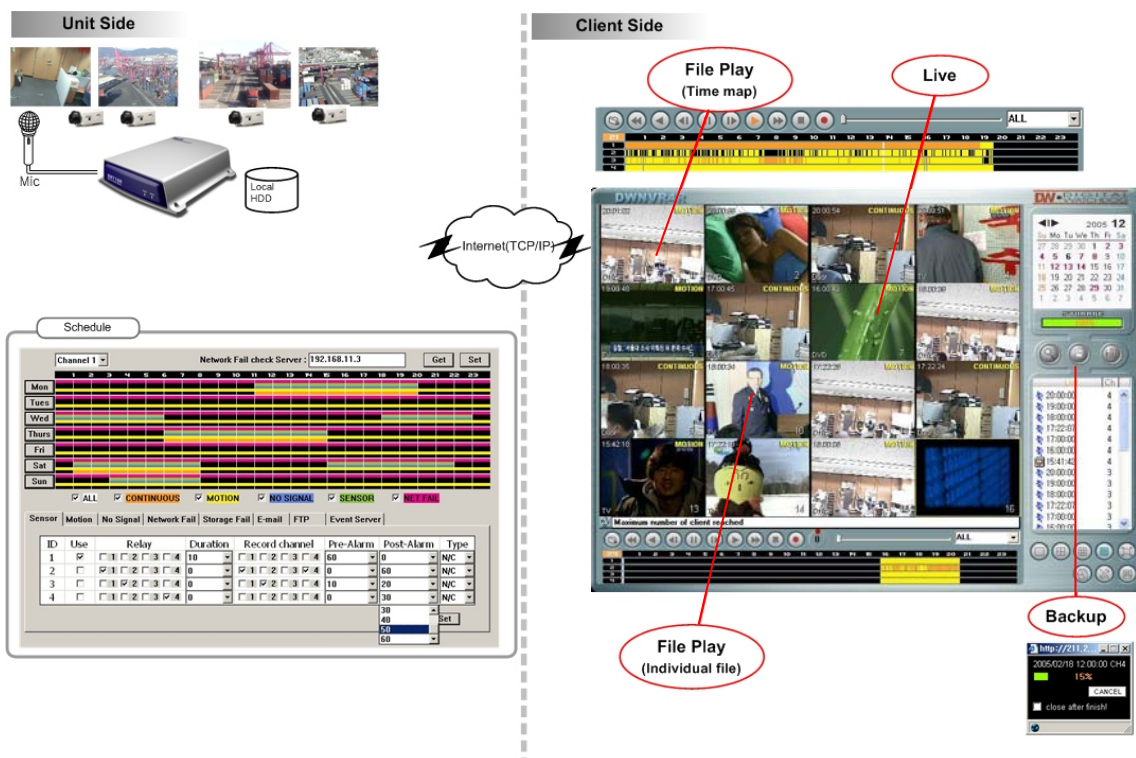
Clicking this button opens the File viewer window.
And vice versa in File viewer.

5. Search and Playback

5.1. Remote Playback

DWHVT stores live video and audio onto local storage devices. It is also possible to connect to live Video On Demand (VOD) or view locally stored video with a user friendly web interface. There is no need for additional program installation required. Users can access the server for playback of the recorded files whenever and wherever the network access is available. Basic operation is shown in the following figure. Multiple operations are done at the same time on the multi-functional viewer. This gives a convenient way of detecting of the moment when an event of interest has occurred.

<Simultaneous recording, playback, live monitoring and backup>



5.2. Login

Users are requested to select either the "Live viewer" or "File viewer". If the user selects "Live viewer" it logs into the live video monitoring interface (refer to previous chapter). If "File viewer" is selected, it logs into the multi-functional file viewer. In the file viewer, users can search, playback, and backup files at the same time. The one who wants to access the files should have the "VOD" level of authorization. For more information, refer to the next chapter.

5.3. File viewer

If the user logs in to the file viewer, the following multi-functional viewer appears and initial search is done which displays file list and time-map of that day.




<File viewer>

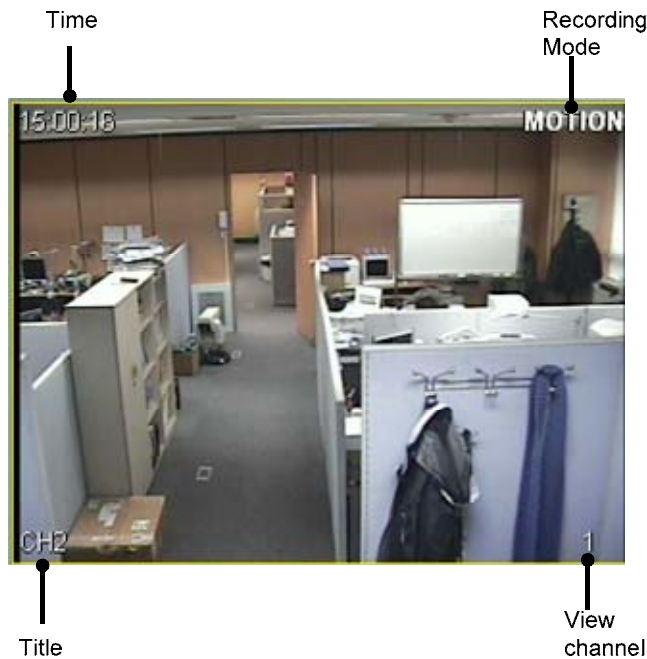
The file viewer mainly consists of image display panel, playback control panel, intelligent time-map panel, calendar, file list panel and display mode panel, etc.

There are two ways to playback a file. One is time-map based playback called “**intelligent playback**” and the other is file list based playback called “**file list playback**” described in this manual.

5.3.1. Image Display Panel

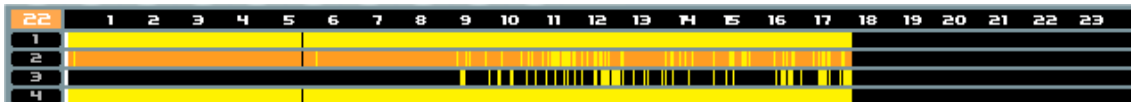
Image Display Panel can display up to 16 images and each channel can have an On Screen Display (OSD) on them. The live monitoring, intelligent playback and file list playback can be done on each display (view) channel, simultaneously.

Messages are displayed on the message queue and to open the message history dropdown, click  button.



<Display (view) channel and OSD>


5.3.2. The time-map Panel and intelligent playback



DWHVT supports seamless playback using time-map concepts. Time-map is the colored map, showing files that exist for that day. The meaning of colors represents the attribute or type of recording **NET FAIL**, **SENSOR**, **NO SIGNAL**, **MOTION**,

CONTINUOUS.

To playback files using intelligent playback, move the cursor to the time position

desired and click play  button.

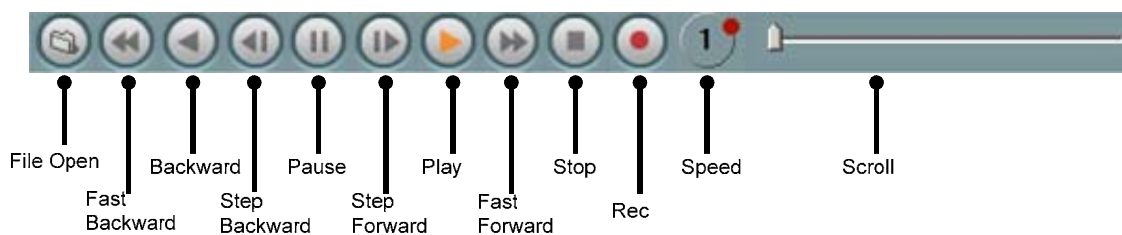
The action of mouse button on the time-map is as follows:

Left button: Move or scroll

Right button: Change time resolution from Day to Hour or Hour to Day.

5.3.3. Playback Control Panel

The playback control panel is an collection of playback related control buttons.



Play and Backward

Start playback and reverse direction

In the intelligent playback first move the cursor where you want to start.

Step Forward and Step Backward

Step-by-step playback in forward and backward direction

Fast Forward and Fast Backward

forward and backward playback at two times speed

Pause

Pause the playback.

Stop

Stop the playback.

Rec

If DWHVT is NOT in the recording mode, this button starts recording with “**LIVE**” recording attribute. Clicking again stops the recording.



Speed

Control playback speed from 1/4 through 32 times faster in both of forward and backward direction. Rotate red button in the clockwise and counter clockwise direction to adjust speed.

Scroll

Move playback position in a forward and backward direction.

This operation does **NOT** work in intelligent playback.

5.3.4. Calendar Panel

In the calendar panel, the red-colored dates indicate where one or more of recorded file exist. Today's date is selected (in blue) by default at login. Any red colored day may be selected and searched using the calendar panel.



<Calendar>

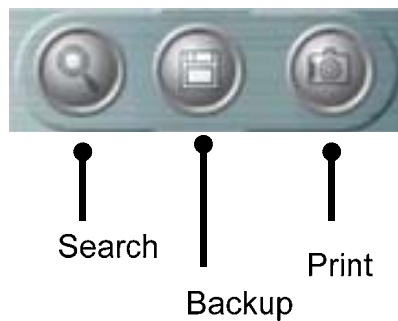
5.3.5. Storage gauge

Storage gauge shows the storage usage in 5% unit.



If there a storage failure occurs, a storage fail message, **Storage fail** comes up.

5.3.6. Search, Backup and Print




Search

Search the file list and get the time-map on the selected day. The day logged in is initially selected and the file list is searched automatically. In order to get the file list of another date, first change the date in the “Calendar” and click the “Search” button.

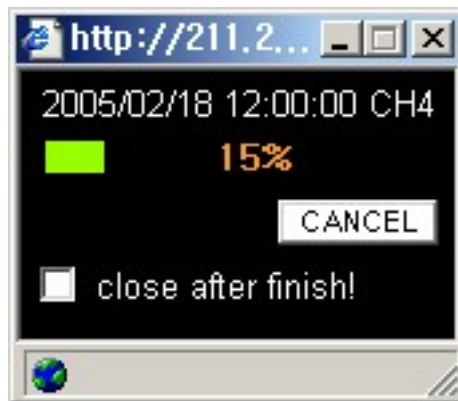
Backup

In order to backup files, first select the file that the user wants to backup from the file list. The backup directory is configured in the configuration dialog box



launched by  button. Fill in the dialog box that appeared a backup progress indicator shows transfer progress. Multiple file backup are allowed

depending on the model.



<Backup Dialog box>

Print : Print the current display area.

5.3.7. File list Panel

File list panel lists the files of the select day.

List	Ch
19:00:00	4
18:48:25	4
18:00:00	4
17:00:00	4
16:05:44	4
16:00:06	4
15:58:56	4
15:51:32	4
15:31:46	4
15:00:01	4
14:00:00	4
13:00:00	4
12:00:00	4

<File list>

The status icon provides for easier understanding of the attribute of files when the file is generated. The meanings of the each icon are “ Live”, “ Network Fail”, “ Sensor”, “ No signal”, “ Motion”, and “ Continuous”.

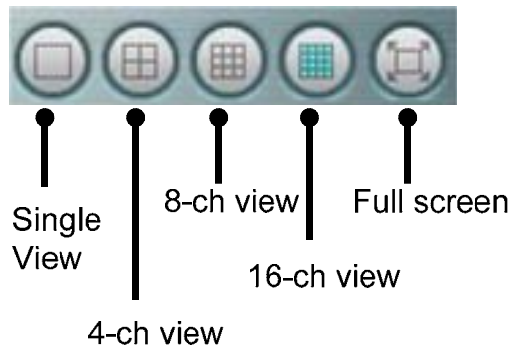
To playback the file on the file list, select the view channel to playback, and then **DOUBLE CLICK** the left mouse button on the file name.

In order to search files of another day, select the date on the calendar, and then click


the search  button.

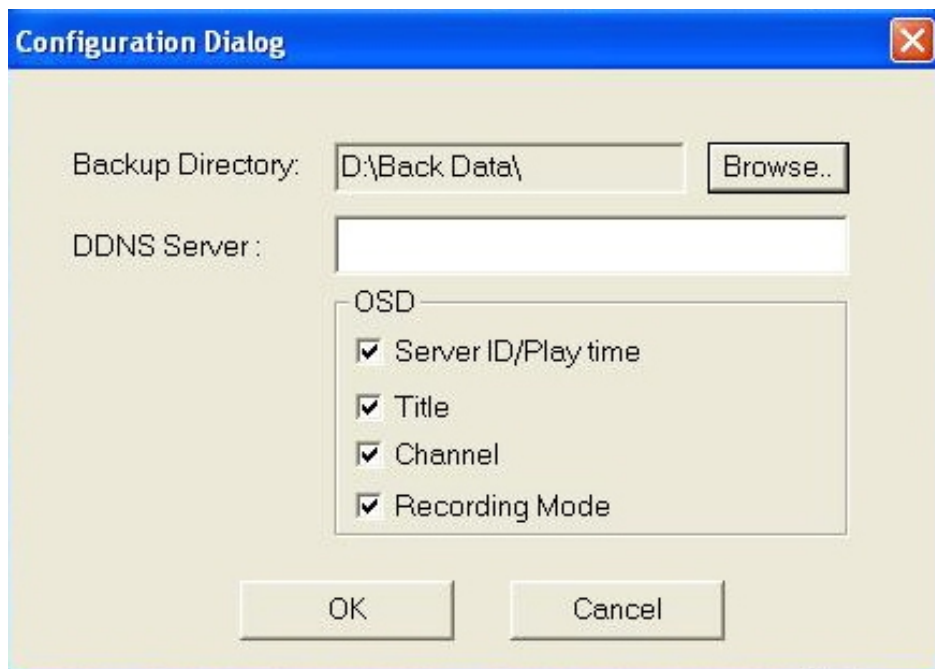
5.3.8. View channel mode selection Panel

The buttons on this panel change the screen divisions of image display panel.



5.3.9. Configuration

 Configuration button launches the file viewer configuration dialog. The file viewer configuration dialog is shown below.



<Configuration dialog>

In this configuration, users can set the On Screen Display (OSD), PC backup directory and DDNS server for accessing other server by ID instead of IP address.

5.3.10. Go to administrator's page



The Admin button brings you to the log in screen for the Administration page for DWHVT related setup described in the next chapter.

5.3.11. Go to Live Viewer



You can go to Live Viewer directly by clicking this button.

6. Setup

6.1. Connect to Administration Page

Connect to the Administration page to modify any of DWHVT settings. All settings are done within the web browser interface and can be done from any PC with Internet access.

You can connect to the Administration Page in one of two ways:

Press the Admin button from  the User interface and enter the proper ID and Password.

or

Enter the direct page address into the browser URL box, e.g. [http://\(IP address\)/admin_login.html](http://(IP address)/admin_login.html).

You are then presented with the Administrator Login page:



The image shows a web form titled "Administrator Login" for a "Network Video Server". It contains two input fields: "ID :" and "Password :". Below the fields is a "Log-in" button.

Factory default ID is “**admin**” and Password is “**pass**”. It is recommended that you change the Admin Password after the initial login to maintain your system security and integrity. The “admin” ID itself can not be removed or altered, only its password can be changed.

6.2. Management of System Setup

6.2.1. General Settings

* Setting Date and Time

Date and Time

September	/	22	/	2005	(month/day/year)
09	:	38	:	21	
Timezone					GMT
<input type="checkbox"/> Use the following Public Time Server (port:123) :					
Primary Time Server					ntp.ewha.net
Secondary Time Server					
<input type="button" value="Set"/>					

Use your cursor to select the current month, day and year as well as hour, minutes and seconds. When done, click the 'Set' button.

* Use the following Public Time Server (port: 123):

Select feature check box and enter IP address or domain name of a primary and secondary time server, select the appropriate time zone, then click SET.

※ **User should enter DNS setting in Network Setting in admin page before using Time server.**

* User Management

User Management

Administrator

ID	Password	Confirm
admin	<input type="text"/>	<input type="text"/>

Add User

User ID	Password	Confirm	Authorization	Priority	Time out(min.)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/> All <input type="checkbox"/> Audio <input type="checkbox"/> PTZ <input type="checkbox"/> Call <input type="checkbox"/> VOD <input checked="" type="checkbox"/> Ch 1 <input checked="" type="checkbox"/> Ch 2 <input checked="" type="checkbox"/> Ch 3 <input checked="" type="checkbox"/> Ch 4	3 ▾	0 ▾

User List

User ID	Password	Authorization	Priority	Time out(min.)
<input type="checkbox"/> guest	<input type="button" value="Change Password"/>	<input type="checkbox"/> All <input checked="" type="checkbox"/> Audio <input type="checkbox"/> PTZ <input type="checkbox"/> Call <input checked="" type="checkbox"/> VOD <input checked="" type="checkbox"/> Ch 1 <input checked="" type="checkbox"/> Ch 2 <input checked="" type="checkbox"/> Ch 3 <input checked="" type="checkbox"/> Ch 4	3 ▾	0 ▾
<input type="checkbox"/> audio	<input type="button" value="Change Password"/>	<input type="checkbox"/> All <input checked="" type="checkbox"/> Audio <input type="checkbox"/> PTZ <input checked="" type="checkbox"/> Call <input checked="" type="checkbox"/> VOD <input checked="" type="checkbox"/> Ch 1 <input checked="" type="checkbox"/> Ch 2 <input checked="" type="checkbox"/> Ch 3 <input checked="" type="checkbox"/> Ch 4	3 ▾	0 ▾
<input type="checkbox"/> ptz	<input type="button" value="Change Password"/>	<input type="checkbox"/> All <input checked="" type="checkbox"/> Audio <input checked="" type="checkbox"/> PTZ <input type="checkbox"/> Call <input checked="" type="checkbox"/> VOD <input checked="" type="checkbox"/> Ch 1 <input checked="" type="checkbox"/> Ch 2 <input checked="" type="checkbox"/> Ch 3 <input checked="" type="checkbox"/> Ch 4	3 ▾	0 ▾
<input type="checkbox"/> (check/uncheck all)				

The “admin” ID is the default administrative user name and cannot be changed. Only the password can be changed. It is recommended that the admin password be changed after installing your system. Type the new password into the password box, type it again into the Confirm box, then click the Save button.

You can add as many users as you want to access the system.

User

Enter an ID for the user to be used in logging in.

Password

Enter a password for that user ID.

Confirm (password)

Confirm the password by re-entering it.

Authorization

- None View only
- PTZ Control View, control PTZ cameras and control Relay (DO)
- Interactive Audio View and Initiate two-way voice communication (Audio + Call)
- VOD View and control of playback
- All Access to all Main Viewer functions

- Channel Authorized channel access.

Click the Add button to add the user information

The list contains all user IDs on a particular server.

From this list you can:

- Change a user's password
- Change a user's authorization level
- Save the above changes
- Mark and delete individual users
- Check or Un-check all users to Delete them or Save their information

Priority

For the given authorization level, the higher number gets higher priority.

Lower priority user loses its control if higher priority user logs in.

In any case administrator will have the highest priority.

Timeout

Allowed DWHVT connection duration, if this value is greater than 0.

Once the duration time is exceeded the connection is closed automatically.

* Skip Logon Page

Skip Logon Page (Only As a guest!)

Skip Logon Page? Yes No

Save

If 'yes', this skips logon page. This function works only when 'guest' account exist and a password is 'guest'.

- Single/Multi Mode

Single/Multi mode

Mode Single Multi

Channel Ch 1 Ch 2 Ch 3 Ch 4

Save

User can choose either single or multi live view at login.

In the case of single view, user can select a specific channel to view of 4 channels.

6.2.2. Video Settings

Video Channel Control

Channel	Enable	Reverse	Quality	Data Rate (kbps)	Resolution	Encoding Frame Rate	Title
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	High	2048	640 x 480	30	AAA

De-interlacing Network Adaptive Frame Rate

Color Control

Channel	Brightness (0 ~ 255)	Hue (-128 ~ 127)	Saturation (-128 ~ 127)	Contrast (-128 ~ 127)	
1	128	0	0	0	Default

* Video Channel Control

Used to enable channels to view, adjust their image quality, image resolution, camera title, encoding frame rate, and color controls.

Enable

Each channel you want to view must be enabled. Click in the Enable box for each channel you are going to view.

Quality

Choose between VBR and CBR as a quality set.

VBR consists of Lowest, Low, Normal, High, Highest.

CBR can adjust the bit rate on the next tab. This is activated only after the selection of CBR.

The higher the quality setting, the higher the quality of the video, but you will experience lower compression and slower transmission because of the larger data size.

Resolution

Higher resolutions create larger data sizes requiring longer (slower) transmission time.

Encoding Frame Rate

Sets the DWHVT overall frame rate. Select from 1 to 30 through the drop-down box.

- Network Adaptive Frame Rate: Server adjusts the frame rate in response to network loading every 30 seconds.

Title

Enter the title for each camera into this box, up to 255 characters in length.

De-interlacing

Decrease the symptom of interlacing. It doesn't show you the black line mark with the moving images.

Network Adaptive Frame Rate

Vary the frame rate as to the network bandwidth status.

*** Color control**

The user can manually adjust the color values of the video from their input sources for each channel by adjusting the values in Brightness, Hue, Saturation and Contrast. Click the Default button to reset a channel for restoration of factory default.

Video Type

NTSC

Buffer Size

8

*** Video Type**

Select from two standard video input type, NTSC or PAL. The change of video type works after restarting the unit.

*** Buffer Size**

The number of frames buffered. If the buffer size is 8 the DWHVT will transmit 8 frames buffered together.

Clicking the 'Save' button to store any of these settings.

* Motion Detection

MotionDetection

Channel	Sensitivity(%)	Area Setting
1	70 ▾	Area Setting
2	70 ▾	Area Setting
3	70 ▾	Area Setting
4	70 ▾	Area Setting



Set motion dection area and click "Set" button

Sensitivity (%)

Sensitivity adjusts the amount of motion required in given image area to trigger a motion event. The larger the value is, the less motion is required to be detected.

Area setting

The motion detection area is created in the image with mouse clicks and mouse drag-and-drop.

6.2.3. Audio Settings

Audio (Server → Client)

Enable	<input checked="" type="checkbox"/> Enable
Related Video Channels	<input checked="" type="checkbox"/> Ch 1 <input type="checkbox"/> Ch 2 <input type="checkbox"/> Ch 3 <input type="checkbox"/> Ch 4 <input type="checkbox"/> All

Interactive Audio (Server ↔ Client)

Enable	<input checked="" type="checkbox"/> Enable
Related Relay Output	<input type="checkbox"/> DO 1

Audio setup is divided into two sections: one-way audio (Server → Client) and two-way interactive audio (Server ↔ Client).

* Audio (Server → Client)

Enable

Audio must be enabled to function. If you are going to use audio, select the Enable box

Related Video Channels

Click in the box next to each video channel that is related for audio input. You can hear audio only when the related video channel(s) is displayed in the Live view screen.

* Interactive audio (Server ↔ Client)

Enable

Interactive audio must be enabled to be functioned. If you are going to use interactive audio, select the Enable box.

6.2.4. Pan/Tilt/Zoom (PTZ) Setup

Channel Selection

Channel 1 ▼

Pan/Tilt/Zoom Device Settings

Enable	<input checked="" type="checkbox"/> Enable		
Manufacturer(Model)	Scc641 ▼		
Device ID	0		
UART Settings	<input checked="" type="radio"/> Default Settings	Baud Rate: 9600, Data Bits: 8, Stop Bit: 1, Parity: NONE ▼	
	<input type="radio"/> User-Defined	Baud Rate	9600 ▼ bps
		Data Bits	8 ▼ bits
		Stop Bits	1 ▼ bit
		Parity	None ▼
Pan Speed	30 (0 ~ 64)		
Tilt Speed	30 (0 ~ 64)		
Halt Speed	0 (Not Available)		

* Channel selection

Choose the channel you wish to set up for PTZ from the drop-down list.

* Pan/Tilt/Zoom Device Settings

Enable

Check to enable PTZ control for the selected channel.

Manufacturer (Model)

Choose the manufacturer and model of the PTZ dome from the drop-down list.

Device ID

Enter the ID of the PTZ dome. This ID should match the ID physically set on the PTZ device

UART Settings

These are the communications protocols necessary to talk to the PTZ dome. These protocols are similar to setting up the COM port for a modem. For more information, please refer to the device manual.

Pan Speed

Enter the speed for the dome to go left and right. Range may be different from device to device.

Tilt Speed

Enter the speed for the dome to go up and down. Range may be different from device to device.

Halt Speed

Enter the delay time before the dome reverses direction when auto-panning. Range may be different from device to device.

* Auto Pan/Preset Settings

Auto Pan

To set the start and end points for auto-panning, move the camera to the first end point of the sweep, select Point 0 from the drop-down list and click the Set button. Next, go to the other end point, select Point 1 from the drop-down list and click the Set button. Click the Run/Stop button to confirm the auto-pan end points are as you selected.

Preset

Preset camera locations can be set for dome cameras supporting presets. The number of presets is different depending upon dome manufacturer and model. To define each preset, choose a preset number from the drop-down list, use the PTZ control buttons in this window in order to move the camera to a desired location, adjusting zoom and focus, and then click the Set button. To confirm the preset, move the camera to a different point, select the preset again, if necessary, and then click the Move button. The camera should now move to the new preset.

Auto Pan / Preset Settings

Live... [1 client(s) connected] 20:19:08

Save

6.2.5. Schedule

In the schedule page, types of event are defined and related actions are specified. There are four types of event. They are “sensor”, “Motion”, “No signal” and “Network Fail”. Related actions are “Relay control”, “Recording”, “E-mail notification” and “Notification to event server”. Thus, if an event is not defined, actions will NOT work properly.

Channel 1 Recording rate: Every frame

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

ALL
 CONTINUOUS
 MOTION
 NO SIGNAL
 SENSOR
 NETWORK FAIL

Storage full : Overwrite Network fail check server :

Get Set

Sensor Motion No signal Network fail E-mail Event server

ID	Use	Relay	Duration	Record channel	Pre-Alarm	Post-Alarm	Type
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	10	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	5	30	N/O
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	10	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	5	30	N/O
3	<input type="checkbox"/>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4			
4	<input type="checkbox"/>	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4			

Get Set

Weekly scheduling

DWHVT supports weekly based recording schedule. It is possible to set up **NON-exclusive** scheduling triggered by multiple events. If events occur within the scheduled duration, DWHVT starts to record and attaches pre or post image according to the event settings. If pre or post image is **NOT** specified, only the image of the event duration is stored.



<Pre and post image>

Follow these steps for schedule definition and event notification:

1. Check the type of Event and create the schedule (Multiple selections are possible)
 - : **Left mouse button: Draw**
 - : **Right mouse button: Erase**
2. Create an event
3. Assign the video channel to record
4. Specify the action and notification triggered by that event.

Network Fail Check Server

Assign the server with which if network connection is lost a "Network Fail" event will be triggered.

Storage Full

When storage is full, you can choose *Overwrite* or *Stop Recording*.

Relay

Up to four alarms relay may be controlled according to the event triggered.

Duration

How long the relay will remain active once triggered.

Record channel

Up to four channels may be selected to record on the single event triggered.

Pre-Alarm and Post-Alarm

Set up to 60 seconds pre-event and post-event period to record. The value specified is **NOT** exact, but is a maximum allowable value.

Type

Sensor types must be designated as either "Normally Open (NO)" or "Normally Close (NC)". This will be determined by the types of device that is sending the signal to DWHVT sensor input.

The types of Event

* Sensor Event

Sensor Motion No Signal Network Fail E-mail Event Server													
ID	Use	Relay				Duration	Record channel		Pre-Alarm	Post-Alarm	Type		
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	10	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	5	30	N/O
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	10	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	5	30	N/O
3	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4			
4	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4		<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4			

User can link each sensor with each relay (DO) and set duration time. Recording time can also be configured.

* Motion Detection Event

Sensor Motion No Signal Network Fail E-mail Event Server												
ID	Use	Relay				Duration	Record channel		Pre-Alarm	Post-Alarm		
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	10	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	0	30
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	10	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	0	30
3	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	10	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	0	30
4	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	10	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	0	30

DWHVT generates motion detection event based on the area and sensitivity setting. For more information, refer to the “Video settings” page.

* No signal (Video loss) Event

Sensor Motion No Signal Network Fail E-mail Event Server												
ID	Use	Relay				Duration	Record channel		Pre-Alarm	Post-Alarm		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	40	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	5	10
2	<input type="checkbox"/>	<input type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	45	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	5	10
3	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 3	<input type="checkbox"/> 4	50	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	5	10
4	<input type="checkbox"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input checked="" type="checkbox"/> 4	55	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	5	10

If the video transmitted from DWHVT is lost or damaged, A No signal event occurs.

*** Network Fail Event**

Sensor	Motion	No Signal	Network Fail	E-mail	Event Server	
ID	Use	Relay	Duration	Record channel	Pre-Alarm	Post-Alarm
1	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	10	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4	50	30

If the connection between the DWHVT and the assigned server in the “Network Check Server” box is lost a network Fail Event occurs.

Actions and Notifications

*** E-mail Notification**

Sensor	Motion	No Signal	Network Fail	E-mail	Event Server
E-mail List:	<input type="text"/>	<input type="button" value="Add"/>	<input type="button" value="Modify"/>	<input type="button" value="Delete"/>	
E-mail:	<input type="text"/>	Attach a Snapshot? <input type="checkbox"/>			
SMTP Server:	<input type="text"/>				
SMTP ID:	<input type="text"/>	SMTP Password:	<input type="text"/>		

E-mail message for up to five accounts can be specified. “Attach a Snapshot?” is not support for this model. Complete the e-mail related settings such as SMPT server, ID and a password for authorization for proper operation.

*** Notification to the Event server**

Sensor	Motion	No Signal	Network Fail	E-mail	Event Server
Event Server List:	<input type="text"/>	<input type="button" value="Add"/>	<input type="button" value="Modify"/>	<input type="button" value="Delete"/>	
Event Server:	<input type="text"/>				
Report:	<input checked="" type="radio"/> IP <input type="radio"/> ID				

A maximum of five Event Servers can be listed. The types of event and the time the event trigger is sent to the listed servers. The Event Server will take the action programmed for that event type according what has been defined on the event server.

6.2.6. Network Settings

Additional network parameters can be set after you make the initial setup with the DWHVT IP setup wizard.

WARNING: Check with your network administrator before making any further changes to the network settings.

* IP Settings

DWHVT can be installed on static IP network as well as dynamic IP network such as ADSL and DHCP

IP Settings

Obtain an IP address automatically using: ADSL

User ID	1234567
Password	*****
IP Address	
Subnet Mask	
Gateway	

Use the following IP address:

IP Address	
Subnet Mask	
Default Gateway	

Follow these steps in each case.

On Static IP

- ② Choose "Use the following IP address:"
- ③ Fill in "IP Address", "Subnet Mask" and "Default Gateway" field.
- ④ Click 'Save'.
- ⑤ Click 'Restart'. (DWHVT reboots automatically on changes to network settings)

On Dynamic IP

- ① Choose "Obtain an IP address automatically using:" and select one of dynamic IP services, ADSL and DHCP.
- ② Input "User ID" and "Password" provided from dynamic IP service provider.

- ③ Click 'Save'.
- ④ Click 'Restart'. (DWHVT reboots automatically on changes to network settings)
- ⑤ During reboot move the network cable into dynamic IP network.
- ⑥ If it successfully connects to the dynamic IP network, the 'Ready LED' will light. (In some case, it takes several minutes to access the dynamic IP network, depending line condition.)
- ⑦ To support access to the DWHVT on dynamic IP addresses, you have to register the DWHVT unit DDNS server. Refer to section 5.2.8, for more information.

The IP Setup wizard can be used for dynamic IP setup.

NOTE: *You may need to restart the ADSL or cable modem, if you cannot connect to the dynamic IP network for a long time. The IP Setup wizard can be used to reconfigure the DWHVT back to a static IP.*

* DNS Settings

When required, the IP addresses for a primary and secondary Domain Name Server can be set. These are required to use e-mail alarm notification using names instead of IP addresses.

DNS Settings

Primary DNS Server	211.232.190.1
Secondary DNS Server	

* Web Server Port Settings

You can change initial web service port of 80 when 80 port is not available. If you change web server port, users are requested to add port number with server IP in the browser URL input box as follows:

<http://Server IP:8001> (8001 is port number)

Write down and carefully save the port number you changed for the future reference.

Web Server Port Settings

Web Server Port	8001
-----------------	------

* Streaming Port Settings

The streaming port is like a gate through which live video data flows. The factory default value is 7011. The streaming port is used when you connect the DWHVT to NVMS or Hybrid DVR. Streaming ports are uses with the server IP as follows:

(Server IP):7021 (7021 is a streaming port number)

Streaming port values are a modulo of 10 plus 1 vales such as 7011, 7021, 7031, etc.

Write down and carefully save the port number you changed for the future reference.

Streaming Port Settings

Streaming Port	<input type="text" value="7011"/>
----------------	-----------------------------------

Note: The IP Setup wizard gives you the current web server and streaming port numbers

* Modem Power Control

The DWHVT can automatic restarting the modem power to cause reconnection to the network to attempt to correct network connection problems.

Power Control

Use modem power control?	<input type="checkbox"/>
--------------------------	--------------------------

* Ethernet Settings

LAN speeds and other factors may vary. The recommended setting is "Auto".

Ethernet Settings

Ethernet Link Type	<input type="text" value="Auto"/>
Current Link Type	Auto 100 MBit/s Full Duplex

*** IP Filter**

IP Addresses entered in the Allowed & Denied lists control those specific IP Address' access to server.

IP Addresses entered in the Allowed IP List allows access to the server. But an IP Addresses entered in the Denied IP List access to the server for that address is refused.

IP Address Filter

Allowed IP Lists

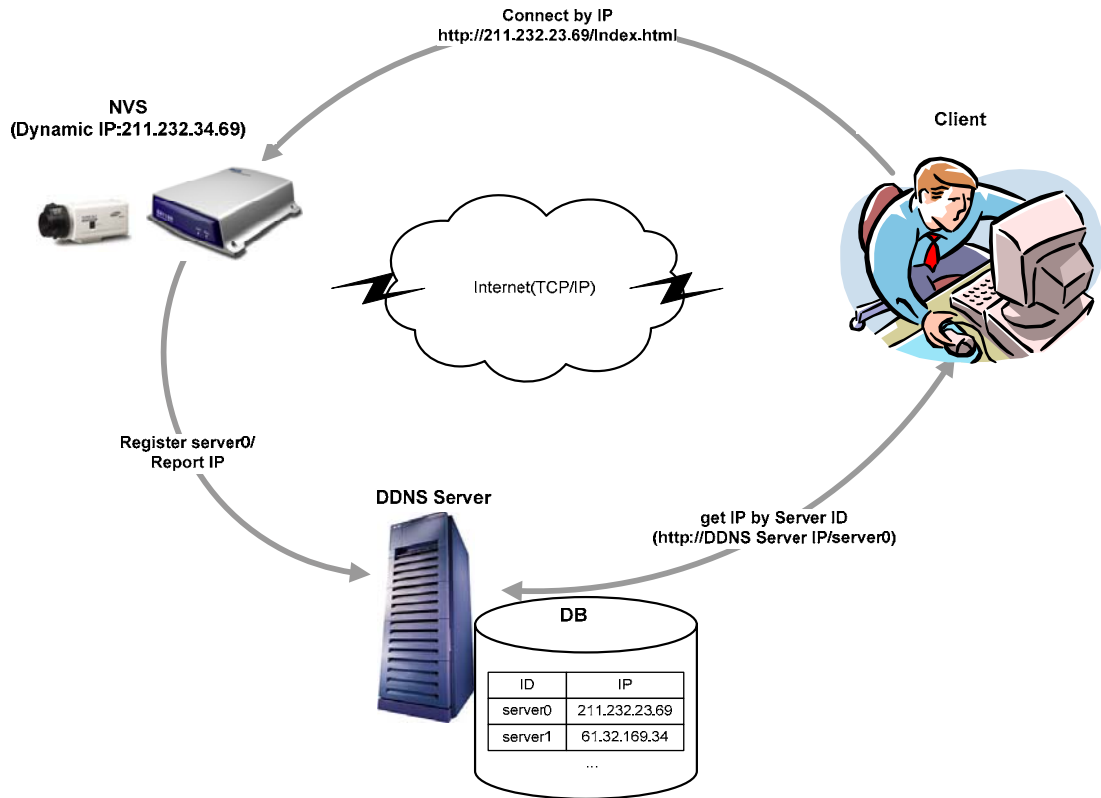
Allowed IP 1	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Allowed IP 2	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Allowed IP 3	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Allowed IP 4	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Allowed IP 5	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>

Denied IP Lists

Denied IP 1	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Denied IP 2	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Denied IP 3	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Denied IP 4	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>
Denied IP 5	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>	.	<input type="text"/>

Save

6.2.7. Registration (to directory server)



Generally, for Internet services such as ADSL or DHCP cable modem, the customer's assigned IP address is variable. (It is called a dynamic IP).

That is why users of the DWHVT on dynamic IP system would have to set the DWHVT IP every time they reconnect to their ISP. DDNS server bridges the dynamic IP assigned to the DWHVT to the fixed ID registered by the user with the DDNS.

NOTE: (DDNS server must have a static IP or DNS resolvable name)

The DWHVT can be accessed on dynamic IP via DDNS server. In order to do this, you must register your DWHVT with the DDNS server. The registered DWHVT notifies the DDNS server of the IP it is assigned whenever access to the ISP takes place. The DDNS ID and password for the DWHVT is assigned during DDNS registration.

For more information, visit <http://www.digital-watchdog.com>

Registration Settings

Server IP	<input type="text" value="211.232.23.5"/>
Logon ID	<input type="text"/>
Logon Password	<input type="text"/>
Public Open?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Registration on Static IP	<input type="radio"/> Yes <input checked="" type="radio"/> No
Status	<input type="text"/>

Server IP

Directory Server IP address or DNS resolvable name

Logon ID

ID of DWHVT registered with the directory server.

Logon Password

Password of for above 'Logon ID'

Public Open?

Allow the DWHVT registered name made publicly available by the DDNS. Your site is listed in the 'public-open registered site' page of directory server.

Registration on Static IP

This will enable you to use the customized domain URL service even in static IP system via the directory server.

Connect example:

















Directory server IP: dns.digital-watchdog.com domain name with the DWHVT ID.

This is an Example showing how this would actually look:

<http://dns.digital-watchdog.com/DWHVT>

6.2.8. DO control (Relay Control)

D/O Control List

D/O Id	Enable	Title	Duration (sec)	Icon
1	<input type="checkbox"/>	<input type="text" value="door"/>	<input type="text" value="0"/>	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> 
2	<input type="checkbox"/>	<input type="text" value="light"/>	<input type="text" value="0"/>	<input type="radio"/>  <input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/> 
3	<input type="checkbox"/>	<input type="text" value="switch"/>	<input type="text" value="0"/>	<input type="radio"/>  <input type="radio"/>  <input checked="" type="radio"/>  <input type="radio"/> 
4	<input type="checkbox"/>	<input type="text" value="push"/>	<input type="text" value="0"/>	<input type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input checked="" type="radio"/> 

DWHVT has up to 4 digital output (DO or Relay) terminals. These terminals are dry contact closure relays for switching devices on & off for a specified number of seconds.

In addition, one of the four preprogrammed icons can be selected for display on the “Live” viewing page along with a user entered “Title” for better identification of which of the 4 DO relays is being activated.

To use a DO relay select the “Enable” for that relay, enter a descriptive “Title”, the duration in seconds the contact is to remain closed, and an icon to appear with the descriptive “Title” on the viewing page.

To close the DO contact for the specified number of seconds, click on the icon in the viewing page and the contact will close for the duration set for that contact.

If the duration period is 0, the contact will remain closed until manually overridden by clicking the activation icon on the viewing page a second time.

Each DO contact 1 through 4 corresponds with camera channel 1 through 4 on the viewing page. To choose a DO relay, click on the camera number corresponding to the DO relay number you which to activate. The “Title” and the icon will change in the DO panel in the viewing page to reflect your selection, and then click on the icon.

To execute DO control, user has to have authority for “PTZ control” login.

Warning : The maximum input voltage for DO is 24V (1A).

Please refer to this important note. Otherwise, it causes fatal damage of unit.

Additionally, manufacturer does not have the responsibility for this maintenance.

6.2.9. Format

Format

Format	Model	File System	Device	Storage	Status
<input type="checkbox"/>	SAMSUNG MP0804H	EXT3 (Internal) 	/dev/hda	6520 / 75152 (MB)	ON

When DWHVT is equipped with local storage devices, its information is shown in this section.

User can get information such as model name, format type, device name, usage and size of the size devices as well as its status.

6.2.10. Configuration Import/Export

Configuration Import

You can import the configuration file using this page.

But be careful when you do this.

If you import the different configuration file, you can't get the proper settings as you set.

Import File :

A back up file of the current setting of selected settings can be exported.

If you import a back up file, you can apply setting values in the file to your server.

This procedure reduces time individually setting up several server one at a time.

Browse and select the back up file and import it to your server system.

Configuration Export

You can select some or all settings and export them to a new back up file.

General Settings

- Date and Time
- User Management
- Skip Logon Page
- Single/Multi mode

Video Settings

Audio Settings

Pan Tilt Zoom

Schedule

Network Settings

- IP Settings
- Ethernet Settings
- Web Server Port Settings
- Streaming Port Settings
- Modem Power Control
- IP Address Filter

Registration

D/O Control

6.2.11. How to Upgrade Server Software

This page allows an administrator to upgrade the server to the latest software.

Software Update

You can update the video server software using this page.

But be careful when you do this. If the power into the video server goes down during this process, it can be unusable.

*You must **REBOOT** the video server after uploading the update file to complete the update process.*

Current Software Version

bmspx ver. 2,0,1,1
bmsprx ver. 2,0,1,1
bmsschedule ver. 2,0,1,2
bme ver. 1.04
model DWHVT301TX
2006.01.23

Upload Update File

Update File:

* Current Software Version

This section allows the user to confirm the software version currently installed in the DWHVT. After completing the update, check this section again to ensure DWHVT recognizes the new software. The model designation will vary with the DWHVT model.

* Upload Update File

This section is used to perform the actual software update.

- ✧ Copy the latest Update file received from your dealer or technical support to the user's PC being used to accomplish the Upgrade.
- ✧ Click the Browse button and locate the file you just copied. Select it and click the Open button.
- ✧ Click the Upload button to upload the new files to the server.
- ✧ When the upload is successfully completed, the window will ask you to reboot the server. Click the Reboot button and the server will reboot itself, allowing the system files to be upgraded by the new software. Close, then reopen the Browser and log back into DWHVT to confirm the update change in the Current Version section.

Software Update

Upload OK

Update file was successfully uploaded.

Now you must **REBOOT** the Server to complete the update process.

Reboot

Warning: DWHVT system software upgrade is available on any network transmittable to the server. However, be careful when you do this. ***If the power to the unit goes out or if the network is disconnected, the unit can be unusable.***

6.2.12. Restart

Click restart to manually restart the system.

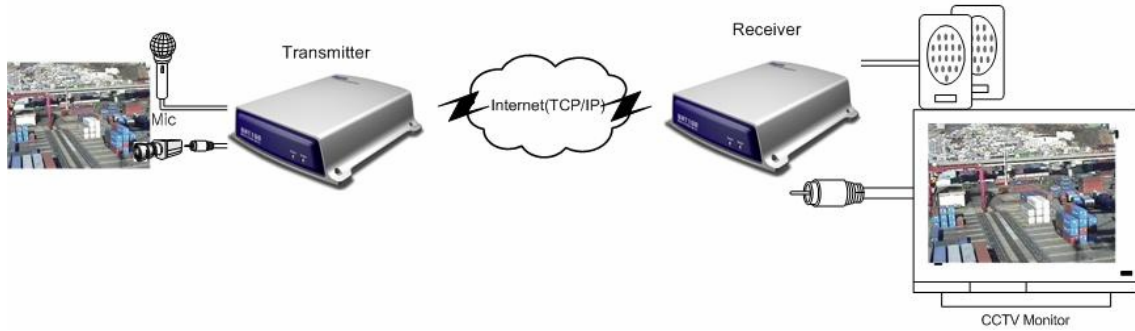
Restart

The server restart if you click "Restart" button.

Restart

6.2.13. Receiver (Receive Only Model)

For receiver only models (refer to the Chapter 1), there is no need to use PC or laptop for live video and audio monitoring. A conventional CCTV system including cameras and monitors can be expended without limit using transmitter and receiver pairs.



* Receiver Settings

Receiver Settings

TX Server: TX 1

Server IP(ID)	211.232.23.46
Logon ID	guest
Logon Password	●●●●●
Channel	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Save

Network information for the Transmitter is entered in this page of the Receiver.

* Controller Settings

Controller Settings

Enable	<input type="checkbox"/> Enable
TX Server	TX 1 ▾
Baud Rate	9600 ▾ bps
Data Bits	8 ▾ bits
Stop Bits	1 ▾ bit
Parity	None ▾

Save

To Control PTZ cameras or other devices which are connected at the Transmitter end terminals, matching communication settings on the Receiver must be entered.

* Display Settings

Display Settings

Display	<input checked="" type="checkbox"/> PIP
---------	---

Save

This is set up for PIP display mode in the Receiver.

When selected, both Remote and Local images can be seen on the CCTV Monitor.

Appendix 1. Trouble Shooting

Ready LED is not ON.

- Check if the current network configuration is ADSL or DHCP. On those configurations 'Ready LED' is ON after connection.
- After five minutes, with 'Ready LED' off, DWHVT unit reboots automatically. Please change network configuration to static IP.

Ping does not respond from specified IP address.

- Check if DWHVT and installing PC are on **THE SAME SUBNET**.

Have 'Can't not find web-page' message.

- Check if web server service port, 80 is open on your firewall.

Web-page appears but, status bar have "Can't find connection to the server."

And browser have still BLUE screen.

- Check if streaming server port 7011 and 7012 are open on your firewall. Try another port on your admin page.

E-mail notification does not delivered.

- Check if Domain Name Server is specified on network settings of admin page.

PTZ camera can't be controlled.

- Check if camera and PTZ device are properly connected to server.
- Confirm if the selected camera channel and model of PTZ device are property set in system setup/PTZ settings.
- Check whether the selected channel is the channel that the PTZ device is installed on.

Image does not move

- In this case, the server may have lost the network connection. Check the network status and take the necessary measures to restore network connectivity.
- DWHVT is programmed to connect the server automatically after handling the network problem. If there is no reaction, reopen the browser to re-connect to server.

No audio is heard even if microphone is installed

- Confirm whether the microphone is properly installed in Audio 'IN'. The output from the source must be **Line-In level**. If the output from the source is too low to be heard, the source must be amplified to achieve Line-In level.
- Check if the audio function is enabled in Administrator mode.
- Check whether audio button on the right bottom of main viewer is activated.

Bi-directional communications is not made even if interphone is installed

- Check if interphone is connected to Audio 'OUT' and Audio 'IN' of server. Confirm if the lines connected to interphone are properly connected.
- Check if interactive audio function (Interactive Audio) is enabled in system setup/audio, and if operational mode is set as interphone.

Frame speed lowers does not work when selecting full screen mode

- DWHVT client program uses Direct X to make processing speed faster when reducing or magnifying images. If the graphic card of user's PC does not support Direct X, transmission speed reduces a great deal when it is converted to full screen mode.

Partial network functionality through a router or firewall to the Internet

- There are additional TCP/IP ports used by the NVR to support several functions related to a LAN or WAN. These ports must be available to the NVR through any routers or firewalls the NVR must pass TCP/IP data through on a LAN or WAN.

- 7013 Upload Audio
- 7014 & 7015 IPSetup Broadcast
- 7016 DDNS
- 7017 Event Server
- 7018 Chatting
- 7019 XML Parser
- 7020 Reserved