

VT-EH Series 4, 8, and 16 Channel Digital Video Recorders





- 4, 8, or 16 Video Inputs with 1 Main, 1 Spot Monitor Output and 1 DVI output
- H.264 Compression
- Supports both Dynamic and Static IP Addresses
- 4, 8, and 16 Alarm Inputs / 1 Relay Out
- Up to 120 IPS Recording (VT-EH4) / Up to 240 IPS Recording (VT-EH8 / VT-EH16)
- Remote Viewing over the Internet, LAN, or Windows Mobile based PDA and iPhone.
- Supports two internal Hard Drives
- 250GB to 4TB Internal Storage Options
- "Quick Search" Function for automatic review
- Automatic sending of Health and Event notifications via email
- 4 Audio Inputs & 1 Output
- Control locally via Front Panel, USB Mouse or with the Included IR Remote control
- PTZ Control over RS-485
- Backup via Ethernet or USB
- Built-In Bandwidth Throttling
- Rack Kit "Ears" Available (VT-E RK)

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other.

A grounding type plug has two blades and a third grounding prong.

The wide blade or the third prong is provided for your safety.

When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use the attachments/accessories specified by the manufacturer.
- 12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.

When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 15) This equipment is indoor use and all the communication wirings are limited to inside of the building.
- 16) The socket-outlet shall be installed near the equipment and shall be easily accessible.
- 17) CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Operation Max temperature : 40℃

USB Load condition: USB Ports(5 Vdc, Max. 500 mA)

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

BEFORE INSTALLATION

- Installation should be carried out only by qualified personnel and in accordance with any electrical regulations in force at the time.
- The DVR must be placed on a stable surface or mounted in an approved cabinet.

 Adequate ventilation must be provided, taking particular care not to block any of the air vents on the DVR.
- Adequate protection against lightning strikes and power surges must be installed to prevent damage to the DVR.
- Any safety warnings on the DVR and in these instructions must be adhered to.
- If cleaning is necessary, shutdown the DVR and disconnect power first. Use a soft dry cloth only never use any abrasive cleaners.
- Do not attempt to service or repair the DVR as opening or removing covers may expose dangerous voltages or other hazards. Refer all servicing to qualified service personnel.

MAIN FEATURES

MOUSE CONTROLL

Designed to be controlled by mouse and easy to use.

ENHANCED GRAPHICAL USER INTERFACE [GUI]

The DVR menu structure and on screen display is presented in a simple to use and logical GUI format.

GENUINE PENTAPLEX OPERATION

The DVR will continue to record at full frame rate during local playback, local setup, multi user remote viewing and playback and remote setup.

AUDIO

4 audio inputs are supported which can be assigned to any video channel. Live and recorded audio can be Monitored remotely over the internet and remote 'talkback' audio transmission to the DVR is also possible.

BACKUP

Recorded footage (including audio) can be archived to USB memory stick or CD/DVD.

Playback software is embedded with the backup files and the backup also contains the system event log and backup log for full traceability.

REMOTE CONNECTION

Full DVR control is available over the internet as well as the ability to remotely configure the DVR. Alarm outputs on the DVR can be remotely triggered over the internet.

COMPREHENSIVE RECORDING SETUP

Recording can be scheduled, alarm activated or motion activated. For each type of recording, frame rates, image quality and audio recording properties can be adjusted per hour, per day and for each individual channel.

The DVR also has a panic recording feature (from the front panel or external input) which overrides all other recording settings to provide the best quality recording in the event of an emergency.

PTZ CONTROL

Full PTZ control is available from the front panel or remote connection and a wide number of speed Dome protocols are supported. Protocols can be set individually for each channel and PTZ speed can be adjusted to suit particular speed domes.

MAIN FEATURES

TELEMETRY CONTROL

Full telemetry control is available from the front panel or remote connection and a wide number of speed dome protocols are supported. Protocols can be set individually for each channel and telemetry speed can be adjusted to suit particular speed domes.

EXTENSIVE MONITOR SUPPORT

The DVR has 2 main monitor outputs (Composite and DVI) which can be used simultaneously. Support is also provided for 1 spot monitors and each spot monitor output can be programmed in the DVR setup.

LIVE DISPLAY

The DVR displays single or multi screen images and also has several sequence modes. (standard and user definable)

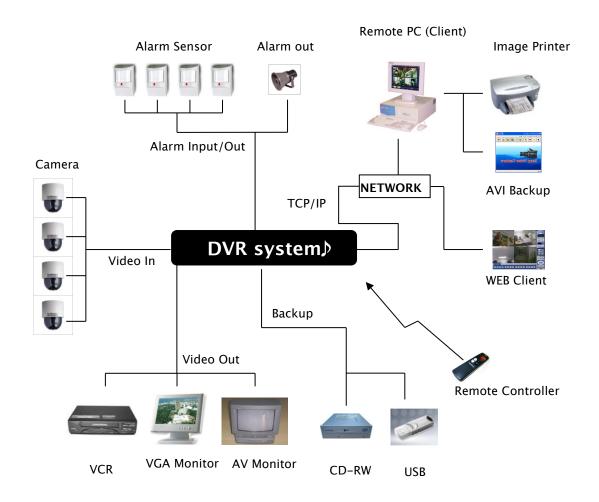
CONFIGURATION BACKUP

All configuration settings on the DVR can be saved to USB memory stick or a PC file remotely. The saved data can then be uploaded to other DVR units allowing rapid deployment where more than one DVR is being installed.

EMAIL SUPPORT

The DVR can send emails to specific users to notify events such as alarm, motion detection, hard drive failure etc.

SYSTEM ORGANIZATION



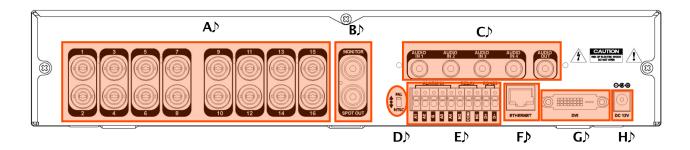
SYSTEM CONFIGURE

1. Front panel description.

| KEY | DESCRIPTION |
|---------------------------|---|
| Function Key | |
| POWER | Turn On/Off the system power |
| DISPLAY | Selects various display modes in live display and playback |
| SEQ | Calls the currently defined sequence mode |
| PANIC | Selects panic recording mode |
| ZOOM | Selects digital zoom mode in live display |
| LOCK | Locks the front panel buttons |
| ARCHIVE | Displays the archive menu |
| PTZ | Selects PTZ mode in live display |
| SETUP | Displays the setup menus |
| SEARCH | Displays the search menu |
| Control Key | |
| CHANNEL SELECTION BUTTONS | Used to display individual channels in live display and playback Also used to enter numeric passwords for the various login screens |
| CURSOR KEYS | Allow to Navigate on the menu |
| ENTER | Apply or Select an item |
| RETURN | Cancel or go to Previous menu |
| Playback Control | |
| Shuttle Wheel | Used to quickly adjust playback speed and direction. Also used to control camera zoom when in PTZ mode , and digital zoom level in live display |
| Joc | When playback is paused, used to move footage forwards or backwards, frame by frame |
| HOLD | Locks the current function of the SHUTTLE WHEEL so it can be released |
| ◀◀ ♪ | Increases reverse playback speed |
| ◆ ▶ | Selects reverse playback |
| II | Pauses / resumes playback |
| ▶.> | Selects forward playback and also accesses the instant playback feature |
| ▶▶♪ | Increases forward playback speed |

SYSTEM CONFIGURE

2. Rear panel description.



A. CAMERA INPUT: Connect up to 16 camera inputs.

B. MONITOR: Main BNC monitor. SPOT OUT: BNC Spot monitor.

C. AUDIO INPUTS & OUTPUTS: Up to 4 audio inputs and one audio output can be connected as necessary.

D. PAL / NTSC : Change Camera input type.

E. ALARM INPUTS: Up to 4 alarm inputs can be connected and configured as high or low inputs with common ground. RELAY OUTPUT: 1 alarm outputs can be connected and configured as high or low outputs with common ground. RS485: Connect PTZ camera.

F. LAN: LAN connection to a router or internal network.

G. DVI: DVI main monitor connection to a PC monitor or plasma screen.

If user want to connect VGA, please use DVI to VGA converter.

H. POWER: Connect 12V / 5A adaptor.

SYSTEM CONFIGURE - Remote Controller

3. Remote Controller description.



* If there are many DVRs on stack, each DVR must be set different ID then R emote controller set each ID on DVR. Can control all DVRs on one Remote c ontroller by each ID.

CONNECT & POWER ON

- Connect up to 16 CAMERA INPUTS as necessary.
- Connect one or more monitors to the DVR using the COMPOSITE or DVI connections
- Connect power to the DVR. The DVR checks for proper power connection and emits two be eps.

Press the **POWER BUTTON** on the front panel of the DVR to begin operation.



The DVR startup screen detects and checks the status of hard drives and the CDRW / DVR-RW drive.



After startup diagnostics are complete, the operator must

logon to the system. The default user name is 'ADMIN'

Using the **CHANNEL SELECTION** buttons, key in the default password of '1234' and press the **ENTER** button.



The DVR begins normal operation and shows the default display of all 16 channels.

The status bar(Include menu control) at the bottom of the screen shows menu first time. after that, it will show the current time and date.

A title for each channel is shown.

The red square and letter 'T' in the top right of each channel display shows that the channel is recording in Timer / Schedule mode.

MENU CONTROL



All menus can be controlled from above Status bar with mouse or front buttons.

LIVE DISPLAY

DIVISION SCREEN



Select the 'DISPLAY" button and screen division menu will be appeared. Select the screen type.

(1,4,6,8,9,16 and rotation sequence)).

Sequence mode



User can select the type from display menu.

Press the **SEQ** button. Each channel is shown in full screen for a set period of time before switching to the next channel.

To stop the sequence on a particular channel, press the SEQ button again.

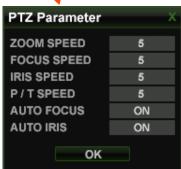
More complex sequences can be programmed through the setup menu



PTZ





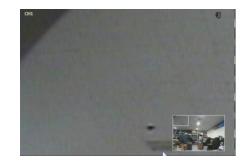


- 1) CAM: Select the Channel
- 2) Sequence: If pressing the "START" button after assigning the "Preset" in advance, sequence will be started.
- 3) Position name: Input the name after assigning the "P reset" location.
- 4) Avail. Position: User can see the available Preset location. If clicking the "GOTO" button after selecting it, Camera will be moved. Press the "REMOVE" button to delete the saved Preset location.
- 5) Zoom, Focus, IRIS: User can control the each item with +,- button.
- 6) Parameter
 Press this button and another window will be appeared.
 User can select each items from PTZ parameter menu.

Digital Zoom



Select the "ZOOM" button.



When viewing a channel in full screen, the operator can zoom in to a particular a rea by up to 8 times.

To use digital zoom, select the required channel and press the **ZOOM** button. T he small window at bottom right shows the full image and the main display area shows the zoomed portion.

LOG



User can see the current log immediately.

Click once after selecting log, recorded data will be played. This is in case of selecting the "PREVIEW" option).



Panic Recording

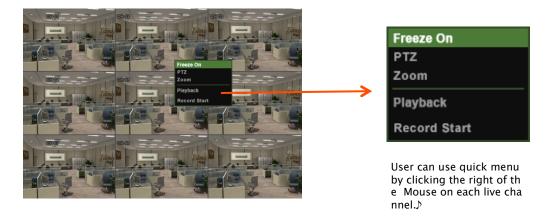


This is menu to start and stop the Panic recording.

If the panic recording is started, record icon will be changed as red square with "P". Select to return once more.

- Panic recording setup will be assigned from Record menu. 🔈

Quick Menu



Click the right of the Mouse on live channel that user wants to control.

- 1. Freeze On/Off: User can stop the live display of channel that user wants. Even th ough other channel show live display, this particular channel display is stopped. Click to return once more.
- 2. PTZ: Please refer "PTZ" menu of Page 16.
- 3. Zoom: Please refer "ZOOM" menu of Page 16.
- 4. Playback: User can playback immediately with selected time. (10,20,30 seconds and 1 minute ago)





In case of selecting "go to" menu, thi s menu will be appeared.
After selecting the time, press "OK".

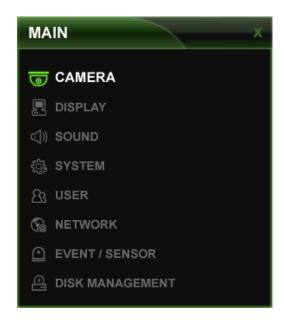
5. Record Start (Stop)
Please refer "Panic record" menu of Page 17.



Click the "MENU" and click the **SYSTEM SETUP** menu.



After Input the password (Default is 1234). Then main menu will appear.



To navigate around any items in the setup menu, use the CURSOR KEYS and the ENTER and RETURN

buttons. In general, the **ENTER** button is used to select and change a particular it em and the **RETURN**

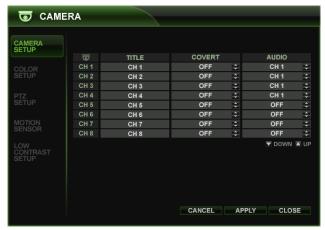
button is used to cancel a change or exit from a particular setup screen.

To setup all main system functions, highlight SYSTEM SETUP and press **ENTER**.

CAMERA

Click the **CAMERA** menu.

CAMERA: CAMERA SETUP



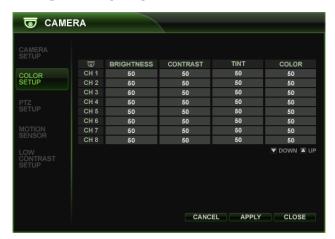
To setup the various camera options, highlight CAMERA and press ENTER.

TITLE: Input the camera title.

COVERT: When it is set to ON, the camera image is not displayed in live display but continues to be recorded.

AUDIO: Determines the audio recording channel.

CAMERA: COLOR SETUP



Brightness, contrast, tint and color can be adjusted for each individual channel. Highlight which channel to modify and press ENTER.



Click the each value by witton

The selected channel is displayed in full screen.

BRIGHTNESS, CONTRAST, TINT and COLOUR can be changed as necessary.

To modify a different channel, highlight CAMERA and choose the desired channel.

Press **RETURN** when all changes are complete.

CAMERA: PTZ SETUP



Click the PTZ SETUP menu and click the each value on the ADDRESS, PROTOCOL and BAUD RATE menu.

Change the value by button.

ADDRESS: The unique ID of the PTZ device.

PROTOCOL: The protocol of the PTZ device.

BAUD RATE: The baud rate of the PTZ device.

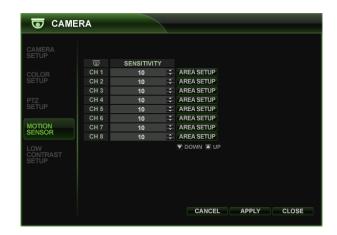


Click the "DETAIL" button and change the detail value by abutton.

Note that some settings, such as AUTO FOCUS, may not be compatible with particular PTZ equipment.

If this is the case, changing this value will have no effect on PTZ control.

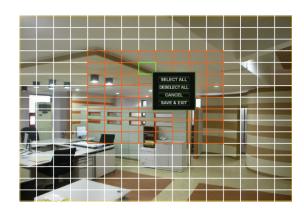
CAMERA: MOTION SENSOR



Click the MOTION SENSOR menu and click the value on the SENSITIVITY menu.

Change the value by 🖨 button.

SENSITIVITY: Between 1 (Lowest) and 10 (Highest) and determines the degree of motion required before recording is activated.



Click the **AREA SETUP** button.

AREA SETUP: Choosing this option allows the operator to define which areas of the image are monitored for motion detection.

For quick select or deselect the entire grid, click the right mouse button a nd click the **SELECT ALL** or **DESELECT ALL** menu.

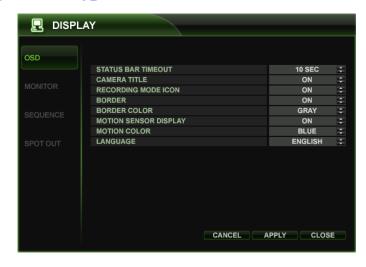
- Red line area: Selected area

- White line area: Non selected area

DISPLAY

To setup the various display options, highlight DISPLAY and press **ENTER**.

DISPLAY - OSD



Click the OSD menu..

Then click the 😝 button for ON/OFF and change the value

.

STATUS BAR: Determines the time to turn from the menu of status bar to time display.

CAMERA TITLE: Determines whether the camera title is displayed.

RECORDIGN MODE ICON: Determines whether the DVR recording status is shown at the top right of each channel display window.

BORDER: Determines whether there is a border around each channel in multi screen display mode.

BORDER COLOR: If the border is ON, the operator can choose the color.

MOTION SENSOR DISPLAY: If false motion recording is occurring, the operator can use this feature to determine and rectify the cause in realtime.

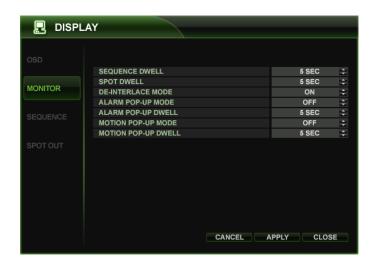
OFF - normal display mode.

ON - areas where motion is detected are highlighted with colored blocks.

MOTION COLOR: The color of the blocks displayed when MOTION SENSOR DISPLAY is set to ON.

LANGUAGE: Determines the language type.

DISPLAY: MONITOR



Click the MONITOR menu
Then click the button for
ON/OFF and change the value

SEQUENCE DWELL: The time when each screen is displayed in a sequence op eration.

SPOT DWELL: The time when each screen is displayed on the spot monitor o utputs.

DE-INTERLACE MODE: When recording any channels in D1 resolution (704 x 576), this should be set to ON to prevent judder during playback.

ALARM POP-UP MODE: When set to ON, an alarm input will cause the associ ated channel to display full screen.

ALARM POP-UP DWELL: Determines how long the full screen popup is displayed after an alarm input. If the alarm condition continues, the popup screen is displayed constantly.

MOTION POP-UP MODE: When set to ON, motion detection will cause the as sociated channel to display full screen.

MOTION POP-UP DWELL: Determines how long the full screen popup is disp layed after motion detection. If motion continues, the popup screen is display ed constantly.

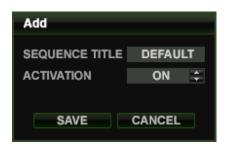
DISPLAY: SEQUENCE



Click the **SEQUENCE** menu

When the SEQ button is pressed, the default sequence will cycle through all 16 channels, one by one.

Sequence setup allows the operator to define a custom sequence, using mix ed multi screen views and any desired channels.



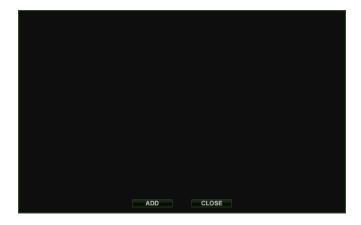
Click the ADD menu.

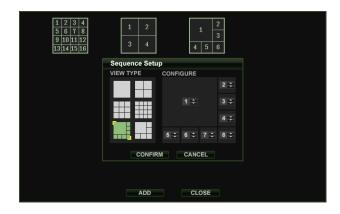
To add a new sequence, highlight ADD and press ENTER.

Sequence title is highlighted - press **ENTER** to bring up the virtual keybo ard and key in a name or reference number for the new sequence.

Click on the ACTIVATION tap and cli button for select ON/OFF.

Select the **SAVE.** Then, below menu will appear.





Press ADD. Then, "Sequence Setup" menu appear.

Determine the "VIEW TYPE" and assign "CONFIGURE".

Then, click **CONFIRM**.

To add the additional mode, click ADD continuously.

After finishing the setup, press **CLOSE**.

To modify the current one, double click that mode.

Then 'Sequence Setup" window will appear again.



The new sequence is now saved and can be started by pressing the **SEQ** button when in live view.

DISPLAY: SPOT-OUT



Click the **SPOT-OUT** menu and click the camera channel for ON/OFF.

The DVR has 4 SPOT MONITOR OUTPUTS (Digital Spot).

User can assign the SPOT OUT display each channel.

Double click the spot out channel that requires to be assign.



SPOT TITLE: input the title.

ACTIVATION: Determines ON/OFF.
Press MODIFY. (Below is default setup)

To modify the current display, double click this display. Then 'Spot Sequence Setup" window will appear.

How to setup is same with Sequence setup. (User can assign Single and Quad display only) To add the additional display, press ADD.



SOUND

Click the **SOUND** menu.

To setup the various sound options, highlight SOUND and press ENTER

SOUND: AUDIO



Click the AUDIO menu and click the ON/OFF menu.

Then, click the button for ON/OFF.

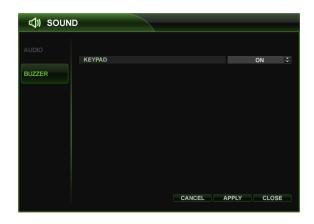
LIVE AUDIO: When it is set to ON, the selected audio channel can be monitored on the AUDIO OUTPUT.

AUDIO MONITORING CHANNEL: Specify which one of the 4 AUDIO INPUTS is routed to the AUDIO OUTPUT.

NETWORK AUDIO TX: When set to ON, live and playback audio is transmitted to a remote PC connection.

NETWORK AUDIO RX: When set to ON, allows a remote PC connection to send audio back to the DVR.

SOUND: BUZZER



Click the **BUZZER** menu and click the ON/OFF menu.

Then, click the button for ON/OFF.

KEYPAD: When it is set to ON, each front panel button press is confirmed by a beep.

SYSTEM

Click the **SYSTEM** menu.

To setup the various system options, highlight SYSTEM and press **ENTER**.

SYSTEM: DATE / TIME



Click the **DATE** / **TIME** menu.

DATE TIME: Allows the operator to set or modify the current date & time.

DATE FORMAT: Determines how the date is displayed.

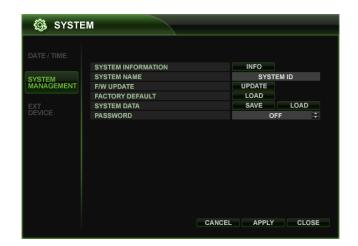
TIME FORMAT: Determines how the time is displayed.

NETWORK TIME SERVER SETUP: If the DVR is connected to the Internet, the time and date can be accurately set by selecting SYNC and pressing **ENTER**.

TIME ZONE SETUP: It should be set according to the region, which the DVR is used in.

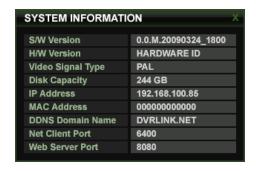
D.S.T.: When it is set to ON, the DVR will automatically adjust the time by one hour on the relevant date in spring and autumn.

SYSTEM: SYSTEM MANAGEMENT



Click the SYSTEM MANAGEMENT men

SYSTEM INFORMATION: User can see the system information as below.



F/W version: Shows the firmware version of the DVR.

H/W version: Shows the hardware version of the DVR.

VIDEO SIGNAL TYPE: The DVR automatically switches between PAL and NTSC depending on the channel 1 input signal at power on.

DISK CAPACITY: The first value shows the amount of hard drive capacity used by recorded footage, the

second value shows the total hard drive capacity installed.

IP ADDRESS: Shows either the manual IP address entered in NETWORK setup or the IP address assigned by a DHCP server if enabled.

MAC ADDRESS: Shows the MAC (Media Access Control) address of the DVR. It is unique - no other network device has this MAC address.

DDNS DOMAIN NAME: If DDNS is enabled, the host DDNS server is specified here.

NET CLIENT PORT: The port number that the DVR uses to support remote connection from the client software.

WEB SERVER PORT: The port number that the DVR uses to support remote connection from Internet Explorer or other web browsers.

SYSTEM NAME: It is used so that notification emails can be identified.

F/W UPDATE: Firmware updates may be released periodically to enhance system performance and add extra features. The operator can upgrade the firmware using a USB memory stick.

After inserting the F/W in USB or CD/DVD, Press UPDATE. Then, below menu will appear.



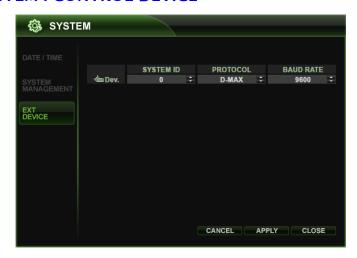
After selecting the F/W from F/W list, press **UPGRADE**. Then, F/W upgrade is started.

FACTORY DEFAULT: If settings have been changed, which cause erratic behavior, the factory default settings can be loaded.

SYSTEM DATA: System settings can be saved to a USB memory stick. The settings can be reloaded in case of accidental factory reset or can be transferred to another DVR if multiple units need to be installed with the same settings. All information is saved apart from network settings and system name.

PASSWORD: Determines the PASSWORD ON/OFF to enter specific menu.

SYSTEM: CONTROL DEVICE



This will allow up to 254 DVRs to be controlled from the same keyboard.

 ${f SYSTEM\ ID}$: If more than one DVR is connected on the same RS485 bus, each one must have a unique ID.

 \emph{Note} : If use more than one DVR on stack, each DVR must have unique ID for control by Remote cont roller.

PROTOCOL: Must be set by Control Device.

BAUD RATE: Must be set to match the baud rate of the PTZ controller.

USER

Click the USER menu.

To setup the various system options, highlight USER and press ENTER.

USER: USER MANAGEMENT



By default, the DVR is configured with a user ID of ADMIN, belonging to the ADMIN group and with a password of 1234.

As well as the ability to add new users, existing user details can be modified.

To modify user details, highlight the user with the green cursor and press ENTER.

The user number that can create is Max. 8 users.



For edit, double click on the each tap. After changing, click **OK**.

USER ID: Edit the user ID using the virtual keyboard. (Max. 10 characters)

PASSWORD: Change the password using the virtual keyboard. (Max. 4 Characters)

GROUP: Users can belong to one of three groups - ADMIN, MANAGER or USER.

E-MAIL: Enter the users email address if email notification is required. (Max. 64 Characters)

E-MAIL NOTIFICATION: Enable or disable email notifications for this particular user.



For ADD, double click on the each tap after clicking ADD. After changing, click OK.

USER ID: Edit the user ID using the virtual keyboard.

PASSWORD: Change the password using the virtual keyboard.

GROUP: Users can belong to one of three groups - ADMIN, MANAGER or USER.

E-MAIL: Enter the users email address if email notification is required.

E-MAIL NOTIFICATION: Enable or disable email notifications for this particular user.

USER: USER AUTHORITY



User can give the authority to the MANAGER and USER. >>
To select authority, click the APPLY button after selecting each items. >>

Please note: Any user can be deleted except the default ADMIN user.

USER: LOG OUT



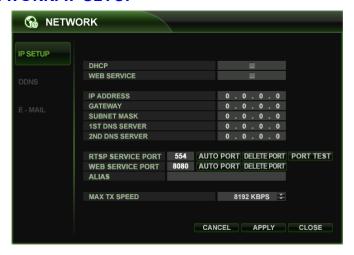
AUTO LOGOUT: Determines the AUTO LOGOUT ON/OFF.

DURATION: In case of selecting AUTO LOGOUT ON, determines the duration.

NETWORK

Click the **NETWORK** menu and determines each value.

NETWORK: IP SETUP



Click the IP SETUP menu.

DHCP: When enabled, the DVR will obtain an IP address automatically if it is connected to a DHCP server or router.

WEB SERVICE: When enabled, it allows remote connections using Internet Explorer or other web browsers.

IP ADDRESS: If DHCP is not being used, the IP address can be manually set.

GATEWAY: If DHCP is not being used, the gateway IP address can be manually set.

SUBNET MASK: If DHCP is not being used, the subnet mask can be manually set.

1ST DNS SERVER: If DHCP is not being used, the first DNS server can be manually set.

2ND DNS SERVER: If DHCP is not being used, the second DNS server can be manually set.

RTSP SERVICE PORT: If connected Router support UP&P (Universal plug and play) function,

when you click the AUTO PORT, the port forwarding is automatically setup.

And also can delete the port & test the port whether working or not.

WEB SERVER PORT:: If connected Router support UPNP (Universal plug and play) function,

when you click the AUTO PORT, the port forwarding is automatically setup.

And also can delete the port.

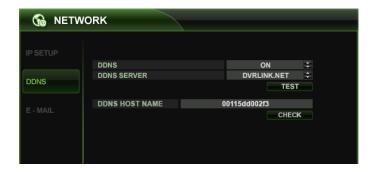
The port number that the DVR uses to support remote connection from Internet

Explorer or other web browsers.

ALIAS: When you enter the DDNS HOST NAME in DDNS setup (Next page), you can see the information like below. example: 1234.dvrlink.net:8080

MAX TX SPEED: Specifies the maximum bandwidth that the DVR can use during a remote connection.

NETWORK: DDNS

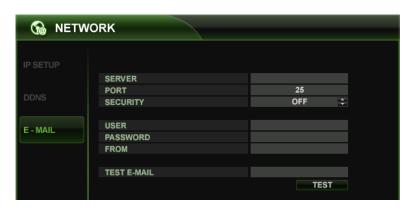


DDNS: When enabled, the DVR can be accessed through a Dynamic DNS server.

Commonly used if a broadband connection does not have a static IP address.

DDNS HOST NAME: User can enter any name to connect by web broswer.

NETWORK: E-MAIL



Click the **E-MAIL** menu.

SERVER: The SMTP outbound email server that should be used to send email notifications.

PORT: The outbound email port number.

SECURITY: Set to OFF if the SERVER does not require a username and password to connect.

USER: Enter a username to identify the DVR in email messages.

PASSWORD: If SECURITY is set to ON, enter the password here.

FROM: Input the E-mail address or any text. It is used only for E-mail test (E-mail sender)

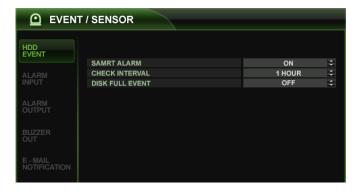
TEST E-MAIL: User can test after inputting E-mail address to receiving test E-mail

EVENT / SENSOR

Click the **EVENT / SENSOR** menu.

To setup the various event handling options, highlight EVENT/SENSOR and press ENTER.

EVENT / SENSOR: HDD EVENT



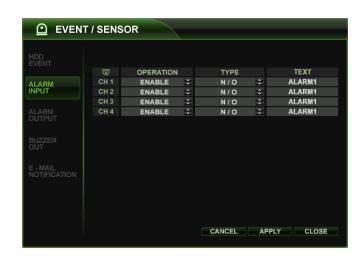
Click the **HDD EVENT** menu.

The DVR can monitor the hard drives and detect problems that may be developing.

SMART ALARM: Enables SMART disk monitoring. **CHECK INTERVAL**: Can be adjusted as desired.

DISK FULL EVENT: Determines ON/OFF.

EVENT / SENSOR : ALARM INPUT



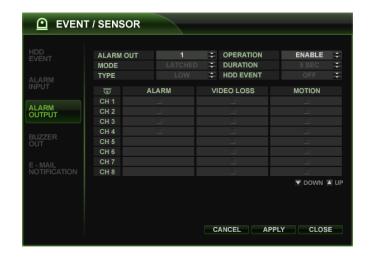
Click the ALARM INPUT menu an d click the OPERATION and TYPE value.

Determines the behavior of each of the 8/16 alarm inputs.

OPERATION: Alarm inputs can be enabled or disabled.

TYPE: Alarm inputs can be set as normally open or normally closed.

EVENT / SENSOR: ALARM OUTPUT



Click the **ALARM OUTPUT** menu and click the each value.

Determines the behavior and actions that will trigger each of the 8/16 alarm outputs.

Behavior settings

ALARM OUT: Choose which alarm output to configure. channel)

OPERATION: The selected alarm output can be enabled or disabled.

MODE: Can be either TRANSPARENT (the output is active only when the trigger criteria is present) or LATCHED (the output is active for a set period of time after a trigger).

DURATION: In LATCHED mode, the time that the alarm output remains active after it has been trigge red.

TYPE: Can be set to high (0V to +5V when activated) or low (+5V to 0V when activated).

HDD EVENT: Determines whether a hard drive event triggers the alarm output.

Action settings

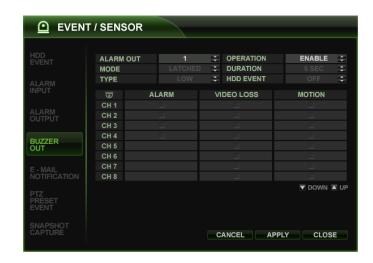
ALARM: Determines whether alarm inputs will trigger the alarm output.

VIDEO LOSS: Determines whether video loss on any of the selected channels will trigger the alarm ou tout.

MOTION: Determines whether motion detection on any of the selected channels will trigger the alarm output.

Remember to select APPLY and press ENTER to save all settings before exiting these menus

EVENT / SENSOR: BUZZER OUT



Click the **BUZZER OUTPUT** m enu and click the each value.

Determines the behavior and actions that will trigger the internal buzzer.

Behavior settings

OPERATION: The internal buzzer can be enabled or disabled.

HDD EVENT: Determines whether a hard drive event sounds the buzzer.

MODE: Can be either TRANSPARENT (the buzzer sounds only when the trigger criteria is present)

or LATCHED (the buzzer sounds for a set period of time after the trigger).

DURATION: In LATCHED mode, the time that the buzzer sounds after it has been triggered.

Action settings

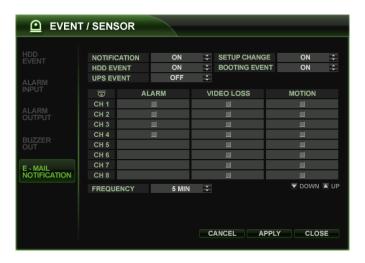
'n

ALARM: Determines whether alarm inputs will sound the buzzer.

VIDEO LOSS: Determines whether video loss on any of the selected channels will sound the buzzer. **MOTION**: Determines whether motion detection on any of the selected channels will sound the buzzer.

Remember to select APPLY and press ENTER to save all settings before exiting these menus

EVENT / SENSOR: EMAIL NOTIFICATION



Click the **EMAIL NOTIFICATION** menu and click each value.

Determines the behavior and actions that will send an email to a remote user.

Behavior settings

NOTIFICATION: Email notification can be turned ON or OFF.

SETUP CHANGE: Determines whether a setup change sends an email. **HDD EVENT**: Determines whether a hard drive event sends an email. **BOOTING EVENT**: Determines whether a booting event sends an email.

Action settings

ALARM: Determines whether alarm inputs will send an email.

VIDEO LOSS: Determines whether video loss on any of the selected channels will send an email.

MOTION: Determines whether motion detection on any of the selected chan nels will send an email.

FREQUENCY: E-mail sending period (Max. 60 MIN)

Email settings must also be configured in MAIL and USER MANAGEME NT from USER MANAGEMENT menu.

SYSTEM SETUP

DISK MANAGE



Click the **DISK MANAGEMENT** menu.

Then, click the PRESS menu for FW Upgrade, Factory Default and System Data.

To manage the internal hard drives, highlight DISK MANAGE and press ENTER.

RECORD TIME LIMIT: In certain circumstances, it may be necessary to limit the a mount of footage stored on the DVR (to comply with data protection laws for exam ple). Recording can be limited to 12 hours, 1 day, 2 days, 3 days, 1 week or one m onth. Once the DVR has this amount of footage stored, it will start to overwrite the earliest recorded footage.

OVERWRITE: When set to ON, the DVR will start overwriting the earliest recorded f ootage, once the hard drive becomes full. In this case, the percentage of hard drive used shown in live display will always be 99%. When it is set to OFF, the DVR will st op recording when the disk is full.

FORMAT: If necessary, all footage can be erased from the DVR using this option.

Please note: When a RECORD TIME LIMIT is set, the OVERWRITE option cannot be changed

RECORD MENU



Click the "MENU".



Input the password . Then main menu will appear.

Click the **RECORD** menu.

To setup the recording behavior of the DVR, highlight RECORD MENU and press ENTER.

RECORD: RECORDING OPERATIONS



Click the **RECORDING OPERATION** menu and click each value.

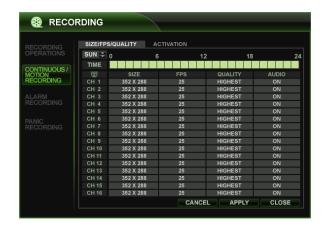
Then, click the value by button to change.

SCHEDULE MODE: Either DAILY (one schedule will apply to every day of the week) or WEEKLY (each day of the week has its own schedule).

PRE EVENT RECORDING TIME: When the DVR is not in continuous recording mode, this setting determines the amount of footage that is always recorded before an event occurs. (motion detection, alarm input etc.)

POST EVENT RECORDING TIME: When the DVR is not in continuous recording mode, this setting determines the amount of footage that is always recorded after an event occurs. (motion detection, alarm input etc.)

RECORD: CONTINUOUS/MOTION



Click the **CONTINUOUS/MOTION SET UP** menu.

This setup screen allows the operator to configure scheduled and motion detection recording.

There are 2 sections:

SIZE/FPS/QUALITY: Recording settings for each channel can be defined across a 24 hour period, in

blocks

(for example between 09:00 and 18:00) or for each individual hour. Note th

at when

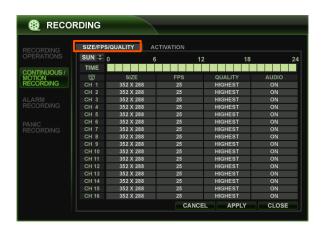
SCHEDULE MODE is set to WEEKLY, each day of the week can also be selecte

d.

ACTIVATION: This section determines at what times the DVR will record and whether it is in continuous

recording or motion detection.

SIZE/FPS/QUALITY

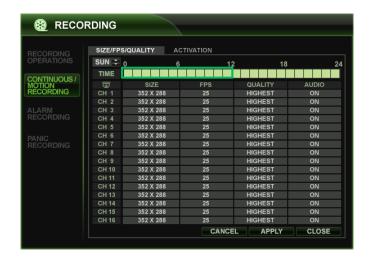


Click the SIZE/FPS/QUALITY menu.

To change the SIZE/FPS/QUALITY, highlight CONTINUOUS/MOTION SETUP and press ENTER.

Ensure the SIZE/FPS/QUALITY is highlighted in yellow and press ENTER again.

The 24 hour time bar is highlighted in green.

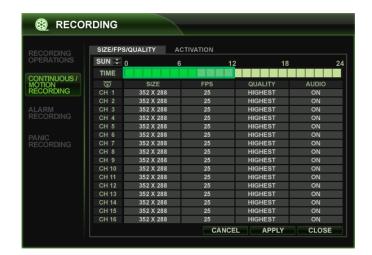


Click the TIMEBAR that user wants.

Press ENTER to display the green cursor.

The green cursor shown represents one hour.

The table below the time bar shows the recording settings for this time period.



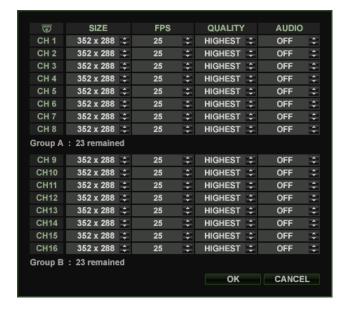
Drag the time that user wants.

Example: To change the recording settings between 09:00 and 18:00.

Use the CURSOR KEYS to move the green cursor to the 09:00 position and press ENTER.

The cursor changes to orange to show the start position.

Use the CURSOR KEYS to stretch the orange cursor across to the 18:00 position.



Click the SIZE, FPS, QUALITY and AUDIO value

Then click the value by button to change.

Press ENTER. Recording settings for the selected time period are displayed.

SIZE: Recording resolutions of 352x240, 704x240 or 704x480(NTSC) can be selected for each channel.

FPS: Frame rates between 1 and 30 can be set for each channel.

QUALITY: Four different picture recording qualities can be set for each channel.

AUDIO: If audio devices are connected to the DVR, user can select the audio recording on/off.

any audio channel can be assigned to any of the video channels. Please refer the camera setup menu of P22.)

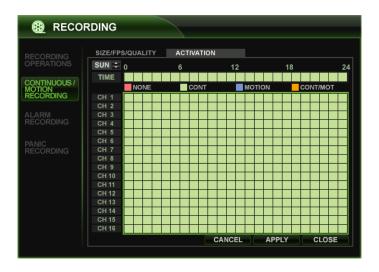
During playback, when a particular channel is selected in full screen, the assigned audio channel will be played back at the same time.

Adjust values as desired, and select OK to finish and return to the parameter menu. Other time periods can be configured in the same manner.

Remember that if SCHEDULE MODE is set to WEEKLY, recording settings need to be changed for each day as well as for each particular time.

Note: The DVR supports a maximum recording rate across all channels of 240 frames per second at 352x240 resolution. As settings are adjusted, the 'frames available' at bottom left displays the number of available frames still remaining and must always be zero or higher. If, whilst changing recording settings, this figure becomes negative, recording resolutions and / or frame rates must be lowered to increase the 'frames available' value to zero or above.

ACTIVATION

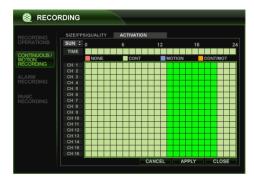


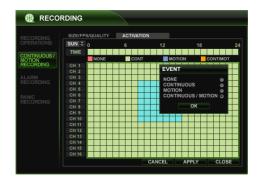
Click the **ACTIVATION** menu.

To change ACTIVATION settings, highlight CONTINUOUS/MOTION SETUP and press ENTER.

Use the **CURSOR KEYS** to highlight ACTIVAITION and press **ENTER**.

The schedule box is highlighted in green.





Drag the Time and Channel by left mouse.

After selecting the area, determines the recording type.

The schedule screen has 4 symbols to show the different recording modes.

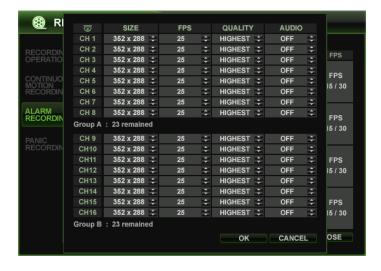
RED blocks: No scheduled or motion recording.

SKY BLUE blocks: The DVR will record continuously.

BLUE block: The DVR will only record when motion is detected.

YELLOW block: The DVR will record continuously with motion event.

RECORD: ALARM SETUP



Click the **ALARM SETUP** menu. The setting is same as CONTIN UOUS/MOTION SETUP.

This setup screen allows the operator to configure alarm input activated recording.

SIZE/FPS/QUALITY: Recording settings for each channel can be defined across a 24 hour period,

in blocks (for example between 09:00 and 18:00) or for each individual

hour.

Note that when SCHEDULE MODE is set to WEEKLY, each day of the week can

also be selected.

ACTIVAITION: This section determines at what times the DVR will monitor the alarm inputs and

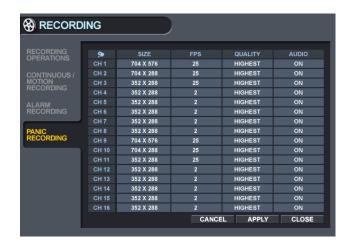
activate recording.

Please refer to Continuous / motion setup on page 44 for details on setting up SIZE / FPS / QUALITY and ACTIVIATION.

Alarm activated recording can be used in conjunction with Continuous / motion recording.

For example, the DVR could be configured to record continuously at a low frame rate (set in timer / motion setup) and then increase to a higher frame rate during an alarm input (set in alar m setup).

RECORD: PANIC SETUP



Click the **PANIC SETUP** menu. Select the Size, Frame, Quality and audio.

During panic recording mode, the DVR will override all other recording settings and record continuously on all channels at the settings configured here.

SEARCH

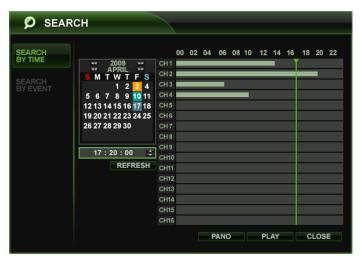


To search for a particular section of recorded footage, press the **SEARCH** button.

To protect unauthorized viewing of footage, only ADMIN and MANAGER user levels can playback footage.

To login as ADMIN, enter the default password of 1234 and press ENTER.

SEARCH: TIME SEARCH



Click the date that user wants.

The DVR uses a calendar and timeline search method for quick access to recorded footage.

The calendar displayed on the left shows the current month.

Days highlighted in yellow have recorded footage.

The timeline on the right shows a 24 hour status of all channels for the selected day. The recorded time will be displayed with different color each recording type.

Panic : White)
Motion : Green)
Timer : Sky blue)
Alarm : Red)

Marin . Reag



Drag the time bar by left mouse.

Press ENTER to select the calendar and use the CURSOR KEYS to move to the required day.

As different days are selected, the timeline display also changes to show recorded footage on that day.

Press ENTER to choose the day and move to the timeline.



Click the **PLAY** menu.

Use the CURSOR KEYS to move the timeline cursor left or right to select the time segment required.

The currently selected time is displayed above the calendar.

Press PLAY to begin playback from the selected time.



The default playback mode is 16 screen display.

By pressing **DISPLAY** or using the **CHANNEL SELECTION** buttons, it is possible to display single screen or other multi screen formats in a similar way to the live display mode.

During playback, turning the **SHUT TLE WHEEL** steadily clockwise increases the playback speed by up to 64 times.





Turning steadily anticlockwise will reverse play by up to 64 times. When the SHUTTLE WHEEL is released, playback is paused.

If the HOLD button is pressed and released during SHUTTLE WHEEL operation, the last shuttle function is held, even if the wheel is released.

When playback is paused, the JOG RING can be used to accurately move the footage forward or backwards, frame by frame.

Playback speed and direction can also be controlled using the five playback buttons located under the jog wheel.

SEARCH MODE: PANORAMA Search



Click the **PANO** button

PANO(Thumb nail): Each Screen show s 3 hour data.

CH1: 0~3 O'clock CH2: 3~6 O'clock

:

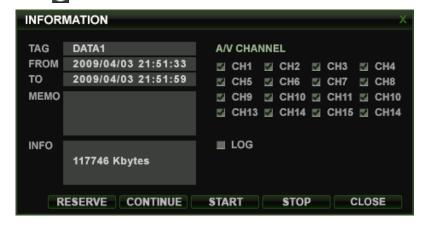
CH8: 21~24 O'clock

User can select different channels and playback speed up to X64



During playback, user can reserve the recording data that want to archive.

Press button at the time the archive was started. Then playback is stopped and below menu will appear.



After inputting "TAG" name, press **START**. Then display is returned to playback.

Press button at the time that end to archive again. Then below menu will appear again.

RESERVE: Press this to reserve current data.

CONTINUE: Press this to reserve the data more. Then display will be return to playback.

STOP: Make sure to press this button to reserve current data firstly. Then user can select the RESERVE.

START: Press this to start the reserve.

CLOSE: Finish the archiving.

Reserved data will be reserved in HDD. User can see the reserved data from "RESERVED DATA MANAGEMENT" of ARCHIVING menu.



To exit playback mode and return to the search screen to choose another time and date, press **RETURN**.

To exit the search screen and go back to live view, repeatedly press **RETURN**.

SEARCH: EVENT SEARCH



The DVR event log stores events such as motion and alarm activated recording, video loss etc.

To search for an event and playback the recorded footage, press the **SEARCH** button and log in as ADMIN with the default password of 1234.

Click the **SEARCH BY EVENT** menu and each value. Then click the value by button to change. Click the **SEARCH** menu.



Playback resumes from the moment when the selected event occurred and continues until stoppe d by the operator.

During event search playback, the **SHUTTLE WHEEL, JOG RING** and playback buttons can be used as normal.

To stop playback and return to live view mode, repeatedly press RETURN.

ARCHIVING

NEW ARCHIVING

To archive recorded footage to USB memory stick or CD/DVD, press the ARCHIVE button.

To protect unauthorized viewing and distribution of footage, only the ADMIN user level can archive footage.

To login as ADMIN, enter the default password of 1234 and press ENTER.



Click the each value.

Then, click the value by button to change.

Click the **QUERY** menu.

Make sure to press QUERY first before selecting BURN or RESERVE.

Press RELEASE to reset after QUERY.

RESERVE: Press this after inputting the TAG name.

BURN: Press this after inputting the TAG name. Then press ${\sf START}$ after appearing below menu. ${}^{\flat}$



ARCHIVING

RESERVED DATA MANAGEMENT



AVI ARCHICING LIST: User can see the AVI archiving data that reserved from new archiving menu or archiving of search.

INFORMATION: The detailed information of Reserved AVI data.

DELETE: User can delete the reserved AVI data

BURN: Backup the selected AVI data.

SNAPSHOT ARCHICING LIST: User can see the snapshot archiving data.

INFORMATION: The detailed information of Reserved snapshot data.

DELETE: User can delete the reserved snapshot data

BURN: Backup the selected snapshot data.

Þ

WEB CONNECTION SETUP

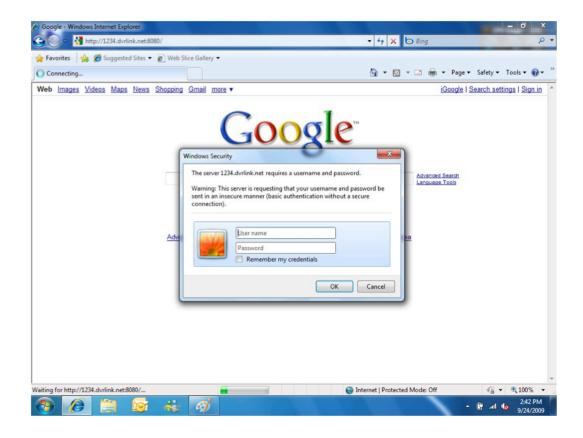
• WEB Connection Setup

For using web connection, 554 and 8080 ports should be port forwarding in Router.

♣ How to Connect

Input the IP Address or URL of the DVR in the Internet Explorer Address Bar. If user uses the DDNS, input the URL as below.

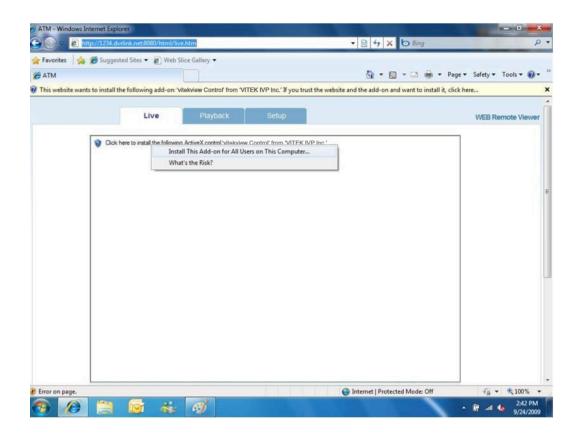
http://1234.dvrlink.net



Enter DVR User name an password.

WEB CONNECTION SETUP

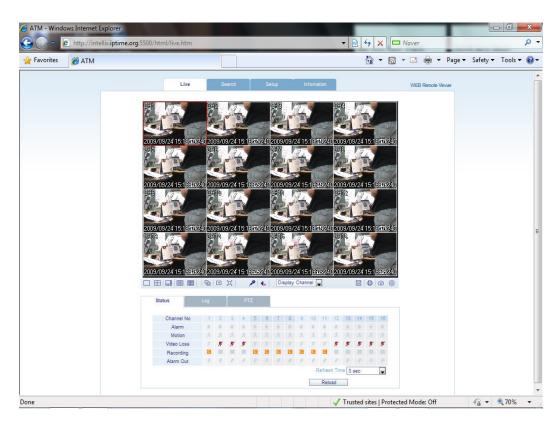
• Click the following ActiveX control and install.



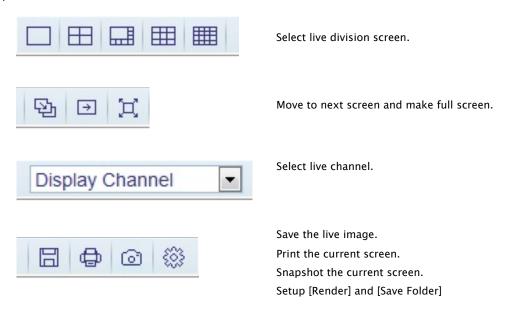


WEB CONNECTION SETUP

• LIVE Mode



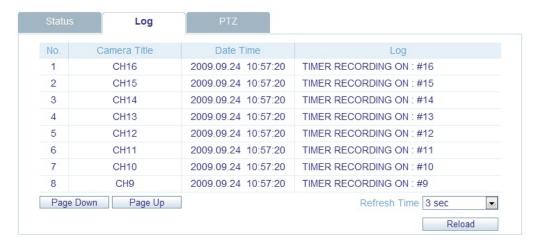
• Explanation of function button in LIVE mode



• Status: Can see the current DVR status.



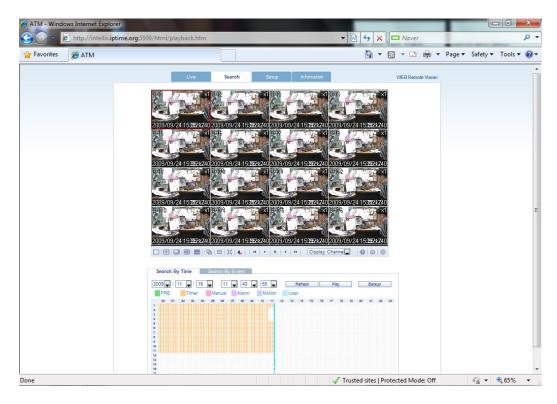
• Log: Can see the log.



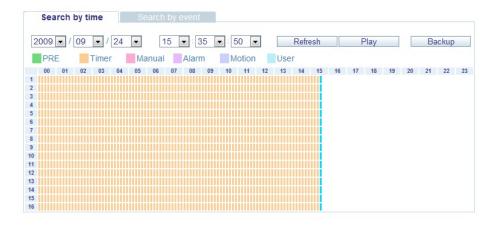
• PTZ: Can control connected PTZ camera.



•SEARCH Mode



• Search by time



- 1. Refresh: Refresh the data.
- 2. Play: After select the date and time, can play the data.
- 3. Backup: Can backup special channel and time.

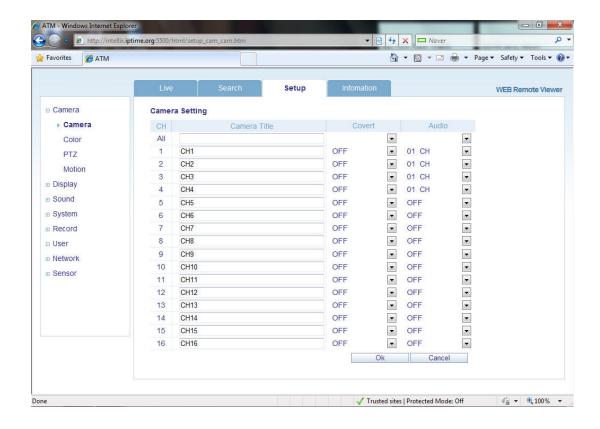
• Search by event



- 1. Event: Select necessary event to playback.
- 2. Period: Select the date an time of Start to End.
- 3. Search: Start the selected data.

• SETUP Mode

All settings are same as DVR setup. Refer to Page 20. \triangleright



• INFORMATION

Check DVR model name and WEB version.

