VMAX A1™
Universal HD over Coax

All-in-One HD DVR records 1080p HD Analog, TVI, CVI and all analog to 960H

4 Channel Models	8 Channel Models	16 Channel Models	16 Channel Models with DW-VLOOP Support	32 Channel Models
DW-VAONE 41T	DW-VAONE 81T	DW-VAONE 161T	DW-VAONE 162TL	DW-VAONE324T - 4TB Internal Storage
DW-VAONE 42T	DW-VAONE 82T	DW-VAONE 162T	DW-VAONE 163TL	DW-VAONE328T - 8TB Internal Storage
DW-VAONE 43T	DW-VAONE 83T	DW-VAONE 163T	DW-VAONE 166TL	DW-VAONE3212T - 12TB Internal Storage
DW-VAONE 44T	DW-VAONE 84T	DW-VAONE 164T	DW-VAONE 166TL	DW-VAONE3216T - 16TB Internal Storage
DW-VAONE 46T	DW-VAONE 86T	DW-VAONE 166T	DW-VAONE 168TL	DW-VAONE3224T - 24TB Internal Storage
DW-VAONE 48T	DW-VAONE 88T	DW-VAONE 168T	DW-VAONE 1612TL	DW-VAONE3232T - 32TB Internal Storage
			DW-VAONE 1616TL	

WHAT'S IN THE BOX

Quick Start Guide		1 Set	12V DC Adaptor (4-Channel Models)		1 Set
IR Remote Control (Optional)		1 Set	12V DC Adaptor and Power Cable(8 - and 16- Channel Models)		1 Set
USB Mouse		1 Set	12V DC Adaptor and Power Cable (32channel Models)		1 Set
Screw(Top Cover) -4pcs			Username: **admin**	Password: **no password**	

Note: Download All Your Support Materials and in One Place
1. Go to **http://www.digital-watchdog.com/support-download/**
2. Search your product by entering the part number in the **'Search by Product'** search bar. Results for applicable part numbers will populate automatically based on the number you enter.
3. Click **'Search'**. All supported materials including manuals, Quick Start Guides, software and firmware will appear in the results.

Attention: This document is intended to serve as a quick reference page for initial set-up.
It is recommended that the user read the entire instruction manual for complete and proper DVR usage.

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 DVR unit.*

Preparations before installation

To protect your DVR from damage and to optimize performance, be sure to keep the DVR 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 DVR 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.

Contents

CHAPTER 1 : DVR USER MANUAL

Chapter 1

DVR USER MANUAL

1 GETTING STARTED

1.1 Checking Supplied Items

Make sure that you have the following items supplied with your DVR. 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 (4- channel models)		1 Set
12V DC Adaptor Power Cable (8- and 16- channel models)		1 Set
12V DC Adaptor Power Cable (32- channel models)		1 Set
Remote control (DWSP-VFREMOTE Optional)		1 pcs
USB Mouse		1 Set
Screws		1 Set

1.2 Connecting Peripheral Device

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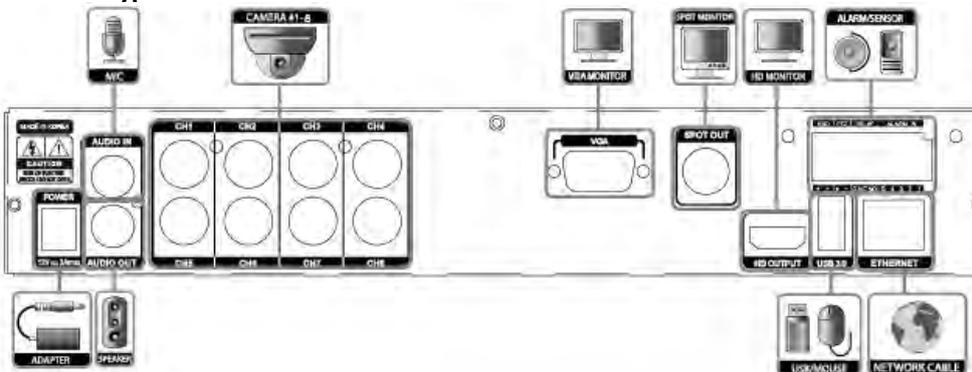
Install the DVR on flat surface. If required, attach a rubber mount for installation. If a 19-inch rack is used with 1.5U Height case, it is recommend to install the system on a shelf and use 2.5~3U (1U=1.75 inch or 4.45 cm) space for proper ventilation.

> **NOTE**   Install the system in a location with good ventilation to prevent overheating.

4ch 1HDD type
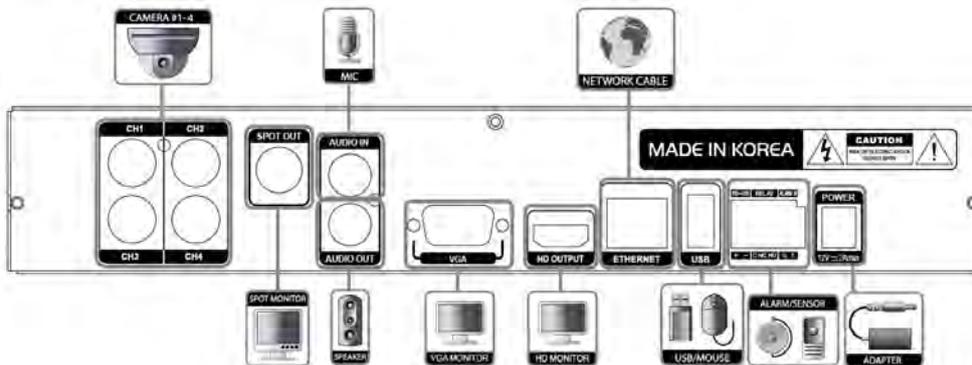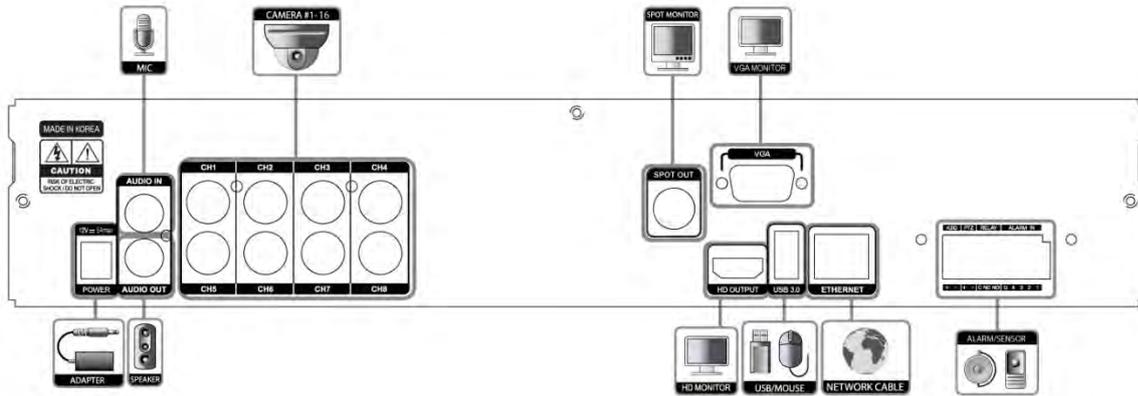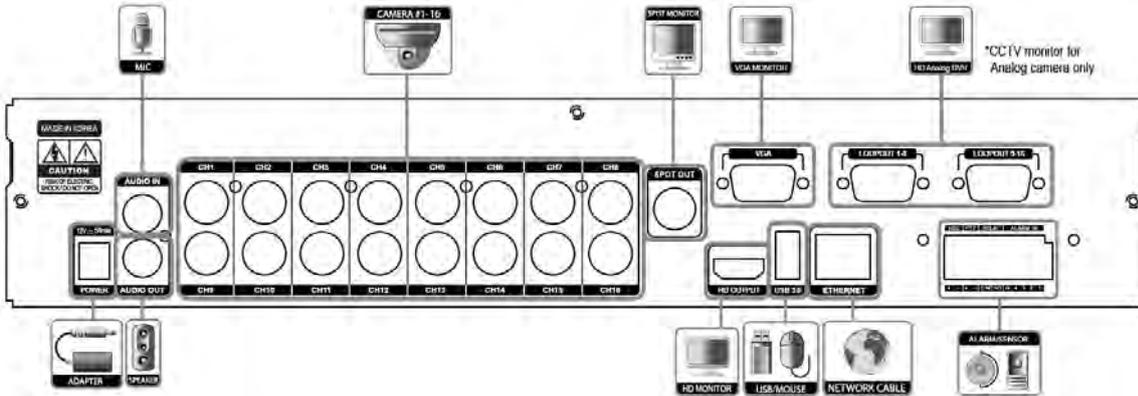

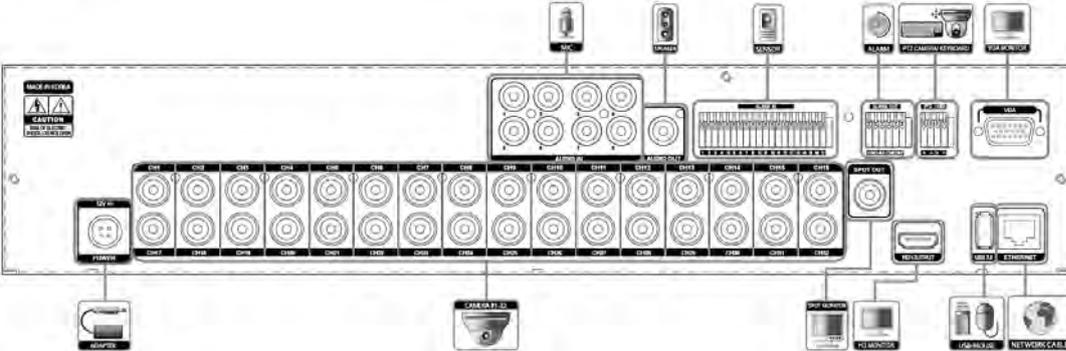**8ch 1HDD type**

16ch 1HDD type
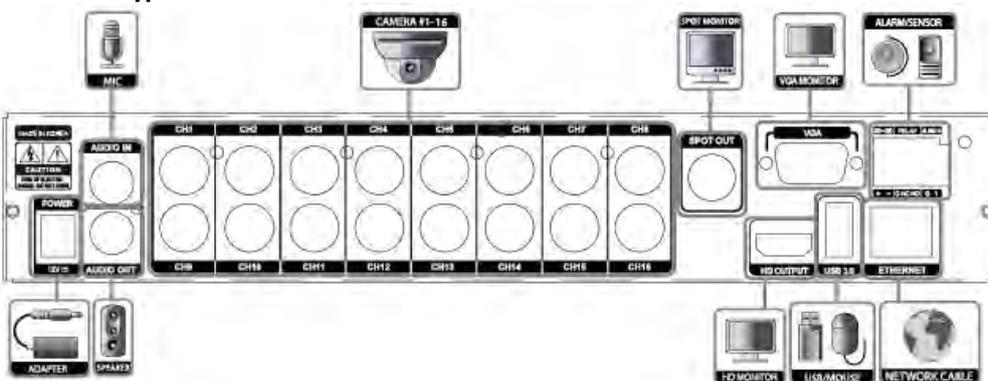
8ch 2HDD type

16ch 2HDD type

32ch 4HDD type

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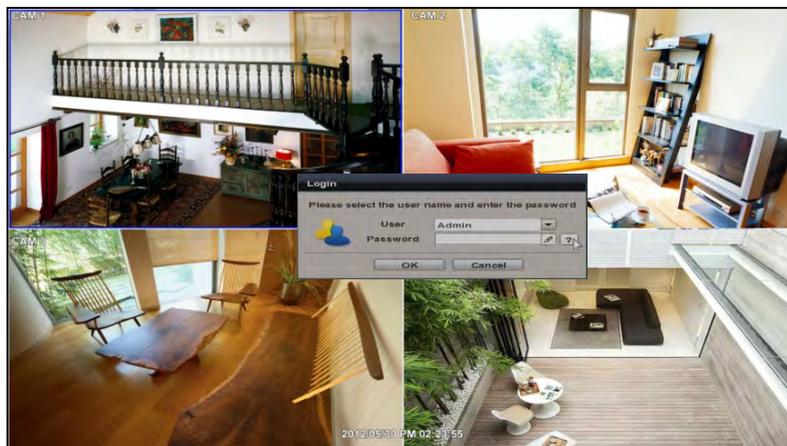
NOTE	Do not forget the administrator's password that was set for the first time. In case the password is lost, contact your vendor.

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 DVR, 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 DVR.

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 DVR.

NOTE   It is not recommended to disconnect the power cable abruptly from the back of the DVR because it may affect the DVR and 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.
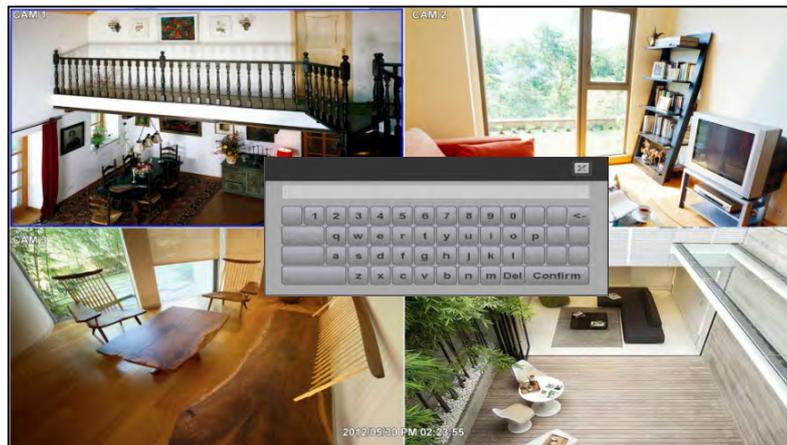
NOTE   User can type in the password using the virtual keyboard or the numeric buttons on the IR remote controller.

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2 EXPLANATION FOR EACH FUNCTION

2.1 Front Panel

4/8/16ch 1HDD type
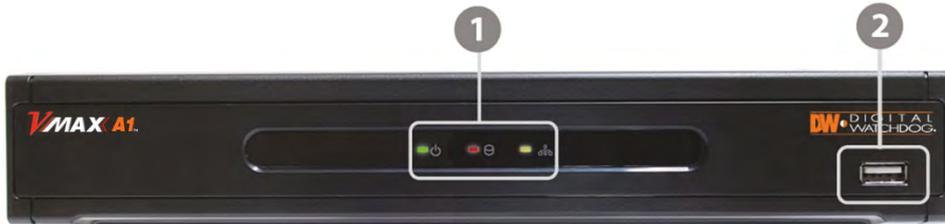
16ch 2HDD type
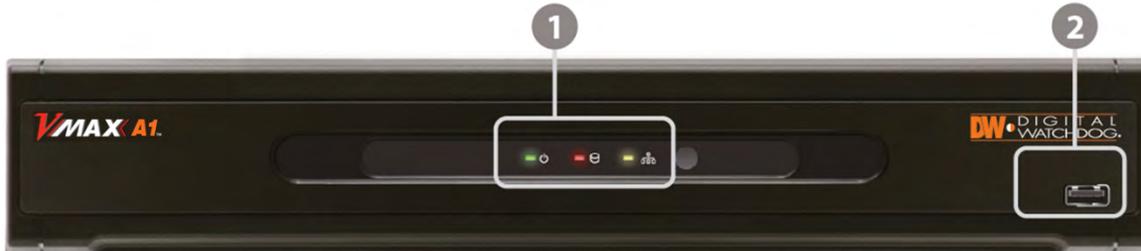
32ch 4HDD type

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

4ch 1HDD type

8ch 1HDD type
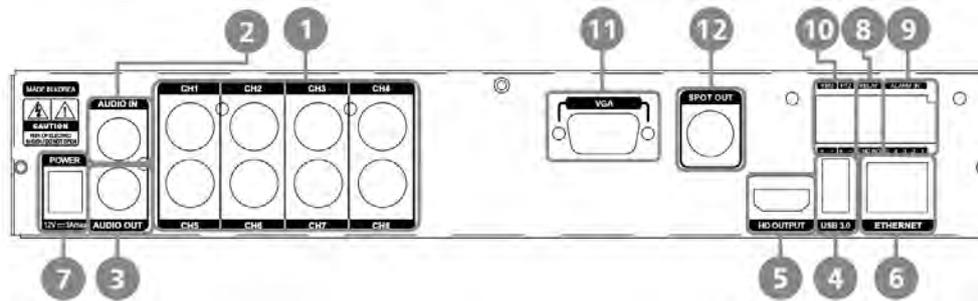
16ch 1HDD type
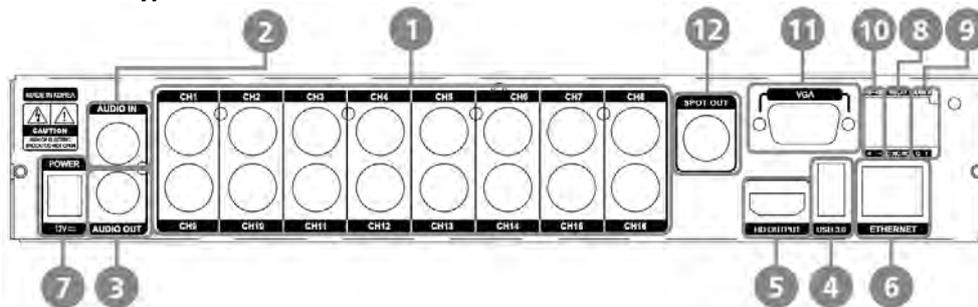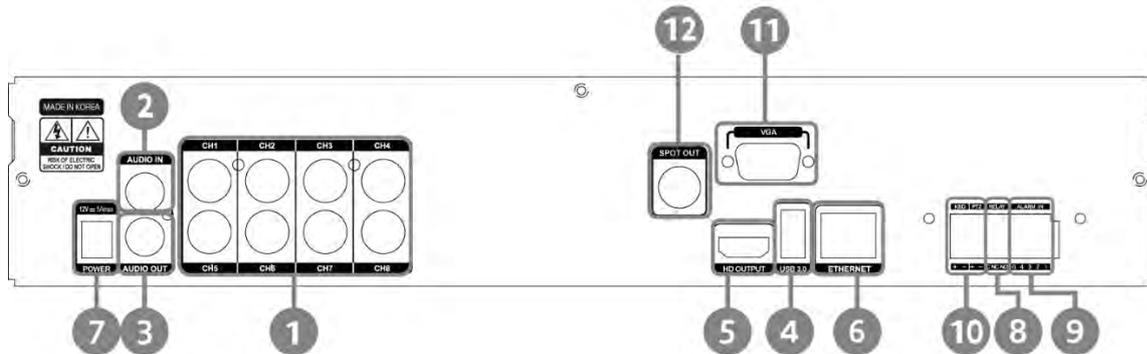
8ch 2HDD type

16ch 2HDD type

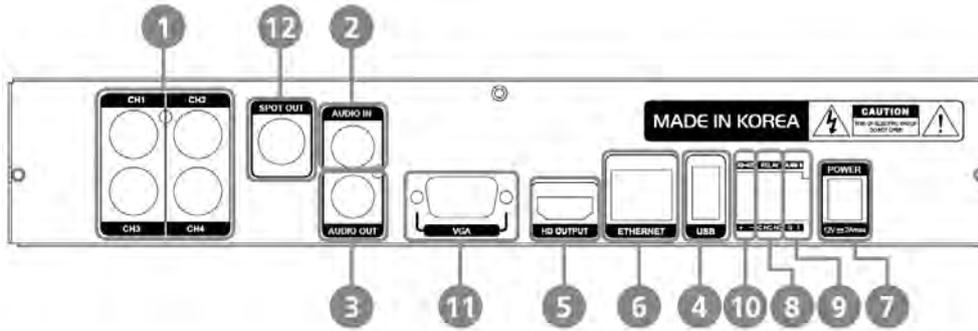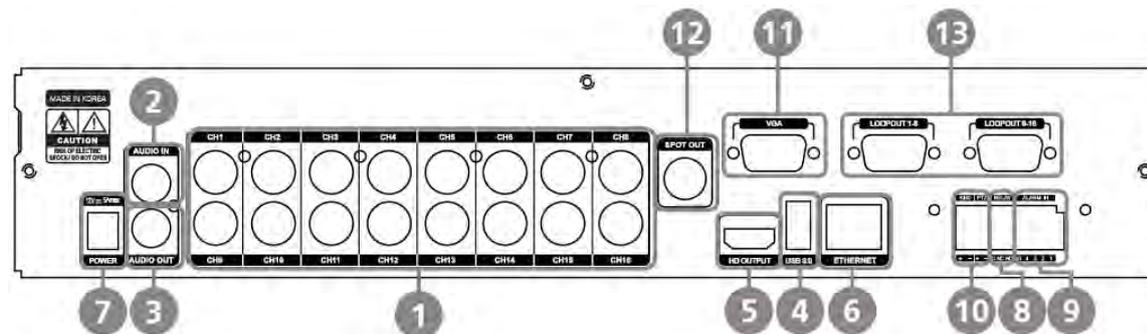| No.	Name	Description		
1	Video-In	Camera inputs (Supports NTSC/PAL)		
2	Audio-In	Audio Input Device (with Amplifier)		
3	Audio-Out	Audio Output Device (with Amplifier)		
4	USB Port	USB 2.0 Port for Mouse Operation, Backup Device, or Firmware Update		
5	HD OUTPUT	HD OUTPUT		
6	LAN Port	1 x 10/100/1000M		
7	Power Input	1HDD Type	4ch : 12V/2A 8ch : 12V/3A 16ch : 12V/5A	
		2HDD Type	16ch : 12V/5A	
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		
13	Loop	Loop Output		

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

32ch 4HDD type
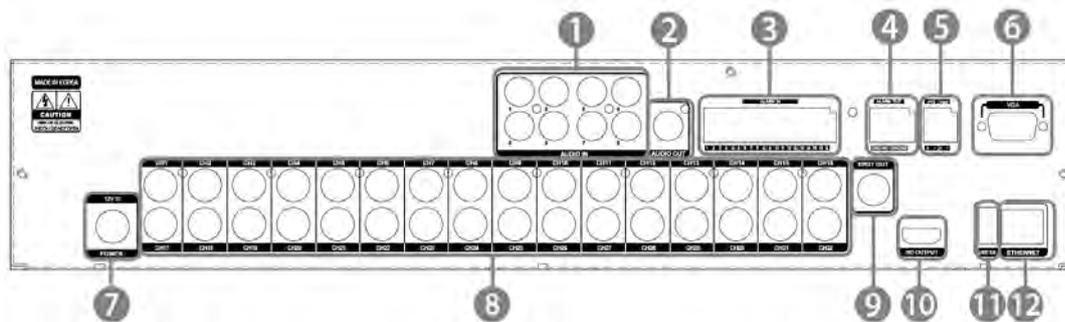
No.	Name	Description
1	Audio-In	Audio Input Device (with Amplifier)
2	Audio-Out	Audio Output Device (with Amplifier)
3	Alarm Input	Alarm Input
4	Alarm Output	Alarm Output
5	RS-485 Port	PTZ Dome Camera or External Keyboard Controller connection
6	VGA	VGA Output
7	Power Input	12V DC
8	Video-In	Camera Input (Supports NTSC/PAL)
9	SPOT	SPOT Output
10	HD Output	HD Output
11	USB 3.0 Port	USB 3.0 Port
12	LAN Port	LAN Port

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

2.3 IR Remote Controller (DWSP-VFREMOTE Optional)

The VMAX A1 DVR comes with a optional IR remote controller (DWSP-VFREMOTE).

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 DVR 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.
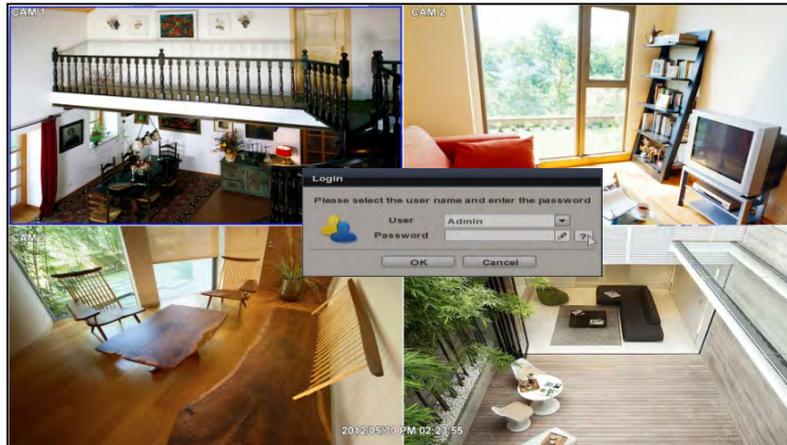
Enter the <Admin> or <User> password which had been set by using the virtual keyboard.
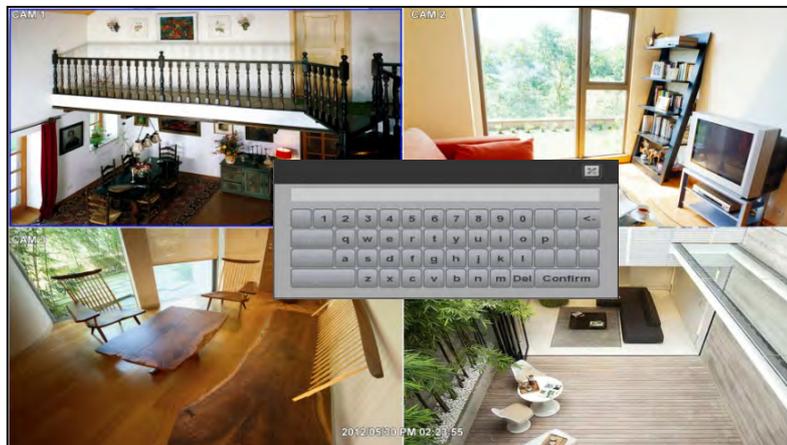
NOTE 1) <LOGIN> window will be displayed until user logs in with the right ID and password.
2) If the DVR is set to Auto Log-In, DVR does not require LOG-IN. (Please refer to 4.1.2 User.)

3.2 Quick Startup Wizard

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

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

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

Use the DVR recording calculator to setup the best recording parameters for your needs. See section 4.6 Quick Setup for more information.

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 HD output.

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

NOTE HD Resolution 4K(3840x2160) support only 8CH and 16CH, 32CH. 4ch is not support 4K resolution.

<Full HD Live Display>

3.3.2 Channel Selection

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

1.   CH1~CH32 buttons in the IR Remote Control.

2.   1~32CH 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, 8, 9, 16, 25, 32 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]

 [8 Ch]

 [9 Ch]

 [16 Ch]

 [25 Ch]

 [32 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

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.	
C	Continuous Recording	SEQ	Sequence display on
M	Motion Detection Recording	ZOOM	Digital zoom on
S	Sensor Activating Recording	🔊	Audio Channel
C+M	Continuous+ Motion Recording		
C+S	Continuous + Sensor Activating Recording		
C	Emergency Recording		

NOTE   If you cannot find any colored-mark in the top right corner of the live screen mode, then the system is not set to record any image. Check the recording schedule or camera in 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.
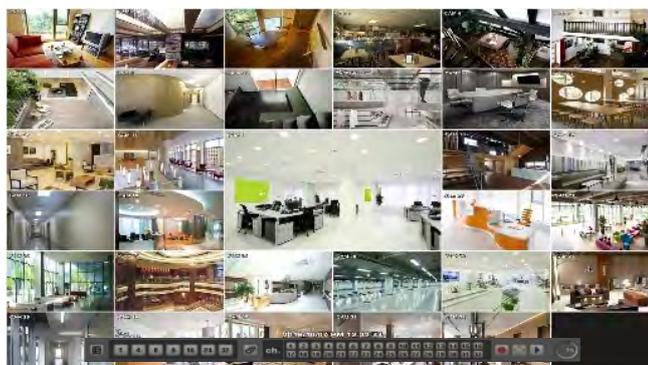
Menu Bar	
📋	Menu button. When pressed, System Setup, Search, Backup, Logout will appear.
1 4 8 9 16 25 32	Screen split options- Select from single channel full screen, 4 channel screen, 8channel, 9 channel, 16 channel, 25channel,32channel display.
⧉	Sequence- if pressed, the system will start displaying all the channels in sequence mode. To stop, press the button again, or right click on the screen and select 'SEQUENCE'
CH buttons	CH. Buttons- view a specifc channel in full screen mode.
🔴	Instant (emergency) recording- The system will record video based on the panic record settings.
✥	PTZ mode- Control any supported PTZ cameras by moving the mouse pointer.
▶	Go to Instant playback.
60%	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.
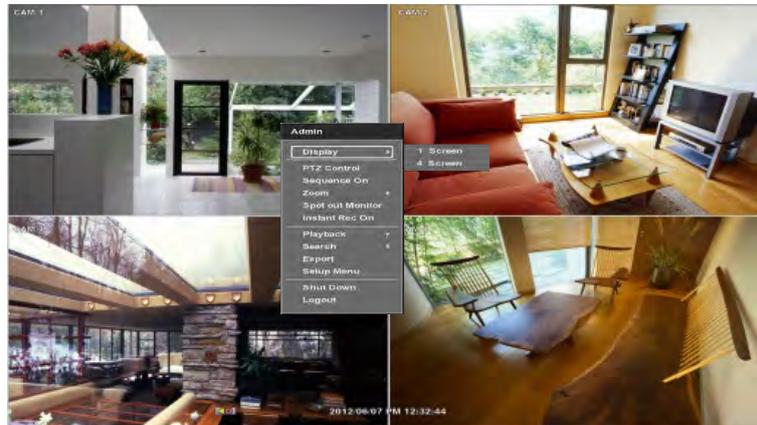
DISPLAY- Select the display split from the available options:
- 1 Screen- Single channel. Automatically displays CH1. If 1 Screen is selected again, next chronological channel will be displayed.
- 4 Screen- Quad mode. Automatically displays channels 1~4. If 4 Screen is selected again, the next chronological 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 DVR's PTZ 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.

INSTANT REC On/Off- Start/ Stop Panic Recording.

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.

EXPORT - Users can archive a video clip recorded for a certain period on a selected channel.

SETUP- open the DVR's main menu.

SHUT DOWN- Power off the DVR.

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 [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] 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.
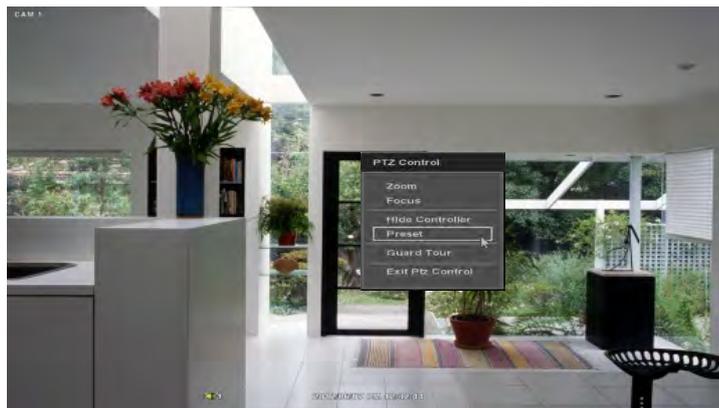
> **NOTE**   User will see numeric pad to select "Preset" number. The preset is defined by setting a PTZ protocol in the setting menu. The maximum number of preset is 255, but the number of available presets may vary by camera make and model.

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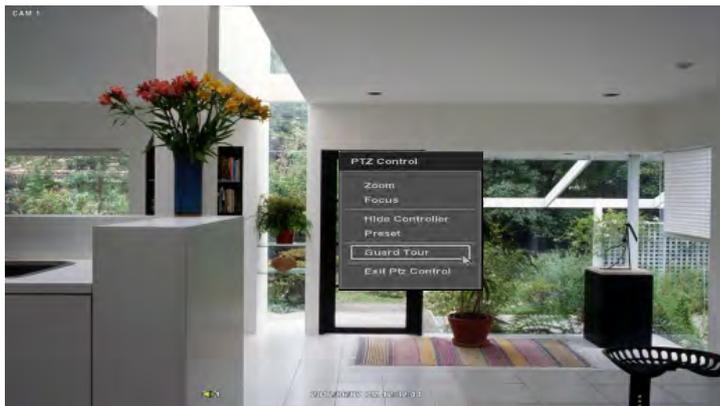
> **CAUTION**   Depending on PTZ camera, some preset positions might be skipped if, for example, the PTZ camera cannot <u>mechanically</u> move or control focus within the interval time required by the DVR. In this case, it is recommended to increase the interval setting to a value that allows for the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

3.5 Spot out Monitor

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.
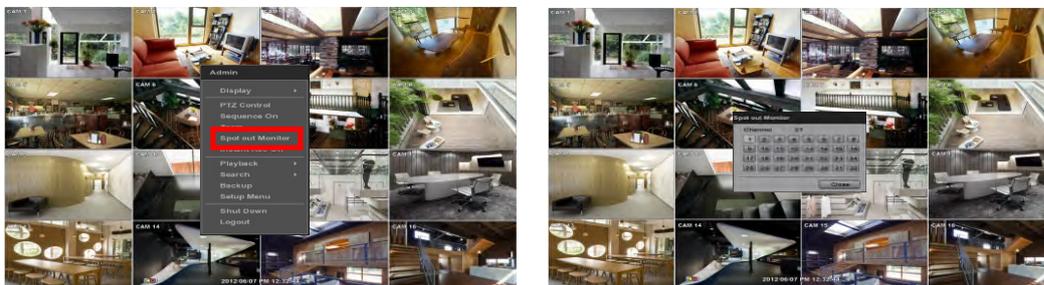
> **NOTE**   - A spot out monitor displays another spot out monitor's video in full screen through the function, spot out monitor.
> - In spot sequence setting mode, if spot out monitor is selected, spot sequence stops and selected channel pops up.
> - While call monitor runs, if a channel event happens, spot out monitor stops and the event pops up.
> - Spot out option does not support mouse control.

3.6 Playback of Recorded Video

To play a recorded video, press the Play button from the menu bar, or the Instant Play in the IR remote controller.

The recorded files can be seen in rewind or fast forward modes. Press the rewind and fast-forward buttons to control the playback's speed (x 2, x4, x8, x16, x32, x64, x128 real time).

User can click playback to automatically play the latest video clip in rewind mode.
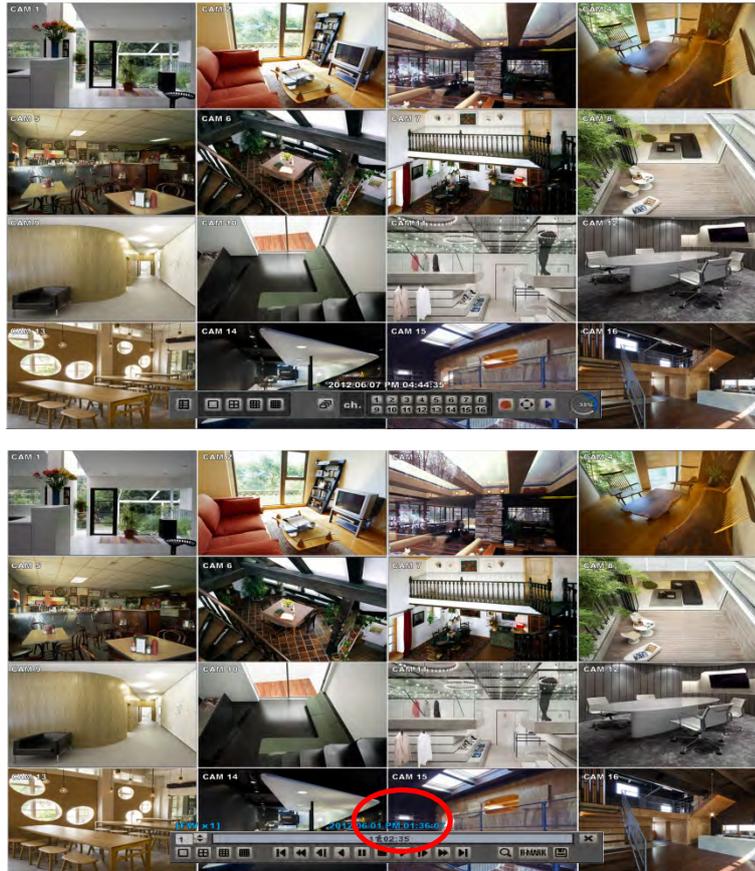
In playback screen, user can make various playback modes, make an instant manual backup (archive), go to calendar search mode, change channel, and change screen modes. By clicking the left mouse button in the colored-time bar, the user can jump to a different time in the recording. In addition, user 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
	Exit Playback to Live mode.
	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.

NOTE   During playback, the DVR supports the following playback speed:
        30fps in single channel view.
        15fps in multi-channel view.

3.7 Quick Backup during Playback

User can easily archive video while viewing the video playback. See section **4.5 Export** 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.
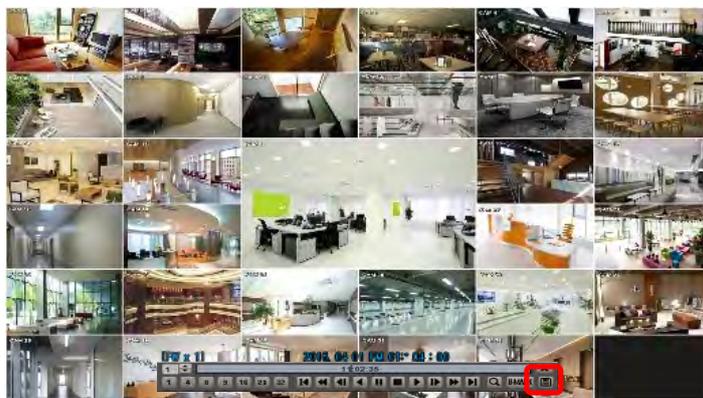
3. Adjust the following options:

   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.

NOTE [Help] The "HELP" button offers interactive help, recommended settings and step-by-step instructions on how to correctly setup main functions in the DVR.

3.8 Search Recording Image

3.8.1 Date/Time Search

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

1. Click the quick Menu button at the left side of the menu bar, select Search → Date/ Time

2. Right-click anywhere on the screen, select Search → Date/ Time

The calendar window will appear, Days with recorded data available 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 recorde data is availablein 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.
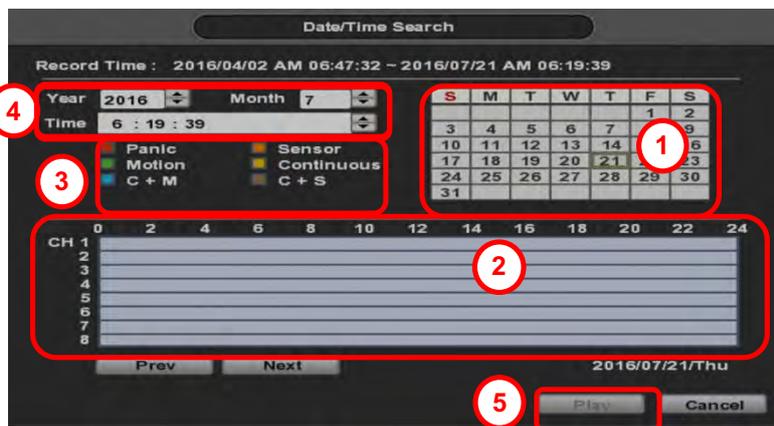
3. The recording mode will be distinguished in the time bar according to color:

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.
Brown	"Continuous" + "Sensor"- The system records continuously and will switch sensor recording if a sensor is triggered during dwell time. The system will also send a "sensor event" message to the Pivot Client Software over the network. If "SENSOR" is disabled in the "DEVICE" menu, and recording mode is set to "CONT + SENS", the system will record with continuous recording even when a sensor is triggered.

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.

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

3.8.2 Event Log

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

1.   To open Event Log Search, perform one of the following options:

      a.   Click 🔲 quick menu button, select Search→ Event Log

      b.   Right-click anywhere on the screen ans 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, Video Loss, Panic 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 an alarm or event do not appear in the envent log, check the alarm settings, and connection port at the DVR's rear panel.

3.8.3 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.

1.   To open System Log Search, perform one of the following options:

      a.   Click 🔲 quick menu button, select Search→ System Log

      b.   Right-click anywhere on the screen ans select Search→ System Log.

2.   Select the date you would like to search.

3.   Select which events should be included 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.

3.8.4 First Data

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

3.8.5 Last Data

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

3.8.6 Bookmark

Go to the bookmark list to search recorded video in the bookmark list. Users can make their own bookmark list by clicking the [B-MARK] button during playback. The first 'Bookmark' press will indicate the start time for the bookmarked video. Press the [B-MARK] button again to end the bookmark and save it. Click the [▶] button next to any bookmark event to playback video.

3.9 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 DVR's clock needs to be adjusted according to regional time zone. The DVR's time will shift one hour after the DST settings start, and the DVR will restore the time clock back to normal after DST ends.

To enable DST setting on the DVR, 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.
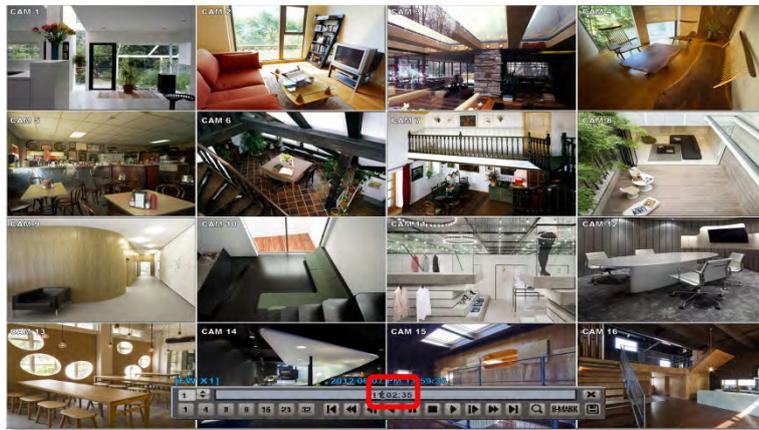
When user click the overlapped period, "Recorded video Selection" message will pop up. Select whether to play DST data or Non-DST data.

.

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]
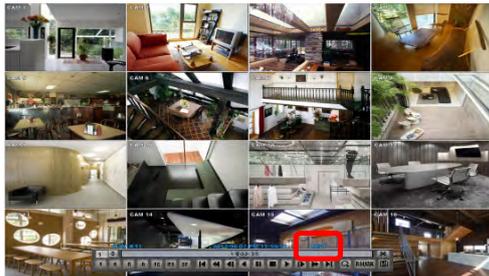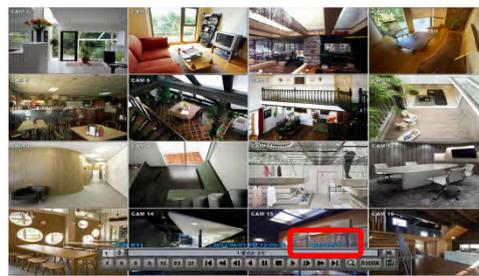
3.10 Schedule Reboot

Add Schedule Reboot
Reboot the DVR on a designated date and time. During the long time working, refresh the DVR automatically

Click the Schedule Reboot button>Check the 'USE' >Select week>Select day.
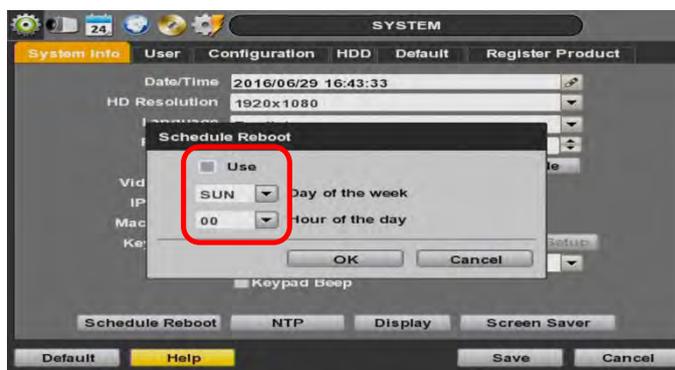
3.11 Screen Saver

The Screen Saver features protects the screen and data of the DVR 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". 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", "Export," and 'Quick Setup'.

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

1. Click the [button] 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>	<EXPORT>	<Q-SETUP>

Main Classification	Sub Classification
SYSTEM	SYSTEM INFO
	USER
	CONFIGURATION
	HDD
	FACTORY DEFAULT
	REGISTER PRODUCT
DEVICE	CAMERA
	AUDIO
	SENSOR
	MOTION ALARM
	EXTRA ALARM
	UTC/PTZ
RECORD	RECORD SETUP
	PANIC RECORD
	SCHEDULE
	HOLIDAY
NETWORK	NETWORK
	DDNS
	NOTIFICATION
	HEALTH CHECK
	PATH FINDER
EXPORT	EXPORT
Q.SETUP	QUICK SETUP

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 **3.12 DST Setting** for more information.

- **HD Resolution**- Select the DVR's output resolution. DVRs 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 DVR's display language from the availanle in the drop-down menu.

- **Remote ID**- Set the DVR'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 DVR. It is always recommended to maintain your DVR up to date with the latest firmware to guarantee the DVR'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 DVR (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: vmaxa1 password: vmaxa1

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

- **Keyboard setup**- Setup the DVR's ID, 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 DVR.

- **NTP Setup**- Setup the DVR to automatically sync with a Network Time Protocol. There are two types of TIME SYNC MODE:

   o   <u>Client Mode</u>- The operating DVR is set as the client DVR. Enter the IP address or URL of another DVR or Central Monitoring Software (CMS), as a Time Sync Server in "SYNC SERVER". This will cause your DVR 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
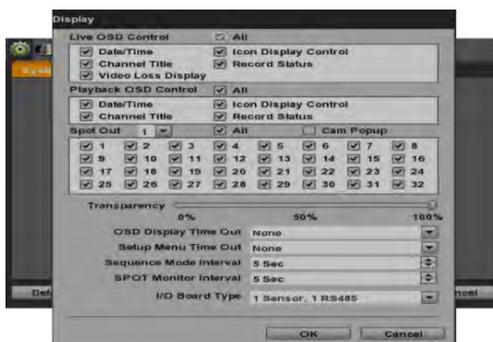
   o   OSD:

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

      ▪   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.

- **Screen Saver Setup**- See section 3.11 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 DVR.

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

- Menu Access- restrict a user's access the DVR'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 DVR, press the 'Options' button. You can select to allow a user to auto login on DVR boot up, or setup an auto log out. If enabled, the DVR will automatically log out of a user's access after a set time of inactivity.

4.1.3 Password hint settings

For user settings, all users' passwords can be set by hinting so that the password is remembered through a hint even if the password is lost.

After setting Password hint, Save should be done

.

After setting the password hint and login again, you can check the password hint by clicking [?] in the login window.
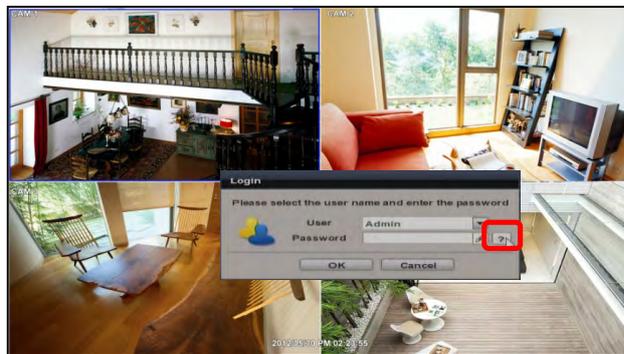
4.1.4 Configuration

Copy the system configuration values from this DVR to save for your records or copy to another DVR. "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 DVR settings. You can select to import or export specific settings, or copy the DVR's entire setup options. During import, make sure the firmware version of the source DVR is the same as the destination DVR.

4.1.5 HDD

HDD sub-menu displays all relevant information regarding all HDDs installed in the DVR. 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 and try 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.

4.1.6 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 chose to enable the Quick Startup Wizard after reset. See section **3.2 Quick Startup Wizard** for more information.
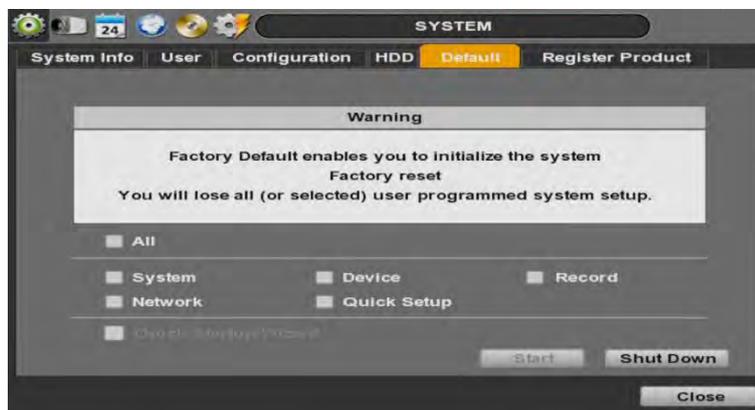
NOTE   All the configuration values made by the user will be deleted. The system setting will be sent to factory defaults. The recorded video data will not be erased.

4.1.7 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

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

NOTE   When Auto detection is not working well under improper environment,select type of camera directly on Video Type.
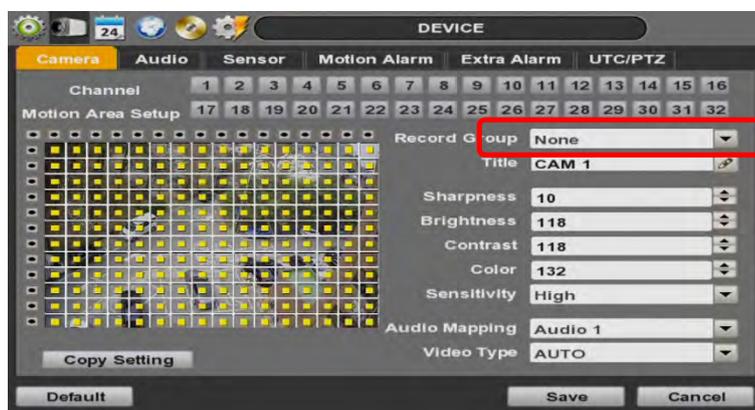
- **Event Camera Group Recording:**

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 DVR. 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 Management System (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 DVR.
- **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 over 24VDC/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 DVR, 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 DVR 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 DVR 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, and set the dwell time for recording.

- **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 DVR.

4.2.5 Extra Alarm

HDD S.M.A.R.T. is triggered when the HDD is about to be out of operation. This alarm is triggered by the HDD, and therefore will not be functional if the HDD does not support HDD S.M.A.R.T notifications.

Users also set the percentage for HDD Usage. For example, when usage is 50% (DVR is 50% full), the DVR will notify by a camera popup or a beep.

You can also setup system notifications for video loss, recording failure, and fan failure.

Users also set the percentage for HDD Usage. For example, when Usage is 50%, DVR will notify by a camera popup or a beep sound when HDD is 50% full.

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 **3.3 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 DVR 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 DVR.

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

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

  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 DVR, and move faster.

PTZ Control mode

☑ Continuous Mode	If check the Continuous, The command is entered in quick succession
(directional pad)	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 DVR. 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.
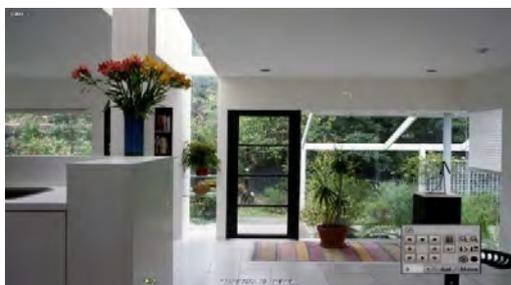
4.3 Record

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. If Quick Setup is selected, record setup will be disabled. To enable, go to Setup Menu > Quick Setup and disable the 'Use Quick Setup' option.

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- S**etting the 2nd stream resolution.

4.3.2 Panic Record

Configure Panic Record settings. These settings are when emergency or panic recording is enabled by a user. To

start emergency recording during live view, click the ⬤ icon from the menu bar at the bottom of the screen. It is highly recommended to use the maximum resolution, FPS, and quality for this recording type.

Ch.	Resolution		FPS		Quality	
1	1080P	▾	15	▾	Highest	▾
2	1080P	▾	15	▾	Highest	▾
3	1080P	▾	15	▾	Highest	▾
4	1080P	▾	15	▾	Highest	▾
5	1080P	▾	15	▾	Highest	▾
6	1080P	▾	15	▾	Highest	▾
7	1080P	▾	15	▾	Highest	▾
8	1080P	▾	15	▾	Highest	▾

Panic Active

To prevent involuntary panic recording such as press the recoding button on the remote, this feature can be enabled/disabled through this check box.

4.3.3 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 be 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.

4.3.4 Holiday

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

1. Go to the 'Holiday' tab.

2. Select a day from the calendar by clicking on it.

3. 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 Network

Use the Network Setup page to configure the DVR's network settings (for remote connections), DDNS address, and e-mail and software notifications and setup the DVR's true 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 DVR, please contact your Network Administrator for more information.

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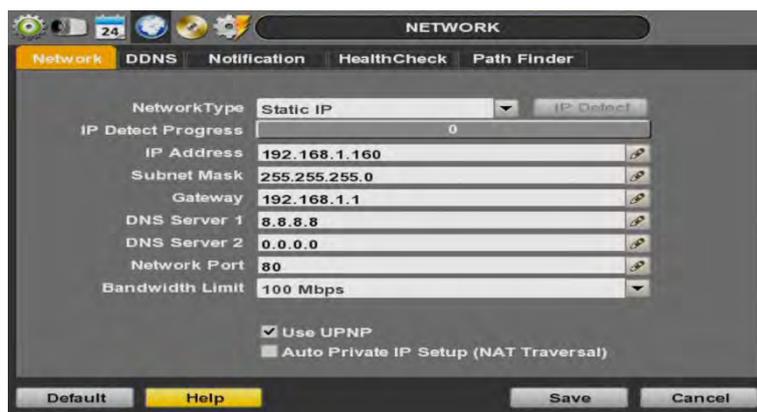
- **DNS Server 1 & 2**- Enter the IP address of the Domain Name Server. There are two DNS settings. (The preferred DNS and the alternative DNS).

- **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 DVR. 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 DVR to be automatically discovered by a PC on the same network. To locate the DVR, 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 DVR represent the model number, followed by the DVR's IP address

VMAX A1 -16-	VMAXA1 -8-	VMAXA1 -6-	VMAXA1 -8-	VMAXA1 -32-
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 DVR, double click on the icon to open the DVR'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 DVR remotely over the internet. The router will need to be setup to support communication to the DVR from an external network by opening the corresponding ports. Settings need to be done individually for each DVR 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 DVR 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 DVR a URL address rather than a long complicated IP Address. This simplified the connection process to the DVR. 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 DVR a unique name. This will be the unique identifying part of the URL associated with your DVR.

- **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 DVR to send event notifications to a remote software or an e-mail address.

- Notifications Setup- the DVR's outbound notifications messenger needs to be setup in order to send notifications.

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

    6. **Interval**- setup an interval between every notification sent from the DVR. The DVR 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 has to set "C + M", "MOTION", "SENSOR" or "C+ S" for REMOTE NOTIFY or E-Mail NOTIFY to function properly.

4.4.4 Health Check

The VMAX A1 offers a true DVR 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 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 condition occurs beyond the set intervals, the system will display a popup alert and send an e-mail notification.

4.4.4 Path Finder

Click the P2P menu box

Path Finder Use On/Off Function

Path Finder Use On   Select : P2P will be activated, then the success message will be shown

NOTE   Depends on network condition, the connection would be delayed

4.5 Export

4.5.1 Export

Archive video from the DVR'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 (USB HDD, USB-CD/DVD) with sufficient storage to the DVR 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.

NOTE	Backup device shall be a well-known major brand of USB thumb drives formatted by FAT/FAT32 for proper backup. Please check the USB format type on the File system. It must be set the FAT32 If user need to high-capacity memory format, Please use the utility such as 'USB disk storage format tool' or 'FAT 32 Formatter'

4.5.2 View Export 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.

4.6 Quick Setup

Quick Setup simplifies recording configuration by allowing the user to set all cameras to record according to how many days of data you want, or by resolution.

If the 'Use Quick Setup' box is checked, all recording options under the Record menu will be disabled.

▪ Quick Recording Setup according to days of storage- You can select how many days of recorded storage you want to have. Based on the DVR's internal storage, the system will automatically setup the recommended recording resolution, frame rate and video quality to match those settings.

▪ Quick Recording Setup- You can select to set all channels of the DVR to record at a specific resolution, frame rate and quality, regardless of events. Manually enter the options for each of the Recording Settings. Total recorded days based on those selections will appear below the settings.

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

5 WEB SURVEILLANCE

The VMAX A1 DVR has a built-in web server, allowing the user to access the DVR using an ordinary web-browser over a network. The web client allows you to view live monitoring, playback, or remote DVR configuration without installing a remote client software.

5.1 Web Login

In order to connect to the DVR's web client, the DVR's network 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 DVR. The DVR's default 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 DVR'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 DVR's address is added to the compatibility list.

5.2 Web Configuration

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

To enter the DVR's remote 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 DVR itself. See **4. Settings** for more information

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

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]
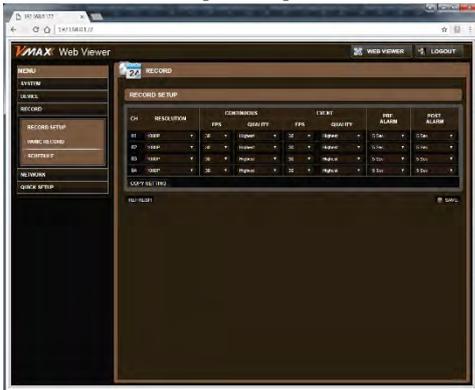
[Network]

[Quick Setup]

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

5.3 Web monitoring

5.3.1 ActiveX Installation

The first time you access your DVR 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 DVR.

> **NOTE**   Web ACS require to install Active X, Please use only IE
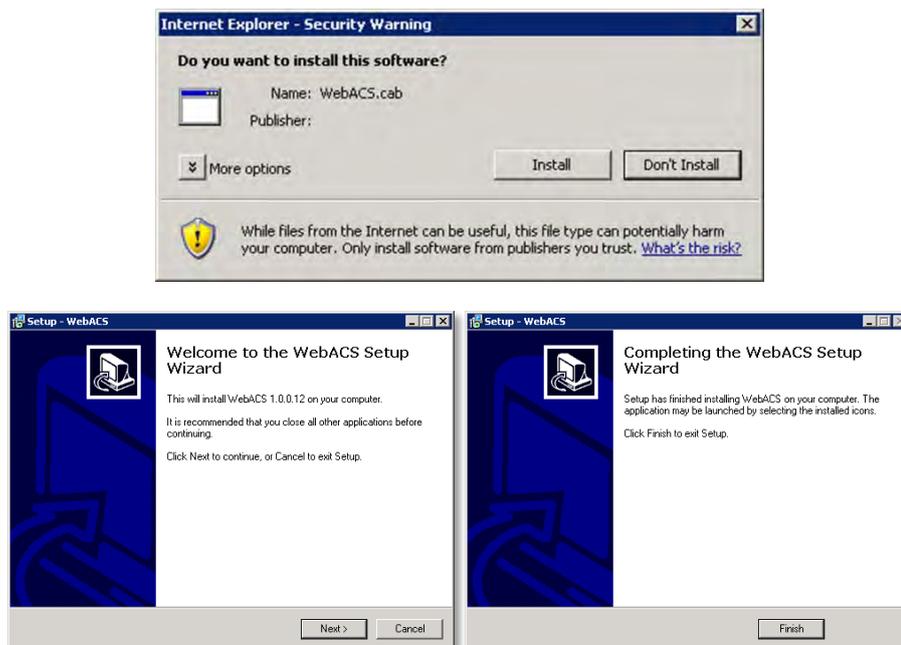
[Web Active X Install]

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

5.3.3 Web Client View

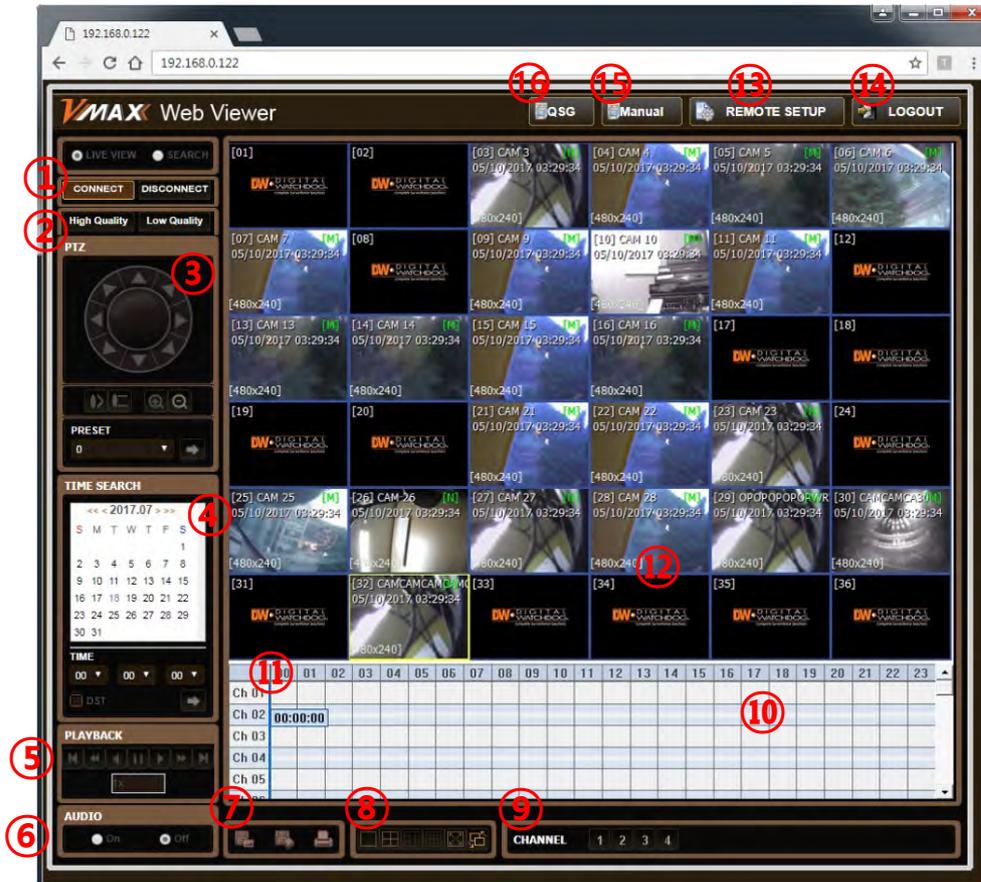| No.	Title	Function
1	Connection Mode	View the DVR in Live or Playback Mode.
2	Connection Option	Connect or Disconnect from the DVR. High quality(Main Stream) or low quality(Second Stream)
3	PTZ	PTZ control options, including virtual direction arrows, zoom, focus, and preset management.
4	Calendar	Date & 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	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 DVR.
13	Remote Setup	Remote DVR setup options (See **5.2 Web Configuration**). Available for admin users only.
14	Logout	Exit connection from the DVR.
15	Manual	Download link to User MANUAL
16	QSG	Download link to Quick User Guide

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	The image resolution in "Live monitoring" can be adjusted from the DVR's 'Live Stream' sub-menu under the Quick Setup Menu. See **4.6 Quick Setup** for more information.

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.

5.4 Web Playback

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

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 DVR from within the same network, you will have to perform port forwarding on your router to access the DVR externally, via the internet.

1.1 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 DVR is installed.

1.2 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.


1.3 Some internet service providers block port 80 in their customer's routers. Changing the web port number to 81 or 82 is recommended.

1.4   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.

1.5 Check the DHCP settings in your router and setup the DVR 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 DVR. For the VMAX A1, you will need to port forward the two following ports:

   a. Network Port: 81 or 82 (Default was 80)

1.6   Visit www.portforward.com for additional information on port forwarding for specific routers.

1.7   Visit www.yougetsignal.com to test whether the ports have been properly opened. Allow up to five (5) minutes for the router to update.

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

2. In DDNS menu, "V" check to Use DDNS and write Host Name and clisk the Start.
After DDNS Success, ""hostname.dwddns.net" " domain is created.
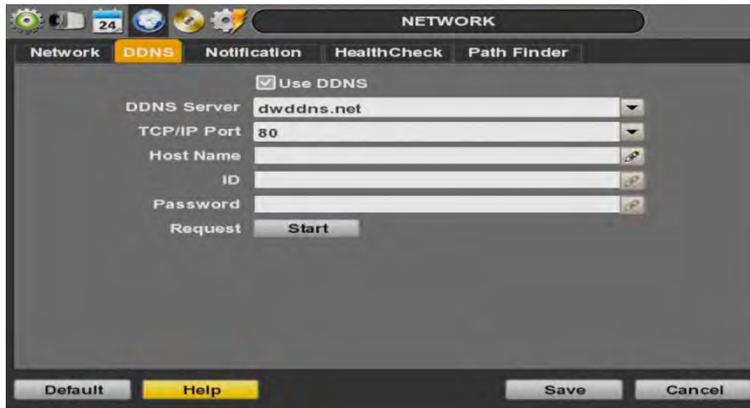
*If there is DDNS failure, please check the Network state.
*TCP/IP Port of DDNS is selectable to 80 or 8245.

3. After creation of the domain, check it by Ping test by DOS CMD.
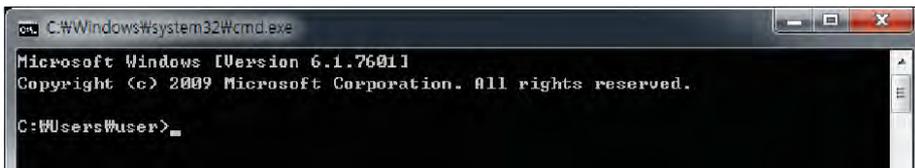
*If there is no host found, check the Network state and DDNS register page.

4. Set port forwarding in Router.
ex) Linksys

5. After completion of port forwarding, check the access of WebACS and MobileACS.

7 APPENDIX : SPECIFICATION

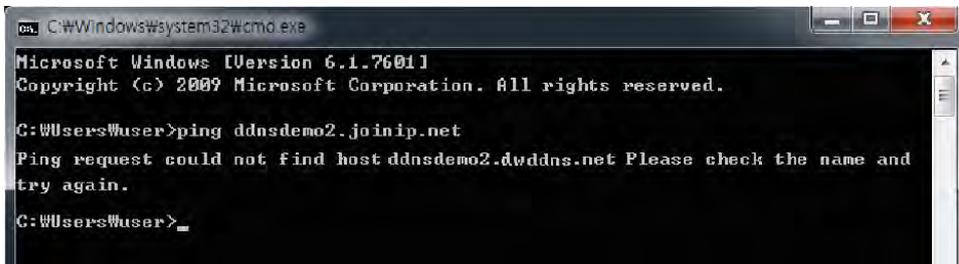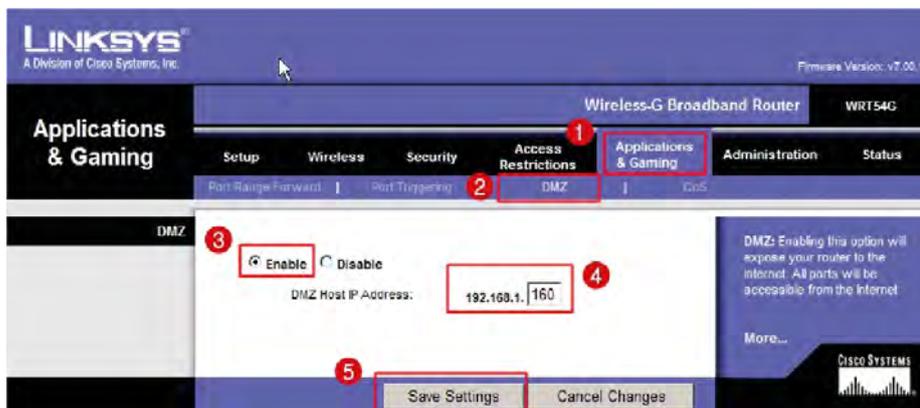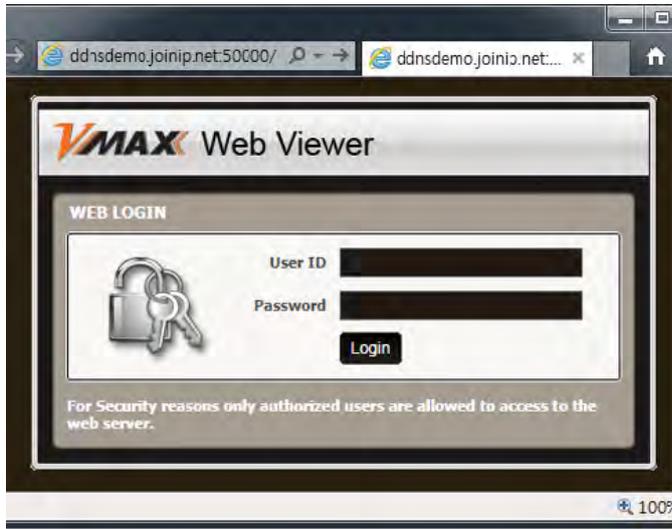| 1HDD Type Model		4ch	8ch	16ch
Front Image				
Compression		H.264		
HDD Interface		1 x SATA		
Operation System		Embedded Linux		
Video	Input	4BNC	8BNC	16BNC
	Output	1 HD Output, 1 VGA OUT, 1 SPOT OUT		
Video Mode		NTSC		
Display Speed		120fps@1080P	240fps@1080P 120@4k	480fps@1080P 240@4k
Screen Split		1, 4	1, 4, 9	1, 4, 9, 16
Recording Speed (NTSC)	Main Stream	Max.120fps@1080P, Max.80fps@3M/4M, Max.48fps@5M	Max.240fps@1080P, Max.160fps@3M/4M, Max.96fps@5M	Max.480fps@1080P, Max.320fps@3M/4M, Max.192fps@5M
Recording Resolution		NTSC: 480x240, 960x240, 960x480 / 720P, 1080P, 3M, 4M, 5M		
Recording Modes		Time-Lapse, Event, Pre-Event, Post-Event, Instant(Panic) Record		
Play back & Search	Speed	x1/32, x1/16, x1/8, x1/4, x1/2, x1, x2, x4, x8, x16, x32		
	Function	1, 4 (Multi-Channel Playback)	1, 4, 9 (Multi-Channel Playback)	1, 4, 9, 16 (Multi-Channel Playback)
		Date/Time, Record Table, Calendar, Event preview, Bookmark, System log		
Audio Input / Output		In: 1 x RCA Jack / Out: 1 x RCA Jack		
Alarm Input / Relay Output		1 x In / 1 x Relay Out	4 x In / 1 x Relay Out	1 x In / 1 x Relay Out
PTZ Control and Port		Virtual Joy-Stick Control on screen(by mouse)		
		RS 485 Port 1ea (PTZ, Keyboard Controller)	RS 485 Port 2ea (PTZ, Keyboard Controller)	RS 485 Port 1ea (PTZ, Keyboard Controller)
LAN		1 x 10/100/1000Mbps Gigabit Ethernet		
Network Transmission		Video Dual-Stream (Local Recording & Network Transmission)		
		Live monitoring, Remote Playback and File Backup (Triplex-on-Remote)		
		Remote & E-Mail Notification Remote System Reboot by Client(CMS)		
Mobile S/W		Android, iPhone		
Remote PTZ Control		Pan/Tilt/Zoom/Focus/Iris		

1HDD Type Model		4ch	8ch	16ch
Remote Management Backup Device	**S/W**	Central Management System		
	Web(IE)	Live monitoring, Playback & System Configuration		
	Internal	N/A		
	External	Local backup by USB memory stick (2ea) , Network backup by CMS support		
Advanced Function		Multi-Language, System Upgrade by USB & Network, Help menu on Major Function Import & Export & Instant File Backup Warning Alarm for System Over-Temperature		
System Operation		Mouse		
Power		12V x 2A D/C	12V x 3A D/C	12V x 5A D/C
Temperature & Humidity	**Storage**	-20 ~ 60℃ / 20 ~ 95%RH		
	Operating	5 ~ 40℃. 20 ~ 80%RH		
Cerification		CE, FCC, WEEE, RoHS, KC		
Dimension(W x H x D)		280 x 48 x 245		

2HDD Type Model		8ch	16ch
Front Image			
Compression		H.264	
HDD Interface		2 x SATA	
Operation System		Embedded Linux	
Video	Input	8BNC	16BNC
	Output	1 HD Output, 1 VGA OUT, 1 SPOT OUT	1 HD Output, 1 VGA OUT, 1 SPOT OUT, 2 LOOP OUT
Video Mode		NTSC/PAL	
Display Speed		240/200fps@1080P 120/100@4k	480/400fps@1080P 240/100@4k
Screen Split		1, 4, 9	1, 4, 9, 16
Recording Speed (NTSC/PAL)	Main Stream	Max.240fps@1080P / Max.200fps@1080P	Max.480fps@1080P / Max.400fps@1080P
Recording Resolution		NTSC: 480x240, 960x240, 960x480 / 720P, 1080P, 3M, 4M, 5M	
Recording Modes		Time-Lapse, Event, Pre-Event, Post-Event, Instant(Panic) Record	
Play back & Search	Speed	x1/32, x1/16, x1/8, x1/4, x1/2, x1, x2, x4, x8, x16, x32	
	Function	1, 4, 9 (Multi-Channel Playback)	1, 4, 9, 16 (Multi-Channel Playback)
		Date/Time, Record Table, Calendar, Event preview, Bookmark, System log	
Audio Input / Output		In: 1 x RCA Jack / Out: 1 x RCA Jack	
Alarm Input / Relay Output		4 x In / 1 x Relay Out	
PTZ Control and Port		Virtual Joy-Stick Control on screen(by mouse)	
		RS 485 Port 2ea (PTZ, Keyboard Controller)	
LAN		1 x 10/100/1000Mbps Gigabit Ethernet	
Network Transmission		Video Dual-Stream (Local Recording & Network Transmission)	
		Live monitoring, Remote Playback and File Backup (Triplex-on-Remote)	
		Remote & E-Mail Notification Remote System Reboot by Client(CMS)	
Mobile S/W		Android, iPhone	
Remote PTZ Control		Pan/Tilt/Zoom/Focus/Iris	

2HDD Type Model		8ch	16ch
Remote Management Backup Device	**S/W**	Central Management System	
	Web(IE)	Live monitoring, Playback & System Configuration	
	Internal	N/A	
	External	Local backup by USB memory stick (2ea) , Network backup by CMS support	
Advanced Function		Multi-Language, System Upgrade by USB & Network, Help menu on Major Function Import & Export & Instant File Backup Warning Alarm for System Over-Temperature	
System Operation		Mouse	
Power		12V x 5A D/C	
Temperature & Humidity	**Storage**	-20 ~ 60℃ / 20 ~ 95%RH	
	Operating	5 ~ 40℃. 20 ~ 80%RH	
Cerification		CE, FCC, WEEE, RoHS, KC	
Dimension(W x H x D)		360 x 66 x 356	

4HDD Type Model		32ch DVR
Front Image		
Compression		H.264
HDD Interface		Max. 8TB x 4ea
Operation System		Embedded Linux
Video	**Input**	32BNC
	Output	1 HD Output, 1 VGA OUT, 1 SPOT OUT
Video Mode		NTSC/PAL
Screen Split		1, 4, 8, 9, 16, 25, 32
Recording Speed (NTSC/PAL)	**Main Stream**	Max.480fps@1080P / Max.400fps@1080P
Recording Resolution		NTSC: 480x240, 960x240, 960x480 / 720P, 1080P PAL: 480x288, 960x288, 960x576 / 720P, 1080P
Recording Modes		Time-Lapse, Event, Pre-Event, Post-Event, Instant(Panic) Record
Play back & Search	**Speed**	x1/32, x1/16, x1/8, x1/4, x1/2, x1, x2, x4, x8, x16, x32, x64, x128
	Function	1, 4, 8, 9, 16, 25, 32 (Multi-Channel Playback)
		Date/Time, Record Table, Calendar, Event preview, Bookmark, System log
Audio Input / Output		In: 8 x RCA Jack / Out: 1 x RCA Jack
Alarm Input / Relay Output		16 x In / 2 x Relay Out
PTZ Control and Port		Virtual Joy-Stick Control on screen(by mouse)
		RS 485 Port 2ea (PTZ, Keyboard Controller)
LAN		1 x 10/100/1000Mbps Gigabit Ethernet
Network Transmission		Video Dual-Stream (Local Recording & Network Transmission)
		Live monitoring, Remote Playback and File Backup (Triplex-on-Remote)
		Remote & E-Mail Notification Remote System Reboot by Client(CMS)
Mobile S/W		Android, iPhone
Remote PTZ Control		Pan/Tilt/Zoom/Focus/Iris

4HDD Type Model		32ch DVR
Remote Management Backup Device	**S/W**	Central Management System
	Web(IE)	Live monitoring, Playback & System Configuration
	Internal	N/A
	External	Local backup by USB memory stick (2ea) , Network backup by CMS support
Advanced Function		Multi-Language, System Upgrade by USB & Network, Help menu on Major Function Import & Export & Instant File Backup Warning Alarm for System Over-Temperature
System Operation		Mouse
Power		12V D/C
Temperature & Humidity	**Storage**	-20 ~ 60℃ / 20 ~ 95%RH
	Operating	5 ~ 40℃. 20 ~ 80%RH
Cerification		CE, FCC, WEEE, RoHS, KC
Dimension(W x H x D)		433 x 88 x 350mm

NOTE   The specifications are subject to change without notice