

M-JPEG

# M-JPEG

## Digital Video Recorder

### INSTRUCTION MANUAL

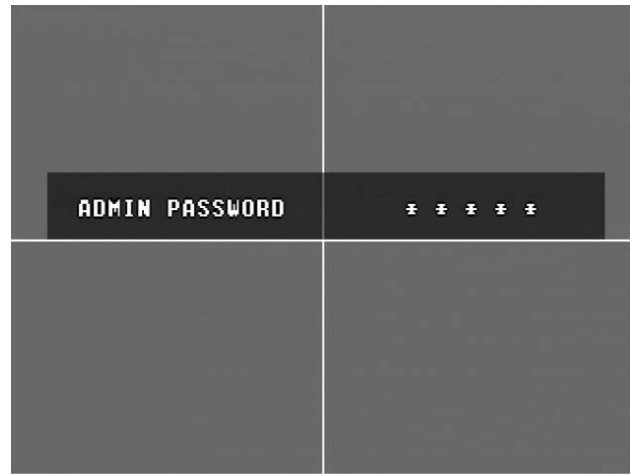
4-ch Digital Video Recorder

8-ch Digital Video Recorder



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## QUICK START PAGE



The Factory Default password for the unit is “000000”



The Default password to run the client software is “0”

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## CONTENT VERIFICATION

Before installing the DVR, please make sure that the following items are included in the box:

1. Digital Video Recorder
2. Remote Controller
3. DVR Client Software CD
4. Power Cable
5. Two AAA Batteries
6. Loop-out Cable (8-ch Only)
7. This Instruction Manual

If any of these materials are missing, please contact the vendor customer help desk immediately.

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## DISCLAIMER

- While every effort has been made to ensure that the information contained in this guide is accurate and complete, no liability can be accepted for any errors or omissions.
- We reserve the right to change the specifications of the hardware and software described herein at any time without prior notice.
- No part of this guide may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without prior written permission of the manufacturer.
- We make no warranties for damages resulting from corrupted or lost data due to a mistaken operation or malfunction of the Digital Video Recorder, the software, the hard drives, personal computers, peripheral devices, or unapproved/unsupported devices.

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## FCC NOTICE

Digital Video Recorder, MJPEG 4-ch & 8-ch.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions;

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The hard disk provided with the digital video recorder must be used with this equipment in order to comply with Class B limits in subpart B of Part 15 on FCC rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

### **Canadian Radio Interference Regulations**

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

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# READ THIS FIRST

## Test Sessions

Before you try to record important subjects, we highly recommend that you make several test recording and playback sessions to ensure that the Digital Video Recorder is operating and being operated correctly. Please note that subsidiaries and affiliates, and its distributors are not liable for any consequential damages arising from any malfunction of a Digital Video Recorder or its accessory, including the hard disk drive, which results in the failure of an image to be recorded or to be recorded in a format that is machine sensible.

## The Privacy act of 1974 (5 U.S.C. § 552a)

Please note that Digital Video Recorders are intended for recording of surveillance use and should never be used in a manner that invades other people's privacy or contravenes international or domestic privacy act and its regulations. Please be advised that in certain cases the recording of individuals, private properties, or commercial properties by means of camera or other devices may contravene legal rights of such individuals even if the images were recorded for personal use.

## Warranty Limitations

This Digital Video Recorder's warranty is only effective in the country of sale. If a problem arises while the DVR is in use abroad, please convey it back to the country of sale before proceeding with a warranty claim.

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## SAFETY PRECAUTIONS

- Before using the Digital Video Recorder, please ensure that you read and understand the safety precautions described below. Always ensure that the Digital Video Recorder is operated correctly.
- The safety precautions noted on the following pages are intended to instruct you in the safe and correct operation of the DVR and its accessories to prevent injuries or damage to the self, other persons and equipment.
- In this Instruction Manual, the term “DVR”, “equipment” and “device” refers primarily to the Digital Video Recorder and its accessories such as power supply and its remote controller.

## WARNING

- Do not cover the ventilation opening or slots on the outer casing. To prevent the DVR from overheating, provide at least two inches of air space around the vent and the slots.
- Do not drop metallic parts through slots. This could permanently damage the Digital Video Recorder. Immediately turn the DVR’s power off or unplug the power cord from the power outlet. Contact a qualified service personnel authorized by the equipment distributor or installer.
- Do not attempt to disassemble or alter any part of the equipment that is not expressly described in this guide. Disassembly or alteration may result in high voltage electrical shock. Internal inspections, alterations and repairs should be conducted by qualified service personnel authorized by the equipment distributor.
- Stop operating the equipment immediately if it emits smoke or noxious fumes. Failure to do so may result in fire or electrical shock. Immediately turn the DVR’s power off, remove the power cable from the power outlet. Confirm that smoke and fume emissions have ceased. Please consult the DVR distributor.
- Stop operating the equipment if a heavy object is dropped or the casing is damaged. Do not strike or shake. Failure to do so may result in fire or electrical shock. Immediately turn the DVR’s power off or unplug the power cord from the power outlet. Please consult the DVR distributor.
- Do not allow the equipment come into contact with, or become immersed in, water or other liquids. Do not allow liquids to enter the interior. The DVR has not been waterproofed. If the exterior comes into contact with liquids or salt air, wipe it dry with a soft, absorbent cloth. In the event that the water or other foreign substances enter the interior, immediately turn the DVR’s Power off or unplug the power cord from the power outlet. Continued use of the equipment may result in fire or electrical shock. Please consult the DVR distributor.
- Do not use substances containing alcohol, benzene, thinners or other flammable substances to clean or maintain the equipment. The use of these substances may lead to fire. Use a dry cloth on a regular periodic basis and wipe away the dust and dirt that collects on the device. In dusty, humid or greasy environments, the dust that collects

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around the ventilation or the slots on the outer casing over long periods of time may become saturated with humidity and short-circuit, leading to fire.

- Do not cut, damage, alter or place heavy items on the power cord. Any of these actions may cause an electrical short circuit, which may lead to fire or electrical shock.
- Do not handle the device or power cord if the hands are wet. Handling it with wet hands may lead to electrical shock. When unplugging the cord, ensure that you hold the solid portion of the plug. Pulling on the flexible portion of the cord may damage or expose the wire and insulation, creating the potential for fires or electrical shocks.
- Use only the recommended power accessories. Use of power sources not expressly recommended for this equipment may lead to overheating, distortion of the equipment, fire, electrical shock or other hazards.
- Do not place the battery near a heat source or expose it to direct flame or heat. Neither should you immerse them in water. Such exposure may damage the battery and lead to the leakage of corrosive liquids, fire, electrical shock, explosion or serious injury.
- Do not attempt to disassemble, alter or apply heat to the battery. There is serious risk of injury due to an explosion. Immediately flush with water any area of the body, or clothing that comes into contact with the inner contents of the battery. If the eyes or mouth contact these substances, immediately flush with water and seek medical assistance from a medical professional.
- Avoid dropping or subjecting the battery to severe impacts that could damage the casings. It could lead to leakage and injury.
- Do not short-circuit the battery terminals with metallic objects, such as key holders. It could lead to overheating, burns and other injuries.
- The supplied power supply and power cord are designed for exclusive use with the Digital Video Recorder. Do not use it with other products or battery. There is a risk of fire and other hazards.



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## CAUTION

- Avoid using, placing or storing the equipment in places subject to strong sunlight or high temperatures, such as the greenhouse or trunk of a car. Exposure to intense sunlight and heat may cause the battery to leak, overheat or explode, resulting in fire, burns or other injuries. High temperatures may also cause deformation of the casing. Ensure that there is good ventilation when using the equipment.
- Do not store the equipment in humid or dusty areas. Storage in such areas could lead to fire, electrical shock or other damage.
- Do not operate the DVR beyond its specified temperature, humidity or power source ratings. Do not use the DVR in an extreme environment such as in high temperature or high humidity. Use the device at temperatures within 41°F - 104°F and humidity below 90 %. The normal operating power source for this device is 110V-220V AC 50/60Hz.
- Fully charge up the backup battery prior to operation. Keep the Digital Video Recorder turned on or connected to a power outlet for at least 24 hours to recharge the backup battery. This procedure is necessary when using the DVR for the first time or after it has been unplugged for a long time from the power outlet. Insufficient charging of the battery may cause loss of the time and date settings if the power supply should fail. The battery, when fully charged, will store the saved settings for approximately 170 hours.

## PREVENTING MALFUNCTION

- Avoid Strong Magnetic Fields. Never place the DVR in close proximity to electric motors or other equipment generating strong electromagnetic fields. Exposures to strong magnetic fields may cause malfunctions or corrupt image data.
- Avoid Condensation Related Problems. Moving the equipment rapidly between hot and cold temperatures may cause condensation (water droplets) to form on its external and internal surfaces. You can avoid this by placing the equipment in an airtight, resealable plastic bag and letting it adjust to temperature changes slowly before removing it from the bag.
- If Condensation forms inside the Digital Video Recorder. Stop using the equipment immediately if you detect condensation. Continued use may damage the equipment. Remove the power cord from the power outlet and wait until the moisture evaporates completely before resuming use.

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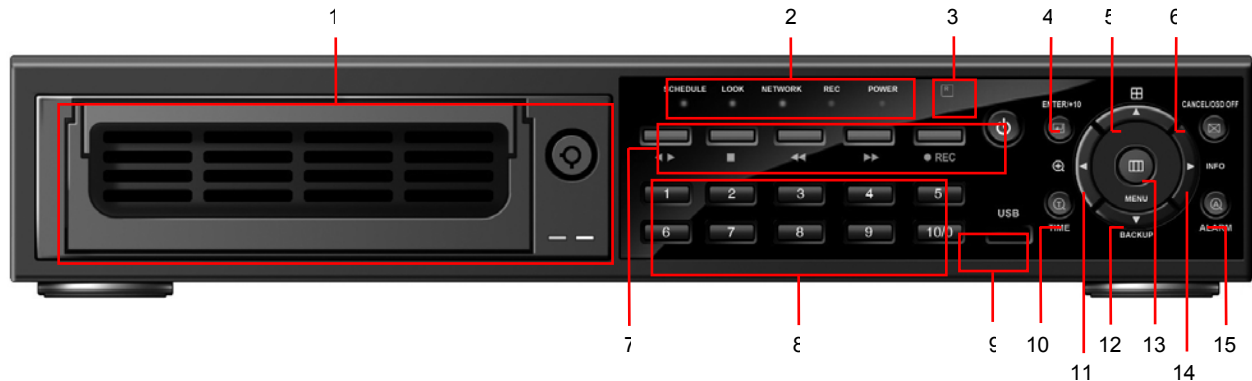
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# DIGITAL VIDEO RECORDER LAYOUT

## 1. FRONT PANEL LAYOUT



- 1) REMOVABLE HARD DISK DRIVE BAY
- 2) STATUS INDICATOR  
Five LEDs display the status of the Digital Video Recorder. From the left, Power (red), Recording (red), Scheduled Recording (green), Button Lock (green) and Network.
- 3) IR RECEIVER  
Do not block the receiver as the remote controller needs the line of sight to the receiver.
- 4) ENTER / +10  
This button selects and enables the configuration changes made on the menu and sub-menu screens. It is also used to enter numbers greater than 10 when entering numeric entries or motion grid selection.
- 5) DISPLAY / UP  
This button is used to switch between quad view mode and picture-in-picture display mode. It is also used to navigate up in some menus.
- 6) CANCEL/OSD OFF  
This button cancels any selection changes in submenus. In Zoom mode, pressing this button will exit to the original display screen. In the regular display screen, this button is used to hide the On-Screen-Display information such as time, date and channel icons. This button also removes any of the alert icons on the upper right corner of the screen (AL, VL and PL). This button is also used to turn off the alarm buzzer.
- 7) PLAY / STOP / FAST REWIND / FAST FORWARD / RECORD / POWER  
From left to right:

---

- **PLAY/REVERSE** playback button

This button is used to start the playback of recorded data. By default, the playback starts from the earliest recording in the storage device.

- **STOP**

This button stops recording or playback.

- **FAST REWIND / LOCK**

This button is used to fast rewind during playback. It also locks all buttons on the Digital Video Recorder along with the remote controller. The LOCK LED light is turned on when this feature is activated. To unlock, press the lock button again and enter the password when prompted. The DVR cannot be locked in playback mode.

- **FAST FORWARD / SWAP / PTZ**

This button is used to fast forward during playback. It is also used as the Pan, Tilt and Zoom submenu in live mode. Press and hold the button to activate the hard drive hot swappable mode button.

- **RECORD**

This button starts recording.

- **POWER**

This button turns the Digital Video Recorder on or off.

8) **NUMERIC BUTTONS (1~9, 10/0)**

These buttons have a number of functions to enter data and to make selections. They are used to enter numerical data when prompted for the password, to make channel/camera selection, to choose the day in schedule option, and to enter alphabets to label each channel.

9) **USB 1.1 PORT**

USB 1.1 compliant port allows use of memory sticks to backup video files.

10) **TIME SEARCH**

This button accesses the time search menu. Use the directional buttons to select the date and the time. Press this button again to start the playback of the selection.

11) **ZOOM / LEFT**

This button allows to digitally zoom into a specific area in both live and playback screen. Press the button to display the zoom area box, use the arrow keys to move the box, and then press the Enter button again to enlarge the selected area. It is also used to navigate left in some menus.

12) **BACKUP / DOWN**

This button allows back up of video clips onto USB 1.1 compliant memory sticks. If there are no backup devices present, this button is disabled automatically.

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13) MENU

This button accesses the main menu. It is also used to save and for any menu screens.

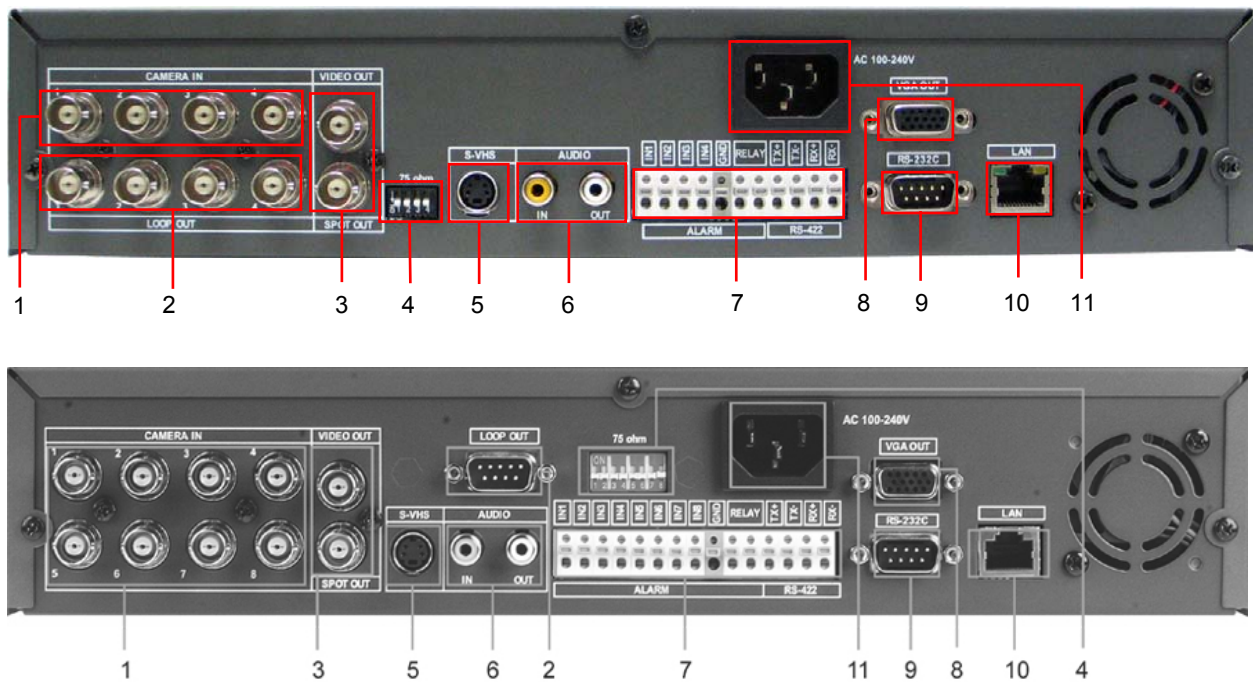
14) INFO / RIGHT

This button displays system information screen: USB device, internal HDD size, Boot-Rom version, Application version, host name and IP address. Press this button once more to access the system log.

15) ALARM SEARCH

This button accesses the alarm search menu. Use the directional buttons to select the date and the time. Press this button again to start the playback of the selection.

## 2. REAR PANEL LAYOUT



- 1) CAMERA INPUTS  
BNC connectors for composite video inputs
- 2) LOOP OUTPUTS  
BNC connectors for composite video outputs
- 3) VIDEO OUT / SPOT OUT  
Composite main and spot monitor outputs
- 4) 75 OHM TERMINATION SWITCH  
Video signal termination for loop-outs
- 5) S-VIDEO OUTPUT
- 6) AUDIO INPUT / OUTPUT  
RCA jack connector
- 7) ALARM SIGNAL INPUTS / OUTPUT / RS-422 / RS-485
- 8) VGA OUTPUT
- 9) RS-232C  
9-Pin port connector to connect an external modem or other communication devices



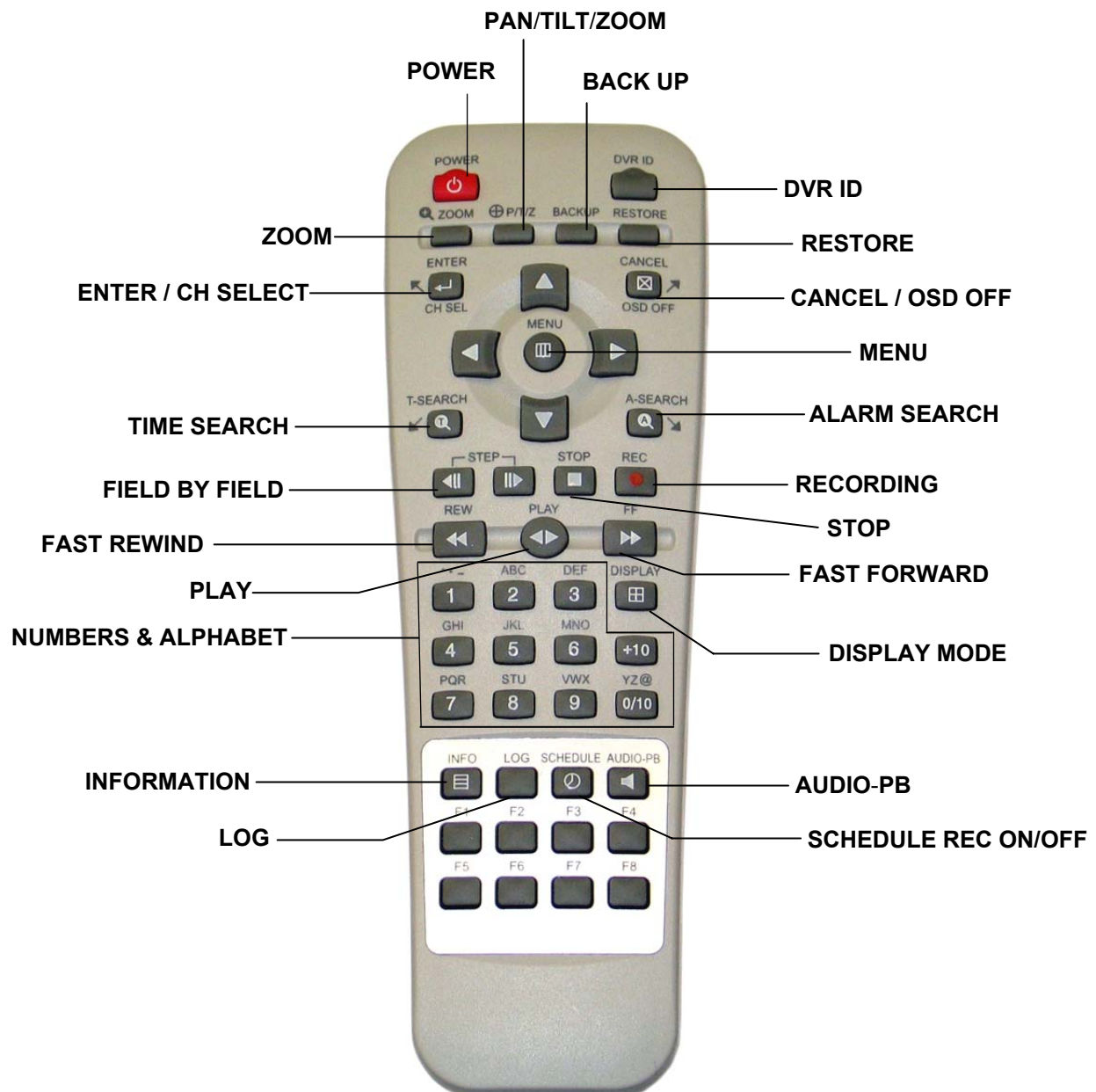
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10) RJ45 ETHERNET PORT

10/100Base-T RJ45 ethernet port for network connection

11) AC POWER SOCKET

### 3. IR REMOTE CONTROLLER



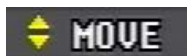
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## USING THIS MANUAL

Throughout this manual, the following icons will be displayed at the bottom of the menu screens in menus to guide you through navigating and configuring the Digital Video Recorder.



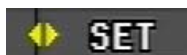
Use the directional buttons to navigate through the menu (Up, Down, Left, Right).



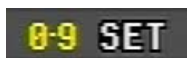
Use the directional buttons to navigate up or down between item selection.



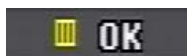
Use the directional buttons to navigate left or right between item selection.



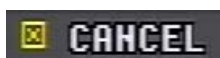
Use the directional buttons to modify the values of submenus.



Use the numeric buttons to enter the values or to switch between channels. Use 10+ button in combination with single digit buttons to enter or channels higher than 10.



Use the menu or enter key to confirm the settings.



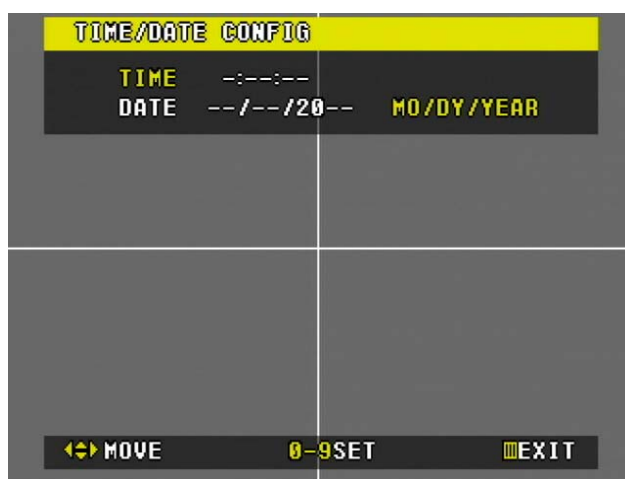
Use the OSD/CANCEL button to revert back to previous settings.

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## I. BASIC SETTINGS

### Time & Date Setting

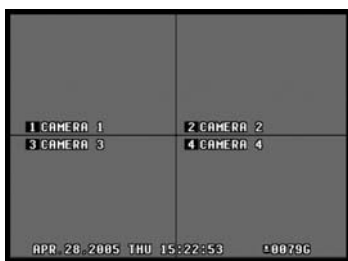
When the DVR is powered on for the very first time, the time and date configuration screen will appear after initialization. Enter the appropriate time in 24 hour format and date using the numeric buttons. Press the Menu Button to save and exit.



The password prompt will appear as soon as the time and date has been entered. Enter “000000” as the default password.

### Screen Position Adjustment

The screen position is adjustable during live view or playback. Use the directional buttons on the remote controller to adjust the screen position to best fit the monitor.



Default Position



Up position

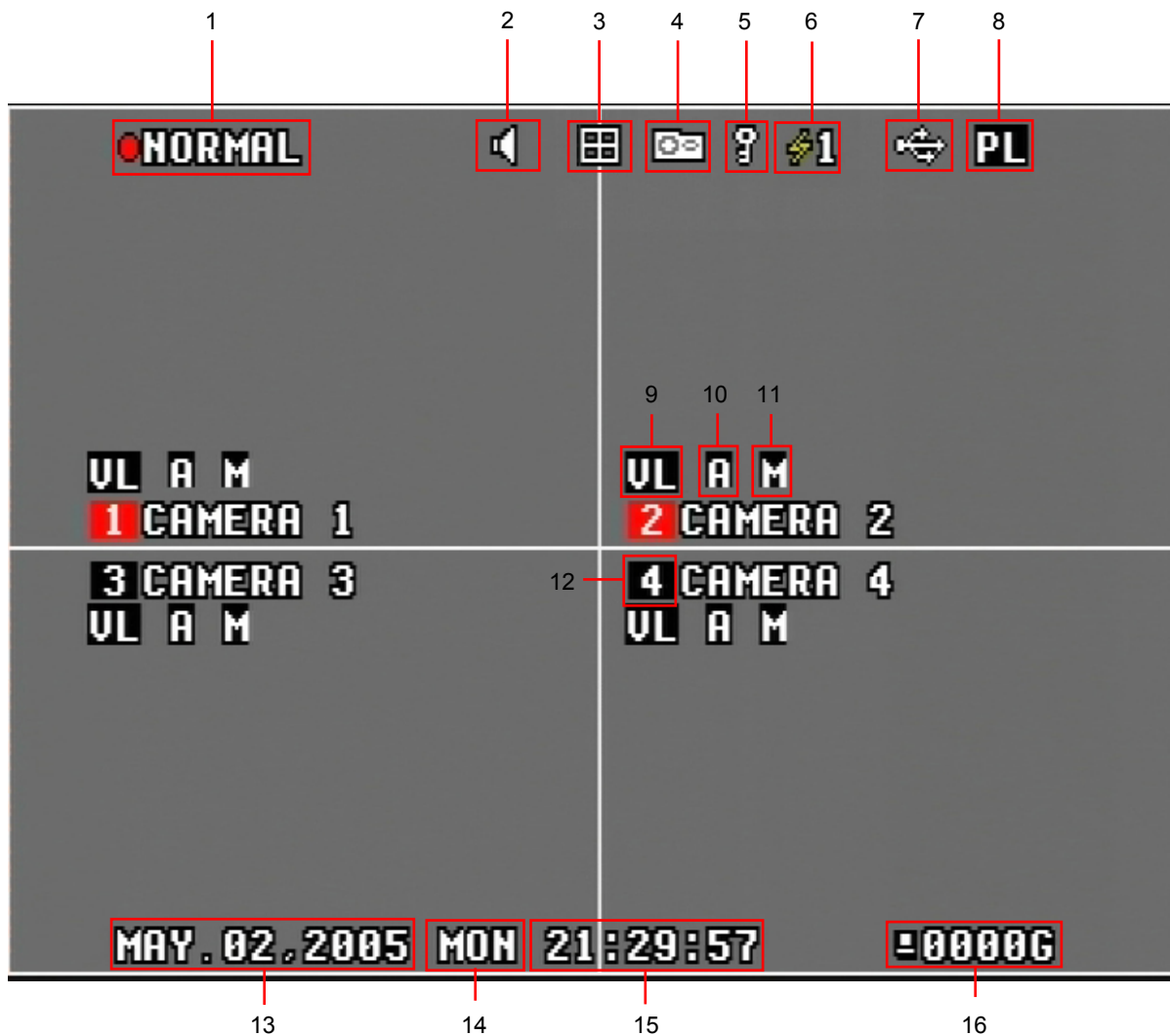


Bottom right corner position

## II. BASIC OPERATION

This section will cover basic features of the DVR such as simple recording and playback. Also, it will cover the main screen explaining many alert, operational, channel, DVR status, the time and hard drive space counter. Moreover, it will also address several live view modes the DVR has to offer, which include several multiple channel view modes, automatic sequence modes and the channel swapping feature as well as the zoom feature. Finally, this section will also include the information screen where all the basic information about the DVR is displayed as well as the log screen where all the activities of the DVR are compiled.

### 1. MAIN SCREEN



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#### 1. DVR STATUS ICON

Displays recording mode and playback icons.

#### 2. AUDIO PLAYBACK ICON

#### 3. QUAD MODE ICON

Displayed when recording in quad mode.

#### 4. BACKUP IN PROGRESS ICON

Displayed if backup is in progress.

#### 5. LOCK ICON

Displayed when the DVR is locked by pressing the lock button.

#### 6. NETWORK CONNECTIVITY STATUS ICON

Displays the number of clients connected to the DVR.

#### 7. USB DEVICE STATUS ICON

Displayed when a memory stick is inserted into the USB 1.1 port.

#### 8. POWER LOSS ALERT

Displayed when there was an interruption in the power supply. The power loss warning icon is displayed after the power comes back on. If an e-mail address was entered under the network setup menu, an e-mail will be sent when the DVR is powered on again.

#### 9. VIDEO LOSS ALERT

Displayed when the video signal is interrupted for any reason from the DVR. If an e-mail address was entered under the network setup menu, an e-mail will be sent after each occurrence. The DVR checks for the integrity of the video signals every time the record button is pressed and continuously while the DVR is in recording mode.

#### 10. ALARM ALERT

Displayed when the alarm is triggered. If an e-mail address was entered under the network setup menu, an e-mail will be sent after each occurrence.

#### 11. MOTION RECORDING

Displayed when recording with motion detection.

#### 12. CHANNEL ICONS

Displays the current status of each channel:

- 1) The channel icon will turn red when the channel is recording.
- 2) The channel icon will blink when alarm is triggered or motion is detected.
- 3) The channel icon remains black when the channel is not recording.

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13. DATE

Displays the current date in mm/dd/yyyy format

14. DAY

Displays the current day.

15. TIME

Displays the current time in dd/hh/mm/ss format in 24 hour format.

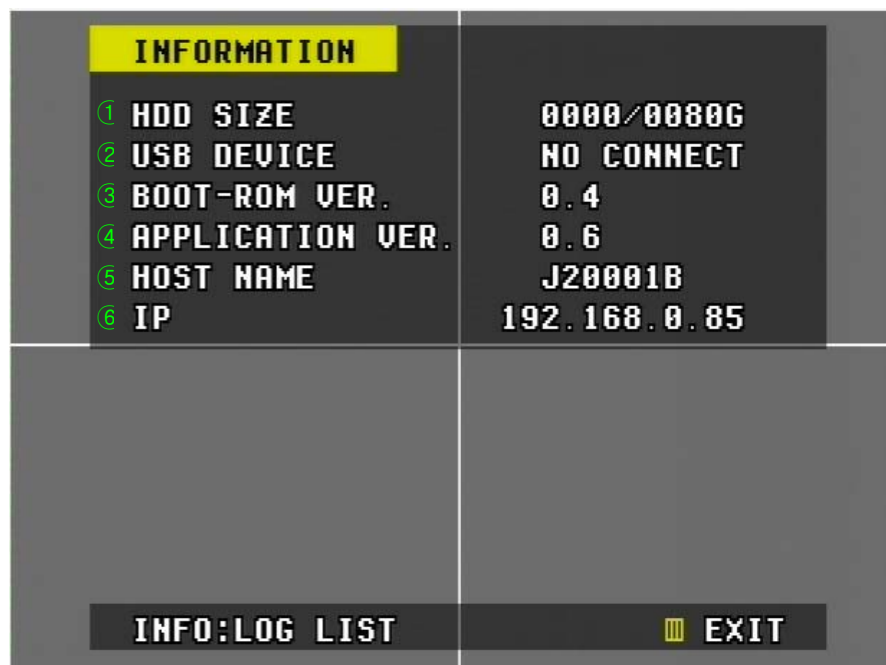
16. REMAINING HARD DRIVE SPACE

Displays the remaining hard drive storage space in gigabytes. If the hard drive overwrite is set to on, the counter will remain as 0 and the DVR will continue to write on to the hard drive from the beginning. The counter will remain 0 as long as the hard drive is full with previously recorded data, and will display its original size once the hard drive is formatted.

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## 2. INFORMATION & LOG LIST

The information screen displays the basic information about the DVR. Press the info button to access the information screen.



- ① HDD SIZE  
Displays the remaining and the maximum capacity of the internal hard drive(s).
- ② USB DEVICE  
Displays USB 1.1 compliant memory stick information.
- ③ BOOT-ROM VERSION  
Displays the DVR's system version.
- ④ APPLICATION VERSION  
Displays the DVR's firmware version.
- ⑤ HOST NAME  
Displays the DVR's unique host name. The host name is used in conjunction with the dynamic IP address service. For more information, please refer to the Network Config section on page 64.
- ⑥ IP  
Displays the current IP address issued by the cable modem, router and etc. If the DVR is set up using a static IP address, it displays the static IP address.

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Press the info button once more, or exit out to the main screen by pressing the menu button, then press the log button to access the DVR's log chart. The log chart keeps record of 12 logs per page, totaling 2046 logs. The events are recorded from the initial power on of the DVR. The record of items compiled, along with the date and the time of its occurrence are shown as follow:

LOG LIST	PAGE- 001/004
MAY.02.2005 22:45:57 RECORD STOP	
MAY.02.2005 22:14:03 RECORD START	
MAY.02.2005 22:12:33 RECORD STOP	
MAY.02.2005 22:10:11 SEARCH	
MAY.02.2005 21:53:13 SEARCH	
MAY.02.2005 21:39:33 MENU SET	
MAY.02.2005 21:38:50 MENU SET	
MAY.02.2005 21:35:21 RECORD START	
MAY.02.2005 21:35:18 MENU SET	
MAY.02.2005 21:34:15 MENU SET	
MAY.02.2005 21:29:39 RECORD STOP	
MAY.02.2005 21:29:30 RECORD START	
◆ PAGE	EXIT

- Menu Set
- Play
- Record
- Stop
- Alarm Trigger
- Motion Detection
- Video Loss
- Power Loss
- Power On
- Connect

Browse through the pages using the directional buttons. Press the menu button to exit to the main screen.

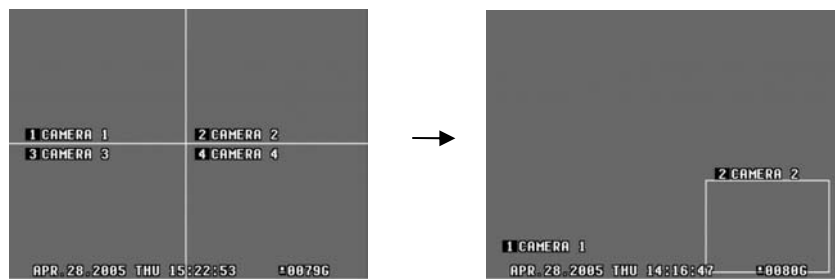


### 3. LIVE VIEW

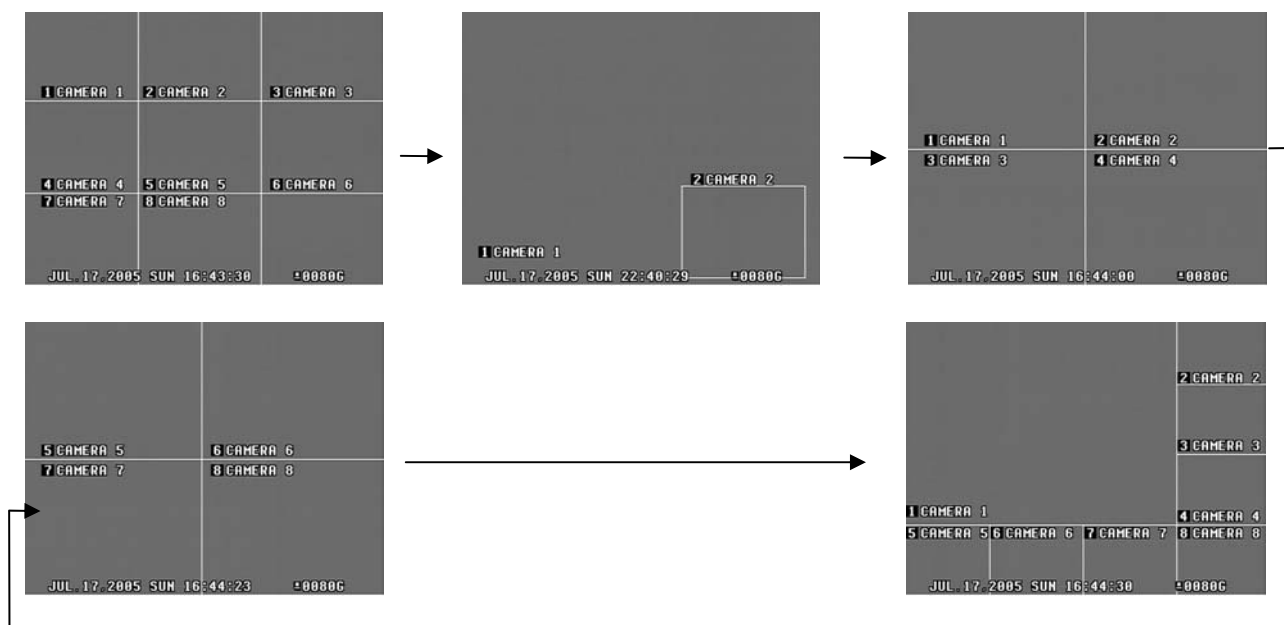
The live view displays each channel at 30 frames per second, for the total of 120 frames per second for 4-Ch and 8-Ch DVRs.

#### 1. LIVE VIEW SWITCH SEQUENCE

Live view sequence of 4-ch DVR.



Live view sequence of 8-ch DVR.

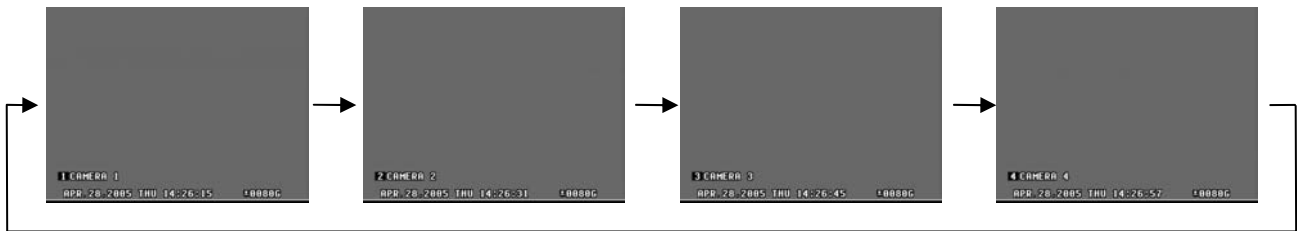


---

## 2. AUTOMATIC SEQUENCE

When the automatic sequence is activated, press a numeric button or switch to 4 channel view mode to start channel sequencing.

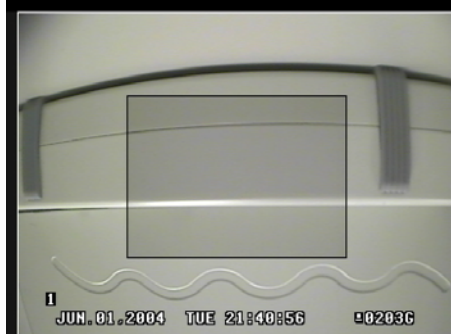
If the single channel view is selected, then the channels that are included in the sequencing will be displayed one after another.



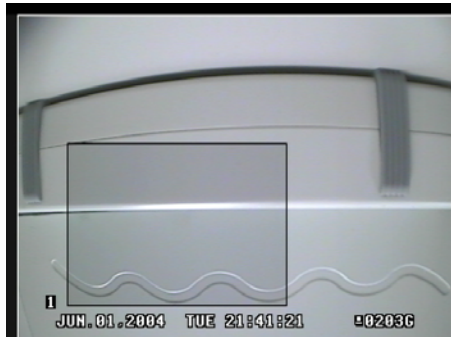
---

### 3. ZOOM

During live view mode or during the playback, it is possible to zoom into a section of the screen to get a close-up view of the screen.



Press the zoom button to bring up the zoom window.



Use the directional buttons to move the zoom window to the desired location.



Press the Enter button once more to zoom into the selected area on the screen. Use the directional buttons to move the zoomed window around the screen.



Press the cancel/OSD off button to return to normal view.

---

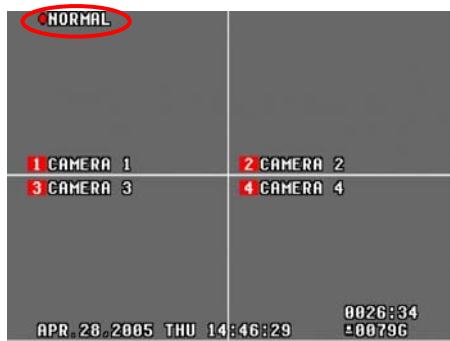
## 4. BASIC RECORDING

The DVR comes with a certain preset settings from the factory. Therefore once the DVR is installed, immediate recording is possible after pressing the record button. By default, audio, alarm, motion recording are off.

The factory default record setting for the DVR is as follow:

4-ch & 8-ch DVR

Record Mode	Record Group	Picture Quality	Audio Record	Record Type	Record Speed
Normal	Group 1	Super	Off	Field	60 F/S
Normal	Group 2	Super	Off	Field	60 F/S
Normal	Group 3	Super	Off	Field	60 F/S
Normal	Group 4	Super	Off	Field	60 F/S



Press the record button to start recording. By default, the DVR records under normal recording mode and will display NORMAL after the ● icon. Moreover, the channel icons that are recording will change their color to red.

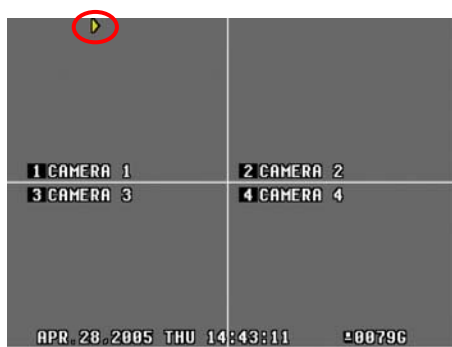
---

## 5. BASIC PLAYBACK

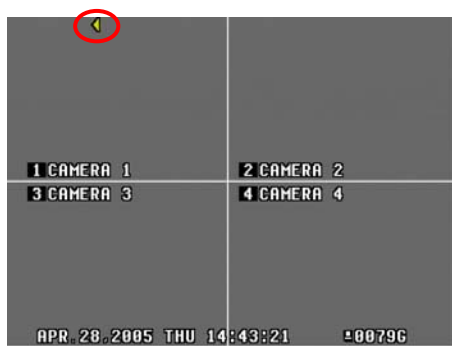
### 1. PLAY / STILL / STOP

When the play button is pressed, the DVR starts to play back any recorded data from the earliest data whether in live or recording mode. After the initial playback of recorded data, the DVR will resume from where it was left off. When the DVR reaches the end of the recorded data, it will repeat the playback from the earliest recorded data.

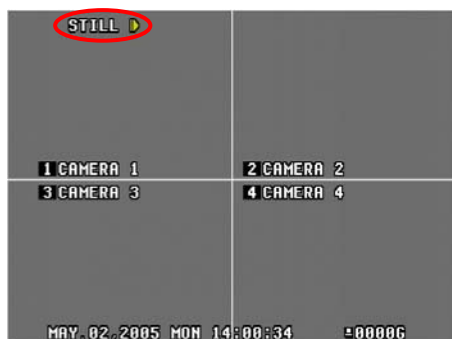
During the playback, the DVR may be played back in reverse, paused, speed search up to 16 times normal speed, or move field by field. Please refer to the following illustrations for a detailed description.



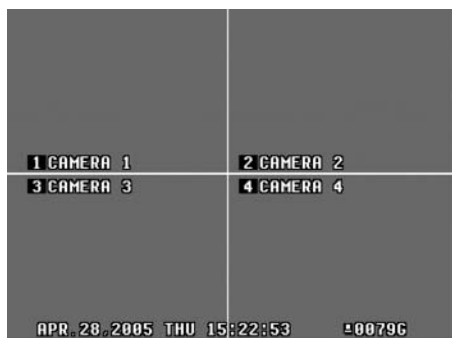
Press the play button and the play icon will be displayed. The DVR will start to playback from the earliest data.



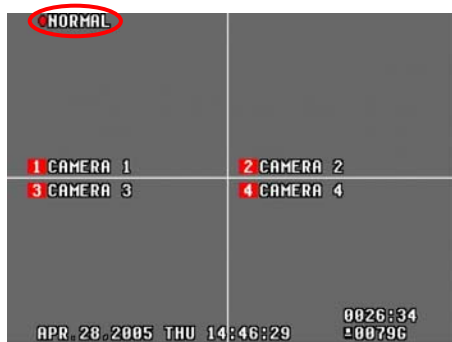
Press the play button once more and it will change its playback direction to reverse.



Press either forward or reverse step buttons on the remote controller to pause the playback.



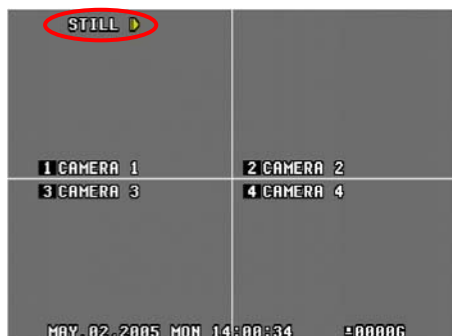
Press the stop button once to return to the previous screen. If the DVR was not recording, it will return to the live screen.



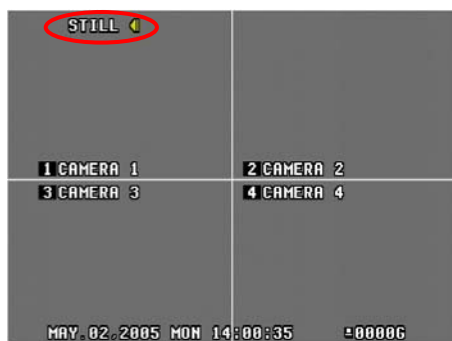
If the DVR was recording, then the DVR will return to the live screen, but it will continue to record.

## 2. FIELD BY FIELD / FAST FORWARD / FAST REVERSE

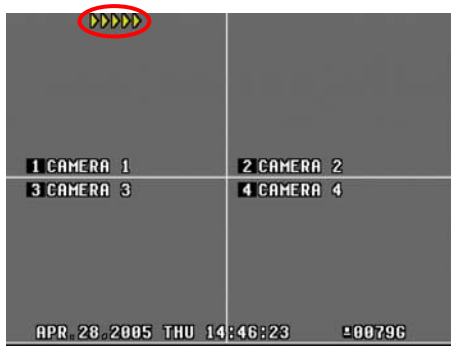
During the playback, the step buttons on the remote controller are used to view the recorded data field by field. The fast forward or fast rewind buttons to fast forward or to fast rewind to desired location.



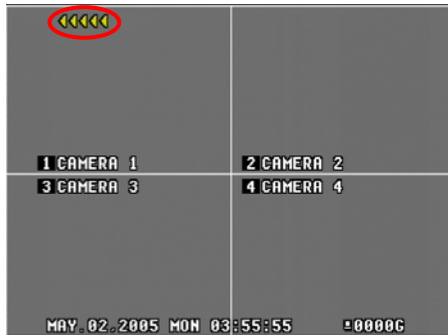
During the playback or in still mode, press the forward step button on the remote controller to enter the field-by-field mode and to advance and view recorded data one field at a time.



Press the reverse step button on the remote controller to play in reverse and view recorded data one field at a time.



During the playback or still mode, press the fast forward button to fast forward to the desired location. Each increment represents each additional arrow on the screen. Starting with two arrows (2x speed), each additional arrow represent twice the previous speed. Hence three arrows represent 4x speed, four arrows 8x speed and five arrows 16x speed. Press either play button or step buttons will return to either playback mode or still mode.



Press the fast reverse button to fast rewind to the desired location. The same speed increment and icon concept is applied for the fast reverse. Press either play or step buttons to return to playback mode or still mode.

### 3. AUDIO PLAYBACK

The audio data is always recorded in real time unlike the video data that can be recorded in various modes including real time. There may be a slight delay in synchronization of the audio to video.



The audio playback icon appears in white color and blinks when there's audio recorded and being played back. The audio is played back either in multi-channel view mode or in single channel view mode.



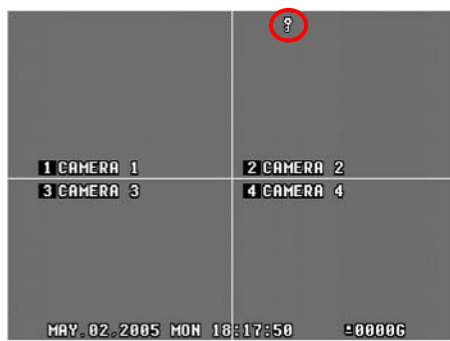
Press Audio-PB button on the remote controller to mute the audio. The icon will change its color to black. Press it once more to remove the mute.

---

## III. ADVANCED OPERATION

This section will cover advanced features of the DVR. This instruction manual will assume that the section on basic operation has been read and understood. The advanced operation will require occasional references to some of the features explained in the Advanced Settings section on page 36. This section will address the lock function, backup function, the motion and alarm recording and its combinations, Pan/Tilt/Zoom camera control and event search and time search.

### 1. LOCK



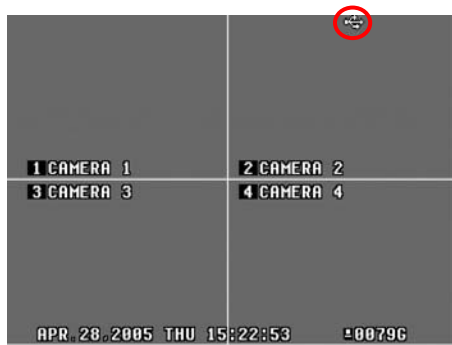
The buttons on the DVR can be locked by pressing the lock button. Once locked, the lock icon will appear at the top of the screen and all buttons except the lock button will be disabled. Pressing the buttons on the DVR or the remote controller will have no effect.



To unlock the buttons, press the lock button once more, and then enter the administrator's password to clear the button lock status. The lock icon will be removed from the screen.

### 2. BACKUP

The MJPEG DVR's only backup method is through a USB 1.1 compliant memory stick.



When a memory stick is connected through the USB port, the backup icon will pop up as shown to the left.

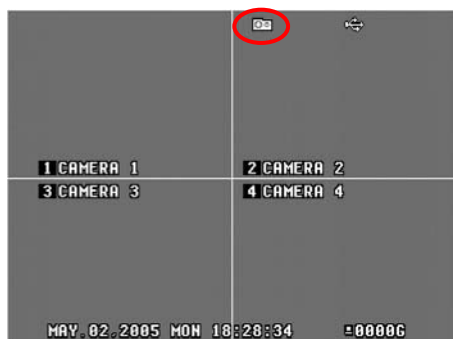




After the backup icon has appeared, press the backup button and the backup time set screen will appear prompting the user to enter range of time to be backed up.



Enter the numbers as required in 24 hour format, and then press the Enter button to start the backup. Please make sure that the end time does not precede the start time.



A tape icon will appear to the left of the backup icon and blink, signifying that the backup is in session. When finished, the icon will stop blinking and then it will disappear.

---

### 3. PAN / TILT / ZOOM CONTROL

The DVR comes with an extensive list of PTZ cameras. Please read the PTZ manufacturer's instruction manual and understand its settings fully prior to proceeding to any attempts to connect and control the PTZ camera through the DVR. Please refer to the PTZ Channel and PTZ Model Select under Display Setup on page 41 and 42.

After entering the Pan/Tilt/Zoom screen by pressing the P/T/Z/Focus button, the submenu pages in the PTZ control menu can *only* be accessed using the fast forward and fast rewind button on the remote controller. Please have the remote controller handy when using the PTZ camera.

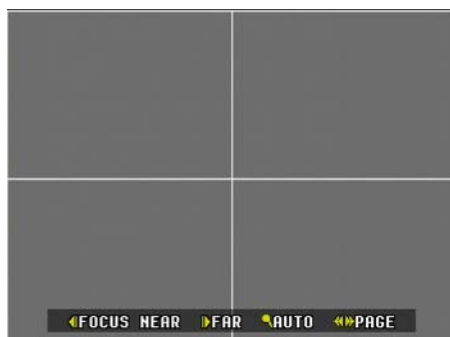
#### 1. PAN AND TILT CONTROL



Use the directional buttons to pan and tilt the PTZ camera. The directional buttons will remain as the basic pan and tilt controller for all pages.

On the remote controller, use the diagonal directional buttons to move the camera diagonally.

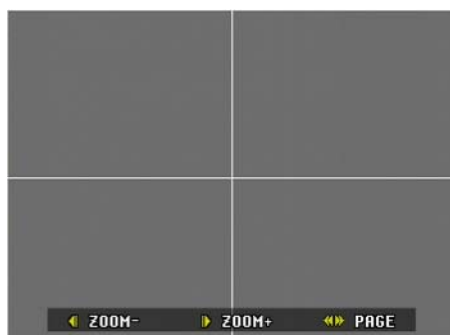
#### 2. FOCUS CONTROL



Use the step buttons on the remote controller to focus near or focus far.

The time search button enables auto focus and the cancel/OSD off button disables auto focus.

#### 3. ZOOM CONTROL



Use the step buttons on the remote controller to zoom in and out.

## 4. IRIS COTROL



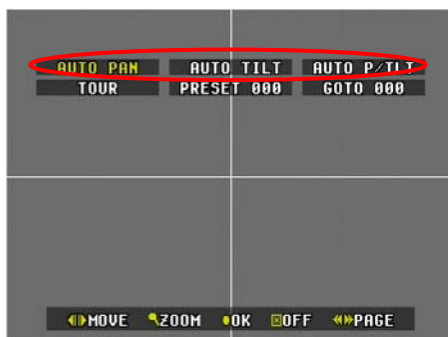
Use the step buttons on the remote controller to open and close the iris.

The time search button enables auto iris and cancel/OSD off button disables auto iris.

## 5. AUTOMATIC PAN / TILT / ZOOM CONTROL

- a. Automatic PTZ control offers basic automatic pan, tilt, or pan and tilt for the PTZ cameras. It is also possible to customize the PTZ path as well as the focus, zoom and iris of the PTZ camera. All of these features can be stored as a preset.

Use the step buttons on the remote controller to navigate through the selections.



Auto Pan, Auto Tilt and Auto P/Tilt are activated by pressing the P/T/Z/Focus button and are deactivated using the cancel/OSD off button.

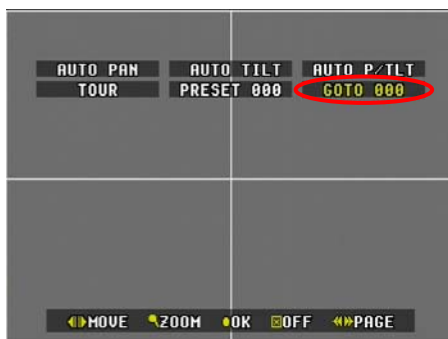
- b. Tour allows the PTZ camera to follow preset paths in an automated fashion.



After moving the PTZ camera to the desired position, move the arrow to preset then press the P/T/Z/Focus button. The number will start flashing.

Using the directional button, select the desired preset number, then press P/T/Z/Focus button to confirm the selection.

Repeat as many times as necessary.



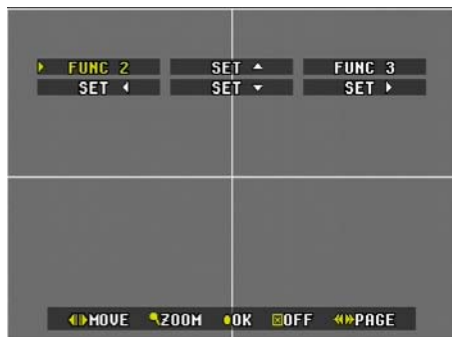
Move the arrow to Goto, then press P/T/Z/Focus button. The number will start flashing.

Using the directional button, select the number that corresponds to the preset number to move the PTZ camera to preset positions.



Once all PTZ camera positions have been confirmed, move the arrow to tour and then press the P/T/Z/Focus button to start the automatic PTZ camera tour. Press the cancel/OSD off button to stop the automatic PTZ camera tour.

## 6. LIMITING THE CAMERA POSITION



Use the step buttons on the remote controller to navigate between the four positions and press the P/T/Z/Focus button to set the limits of the camera.

Once set, the camera will not move beyond the set limits.

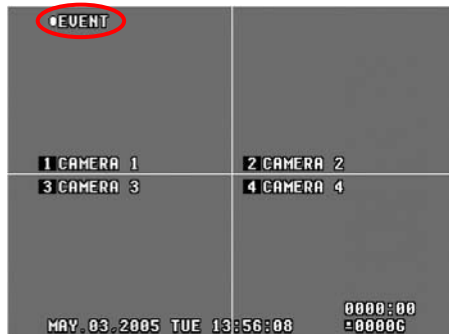
Func1 and Func2 are not used at this time.

---

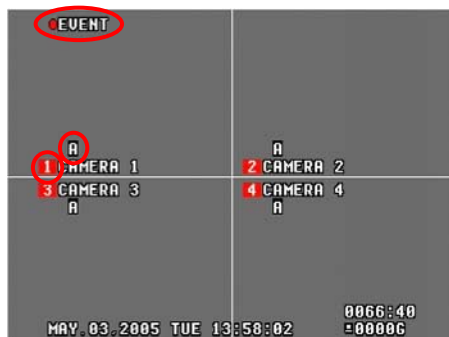
## 4. ADVANCED RECORDING

### 1. ALARM RECORDING

Please verify that the alarm feature has been activated under the appropriate group's **Record Camera** setting under **Record Setup** menu. Also, verify that the appropriate recording group has been selected from the **Event Setup** menu, and that post recording duration and the alarm circuit input type have been selected.



Press the record button and the **EVENT** icon will appear with a white dot as shown on the left. The DVR is not recording as long as the dot is white.



When an alarm is triggered, the record LED will turn solid and the dot next to the **EVENT** icon will turn red. Alarm alert will appear on the channel the alarm was triggered, and the channel icon will turn red and will start to blink with the alarm alert.

The DVR will record for the duration of the post recording duration. If the alarm buzzer is set to on, then the alarm buzzer will sound for the duration of the **Record Duration**. Please refer to page 50 for configuring the **Record Duration**.

If an e-mail address has been entered in the network setup menu, then an e-mail will be sent out alerting an alarm recording.

---

## 2. MOTION RECORDING

Please verify that the motion feature has been enabled under the appropriate group's **Record Camera** setting under **Record Setup** menu. Also, verify that the appropriate recording group has been selected from the **Event Setup** menu, and that post recording duration has been configured under the event setup menu. Finally, verify that the motion grids are activated.



Press the record button and the **EVENT** icon will appear with a white dot as shown on the left. The DVR is not recording as long as the dot is white



When a motion is detected, the record LED will turn solid and the dot next to **EVENT** icon will turn red. The motion alert icon will appear on the channel the alarm was triggered, and the channel icon will turn red and will start to blink with the motion alert.

The record setup allows the DVR to use a combination of both features.

## 5. ADVANCED PLAYBACK

Event search allows quick access to the recorded data through time and alarm search.

### 1. TIME SEARCH



Press the time search button to access the time search menu. Use the directional buttons to navigate to the desired date and hour slot. Any recorded data is displayed in yellow bars. Press the time search button once more to access the time search submenu.



Use the directional buttons to navigate to the desired minute slot.

Press the time search button to start the playback. The DVR will initially start to play all recorded channels simultaneously.

### 2. EVENT SEARCH



Press the alarm search button to access the alarm search menu. Use the directional buttons to navigate to the desired event and between the pages. The events are listed in chronological order, starting with the most recent event. Press the alarm search button once more to access the selected event and start the playback.

---

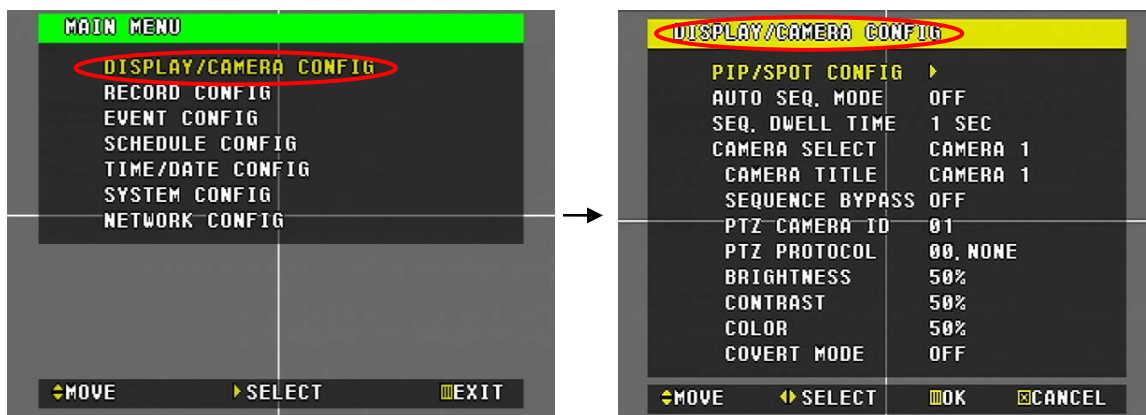
## IV. ADVANCED SETTINGS

Press the menu button to access the main menu for the advanced settings of the DVR. The menu will display the following categories:



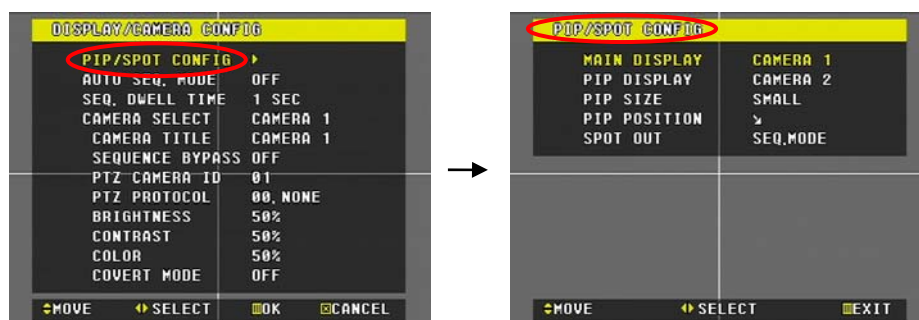


## 1. DISPLAY/CAMERA CONFIG



Display/Camera Config allows the user to change a variety of settings for cameras and main display options. It includes sequenced display of cameras, PIP mode, camera titles, PTZ configuration, picture adjustments and covert mode.

### 1. PIP / SPOT CONFIG



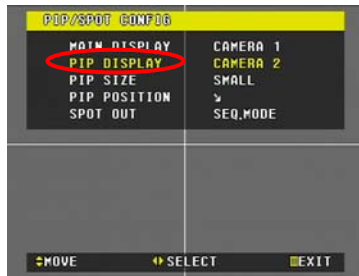
The Picture-in-Picture function enables the display of secondary channel of choice in a smaller window while viewing one channel of choice in full screen mode. Use the Display button to switch between the 4 channel mode and PIP mode.

#### a. Main Display



Select the Channel to display in the background.

b. PIP Display



Select the channel to display in the foreground.

c. PIP Size



Select between large and small size PIP window.

d. PIP Position



Select from the four corners of the screen.

e. Spot Out



Select between sequential display of all cameras or a particular channel of spot monitor

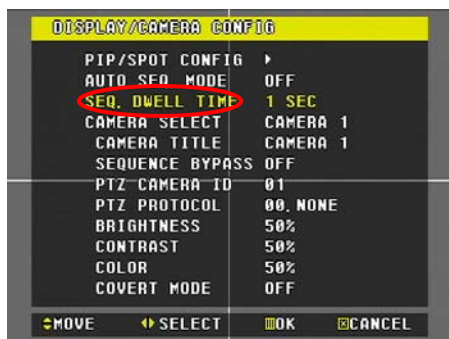
## 2. AUTO SEQUENCE MODE



This option enables the automatic sequencing of cameras connected to the DVR. The default is off.

The MJPEG DVR starts the automatic sequence mode when a single channel view is selected. Press the Display button to switch back to 4 or 8 channel mode and to stop the automatic sequence mode.

## 3. SEQUENCE DWELL TIME



This option selects the amount of seconds each channel is displayed. The default setting is one second. The interval can be increased up to five seconds.

## 4. CAMERA SELECT



This option lets the user to select a camera and adjust the following properties. Use the left and right directional buttons to select each camera. Numeric buttons may be pressed to jump directly to the desired camera.

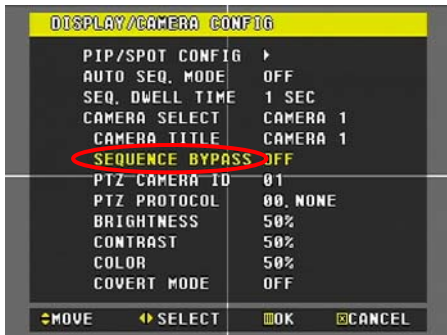
a. CAMERA TITLE



A combination of eight digits and alphabets can be entered to label each camera. Just as entering the alphabets or numbers on alphanumeric phones or keypad driven input systems, press the appropriate numeric buttons or the number keys on the remote controller to enter the desired letters and numbers. Refer to the following illustration for the sequence of alphabets and numbers.

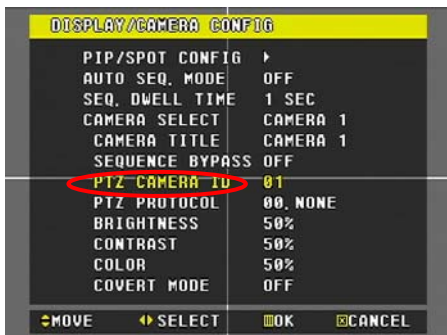
1	-	.	-
2	A	B	C
3	D	E	F
4	G	H	I
5	J	K	L
6	M	N	O
7	P	Q	R
8	S	T	U
9	V	W	X
0/10	Y	Z	@

b. SEQUENCE BYPASS



Sequence bypass allows the cameras to be included or excluded from the automatic sequence display. By default, sequence by pass is off for all cameras.

c. PTZ CAMERA ID



Select the appropriate channel for the PTZ Camera. For example, PTZ Camera ID 01 is channel 1, PTZ Camera ID 02 is channel 2 and so on (Camera ID also means Camera address).

#### d. PTZ PROTOCOL



Select the appropriate camera manufacturer and camera model. Refer to the chart for the appropriate PTZ camera model number per manufacturer's models and protocols.

	Manufacturer	Model Name
1	C&B Tech	CNB-PTZ102 : 9600bps
2	Merit Lilin Ent	PIH-7000/7600: 9600bps
3	VCL	Orbiter Microsphere : 9600bps
4	SAMSUNG	SCC641: 9600bps
5	NEC	NC-21D: 9600bps
6	SUNKWANG	SK2107: 9600bps
7	Reserved	
8	D-MAX	PTZ Protocol: 9600bps
9	LG	LPT-A100L P/T/Z: 9600bps
10	HONEYWELL	GC-655N: 9600bps
11	WonWoo	PT-101: 9600bps
12	PELCO	D-PROTOCOL: 2400 bps
13	PELCO	D-PROTOCOL: 4800 bps
14	PELCO	D-PROTOCOL: 9600 bps
15	CNB	AN200 : : 9600bps
16	CANON	VC-C4: 9600bps
17	PELCO	P-PROTOCOL :2400bps
18	PELCO	P-PROTOCOL :4800bps
19	PELCO	P-PROTOCOL :9600bps
20	PELCO	Expanded:2400bps
21	PELCO	Expanded:4800bps
22	PELCO	Expanded :9600bps
23	Panasonic	WV-CS/W85x, WV-CS86x: 9600bps
24	HONEYWELL	HSDN-251N/P: 9600bps
25	GE/ Kalatel	Cyber Dome Series: 9600bps
26	Dong-yang Elec	Smart Dome
27	Bosch/Phillips	TC8560/TC700 Series
28	Sysmania	ORX1000 : 2400bps
29	AD	Delta Dome : 4800 bps
30	HUNT	HTZ-2300:9600bps
31	HAZEM	Resreved
32	NUVICO	EZ Protocol:9600 bps
33	LG	Dome Protocol:9600 bps
34	ELMO	PTC-200C/400C:9600 bps
35	NICECAM	MP-1xxx: 9600 bps

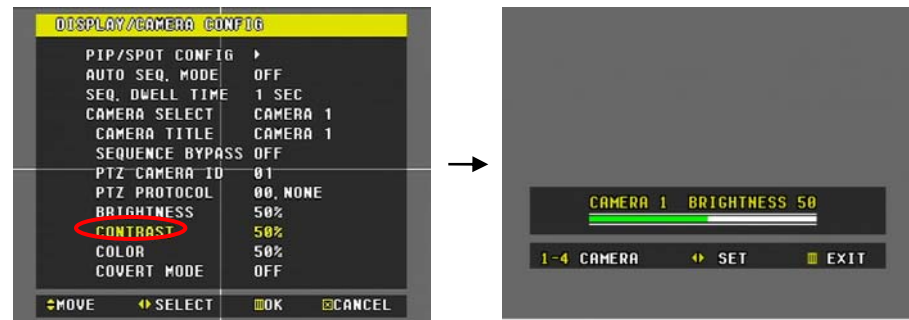
Please refer to the PTZ manufacturer's instruction manual for proper jumper settings to match the protocols to the DVR.

e. BRIGHTNESS



Highlight Brightness, then press the right directional button to access the brightness adjustment screen. Adjust the brightness using the left or the right button, then press menu to save and exit to previous menu.

f. CONTRAST



Highlight Contrast, then press the right directional button to access the contrast adjustment screen. Adjust the contrast using the left or the right button, then press menu to save and exit to previous menu.

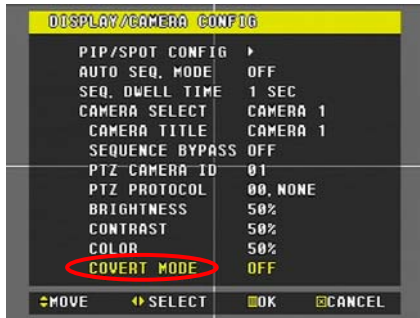
g. COLOR



Highlight Color, then press the right directional button to access the color adjustment screen. Adjust the color using the left or the right button, then press menu to save and exit to previous menu.

---

#### h. COVERT MODE

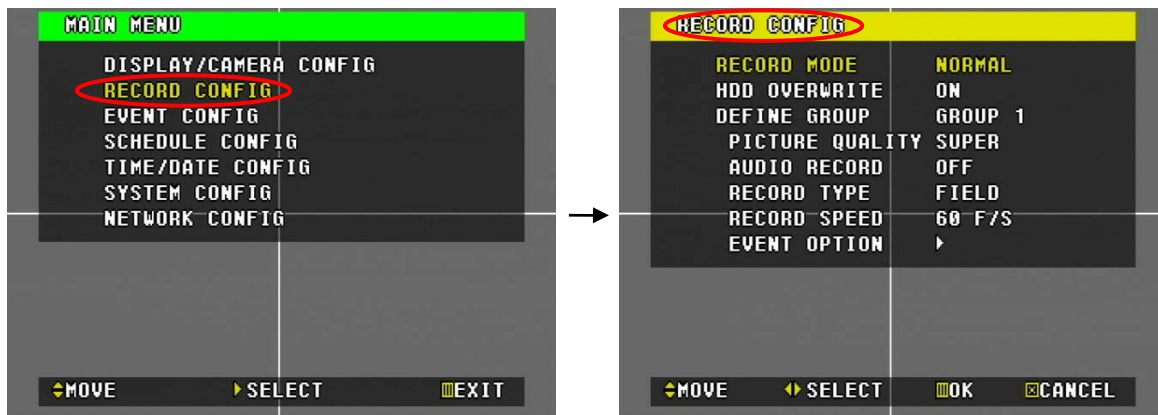


Select between covert mode (on) and normal mode (off). If covert mode is activated, the activated camera's display will be hidden on both the monitor and the DVR web client, yet the video will still be recorded.

Covert mode does not affect Quad recording mode.

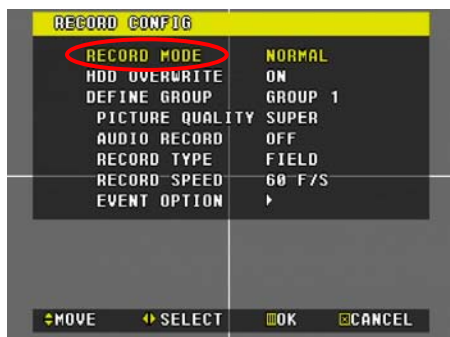


## 2. RECORD CONFIG



Record Config enables the user to configure the record mode, the picture quality, field or quad recording rate, and audio record, as well as allowing the user to activate the motion or the alarm feature on or off. Up to four different camera groups can be configured and stored.

### 1. RECORD MODE



Record Mode selects between the four available recording modes:

- Normal: Continuous recording
- Event: Alarm or Motion recording
- Schedule: Scheduled recording

### 2. HDD OVERWRITE



This option determines whether the DVR writes over old files when the hard drive becomes full. By default, the HDD overwrite is on.



### 3. DEFINE GROUP



Define Group configures picture quality, audio recording, record type, record speed and event trigger options for each camera for each group.

### 4. PICTURE QUALITY



Use the left or the right directional buttons to select from four different picture qualities:

- Super: 17KB ~ 25KB
- High: 13KB ~ 17KB
- Middle: 11KB ~ 15KB
- Low: 9KB ~ 12KB

The file size represents the range of average size of each image per camera.

### 5. AUDIO RECORD



Select the audio recording on or off. The default is off.

*Please note that surreptitious third-party interception of conversation is **ILLEGAL** under the federal law. It is the user's responsibility to check state and local restrictions on recording any conversations.*

## 6. RECORD TYPE



Two types of recording modes are available: Field mode and Quad mode:

- Field: the DVR records each camera individually and then multiplexes them. Each channel records at Field resolution, or at 720x240.
  - Quad: (Only in 4-Ch) The records all cameras under one single picture. In other words, one picture with Field resolution contains pictures from all four cameras. Consider Quad recording as recording one channel with four cameras with 360x120 resolution totaling one single picture of 720x240.
- CIF: (Only in 8-Ch) The DVR records each camera individually at 360x240. Consider CIF mode as recording eight cameras spread over four channels

## 7. RECORD SPEED



The MJPEG DVR only allows global adjustment of the recording speeds. Available recording speeds are from 12 Fields per minute to 60 Fields per second. The DVR automatically divides the Field Rate *only* amongst connected cameras. For example, if the recording speed is set to 60 Fields per second for four active channels, then each channel records at 15 Fields per second. If there are two cameras connected, then each channel records at 30 Fields per second.

## 8. EVENT OPTION



Record Camera allows the user to select and configure two additional recording options: alarm and motion recording.

EVENT OPTION	GROUP 1
CAMERA 1	AL MO
CAMERA 2	-- --
CAMERA 3	-- --
CAMERA 4	-- --
CAMERA 5	-- --
CAMERA 6	-- --
CAMERA 7	-- --
CAMERA 8	-- --

⏮ MOVE    1-8 SET    OK    CANCEL

Press the desired channel's numeric button to turn on the alarm recording. The camera does not have to be highlighted in order to activate or deactivate the motion and the alarm features.

In the example to the left, camera 1's alarm trigger is activated.

EVENT OPTION	GROUP 1
CAMERA 1	AL MO
CAMERA 2	-- --
CAMERA 3	-- --
CAMERA 4	-- --
CAMERA 5	-- --
CAMERA 6	-- --
CAMERA 7	-- --
CAMERA 8	-- --

⏮ MOVE    1-8 SET    OK    CANCEL

Press the same numeric button once more to activate camera 1's motion trigger.

EVENT OPTION	GROUP 1
CAMERA 1	AL MO
CAMERA 2	-- --
CAMERA 3	-- --
CAMERA 4	-- --
CAMERA 5	-- --
CAMERA 6	-- --
CAMERA 7	-- --
CAMERA 8	-- --

⏮ MOVE    1-8 SET    OK    CANCEL

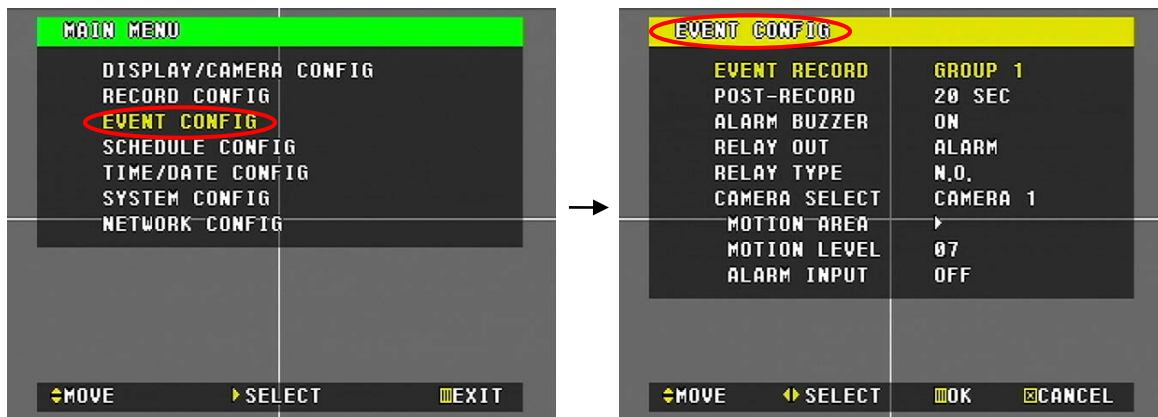
Press the same numeric button once more to activate both alarm and motion triggers.

EVENT OPTION	GROUP 1
CAMERA 1	AL MO
CAMERA 2	-- --
CAMERA 3	-- --
CAMERA 4	-- --
CAMERA 5	-- --
CAMERA 6	-- --
CAMERA 7	-- --
CAMERA 8	-- --

⏮ MOVE    1-8 SET    OK    CANCEL

Press the same numeric button one last time to disable both the alarm and motion triggers.

### 3. EVENT CONFIG



Event Config configures different options for motion and alarm related recording. It includes post motion / post alarm recording time, pre-recording option, alarm buzzer, alarm out, motion grids and their sensitivity levels, and finally alarm input circuit types.

#### 1. EVENT RECORD



Event Record selects which recording group to use when Event Recording is in use. Use left or right buttons to select from the four recording groups. When selecting a group, verify that the selected group is already configured with either alarm or motion triggers, or both.

#### 2. POST-RECORD



Post-Record determines the amount of time the DVR records after the initial motion or alarm detection. The user may choose from 20, 40, 60, 80, 100, 120, 180 and 240 seconds. The default duration is 20 seconds.

### 3. ALARM BUZZER



The DVR emits a high pitched, continuous buzzer when the alarm is triggered and starts to record. The buzzer will sound for the duration of the **Record Duration**. Press the cancel button to stop the buzzer immediately. Stopping the buzzer does not stop the alarm recording.

### 4. RELAY OUT



Relay Out allows the user to select which event to associate the relay output with. Choose from four available options:

- ALL
- ALARM
- ALARM+MOTION
- ALARM+VL

### 5. RELAY TYPE



Select from the two Relay Out circuit types:

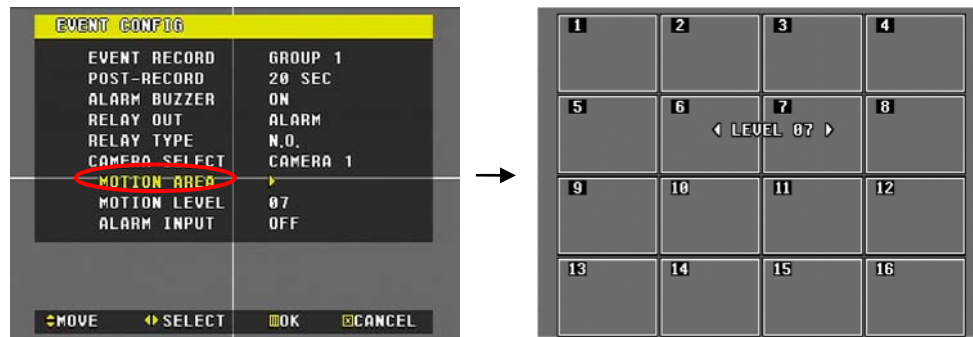
- Normally Open (N.O.)
- Normally Closed (N.C.)

### 6. CAMERA SELECT



This option configures the motion grid to trigger the motion recording. It adjusts the motion sensitivity level and alarm input type. Use the left and right directional buttons to select each camera or the numeric buttons to jump directly to the desired camera.

### a. MOTION AREA



Up to 16 grids may be selected to configure the areas of motion detection. Press the numeric buttons to select or deselect the desired grid. All the grids may also be turned on by pressing the Fast Forward button on the remote controller, and off by pressing the Fast Reverse button. The motion sensitivity can also be adjusted while selecting the desired grid and to verify its trigger efficiency. Use the left or right directional buttons to adjust the sensitivity level. All grids are off by default

### b. MOTION LEVEL



Use the left or the right directional buttons to adjust the motion sensitivity level. Sensitivity level 1 is the lowest setting and level 15 is the highest setting. The default sensitivity level is 7.

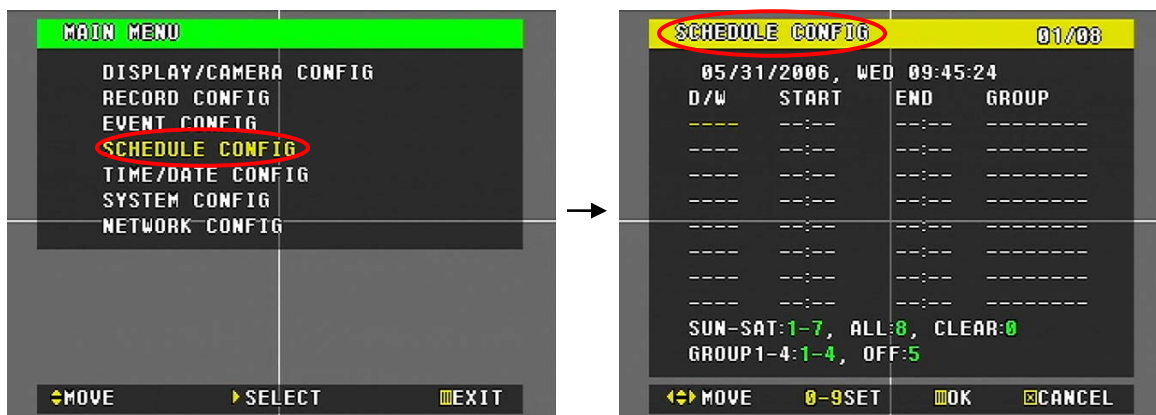
### c. ALARM INPUT



Select the different types of alarm circuit type. The DVR accepts both normally open circuit signals and normally closed circuit signals. Use the left or right directional buttons to select the appropriate circuit type. The default is off.



## 4. SCHEDULE CONFIG



Schedule config configures a variety of timed recording settings to provide a fully automated recording option. All four recording groups are available for scheduling.

### a. DAYS OF THE WEEK (D/W)



The days of the week or all days of the week may be configured by pressing the numeric buttons. Refer to the following chart to select the days of the week.

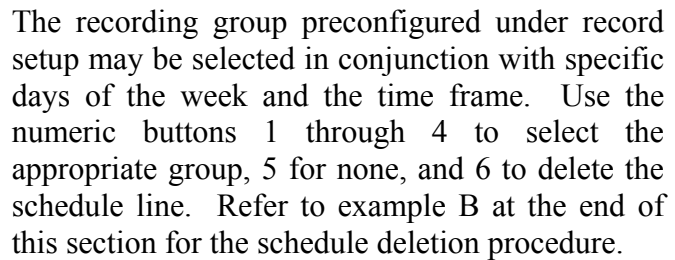
1	Sunday	5	Thursday
2	Monday	6	Friday
3	Tuesday	7	Saturday
4	Wednesday	8	All Days

### b. START – END



Enter the starting and the ending time of the recording. The time format must be in 24 hour format. The ending time may not precede the starting time. Use the numeric buttons to enter the time. Refer to example A at the end of this section for a sample schedule.

\_\_\_\_\_



### Example A

The sample schedule below shows a variety of settings that may be used in a typical application of scheduled recording.

- ☐ The DVR records every Monday from 12am to 8 am using record group 1.
- ☐ The DVR records every Tuesday from 9am to 4pm using record group 2.
- ☐ The DVR records everyday from 8am to 9pm using group 3.
- ☐ The DVR records every Saturday and Sunday (weekend) from 7am on Saturday to 8am on Sunday using group 4.

Note that the schedule's start and end time does not automatically move to the next day, As shown in example, if the schedule recording needs to continue through the night onto the next day, the end time must be set to 23:59 hour (11:59pm) on the first day to mark the end of the day. Then, set the start time to 00:00 hour (12am) and the end time anytime before 23:59 hour on the next day to complete overnight schedule recording.

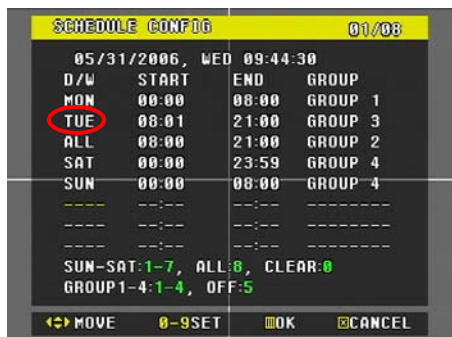
The schedule obeys and prioritizes recording according to the order of the items listed. For example, the sample schedule will have the DVR record as follow:

Monday: 00:00 through 08:00 Group 1 recording  
Monday: 08:01 through 21:00 Group 3 recording  
Tuesday: 08:00 through 08:59 Group 3 recording  
Tuesday: 09:00 through 16:00 Group 2 recording  
Tuesday: 16:01 through 21:00 Group 3 recording

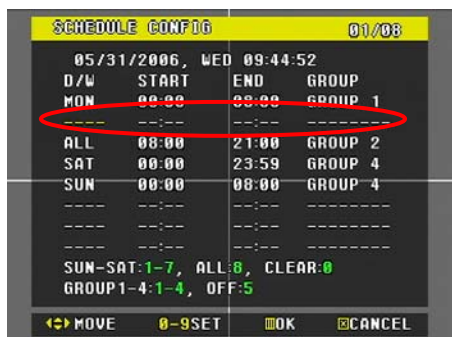
Wednesday, Thursday and Friday will record following Group 3 schedule. Saturday will record from 00:00 through 23:59, and finally, there will be nothing recording on Sunday between 00:00 through 8:00, but will follow group 3's schedule for the rest of the day.



## Example B



Highlight the Day of the Week of the schedule entry that needs to be deleted.



Press the numeric button 0 to delete the line and change it into a dotted bar.

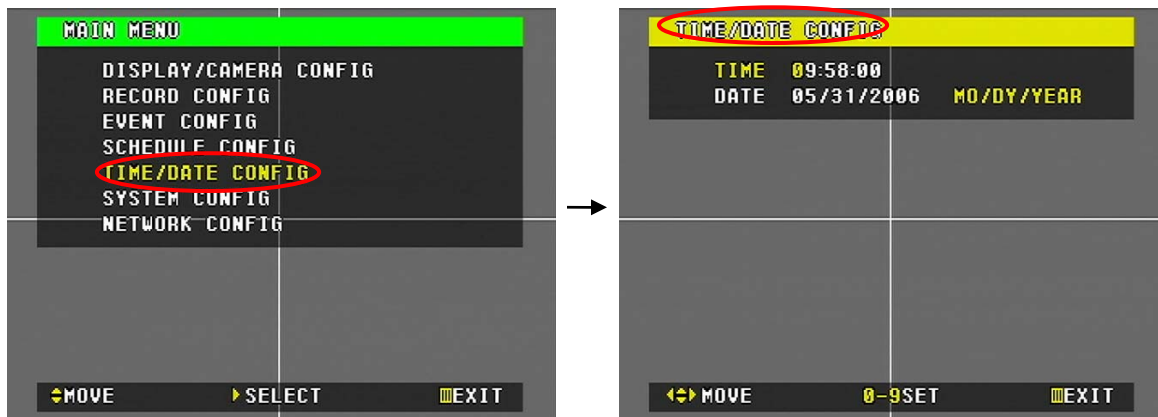


Press the Menu button to save and exit to the main menu screen.



Press the right directional button to access the schedule setup once more to confirm the selected line is deleted from the schedule.

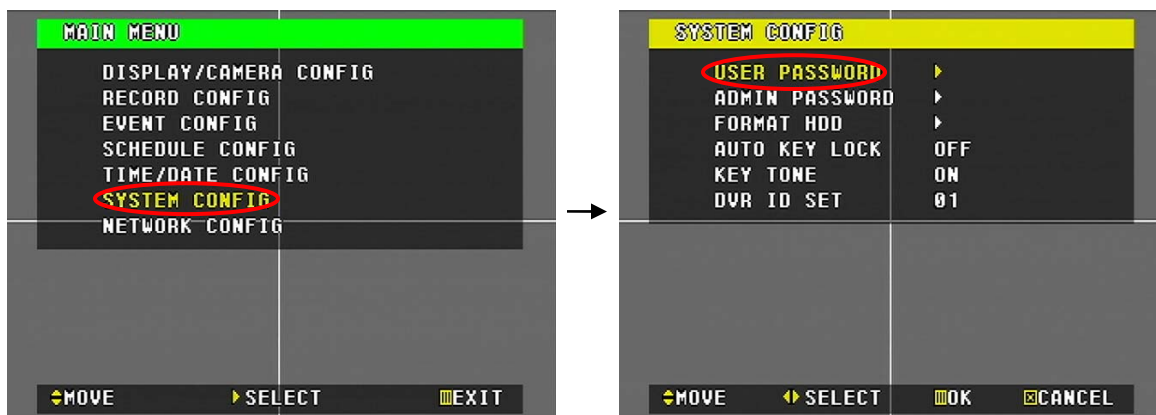
## 5. TIME AND DATE CONFIG



If there is a need to adjust the time and the date (e.g. Daylight Savings Time or migrating to a different location or country), access the Time/Date Config to enter the correct values. Press the Menu button to save the new value and exit to the main menu.

If for some reason the date and the time were entered so that it conflicts and overlaps previously entered date and time, the DVR will not overwrite the older data. Instead, a new copy of the data with the same date and time will be created on another part of the DVR's internal storage. When the user plays back the data from the hard drive, the DVR will playback the older data with the same date and time first, then the newer data second.

## 6. SYSTEM CONFIG



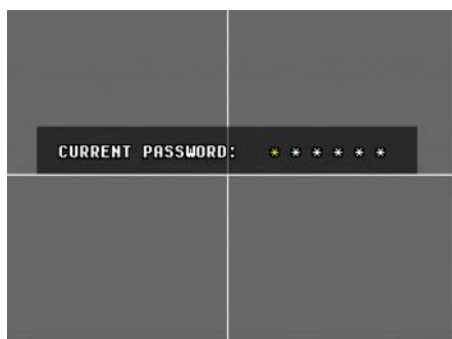
System Config allows modification of various security features such as passwords for the user and the administrator, button lock and key tone. The user can also access management for the hard drive and various backup devices. The DVR's identification can also be set if there is a need to control more than one DVR with the remote controller.

### 1. USER AND THE ADMINISTRATOR PASSWORD

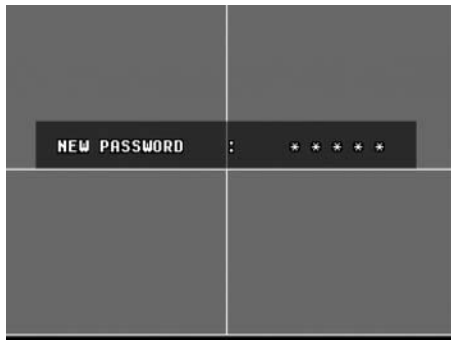
The user password is the general password used for non-critical features such as unlocking the buttons after the auto button lock has been activated or to connect to the DVR remotely using the DVR Web Client. The user level password also grants access all the features *except* system power off, stop recording, main menu, lock and schedule. The administrator's password grants access to all the functions of the DVR.



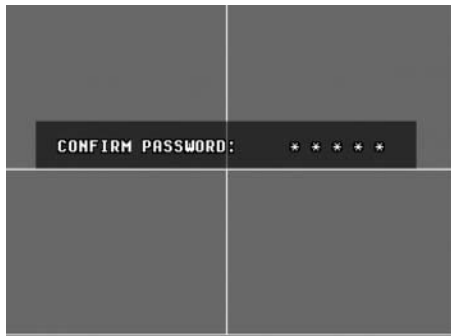
Highlight the user or the administrator's password then press the right directional button to enter the password modification screen.



Enter the current password.



Enter the new password.



Enter the new password once more to confirm. If the password is confirmed, the DVR will automatically save the new password and exit to the System Setup Menu.

## 2. FORMAT HDD

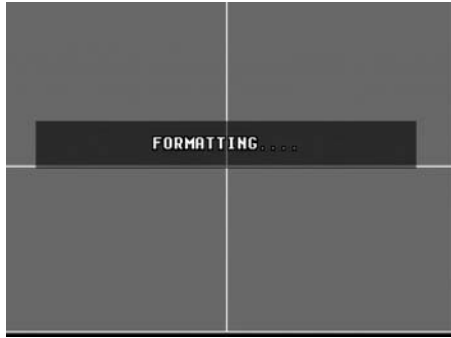
Format HDD should only be used when the content of the internal storage needs to be wiped out or when the user wishes to record from scratch as new.



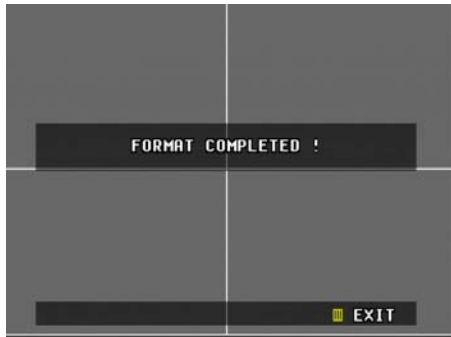
Highlight format HDD then press the right directional button to access the Disk Format screen.



When “DO YOU REALLY WANT TO FORMAT?” prompt appears, press the menu button to confirm and start formatting the internal storage. Press cancel to return to the System Setup menu without formatting the internal storage.



“FORMATTING....” will appear on the screen. Formatting should take approximately five seconds or less.



“FORMAT COMPLETED!” will be displayed on the screen when formatting the hard drive is finished.

### 3. AUTO KEY LOCK



The DVR locks all the buttons after three minutes of inactivity. The buttons can be unlocked with the user password. The default is on.

### 4. KEY TONE



By default, the DVR emits a beep every time a button is pressed. Set the key tone to off to turn button beep off.

---

## 5. DVR ID SET



Up to 99 DVRs can be controlled using one remote controller. To select the DVR to be controlled with the remote controller, press and hold the DVR ID button. While holding the DVR ID button, press the appropriate DVR ID number. For example, enter 05 for DVR ID 05, enter 43 for DVR ID 43, and such.

---

## V. NETWORK CONFIG

The DVR utilizes widely available broadband internet connections such as T1, Cable, and DSL to allow remote access, monitoring and control of the DVR in a relatively reliable manner. The internet connections are divided into two main categories: static service and dynamic service.

The static service consists of an IP address that remains constant for the duration of the contract of the internet service, whereas the dynamic service consists of an IP address that frequently changes every time a new connection is made through the provided modem, or recurrently in a given period of time. Though most internet service providers offer both solutions, this manual will distinguish the two solutions according to the commonly available service type to configure the DVR for the networking purposes.

### 1. CONFIGURING THE DVR WITH A STATIC IP ADDRESS

Internet service providers who offer dedicated services such as T1, SDSL (Symmetric Digital Subscriber Line) or equivalent services usually provide a batch of *external* (Public) static IP addresses that remain constant. These IP addresses are often provided with additional information such as the subnet mask, the gateway, and the DNS servers. The following is an example of a configuration provided by such services:

- IP address range: 64.128.92.26 ~ 64.128.92.30
- Subnet Mask: 255.255.255.248
- Gateway: 64.128.92.25
- DNS servers: 20.19.154.97  
20.19.154.98



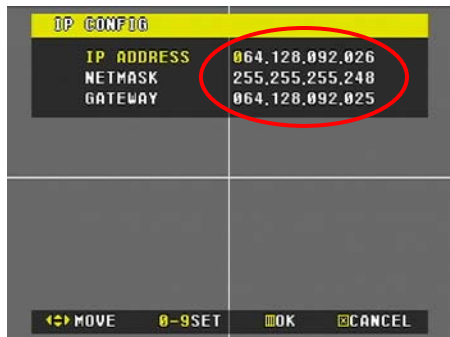
To configure the DVR with the provided information from the ISP, press MENU, then move the arrow to Network Config. Press right directional button to access the Network Config.



Select STATIC/DSL for the type of Internet Service.



Move the arrow down to IP Setup, press the right directional button to access the IP setup submenu.



Enter the IP address designated for the DVR, and then enter the subnet mask and the gateway as provided by the Internet Service Provider.

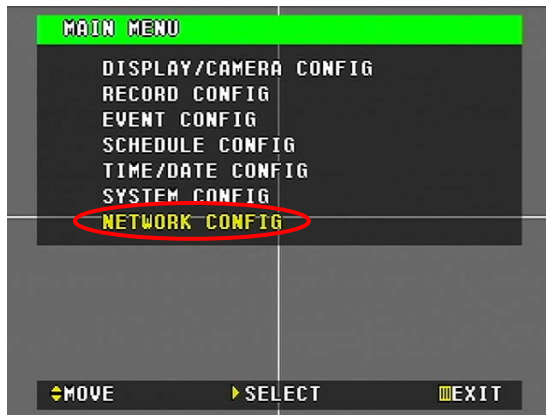
If the network address and the host address have blocks of single-digit or double digit numbers instead of the full three-digit numbers, then make sure that the zero replaces the non-existent digit when entering the numbers.

## 2. CONFIGURING THE DVR WITH A CABLE MODEM

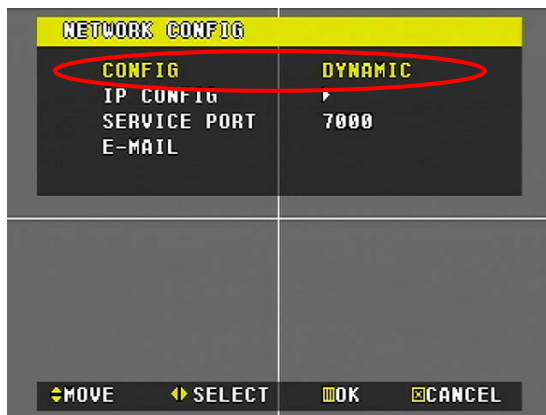
The DVR works in conjunction with widely available cable modems that offers conventional dynamic IP addresses. The following steps are not mandatory, but they are highly recommended to properly set up the DVR directly with the Cable modems.

1. The DVR and the modem should be powered off.
2. Connect the network cable from the DVR to the modem.
3. Power on the modem.
4. Power on the DVR.
5. Enter the menu and go into the Network Config Submenu

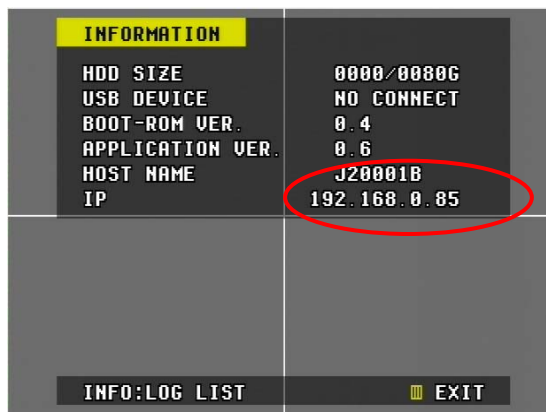




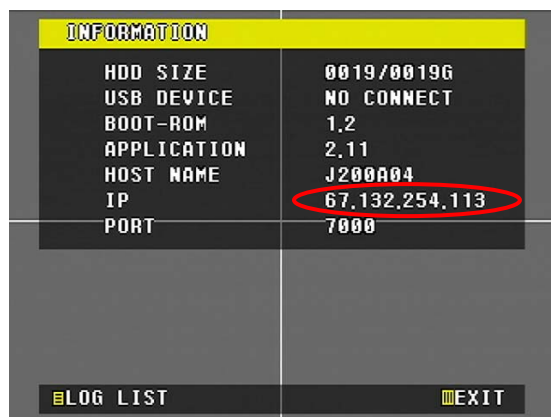
6. Select Dynamic



7. Press the Menu button twice to exit to the main window. Then press the Info button to display system information. The host name will be unique to the DVR, and will be displayed something similar to J20002F. The IP address will display the factory default address of 192.168.0.85 as no address has been issued yet.

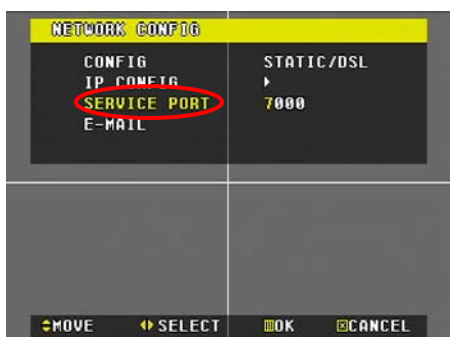


8. Wait approximately five minutes, then the IP address should display the newly issued IP address from the ISP.



### 3. SERVICE PORT

The DVR's connection port can be adjusted in case the default port 80 is blocked. Often, the internet service providers block the default web broadcasting port 80, therefore disabling any type of web server services being run from commercial or residential internet services. If that is the circumstances, then the DVR's service port may be modified to allow the connection from the remote client program.



Select Service Port, then use the numerical buttons to enter an alternate port. In most cases, any port ranges above 1000 are not used and are not blocked. Configure the service port to any number of preference.

### 4. E-MAIL



The DVR sends notifications to one designated e-mail address when the following events occur:

- Alarm Detection
- Video Signal Loss
- Power Failure
- Hard Disk Drive Failure

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## VI. DVR CLIENT

Once you start the DVRPLAYER, it will prompt you to enter a password.  
The default password is “0”.



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## 1. DVRPLAYER

Locate the DvrPlayer icon from the desktop and double-click on it, or locate the DvrPlayer icon in **Start – Programs – DvrPlayer**.



### 1. MAIN CAMERA DISPLAY WINDOW

Live or playback video is displayed up to 64 cameras in the main window. When the actual video is displayed, it will display the channel number and title as well as the field rate.

### 2. CAMERA DISPLAY SELECTION

From the top: single, 4 channel, 6 channel, 7 channel, 8 channel, 9 channel, 10 channel, 16 channel, 25 channel, 36 channel, 49 channel and 64 channel view modes. All display modes are accessible no matter how many DVRs are connected or how many cameras are being displayed.

### 3. MODE DISPLAY

Displays whether the program is in live or playback mode.

### 4. TIME AND DATE

Displays the current time and date in live mode of the file being played back in playback mode.

### 5. MODE SELECTOR

Toggles between live and playback mode.

## 6. RECORD

Starts and stops the remote recording. By default, the files are saved in “C:\Program Files\DvrPlayer\Download). When the remote recording is in progress, the record button will change its color to cyan.

## 7. CAPTURE

Takes a snapshot of the live or playback video. These images can be saved in JPEG, PNG, BMP or PCX format.

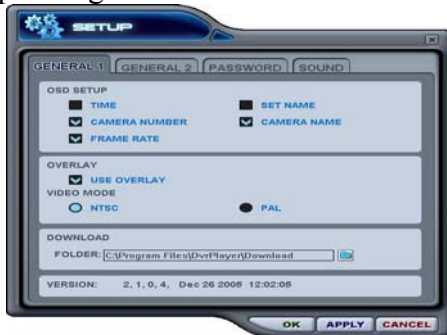
## 8. OSD MODE

Toggles On Screen Display on or off.

## 9. SETUP

### 9.1 GENERAL 1

The general settings for the CMS. Options for the OSD, overlay and the folder can be accessed by pressing this button.



#### 1. OSD Setup

Select the On Screen Display options for the cameras: Time, Set name (DVR name), Camera Number, Camera name and the frame rate.

#### 2. Overlay

Select the use of video overlay on or off. The video overlay utilizes Microsoft DirectX and video card hardware acceleration for the optimal video transmission speed.

#### 3. Download

Select the directory for remote recording and to store downloaded files.

#### 4. Version

Displays the version of the CMS Software.

### 9.2 GENERAL 2



#### 1. POS

Setting to limit the POS item search.

#### 2. Log

Setting to limit the Display of Logs.

#### 3. Check Watermark

Setting to check for watermark.

#### 4. Auto Full Screen for Alarm Event

Setting for a full screen pop-up when alarm event.

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### 9.3 PASSWORD

The setting to change the password for initial log-in of the software.



Enter the Old Password. By the factory default, it is "0"

Enter the new password.

Confirm the password.

### 9.4 SOUND

Audio alert setting for the CMS. You can toggle to enable the sound or to disable the sound from the software.



- Connect: CMS will emit a sound when a DVR connects.
- Disconnect: CMS will emit a sound when a DVR disconnects.
- Alarm: CMS will emit a sound when an alarm is triggered from the DVR.
- Motion: CMS will emit a sound when the DVR detects a motion.
- Video Loss: CMS will emit a sound when

there is a Video Loss.

## 10. PLAYBACK CONTROL BUTTONS

The playback control buttons only function when reviewing downloaded files.



From top left in clockwise direction: reverse playback, stop, forward playback, forward field-by-field and reverse field-by-field.

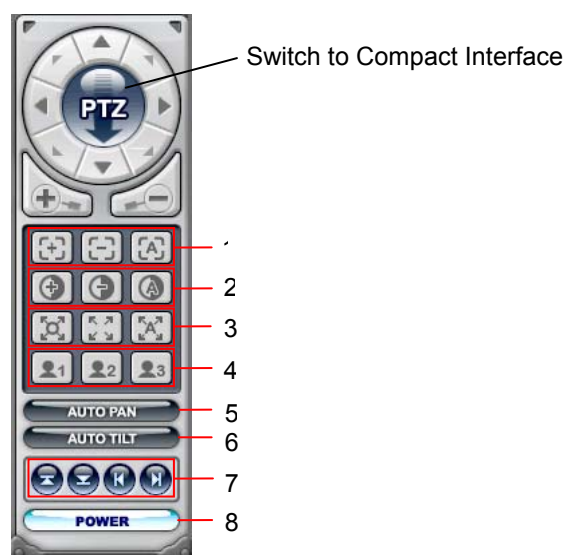
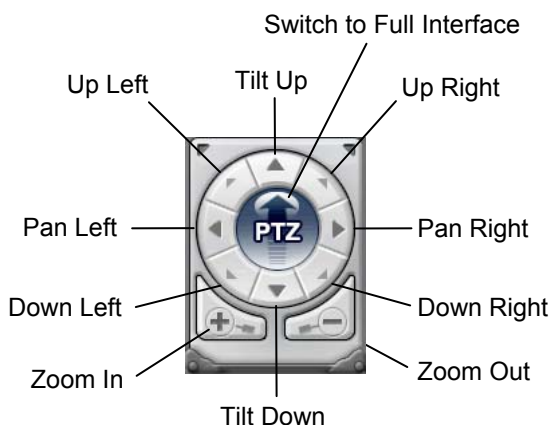


The bar controls the playback speed. Slide the bar to fast forward at 2X, 4X and 8X. Slide the bar to the middle to pause playback. Slide the bar to the left to fast rewind at 2X, 4X and 8X.

## 11. PAN / TILT / ZOOM CONTROL




If one or more Pan / Tilt / Zoom cameras are installed on the DVR, they can be individually selected and controlled using the PTZ control box. To control a channel-specific PTZ camera, simply click on the channel where the PTZ camera is connected.

The basic functions of the PTZ camera – Pan, Tilt and Zoom can be controlled by the compact control box below at left. For more functions, click on the PTZ and the box will slide up, revealing additional features.






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### 1) Focus Control

Button	Function
	Focus Far
	Focus Near
	Auto Focus

### 2) Iris Control

Button	Function
	Iris Open
	Iris Close
	Auto Iris

### 3) Tour

Button	Function
	Set preset tour positions; the total number differs per camera
	Delete preset tour positions
	Start Automatic Tour

### 4) Special Functions

Executes special functions pre-programmed in the PTZ camera.





### 5) Auto Pan

Starts automatic panning of the camera between its preset boundaries.

### 6) Auto Tilt

Starts automatic tilting of the camera between its preset boundaries.

### 7) Auto Pan / Auto Tilt boundaries

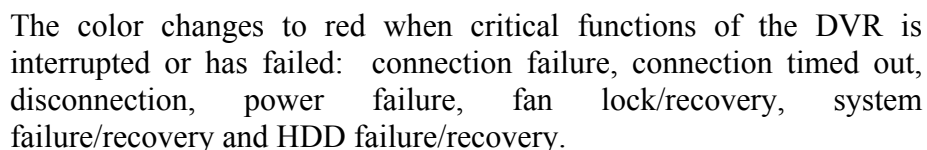
Button	Function
	Set left pan limit
	Set right pan limit
	Set up tilt limit
	Set down tilt limit



Control the volume of the audio in live monitoring and playback mode.

Displays the name of the last five DVRs with an event or a problem. The color will change appropriately based on the event or problems reported from the DVRs.

RED



The color changes to yellow when recording and alarm related events occur: video loss, video loss recovery, alarm trigger, motion detection, recording stopped, schedule off and backup stopped.



The color remains blue as long as the DVRs are functioning within the normal parameters. It will display the DVR's set name only with the following functions: recording started, backup started and schedule on.

Health report can be accessed at any time by double-clicking on the warning led. Health report allows a quick glance of all DVRs' status. Maximum of 300 DVRs' status can be displayed simultaneously.

MJPEG DIGITAL VIDEO RECORDER

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When the health report window is opened, several blocks will be lit or blinking depending on the status of the DVR. Please refer to the following chart for the definition:

Block Color	Definition
Solid Red	An event or a problem had occurred
Blinking Red	Current event or a problem
Solid Yellow	Current status of the DVR

① NUMBER

The order the DVR was entered. In case of network connection error or power failure, this block will blink in red in conjunction with the NAME block.

② NAME

DVR name, either the host name or something created by the user. In case of network connection error or power failure, this block will blink in red in conjunction with the NUMBER block.

③ HDD FAIL

Notifies Hard Drive Disk failure during the operation.

④ SYSTEM FAN LOCK

Notifies System Fan abnormality.

⑤ CPU FAN LOCK

Not supported in this DVR.

⑥ ALARM TRIGGER

Notifies the alarm trigger.

⑦ MOTION TRIGGER

Notifies motion detection.

⑧ VIDEO LOSS

Notifies loss of video signals.

⑨ SYSTEM OVERALL TEMPERATURE

Not supported in this DVR.

⑩ CPU OVERALL TEMPERATURE

Not supported in this DVRs.

⑪ REC LED INDICATOR

Displays the status of the recording LED from the DVR. Switches to yellow if inoperative.

⑫ SCHEDULE LED INDICATOR

Displays the status of the schedule LED from the DVR. Switches to yellow if inoperative.

---

### ⑬ BACKUP

Displays the status of the schedule LED from the DVR. Switches to yellow if inoperative.

Any DVR name or number, or any of the lit or unlit blocks may be double-clicked to access the properties, CMS log list and DVR log list. Please refer to pages for more information.

### 14. DVR WINDOW

Any DVR that has been added into the CMS using the DVR Set List Manager will be listed under the DVR window with its own DVR icon and name. Moreover, individual DVR icons also act as a supplementary icon to display individual DVR's status.



The status of the DVR is displayed in five different icons.

#### 1) Normal

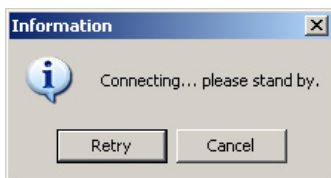


When the DVR is working within normal parameters, the icon color remains blue. Double-click on the icon to begin live monitoring.

#### 2) Network connection in progress



When the CMS program is first run or when the DVR has been added for the first time, the icon will display an exclamation point and will change its color to orange.

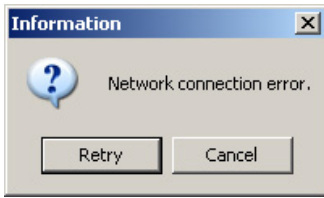


If the icon is double-clicked while the connection is in progress, "Connecting... please stand by." pop-up window will appear. Click on **Retry** to reinitiate the connection process or **Cancel** to return to the main window.

#### 3) Network Error / Disconnection



If the DVR is disconnected due to a network error, or if the CMS was not able to connect to the DVR due to an invalid address, port or password, the icon will display a "prohibited" sign and will change its color to pink.



If the icon is double-clicked while the DVR is disconnected or if the password has been changed on the DVR, “Network connection error.” pop-up window will appear. Click on **Retry** to reinitialize the connection process or **Cancel** to return to the main window.

#### 4) System abnormality



If alarm, motion trigger or some system abnormalities such as video loss occurs, the icon will display a question mark and change its color to orange.

Double-clicking on the icon will open the CMS log list, displaying all the past events of the DVR since its first connection to the CMS.



There are two ways of methods of exiting the CMS log list after review:

- ① Click on the **X** (close) at the upper right corner of the screen to exit the CMS log list while maintaining the icon status.
- ② Click on **OK** at the lower right corner of the screen to exit the CMS log and to clear the icon status.

#### 5) Live Monitoring



When the DVR is selected to be monitored live, the DVR icon is highlighted and will display playback icon.

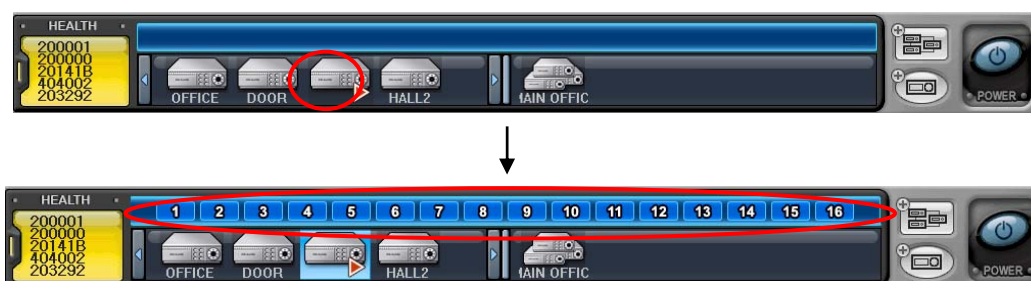
## 15. VIRTUAL DVR WINDOW

Virtual DVR is not an actual DVR, but a combination, or a group of several DVRs already listed under the DVR window. Under one Virtual DVR set, up to 64 DVRs can be added, pulling one camera from each DVR to be displayed. The Virtual DVR behaves in the same way a DVR would, except for the warning notifications.

## 16. CAMERA STATUS BAR

In addition to the Health Status Report and supplementary information from the DVR icons in DVR Window, the Camera Status Bar displays the status of individual cameras. The cameras are displayed according to the channel

When the CMS is in live mode for either an individual DVR or for a Virtual DVR, the camera status will be displayed for any DVR.



Once the cameras are displayed on the bar, any of the cameras may be double-clicked to display the selected camera in single channel mode.

Camera Status Definition:

1) Camera normal, non recording mode.



The icon color changes to cyan when the camera is connected, but the DVR or the channel is not in recording mode.

2) Video loss.



The icon color changes to dark blue when the camera signal is lost.

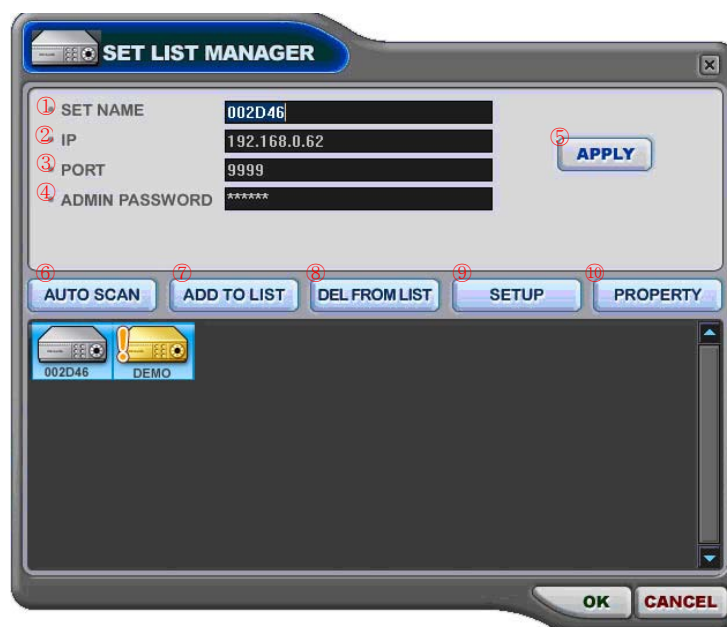
3) Recording.



The icon color changes to red when the DVR or the channel is in recording mode.

## 17. DVR SET LIST MANAGER

Set List Manager is used to add or remove individual DVRs.



### ① Set Name

The set name can be manually entered for an easier identification of an individual DVR. The DVR Host Name is entered automatically with Auto Scan.

### ② IP

Enter the IP address or the host address of the DVR. The IP address is entered automatically with Auto Scan.

### ③ Port

The default port for CMS is 80. The port is entered automatically with Auto Scan.

### ④ Administrator's Password

Enter the administrator's password to access the DVR. The password is entered as "000000" with Auto Scan.

### ⑤ Apply

When editing a DVR, click on **Apply** to put the new settings in effect. Please note that the DVR set needs to be highlighted.

### ⑥ Auto Scan

Auto Scan scans for any DVRs connected within the Local Area Network. As it adds DVRs automatically, it will ignore DVRs already on the list. By default, Auto Scan will enter the Set Name, IP address, Port, and the password with the default DVR settings.

---

⑦ Add To List

When a DVR is entered manually, click on **Add To List** after entering all the values.

⑧ Del From List

When a DVR needs to be removed from the list, highlight the DVR to be removed, and then click on **Del From List**.

⑨ Setup

If the settings of the DVR needs to be modified after adding the DVR, click on **Setup** to open the DVR settings window.

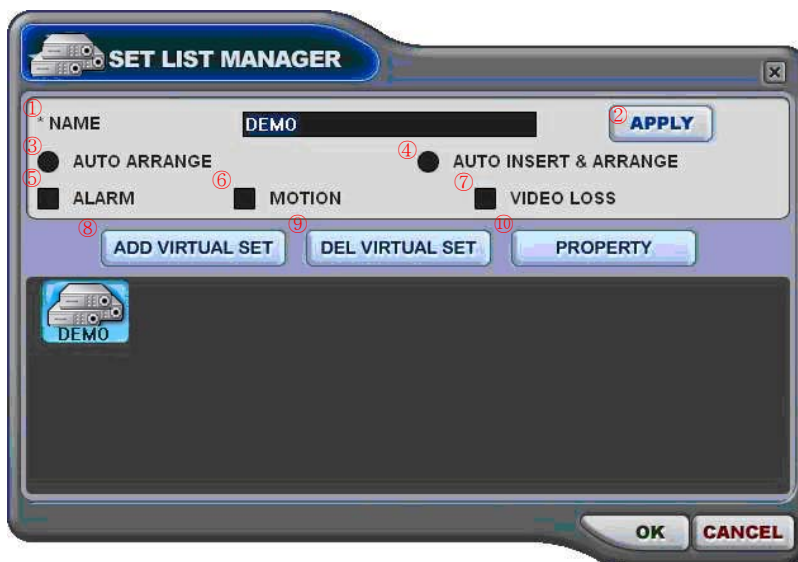
⑩ Property

Property displays general information about a DVR, such as DVR name, IP address, connection port, Model number, CPU and MICOM version, number of cameras and the compression method.



## 18. VIRTUAL DVR SET LIST MANAGER

Virtual DVR Set List Manager is used to add or remove Virtual DVRs.



### ① Set Name

Enter the name of the Virtual DVR.

### ② Apply

When editing a Virtual DVR's name, click on **Apply** to put the new settings in effect. Please note that the Virtual DVR needs to be highlighted.

### ③ Auto Arrange

Check this option to have the CMS arrange cameras with any of the events occurring from a virtual DVR with registered cameras. The cameras with events are moved to channel 1 automatically, then arranged in the order of priority.

### ④ Auto Insert & Arrange

Check this option to have the CMS to add, prioritize and arrange cameras with any of the events occurring from any cameras. The cameras with events are moved to channel 1 automatically, then arranged in the order of priority.

### ⑤ Alarm

Check this option to have the cameras with alarm triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

### ⑥ Motion

Check this option to have the cameras with motion triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

### ⑦ Video Loss



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Check this option to have the cameras with motion triggers to be prioritized and arranged automatically in either **Auto Arrange** or **Auto Insert & Arrange**.

⑧ Add Virtual Set

After designating a name for a Virtual DVR, click on **Add Virtual Set** to create a Virtual DVR. Please avoid repeating the same name for different virtual DVRs.

⑨ Del Virtual Set

When a Virtual DVR needs to be removed from the list, highlight the Virtual DVR to be removed, and then click on **Del Virtual Set**.

⑩ Property

Property displays general information about a Virtual DVR, such as Virtual DVR name, total number of cameras and IP address information of individual DVRs in the Virtual DVR.



19. POWER

Terminates and exits from the CMS.

## 2. DVR CLIENT – LIVE MODE

In Live Mode, individual DVRs and Virtual DVRs can be displayed and sorted in any order.

### 5.1 INDIVIDUAL DVR MONITORING

Double-click on a DVR icon when the DVR icon is blue (operating within the normal parameters) to begin live monitoring.



#### a. DVR Name and Camera Title

The DVR name and the camera title is displayed on top left corner of each channel. DVR host name will be displayed if Auto Scan feature was used.

#### b. Channel Status

Displays the current status of each channel.

Indicator	Status
REC	Normal Recording
Wait	Connection in progress
Loss	Video Loss
Close	Disconnected from DVR
Alarm	Alarm Recording
Motion	Motion Recording
PB	Playback mode for individual channels
Live	Live monitoring only; no recording

#### c. Time

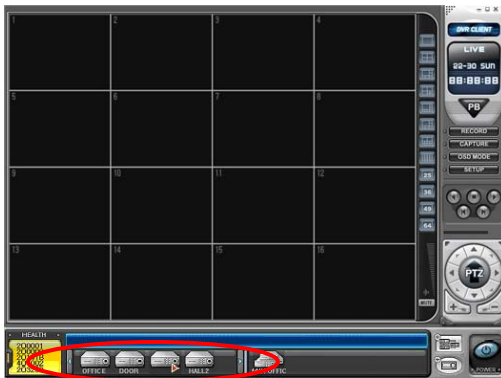
Displays the *local* time of the DVR's location.

#### d. Field Per Second

Displays the field rate of the transmitted video per channel. The transmitted field rate is *different* from the actual recording field rate of the DVR.

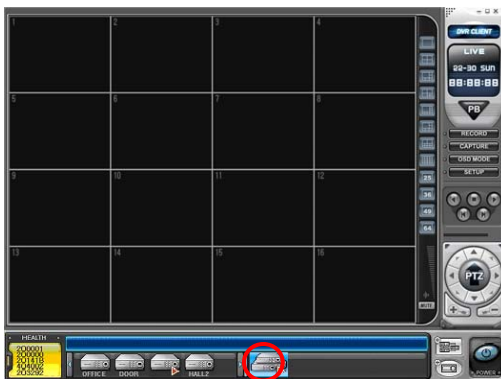
### 5.2 VIRTUAL DVR MONITORING

The basics of monitoring a Virtual DVR is just as the individual DVR. The only difference is that a Virtual DVR consists of multiple cameras selected from multiple individual DVRs.

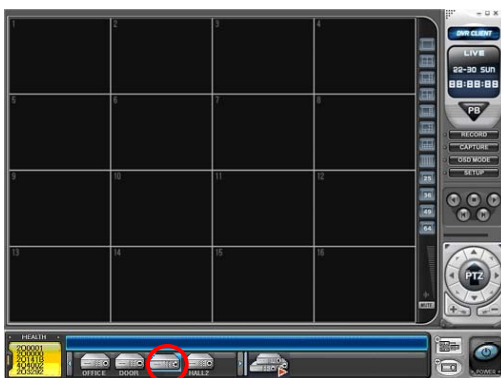


Selecting a group of cameras to monitor

Verify that individual DVRs are listed under DVR Window and a Virtual DVR has been created and listed under Virtual DVR Window.



Double-Click on the Virtual DVR.



Single-click on the desired DVR from the DVR window to select the cameras to add onto Virtual DVR. The cameras will appear on the Camera Bar.

Please note that the number of channels to be displayed may be changed at any time if necessary.



Click-and-drag the DVR to any channel number to display all available cameras under Virtual DVR.



In the example to the left, all available 12 cameras are displayed starting at channel 7.



Individual cameras can be added onto the Virtual DVR by click-and-dragging individual cameras.



These processes can be repeated to add and rearrange the cameras in desired locations.

---

### 3. DVR CLIENT – PLAYBACK MODE

DVRs that have been added onto the DVR window using the DVR Set List Manager can be accessed in Playback Mode for remote playback or to download the files onto the remote PC. Unlike the live mode, only one DVR can be accessed at a time.

1. Click on the Mode Selector button to switch to Playback Mode.



#### ① Select Channel

During the remote or local playback, any camera can be accessed and viewed in single channel view mode by clicking on any camera number. The same can be done by double-clicking on any channels.

#### ② Hour, Minute and Clip

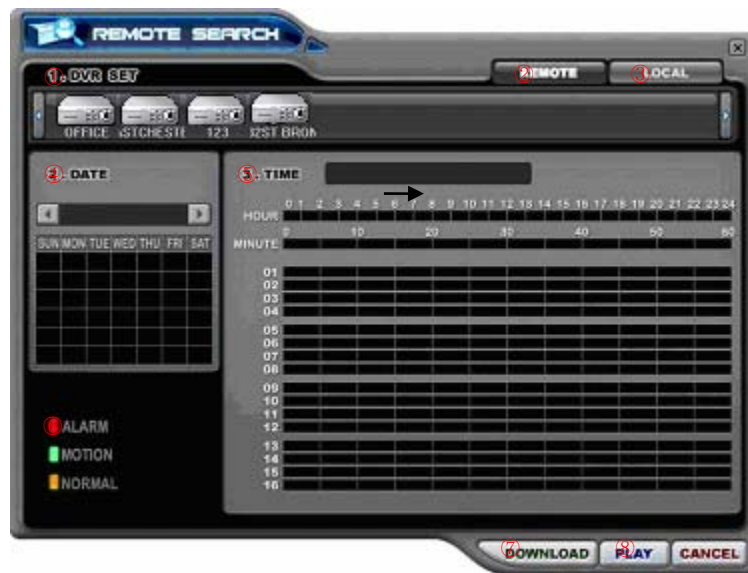
During remote or local playback, available hour and minute slots are displayed in the slots. Clip displays the beginning and the ending time of the video playing back.

#### ③ Search

Remote Search Window is access by clicking on **Search** button.

---

## 2. Remote Search



### ① DVR Set List

Any DVR that has been added using the DVR Set List Manager will be displayed here.

### ② Remote

Remote Playback mode tab. The CMS will playback the video directly from the selected DVR.

### ③ Local

Local file playback mode tab. The CMS will playback the video that are archived on remote PC's hard drive.

### ④ Date

Displays available files for remote playback or local playback, one month at a time.

### ⑤ Time

Displays available files for remote playback or local playback in 24 hour format. It will also list any cameras with recorded video for the appropriate hour and minute slot.

### ⑥ Recorded Video Category

Displays different types of recording for each hour and minute slot: alarm recording in red, motion recording in green, and normal recording in orange.

### ⑦ Download

Any remote data can be downloaded onto the hard drive. By default, the files are saved in "C:\Program Files\DvrPlayer\Download".

### ⑧ Play

Selected data either from the DVR or from local folder starts playback by clicking **Play**.



### 3. Remote playback



Select a DVR from the DVR Set List then select the date and the time.

Click on **Play** to begin the remote playback.



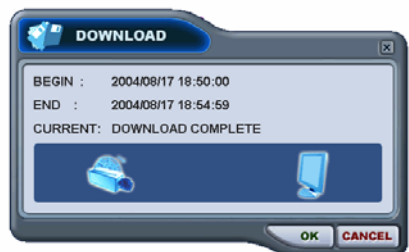
The Hour, Minute and the Clip can be clicked at any time to move backward or forward in time.

### 4. Selecting a file for download

The file selection process is just as selecting a file for remote playback. To download the file, click on **Download** instead of **Play**.



The Download Dialog will appear displaying the Start time, End time and currently downloading section.



Once the download is complete, “Download Complete” will be displayed. Click on **OK** to return to Remote Search window.

## 5. Local Playback



Select the Local Tab, and then select the DVR file from which the file was downloaded from. Select the date, time and the minute slot, and then click on **Play**.

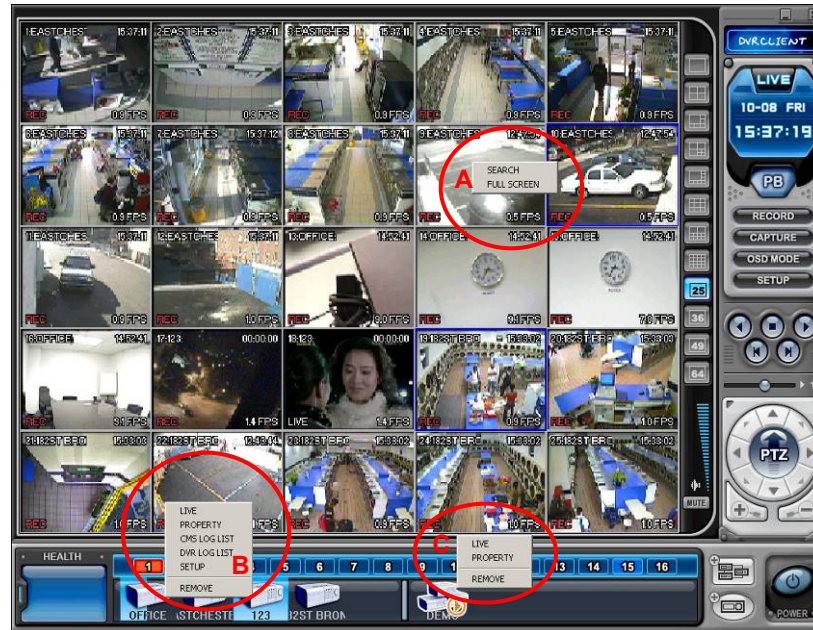


Once the playback begins, the video can be manipulated using the playback controls. The video can be fast forwarded, fast rewind, paused, move field by field in either direction.



## 4. CONTEXT MENU

The context menu allows access to the submenus for the channel, DVR and the Virtual DVR. The submenus allow access to various features for each individual submenu type.



### 1. Channel Context Menu

- ① Search  
Enters Remote Search window for single camera.
- ② Full Screen  
Changes the display to single channel view mode.

### 2. DVR Context Menu

- ① Live  
Start live monitoring for the selected DVR.
- ② Property  
Displays general information of the DVR.
- ③ CMS Log List  
Displays logs of all events while CMS is running.



#### ④ DVR Log List

Displays logs of all events from the DVR from the first power on.



#### ⑤ Setup

Enters the setup dialog for the DVR.

#### ⑥ Remove

Remove the DVR from the DVR Window.

### 3. Virtual DVR Context Menu

#### ① Live

Start live monitoring for pre-configured Virtual DVR.

#### ② Property

Displays the general information of the Virtual DVR.

#### ③ Remove

Removes the Virtual DVR from the Virtual DVR Window.

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## 5. DVR SETUP

The DVR Setup allows modification of all system settings through CMS as it would be done accessing the DVR menu screen.

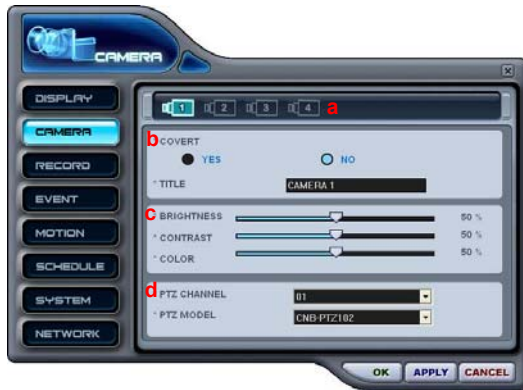
DVR setup can be accessed through the context menu from any DVRs, or through the DVR Set List Manager.

### 1) Display



- a. Select Channel Auto Sequence mode on or off and the sequence interval.
- b. Configure Picture-in-Picture settings.
- c. Select spot monitor output.

## 2) Camera



- Select a camera to adjust.
- Select the Covert Mode option for the selected camera.
- Adjust Brightness, Contrast and Color.
- Select the PTZ Channel and PTZ camera model.

## 3) Record – General



Select the recording mode and the writing mode of the Hard Disk Drive.

## 4) Record – Group



Configure the four recording groups.

- Select the picture quality, audio recording, recording mode and recording speed.
- Select the Event recording options for each camera.

## 5) Event



- Select the Recording Group to use for Event recording.
- Select the length of Post-Recording time.
- Select Alarm Buzzer on or off.
- Select the Relay Output conditions.
- Select the Relay Output type.
- Select the Camera to select alarm input circuit type.
- Select the alarm input circuit type.

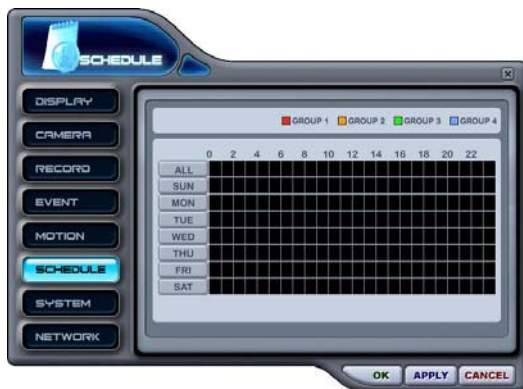
## 6) Motion



- Select the camera to adjust motion sensitivity level and to select trigger grids.
- Select the motion sensitivity level
- Select the motion trigger grids.

## 7) Schedule

Schedule setup is similar to entering the schedule from the DVR's schedule menu.



Select the day to enter a schedule recording time frame.

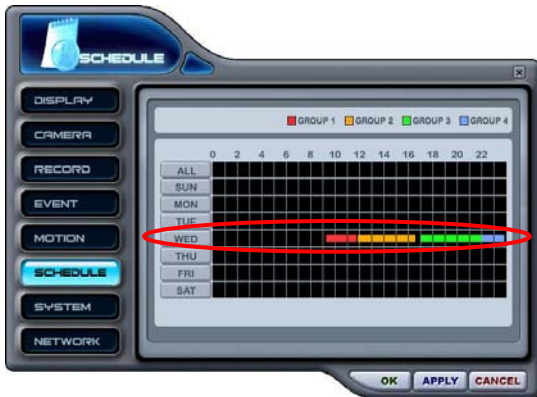
In the example to the left, Wednesday was selected for a sample schedule recording.



Enter the beginning time and the ending time in 24 hour format. Please note that the time cannot overlap to one another.

Select the recording camera group to use during the scheduled time.

Click **OK** to save entered schedule and to return to the main schedule window.



The scheduled time frame will be displayed, distinguished by the recording group the schedule recording will utilize.

## 8) System



- Select DVR ID.
- Select Auto Key Lock on or off.
- Select Key Tone on or off.
- Select the DVR language.

## 9) Network



- a. Current DVR network setting.
- b. Current network setting.
- c. Current client program connection port.
- d. E-mail address to send notification e-mails.

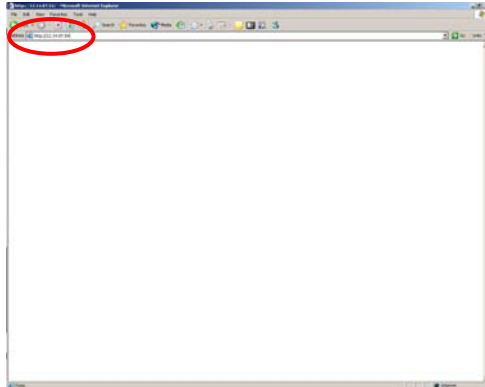


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## VII. WEB CMS

Web CMS is a CMS software that runs over Internet Explorer. It is extremely convenient since the user does not need to install dedicated CMS software in the PC. The function is exactly same as CMS except that WEB CMS does not support Download. It is to view live images and playback only.

### 1. CONNECT TO THE UNIT VIA INTERNET EXPLORER



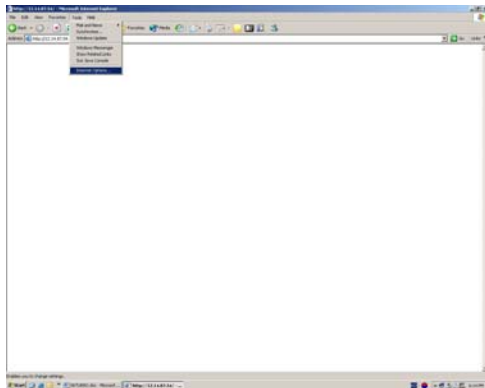
Enter the IP address of the unit in the address pane of the Internet Explorer.

For example, type in `http://192.168.0.85:7000`

Above illustrates example of a unit when it is utilizing port 7000. The default port for the unit is 80.

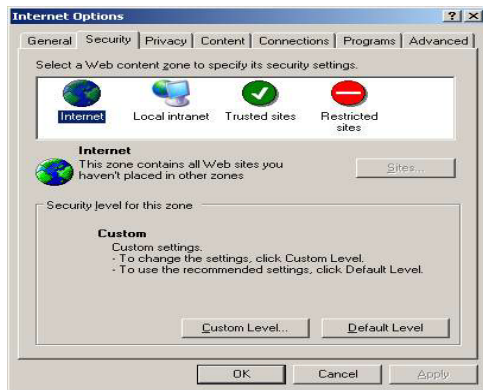
#### 1.1 Users with the Windows XP Service Pack 2

Internet Explorer will prohibit users from installing any unsigned Active X. You must first enable the Internet Explorer to accept unsigned ActiveX application.

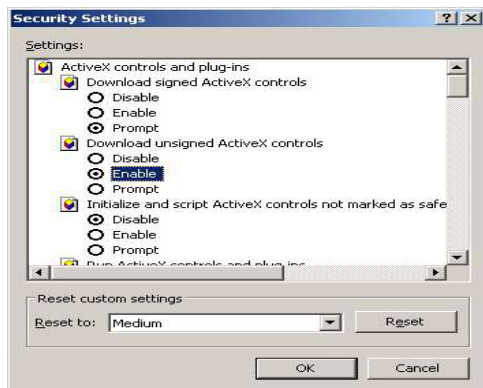


Go to: Tools => and Internet Options





- 1) Click Security Tab
- 2) Click on Custom Level



Click Enable for to Download unsigned ActiveX controls

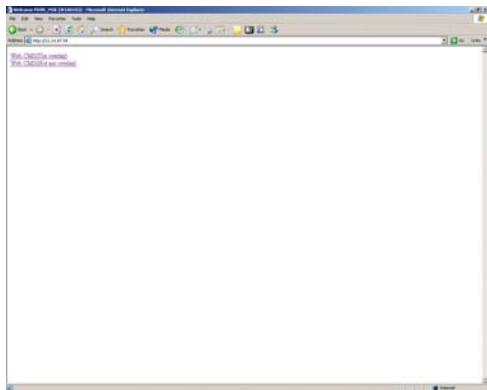
download our ActiveX application.

Click on OK. You are now ready do automatically

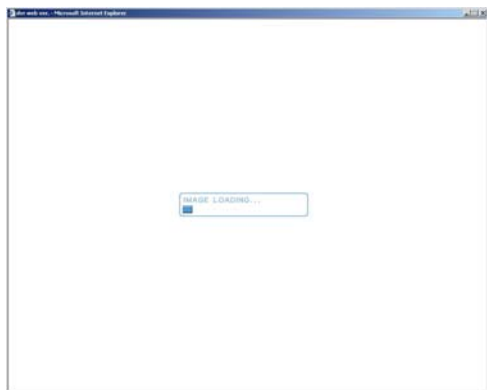
## 1.2 Log-in Procedure



You can either sign in with: admin or user. Next enter the password for the unit.



Click on Web CMS(Use overlay) to connect to the DVR. Please refer to page 85 for more information on CMS overlay.



Wait until the Image Loading is complete.



When the Image Loading is done, the WEB CMS version should appear along with the images from the DVR.