DW • DIGITAL WATCHDOG ®
Complete Surveillance Solutions

((ompressor ™

Analog to IP Video Encoder

1080p HD Analog, HD-TVI, HD-CVI and up to 960H Analog Encoder

DW-CPUHD16

Username: **admin**

Password: **no password**

WHAT'S IN THE BOX					
Quick Start Guide		1 Set	12V DC Adaptor and Power Cable		1 Set
USB Mouse		1 Set	Screws (Top Cover) – 4pcs		1 Set

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 SYSTEM unit.*

Preparations before installation

To protect yourSYSTEM from damage and to optimize performance, be sure to keep the SYSTEM 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 atemperature-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 SYSTEM units must at least be connected with UL, CUL, or CSA approved power surge protector.   Avoid direct sun light and avoid heat.

FCCInformation

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.

ULInformation

- 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.

Contents

Chapter 1

SYSTEM USER MANUAL

1 GETTING STARTED

1.1 Checking Supplied Items

Make sure that you have the following items supplied with your System. 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
12V DC Adaptor Power Cable		1 Set
USB Mouse		1 Set
Screws		1 Set

1.2 Connecting Peripheral Device

This section describes how to connect peripheral devices efficiently to the System.

Install the Systemon flat surface. If required, attach a rubber mount for installation. If a 19-inch rack is used with 1.5U Height case, it is recommend to install the system on a shelf and use 2.5~3U (1U=1.75 inch or 4.45 cm) space for proper ventilation.

> NOTE   Install the system in a location with good ventilation to prevent overheating.
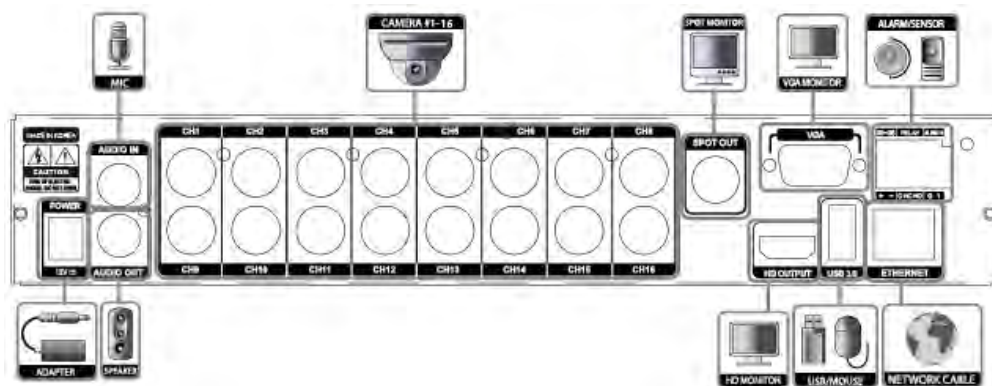
> WARNING !   ※When connecting power cord to the system, it is strongly recommended first to plug the power cord to the system and then plug the other side of power cord into the wall socket.

1.3 System Startup and Shutdown

1.3.1 System Startup

After connecting all necessary peripheral devices such as cameras, monitors and a mouse to the System, power up the System by connecting DC12V adaptor to the power jack on the rear panel. The boot log screen will appear. Please wait until the boot process is complete.

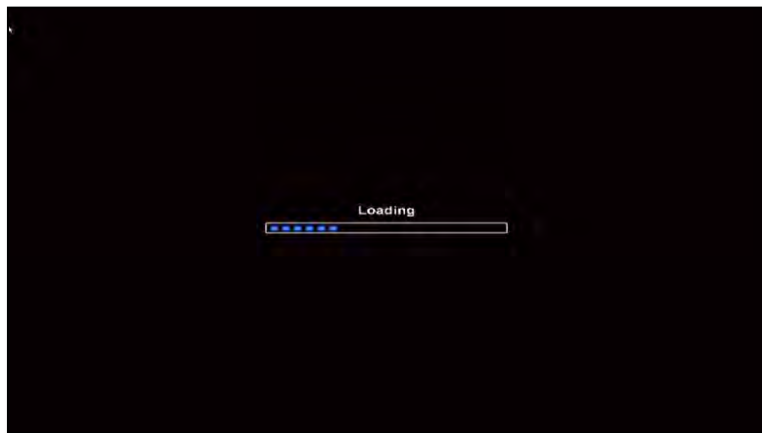
To login, right-click anywhere on the screen. This will bring up the login screen, where you can enter the username and password. There is only one Administrator Account configurable in the system. It is assigned with an unchangeable User ID marked as 'admin'. The default password is empty (No Password). Administrator account has full access to the System 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.
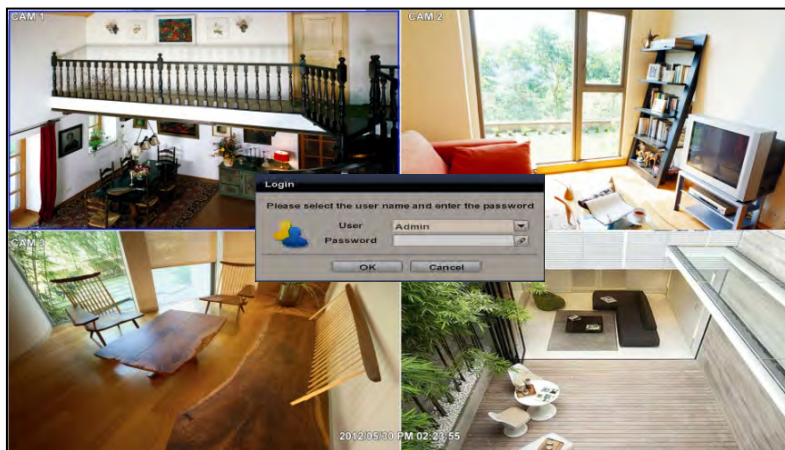
NOTE   Do not forget the administrator's password that was set for the first time. In case the password is lost, contact your vendor.

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.

1.3.2 System shutdown and change password

To power off the System, follow one of the options below:

1. Right-click on the screen and select 'Shutdown' from the drop-down menu. Enter the username and password to power off the System.

2. Right-click on the screen and select 'Setup Menu'. Go to the System Settings sub-menu and select the 'Default' tab. Press the 'Shut Down' button at the bottom right of the window. Enter your username and password and select OK to power off the System.
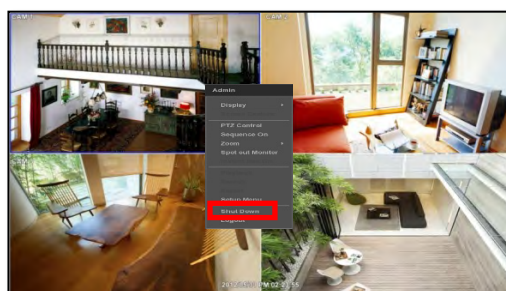
NOTE It is not recommended to disconnect the power cable abruptly from the back of the Systembecause it may affect the Systemand Hard Drive.

The default password for 'admin' account is none. Therefore, just click 'Enter' button on the dial pad. If you changed the password for 'admin' account, please type in the changed password to login.
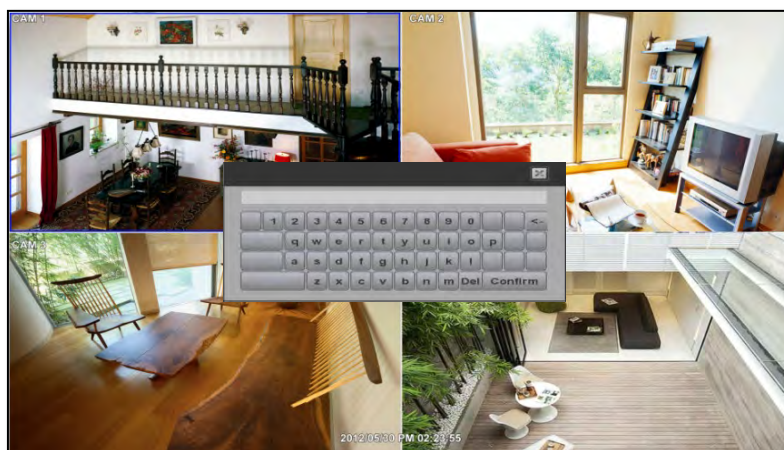
NOTE User can type in the password using the virtual keyboard or the numeric buttons on the IR remote controller.

2 EXPLANATION FOR EACH FUNCTION

2.1 Front Panel

No.	Items	Functions
1	LED Indicator	System status LED indicators Green = The system is powered and ON. Red = The system is currently recording Yellow = The system is being accessed remotely via the network
2	USB Port	USB Port for Mouse Operation, Backup Device or Firmware Update

2.2 Rear Panel
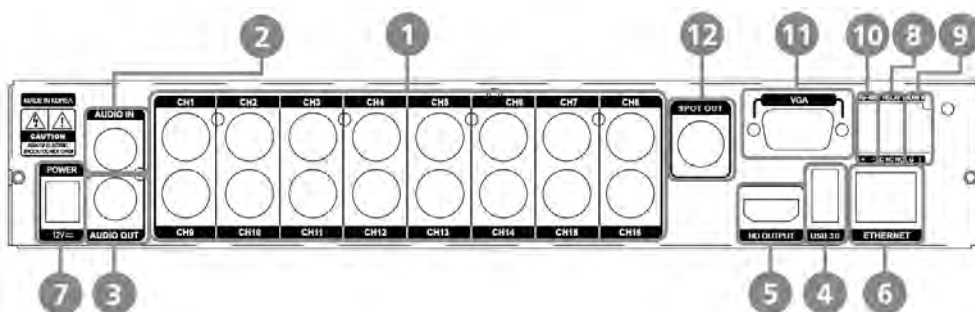
No.	Name	Description
1	Video-In	Camera inputs (Supports NTSC/PAL)
2	Audio-In	Audio Input Device (with Amplifier)
3	Audio-Out	Audio Output Device (with Amplifier)
4	USB Port	USB 2.0 Port for Mouse Operation, Backup Device, or Firmware Update
5	HD OUTPUT	HD OUTPUT
6	LAN Port	1 x 10/100/1000M
7	Power Input	12V
8	Alarm Output	Alarm Output
9	Sensor Input	Sensor Input
10	RS-485 Port	PTZ Dome Camera or External Keyboard Controller connection
11	VGA	D-sub VGA Output
12	SPOT	SPOT Output

Note Carefully check whether the specifications of the peripheral devices match the SYSTEM's specifications.

2.3 IR Remote Controller(Optional)

The SYSTEM comes with a complimentary IR remote controller

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	Spot out monitor
5	Channel Selection
6	Instant Playback
7	Search Button
8	OK (Select) Button
9	Audio Mute
10	Playback Control on Search Mode (Fast Backward/Playback/Stop/Fast Forward)
11	Exit Menu Setup
12	Display Mode
13	Digital Zoom
14	Bookmark
15	Zoom In & Out Button
16	Backup
17	PTZ Control
18	Directional Arrows Buttons (Up/Down/Right/Left)
19	Menu Setup

3 OPERATION

3.1 User Log-in

The Systemhas various setting categories. The administrator can set the system password and <User> to prevent unauthorized changes to setting values and alteration of recorded file.
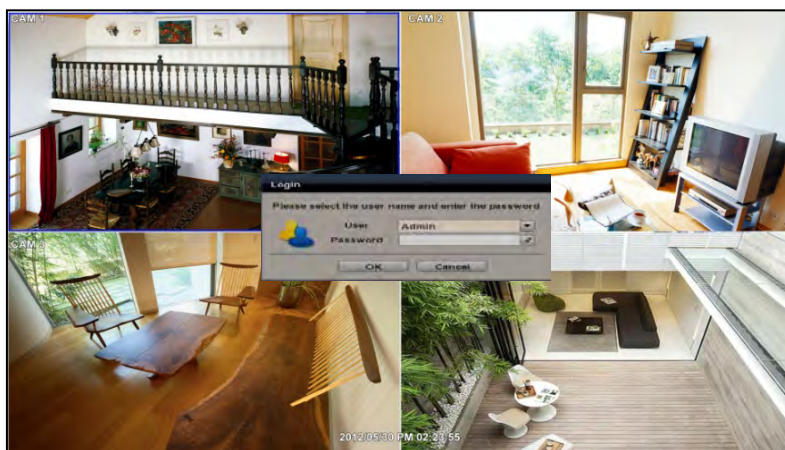
Enter the <Admin> or <User> password which had been set by using the virtual keyboard.
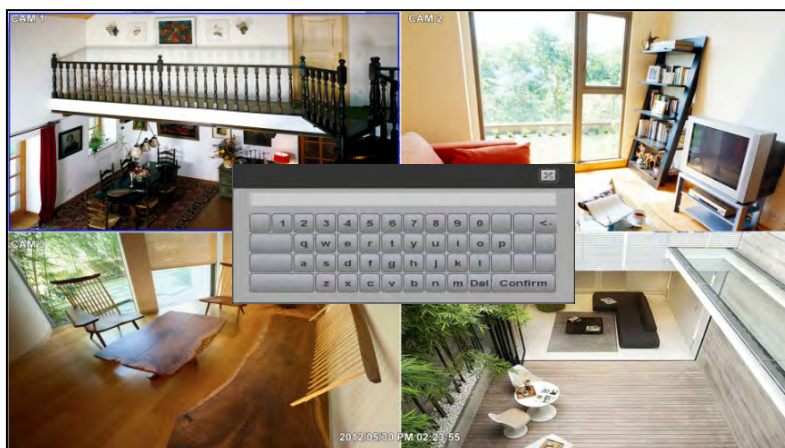
NOTE   1) <LOGIN> window will be displayed until user logs in with the right ID and password.
2) If theSystemis set to Auto Log-In, SYSTEM does not require LOG-IN. (Please refer to 4.1.2 User.)

3.2 Quick Startup Wizard

Quick Startup Wizard is specially designed to make it much easier for the major Systemsettings such as Time/Date setup, Record setup, Network setup. When the System boots up, Wizard operates automatically.It can be disabled by setting in the main menu.

Adjust the date & time for the System. Setting this before the Systemstarts recording will prevent and time conflict, which may result in data loss.
See section 4.1.1 System Info for more information.

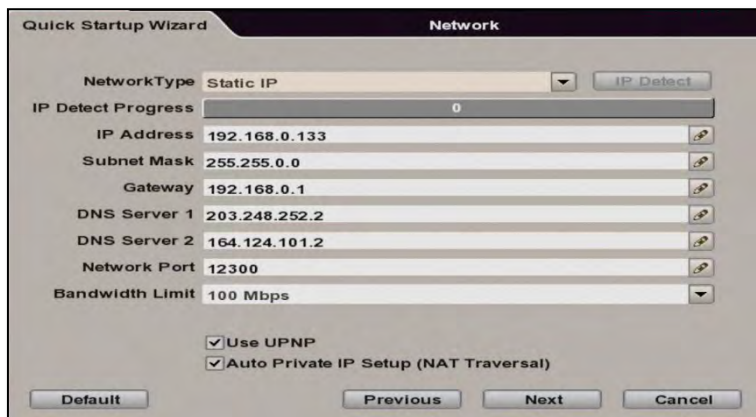| Quick Startup Wizard	Date/Time
Language	English
Date/Time	2016/06/27 17:07:55
Display Format	YYYY/MM/DD HH:MM:SS
Date/Time Format	YYYY/MM/DD 24H
Time Zone	Seoul
	☑ Use DST

Default   Next   Cancel

See section 4.4 Network for more information on setting up the Systemfor external connection.

Quick Startup Wizard	Network
NetworkType	Static IP IP Detect
IP Detect Progress	0
IP Address	192.168.0.133
Subnet Mask	255.255.0.0
Gateway	192.168.0.1
DNS Server 1	203.248.252.2
DNS Server 2	164.124.101.2
Network Port	12300
Bandwidth Limit	100 Mbps

☑Use UPNP
☑Auto Private IP Setup (NAT Traversal)
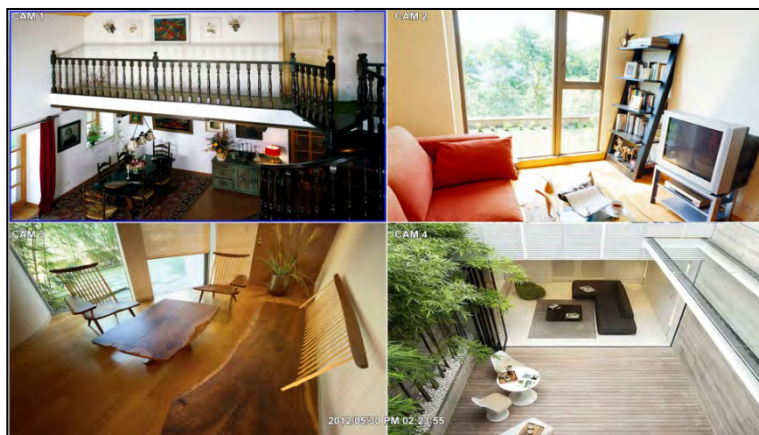
Default   Previous   Next   Cancel

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 its HDoutput.

Able to set max 4k(3840x2160) : HD output and supplied 4K monitor

<Full HD Live Display>

3.3.2 Channel Selection

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 display mode can be changed by selecting the appropriate display mode from the menu bar at the bottom of the display area.

The live images can be displayed in real-time in 1, 4, 9, 16 screen splits (depending on the model and the supported channels). Whenever the left/right arrow button on the front panel or IR remote controller is pressed, the screen will be sequentially changed.

[1 Ch]
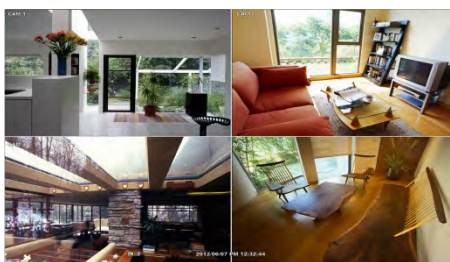
[4 Ch]
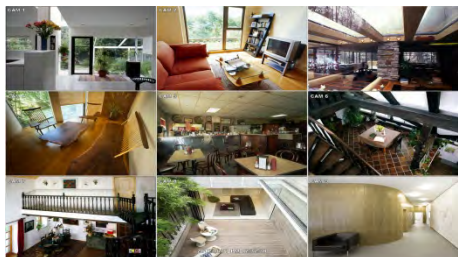
[9 Ch]
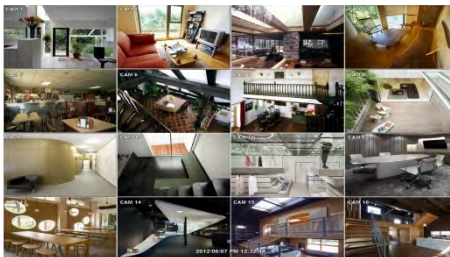
[16 Ch]

To select channel by mouse, click target channel single time to display in full screen. To return to previous display mode,   click 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

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.
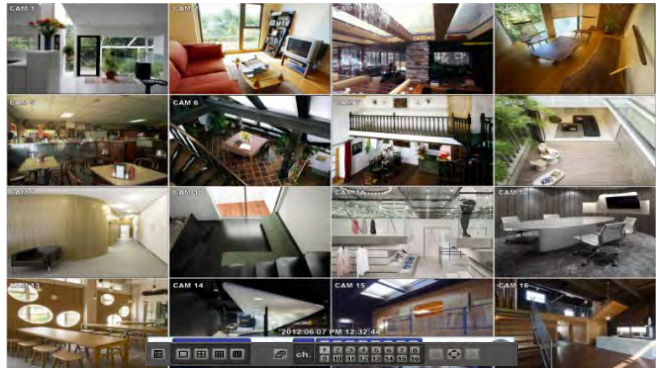

Menu Bar	
	Menu button. When pressed,System Setup, Search, Backup, Logout will appear.
	Screen split options- Select from single channel, 4 channel, 9 channel, or 16 channel display.
	Sequence- if pressed, the system will start displaying all the channels in sequence mode. To stop, press the button again, or right click on the screen and select 'SEQUENCE'
	CH. Buttons- view a specifc channel in full screen mode.
	PTZ mode- Control any supported PTZ cameras by moving the mouse pointer.

3.3.4 Pop-up Menu

Right clicking anywhere on the screen will open up the pop up sub-menu as shown below.
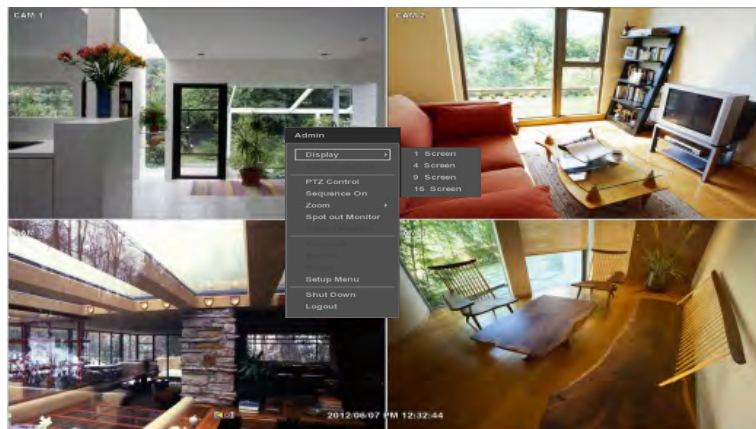
DISPLAY- Select the display split from the available options:
- 1 Screen- Single channel. Automatically displays CH1. If 1 Screen is selected again, next chronological channel will be displayed.
- 4 Screen- Quad mode. Automatically displays channels 1~4. If 4 Screen is selected again, the next chronological 4 channels (5~8) will be displayed.
- 9 Screen- Automatically displayes channels 1~9. If 9 Screen is selected again, the next cohoronological channels (10~16+1~2) will be displayed.
- 16 Screen- Displays all 16 channels (available only in 16 channel models)

PTZ CONTROL- Open the System'sPTZ control. See section 3.4PTZ for more information.

SEQUENCE On/Off- when selected, [SEQ] icon will appear on the bottom right corner of the screen, and the display screen will be sequentially changed.
Please note, option will be disabled if display area is in Max channel mode.

Spot out Monitor- Enter Spot out Monitor Control Mode.

ZOOM- Enables/ disables digital zoom function with x2, x4, x8 button. When enabled, [ZOOM] icon will appear and zoomed area will be displayed on the bottom right corner. 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.

SETUP- open the System'smain menu.

SHUT DOWN- Power off the System.

LOGOUT- User logout.

As the Admin user, you can seup 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 PTZ Operation

Before starting PTZ control, please make sure the camera you wish to control is a supported PTZ camera and is installed and configured properly. See section 4.2.6 PTZ for setup information. To enter PTZ mode, follow one of the options below:

1. Right-click on the screen and select PTZ Control.

2. Click on the joystick button in the menu bar located on the bottom of the main screen.

3. Press the PTZ button on the IR remote control.

4. Also to use UTC click the button, the camera menu display on the full screen. And user move button menu by up/down, left/right button change the setting. Enter is select menu.
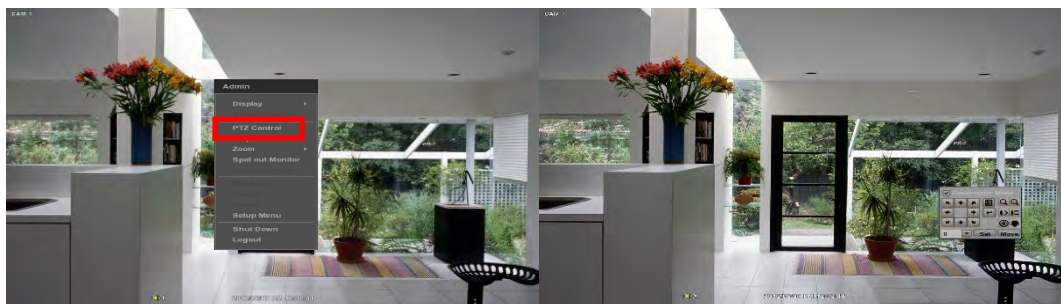
In PTZ mode, user can control PTZ operation with the USB mouse.

While pressing the left button of the mouse, drag the mouse pointer up/down, left/right to move pan/tilt position of the camera accordingly. The further away from the center of the screen you move the mouse, faster will the camera move.

> **NOTE**   Full PTZ functions are available by using USB mouse, IR remote control, or keyboard controller and are available only on supported PTZ cameras.

For focus control in PTZ mode, right-click to get the pop-up menu as shown below. Default mode is to "ZOOM".

The user can also select the preset button to start/ stop a preset, or exit PTZ screen model.
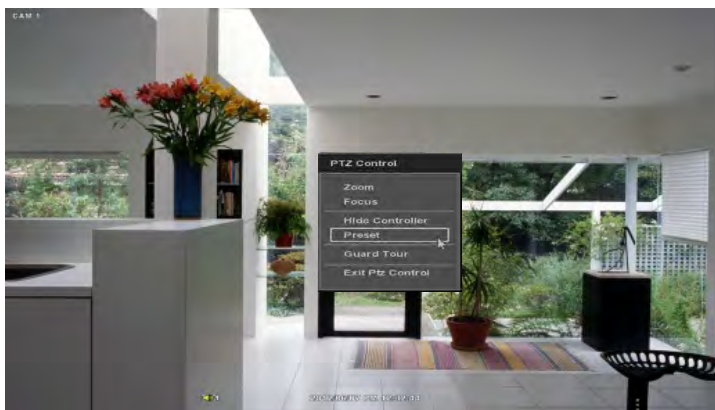
> **NOTE**   User will see numeric pad to select "Preset" number. The preset is defined by setting a PTZ protocol in the setting menu. The maximum number of preset is 255, but the number of available presets may vary by camera make and model.

User can automatically switch PTZ camera positions according to defined presets by using the GUARD TOUR function. The connected PTZ camera must support touring functions. "GUARD TOUR" on the pop-up menu can be enabled only in full screen mode. See 4.2.6 PTZ for instructions on how to setup the GUARD TOUR.

Caution	Depending on PTZ camera, some preset positions might be skipped if, for example, the PTZ camera cannot mechanically move or control focus within the interval time required by the System. In this case, it is recommended to increase the interval setting to a value that allows for the cameras to finish its Pan & Tilt.

3.5 Spot outMonitor

Click the right button on the mouse and select the Spot out MONITOR in order to enter call monitor control mode. The numeric panel will pop up at the center of the screen.

Click the specific channel button on the numeric panel to display full screen mode out of assigned spot out channels.

▪ Press the close button on the bottom of the numeric panel. It will go back to the previously programmed spot monitor mode.
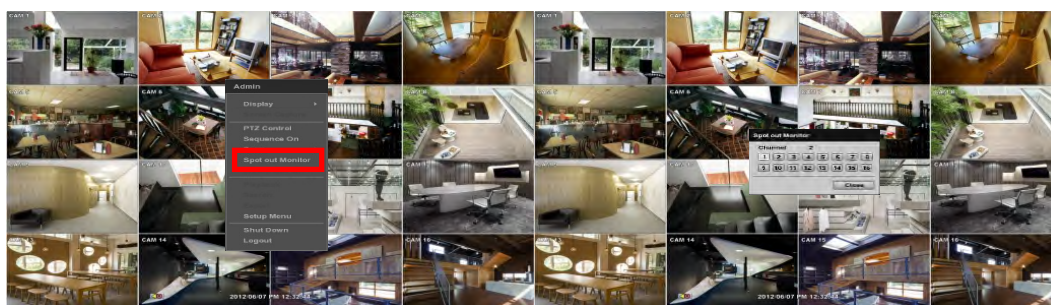
Note	- A spot out monitor displays another spot out monitor's video in full screen through the function, spot out monitor. - In spot sequence setting mode, if spot out monitor is selected, spot sequence stops and selected channel pops up. - While call monitor runs, if a channel event happens, spot out monitor stops and the event pops up.

3.6 DST Setting

DST starts at 2:00AM local time on 2nd Sunday of March, and ends at 2:00AM DST on 1st Sunday of November.

During DST (Daylight Saving Time), the System's clock needs to be adjusted according to regional time zone. The System's time will shift one hour after the DST settings start, and the System will restore the time clock back to normal after DST ends.

To enable DST setting on the System, right-click anywhere on the screen and go to: SYSTEM > SYSTEM INFO and click "DATE/TIME" to get the DST setting window. Check the box next to "USE DST" and select the DST "Begin & End" time.

Since the clock jumps from 2:00 to 3:00, when you go to search mode, you can see there is no data in all channels for one hour due to DST.

When DST ends, there is an hour of overlapped video. The overlapped video will be indicated in a dark blue color on the Intelli-Search Bar during playback mode.
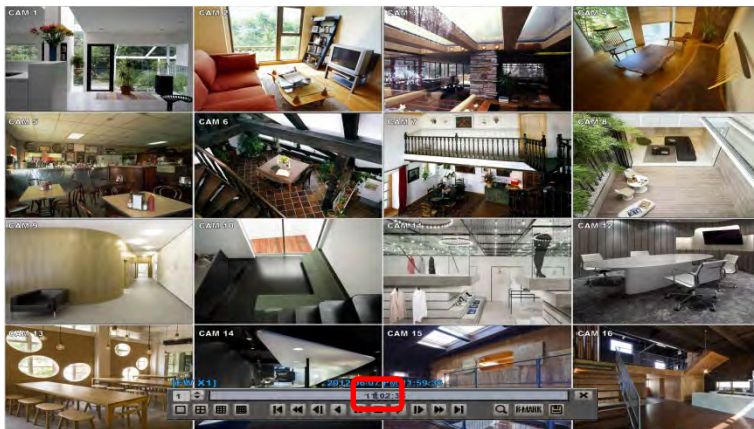
When user click the overlapped period, "Recorded video Selection" message will pop up. Select whether to play DST data or Non-DST data.

.

Click OK to play DST image.   Click CANCEL to play Non-DST image.
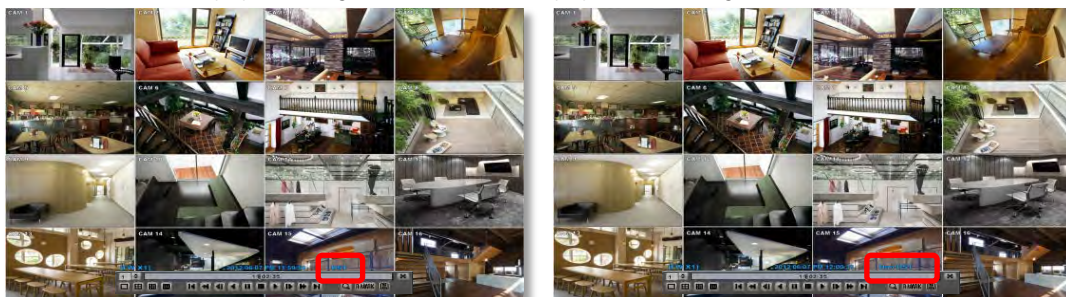
["DST" image is displayed on screen]   ["Non-DST" image is displayed on screen]

3.7 Schedule Reboot

Add Schedule Reboot
Reboot the Systemon a designated date and time. During the long time working, refresh the Systemautomatically
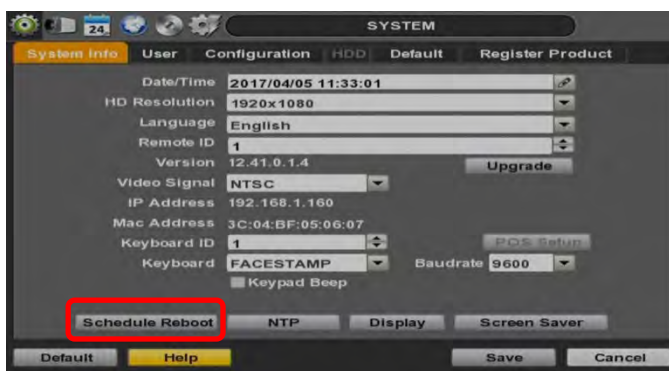
Click the Schedule Reboot button>Check the 'USE' >Select week>Select day.
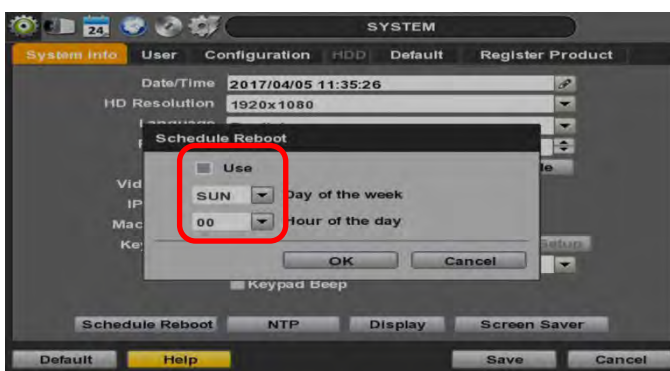
3.8 Screen Saver

The Screen Saver features protects the screen and data of the Systemby 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". Select HD output and set the Waiting Time from the options in the drop-down menu.
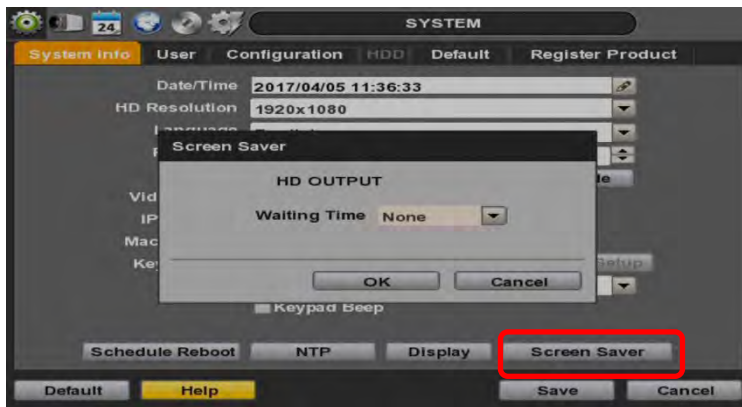
NOTE   The Screen Saver will not work if Waiting Time is set to "NONE" or the HD output box is unchecked. Screen Saver may also be disabled during a firmware upgrade, HDD format, or data backup. The system will continue to record while the monitor is off.

4 SETTING

General settings structure consists of "System", "Device", "Record", "Network"

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

1. Click the [icon] 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.

<SYSTEM><DEVICE>

<RECORD><NETWORK>
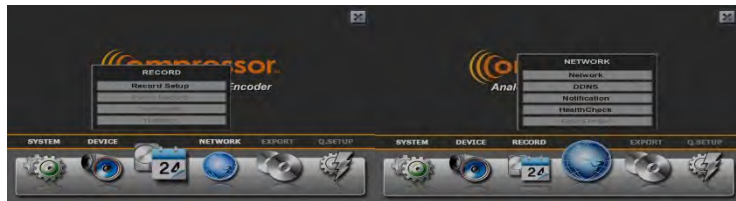
Main Classification	Sub Classification
SYSTEM	SYSTEM INFO
	USER
	CONFIGURATION
	FACTORY DEFAULT
	REGISTER PRODUCT
DEVICE	CAMERA
	AUDIO
	SENSOR
	MOTION ALARM
	EXTRAALARM
	UTC/PTZ
RECORD	RECORD SETUP
NETWORK	NETWORK
	DDNS
	NOTIFICATION
	HEALTH CHECK

4.1 System

4.1.1 System Info

The System Info sub-menu includes the following options: Date/ Time, HD output Resolution, Language, Remote ID, Version & System Upgrade, Video Signal, IP & MAC Addresses, Keyboard Setup, NTP Setup, Display Setup, and Screen Saver Setup.
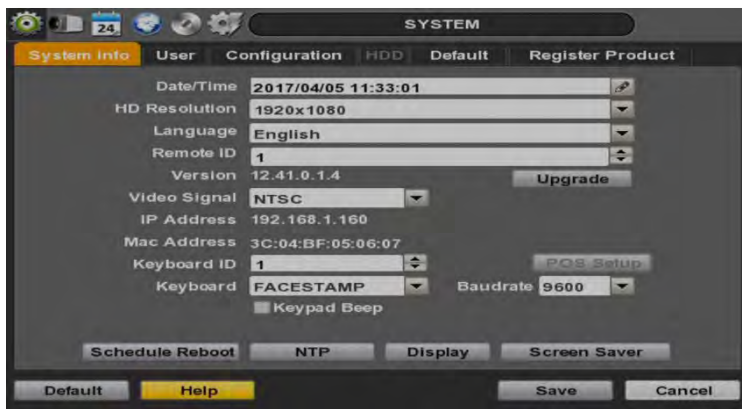
- **Date/ Time**- Using the available options, manually adjust the date and time, select the display mode for the time and the date, and select the appropriate time zone. If applicable, check the 'USE DST' box. See **3.6 DST Setting** for more information.

- **HD Resolution**- Select the System's output resolution. system support the following video resolutions: 1024x768, 1280x1024, 1920x1080, 3840x2160(4K no support 4ch model.)
  User must set the proper resolution according to the monitor resolution

- **Language**- Select the System's display language from the availanle in the drop-down menu.

- **Remote ID**- Set the System'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 System. It is always recommended to maintain your Systemup to date with the latest firmware to guarantee the System'sproper 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 System(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

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    3. Enter the username and password (these should be filled out automatically). Username: VMAXA1password: VMAXA1–

    4. Click 'Check' to allow the Systemto connect to the FTP server and check the latest Firmware version. If a new firmware is available, the Systemwill 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 System.
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 input signal to the System. 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 Systemvia its web viewer or the Pivot Client Software. See section **4.4 Network** for more information and setup.

- **Keyboard setup**- Setup the System'sID, baudrate and model to match the information of the keyboard you would like to use. The Keyboard's ID must match the ID set in the System.

- **NTP Setup**- Setup the Systemto automatically sync witha Network Time Protocol.
There are two types of TIME SYNC MODE:

    o Client Mode- The operating System is set as the client System . Enter the IP address or URL of another System or Central MonitoringSoftware (CMS), as a Time Sync Server in "SYNC SERVER". This will cause your System to sync its time with a Time Sync Server in the set interval time.

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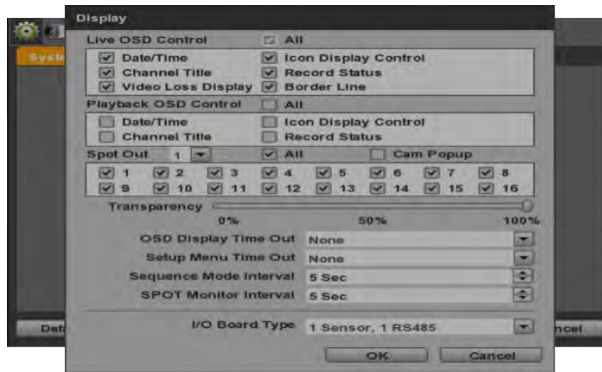
- o OSD:

    - Select which information to display in the OSD on each channel in **Live**.

- 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.

- **Screen Saver Setup**- See section **3.8 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 System .

-    Function - restrict a user's access to functions such
     as search, PTZ control, backup, and playback.

-    Menu Access- restrict a user's access the
     System 'ssystem, 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 9users.

To setup auto login for users, so they do not have to enter their password when logging to the System , press the 'Options' button. You can select to allow a user to auto login on System boot up, or setup an auto log out. If enabled, the System 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 System to save for your records or copy to another System . "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 System settings. You can select to import or export specific settings, or copy the System 'sentire setup options. During import, make sure the firmware version of the source System is the same as the destination System .
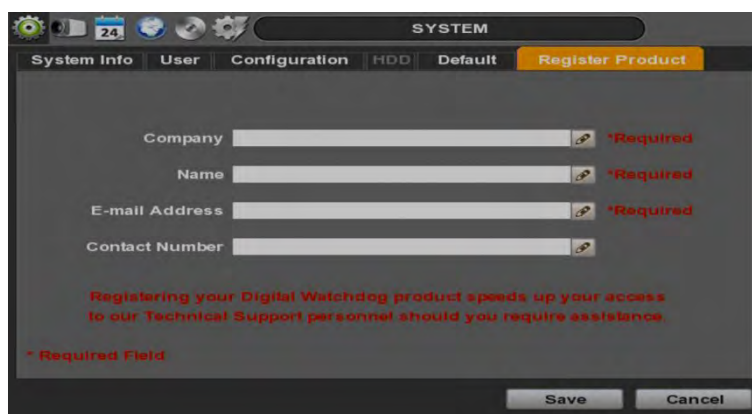
4.1.4 Factory Default

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.
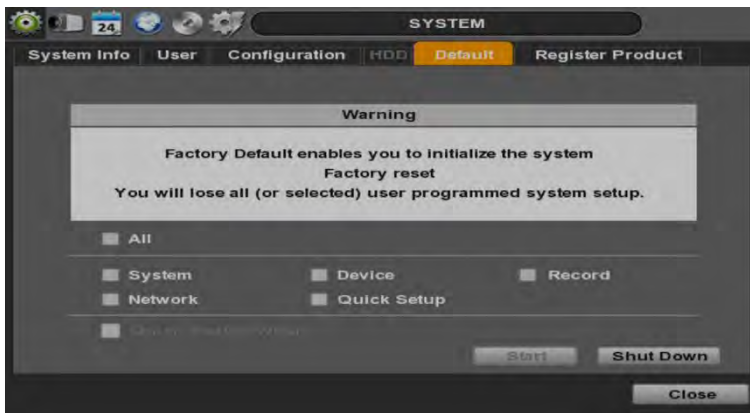
NOTE   All the configuration values made by the user will be deleted. The system setting will be sent to factory defaults.

4.1.5 Register Product

Registering your Digital Watchdog product speeds up your access to our Technical Support personnel should you require assistance.

NOTE   Please enter all of the information required to set up your account

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4.2 Device

There are seven sub menus in the Device menu, including Camera, Audio, Sensor, Motion Alarm, Extra Alarm, and PTZ.

4.2.1 Camera

Users can setup the camera's title, brightness, contrast, color, motion sensitivity, and audio mapping. The motion area setup is the entire camera area. To disable motion detection for parts of the camera's view, uncheck the corresponding boxes, removing the yellow markers.

Audio mapping is Applies a user specified channel to audio connection.

Automatically detect the cameras such as 3M, TVI, HDA(Analog HD) and 960H. (Set Video Type as AUTO)
Most type of camera is automatically apply 3M, TVI, HDA, 960H
HD-TVI type : In case of TVI camera disconnect, Please set it manually
HD-A type : In case of HDA camera disconnect, Please set it manually
HD-CVI type : In case of CVI camera, please set 'HD-CVI type' manually

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NOTE   When Auto detection is not working well under improper environment,select type of camera directly on Video Type.

- **Event Camera Group Recording:**

This feature allows users to setup a recording rule so when a single camera has an event triggered, multiple cameras will start recording. There are a total of four (4) groups you can setup (Group A~D). Each camera can be added to one group only. The group's recording parameters will follow that of the first camera added to the group. For example, if CH 4 was added first to Group B, then all other cameras in Group B will follow CH4's recording settings for events.

To setup:

1. Go to the master channel, the one you want to use as the recording guide for all other cameras in the group.

2. Under the GROUP REC. drop-down, select the group you want to add the camera to (For example, GROUP A).

3. Go to the next camera you want to add to this group. Select the same group (GROUP A) from the GROUP REC. drop-down.

4. Click SAVE. Repeat with all other cameras you want to add to that group.

Below is an example how Event Camera Group Recording works:

Recording Scenario #1 (CH1,2 and 3 is GROUP A)

CH1- Motion Recording , CH2-Sensor Recording,   CH3- Continuous Recording. CH2 & CH3 will follow CH1's (Master CH) recording schedule.

When one of the camera detects motion, all 3 cameras in the group will start recording as motion (CH1's settings).

NOTE	Setting up PANIC recording for a camera in a group will trigger panic recording for all channels of the SYSTEM .
	If the master camera's settings are set via the quick setup mode, all other cameras in the group will follow the same quick setup mode schedule if an event is detected.
	The Event Camera Group recordings work on Sensor and Motion detections only..

4.2.2 Audio

Users can select the audio input and output during live display and match the audio input to a designated channel. (Please refer to Section 4.3.1 Camera Record).

In addition, users can listen to the audio for both live display and playback mode through the network using Central ManagementSystem(CMS), web browser.

4.2.3 Sensor

Use the sensor setup menu to enable and assign sensor and alarm triggers to corresponding cameras. Select the sensor type, enable notifications for each sensor, assign relay action and set the dwell time

- **Type-** OFF, N/O (Normal Open) , N/C (Normal Close) The Sensor.
- **Cam-** Select the associated camera for each sensor connected to the System .
- **Notify-** Select how to alert when a sensor is activated or motion is triggered. The system can generate a buzzer sound and/or have a pop-up screen for the camera.

| CAUTION | Relay contact can handle up to 24VDC/1A(or 125VAC/0.5A)of other devices. If connected to a circuit that is over24VDC/1A(or 125VAC/0.5A), the system may experience problems. |

- **Preset**- Assign apposition for the camera to move to when a sensor is triggered. (This option requires a PTZ camera. See section **4.2.6 PTZ** for more information).

- **Relay**- OFF/ON- enable or disable relay output when a sensor is activated.

- **Dwell Time**- Set the recording period from the start of sensor activation. During this period, the corresponding camera will record according to the frame and alarm (relay) output set. The recording stops and alarm output is turned off when the dwell time ends.

| NOTE | "Sensor" refers to the alarm connected to the System , triggered by a physical 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. |

| NOTE | "Camera pop-up" means that if the System Is displaying a multi-channel view, the view will switch to single channel mode when an alarm is triggered. |

4.2.4 Motion Alarm

Select Motion alarm to record only when motion detection is triggered by System S/W upon user's defined motion area.

An alarm signal is sent via the selected sensor-out channel. To enable, check the box next to each channel, select the notification option (beep and/ or camera popup), select to enable a relay output when motion alarm is triggered

- ▪ **Notify**- Select how to alert when a sensor is activated or motion is triggered. The system can generate a buzzer sound and/or have a pop-up screen for the camera.

- ▪ **Relay**- OFF/ON- enable or disable relay output when a sensor is activated.

- ▪ **Dwell Time**- Set the recording period from the start of sensor activation. During this period, the corresponding camera will record according to the frame and alarm (relay) output set. The recording stops and alarm output is turned off when the dwell time ends.

- ▪ **Copy Setting**- 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.

NOTE   "Motion Alarm" here means alarm triggered by motion detection set by motion menu of System .

4.2.5 Extra Alarm

You can setup system notifications for video loss.

4.2.6 UTC/PTZ

1) Connect PTZ

Full control and setup of supported PTZ cameras is available in this menu. For more information on controlling PTZ cameras in live mode, see section **3.4 PTZ**. Use this setup menu to setup a PTZ camera, adjust the camera's zoom, focus and iris (on supported models), adjust the pan, tilt and zoom control speed, or setup presets pan, tour and guard schedules.

Adding a PTZ camera: Once a PTZ camera is properly connected to the System using the RS485 ports, go to the PTZ setup menu and adjust the following values:
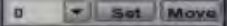

- **Protocol-** Select the proper protocol of the connected PTZ camera from the supported drop down menu options.

  HD-A/HD-TVI : In case of Menu-Enter is works preset 95 or IRIS, the connection is auto detected.

  HD-A(C) : Some of HDA camera which non-detected on the HD-A / HD-TVI, apply this protocol

  HD-TVI(C) : Some of TVI camera which non-detected on the HD-A / HD-TVI, apply this protocol

  HD-CVI(C) : CVI apply this protocol.(To Be Determined)

- **Address-** Set the PTZ driver address of the connected camera. This address must match the PTZ's address.

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

- **Troubleshooting**- if the camera is unresponsive, check the following:

  1. The protocol of the PTZ camera is correct and matches the one selected on the System .

  2. The communication settings, including the baud rate, of the PTZ camera are in accordance with the assigned values on the System .

  3. The address of the PTZ camera is correct and matches the one selected on the System .

  4. The wiring to the PTZ controllers are correct and the cables are intact.

2) PTZ set up

- Controlling a PTZ camera: To check the 'USE PTZ MENU' mode on the UTC/PTZ tab. Once the camera is properly connected and configured, use the following setting options as needed:

- **Zoom, Focus and Iris**- on supported models, use the + and –to adjust the camera's lens.

- **Directional arrows**- use these arrows to move the camera to a desired position or control the camera's OSD menu (on supported models).

- **Pan, Tilt and Zoom speed**- Use the bars for each option to adjust the control speed. The higher the number, the more sensitive the camera will be to control commands from the System , and move faster.

PTZ Control mode

☑ Continuous Mode	If check the Continuous, The command is entered in quick succession
↖ ↑ ↗ ← → ↙ ↓ ↘	Control any supported PTZ cameras by moving the mouse pointer.
◑ ▷ ◑ ⬚	Focus
⊛ ●	Iris
0 ▼ Set Move	Select the preset number and 'Set' button, 'Move' button is move to setting area
▤	Activate the PTZ menu
↵	Enter
◙ ◙	Zoom In/Out

1) UTC set up

UTC is remotely set to camera OSD menu in the System . Select the proper protocol of the connected camera. Check the 'USE PTZ MENU' mode, set the menu and adjust as below.

- Menu : Activate the camera OSD menu for setup and adjust
- Up/Down arrow : move to categories
- Right/Left arrow : Adjust the camera settings
- Enter : Select the camera settings or enter the subcategories

2) To use UTC in the Live Mode

Select the single channel which adjust the camera set and change the PTZ Control mode.
Click the right button of mouse and select PTZ menu for activating UTC

click the ▤ button, the camera menu display on the full screen. And user move button menu by up/down, left/right button change the setting. Enter is select menu.

4.3 Record

Users can configure various record settings such as Continuous, Event, and Panic for each individual channel in the Record Setup Menu.

4.3.1 Record Setup

1. Go to Record Setup.

2. Choose the desired resolution, frame rate, quality and recording type for continuous recording.

3. Choose the desired resolution, frame rate, quality and recording type for Event recording.

4. Configure each channel separately, or use the 'Copy Settings' button to apply one channel's settings to multiple channels.

    a. Choose the camera you want to copy from at the "From" field.

    b. Choose the settings you want to copy by selecting the check box next to each one.

    c. Check the checkbox next to the cameras to apply the copied setting(s) to on the "To" box.

NOTE   **2nd Stream**- Setting the 2nd stream resolution.

4.4 Network

Use the Network Setup page to configure the System 'snetwork settings (for remote connections), DDNS address, and e-mail and software notifications and setup the System 'strue health check options.

4.4.1 Network

The system has built-in web server.

▪ **Network Type**- Select network connect type. Select either Static IP or DHCP for dynamic IP.

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

If DHCP is selected, the System 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 System 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 System 'sIP 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 System through the external router over the internet (from another network). For more information, consult your network administrator or your internet provider.
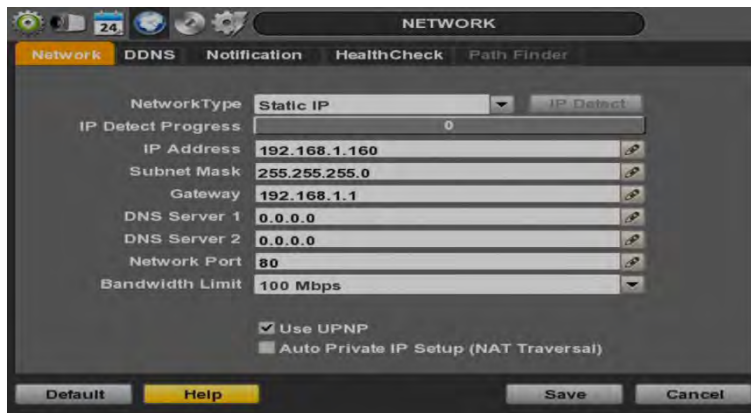
▪ **DNS Server 1 & 2**- Enter the IP address of the Domain Name Server. There are two DNS settings. (The preferred DNS and the alternative DNS).

▪ **Network Port**- Enter the port number to use when connecting locally or remotely, or via the free mobile app. Default port is 80.

▪ **Bandwidth Limit**- you can limit the Mbps used by the System . 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 System to be automatically discovered by a PC on the same network. To locate the System , 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 System represent the model number, followed by the System 'sIP address

VMAX A1 -16-   VMAX A1 -8-   VMAX A1 -6- VMAX A1 -8-   VMAX A1 -6-
192.168.0.215 192.168.0.138 192.168.0.242   192.168.0.142 192.168.0.256

Once the PC discovered the System , double click on the icon to open the System 'sweb 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 System remotely over the internet. The router will need to be setup to support communication to the System from an external network by opening the corresponding ports. Settings need to be done individually for each System 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 at real-time over the network even if no recording options are setup.

4.4.2 DDNS

Digital Watchdog® offers free and reliable DDNS service support. This allows you to assign the System a URL address rather than a long complicated IP Address. This simplified the connection process to the System . 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. dwddns2.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 System a unique name. This will be the unique identifying part of the URL associated with your System .

- **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.
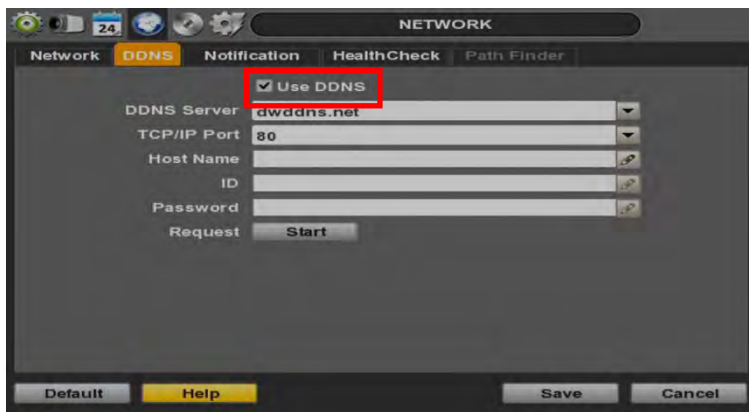

NOTE   The standard DDNS domain name is dwddns.net, and users can use dwddns2.net or dyndns.com by drop-down list.

4.4.3 Notification

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

- Notifications Setup- the System 'soutbound notifications messenger needs to be setup in order to send notifications.

  1. **SYSTEM Name**- This is the name that will appear in the notification's sender information. Make sure it is associated with the System 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 System . This should be the sending e-mail account.

  6. **Interval**- setup an interval between every notification sent from the System . The System 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. **AVI Video Clip**- Check the box to include a short AVI video clip of the event with the notification
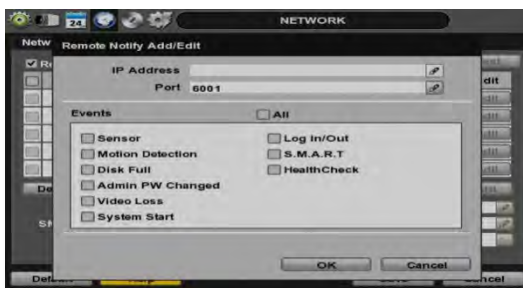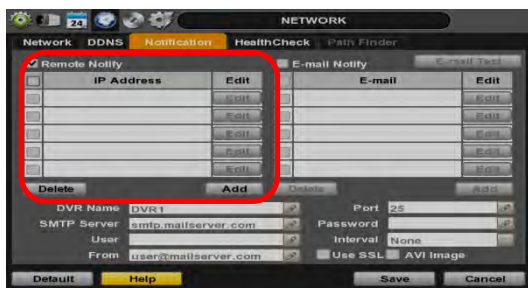
- Remote Notify- The system can send event notification to an Advanced Client Software over the network.

  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.

- E-mail Notify- The system can send event notification to an E-mail address.

  1. To enable, check the box next to '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	The system will not send alarm messages or email notification upon motion alarm or sensor unless the recording schedule is set to record according to that event. For example, if user sets "Continuous" only for "Schedule Setup" of the "RECORD" menu and marks the "All"checkbox in "REMOTE NOTIFY", then the system will not send alarm messages. In this case, user hasto set "C + M", "MOTION", "SENSOR" or "C+ S"for REMOTE NOTIFY or E-Mail NOTIFY to function properly.

4.4.6 Health Check

The compressor offers a true System health monitoring, with pop-up messages and e-mail notification on video loss, recording failure, and storage 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 than1 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 condition occurs beyond the set intervals, the system will display a popup alert and send an e-mail notification.

5 WEB SURVEILLANCE

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

5.1 Web Login

In order to connect to the System 'sweb client, the System 'snetwork settings and ports in the router must be properly setup. See section **4.4 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 **5.3 Web Monitoring**), enter the username and password to access the System . The System 'sdefault user ID and password are "admin" and No password.

NOTE	Web ACS require to install Active X, Please use only IE
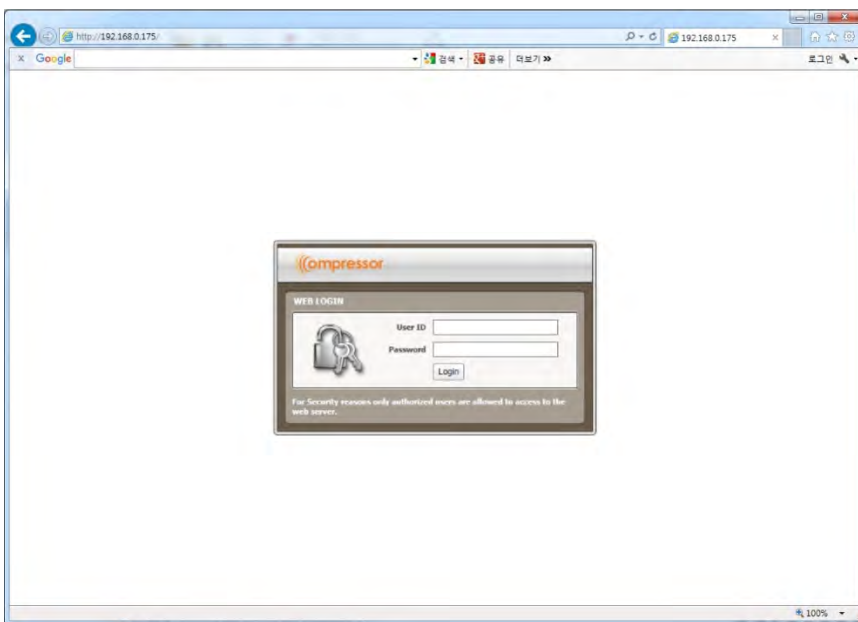
It is recommended to use an Internet Explorer web page.

Then, simply enter the System 'sIP 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 System 'saddress is added to the compatibility list.

# 5.2 Web Configuration

The System can be remotely configured using the web client. This option is available only when connecting to the System remotely using the 'admin' user.

To enter the System 'sremote setup, press the 'Remote Setup' button on the top right side of the screen. The menu options will be identical to those available on the System itself. See **4. Settings** for more information

Main Classification	Sub Classification
SYSTEM	SYSTEM INFO
	USER
	DEFAULT
DEVICE	CAMERA
	AUDIO
	SENSOR
	MOTION ALARM
	EXTRA ALARM
RECORD	RECORD SETUP
NETWORK	NETWORK
	DDNS
	NOTIFICATION

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.
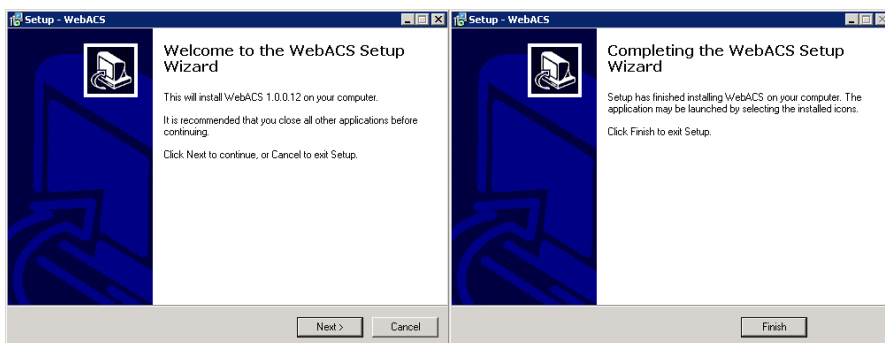
[System]

[Device]

[Record]

[Network]
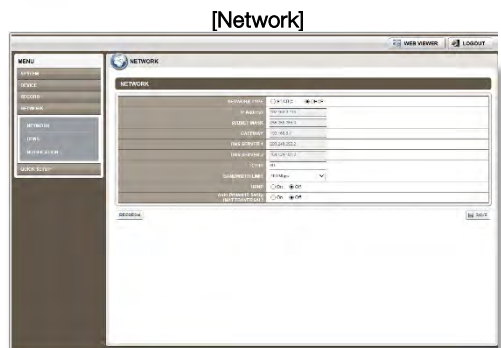
NOTE   This web GUI screen is directly supported from the built-in web server in the SYSTEM , regardless of Internet connection.

5.3 Web monitoring

5.3.1 ActiveX Installation

The first time you access your System 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 System .

NOTE   Web ACS require to install Active X, Please use only IE

[Web Active X Install]

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

5.3.2 Web Client View

No.	Title	Function
1	Connection Mode	View the System in Live or Playback Mode.
2	Connection Option	Connect or Disconnect from the System . High quality(Main Stream) or low quality(Second Stream)
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 System .
13	Remote Setup	Remote System setup options (See **5.2 Web Configuration**). Available for admin users only.
14	Logout	Exit connection from the System .

5.3.3 Web Client Operation

User can monitor live video in 1, 4, 9 or 16 screen modes. If user wants to see single channel in full screen, user can double-click on the left mouse button when the cursor is positioned on the live video screen. User can change to single mode by clicking the mode icon located at the bottom left.

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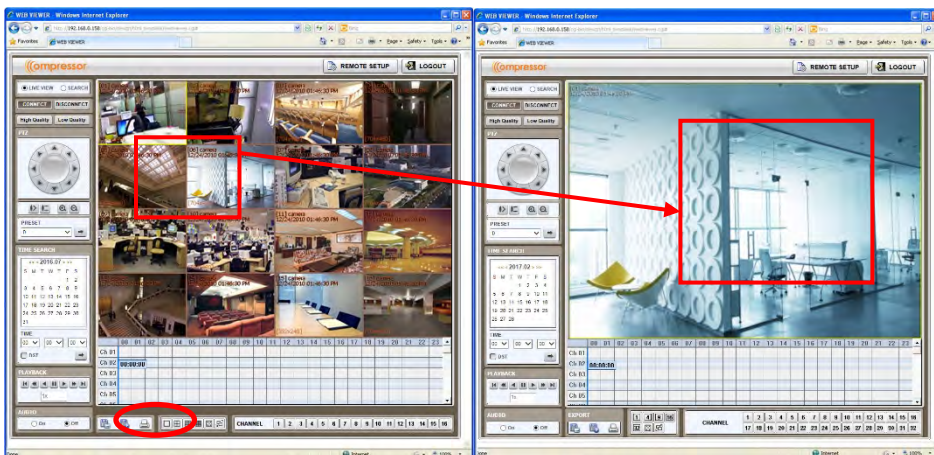

NOTE   If live image does not show properly due to network capabilities or low bandwidth, it is recommended to close the web page and re-open.

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6 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 System from within the same network, you will have to perform port forwarding on your router to access the System 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 System 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.
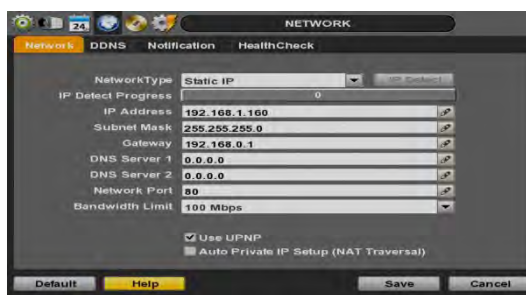
3. Some internet service providers block port 80 in their customer's routers. Changing the web port number to 81 or 82 is recommended.

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 SYSTEM   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 System . For the compressor, you will need to port forward the two following ports:

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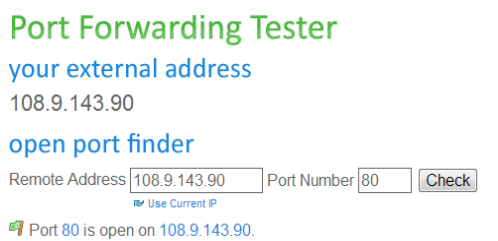
8. Once the router settings have been configured, open an internet explorer page and enter your router's external IP address:System 'sport number (for example: 72.243.193.215:81).

7 APPENDIX : SPECIFICATION

VIDEO		
Video input	Signal type	HD-Analog / HD-TVI / HD-CVI / Analog up to 960H
	CH#	16 CH, CVBS, 1.0Vp-p with 75 ΩBNC Connector
HDMI & VGA / Spot out		Max 4K (3840 x2160), D1 Resolution Spot out
Video encoding		H.264 with dual streaming
Resolution		1st stream: 1920x1080 / Max 3MP
		2nd stream: 480x240 / Max 640x480
Compression		H.264
Framerate & Resolution		Max. 480fps @ 1080p Max. 240fps @3MP (HD-TVI @ 15fps
Audio (DW Spectrum® IPVMS Integration Coming Soon)		1 Audio Input
		1 Audio Output
		PCM
PERFORMANCE		
Interface (DW Spectrum® IPVMS Integration Coming Soon)	Alarm Input	1 Alarm Inputs
	Alarm Output	1 Alarm Outputs
	RS-485 / UTC	1 PTZ Support: Pelco-D/P (DW Spectrum® IPVMS Integration Coming Soon) Camera OSD and PTZ control via Coax (HD-Analog / HD-TVI / HD-CVI)
Features	Motion Detection	16x12 grids
	Alarm Management	Motion Detection, Input (DW Spectrum® IPVMS Integration Coming Soon), Video Loss
	Notifications	Trigger Alarm Output, E-Mail notifications with Snapshot (DW Spectrum® IPVMS Integration Coming Soon)
	Security	Password protected user levels
NETWORK		
Network Connection		Ethernet (1x Gigabit 10/100/1000 Gpbs)
Streaming	Transmission Speed Live	Max. 480fps @ 1080p Max. 240fps @3MP (HD-TVI @ 15fps
	Bandwidth	Max 130Mbps
	Protocols	UPnP, TCP, HTTP, DHCP, RTSP, IPv4, DNS
Access	Web Viewer	Internet Explorer® 9 or higher with Live View and Remote Setup (PTZ Control and Remote Setup via DW Spectrum® IPVMS Integration Coming Soon)
	Client Software	DW Spectrum® IPVMS
GENERAL		
Operating Temperature		41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity		Less than 80% (Non-Condensing)
Other Certifications		CE, FCC, UL
Electrical	Power Requirement	12V DC
	Power Consumption	60W, 5A
Dimensions		11.02 x 9.65 x 1.89 inch (280 x 245 x 48mm)
Weight		5.56lbs (2.52 KG)

NOTE   The specifications are subject to change without notice

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