

VMAX^{ip}™

Complete IP System Bundle



User's Manual ver. 1.00

Safety Information

The safety information is provided for the wellness of the equipment and for the safety of the operator.

Please review and observe all instructions and warnings in this manual.

Note: *Keep this manual handy every time you operate this equipment. Also, check with your dealer for further assistance and for the latest revision of this manual. Your dealer might provide you with a digital version of this manual. We also ask to keep the original box and packing materials in case of return and for long-term storage of the NVR unit.*

Preparations before installation

To protect your NVR from damage and to optimize performance, be sure to keep the NVR away from dust, humidity, and area with high voltage equipment such as refrigerator.

Do not install or place equipment in areas where the air vents can be obstructed, such as in tight enclosures or small utility closet. Keeping the unit in a temperature-controlled room with ample regulated power is highly recommended. Do not overload the wall outlet, as this can result in the risk of fire or electric shock.

Uninterruptible power devices such as UPS power surge protectors are recommended, and the NVR units must at least be connected with UL, CUL, or CSA approved power surge protector. Avoid direct sun light and avoid heat.

FCC Information



This equipment has been tested and found to comply with the limits of Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment under FCC rules.

UL Information

- for pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible
- if the battery is placed elsewhere in the equipment, there shall be a marking close to the battery or statement in the servicing instructions.

CAUTION RISK OF EXPLOSION IF AN INCORRECT TYPE REPLACES BATTERY.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTION.
THIS EQUIPMENT IS FOR INDOOR USE, AND ALL THE COMMUNICATION WIRING IS LIMITED TO INSIDE OF THE BUILDING, OR ANY SIMILAR WORD.

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Chapter 1

NVR USER MANUAL

1 GETTING STARTED

1.1 Checking Supplied Items

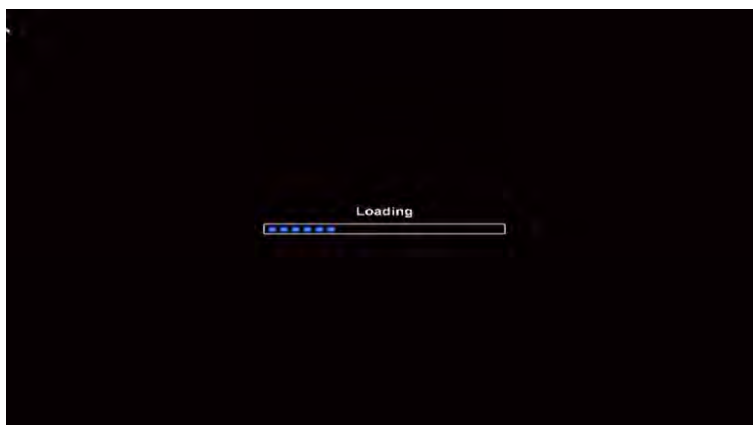
Make sure that you have the following items supplied with your NVR. If any of these items are missing or damaged, notify your vendor immediately. Keep the packing utilities for moving or storage purposes afterwards.

| Items | Photo | Quantity |
|----------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|
| Quick Start Guide |  | 1 Set |
| CD (Manual & Software) Rubber Mount |  | 1 Set 1 Set (4 Pieces) |
| 12V 3A DC Adaptor Power Cable |  | 1 Set |
| 48V 1.4A PoE Adaptor Power Cable |  | Option |
| USB Mouse |  | 1 Set |
| IR Remote Controller |  | 1 Set (8 / 16 Channel models only) |
| Screws |  | 4 Pieces: Top cover (8 / 16 Channel models only) |

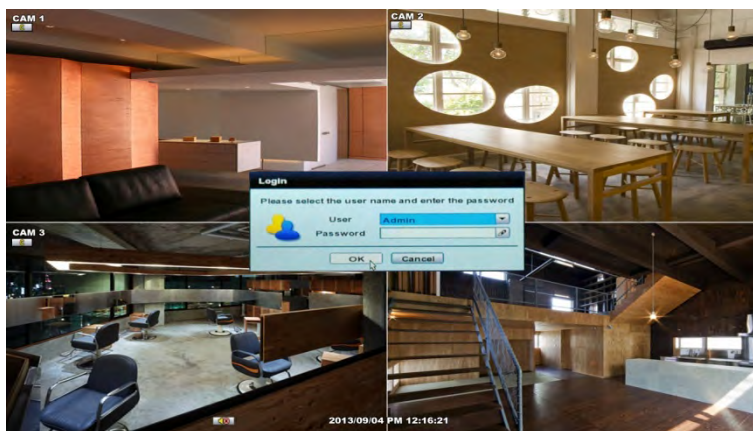
1.2 System Startup

1.2.1 System Startup

After connecting peripheral devices such as cameras, monitors and a mouse to the NVR, power up the NVR by connecting DC12V 3A adaptor to the power jack on the rear panel. The boot logo will display as shown below. Please wait until the boot process completes. Optional PoE needs independent power input of 48VDC.



To login, right-click anywhere on the screen. This will bring up the login screen, where you can enter the username and password. There is only one Administrator Account configurable in the NVR. It is assigned with an unchangeable User ID marked as 'admin'. The default password is empty (No Password). Administrator account has full access to the NVR and its configurable parameters. The Administrator Account also has the ability to create new users and to assign rights to the new user accounts. Those new users created by the Administrator can also login with a specific password set by the Administrator.

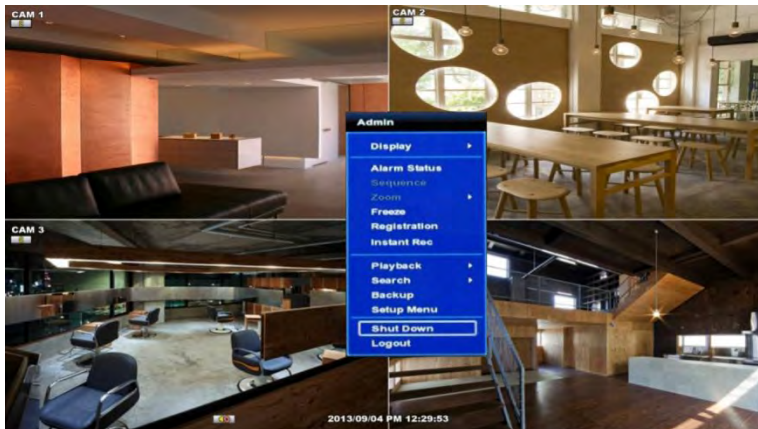


NOTE Do not forget the administrator's password that was set for the first time. In case the password is lost, contact your vendor.

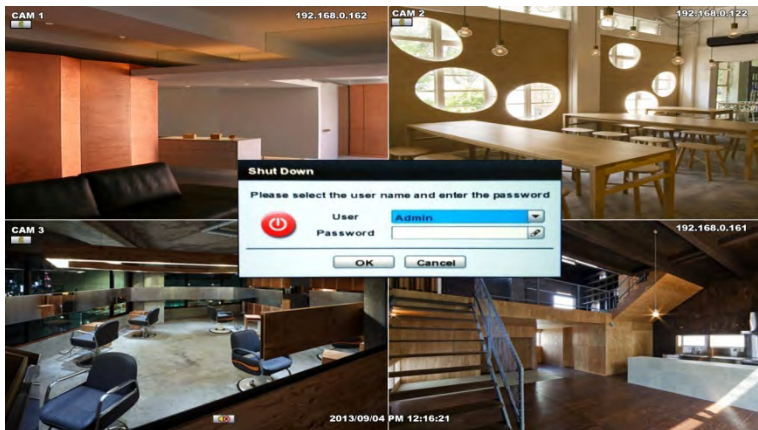
NOTE The mouse is included. In case you need to replace it, it is highly recommended to choose well-known major brands such as DELL, MICROSOFT, LOGITECH, or SAMSUNG.

1.2.1 System Shutdown and change password

The system can be power off by 'Shut Down' button. The 'Shut Down' can be done by clicking a right button of mouse.



The default password for 'admin' account is none. Therefore, just click 'OK' button on the popup window. If you change the password for 'admin' account, please type in the changed password to login.



NOTE User can type in the password using the virtual keyboard.

2 EXPLANATION FOR EACH FUNCTION

2.1 Front Panel

[4CH (W) 114x (H) 166x (D) 248mm]



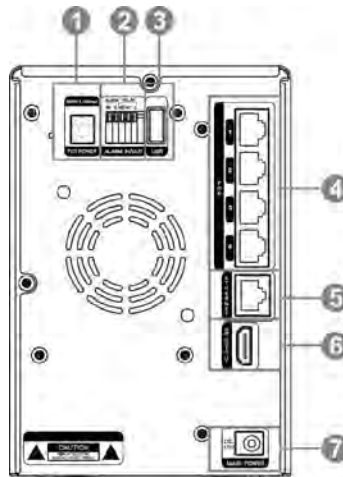
[8/16CH (W)360x(H)66x(D)356mm]



| No. | Items | Functions |
|-----|----------------|---------------------------------------------------------------------------------------------------------------|
| 1 | LED Indicator | Indicate Power, Record, Network |
| 2 | USB Port | USB Port (Ver. 2.0) for Mouse Operation, Backup Device or Firmware Update |
| 3 | Standby Button | Press the button one time to set the system on stand-by mode. Press the button twice to restart the system |

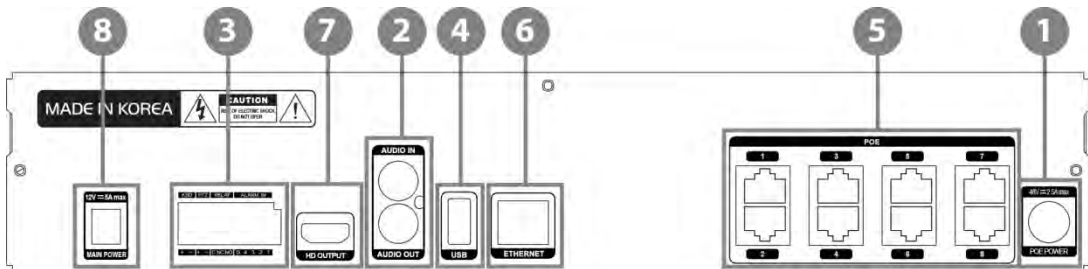
2.2 Rear Panel

[4CH (W) 114x (H) 166x (D) 248mm]



| No. | I/O | Functions |
|-----|-----------------|---------------------------------------------------------------------------|
| 1 | PoE Power Input | PoE Power Input (48V/1.4A) |
| 2 | ALARM IN/OUT | Alarm Input/output (1Relay output) |
| 3 | USB | USB Port (Ver. 2.0) for Mouse Operation, Backup Device or Firmware Update |
| 4 | PoE Ports | PoE Ports for Camera Connection |
| 5 | Ethernet | WAN Port |
| 6 | HD OUTPUT | True HD Output |
| 7 | DC12V | Main Power Input (12V/3A) |

[8CH/16CH POE (W)360x(H)66x(D)356mm]



| No. | I/O | Functions |
|-----|--------------|------------------------------------|
| 1 | PoE Power | PoE Power Input (48V/2.5A) |
| 2 | Audio IN/OUT | Audio In/Out Port |
| 3 | ALARM IN/OUT | Alarm Input/Output (1Relay output) |
| 4 | USB | Mouse Input |
| 5 | PoE | PoE Camera Input |
| 6 | Ethernet | WAN Port |
| 7 | HD output | True HD Output |
| 8 | DC12V | Main Power Input (12V 5A) |
| 9 | CAMERA | CAMERA Input |

2.3 IR Remote Controller

In order to use IR Remote Controller, the ID of the IR Remote Controller must be same as the ID of the NVR.

(Default ID # for NVR and IR Remote Controller is "1".) The controller accessory is included with the 8 and 16 Channel models only.

The function buttons of the IR Remote Controller are as below.

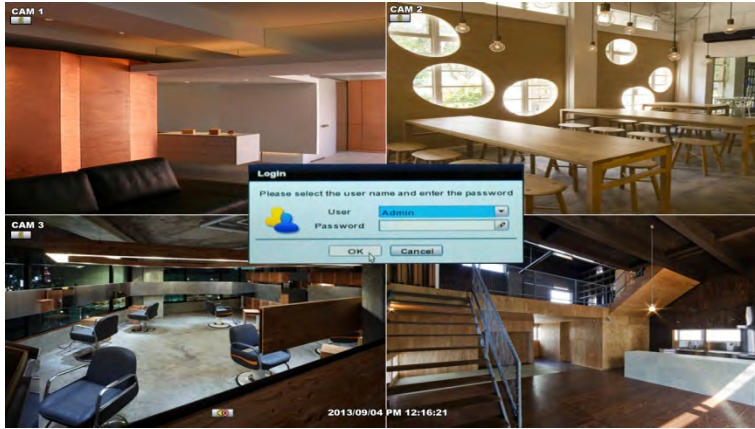


| No. | Functions |
|-----|-------------------------------------------------------------------------------|
| 1 | Start Instant Emergency Record |
| 2 | Numeric Buttons |
| 3 | Auto-Sequence on Live Display Mode |
| 4 | Freeze Button to Pause Live Video |
| 5 | Call Monitor Activation |
| 6 | Channel Selection |
| 7 | Instant Playback |
| 8 | Search Button |
| 9 | OK (Select) Button |
| 10 | Audio Mute |
| 11 | Playback Control on Search Mode (Fast Backward/Playback/Stop/Fast Forward) |
| 12 | Exit Menu Setup |
| 13 | Display Mode |
| 14 | Digital Zoom |
| 15 | PIP Mode |
| 16 | Bookmark |
| 17 | Zoom In & Out Button |
| 18 | Backup |
| 19 | PTZ Control |
| 20 | Directional Arrows Buttons (Up/Down/Right/Left) |
| 21 | Menu Setup |

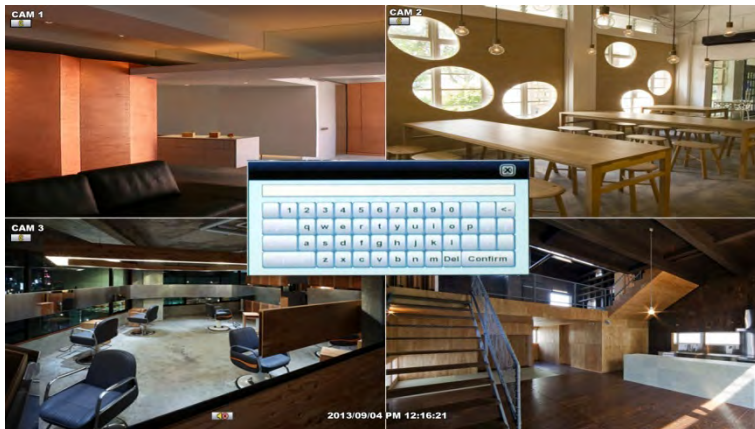
3 OPERATION

3.1 User Log-in

The NVR has various setting categories. The administrator can set the system password and <User> to prevent unauthorized changes to setting values and alteration of recorded file.



Enter the <Admin> or <User> password which has been set by using the virtual keyboard.



- NOTE**
- 1) <LOGIN> window will be permanently displayed in monitor as above picture until user logs in with the right ID and password. The default user ID is 'admin' and password is none (No password).
 - 2) If it is set as Auto Log-In, NVR does not require LOG-IN. (Please refer to 4.1.2 User.)
 - 3) Please be sure that the PoE Adapter is connected to the NVR after the NVR is turned on so that the IP address can be allocated properly to the NVR.

Help

The "HELP" button will help you understand how to setup several important settings, even without the user's manual book. For example, if you need help about how to set "Quick Setup", click "HELP" button at the right bottom of the 'Quick Setup' menu.

3.2 Quick Setup

Quick Setup is specially designed to enable easier and faster NVR configuration for the major NVR settings such as network setup and IP camera search and registration. When the NVR boots up for the first time, the Quick Setup will be launched automatically. You can disable the Quick Setup wizard by pressing the cancel button, or access it any time from the NVR's Setup menu.

3.2.1 NVR Network Setup

There are two ways for connecting to network setup: DHCP or Static IP. See section 4.5 Network for more information on how to setup the NVR's network settings.



The NVR's network factory setting is as follows:

[WAN Port]

IP Address: 192.168.1.160
 Subnet Mask: 255.255.255.0
 Gateway: 192.168.1.1

[Local Port: Switch Setting]

IP Address: 10.10.1.1
 Subnet Mask: 255.255.255.0
 Gateway: 10.10.1.1

3.2.2 IP Camera Connection

When the IP cameras are connected directly to the NVR, you can search for the connected cameras by clicking 'Search' button. Once the cameras are found, check the box of each camera to add them to the NVR. For each camera, select a channel. If needed, press the 'Edit' button to enter the camera's user ID and password. Press 'Save' to save all changes or cancel to exit.



3.2.1 Quick setup

Quick Setup helps user make simple configuration for recording resolution, entire recording speed by frame, recording mode, and recording periods.

The system will put the first priority for configuration on this quick setup and will follow this rule regardless of configurations set in other menus. Users should not fill in the checkbox of Use Quick Setup if he/she wants to utilize full system configuration defined in the other menus.



NOTE Quick setup must be deactivated if the user requires configuration from the other menus.

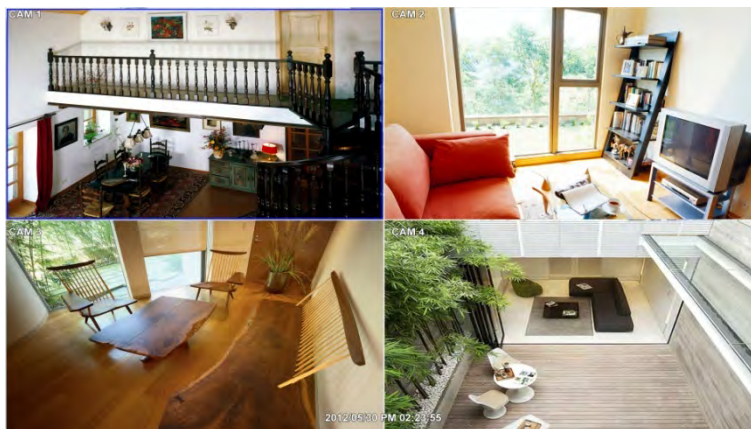
NOTE After the user marks "Use Quick Setup" to define settings, the system will ignore all other configurations set by full menus.

3.3 Live Display Mode

3.3.1 Full HD(1080p) Live Display

Full HD Live Display can be supported in live mode by using the NVR's HD output.

NOTE In playback mode, the maximum resolution is 1920x1080 on the first stream and 640x360 on the second stream.



<Full HD Live & Playback Display>

3.3.2 Display

Channel selection can be done by following one of the steps below:

1. CH1~CH16 buttons in the IR Remote Control.
2. 1~16 virtual buttons at the bottom of the GUI display.

The live images can be displayed in 1, 4, 9, 16 screen splits.



[1 Ch]



[4 Ch]

To select a channel to view in single channel mode, click on the channel using the USB mouse. To return to the previous display mode, click anywhere on the screen again.










To view the pop-up menu, right-click anywhere on the display screen

NOTE To select a channel using the mouse, perform a slow and clear click of the left mouse button.

3.3.3 Icons Description

The live mode display's icons or messages will be indicated on the screen to indicate the system mode or status.










Below are the icon categories that are indicated on the monitor.

| Icon to be shown at Left-upper corner on each channel screen | | Icon to be shown at Left-bottom corner on full screen. | |
|-----------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|
|  | Continuous Recording |  | Sequence display on |
|  | Motion Detection Recording |  | Digital zoom on |
|  | Sensor Activating Recording |  | Audio Channel |
|  | Motion Detection + Sensor Activating Recording | | |
|  | Instant Recording (Emergency Rec) | | |
|  | Continuous Recording + Motion Recording | | |

NOTE If you cannot find any colored-mark in the top right corner of the live screen mode, then it means that the system does not record any image. In this case, you need to check recording schedule or camera of the main setup menu.

To show the menu bar, move the mouse's cursor to the bottom of the screen. The menu bar will be displayed. To hide the menu bar, move the mouse's cursor away from the menu bar. Right-click the USB mouse to access the pop up menu.



| Menu Bar | |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Menu button. When pressed, System Setup, Search, Backup, Logout will appear. |
|  | Screen split options- Select from single channel, 4 channel, 9 channel, or 16 channel display. |
|  | Alarm Status |
|  | Sequence- if pressed, the system will start displaying all the channels in sequence mode. To stop, press the button again, or right click on the screen and select 'SEQUENCE' |
|  | Ch. Buttons- view a specific channel in full screen mode. |
|  | Instant (emergency) recording- The system will record video based on the panic record settings (Default: 30FPS @ 960x480). |
|  | PTZ mode- Control any supported PTZ cameras by moving the mouse pointer. |
|  | Go to Instant playback. |
|  | HDD usage indicator- Indicates the percentage of your HDD being used. If it shows 60%, then 60% of HDD space has been used. |

3.3.4 Pop-up Menu

Right clicking anywhere on the screen will open up the pop up sub-menu as shown below.



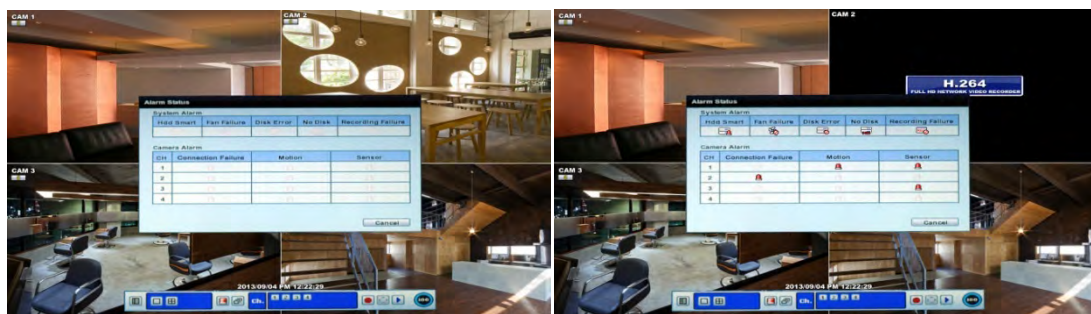
DISPLAY- Select the display split from the available options:

- 1 Screen- Single channel. Automatically displays CH1. If 1 Screen is selected again, next chronological channel will be displayed.
- 4 Screen- Quad mode. Automatically displays channels 1~4.

ALARM STATUS- System alarm and Camera alarm will be displayed in icons. System alarm includes HDD S.M.A.R.T, Fan failure, Disk Error and No Disk and Recording failure. Camera alarm displays network connection status, motion event and sensor event from connected cameras. Motion and sensor events will only be displayed when network camera supports motion and sensor.

[Alarm Deactivated]

[Alarm Activated]



SEQUENCE- when selected, **SEQ** icon will appear on the bottom right corner of the screen, and the display screen will change sequentially.

ZOOM- Enables/ disables digital zoom function. When enabled, **ZOOM** icon will appear and zoomed area will be displayed on the bottom right corner. User can select "Zoom-In size (x1.5, x2, x2.5 or x3)" on zoom pop-up menu. The Zoom will automatically focus on the center of the camera's display. To adjust it, go to the small zoom display at the bottom of the camera display and move the yellow frame to the area you would like to view. To move the yellow frame, use your mouse to drag the lines to the desired location. To go back to live display mode, right-click on the screen and select "ZOOM" again. This feature is available in single channel mode only.




FREEZE- Click the right button on the mouse and select the Freeze mode while viewing a live image. In the Freeze mode, the image pauses; the date/ time information does not; and the system clock continues running. Press FREEZE to pause the live view. To resume the live view, press FREEZE again, or click the right button on the mouse and select the FREEZE again.



REGISTRATION- When user wants to change the camera source, registration menu enables to search and to register connected network cameras easily. Click the right button on the mouse and select 'Registration' to move.



| Registration | | | | | | | |
|-------------------------------------|---------|--------------|-------|-----------------|----------|-------|------|
| Camera | | | | | | | |
| Auto Discovery: [?] [x] | | | | | | | |
| Active | Channel | IP Address | Port | Manufacturer | Model | Video | Edit |
| <input checked="" type="checkbox"/> | 01 | 192.168.0.2 | 50080 | DigitalWatchdog | PNC-503H | Fail | Edit |
| <input checked="" type="checkbox"/> | 02 | 192.168.0.10 | 80 | DigitalWatchdog | PNC-405H | Fail | Edit |
| <input checked="" type="checkbox"/> | 03 | 192.168.0.3 | 80 | DigitalWatchdog | PNC-305H | Fail | Edit |
| <input checked="" type="checkbox"/> | 04 | 192.168.0.4 | 80 | DigitalWatchdog | PNC-404H | Fail | Edit |
| <input type="checkbox"/> | | | | | | | |
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INSTANT REC- In the case of emergency, user enables Instant Record. Click the right button on the mouse and select 'Instant Record' and the icon will be appeared and changed to Red ()



After clicking 'Instant Rec', the icon will be changed as picture below. Click 'Instant Rec' once again to escape.

PLAYBACK- Select playback option:

- 10, 15, 30, 60 seconds- start playback from the selected number of seconds ago.
- 2, 3, 5, minutes- start playback from the selected number of minutes ago.
- Open Playback Mode- automatically go to instant playback.

SEARCH- Select video search options:

- Date/ Time- open calendar search.
- First/ Last Data- Go to the first or last recorded data.
- System/ Event Log- open log search window.
- Bookmarks- open bookmark search.

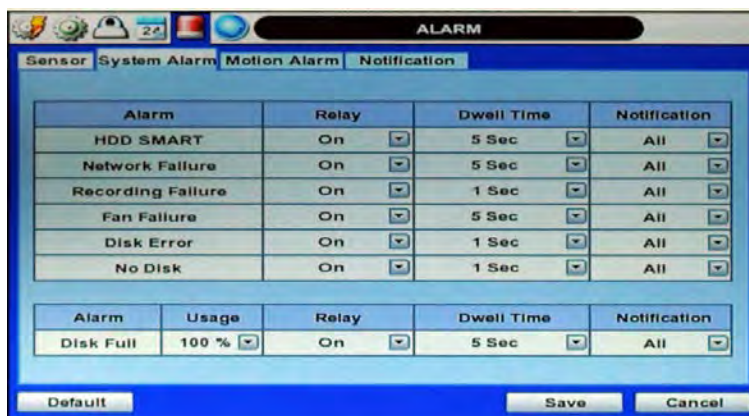
SETUP- open the NVR's main menu.

BACKUP- Open the backup screen to export data from the NVR to an external USB drive.

SHUT DOWN- Power off the NVR.



LOGOUT- User logout.



When a camera is disconnected, a warning sound may be generated depending on the system settings. Users can set the warning sound from 'Network Failure' section on the System Alarm of the Alarm menu.



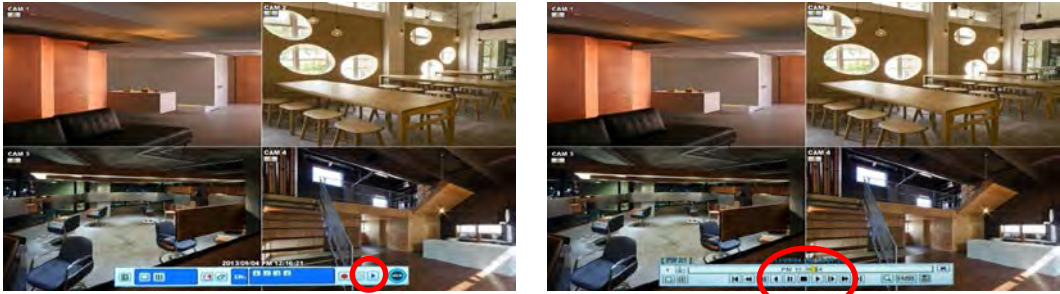
As the Admin user, you can setup up multiple users with different levels of authorization. If a certain user is not allowed to view a certain camera in live or playback, then no image will appear on the display screen. To create, delete, or modify users, go to the main menu and select system settings. See section 4.1.2 **User** for more information.

3.4 Playback of Recorded Video















Use the USB mouse to control the VMAXIP's GUI and playback recorded video. Press the rewind and fast-forward buttons, and the playback speed can be controlled in steps of 2x, 4x, 8x, 16x, 32x speed when playing backwards() or forward().

Play 'Frame by Frame' by clicking  or  buttons. 'Backward' is only available for playing '1-frame by frames per second (FPS)'.

Click the playback button  to automatically play the latest video clip.



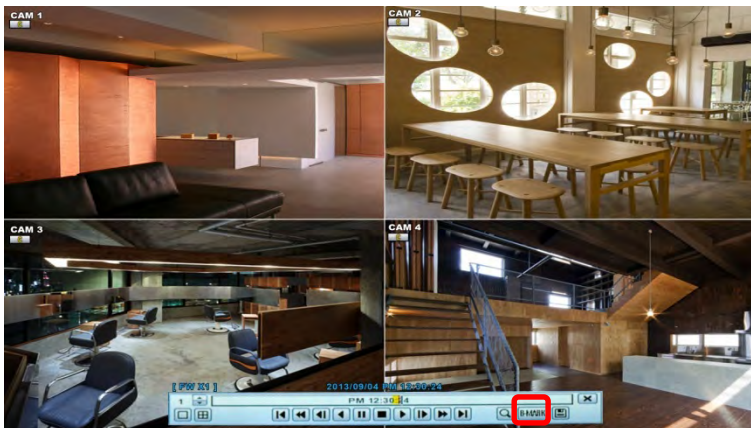
In the playback screen, user can make various playback modes, make an instant manual backup (archive), go to calendar search mode, change channel, and change screen modes. By clicking the left mouse button in the colored-time bar, the user can jump to a different time in the recording. In addition, user can move the vertical search bar and release by dragging it back and forth to search the desired time in detail.

| Button | Function |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|  | Jump to first data. If recording is set to motion, system will jump to previous recorded motion video. |
|  | Fast rewind |
|  | Frame-by-Frame rewind |
|  | Play video in rewind |
|  | Pause video |
|  | Stop playback. When selected, the playback menu window will appear. |
|  | Playback video |
|  | Frame-by Frame playback |
|  | Fast playback |
|  | Jump to last data. If recording is set to motion, system will jump to the next recorded motion video. |
|  | Go to calendar search |
|  | Bookmark Video |
|  | Backup |
|  | Exit playback to live mode. |

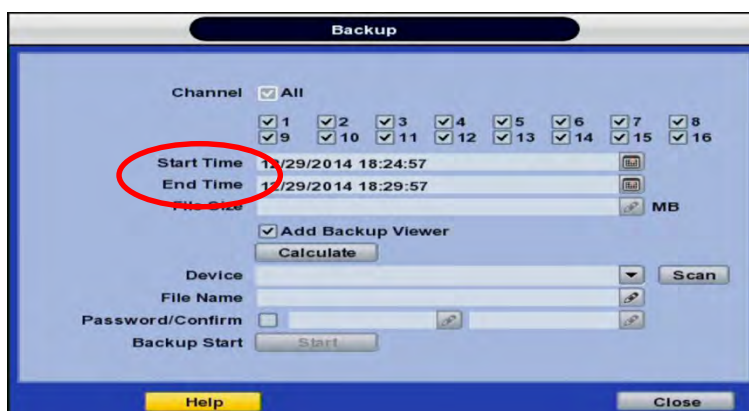
3.5 Quick Backup during Live & Playback

User can easily archive video while viewing the video playback. See section **4.5 Backup** for more information on manual backup from the setup menu.

1. In live mode, right-click anywhere on the screen and select 'Backup' to open the backup menu.
2. In playback mode, press the 'Backup' button on the popup menu bar to open the backup menu.



3. Adjust the following options:
 - a. Select the channels to be included in the backup file.
 - b. Adjust the start and end time of the backup file.
 - c. Select to include the Backup Viewer with the archived file.
 - d. Press the 'Calculate' button to see the expected size of the backup file.
 - e. Press the 'Scan' button next to the device to find the USB drive for backup.
 - f. Edit the file name and add a protection password if needed.
 - g. Press 'Start' to start the backup process. A progress bar will appear on the screen.

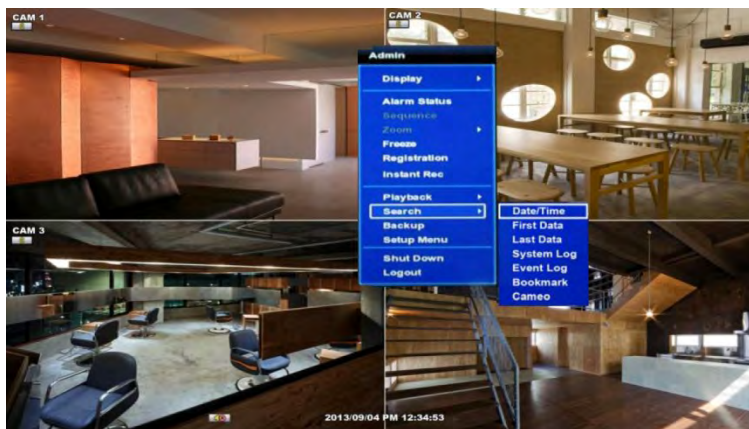


3.6 Search Recording Image

3.6.1 Date/Time Search

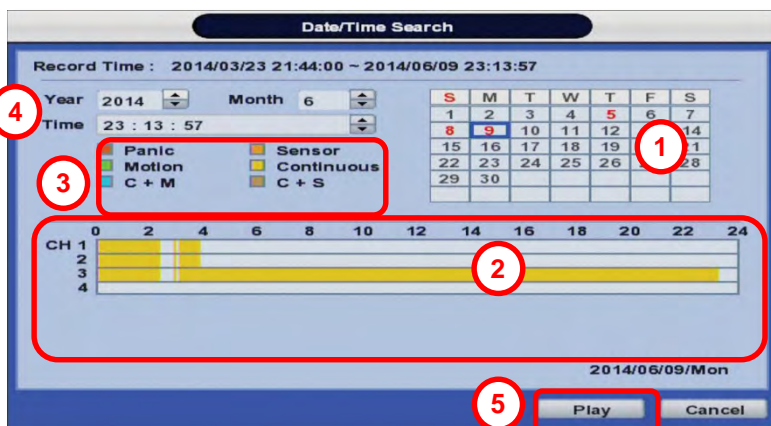
To search your recorded data by date/ time, follow one of the options below:

1. Hover your mouse over the left side of the menu bar and click the quick Menu button, then select Search→ Date/ Time. Right-click anywhere on the screen, select Search→ Date/ Time.



The calendar window will appear. Days with recorded data will be indicated in RED.

1. Select from the calendar the date. If necessary, use the manual year and month options on the left side to adjust the calendar view.
2. The 'Intelli-Search Bar' at the bottom of the window will display hours when recorded data is available in color code. Once the recorded video data of the selected date is shown, user can adjust the vertical search line to the time that user wants to search by dragging a mouse. As the vertical line is moving back and forth, user can see "the Search time" clock is also changing. When user decides the Search time, click Play to see the selected video data



3. The recording mode will be distinguished in the time bar according to color:

| Color | Recording Mode |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Color | Camera has no recorded data for the selected time. |
| Red | Panic recording triggered by the user. |
| Yellow | Continuous recording. |
| Green | The system records only when motion is detected |
| Blue | "Continuous" + "Motion"-The system records continuously and will switch to motion recording configuration if motion is detected. The system will also send a "motion event" message to the Pivot Client Software. If "MOTION ALARM" is disabled in the "DEVICE" menu, and recording is set to "CONT + MOT", the system will record with continuous recording even when motion is detected in motion area. |

| | |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Orange | The system records when a sensor is triggered and only during the dwell time as set in "SENSOR" of the "DEVICE" menu. If "SENSOR" is disabled under the "DEVICE" menu, and recording schedule is set to "SENSOR", the system will not record even though a sensor is triggered. |
| Pink | "Motion" + "Sensor"-The system records only when motion is detected AND when a sensor is triggered at the same time. If 'MOTION' and 'SENSOR' are both disabled in the "DEVICE" menu, the system will not record nor notify the Pivot Client Software when motion occurs or a sensor is activated. |

CAUTION Dark Blue Color

The data recorded during DST (Daylight Saving Time) will be indicated in Dark Blue color in the Intelli-Search Bar on playback mode.

4. To view video from the selected time, follow one of the options below:
 - a. Use the manual hour option to view specific hours of the day.
 - b. Using the table, click on the hour you would like to view in playback.

Press the 'Play' button at the bottom of the window. The system will display all channels in playback mode, corresponding to the selected date and time.



3.6.2 Event Log

The Event log search allows you to search for a particular event, displaying the search results in a detailed table.



| Event Log | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------|--|------|
| Search Date: 2013/09/04/Wed | | | | |
| <input checked="" type="checkbox"/> All <input checked="" type="checkbox"/> Sensor <input checked="" type="checkbox"/> Motion <input checked="" type="checkbox"/> Connection Failure <input checked="" type="checkbox"/> Panic <input checked="" type="checkbox"/> HDD Full | | | | |
| No. | Date/Time | Event List | | Play |
| 1 | 2013-09-04 13:30:16 | Connection Success / Ch.3 | | [P] |
| 2 | 2013-09-04 13:30:16 | Connection Success / Ch.2 | | [P] |
| 3 | 2013-09-04 13:30:16 | Connection Success / Ch.1 | | [P] |
| 4 | 2013-09-04 13:30:18 | Connection Failure / Ch.3 | | [P] |
| 5 | 2013-09-04 13:30:07 | Connection Failure / Ch.2 | | [P] |
| 6 | 2013-09-04 13:27:39 | Connection Failure / Ch.4 | | [P] |
| 7 | 2013-09-04 13:27:36 | Connection Failure / Ch.1 | | [P] |
| 8 | 2013-09-04 12:28:44 | Connection Success / Ch.4 | | [P] |
| 9 | 2013-09-04 12:28:41 | Connection Success / Ch.3 | | [P] |

Device: [] Scan [] Export [] Close

1. To open Event Log Search, select one of the following options:
 - a. Click the  button in the quick menu and select Search → Event Log.
 - b. Right-click anywhere on the screen and select Search → Event Log.
2. Select the date you would like to search.
3. Select which events to include in the report. Select from Sensor, Motion, Connection Failure, Instant Recording, HDD Full, or All
4. Press 'Search'. The system will display all search results in the table, starting with the latest events.
5. Use the buttons on the bottom of the window to switch between the report's pages.
6. Export the log report to a USB memory device in text file format.
 - a. Attach a USB memory stick to the USB port.
 - b. Press "SCAN" to detect the USB stick.
 - c. Press "EXPORT" to copy the log information to the media.
7. Click  play icon to play back the selected event data.


NOTE If the Alarm does not activate even though the alarm input setting has been made, check the alarm connection of the NVR rear panel and Network camera alarm.

3.6.3 System Log

The system log search allows you to search for any changes made to the system, displaying the search results in a detailed table.



| No. | Date/Time | Event List |
|-----|------------------------|---------------------------------|
| 1 | 2013/09/04 AM 11:59:23 | NET START |
| 2 | 2013/09/04 AM 11:59:33 | System Start [Logout] |
| 3 | 2013/09/04 AM 11:59:34 | Update Static IP 192.168.1.1 |
| 4 | 2013/09/04 AM 11:59:34 | Update DNS Server 203.248.252.2 |
| 5 | 2013/09/04 AM 11:59:35 | Update DHCP IP 192.168.1.1 |
| 6 | 2013/09/04 AM 11:59:35 | Update DNS Server 203.248.252.2 |
| 7 | 2013/09/04 AM 11:59:35 | Update Static IP 192.168.0.120 |
| 8 | 2013/09/04 AM 11:59:35 | Update DHCP IP 192.168.0.120 |
| 9 | 2013/09/04 AM 11:59:35 | Update DNS Server 203.248.252.2 |

1. To open System Log Search, select one of the following options:
 - a. Click the  button in the quick menu bar and select Search→ System Log.
 - b. Right-click anywhere on the screen and select Search→ System Log.
2. Select the date you would like to search.
3. Select which events to include in the log report. Select from System, Setup, Network, or All.
4. Press 'Search'. The system will display all search results in the table, starting with the latest events.
5. Export the log report to a USB memory device in text file format.
 - a. Attach a USB memory stick to the USB port.
 - b. Press "SCAN" to detect the USB stick.
 - c. Press "EXPORT" to copy the log information to the media

NOTE 20 numbers of log record will be shown on one page of the <System Log> and <Event Log> window. User can click the arrow icon to search the log records on another page.



3.6.4 First Data

Go to the first screen of the recorded video. This is the oldest video recorded.

3.6.5 Last Data

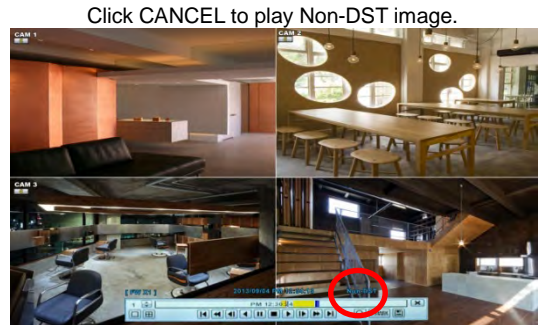
Go to the last screen of the recorded video. This is the latest video recorded.

3.6.6 Bookmark

When user click on such overlapped period, a message titled “Recorded video Selection” will pop up. The user can then select whether to play DST data or Non-DST data.



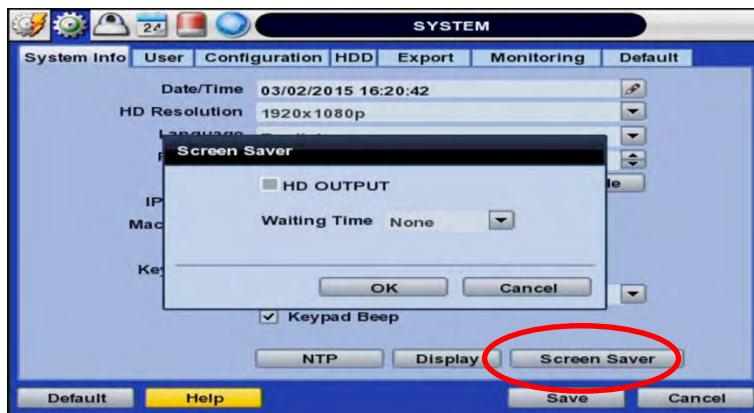
["DST" image is displayed on screen]



["Non-DST" image is displayed on screen]

3.8 Screen Saver

The Screen Saver features protects the screen and data of the NVR by turning off after a set time of inactivity. To enable the Screen Saver, right-click anywhere on the screen and go to the menu setup: SYSTEM > SYSTEM INFO and click "SCREEN SAVER". Set the WAITING TIME for when the monitor will automatically turn off.




NOTE WAITING TIME: Users can select the WAITING TIME from NONE, 1,2,3,4,5,6,7,8,9,10,20,30,40,50, and up to 60 MIN. The SCREEN SAVER will not work when WAITING TIME is set to “NONE”. SCREEN SAVER may not work, during system upgrade, HDD format, or data backup process. The system continues to record while the monitor is turned off.

4 SETTING

General setting structure consists of “Quick Setup”, “System”, “Device”, “Record”, “Alarm,” and ‘Network” as shown below.

To open System Log Search, select one of the following options:

1. Click the  button in the quick menu bar and select Setup Menu.
2. Right-click anywhere on the screen and select Setup Menu.

To view the sub-menu categories for each menu option, hover the mouse over the menu option. To enter the setup menu, click on the desired category.



<QUICK SETUP>



<SYSTEM>



<DEVICE>



<RECORD>



<ALARM>



<NETWORK >

| Main MENU | Sub MENU |
|-------------|-----------------|
| QUICK SETUP | NVR |
| | REGISTER |
| SYSTEM | SYSTEM INFO |
| | USER |
| | CONFIGURATION |
| | HDD |
| | EXPORT |
| | MONITORING |
| | FACTORY DEFAULT |
| DEVICE | REGISTER |
| | CAMERA |
| | AUDIO |
| | SCHEDULE |
| RECORD | RECORD SETUP |
| | HOLIDAY |
| | SENSOR |
| ALARM | SYSTEM ALARM |
| | MOTION ALARM |
| | NOTIFICATION |
| | NETWORK |
| NETWORK | DDNS |
| | IP FILTER |

4.1 System

4.1.1 System Info

The System Info sub-menu includes the following options: Date/ Time, HDMI Resolution, Language, Remote ID, Version & System Upgrade, Video Signal, IP & MAC Addresses for both the NVR and camera switch, Keyboard Setup, NTP Setup, Display Setup, and Screen Saver Setup.



- **Date/ Time-** Using the available options, manually adjust the date and time, select the display mode for the time and the date, and select the appropriate time zone. If applicable, check the 'USE DST' box. See **3.12 DST setting** for more information.



- **HDMI Resolution-** Select the NVR's output resolution. NVRs support the following video resolutions: 640x360, 1280x720, 1280x1024, and 1920x1080.
- **Language-** Select the NVR's display language from the available in the drop-down menu.
- **Remote ID-** Set the NVR's remote ID, which should be the same as the IR Remote Control (default ID is 1).
- **Firmware Version & upgrade-** when a new version is available use the easy upgrade menu to upgrade your NVR. It is always recommended to maintain your NVR up to date with the latest firmware to guarantee the NVR's proper functionality. To upgrade your system:

Upgrading system using USB memory stick:

1. Insert a USB drive with the firmware file formatted by FAT32 in any USB port of NVR (compatible with USB 2.0).
2. Select 'USB' from the Method drop down options and press the 'Scan' button.
3. Once the system detects the USB drive, it will display the firmware file under 'Upgrade File Name' and the 'New Ver'.
4. Click "OK" to confirm.

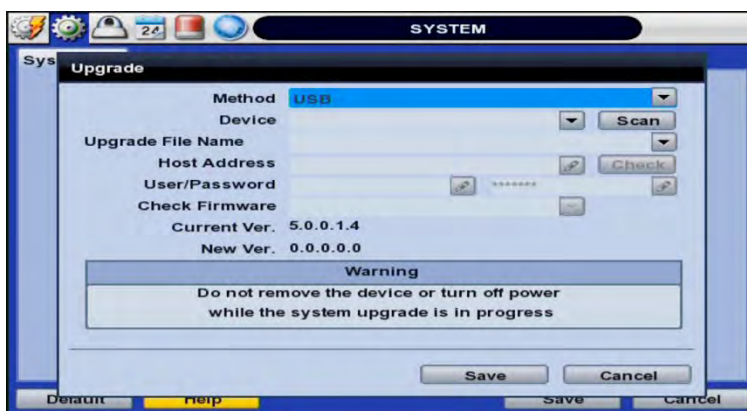
Upgrading system using Digital Watchdog's FTP server:

1. Select FTP in the drop-down options under 'Method'.
2. Enter the FTP's address: <ftp.dwcc.tv>

NOTE The FTP server address is subject to change without a prior notice

3. Enter the username and password (these should be filled out automatically). Username: vmax960, password: vmax960.

4. Click 'Check' to allow the NVR to connect to the FTP server and check the latest Firmware version. If a new firmware is available, the NVR will ask you whether you want to upgrade it or not.
5. Click 'OK' to confirm and click 'START' to start upgrading.



CAUTION It is recommended to format the HDD after firmware upgrades because the data recorded by previous firmware may cause malfunction of NVR.
It is highly recommended to check all functions and menus after a firmware upgrade for proper layout and performance. If necessary, you can return system to its default settings.

- **Video Signal**- Displays the video out signal from the NVR. This is a default information and will display NTSC or PAL, depending on the signal from the cameras.
- **IP & MAC Addresses**- This information is necessary when connecting to the NVR via its web viewer or the Pivot Client Software. This information includes the NVR's IP address as well as the MAC address of the NVR and the switch that powered the IP cameras. See section **4.5 Network** for more information and setup.
- **NTP Setup**- Setup the NVR to automatically sync with a Network Time Protocol.
There are two types of TIME SYNC MODE:
 - o **Server Mode**- the NVR is set as a Time Sync Server, which can synchronize its own time with other NVRs connected over the same network.
 - o **Client Mode**- the NVR is set as the client NVR. Enter the IP address or URL of another NVR, Advanced Client Software (ACS), or Central Management System (CMS), as a Time Sync Server in "SYNC SERVER". This will cause your NVR to synchronize its time with a Time Sync Server in the set interval time.

- **Display** - Setup OSD information in live and playback modes, transparency, spot output, sequence dwell time, spot-out dwell time, and pop-up camera



- o OSD:
 - Select which information to display in the OSD on each channel in **Live**.
 - Select which information to display in the OSD on each channel in **Playback**.
- o Set the OSD's transparency level. The higher the number, the more transparent the text will appear.
- o Setup a dwell time for the OSD text, after which, the OSD will disappear.
- o Setup a dwell time for the Setup Menu, after which, the Menu will disappear.
- o Set sequence dwell time- Setup how long each channel will be displayed in Sequence mode, before switching to the next view.
- o Spot-out Monitor:
 - Spot out display mode - Supports multi display mode (Full, 4, 9, 16) on digital spot output.
 - Spot out channel select- Select which channels to display on spot out sequence.

NOTE Non-selected channels will appear as covert channels with a black screen instead of video

- Spot out cam popup- If camera popup is set in Sensor, Motion notify, the camera will also popup in the Spot monitor.
 - Spot Monitor interval- Spot Sequence time setting
- **Screen Saver Setup**- See section 3.9 **Screen Saver** for more information.

4.1.2 User

Master user is always the Admin with factory default of No password. This user cannot be deleted. It is recommended to change the Admin's password for extra security. The admin user can designate a new user with different permission levels by functions, menu access and live & playback.

To add a new user, go to the System Setup Menu, and select System > User.

To add a new user, press the 'Add' button.

To edit an existing user, press the 'Edit' button.

To delete an existing user, check the box next to the user and press the 'Delete' button.

User Add/ Edit Screen:

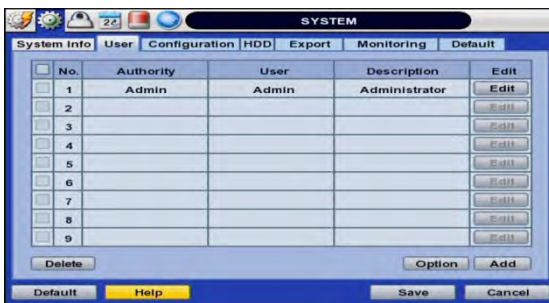
- Authority/ User – enter the user's name on the right side. Use the pencil button to open the on screen keyboard. Enter the password for the username. This is the login password to the NVR.
- Function - restrict a user's access to functions such as search, PTZ control, backup, and playback.
- Menu Access- restrict a user's access the NVR's system, device, record, network, backup, and quick setup menu options.



Live & Playback- restrict a user's viewing of deselected channels. If a channel is deselected, user will not be able to view live or playback for that certain camera channel.

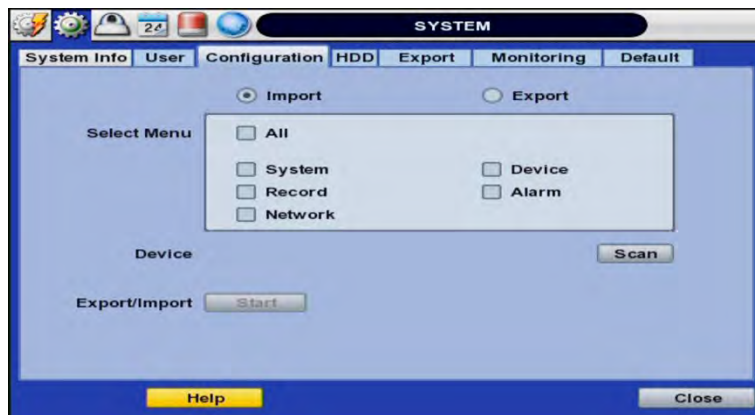
NOTE Total number of users including administrator is 9 users.

To setup auto login for users, so they do not have to enter their password when logging to the NVR, press the 'Options' button. You can select to allow a user to auto login on NVR boot up, or setup an auto log out. If enabled, the NVR will automatically log out of a user's access after a set time of inactivity.



4.1.3 Configuration

Copy the system configuration values from this NVR to save for your records or copy to another NVR. “Export” allows you to copy the settings to a USB memory device. “Import” allows you to apply previously saved settings from a USB device and override the current NVR settings. You can select to import or export specific settings, or copy the NVR’s entire setup options. During import, make sure the firmware version of the source NVR is the same as the destination NVR.



4.1.4 HDD

HDD sub-menu displays all relevant information regarding all HDDs installed in the NVR. Press ‘Check’ next to the HDD’s name to view that HDD’s health status. The system will display:

Model: Make and model of the Hard Drive.

Size: Total HDD size, in KB.

Temperature: HDD temperature. Normal operating temperatures is between 30° and 45°C degrees.

Live Time: Remaining estimated hours of operation.

Bad Sector: any unusable areas in the HDD that may affect recording.

Select “Overwrite” or “Rec Stop” when HDD is full. If ‘Overwrite’ is selected, new video will be recorded OVER older data when HDD is full. If ‘Rec Stop’ is selected, all recording will stop when the HDD is full.

To format the HDD, check the box next to the HDD, and click “HDD Clear”.



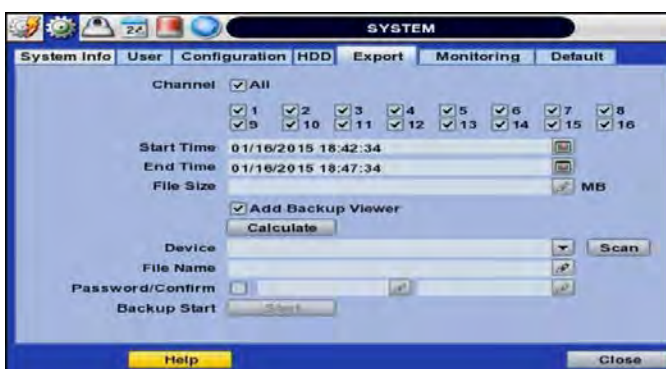
If system resources are occupied with task, such as making a network connection or performing video playback during the format process, the format may fail. If the format fails, reboot the system resources and then try to format again.

- NOTE**
- 1) Formatting may take 40 sec for 320GB, 1 minutes for 500GB, or 7 minutes for 2TB.
 - 2) The system always reserves a maximum of 20GB of space in each built-in HDD for archiving effectively.

4.1.5 Export

Archive video from the NVR's files to an external storage device. You can also backup video using the "Quick Backup" during playback. See section 3.7 **Quick Backup during Playback** for more information.

1. Connect USB drive with sufficient storage to the NVR and press 'Scan'. Backup device should be a well-known major brand USB thumb drives formatted by FAT/FAT32 for proper backup.
2. Select which channels to include in the backup file.
3. Set the start and end time to backup.
4. Select to include the backup player on the USB or not.
5. Press 'Calculate'. The system will display estimated necessary storage space for the set start and end time. If necessary, adjust the times to adjust the file size.
6. You can also limit the backup file according to the file size.



7. Edit the file name and if necessary, add a password to play the backup file.
8. Press 'Start' to initiate the backup process. Data files are in PSF format in the folder

4.1.6 View Backup Video

If backup player was added to the backup file:

1. Access the backup USB device and select the "Player Launcher.exe" file.
2. Press 'Open'.
3. Select the backup files you want to view.

You can print, capture, zoom in and out, or make an ASF file, from the backup player's menu.



NOTE User also can play the backup-video clips by Advanced Client Software and Central Management System.

4.1.7 Monitoring

Monitoring menu enables user to intuitively see the network, camera and remote connection status information.

Network Monitoring – This area displays the bandwidth status.

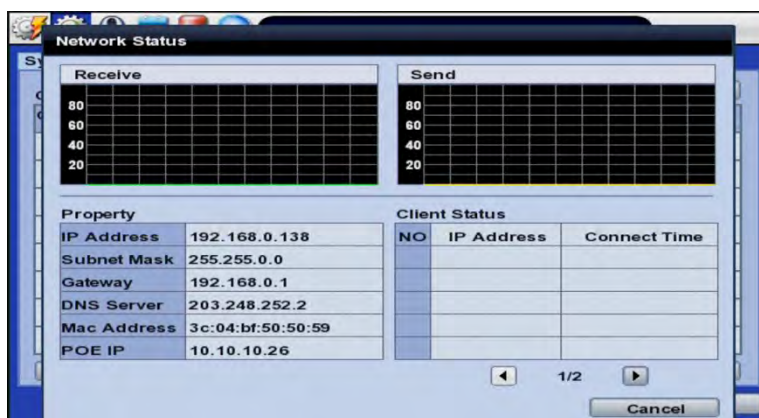
Receive table indicates the data received from the cameras.

Send table indicates the data transmitted from the NVR to an external connection.

Property – Displays the NVR’s network information

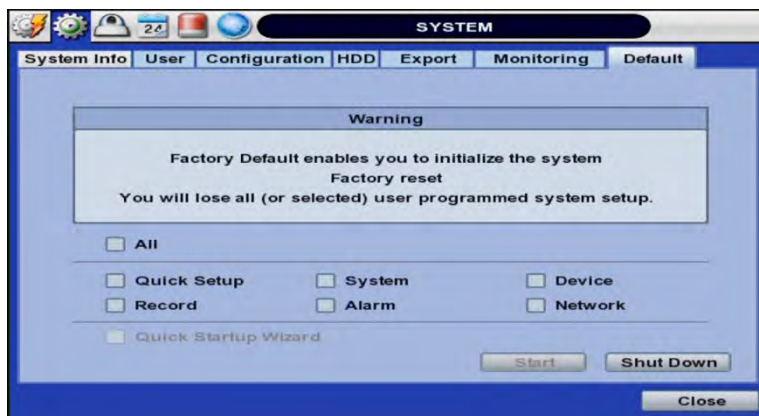
Client Status – Displays the IP address and connection time of external clients.

Connection Log – Displays the camera connection and disconnection history log. It includes channel, time & date, and IP address for each camera.



4.1.8 Factory Default

With an authorized password, you can reset the system back to its factory default configuration. You can select which configurations to reset to default, or select all for an overall factory reset. You can also choose to enable the Quick Startup Wizard after reset. See section 3.2 Quick Startup Wizard for more information.



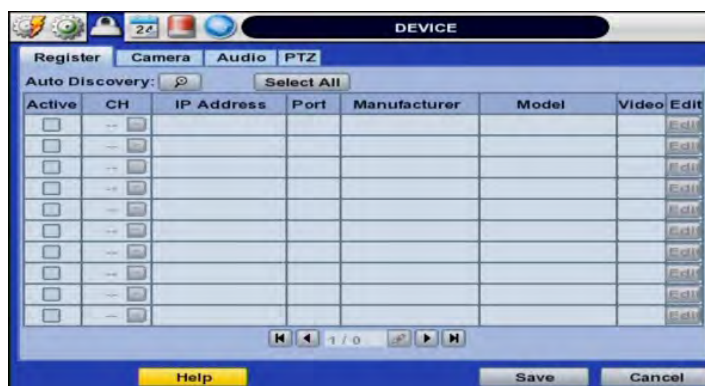
NOTE All the configuration values made by the user will be deleted. The system setting will be sent to factory defaults. The recorded video data will not be erased.

4.2 Device

The DEVICE setup menu includes sub-menus for camera detection and registration, camera settings and audio settings. Please note that PTZ setup menu is available in the 8/16 channel model only.



4.2.1 Register



In order to view and records cameras on the VMAX IP NVR, you must first search and register the cameras to the NVR's channels. Cameras can be found in the NVR's local network by clicking the 'Search' button. All supported cameras will appear in the search results. Cameras that are powered directly from the NVR's PoE switch will appear at the top of the search results list.

To register a camera:

1. Press the 'Search' button.
2. Check the box next to each camera you want to register to the NVR.
3. Press the "Add to Camera list".
4. You can reassign NVR channels to selected cameras from the Channel drop down menu.

To manually register a camera to the NVR, press the 'Manual' button. This will allow you to manually register a camera by entering its IP address, login ID, Password and RTST URL information. If the network camera supports more than dual stream, you may be able to register the camera's secondary stream.

4.2.2 Camera

Users can setup the camera's title, set a channel to covert mode, setup the camera's motion area, and setup the camera's audio settings. On the cameras included in the VMAX IP bundle, you can also update firmware; manually setup the camera's network settings, WDR, BLC, Flicker and AWB.



Motion Area Setup

The motion area setup relies on the camera’s setting. Areas where motion detection is activated are marked in yellow. To select an area for motion detection, click and hold with the USB mouse and drag to select the corresponding blocks. To clear all selections in the motion detection screen, right-click and select ‘Clear All’. You can setup up to 4 individual motion detection zones identifiable by the different colors. Check the box next to each motion zone to view it on the grid.

Once motion detection is set according to the camera’s view, set the motion sensitivity from lowest to highest.

Title

Enter a title for the camera channel. This title will appear on the camera’s view according to the OSD settings.

Covert

“Covert,” also called ‘hidden camera’, hides camera display and playback as if there were no camera recording. Users can apply this covert function not only to Live, but also to Playback view.

Brightness, Contrast, Hue

Adjust the camera’s brightness, contrast and hue to match the lighting requirements. Press ‘Apply’ to apply changes to the camera’s preview screen.

Advanced Setup

For the VMAX IP bundle cameras, additional configuration options are available under the “Advanced Setup”

- Network Type: Select DHCP or Static IP from the drop down menu. If DHCP is selected, the system will automatically assign the cameras connected directly to the NVR’s PoE switch the network settings. If you select Static IP, manually enter the camera’s IP address, Subnet Mask and Gateway information. Consult your Network Administrator for more information.
- Mac Address: view the camera’s Mac address.
- Auto Iris: Adjust the camera’s view according to external illumination. Disabled by default.
- Flicker: in case the camera’s view appears to jump or flicker, adjust the Flicker value from Off, 50Hz or 60Hz.
- BLC: Back Light of Compensation. Available to set to on or off.



- WDR: Wide Dynamic Range. Available to set to on or off.
- AWB: Auto White Balance. Available to set to In-Door, Out-Door or manually setting.

4.2.3 Audio

Select the audio input and output for live display and match the audio input to a designated channel. (See Section 4.3.1 Camera Record for audio recording information). Adjust the audio volume using the volume control panel, enable or disable audio recording for each channel, and enable or disable audio during live video.

In addition, you can listen to the audio for both live display and playback through the network using the Advanced Client Software (ACS), Pivot™ Central Management System (CMS), web browser.



4.2.4 PTZ

Full control of PTZ camera is available in this menu.

For details, please refer to Section 3.3 PTZ Operation.



- **Protocol**

Select the proper protocol of the connected PTZ camera.

- **Address**

Set the PTZ driver address of the connected camera.

- **Check the below items for proper P/T/Z operation.**

1. Check if the protocol of the connected PTZ camera is correct.
2. Check if the communication settings, including the baud rate, of the connected PTZ camera are in accordance with the assigned value for that P/T/Z protocol.
3. Check if the address of the connected PTZ camera is correct.
4. Check if the wiring to the P/T/Z controllers are correct.

PROCEDURE How to setup PTZ camera with Pelco-D protocol (example)

- 1) Make sure the serial communication with the PTZ camera is through RS-485 port.
 - 2) Select "Pelco-D" at the protocol list, and set the address.
 - 3) Select Baud Rate to be the same as the PTZ camera
 - 4) Click the "Save" button to confirm this configuration.
-

- **Preset**

The system supports the number of preset from 1 to 255.

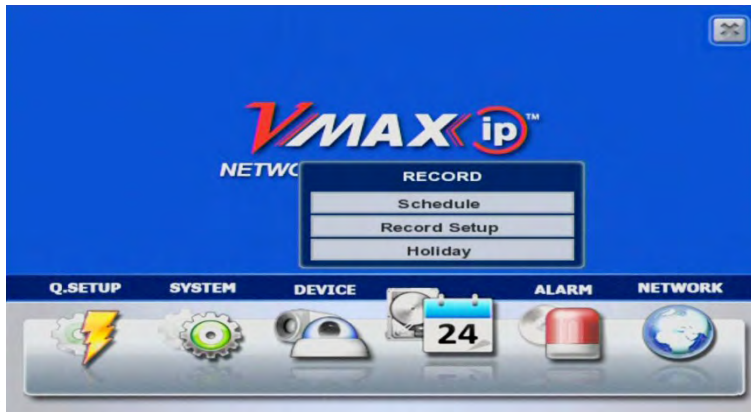
- **Baudrate**

User can select the baud rate level from 1,200bps up to 115,200bps.

NOTE Auto Pan, Aux & Guard Tour- These options allow the DVR to command a PTZ camera to move to a specific position, or run a pattern. These special settings may require a lot of processing capacity and memory from the DVR. To maintain the health of your DVR, it is recommended to setup all presets, patterns, or scans directly from the PTZ camera itself.

4.3 Record

Users can configure various record settings such as Continuous, Motion, and Sensor for each individual camera channel in the Record Setup Menu. Network Stream settings relies on network camera for recording. Approved network camera setting will be set by NVR menu and user can set up streaming video quality, FPS, bitrates in network camera menu as well.



4.3.1 Schedule

Setup a recording schedule by applying a multiple recording modes to each camera according to date and time.

1. Select a channel you want to setup by pressing the channel number. You can also select the 'All' button to apply the recording schedule to all the channels.
2. Select a recording mode from the available options by checking the box next to it.
3. Click on the corresponding date and time boxes to enable recording. You can also click-and-drag to select multiple time boxes. Selected boxes will appear with the color associated with the selected recording mode.

Repeat steps 2-3 as needed to add multiple recording modes to different parts of the schedule. Press 'Save' to save all changes.



4.3.2 Record Setup

Use the Record Setup menu to configure the first and second stream for each of the cameras.

1. Select the channel to setup from the drop-down menu.
2. Setup the channels main and secondary stream settings, including resolution, quality, FPS, and pre and post alarm recording.
 - a. Resolution: select from 1920x1080, 1280x720, or 640x360. Secondary stream is set by default to 640x360.
 - b. Codec: the codec is set by default to H.264 on the main stream, and MJPEG on the secondary stream.

- c. Bitrate: Select between CBR(Constant Bit Rate) and VBR(Variable Bit Rate)
- d. Quality: set the image quality to Low, Normal, High, Highest
- e. FPS: set the stream's frames per second speed from 0 to 30. Main stream's FPS is set by default to 25fps; secondary stream's FPS is set by default to 5fps.
- f. Pre Alarm: if applicable, select from 3-5 seconds.
- g. Post Alarm: if applicable, select from 5-15 seconds.



NOTE Due to system performance, Bitrates per channel must be limited to 4,000kbps/CH for Main Stream and 512Kbps/CH for Secondary Stream.

NOTE System menu may differ based on the model.

4.3.3 Holiday

Setup a specific day as a holiday to assign it different recording schedules.

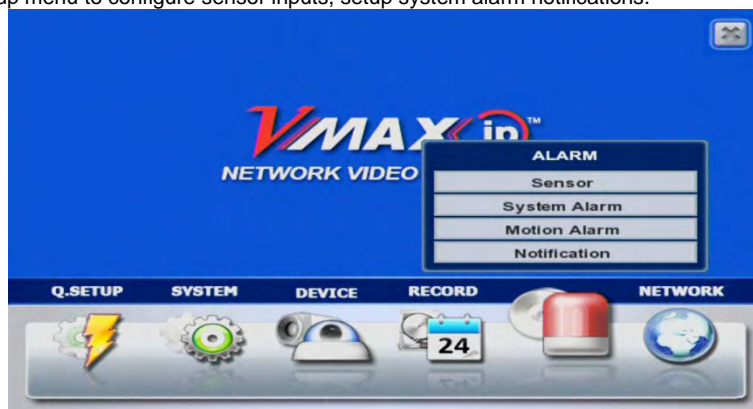
1. Select a day from the calendar by clicking on it.
2. Select the repeating options. Select to repeat this holiday settings for the same day every year, or for the same day of the week of that month.

All days selected as holidays in the holiday setup page will have the recording settings according to the ones assigned in the schedule setup page.



4.4 Alarm

Use the Alarm setup menu to configure sensor inputs, setup system alarm notifications.



4.4.1 Sensor

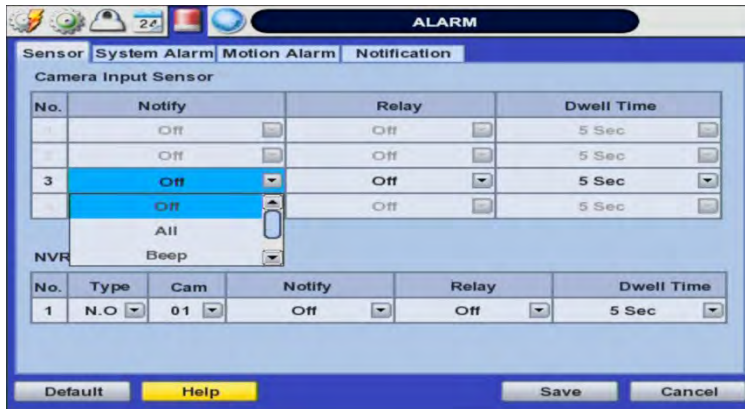
User can select the sensor input between NVR and supported network cameras. Mapping is only available for either of Network camera sensor or the local sensor of NVR on the same channel.



- **Type**
OFF, N/O (Normal Open), N/C (Normal Close)
- **Cam**
Select the associated camera channel.
- **Notify**
Select how to be alerted when a sensor is activated. There are three options for alarm notifications:
 “Beep” – when an alarm is triggered, the NVR will make a beep sound.
 “Cam pop-up” – when an alarm is triggered, the NVR’s live screen will switch automatically to single channel mode, displaying the camera associated with the alarm.
 “All” – when an alarm is triggered, the NVR will make a beep sound while the live screen will switch to a single screen view of the camera associated with the alarm.

CAUTION Relay contact can handle up to 24VDC/1A (or 125VAC/0.5A) of other devices. If connected to a circuit that is over 24VDC/1A (or 125VAC/0.5A), the system may experience problems.

- **Relay**
Off / Relay Output to trigger other device.
- **Dwell Time**
Set the recording period from the start of sensor input activation. During this period, the corresponding camera video will record according to the frame and alarm (relay) output set. The recording stops and alarm output is turned off when the dwell time has elapsed.



NOTE "Sensor" refers to the alarm connected to the NVR and triggered by physical sensor input or transmitted data from a network camera with a sensor input

NOTE If the sensor does not operate properly, check the setting of the sensor type (N/O or N/C). The alarm might not function if the actual connecting sensor type and the sensor type in the system setting are inconsistent.

4.4.2 System Alarm

- **HDD S.M.A.R.T.** – Alarm notification triggered when the HDD is about to be out of operation.
- **Connection Failure** – Alarm is activated when a camera is disconnected.
- **Recording failure** – Alarm is triggered when NVR doesn't record normally.
- **Fan Failure** – Alarm is triggered when internal fan is stopped.
- **Disk Error** – Alarm is triggered when there is an error related to the HDD.
- **No Disk** – Alarm is triggered when the system detects there is no HDD installed.
- **Disk Full** – Alarm is triggered when the HDD is full beyond a certain percentage. For example, when Usage is 50%, NVR will notify by a camera popup or a beep sound when HDD is 50%.



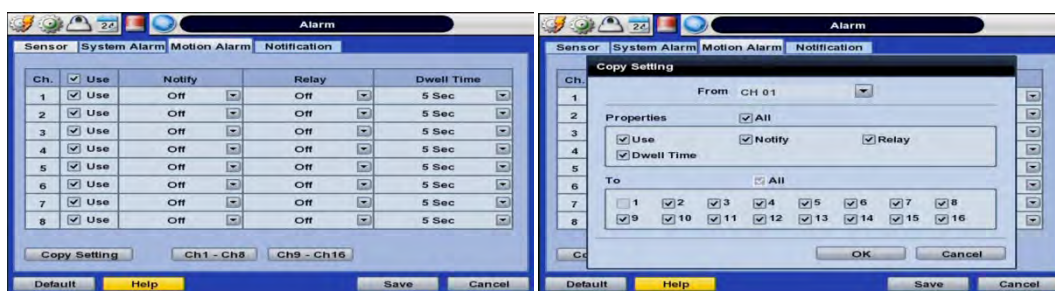
4.4.3 Motion Alarm

Select Motion alarm to record only when motion detection is triggered according to the motion detection settings set in the NVR's Camera menu option. See 4.2.2 Camera for more information.

When motion is detected, you can setup to activate a relay output or set instant notifications.

To enable:

1. Check the box next to the channels you want to activate for motion detection alarm.
2. Select the notification type from the drop down menu options.
 - a. "Beep" – when an alarm is triggered, the NVR will make a beep sound.
 - b. "Cam pop-up" – when an alarm is triggered, the NVR's live screen will switch automatically to single channel mode, displaying the camera associated with the alarm.
 - c. "All" – when an alarm is triggered, the NVR will make a beep sound while the live screen will switch to a single screen view of the camera associated with the alarm.
3. Relay: enable or disable relay output control when motion is detected.
4. Dwell Time: Set the recording period from the start of sensor input activation. During this period, the corresponding camera video will record according to the frame and alarm (relay) output set. The recording stops and alarm output is turned off when the dwell time has elapsed

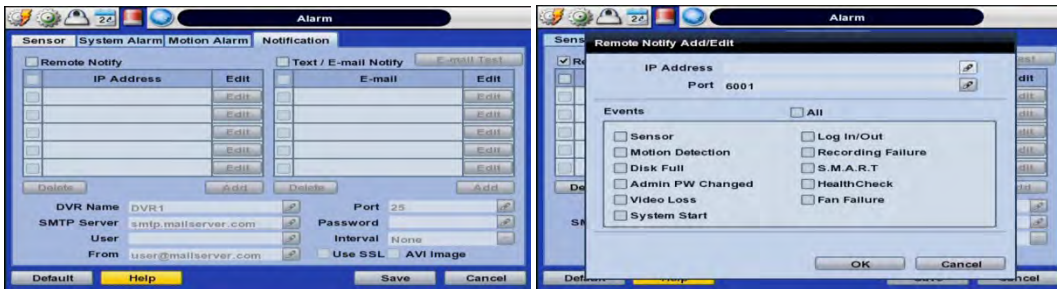


5. Copy Settings: You can copy the settings from one sensor input to multiple sensors for easy and quick configuration. Choose the sensor you want to copy from at the "From" field. Choose the settings you want to copy by selecting the check box next to each one. Check the checkbox next to the sensor numbers to apply the copy setting(s) to on the "To" box.

4.4.4 Notification

On this setup menu, you can setup the NVR to send event notifications to a remote software or an e-mail address.

- Notifications Setup- the NVR's outbound notifications messenger needs to be setup in order to send notifications.
 1. **NVR Name**- This is the name that will appear in the notification's sender information. Make sure it is associated with the NVR for easy identification.
 2. **SMTP Server**- Enter the server information associated with the sender's email account.
 3. **Port**- Enter notifications port info. Consult your network administrator for more information
 4. **Username and password**- These are the username and password for the sender's e-mail information.
 5. **From**- This is the identification for the e-mail sent from the NVR. This should be the sending e-mail account.
 6. **Interval**- setup an interval between every notification sent from the NVR. The NVR will then send one notification, and wait the set interval time before sending another notification, even if the same event is occurring during that time.
 7. **User SSL**- Check this option to use a Secure Socket Layer (encrypted) option.
 8. **JPEG Image**- Check the box to include a JPEG image of the event with the notification



- Remote Notify- The system can send event notification to an Advanced Client Software over the network.
 1. To enable, check the box next to 'Remote Notify'.
 2. Press the 'Add' button to add a notification rule.
 3. Enter the IP Address of the PC running the receiving client software and the port information. Additional setup in the router may be needed so it is recommended to consult your network administrator.
 4. Chose the alarm types that will trigger a notification. Select the options by checking the box next to each event type.
- Text/ E-mail Notify- The system can send event notification to an E-mail address.
 1. To enable, check the box next to 'Text/ E-mail Notify'
 2. Press the 'Add' button to add a notification rule.
 3. Enter the receiving E-mail Address or phone number.
 4. Chose the alarm types that will trigger a notification. Select the options by checking the box next to each event type.
 5. Select what event information to include in the notification.
 6. For text messages, select the length of the message.

NOTE Configuration's first priority is always given to "Schedule Setup" of the "RECORD" menu. The system will not send alarm messages or email notification upon motion alarm or sensor unless the camera is set to record motion or sensor in the "Schedule Setup" menu.

4.5 Network



4.5.1 Network

The system has built-in web server.

- **Internet Protocol Version-** Not selectable. TCP / IP v4 support only.
- **Network Type-** Select network connect type. Select either Static IP or DHCP for dynamic IP.

NOTE For proper network setup and configuration of the NVR, please contact your Network Administrator for more information.

If DHCP is selected, the NVR will automatically configure the network settings according to the current network requirements. If DHCP is selected, click 'IP DETECT' button to detect automatically all the network settings. If Static IP is selected, manually enter all necessary network settings. For proper configuration, it is recommended to assign the NVR a DHCP address and let it auto discover all the proper network settings, and then change the Network Type back to Static IP and save the changes.

- **IP Address-** displays the NVR's IP address. If DHCP is selected, the IP address will automatically adjust to match the network's requirements. You can also manually change the IP address as needed.
- **Subnet Mask-** Subnet Mask address classifies the system's subnet. Standard address is 255.255.255.0.
- **Gateway-** This is the IP address of the router or gateway server. It is required when connecting to the NVR through the external router over the internet (from another network). For more information, consult your network administrator or your internet provider.



VMAX IP 4CH Model



VMAX IP 8/16CH model

- **DNS Server 1 & 2-** Enter the IP address of the Domain Name Server. There are two DNS settings. (The preferred DNS and the alternative DNS).
- **Network Port-** Enter the port number to use when connecting locally or remotely, or via the free mobile app. Default port is 80.
- **Switch Setting-** When PoE option is applied, cameras can be powered directly from the PoE switch in the back of the NVR. The network setting for PoE port will be designed independently from the NVR's network settings. This IP range should not be the same range of NVR IP address.
- **TCP/IP Port-** Enter the port number to use when connecting locally or remotely (available in 4CH model only).
- **Web Port-** Enter the port number to use when connecting from the Web Browser.
- **Bandwidth Limit-** you can limit the Mbps used by the NVR. This is recommended for networks with limited bandwidth. Contact your network administrator for more information.
- **UPnP (Universal Plug and Play) -** UPnP is a plug-and-play feature that allows the NVR to be automatically discovered by a PC on the same network. To locate the NVR, go to "My Network" on your PC. The computer will scan your network for all supported devices. The first five characters of the file name of a detected NVR represent the model number, followed by the NVR's IP address



Once the PC discovered the NVR, double click on the icon to open the NVR's web client. Enter your User ID and Password to login and click 'Connect' to connect. See section 5. **Web Surveillance** for more information.



- **Auto Private IP Setup (NAT Traversal) -** Automatically setup a router if you want to connect to the NVR remotely over the internet. The router will need to be setup to support communication to the NVR from an external network by opening the corresponding ports. Settings need to be done individually for each NVR in the network. The router must support UPnP NAT Traversal for the function to work. Check 'Auto IP (NAT Traversal)' check box in the UPnP setup menu. Then it will take care of Auto IP detect by itself. Contact your network administrator for more information.

NOTE The system transfers video images at real-time over the network even during no record. For example, user can monitor live video even when motion has not occurred during motion detection mode.

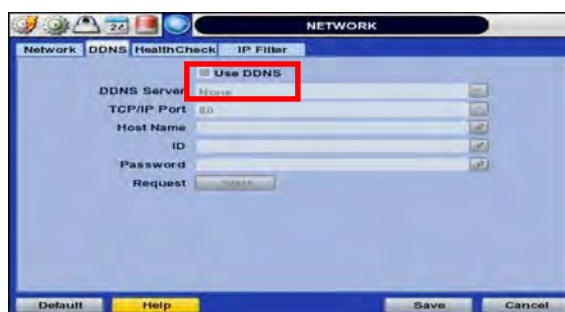
NOTE If there is no physical network connection, it may take a few minutes for the system to start working, since the network configuration in DHCP mode and the DHCP connection cannot be made.

4.5.2 DDNS

Digital Watchdog® offers free and reliable DDNS service support. This allows you to assign the NVR a URL address rather than a long complicated IP Address. This simplified the connection process to the NVR. The DDNS service is supported by Digital Watchdog® and is free of charge for our customers. To setup DDNS:

- Check the box "Use DDNS" to enable registration.
- **DDNS Server**- select an appropriate DDNS server from the available options. dwdns2.net is Digital Watchdog's free DDNS serve service. You may also select dyndns if you have a paid account.
- **TCP/IP Port**- this by default is set to port 80. Some networks have that port disabled. Contact your network administrator for more information.
- **Host Name**- assign the NVR a unique name. This will be the unique identifying part of the URL associated with your NVR.
- **ID and Password**- If necessary, assign an additional username and password to access the DDNS address.

Press the 'Request' button. The system will check to make sure the hostname is available. If the name is available and registration is completed, 'Success' will appear at the bottom of the screen.



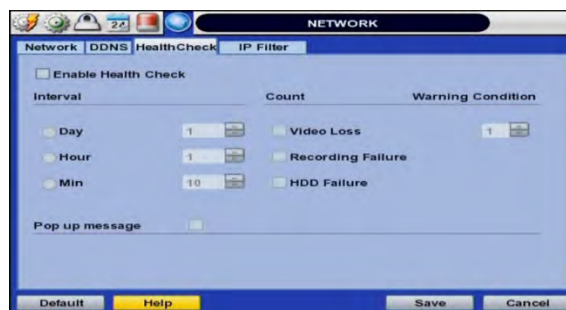
To connect to your NVR using the DDNS address, make sure the proper ports have been opened in your router. Open an Internet Explorer page and enter your NVR's DDNS address as hostname.dwdns2.net: port#
For example: v960core.dwdns2.net:80

4.5.3 Health Check

The NVR offers a uniquely true NVR health monitoring, with pop-up messages and e-mail notification on video loss, recording failure, and HDD failure.

To setup:

1. Check the box next to "Enable Health Check"
 2. Check the box next to the conditions you would like to be notified on.
 3. Set the occurrence intervals.
(For Example: when video loss occurs more than 1 time a minute)
 4. Select whether to receive a popup message when conditions are met.
 5. Go to Network→ Notifications.
 6. Under e-mail notifications, make sure the Health Check option is enabled.
- When any of the failures occur beyond the set conditions, the system will display a popup alert and send an e-mail notification.



4.5.4 IP Filter

User can block and allow the specific IP addresses to manage. Check the box 'Use IP Filter' first to allow some specific IP addresses to use. The default is 0.0.0.0 / 0.

Select 'Edit' to input the desired IP address range. When registered setting is needed to be changed, user can select 'Edit' or 'Delete'.



5 WEB CLIENT

The VMAX IP NVR has a built-in web server, allowing the user to access the NVR using an ordinary web-browser over a network. The web client allows you to view live monitoring, playback, or remote NVR configuration without installing a remote client software


5.1 Web Login

In order to connect to the NVR's web client, the NVR's network settings and ports in the router must be properly setup. See section 4.5 Network and contact your network administrator for more information. See the Appendix for information on network setup for external connection.

After allowing the download of the Active-X file (see section 5.2 Web Monitoring), enter the username and password to access the NVR. The NVR's default user ID and password are "admin" and No password.



It is recommended to use an Internet Explorer web page. To open the NVR's web viewer on a Google Chrome web viewer, please install the IE Tab add on option.

Then, simply enter the NVR's IP address or DDNS address in the address bar and click on the  on the tool bar of the web viewer.

If you are running Internet Explorer 8 or higher, make sure the NVR's address is added to the compatibility list.

5.2 Web monitoring

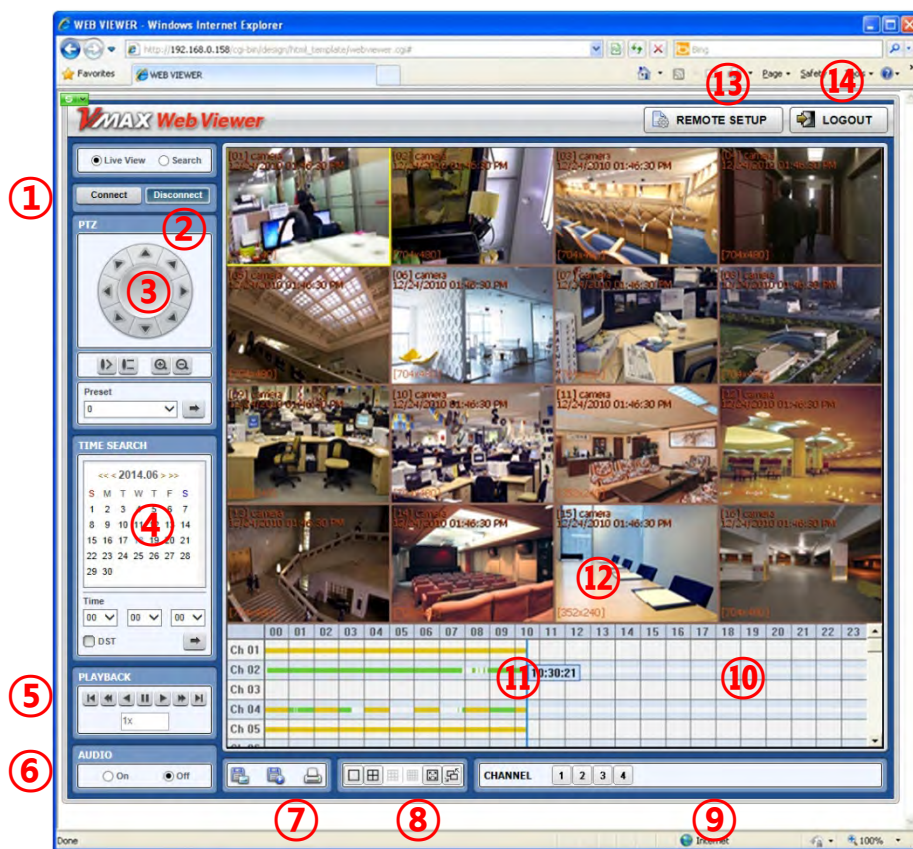
The first time you access your NVR via the Web viewer, you will be asked to install an Active-X file before monitoring live video. Please follow the installation process to complete the Active-X installation. Without it, you will not be able to view video from the NVR.



[Web Active X Install]

Once the ActiveX files have been properly installed, and you login to the NVR using the proper username and password, you will access the web client page. To connect to the NVR, select the viewing mode (Live/ Playback) and click "Connect" on the top left corner of the screen.



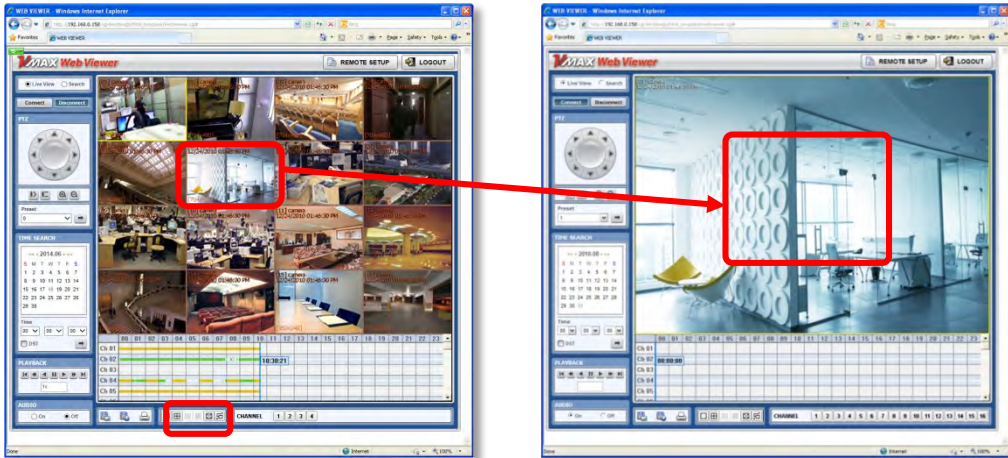


| No. | Title | Function |
|-----|----------------------|-------------------------------------------------------------------------------------------------------------|
| 1 | Connection Mode | View the NVR in Live or Playback Mode. |
| 2 | Connection Option | Connect or Disconnect from the NVR. |
| 3 | PTZ | PTZ control options, including virtual direction arrows, zoom, focus, and preset management. |
| 4 | Calendar | Date & time search. |
| 5 | Playback Controllers | First data, fast rewind speed, play rewind, pause, play, fast forward speed, and last data. |
| 6 | Audio | Enable/ disable audio. |
| 7 | Export Options | Export an image, video, or print a still image with notes of a selected channel. |
| 8 | Display Options | Single channel, 4-channel, 9- channel or 16-channel viewing mode. |
| 9 | Channel Selection | Select a specific channel to view in single channel mode. |
| 10 | Time bar | In playback mode, indicates available recorded video for each channel for the 24 hours of the selected day. |
| 11 | Time indicator | Use the time line indicator to update playback video. |
| 12 | Main Display Area | View live or playback from the NVR. |
| 13 | Remote Setup | Remote NVR setup options (See 5.4 Web Configuration). Available for admin users only. |
| 14 | Logout | Exit connection from the NVR. |

5.2.1 Web Client Operation

Monitor live video in 1, 4, 9 or 16 screen modes (depending on how many channels the NVR has). To view a camera single channel mode, double-click on the screen. You can also change to a single channel-viewing mode by clicking the mode icon located at the bottom of the screen.

You can return to multi-channel viewing mode by double-clicking anywhere on the screen.

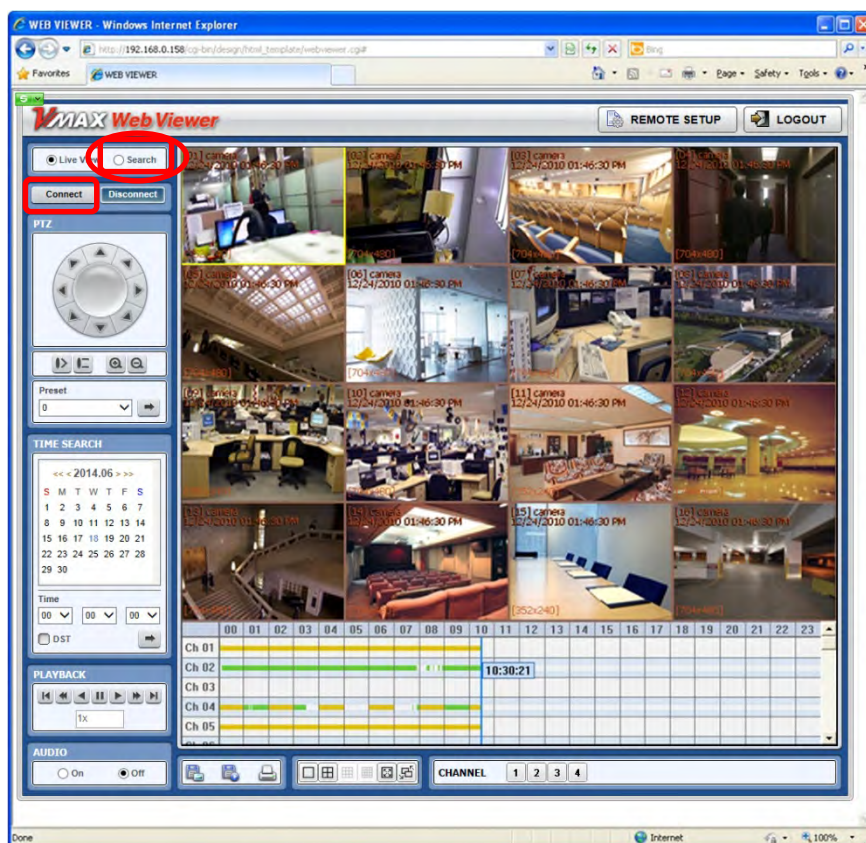



NOTE If live image is not properly shown on IE web browser due to network traffic jam or narrow bandwidth, it is recommended to close and re-open the IE web browser.

5.3 Web Playback

Using the NVR's web client, you can remotely playback video from the NVR by clicking "SEARCH" in the top of the left side panel. To connect to the NVR in search mode:

1. Check the box next to 'Search'
2. Press the "Connect" button below the viewing mode.



3. Select the date and time using the calendar on the left side panel. Days with recorded data will appear in Red. Click the  button to apply the day selection to the time bar.
4. Play DST- Check this box to play overlapped images during DST (Daylight Saving Time) period. For further details, please refer to Section 3.9 DST Settings for more information.
5. Once a day has been selected, the time bar below the main display will show recorded data for each channel for the selected day. Use the vertical timeline to move playback along the time bar. The colors on the time bar indicate different recording mode. See 3.8.1 Date/ Time Search for more information.
6. Use the playback control keys to play, pause, fast forward or rewind the video

5.4 Web Configuration

Menu of Web Configuration

| Main Classification | Sub Classification |
|---------------------|--------------------|
| QUICK SETUP | NVR |
| | REGISTER |
| SYSTEM | SYSTEM INFO. |
| | USER |
| | HDD |
| | DEFAULT |
| DEVICE | REGISTER |
| | CAMERA |
| | AUDIO |
| RECORD | RECORD SETUP |
| | SCHEDULE |
| ALARM | SENSOR |
| | SYSTEM |
| | MOTION |
| | NOTIFICATION |
| NETWORK | NETWORK |
| | DDNS |
| | IP FILTER |

After logging in with the right ID and password, users can make various configuration changes in the Web Configuration window seen below. This Web Configuration menu is only available to the “admin” account.



Chapter 6

PIVOT™ CLIENT SOFTWARE USER MANUAL

6 PIVOT™ USER GUIDE

Pivot™ is a powerful and flexible central monitoring software, available free with any Digital Watchdog® analog recording solution. The Pivot software allows for simultaneous remote monitoring and management of up to 128 sites, with each channel capable of performing separate tasks and commands. The software includes powerful monitoring features such as remote backup and NVR configuration, advanced search options and an interactive interface, which enables the user to control multiple sites from the same screen

6.1 PC Requirements

Recommended PC Requirement

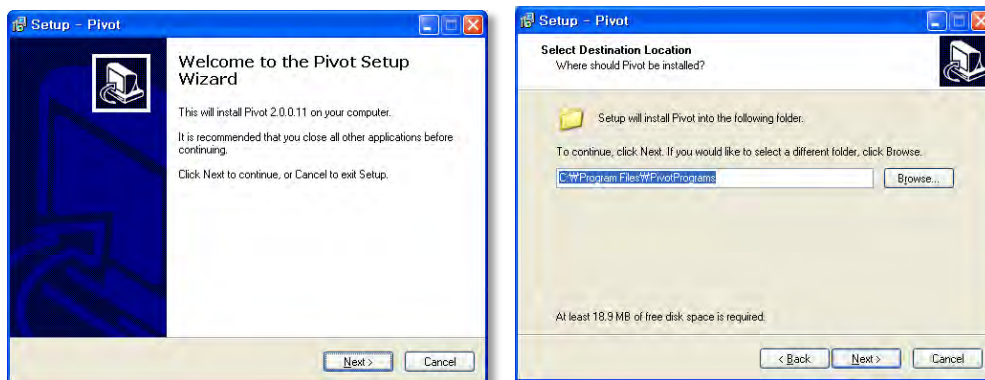
| | |
|-----|-----------------------------------------------|
| OS | Windows 7, 8 |
| CPU | Pentium Dual core 1.8Ghz or higher |
| VGA | 1024X768, 256MB supporting DirectX |
| RAM | 1GB |
| HDD | 20MB for installation, 10GB for Remote Backup |


Minimum PC Requirement

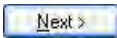
| | |
|-----|-----------------------------------------|
| OS | Windows XP |
| CPU | Pentium 4, 2Ghz |
| VGA | 1024X768, 64MB 24bit color graphic card |
| RAM | 1GB |
| HDD | 20MB Free Space |

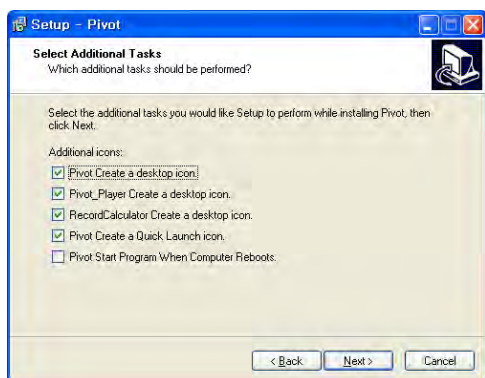
6.2 Software Installation

The Pivot™ software is in the CD included with your NVR. To install it, run the Pivot™ Setup.exe file and follow the installation wizard.

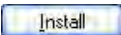


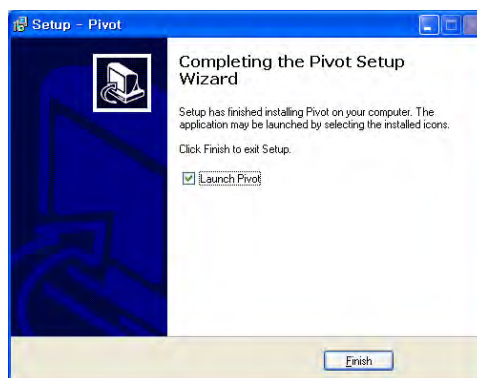
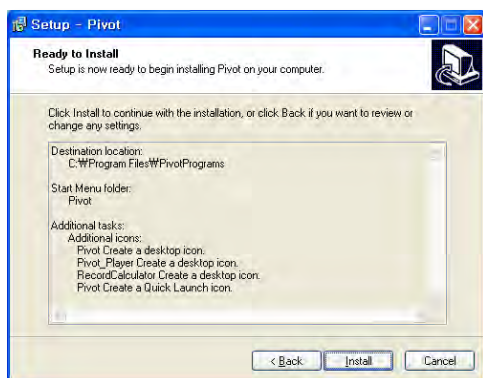
Press  to install the program in a different directory.

Press  to move to the next screen.

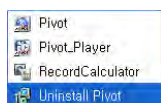


Select what Icons and shortcuts you wish to install on your desktop and press .

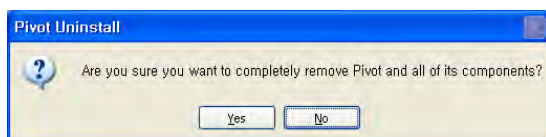
Select  to begin installation. When the installation is complete, select whether you want to launch the software and select "finish".



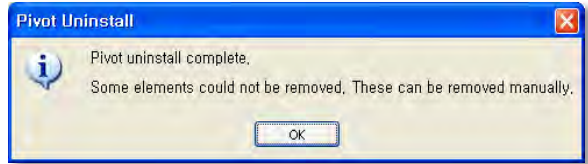
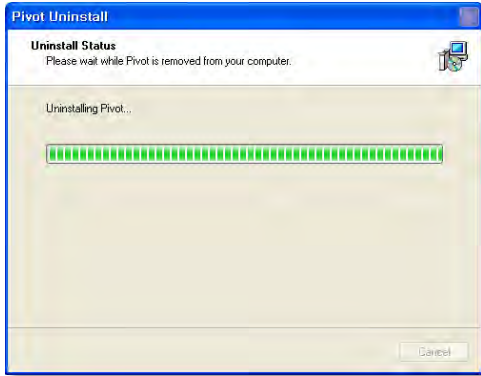
6.3 Software removal



To uninstall Pivot™, press **UNINSTALL Pivot** from the Start Menu of your PC.

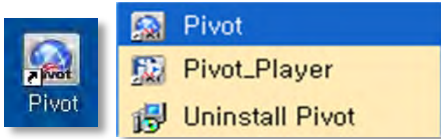


Press **YES** to begin the process.



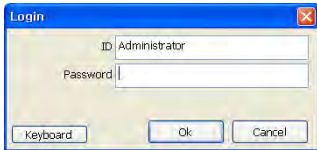
6.4 Basic Operations

To launch the Pivot™ software, click on the desktop icon or go to START > All Programs > Pivot.



6.4.1 Log In

The default ID is Administrator, and there is no default password. The administrator account has the highest level of authority on the CMS.



6.4.2 Screen Layout

The screenshot displays the Pivot security software interface, which is divided into several functional areas:

- Top Panel:** Contains navigation tabs for Main, Export, and Setup. Below these are icons for CMS Setup and Remote Setup (labeled 1), and Image, Clip, and Print (labeled 2).
- Control Panel:** Features a Main tab, a Search Connect button, and a Disconnect button. A row of camera selection buttons (1, 4, 9, 16, 20, 36, 64, Full) and a Sequence button are also present (labeled 3).
- Sites List:** A sidebar on the left shows a list of sites under 'Door' and 'Test' categories (labeled 10). The main area displays a list of site details, including IP addresses and local connections (labeled 4).
- Live Feed:** A 4x4 grid of 16 camera feeds, each labeled with a camera ID (e.g., [01] camera) and a timestamp. A red circle labeled 7 highlights one of the feeds.
- PTZ Controls:** A circular PTZ control panel with zoom and focus buttons, a PTZ Speed slider, and a Preset button (labeled 5).
- Time Search:** A calendar view for December 12, 2010, and a detailed event search table (labeled 6). The table includes columns for Channel (Ch 01 to Ch 04) and Event details.
- Event Log:** A table at the bottom showing the current time (2010/12/24 10:49:44) and a list of events with columns for Index, System, Channel, Date/Time, and Event (labeled 8).

| No | Item | Description |
|----|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Main Toolbar (Setup Tab) | The Main Toolbar has three selectable tabs: Main, Export and Setup. In the Setup tab, there are CMS, Remote and Backup Setup. |
| 2 | Main Toolbar (Export Tab) | In the Export tab, users can save a JPEG, AVI or Print images of selected video. |
| 3 | Main Toolbar (Main Tab) | In the Main tab, users can connect to cameras in live and search modes, disconnect, start and stop panic recording, change displays and sequence, setup a multi monitor view, or perform Panorama and Thumbnail Search. |
| 4 | Site List Panel | All sites monitored from the Pitot software are shown in the site list. |
| 5 | PTZ Panel | Control a PTZ camera in Live mode. |
| 6 | Search Panel | In Search mode, recording information for each channel is displayed. |
| 7 | Display Panel | Live view and search view are displayed. |
| 8 | Event Search Panel | Pivot can display events on each individual DEVICE. An event data can be searched by double-clicking on an event. |
| 9 | Information Panel | Shows current time and site information of the selected channel. |
| 10 | Favorite Panel | Create favorite layout for quick access to sites frequently viewed. |

6.4.3 Main Toolbar – Setup



| No | Item | Description |
|----|--------------|-------------------------------------------------------------------------|
| 1 | CMS Setup | Register sites, setup user authority, and setup other Pivot properties. |
| 2 | Remote Setup | Access the setup menu of a selected NVR remotely. |
| 3 | Backup Setup | Access the setup menu for scheduled backup. |

6.4.4 Main Toolbar – Export



| No | Item | Description |
|----|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Image | Capture an image of the selected channel. If you are in multi-channel view, the selected channel will appear with a yellow frame. The image saves as a JPEG in the 'My Documents' Folder by default. |
| 2 | Movie | Save the selected channel in MP4 format movie file. To start recording, press the 'Clip' button once. A red [R] will appear at the bottom right corner of the selected channel, indicating recording for the clip is taking place. Press the 'Clip' button again to end recording. The file will save by default to the 'My Documents' folder. |
| 3 | Print | Print selected channel. Setup the printer configuration from the print setup screen. |

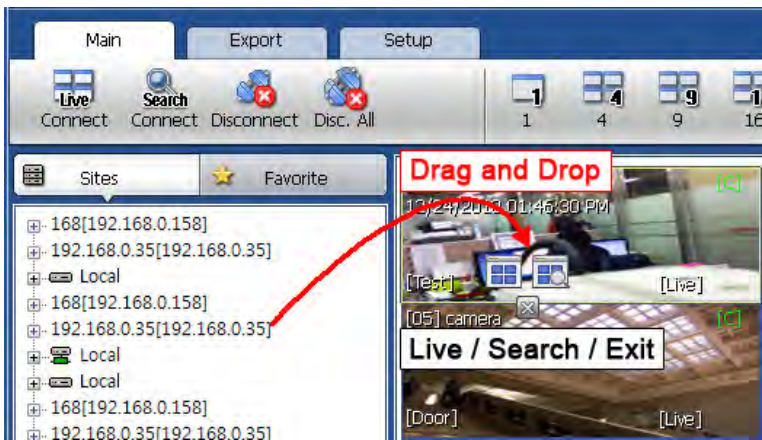
6.4.5 Main Toolbar – Main



| No | Item | Description |
|----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Live | Connect to the selected site in Live mode. |
| 2 | Search | Connect to the selected site in Search mode. |
| 3 | Disconnect | Disconnect the selected single channel. |
| 4 | Disconnect All | Disconnect all connected sites and channels on the display. |
| 5 | Display Mode | Choose the display mode from single, 4 split, 9 split, 16 split, 20 split, 36 split, 64 split. |
| 6 | Full | Shows Full screen display. This view hides the Pivot's menu bar, sites list panel, PTZ and time bar. To exit full screen view, press the 'Esc' button. |
| 7 | Sequence | Start/ stop Sequence of the different channel displays. |
| 8 | Multi Monitor | Create an additional display window to drag to a secondary monitor. |
| 9 | Panorama | Show frame-by-frame for a selected single channel in Search mode. |

| | | |
|----|------------|----------------------------------------------------------------|
| 10 | Thumbnails | Thumbnail search for a selected single channel in Search mode. |
|----|------------|----------------------------------------------------------------|

6.4.6 Site List



The Site List displays all of the sites that are currently setup for remote connection with the Pivot software.

To view a device from the sites list:

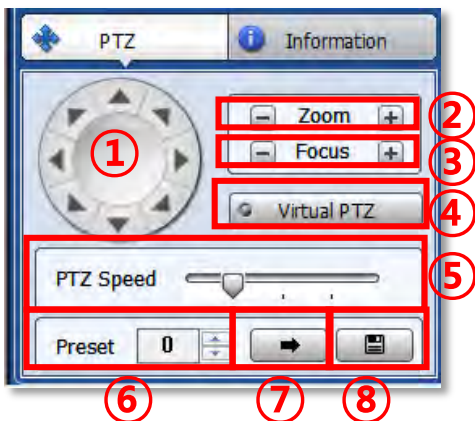
5. Click on the site's name and drag it from the site list panel onto the viewing area.
6. Select to view the site in live or search mode ().
7. You can also right-click on the device name and select 'Live' or 'Search' from the drop-down menu options.



To view a single camera from a device:

1. Click the + button next to the device list. This will collapse the view to display all cameras connected to the device.
2. Click on the camera's name and drag it from the site list panel onto the viewing area.
3. Select to view the camera in live or search mode ().
4. You can also right-click on the device name and select 'Live' or 'Search' from the drop-down menu options.

6.4.7 PTZ Control

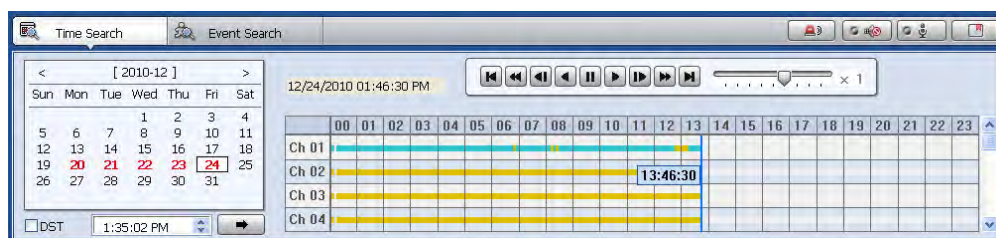
Any PTZ camera properly setup from the NVR can be controlled using the Pivot's virtual joystick in Live mode.




| No. | Button | Description |
|-----|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| 1 | Directional Navigation | 8 directional arrows allow you to move the PTZ camera. |
| 2 | Zoom | Zoom In and Zoom Out (on supported models). |
| 3 | Focus | Adjust the focus of the PTZ camera (on supported models). |
| 4 | Virtual PTZ | If Virtual PTZ is activated, control the PTZ camera with a mouse directly on the channel's screen (on supported models). |
| 5 | PTZ Speed | Adjust the camera's response speed. Getting Faster as the bar moves to the right. |
| 6 | Preset | Set, go to, and modify PTZ presets on current view. |
| 7 |  | Go to the preset location. |
| 8 |  | Save current location to the selected preset. |

6.4.8 Time Search

The Search panel is activate only in Search Mode.



When you connect to a site in search mode, dates with recorded data will be highlighted in red in the calendar. Select a specific date to view specific recording mode and available recording by hour for each channel in the table.

Press  (Go button) to start playback from a selected time.

If DST is enabled, the earlier one-hour overlapped video will be shown first.

Recording Modes:

No Record

White

Continuous (Yellow Color)



Panic (Red Color)



Alarm (Orange Color)

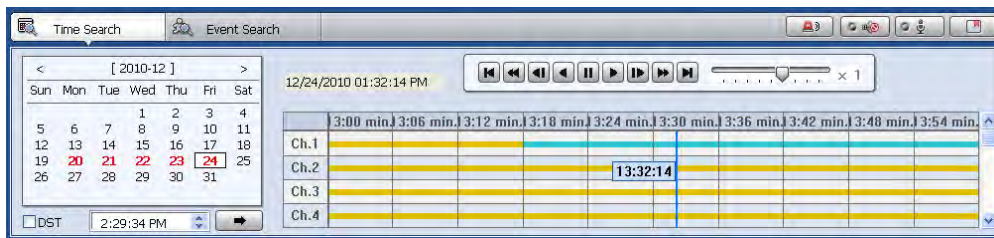


Motion (Green Color)



Click the time or move the time bar to the cameras in playback mode.

The search table displays 24 hours for the selected day. You can couple-click on a selected hour to view a detailed time search as seen below. Detailed search is available on a 5-minute basis.



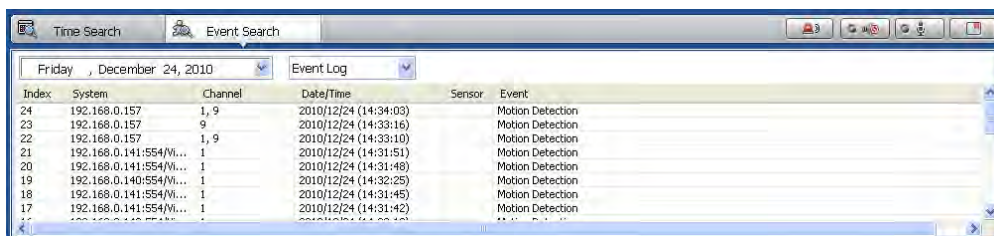
Playback Control Panel:



| No. | Button | Description |
|-----|--------|----------------------------------------------------------------------------------------------------------------------------------|
| 1 | | Go to first data. |
| 2 | | If pressed while in forward playback : Decrease playback speed If pressed while in reverse playback: Increase playback speed. |
| 3 | | Skip forward. |
| 4 | | Reverse playback. |
| 5 | | Pause. |
| 6 | | Forward playback. |
| 7 | | Skip backward. |
| 8 | | If pressed while in forward playback Increase playback speed If pressed while in reverse playback: Decrease playback speed. |
| 9 | | Go to last data. |

6.4.9 Event Search

Pivot can receive event data from NVRs that support event notifications to a remote software. See 4.4.3. **Notifications** for more information. The event search has two search options: Event Log and System Log. Event Log display all event notifications received from the NVR. The system log will show Pivot start/end, live/search, option, remote setup, image/movie export etc.

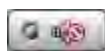


To run the Event Search:

5. Press the 'CMS Log' button under the display area.
6. Select Event Log from the drop down list.
7. Select the search date and time from the drop-down calendar. Results will display automatically.
8. Start playback by double-clicking the Index number of each even list.

6.4.10 Audio & Bookmark Controls

Use the Audio control buttons to enable and disabled audio in live and playback modes.



(Audio On/Off): Turn On or Off the Audio channel.



Two-way Audio: Two-Audio between the CMS and DEVICE.



Bookmark: Add the selected channel to your bookmark list. See **6.5.7. Bookmark** for more information.

6.4.11 Display

The Pivot's main display area will show all connected sites in live and playback modes. The software uses on screen indicators to express viewing mode, selected channel, connection status, camera name and date and time.



Live mode OSD indicators:

- LIVE will be displayed in white at the bottom right-hand corner of the channel.
- Channel's border will appear in blue.
- Selected channel's border will appear in yellow.
- Channel's name, date & time will appear in white on the top left-hand corner of the channel.
- Device's name will appear in white at the bottom left-hand corner of the channel.

Search/ Playback mode OSD indicators:

- SEARCH will be displayed in red at the bottom right-hand corner of the channel.
- Channel's border will appear in red.
- Selected channel's border will appear in yellow.
- Channel's name, date & time will appear in red on the top left-hand corner of the channel.

Device's name will appear in red at the bottom left-hand corner of the channel

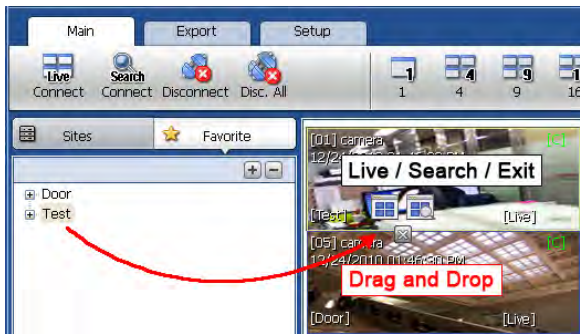
6.4.12 Information

The information panel displays the current date/time, site name, IP address, and ID, channel and Live/Search status for a selected channel.

| PTZ | | Information | |
|------------------------------------|---------------|-------------|--|
| Current Time : 2010/12/24 10:43:03 | | | |
| Site Name | LAB | | |
| Ip Address | 192.168.0.157 | | |
| ID | admin | | |
| Channel | 8 | | |
| Status | Live | | |

6.4.13 Favorites

Cameras currently displayed on the screen can be saved as a favorite monitoring layout.



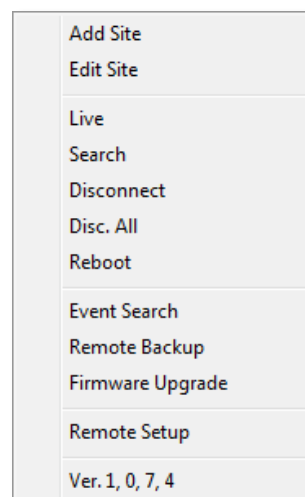
Setup your monitoring screen by adding the necessary sites and individual cameras in a desired order and layout. Press the 'Favorite' tab on the site panel and press the to create a new favorite site group. Enter a group name and press OK. The current layout will be saved to the favorites list. To connect to the saved list, drag-n-drop the favorite's name into the viewing area. To delete a favorite, click .

6.4.14 Quick Site Access Menu

Right clicking on a site in the site list panel will bring up a quick access menu.

From this menu, you can:

- Add a new site to your list.
- Edit currently selected site.
- Open site in the display area in live mode.
- Open site in the display area in search mode.
- Disconnect all channels from the selected NVR currently in the viewing area.
- Disconnect all sites from the sites list.
- Remotely reboot the NVR.
- Open Event Search for the selected NVR.
- Remotely backup data from the selected NVR (on supported models).
- Remotely perform firmware upgrade for the selected NVR.
- Access the site's Remote Setup. This will open the NVR's web client for remote configuration.
- View Pivot's software version.

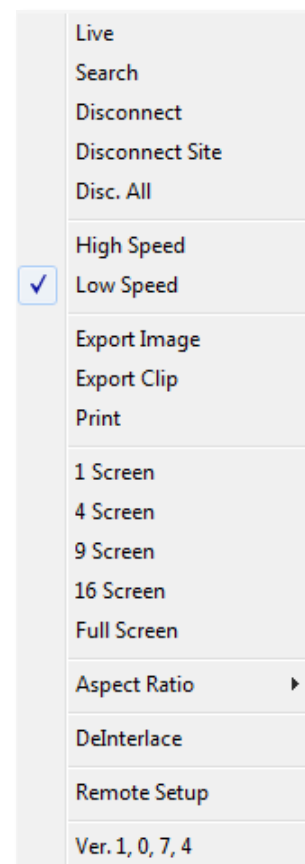


6.4.15 Quick Camera Access Menu

Right clicking on a channel in the display will bring up a quick access menu.

From this menu, you can:

- Transition between live and search viewing models.
- Disconnect a selected camera, all cameras from a selected device, or all channels in the display area.
- Select viewing speed from the camera (set to Low Speed by default).
- Export a JPEG image, short clip, or print the selected channel.
- Change the display area's view from 1, 4, 9 or 16 channel-viewing modes.
- Adjust aspect ratio. Select from 1:1, 4:3, or 16:9. The aspect ratio change will apply to all channels in the display area.
- DE Interlace - improve image quality for all Analog cameras.
- Access the site's Remote Setup. This will open the NVR's web client for remote configuration.
- View Pivot's software version.

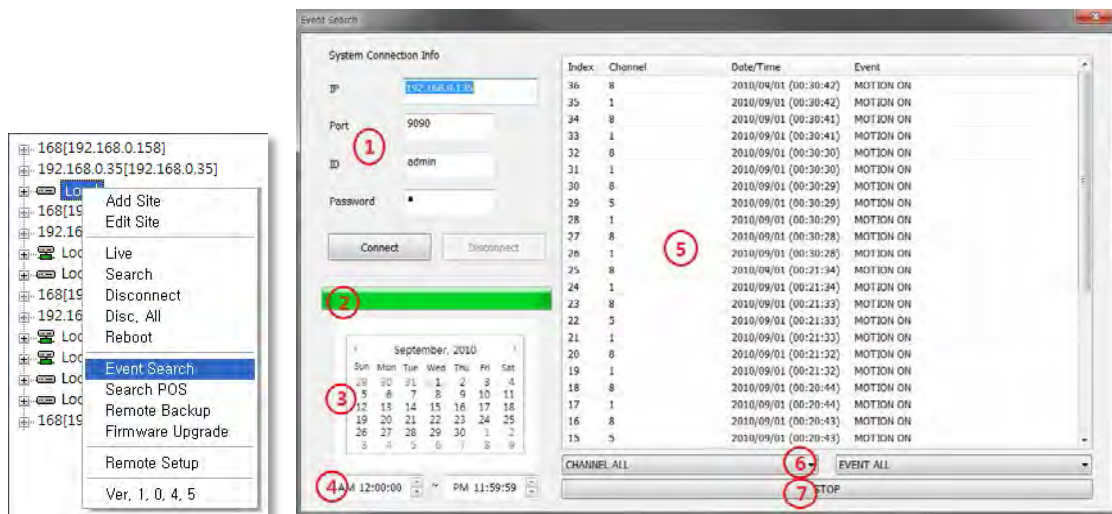


6.5 Pivot Functions

6.5.1 Event Search

To start the software's event search for a single site:

Right-click on the site from the site's list and select Event Search.

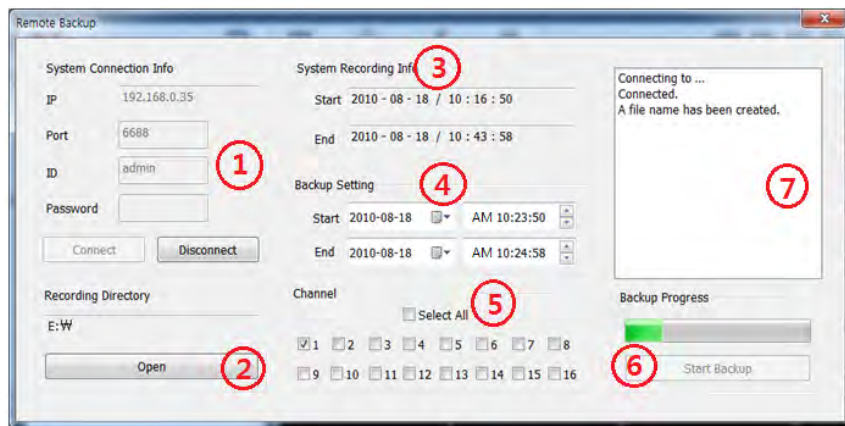


1. Connect to the NVR by confirming the IP address, port number, username and password and pressing 'Connect'.
2. The events download status will indicate the data download progress.
3. When download is complete, select a date from the calendar with available data. Days with available data will be marked in bold black.
4. Set the start time and the end time to search events. The events list will update automatically when you select a date and time.
5. You can filter the results by Channel or event type.
6. Use the Stat/ Stop button to manage the search

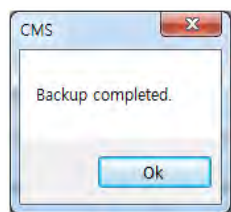
6.5.2 Remote Backup

To start the software's remote backup for a single site:

Right-click on the site from the site's list and select Remote Backup.



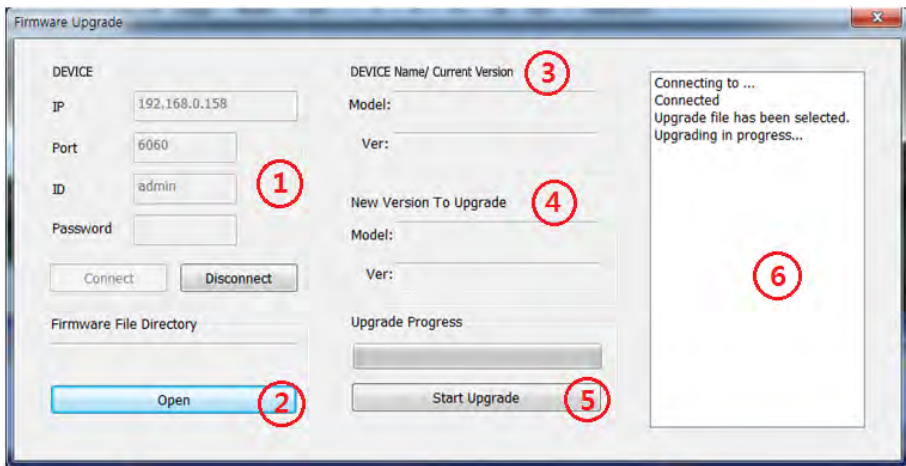
1. Connect to the NVR by confirming the IP address, port number, username and password and pressing 'Connect'.
2. Press 'Create a Directory' to select the backup destination.
3. System Recording Info will indicate the available data on the selected site.
4. Set the start and end date and time for the backup file.
5. Select which channels to include in the backup.
6. Press 'Start Backup'. The status bar will indicate the backup process.
7. You can also refer to the backup status window for text status updates.
8. When the backup process is completed, "Backup Completed" message will appear



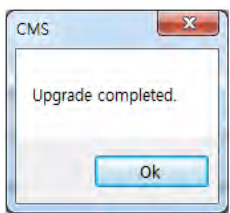
6.5.3 Firmware Upgrade

To start the software's remote firmware upgrade for a single site:

Right-click on the site from the site's list and select Firmware Upgrade.

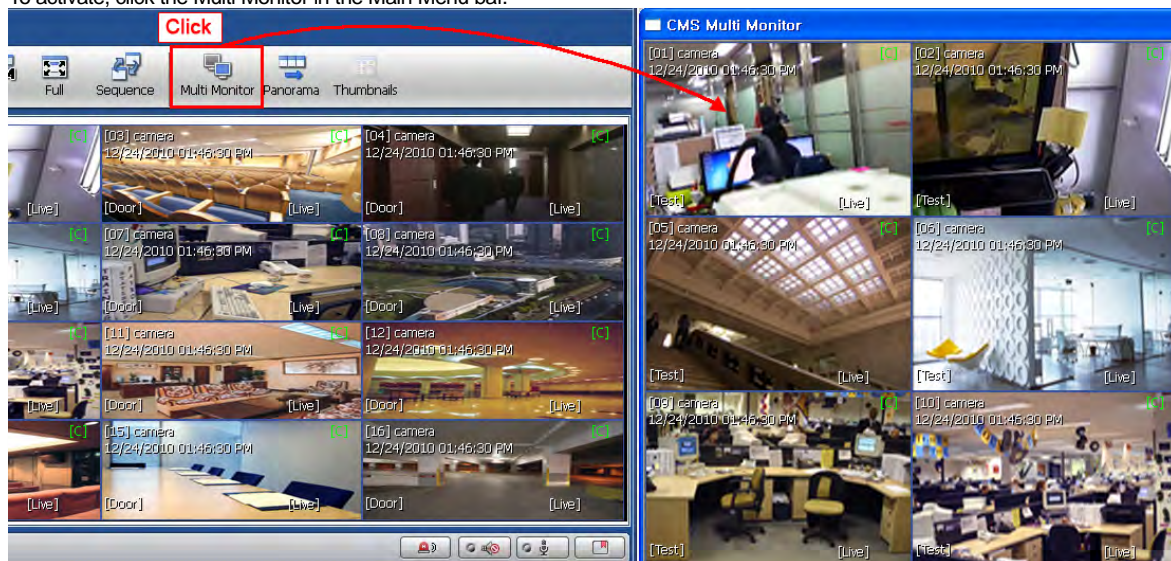


1. Connect to the NVR by confirming the IP address, port number, username and password and pressing 'Connect'.
2. Press 'Open' and locate the new firmware file for the NVR.
3. DEVICE Name/ Current Version will display the NVR's model and current version information.
4. New Version to Upgrade will display the new firmware version.
5. Press 'Start Upgrade'. The status bar will indicate the upgrade process.
6. You can also refer to the upgrade status window for text status updates.
7. When the upgrade process is completed, "Upgrade Completed" message will appear



6.5.4 Multi-Monitor View

The Pivot software supports multi-monitor viewing for large-scale application that require more than one monitoring screen. To activate, click the Multi Monitor in the Main Menu bar.

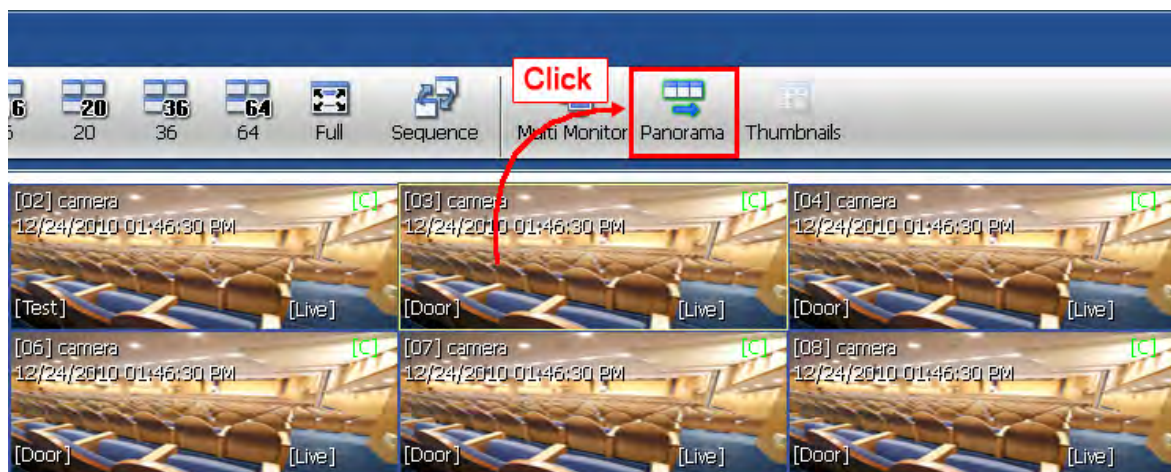


An additional window with the same split display as the main window will appear. You can drag the new window to a secondary monitor.

6.5.5 Panoramic Search

Click **Panorama** in the main tool bar to run enable panoramic view for a selected channel.

In Live or Search mode, the panoramic view will show frame-by-frame display of a selected channel. The Panorama view is available for one selected channel at a time.

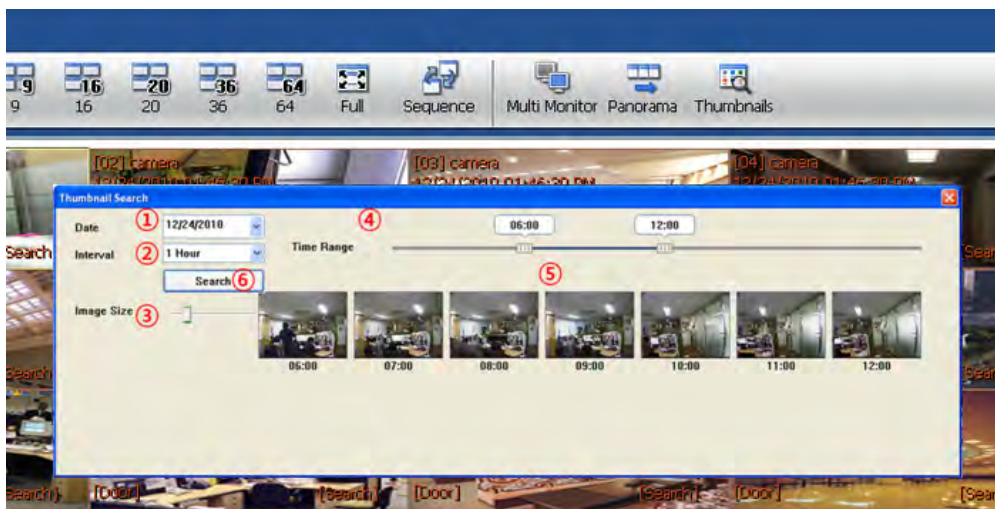


To return to normal view, click **Panorama** again.

6.5.6 Thumbnail Search


Click **Thumbnail** in the main toolbar to run the Thumbnail Search. This feature is available only in Search mode.

1. Make sure you are in playback mode.
2. Select the channel you want search in thumbnail mode.
3. Click **Thumbnails**. The Thumbnail Search Pop-up window will come up.

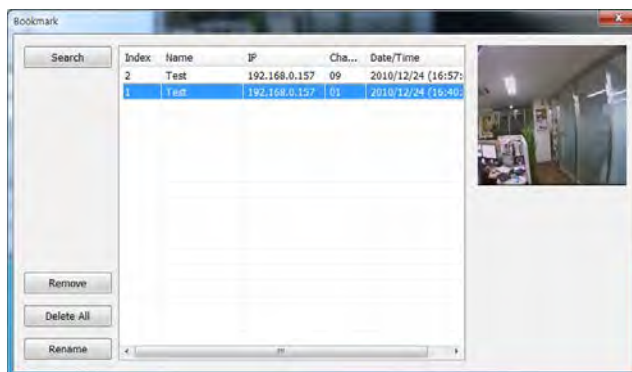


1. Use the calendar section to select a desired date.
2. Select the time interval to display for each thumbnail screen. Chose from 1, 3, 5, 10, 30 minutes and 1 hour. For example, if 5 minute is selected, the thumbnails will display a still shot for every 5 minutes of video.
3. Adjust the image size for the thumbnail view using the sliding size bar. The further to the right, the larger the image size will be.
4. Select the start/ end time for the search.
5. Images with appear Press the 'Search bar.
6. If you click each thumbnail image, you can search the selected data directly

6.5.7 Bookmark

1. Click  icon in the bottom right corner under the video display screen to bookmark a selected one-channel search data. The bookmarked video will start from the time you pressed the bookmark button.
2. Once the selected search data is bookmarked, the bookmark data is listed with an image in the bookmark list as shown below.
3. Select a bookmark from the bookmark list and click search or double click it to search the bookmarked data.
4. Click **Remove** to remove a selected bookmark from the list and click **Delete All** to delete the entire bookmark list.

Click **Rename** to change the name of a selected bookmark.



6.5.8 Virtual PTZ

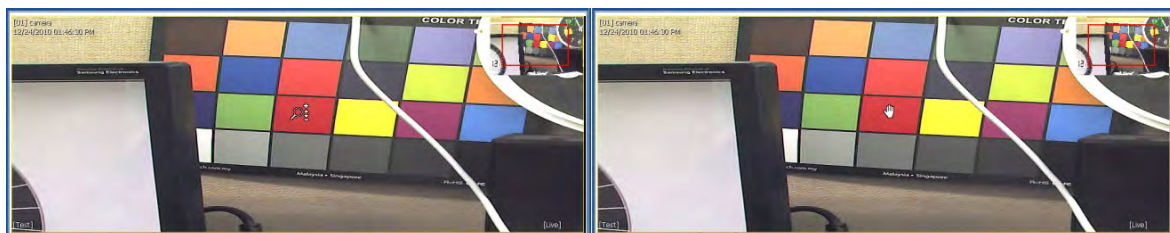
If a PTZ camera is selected, click 'Virtual PTZ' from the PTZ panel to activate 'Virtual PTZ' function. This allows you to control a PTZ camera by using the mouse controls.

Click on the camera's corner view to move the camera in that direction. For example, click on the top right-hand corner of the camera's view to move the camera up and to the right.



6.5.9 Digital Zoom In/ Out

In Live and Search modes, digital zoom can be activated in a single full screen-view mode by using the mouse wheel. Scroll up the mouse wheel, to zoom in. Scroll down to zoom out. The image will zoom to the center by default. Use the red frame on the miniature view at the top right-hand corner of the screen to move the zoom frame around the camera's view.



6.6 Pivot Setup

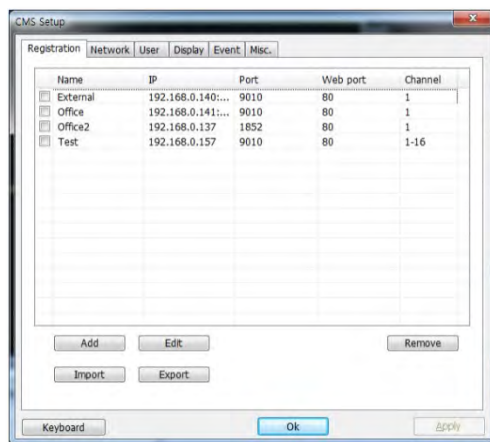
The CMS Setup includes software setup options such as site registration, network and user setup, display, event, and misc. setup.

6.6.1 Registration

Add, Modify, Import, Export or Remove sites from your sites list.

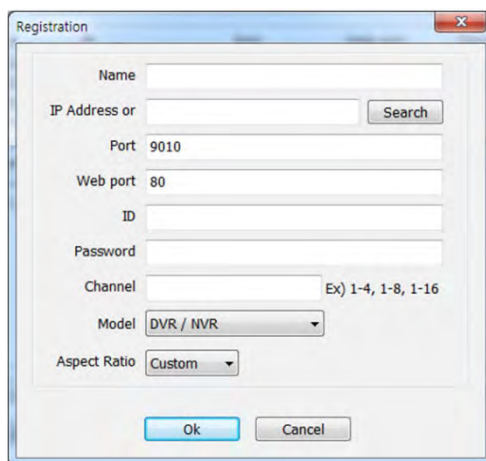
To add a site:

1. Press the 'Add' button.
2. Enter the site's name
3. Enter the site's IP address and corresponding port information.
4. Use the 'Search' button to find all supported devices on the same network. When the search is completed, select the camera you wish to add and press OK.
5. Enter the site's username and password
6. Select the site's model from the drop-down list.
7. Enter the number of channels supported by the site. For example, for a 16 channel NVR, enter 1-16.
8. If necessary, adjust the default aspect ratio for the site.
9. Press 'OK' to save or 'Cancel' to exit.



To modify a site:

1. Check the box next to the site from the sites list.
2. Press the 'Edit' button.
3. Modify any necessary information in the registration page.
4. Press 'OK' to save or 'Cancel' to exit.



To delete a site:

1. Check the box next to the site from the sites list.
2. Press 'Remove'. The site will be removed from the list. There are no warning messages. Once the remove button is pressed, a site will be removed from your sites list permanently.

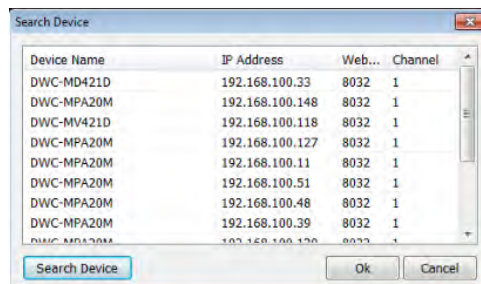
Click Export to save the current site list and as a file. Click Import to import the file to the site list.

6.6.2 Adding IP Cameras

The Pivot V5.5 and up supports live video from OnVIF compatible IP Cameras. To add IP cameras:

1. Press the 'Add' button.
2. Select 'ONVIF Device' from the Model drop-down menu.
3. Enter the camera's information. See 6.6.1 Registration for more information.

4. You can use the 'Search' button to find all supported devices on the same network for easy registration. When the search is completed, select the camera you wish to add and press OK.
5. Press 'OK' to save or 'Cancel' to exit.
6. If you are adding a Digital Watchdog MEGApix camera manually under ONVIF:
 - a. Enter the IP address as follows:
rtsp://ipaddress:554/h264 (for example:
rtsp://72.243.193.200:554/h264)
 - b. Make sure the web port is 8032

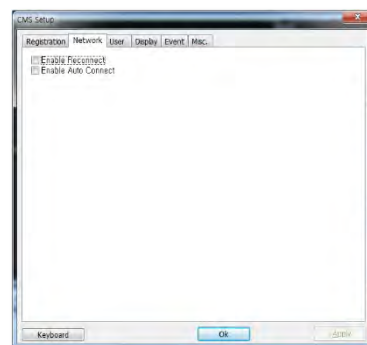


6.6.3 Network

Enables users to setup Reconnect and Auto Connect to the network after a network loss.

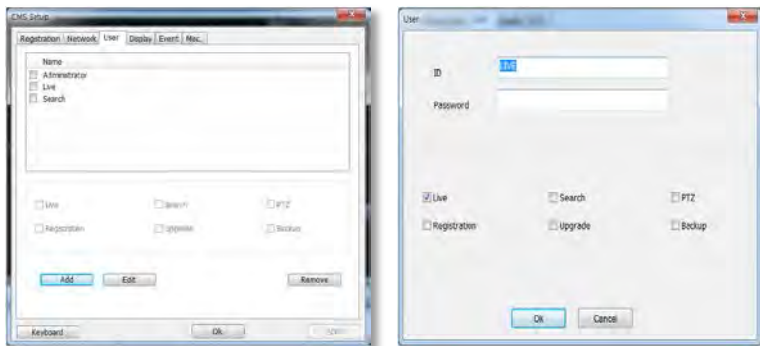
Enable Reconnect: When the network is unstable or disconnected, it will try to reconnect periodically. When the network gets stable again, it is reconnected.

Enable Auto Connect: When you restart the CMS program again, it will reconnect to the last sites seen before logging off.



6.6.4 User

Only the Administrator user can change a user's authority. "Admin" is the built-in account for administrating the device and CMS program.



To add a user:

1. Press 'Add'
2. Enter the user ID and password.
3. Check the box next to the permissions assigned for this user.
4. Press 'OK' to save or 'Cancel' to exit.

To edit a user:

1. Check the box next to the user you want to edit.
2. Press the 'Edit' button.
3. Modify all necessary information.
4. Press 'OK' to save or 'Cancel' to exit.

To remove a user:

1. Check the box next to a user
2. Press the 'Remove' button. There are no warning messages. Once the remove button is pressed, a user will be removed from your users list permanently.

6.6.5 Display

You can modify what information will be displayed on the video screens by checking the corresponding boxes.

Title: Turn on/off the site's title and channel number.

Date/Time: Turn on/off the Date/Time of the site.

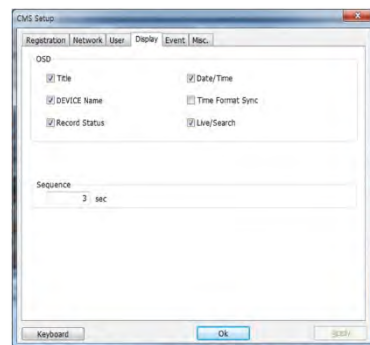
DEVICE Name: Turn on/off the name of the site.

Time Format Sync: Synchronize the site's time format to CMS.

Record Status: Able to turn on/off the Record Status of the site.

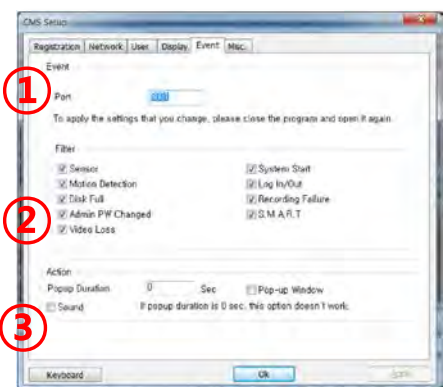
Live/Search: Able to turn on/off the Live/Search of the site.

Sequence: Able to set Sequence interval.



6.6.6 Event

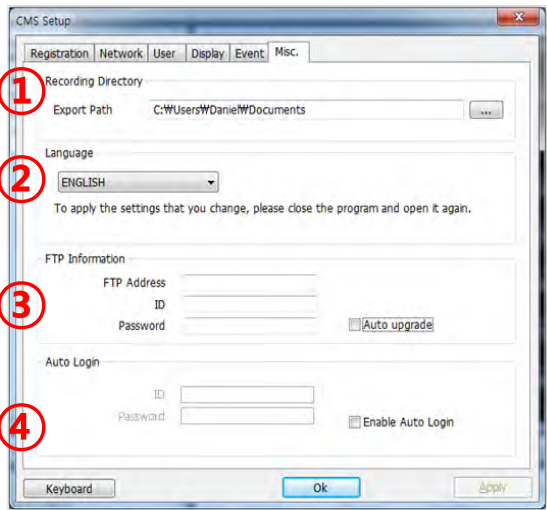
Setup the event port, event type, and popup settings for an event.



| No | Item | Description |
|----|--------|-----------------------------------------------------------------------------|
| 1 | Port | Input same event port from the NVR's setting to receive event notification. |
| 2 | Filter | Select the type of event to receive. |
| 3 | Action | Setup the popup duration and enable beep sound. |

6.6.7 Misc.

Setup the Recording Directory for image and clip exporting, Language, Auto Upgrade FTP information, and Auto Login.



| No | Item | Description |
|----|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Recording Directory | Decide the recording directory to save images and clips |
| 2 | Language | Select a desired language from the drop-down menu options. |
| 3 | FTP Information | In order to enable Auto Upgrade for the supported NVRs, input the proper FTP information. Once the FTP setup is done, CMS will detect the latest firmware is in the FTP and start upgrading the NVR automatically. |
| 4 | Auto Login | If you enable the auto login after inputting ID and Password, next time you login, you do not need to type in the ID and Password again. |



Chapter 7

MAC ACS CLIENT SOFTWARE USER MANUAL

7 MAC ACS USER GUIDE

7.1 System Requirement

Recommended System Requirement

| | |
|-----|------------------------------|
| OS | Mac OS X 10.8(Mountain Lion) |
| CPU | Built-in Intel CPU MAC |
| VGA | Recommended More than 128MB |
| RAM | Recommended More than 1GB |
| HDD | 20MB Free Space |

Minimum System Requirement.

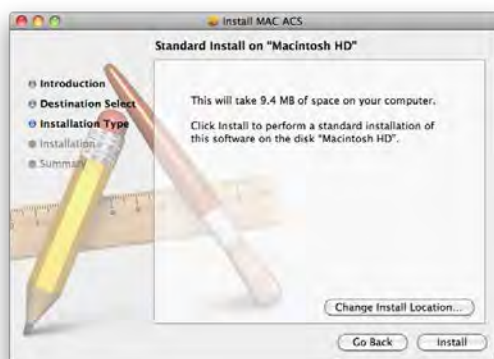
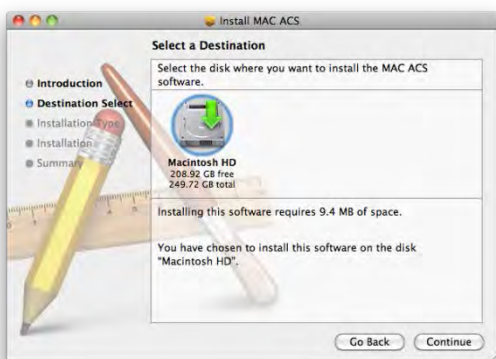
| | |
|-----|-----------------------------|
| OS | Mac OS X 10.6(Snow Leopard) |
| CPU | Built-in Intel CPU MAC |
| VGA | 64MB |
| RAM | 512MB |
| HDD | 20 MB Free space |

7.2 Install

Run MAC ACS.pkg installed on the CD. A Setup Menu will appear as below. Follow the installation instructions to complete the installation.

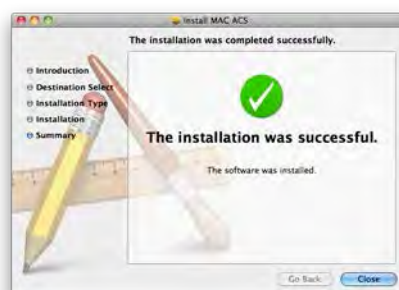


Select the directory to install the ACS software. Press the [Continue] button to move to the next screen.



Press the [Install] button to Install MAC ACS.

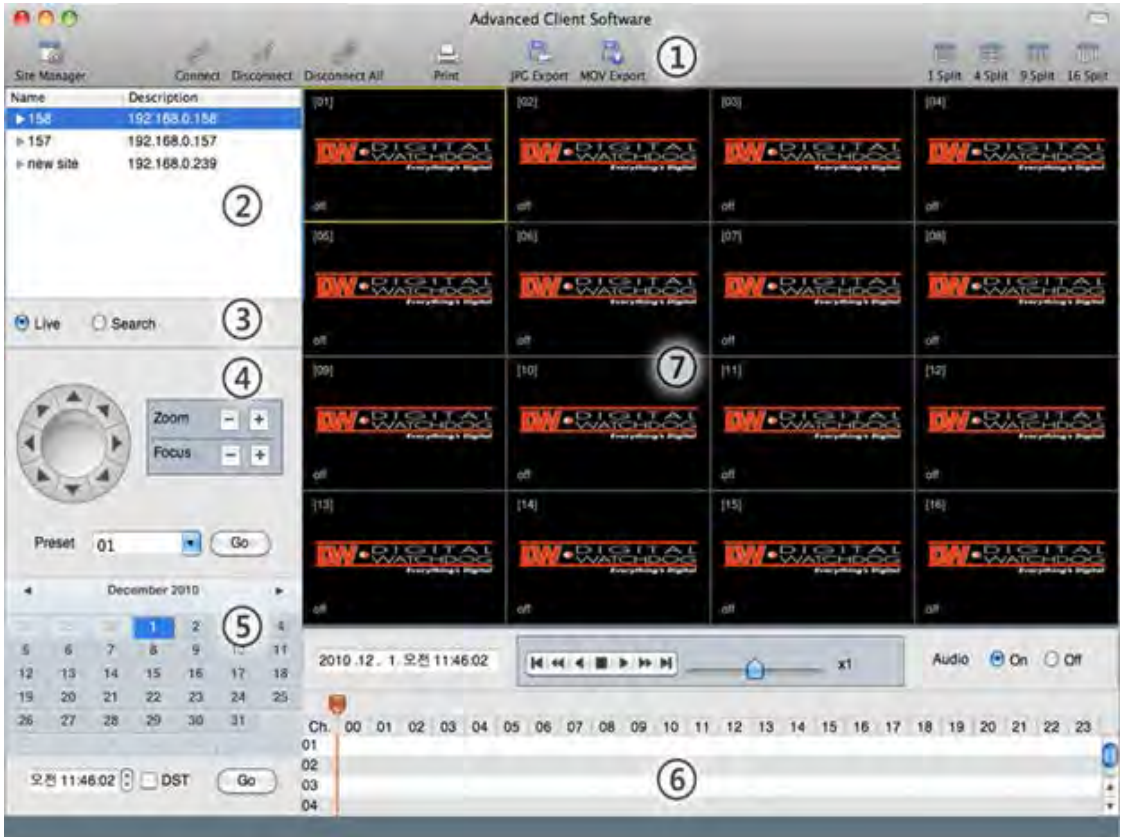
Enter the password and Click [OK] to begin installation. When the installation is complete, the message appears as below.



7.3 Basic Operation

To run the ACS on your MAC, click on ACS icon in the Application Folder.

7.3.1 Screen Layout



| No. | Item | Description |
|-----|----------------|---------------------------------------------------------------------------------------------------|
| 1 | Main Toolbar | Device Management, Connect & Disconnect, Print Image, Export Image or Video, and Display Options. |
| 2 | NVR List Panel | Registered NVR Site List. |
| 3 | Live/Search | Click Live or Search mode to connect to a selected site from the device list. |
| 4 | PTZ | PTZ Camera Control in Live mode |
| 5 | Calendar | Search by Time and Date |
| 6 | Search Panel | Recorded information is shown in search mode. Control the speed of Playback and Audio as well |
| 7 | Display Panel | Transmitted Camera images are shown (Live and Playback) |

7.3.2 Main Toolbar



| No. | Button | Description |
|-----|----------------|----------------------------------------------------------------------|
| 1 | Site Manager | Register, modify or Delete NVRs. |
| 2 | Connect | Connect to a selected site (Select the Live/ Search connection mode) |
| 3 | Disconnect | Disconnect a selected channel |
| 4 | Disconnect All | Disconnect All Channels on the display area |
| 5 | Print | Print image |
| 6 | JPG Export | Save a selected image to the desktop as a JPEG. |
| 7 | Movie Export | Save a selected video clip to the desktop as a mov. file |
| 8 | Split | Select from single channel, 4-split, 9-split, or 16-split |

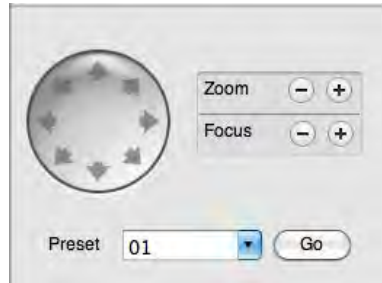
7.3.3 Site List Panel

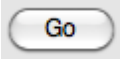


The site list panel shows all registered NVRs. To connect a site, click on the NVR's name and drag & drop it to the display area. Select Live or Search from the connection mode panel to view video from the site.

7.3.4 PTZ Panel

Supported PTZ cameras that have been properly setup in the NVR can be controlled in live mode via the ACS software.




| No. | Button | Description |
|-----|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|
| 1 | Navigation Key | The PTZ camera can be moved in 8 directions. |
| 2 | Zoom | Optical Zoom In and Out (enabled on supported models). |
| 3 | Focus | Adjust the focus of PTZ camera (enabled on supported models). |
| 4 | Preset | Select a preset (preset must be setup previously in the camera). |
| 5 |  | Move the camera to the position associated with the selected preset. |

7.3.5 Calendar Panel

The calendar panel is enabled in search mode only.



Days with available recorded data will display a small dot under the day's date. The selected day will be highlighted in Blue. When a day is selected in the calendar, playback time will automatically update for cameras in the display area.

Press the  button to start playback from a selected date and time.

If DST is enabled, the earlier one-hour overlapped video will be shown first.


7.3.6 Search Panel

The Search panel is enabled only in search mode.



- The search panel shows record information for each channel, with each color indicating a different recording mode:

No Record Background Color

Continuous (Yellow Color) 

Panic (Red Color) 








Alarm (Orange Color) 

Motion (Green Color) 

- Click the time or move the time bar to playback in the search panel.


7.3.7 Playback Panel



| No | Button | Description |
|----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 1 |  | Go to first |
| 2 |  | During forward playback : Decrease playback speed During reverse playback: Increase playback speed |
| 3 |  | Reverse Playback |
| 4 |  | Pause |
| 5 |  | Forward Playback |
| 6 |  | During forward playback: Increase playback speed During reverse playback: Decrease playback speed |
| 7 |  | Go 10 seconds before the end of the data. |

7.3.8 Site Manager

To add, modify, or remove NVRs from your site's list, press the Site Manager Button.

Press  to add a NVR entry. The system will fill out the information automatically.



To change the default values, double-click on each column.

Name: Enter a name associated with the NVR.

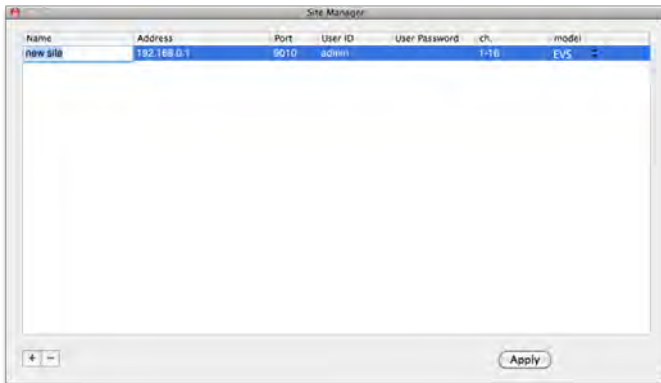
Address: Enter the NVR's IP Address.


Port: Enter the NVR's Port information.


User ID and Password: Enter the NVR's ID and password.


Ch.: Enter the number of channels the device has. For example, for a 16 channel NVR, enter 1-16.

Model: Select the corresponding model from the drop down options.



After all the necessary modifications have been made, press the  button.

To delete a registered NVR, Select the NVR and click 

After modifications have been made, press 

8 APPENDIX : NETWORK SETUP FOR EXTERNAL USAGE

Please note: The following information are general guidelines. These may vary by network and router specifications. Contact your Network Administrator or Internet Service Provider for additional information.

If you are not connecting to your NVR from within the same network, you will have to perform port forwarding on your router to access the NVR externally, via the internet.

1. In the [Network] menu set "Network Type" to [Dynamic IP] and click [IP DETECT]. The system will automatically detect the correct settings for the network where the NVR is installed.
2. Once the system generates all the information based on your network requirements, change the Network Type to Static and save all the changes as static.
For additional information, and to obtain a proper IP address, contact your network administrator or Internet Service Provider.



3. Some internet service providers block port 80 in their customer's routers. Changing the web port number to 81 or 82 is recommended.
4. Access your router by entering its external IP address in your web browser. This information can be found by running an ipconfig command on your computer's Command Prompt. The router's external IP address is the GATEWAY address.
5. Check the DHCP settings in your router and setup the NVR for external connections by performing port forwarding. It is highly recommended that you contact your Network Administrator for more information and proper handling of your router. Port forwarding will tell the router that all data received via those specific ports, will be redirected to the NVR. For the VMAX960H Core, you will need to port forward the two following ports:
 - a. Mobile Port: 9010 (Default)
 - b. Web Port: 81 or 82 (Default was 80)
6. Visit www.portforward.com for additional information on port forwarding for specific routers.
7. Visit www.yougetsignal.com to test whether the ports have been properly opened. Allow up to five (5) minutes for the router to update.

Port Forwarding Tester

your external address

108.9.143.90

open port finder

Remote Address Port Number



Use Current IP

Port 80 is open on 108.9.143.90.

8. Once the router settings have been configured, open an internet explorer page and enter your router's external IP address:NVR's port number (for example: 72.243.193.215:81).

NOTE: You can also connect to the NVR using Google Chrome by installing the 'IE Tab' add-on

9 APPENDIX : SPECIFICATION

| VMAX IP 4CH | | VMAX IP 8CH | VMAX IP 16CH |
|-----------------------|------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Photo | |  |  |
| Compression | Video | H.264 HP JPEG supported | |
| | Audio | ADPCM, PCM supported | |
| HDD Interface | | 2ea x SATA I / II / III | |
| Operating System | | Embedded Linux | |
| Video output | | HD Output (1920x1080p/1280x720p/1280x1024/1024x768) | |
| Live & Playback | Decoding | Max 120fps @ 1080P | Max 240fps @ 1080P (30fps per CH) Max 480fps @ VGA |
| | Display mode | 1/4 auto sequence, Main stream(recorder), Second stream(mobile/web) | 1,4 Display : Main Stream(Recorder) 9 Display : Secondary Stream(Mobile/Web) |
| | Search Mode | Date/Time, Record Table, Calendar, Event, Bookmark, Play from Search, System log | |
| Record | Main Stream | Max 120fps @ 1080P | Max 240fps @ 1080P (30fps per CH) Max 480fps @ VGA |
| | 2nd Stream | Real-time up to WVGA | |
| | mode | Continuous, Event, Pre-alarm, Post-alarm | |
| Network | Interface | 1 x 10/100/1000Mbps WAN port | 1 x 10/100/1000Mbps WAN port, 1 x 1/10/1000Mbps WAN port, |
| | | 4 x 10/100Mbps PoE ports | 8 x 10/100Mbps PoE ports 8 x 10/100Mbps PoE ports |
| | Protocol | TCP/IP, DHCP, NTP, HTTP, DDNS, RTP, RTSP, FTP, SMTP, Onvif, uPnP | |
| Storage | e-SATA | Supportable | |
| Interface | USB | 2 x USB 2.0 | |
| | PoE | 4 ports (802.3 AF supported) | 8 ports (802.3 AF supported) |
| Mobile | iPhone, iPad, Android, Kindle fire | | |
| Audio In / Out | N/A | | 1 x Audio in, 1 x Audio out |
| Alarm | 1 x Alarm in, 1 x Alarm out | | 4 x Alarm in, 1 x Alarm out |
| PTZ | Network Protocol | | 2 x RS-485, Network Protocol |
| Power | Main: 12V / 3A | | Main: 12V / 5A |
| | PoE : 48V / 1.4A | | PoE: 48V / 2.5A |
| etc. | Mouse, Remote IR Controller | | |
| Operating Temperature | 0°C ~ 40°C | | |
| Operating Humidity | 0% ~ 90% | | |
| Approvals | FCC, CE, KC | | |

NOTE Specification are subject to change without notice.