INSTRUCTION MANUAL

EV SERIES

DIGITAL VIDEO RECORDER

EV-4000

NUVICO®

Connecting Videos Anywhere

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 Adapter
5. Two AAA Batteries
6. This Instruction Manual

If any of these materials are missing, please contact your vendor.

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 makes 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.

FCC NOTICE

Digital Video Recorder, Model MPEG4 4-channel.

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 on or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experience 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.

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 the manufacturer, its 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.

SAFETY PRECAUTIONS

1. 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.
2. 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.
3. 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

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. Avoid dropping or subjecting the battery to severe impacts that could damage the casings. It could lead to leakage and injury.

14. Do not short-circuit the battery terminals with metallic objects, such as key holders. It could lead to overheating, burns and other injuries.
15. 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.

CAUTION

- **CAUTION** "Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.
- 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.

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, resalable 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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QUICK START PAGE

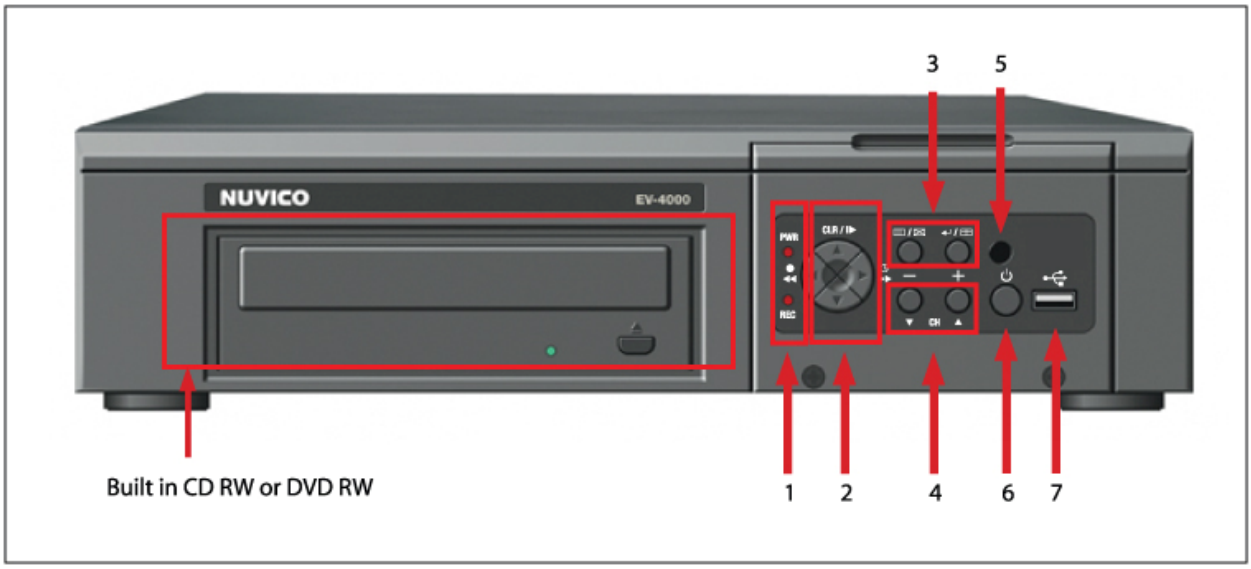
The Factory Default password for the unit is "**000000**"

SECURITY WARNING

Please be sure to change the administrator and user's password from the unit. Please refer to page 76.

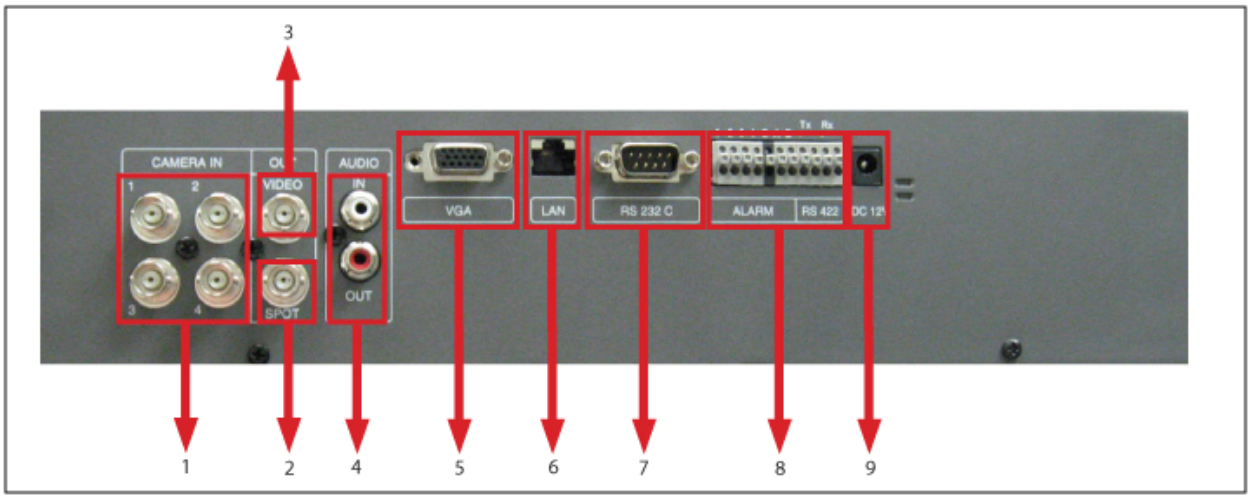
DIGITAL VIDEO RECORDER LAYOUT

1. FRONT PANEL LAYOUT



1.	**STATUS INDICATOR** These LEDs display the status of the Digital Video Recorder.	
2.	**MENU NAVIGATION** **LIVE VIEW & RECORD CONTROL** **PLAYBACK & RECORD CONTROL**	
		These Buttons offer many versatile functions depending on the mode.
	MENU NAVIGATION	
	▲▼◄►	These directional buttons are used to navigate through the Main Menu.
	LIVE VIEW AND RECORD CONTROL	
	CLR / II►	This button is used to hide the On Screen display information such as Time & Date or Channel Icons. It is also used to remove the alert icons or turn off the alarm buzzer.
	◷ ►►	This button is used to activate or deactivate the Scheduled Recording or have Schedule Recording on Standby.
	Q / ■	This button is to go into the Time Search Screen.
	● ◄◄	This button is to start or stop the Normal Recording.
	PLAYBACK & RECORD CONTROL	
	CLR / II►	This button is used to pause the frame or resuem 1x speed playback during the Playback mode.
	◷ ►►	This button is used to Fast Forward during the 1x Playback mode. This button is also used to reverse the frame during the Still mode.
	Q / ■	This button stops the Playback mode.
	● ◄◄	This button is used to Fast Rewind during the 1x Playback mode. This button is also used to reverse the frame druing the Still mode.
3.	**MENU / CANCEL / ENTER / DISPLAY**	
	▥ / ⊠	MENU/CANCEL MENU: Press this button to enter the Setup Menu. CANCEL: Press this button to exit Setup without saving.
	↵ / ⊞	ENTER/DISPLAY ENTER: Press this button to save SETUP settings. DISPLAY: Press this button to display the cameras in different multi-screen mode.
4.	**CHANNEL NUMERIC BUTTONS** These buttons have variety of fuctions such as enter options or to make selections. They are used to enter numbers when prompted for password, to make camera/channel selection, to choose the day in schedule option.	
5.	**IR REMOTE CONTROL RECEIVER** Please do not block the receiver for it needs to receive the signals for the remote controller.	
6.	**POWER BUTTON** This button is used to turn the power on or off.	
7.	**USB PORT** This USB port is used to upgrade the firmware of the system.	

2. REAR PANEL LAYOUT



1. CAMERA INPUTS
BNC input connections for cameras.

2. SPOT OUT
BNC output connection for auxiliary viewing output.

3. MAIN OUT
BNC output connection for Main Monitor.

4. AUDIO INPUT & OUTPUT
1 RCA Audio Input and Output.

5. VGA OUTPUT
VGA output to PC Monitors to be used as Main Monitor.

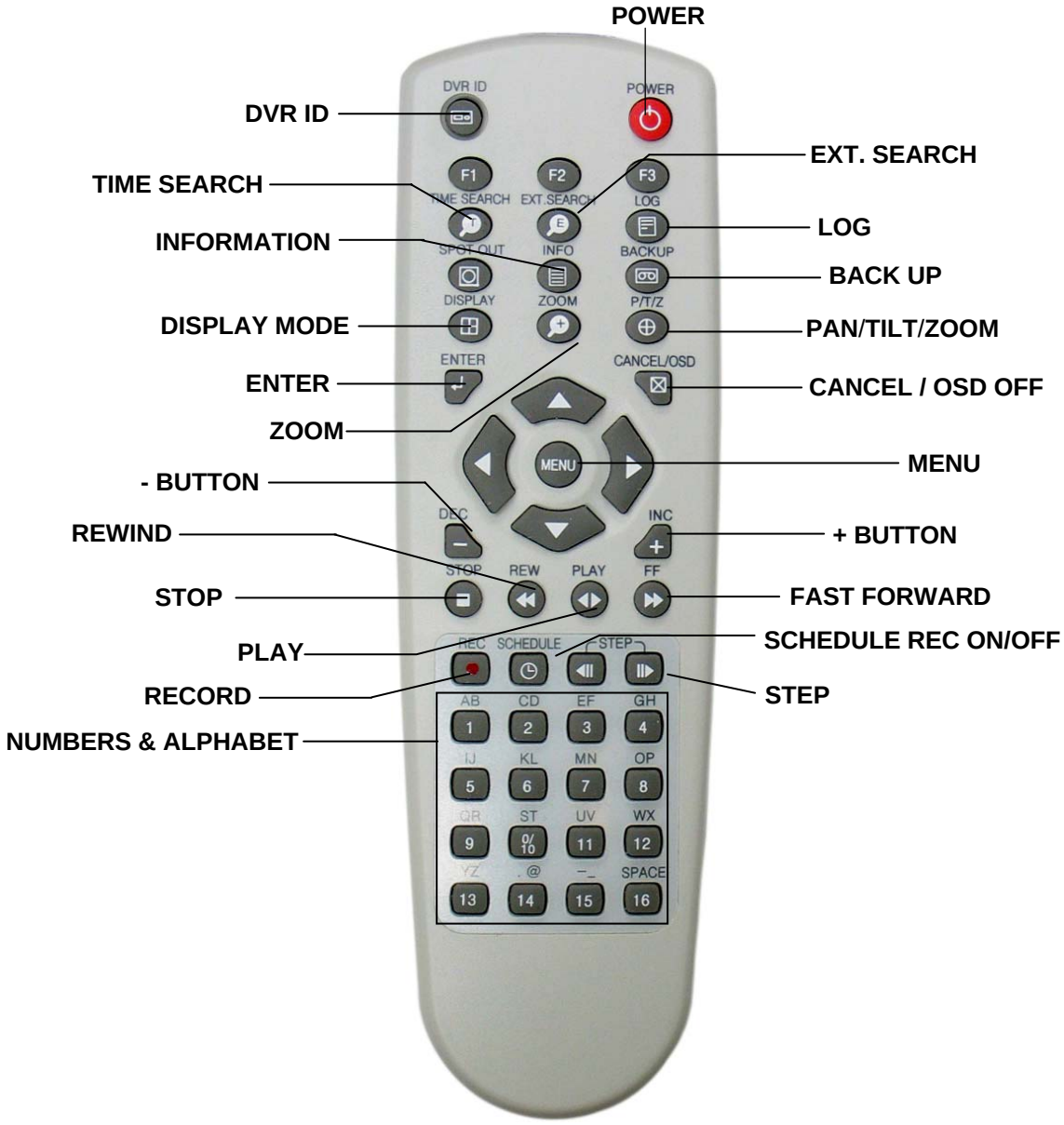
6. NETWORK PORT
10/100 Base-t RJ45 Ethernet Port for Network Connection.

7. RS232C PORT
For System Debugging purposes only.

8. ALARM INPUT & OUTPUT & RS422/485 PTZ CONNECTION
4 Alarm Input and 1 Alarm Output for Dry Contact Alarms. TX+ TX-, RX+ RX- for PTZ connection.

9. POWER INPUT
12VDC Power Input.

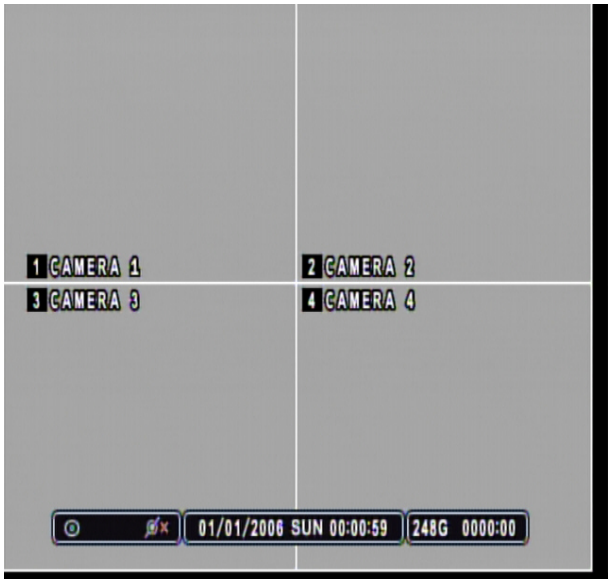
4. IR REMOTE CONTROLLER

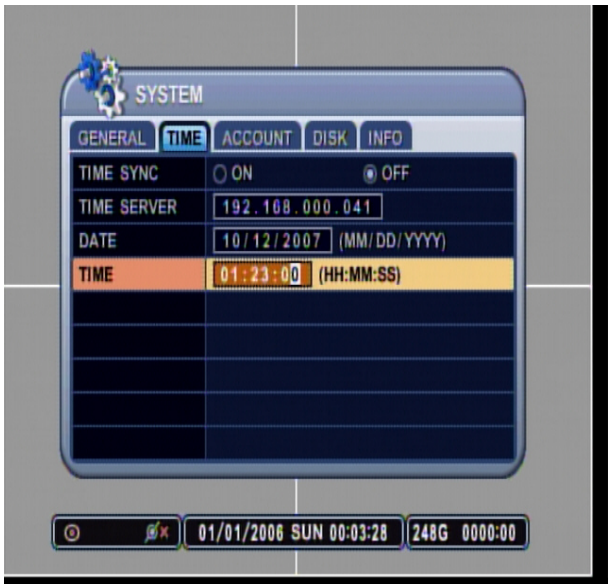


I. BASIC SETTINGS

TIME & DATE SETTING

When the DVR is powered on for the very first time, the time and date are set as default to January 1, 2006 Sunday 00:00:00. Before any other operation of the Digital Video Recorder, it is important to setup the time and the date as shown below. Please refer to page 80 for setting the time and the date on the DVR.

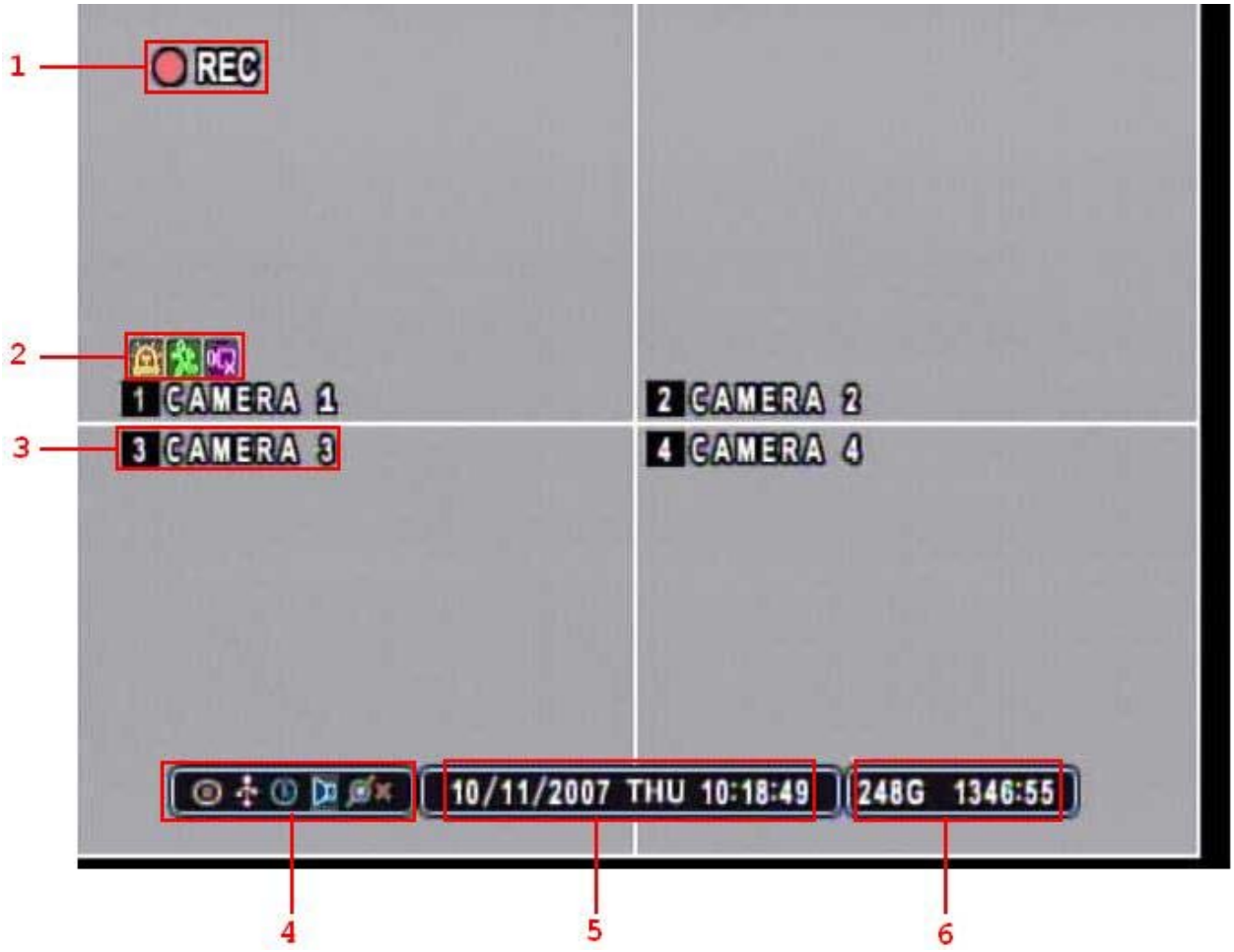




II. BASIC OPERATION

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 live view mode that the DVR has to offer. Which include automatic sequence mode and digital zoom feature.

1. MAIN SCREEN



Note: Explanations are listed in order from left to right.

1.	REC	Recording Mode Indicator.
2.		Alarm Trigger, Motion Trigger and Video Loss Icon.
Note: Pressing ▥/⊠ (CANCEL) button will get rid of the icons from the Live Screen.		
3.	3 CAMERA 3	Camera Number and its Title.
4.		CD/DVD Backup Progress Icon, USB Status Icon, Schedule Record Icon, Audio Icon, Number of remote user status Icon.
5.	10/11/2007 THU 10:18:49	Date and Time.
6.	248G 1346:55	Displays available HDD capacity and estimated Recording Time left based on the current recording setting.
6.a	0003:53	HDD overwrite/recycle mode.
6.b	0000:00	No HDD detected in the system.

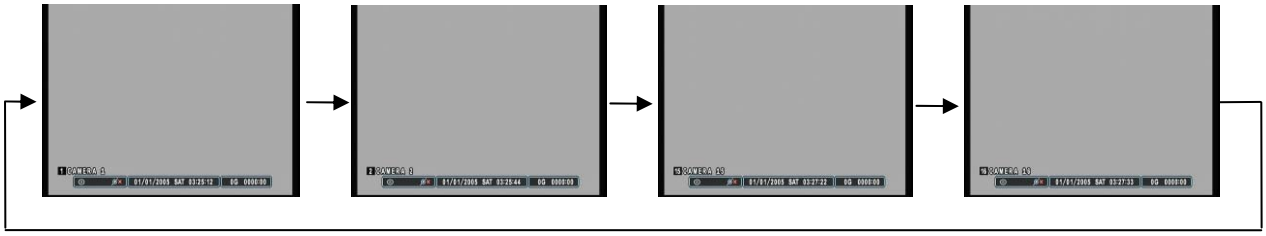
2. LIVE VIEW

The live view displays each channel at 30 frames per second.

2.1 AUTOMATIC SEQUENCE

Please refer to page 45 for selecting and activating the automatic sequence modes. Press the display button and hold onto to it for 1 second to activate the sequence mode. Pressing the display mode will change the display mode to the single channel display initially, and continue to sequence through all the channels in full screen mode. The following illustrations demonstrate sample display sequence.

Single Channel view mode automatic sequence

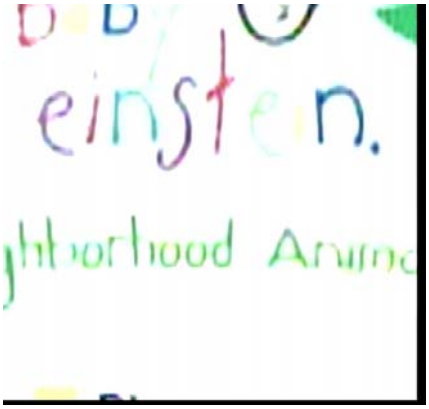


2.2 DIGITAL ZOOM

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 section.

Press the zoom button to bring up the zoom window.

Press 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. Pressing + again will zoom in into 4x the mode, and once again to zoom in into the 8x mode. Press Enter button and Press – button to zoom out to 4x mode and again to 2x mode.

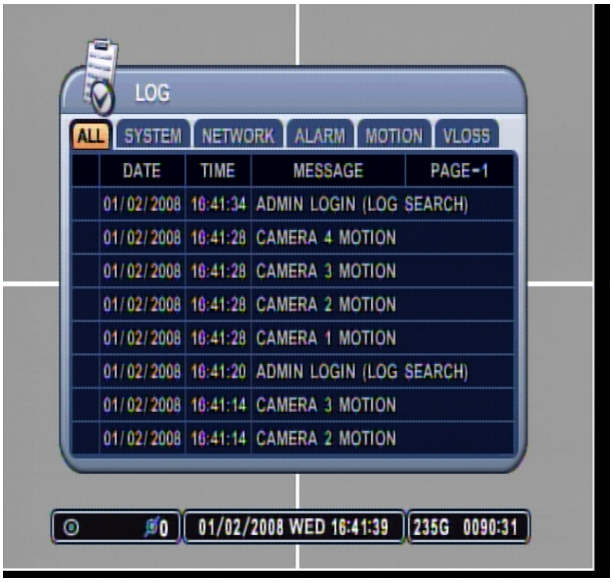
Press the Cancel button to return to the normal view.

2.3 SPOT OUT

In addition to the Main Monitor, attaching a Spot Monitor enables user to monitor specific channels independently from the main monitor.

- By pressing onto [SPOT] from the Remote Control, and entering the channel number will bring that specific channel into Full Screen.
- By pressing [SPOT] button twice, all the channels will start to sequence in Full Screen mode. Sequence Interval can be set from Sequential Setup.
- When Alarm has been triggered, that specific channel will go into Full Screen Mode.

3. LOG



The log chart keeps record of all the events and alerts, 8 logs per page. The DVR keeps log from the initial power on of the DVR. The record of items are compiled and listed in five categories.

3.1 ALL

All events related to the operation and alerts of the DVR are listed and sorted under ALL, in chronological order, starting with the most recent.

3.2 SYSTEM

Any event related to the operation of the system is listed and sorted under SYSTEM in the same chronological order. SYSTEM logs consist of, but not limited to the following logs:

- SYSTEM STARTUP
- SYSTEM STOP
- RECORDING
- LOGIN
- UPGRADE
- SYSTEM POWER FAIL
- WARNING
- ERROR
- SYSTEM CHECK
- HDD FAIL
- PLAYBACK

3.3 NETWORK

Any network activity is listed and sorted under NETWORK in the same chronological order.

3.4 ALARM

Any alarm activity is listed and sorted under ALARM in the same chronological order.

3.5 MOTION

Any motion activity is listed and sorted under MOTION in the same chronological order.

3.6 VIDEO LOSS

Any video signal losses or interruptions are listed and sorted under VIDEO LOSS in the same chronological order.

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. The DVR differentiates normal recording, alarm recording and schedule recording. Normal recording settings are used when the record button is pressed.

The factory default normal record setting is as follow:

ALL CHANNELS	RESOLUTION	USE	QUALITY	RATE	AUDIO	MOTION
	360 x 240	ON	HIGH	7 F/S	OFF	OFF

Please note that the default recording resolution is 360 x 240. The recording rate will change automatically and will change accordingly if the recording resolution is changed to 720 x 240 or 720 x 480.

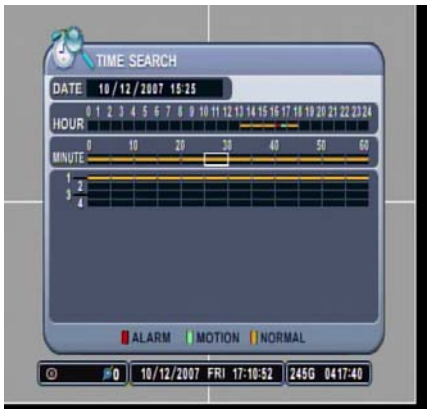
Press the RECORD button to start recording. The ● REC icon will appear on the upper left corner.

5. PLAYBACK

5.1 TIME SEARCH

Press the TIME SEARCH button to access the time search calendar.

Use the directional buttons to navigate to the desired date, and then press the Enter button to access selected date.



Use the directional buttons to navigate to the desired hour and minute slot. To review all 4 channels, select a slot from the MINUTE bar and press the Enter button to start the playback.

The DVR will start the playback mode, displaying all 4 channels. Any channel number or the DISPLAY button may be pressed to change the display mode.

To select a specific camera to review, select a slot from the numbered bars. The illustration to the left has selected channel 16 at 00:20 in the morning on January 4, 2006.

Channel 1 will be displayed in full screen mode starting playback of the data exactly at 16:00:00 in the afternoon on October 12, 2007. Any channel number or the DISPLAY button may be pressed to change the display mode.

5.2 LOG SEARCH

The logs can be used to search and review directly to a point in time of the recorded data. Alarm, motion, video loss and system related logs can be searched and played back directly from the time of the incident.

Press the LOG button to access the log submenu. Use the directional buttons to navigate to the desired log. UP and DOWN buttons are used to navigate through the list of the logs, and LEFT and RIGHT buttons to navigate through different pages. Pressing the Enter button at the desired log will start the playback.

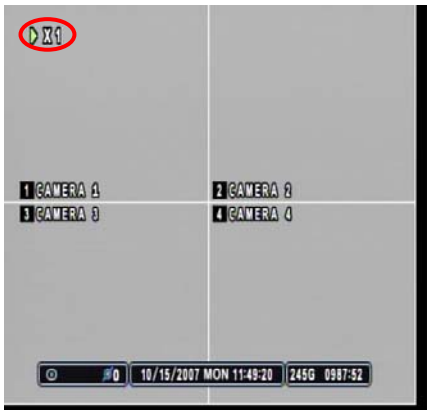
System related logs and video loss logs will be played back in multi channel view mode.

The playback view may be changed to any configuration after the playback has started.

Video Loss related logs will start the playback in single channel view mode. The illustration to the left has selected a log from the VIDEO LOSS tab.

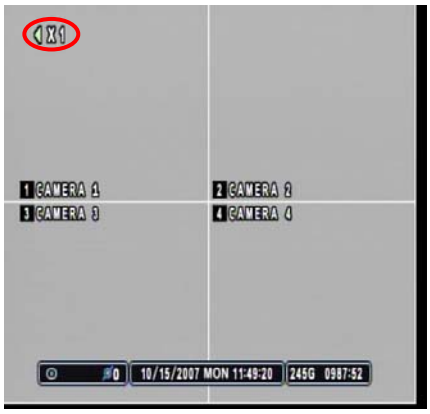
Alarm or motion related playback will display according icons during the playback. The illustration to the left is playing back channel 2, and is displaying the motion icon, showing that channel 2 was recorded based on the motion trigger.

5.3 PLAY / STILL / STOP / FAST FORWARD/ FAST REWIND / FRAME BY FRAME

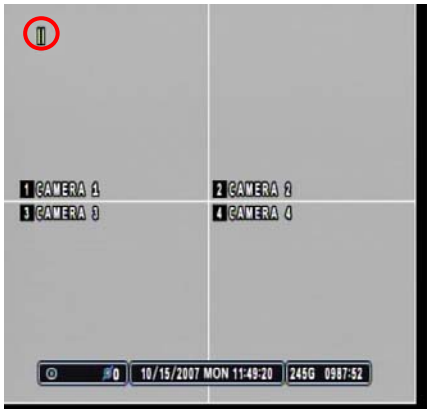


During the playback, the DVR may be played back in reverse, paused, speed search up to 16 times the normal speed, or move picture by picture using the jog shuttle. Please refer to the following illustrations for a detailed description.

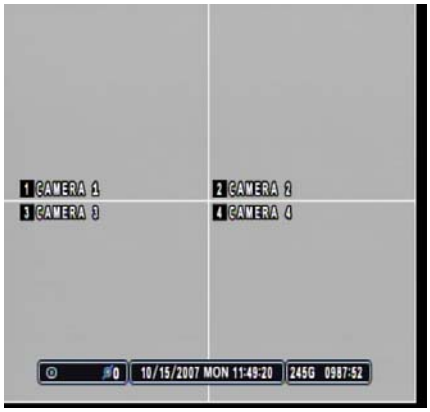
Press the PLAY button and the play icon will be displayed. The DVR will start the playback from the latest data if playing back for the first time.



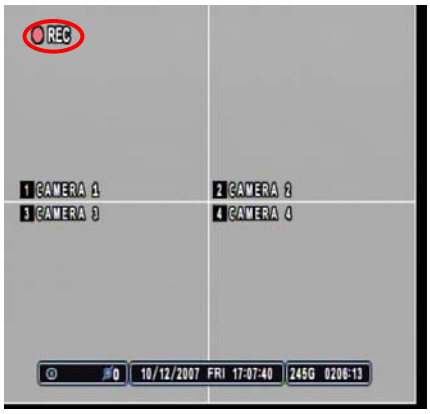
Press the PLAY button once more and it will change its playback direction to reverse.



Press the STILL button to pause the playback (STEP button on the remote controller).

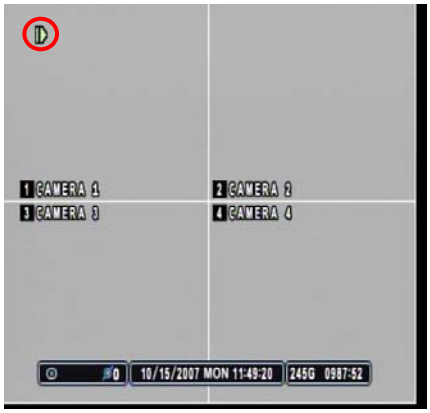


Press the STOP button once to return to the previous screen. If the DVR is not recording, it will return to the live screen.



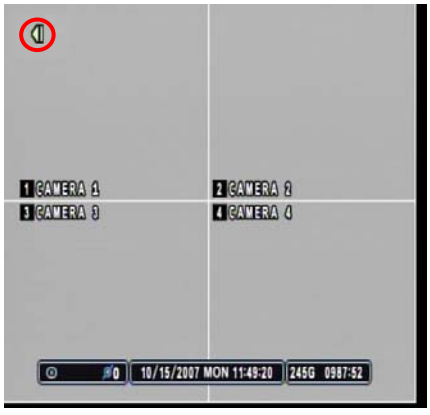
If the DVR is recording, then the DVR will return to the live screen, but it will display the ● REC icon on the upper left corner.

During the playback, the playback control button is used to view the recorded data picture by picture or to fast forward or to fast rewind to the desired location.



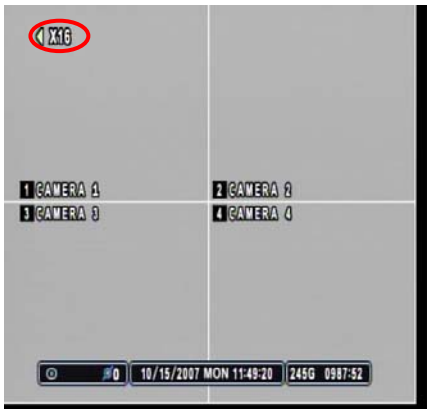
During the playback mode, pause the playback by pressing the RIGHT STEP button. Keep pressing the RIGHT STEP button to enter the picture-by-picture mode and to advance and view recorded data one picture at a time.

.



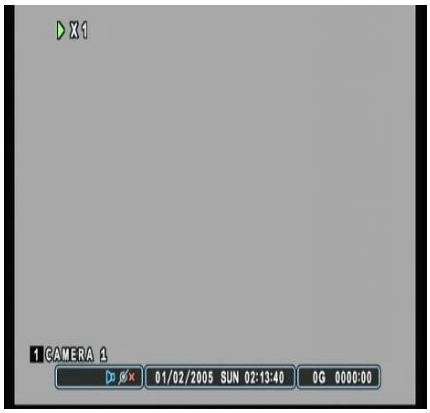
Press the LEFT STEP button to play in reverse and view recorded data one picture at a time.

During the playback or still mode, press the FAST FORWARD button to fast forward to the desired location. Starting with normal playback speed (1X speed), each increment represent twice the previous speed, with the maximum playback speed of 16X.



Press the FAST REVERSE button to rewind to the desired location. The same speed increment and icon concept is applied as it is for the fast reverse.

5.3 AUDIO PLAYBACK



The DVR offers 1 channel of audio. The audio data is always recorded in real time unlike the video data that can be recorded at various recording speeds. The audio, if recorded, is played back automatically when in single channel view mode.

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. This section will address the backup function, the motion and alarm recording and its combinations, Pan/Tilt/Zoom camera control and time search.

1. BACKUP

Note: Please "STOP" the Recording before performing BACKUP Function.

1.1 BUILT-IN DVD-RW

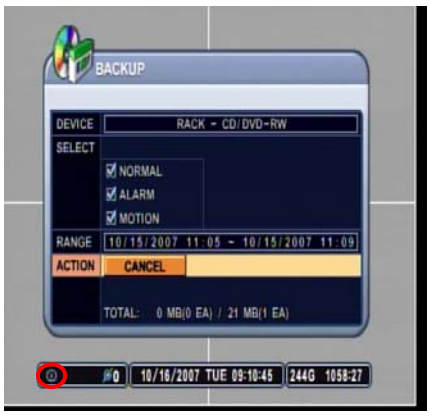
For convenience, the DVR has a built-in DVD-RW where the backup can be made easily.

Insert a blank DVD into the DVD-RW, and then press the BACKUP button. Enter the password when the password prompt appears.

Select the recorded data type to be included on the backup DVD. The illustration to the left has selected NORMAL, ALARM and MOTION data. Use – or + button to check or uncheck the options.

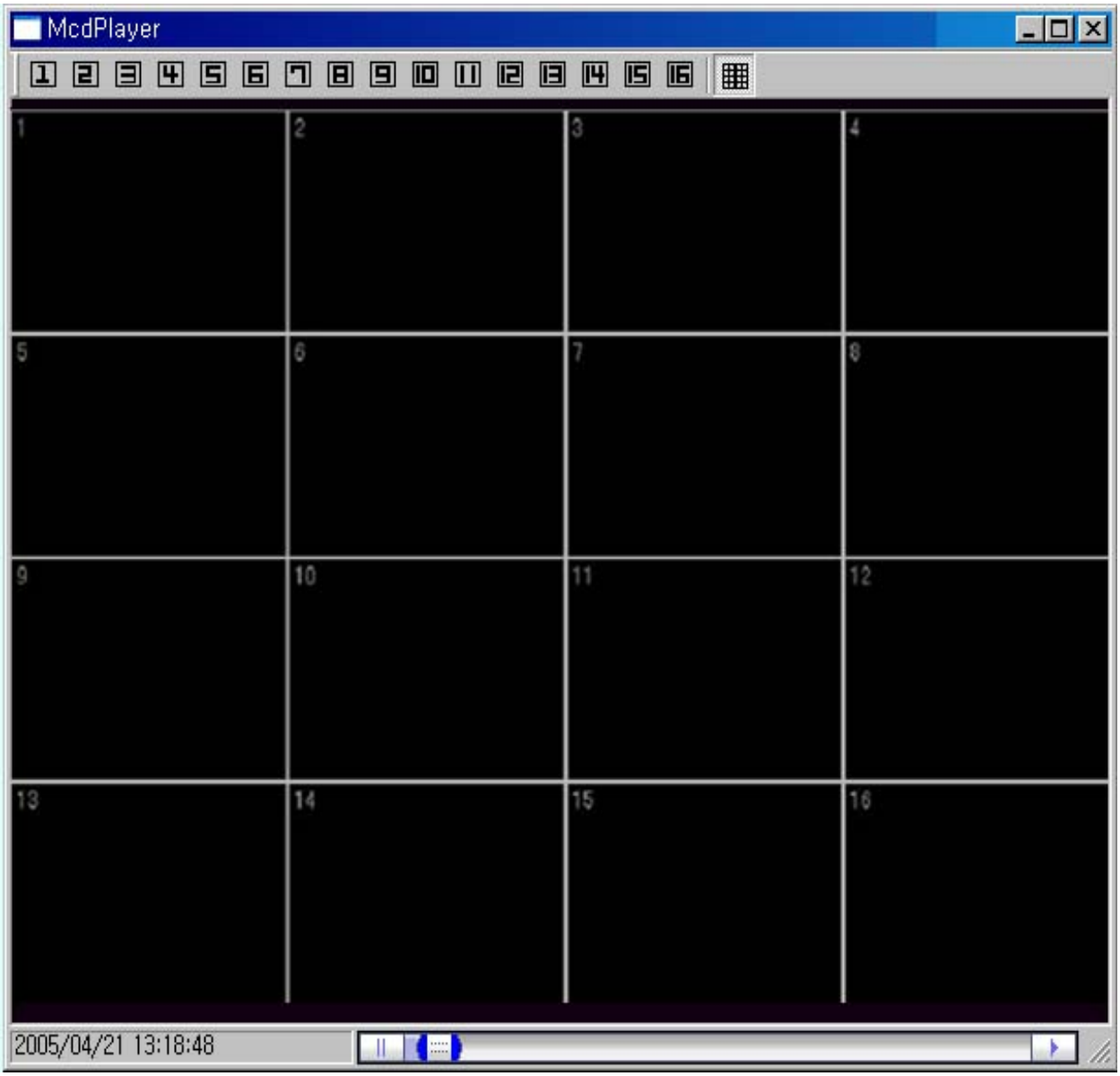
Enter the time and date range of the desired backup. It is also possible to input Start Time and End Time from Time Search Screen by using - & + buttons.

Highlight START button, then press the ENTER button to start the backup process. Please note that the internal DVD-RW icon's color is gray.



The progress of the backup will be displayed at the bottom of the window in percentages of the entire backup process. Please note that the internal DVD-RW icon's color will change to blue to signify that backup is in progress.

1.2 MINI PLAYER

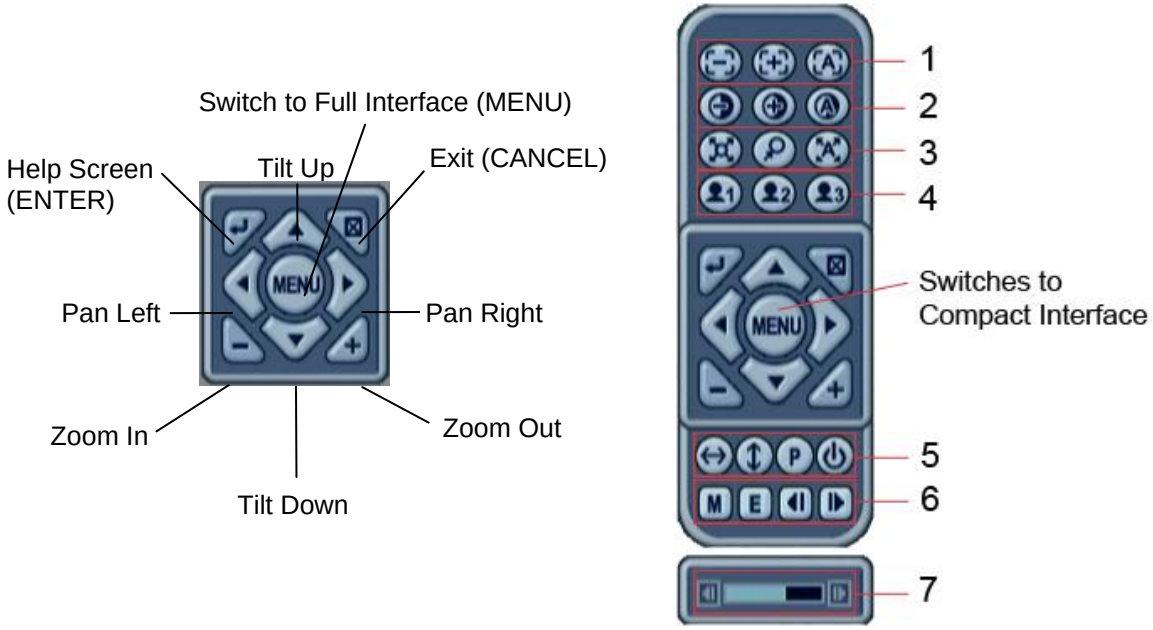


Upon Backup, Mini Player gets copied into the DVD automatically. There is no need to install separate software to view the clips. For advanced playback options, please use the CMS Software.

2. 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.

When the P/T/Z/FOCUS button is pressed, the display automatically changes to the single channel view mode. Press the appropriate channel number to control the PTZ camera. Some PTZ control functions can ***only*** be accessed using the remote controller, so please have the remote controller handy when using the PTZ control interface.



The layout of the PTZ interface conforms to the layout of the front of the DVR or the remote controller. Menu button is the guide anchor position for all other buttons. When in PTZ interface mode, all buttons used for the PTZ related operation.

2.1 FOCUS CONTROL

Button	Function
	Focus Out; F1 on remote controller
	Focus In; F2 on remote controller
	Auto Focus; F3 on remote controller

2.2 IRIS CONTROL

Button	Function
	Iris Open; TIME SEARCH on remote controller
	Iris Close; EXT. SEARCH on remote controller
	Auto Iris; LOG on remote controller

2.3 PRESET & TOUR

Button	Function
	Set preset position; SPOT OUT on remote controller 1. Move the PTZ into desired location. 2. Press the Preset button. 3. User 1 will illuminate. 4. Set the # for the Preset location. 5. Press Enter to save and exit.
	Go to preset position; INFO on remote controller 1. Press Go to button. 2. Enter the desired Preset # and press Enter.
	Start Auto Tour; BACKUP on remote controller 1. Press Auto Tour Button. 2. Press the + button and enter the range of Preset and press Enter. 3. For Example, Auto Tour Button, +5 will start the tour of 1 ~ 5 presets of the PTZ Camera

2.4 CUSTOM FUNCTIONS

Button	Function
	PTZ custom function 1; DISPLAY on remote controller
	PTZ custom function 2; ZOOM on remote controller
	PTZ custom function 3; P/T/Z on remote controller

2.5 AUTO PAN / AUTO TILT / PATTERN / POWER

Button	Function
	Auto Pan; STOP on remote controller (Supported on certain European PTZ Camera)
	Auto Tilt; REW on remote controller (Supported on certain European PTZ Camera)
	Run Pattern
	Power On/Off; FF on remote controller (Supported on certain European PTZ Camera)

2.6 MENU / EXIT / MOVEMENT SPEED SLOW & FAST

Button	Function
	Enter Menu; REC on remote controller
	Exit Menu; SCHEDULE on remote controller
	Sets left pan speed; LEFT step button on remote controller
	Sets right pan speed; RIGHT step button on remote controller

2.7 MOVEMENT SPEED

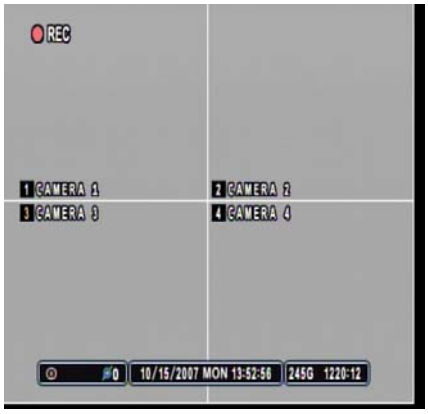
	Function
	Configures the PTZ movement speed for the Remote Control and CMS.

3. ADVANCED RECORDING

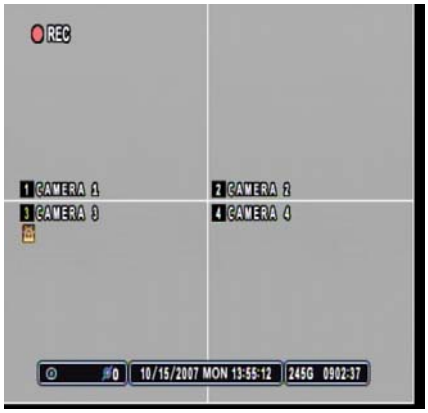
Advanced recording comprises of alarm, motion and schedule recording. Unlike the continuous recording mode which records 24 hours a day and seven days a week based on the same settings, these three recording options provides the user the flexibility of customizing the record settings, thus making the most of the hard disk drive usage. Moreover, using these features would shorten search time when the needs arise, as the recorded can be directly accessed from the system logs.

3.1 ALARM RECORDING

Please verify the alarm record settings prior to starting alarm recording. The settings can be adjusted from the ALARM setup. Please note that alarm recording is *independent* of any recording modes.



Press the RECORD button and the record icon will appear as shown on the left. The DVR will be in standby mode until an alarm is triggered.

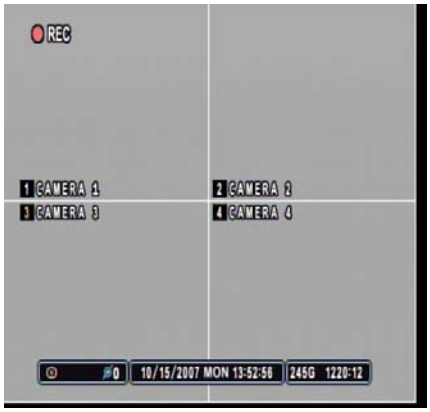


Alarm record icon will appear on the channel alarm was triggered. The channel number will turn yellow as it starts to record. The illustration on the left shows channel 3 in alarm recording mode. The duration of the recording will be based on the RECORD TIME setting under ALARM SETUP.

If the alarm buzzer is set to ON and if the alarm inputs are selected, then the alarm buzzer will sound for the duration of the RECORD TIME. Pressing the – button will turn off the buzzer, and pressing + button after will turn the buzzer back on. Press CANCEL button will turn off the alarm circuit.

3.2 MOTION RECORDING

Please verify that the motion option has been enabled under RECORD SETUP menu. Also, verify that the settings for motion grids, motion sensitivity level and record time have been configured under the MOTION SETUP menu. The motion grids are all activated by default, thus, unless it has been deactivated, the motion grid setting may be ignored.

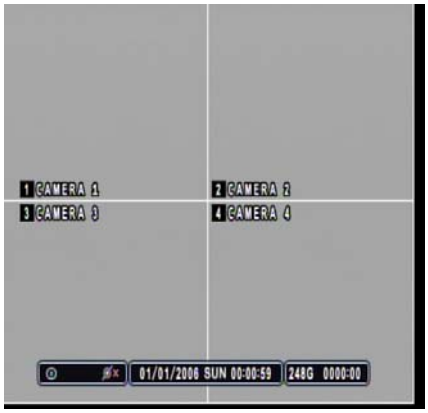


Press the record button and the record icon will appear as shown on the left. The DVR will be on record standby mode until motion is triggered. The DVR does not record as log as there is no motion.

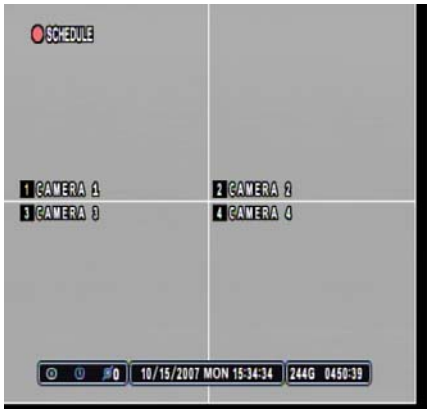
Motion recording icon will appear on the channel motion was detected. The channel number will turn yellow as it starts to record. The illustration to the left shows channel 1 in motion recording mode. The duration of the recording will be based on the RECORD TIME setting under MOTION setup.

3.3 SCHEDULE RECORDING

Schedule recording processes the recording schedule configured from the SCHEDULE menu. Please note that if there are no schedules configured, then the DVR will not record. Please refer to page 71 for setting up schedule recording.



Press the SCHEDULE button to start recording based on the preconfigured schedule. If there is nothing to be run at the time when SCHEDULE button is pressed, the DVR will not record until the designated time.



At the scheduled time, the DVR will execute the schedule recording. Instead of the normal ● REC icon, the DVR will display ● SCHEDULE icon.

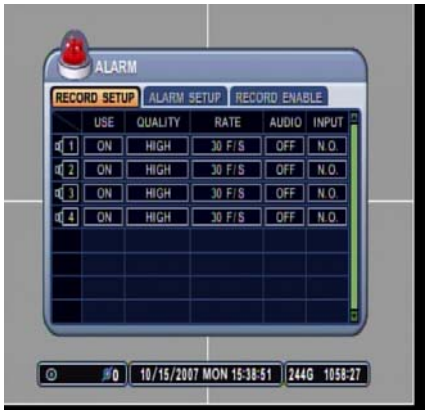
3.4 COMBINATION RECORDING

If a need arises to record a combination of motion, alarm and scheduled recording, then the DVR can be configured so that all three features are used in conjunction with one another. *Please make sure that the Normal Record is set to ON from the RECORD ENABLE tab.*

3.4.1 CONTINUOUS RECORDING & ALARM RECORDING

For instances where a location needs to be recorded 24 hours a day seven days a week at a minimal recording speed, but the requirement is to record at higher recording speed in case of an alarm triggers. Both normal recording and alarm recording can be used together to satisfy the needs.

Normal recording settings has been configured to 1 picture per second. Please verify that USE for the camera necessary has been set to ON.



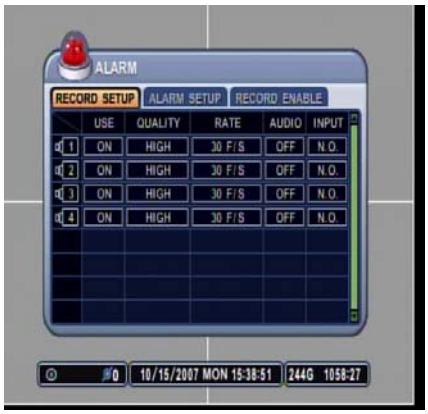
ALARM recording has been configured to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will meet the requirement of recording 24 hours a day and seven days a week at one picture per second for all channels until an alarm trigger occurs. When an alarm triggers, then the DVR will record 30 pictures per second for the duration of RECORD TIME, then resume the normal recording of 1 picture per second.

3.4.2 MOTION RECORDING & ALARM RECORDING

For instances where a location needs to be recorded whenever motion detection occurs and also needs to be recorded in case of an alarm triggers. Both motion and alarm recording can be used to satisfy the requirement.

Motion recording has been activated under RECORD menu. The recording rate for motion is at 30 pictures per second.



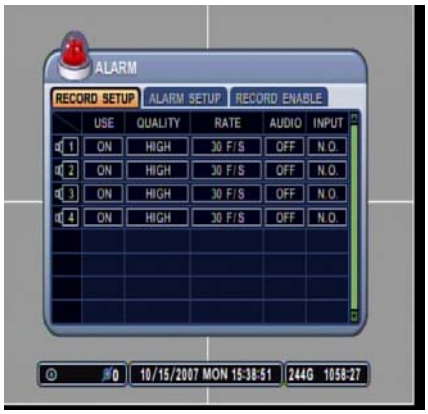
ALARM recording has been configured to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record *only* when there is a motion detection or alarm trigger. At both instances, the DVR will record at 30 pictures per second for all channels.

3.4.3 SCHEDULE & ALARM RECORDING

For instances where a location needs to be recorded at a predetermined schedule, but also needs to record in case of alarm triggers. Both schedule and alarm recording can be used in conjunction to meet the requirement.

Any of the MODES within the schedule can be configured to be run during the scheduled recording time period. The illustration to the left has modified MODE1 to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON.



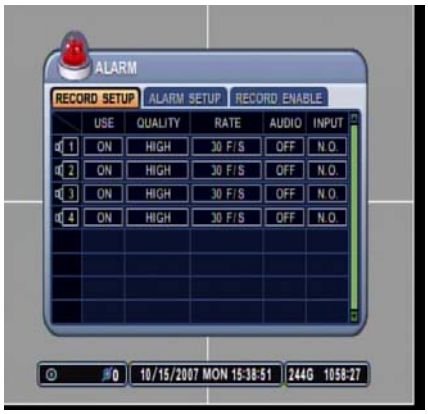
ALARM recording has been configured to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record continuously during the scheduled time period, but will record whenever in case of an alarm trigger. At both instances, the DVR will record at 30 pictures per second for all channels.

3.4.4 SCHEDULE MOTION RECORDING & ALARM RECORDING

For instances where a location needs to be recorded using only motion recording at a predetermined schedule, but also needs to record in case of alarm triggers. Both schedule motion recording and alarm recording can be used in conjunction to meet the requirement.

Any of the MODES within the schedule can be configured to be run during the scheduled recording time period. The illustration to the left has modified MODE1 to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON, and that MOTION has been set to ON.



ALARM recording has been configured to record at 30 pictures per second. Please verify that the USE for the camera necessary has been set to ON.

The combination of both settings will allow the DVR to record whenever there is a motion detection during the scheduled time period, but will record any time in case of an alarm trigger. At both instances, the DVR will record at 30 pictures per second for all channels.

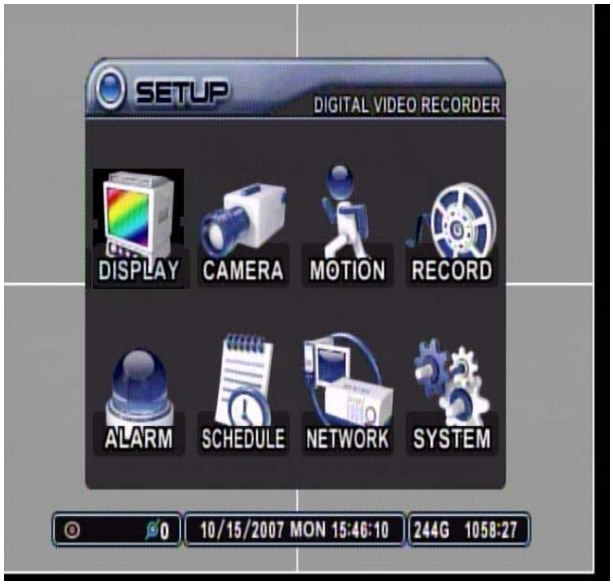
3.4.5 SUMMARY OF COMBINATION

The following is the summary of possible combinations of recording modes.

RECORD MODE	MENU	RECORD CAMERA USE	ALARM CAMERA USE	SCHEDULE CAMERA USE	MOTION
Normal	RECORD	ON	OFF	OFF	OFF
Motion	RECORD	ON	OFF	OFF	ON
Alarm	ALARM	OFF	ON	OFF	OFF
Schedule	SCHEDULE	OFF	OFF	ON	OFF
Schedule Motion	SCHEDULE	OFF	OFF	ON	ON
Normal and Alarm	RECORD & ALARM	ON	ON	OFF	OFF
Motion and Alarm	RECORD & ALARM	ON	ON	OFF	ON
Schedule and Alarm	ALARM & SCHEDULE	OFF	ON	ON	OFF
Schedule Motion and Alarm	ALARM & SCHEDULE	OFF	ON	ON	ON

IV. SETUP

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



Directional buttons are used to navigate through all the main categories and their submenus. ENTER button is used to access and save the settings and exit out of the submenus. The – and + buttons are used to select available options. CANCEL button is used to revert back to previous settings and exiting the submenus without saving any changes.

1. DISPLAY

DISPLAY menu allows the user to customize a variety of options related to the main display of the DVR. It allows the display of the STATUS BAR, the channel number and the camera title, selection of border line and background colors, output device, and the sequential display of display modes.

1.1 DISPLAY SETUP

1.1.1 STATUS BAR

Select the display of the status bar containing various USB, client connection, date & time, remaining hard disk drive size and remaining recording time. If set to HIDE, then the bar at the bottom of the screen will be hidden from the main display. The default is SHOW.

1.1.2 CAMERA

Select the display of channel numbers and the title of each camera. The default is ON for both settings.

1.1.3 BORDER LINE

Select the border line color from the following available colors:

- Black
- Dark Gray
- Gray
- White

The default border line color is White.

1.1.4 BACKGROUND

Select the background color from the following available colors:

- Black
- Dark Gray
- Gray
- Blue
- White

The default background color is Gray.

1.1.5 DISPLAY DEVICE

Select the main video output.

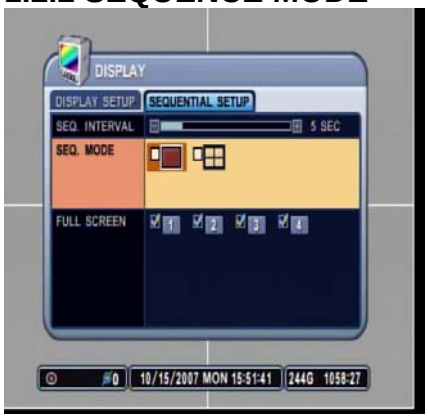
1. CCTV Monitor: composite video signal output using BNC connectors and VGA output.
2. VGA: Standard VGA output

1.2 SEQUENTIAL SETUP

1.2.1 SEQUENCE INTERVAL

Select the sequence delay time. Available delay time is from 1 second to 30 seconds per display. The default is five seconds.

1.2.2 SEQUENCE MODE

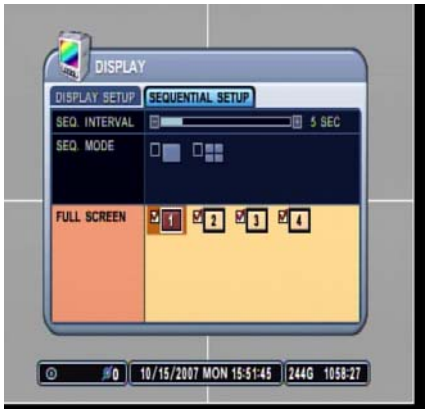


Select what display modes to include in sequenced display. Single, quad, 6, 7, 8, 9, 10, 13 and 16 channel view modes can be included in the sequential display mode.

Selected view modes will be displayed in sequence, from the smallest number of windows to the largest number of windows.

All modes are set to OFF by default.

1.2.3 FULL SCREEN



Select which channel to include when in full screen sequential display mode.

All channels are set to ON by default.

2. CAMERA

CAMERA menu allows the user to customize the display parameters of each channel, such as the covert mode, brightness, contrast, color, channel title and the PTZ camera associated.

2.1 CAMERA SELECTION

Select the camera that needs to be modified or adjusted.

2.2 COVERT

Select between covert mode (YES) and normal mode (NO). If covert mode is activated, the activated camera's display will be hidden on the monitor. However, the video is still being recorded. When Admin is connected using the CMS software, Admin will be able to view the images but not the User.

2.3 BRIGHTNESS

Adjust the brightness using – or + button. The default value is 50%.

2.4 CONTRAST

Adjust the contrast using – or + button. The default value is 50%.

2.5 COLOR

Adjust the color using – or + button. The default value is 50%.

2.6 TITLE

Customize the channel title with up to a combination of 12 alphanumeric digits. As entering the alphanumeric values on cellular phones or keypad driven input systems, press the appropriate numeric buttons on the remote controller or on the DVR to enter the desired letters and numbers. Refer to the following illustration for the sequence of values.

1	A	B	9	Q	R
2	C	D	10	S	T
3	E	F	11	U	V
4	G	H	12	W	X
5	I	J	13	Y	Z
6	K	L	14	.	@
7	M	N	15	-	_
8	O	P	16	SPACE	

2.7 P/T/Z MODEL

Select the PTZ camera to be controlled from the DVR.

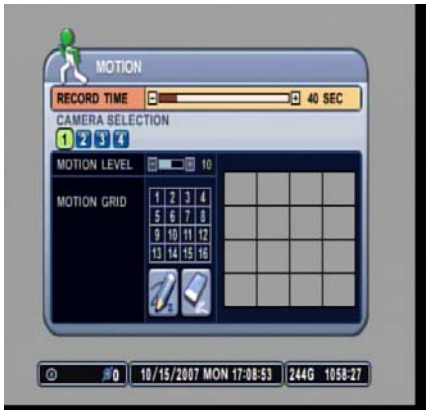
List of compatible PTZ cameras, in the order of appearance

	Manufacturer	Model Name
1	NUVICO	NV PROTOCOL 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-PROTOCAL: 2400 bps
13	PELCO	D-PROTOCAL: 4800 bps
14	PELCO	D-PROTOCAL: 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	RVT	EZ PROTOCOL
33	LG	Dome Protocol:9600 bps
34	ELMO	PTC-200C/400C:9600 bps
35	NICECAM	MP-1xxx: 9600 bps
36	C&B TECH	CNB-PTZ102

2.8 P/T/Z ID

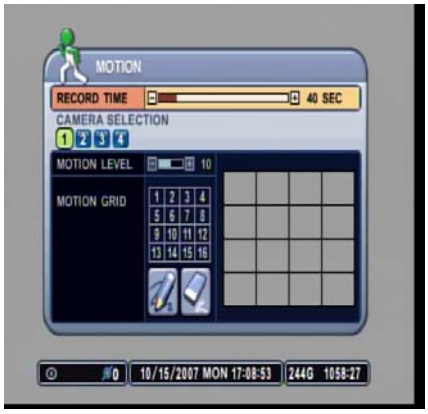
Select the P/T/Z Camera ID to be controlled from the DVR.

3. MOTION



MOTION menu allows customization of motion related options. It includes post motion recording time settings, motion sensitivity level per camera, and motion grid selection.

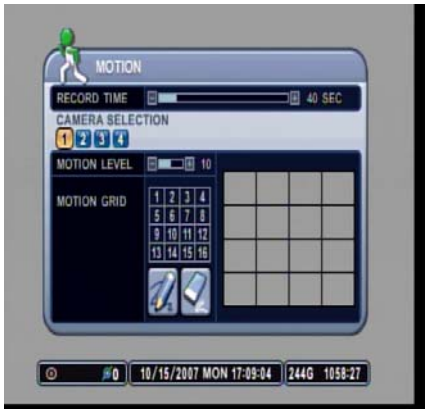
3.1 RECORD TIME



RECORD TIME determines the amount of the time the DVR records after the initial motion detection. The user may choose from 10 to 300 seconds in 10 second intervals. If additional motion is detected during the post record duration, then the counter is reset, and will record for an additional set time of the RECORD TIME.

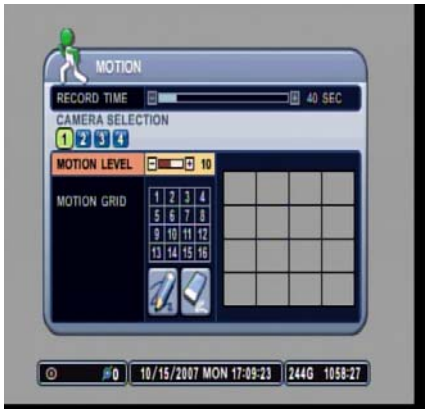
The default value is 40 seconds.

3.2 CAMERA SELECTION



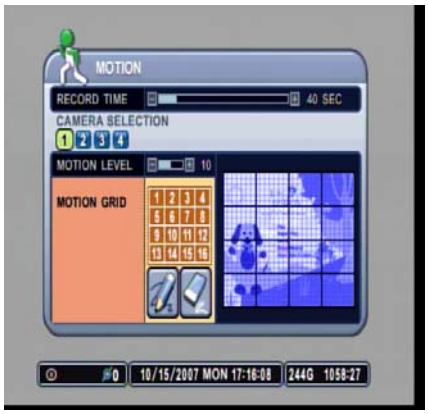
Select the camera that needs to be modified or adjusted.

3.2.1 MOTION LEVEL



Use – or + button to adjust the motion sensitivity level. The necessary sensitivity can be immediately determined by looking into the grids and observing the green tracking of the movement. Sensitivity level 1 is the lowest setting and level 20 is the highest setting. The default sensitivity level is 10.

3.2.2 MOTION GRID



Activate or deactivate each grid by pressing the appropriate numeric button. All the grids are active by default, and are highlighted in blue tint. If deactivated, then the tint will be removed.

Press the – or + button after highlighting the PENCIL icon to activate all grids at once.

Press – or + button after highlighting the ERASER icon to deactivate all grids at once.

4. RECORD

RECORD menu allows customization of continuous record settings. The usage of camera, record quality as well as record rate, audio record and motion record options are available.

4.1 USE

Select the usage of the camera. If the camera is set to ON, then that specific camera will be used to record. If set to OFF, then that specific camera will not be used to record. The default value is ON.

4.2 QUALITY

Select from five available record qualities, Low, Middle, High, Super and Ultra. The default value is HIGH.

4.3 RATE

Adjust the record rate for each camera. Note that the maximum global record rate is 120 pictures per second at the resolution of 320 x 240, 60 pictures per second at the resolution of 720 x 240, and 30 pictures per second at the resolution of 720 x 480.

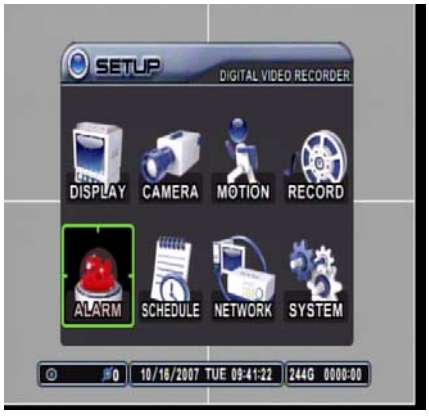
4.4 AUDIO

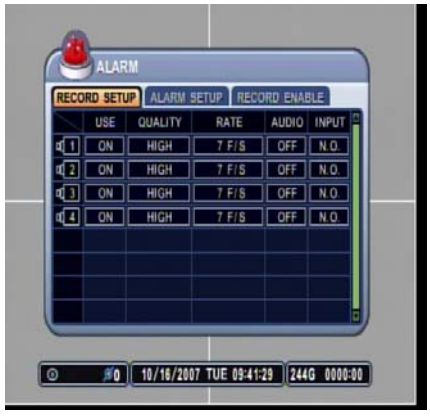
Select audio record ON or OFF for each camera. The default value is OFF.

4.5 MOTION

Select motion record ON or OFF for each camera. The default value is OFF.

5. ALARM

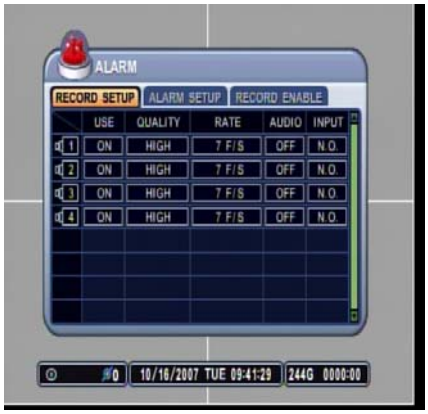




ALARM menu allows customization of alarm related options. It includes alarm record settings, post alarm recording time setting, alarm response record option, alarm buzzer, and alarm output related options.

5.1 RECORD SETUP

5.1.1 USE



Select the usage of the camera. If the camera is set to ON, then that specific camera will be used to record. If set to OFF, then the particular camera will not be used to record. The default value is ON.

5.1.2 QUALITY

Select from five available record qualities, Low, Middle, High, Super and Ultra. The default value is HIGH.

5.1.3 RATE

Adjust the record rate for each camera. The maximum record rate is 30 pictures per second for CIF resolution. If the global record resolution is set to 720 x 240, then the maximum record rate is 15 pictures per second. Finally, if the global record resolution is set to 720 x 480, then the maximum record rate is 7 pictures per second.

5.1.4 AUDIO

Select audio record ON or OFF for each camera. The default value is OFF.

5.1.5 INPUT

Select the alarm input circuit type. Choose from the two options:

- N.O: Normally Open Circuit
- N.C: Normally Closed Circuit

The default circuit is N.O.

5.2 ALARM SETUP

5.2.1 RECORD TIME

RECORD TIME determines the amount of the time the DVR records after the initial alarm trigger. The user may choose from 10 to 300 seconds in 10 second intervals. If additional alarm is triggered during the post record duration, then the counter is reset, and will record for an additional set time of the RECORD TIME.

5.2.2 RECORD CAMERA

Record camera provides the option of two distinct recording modes when an alarm trigger occurs:

- ALL: Any alarm trigger will force all channels to record.
- 1:1: The channel from which an alarm trigger occurred will record.

5.2.3 MOTION TO ALARM

The DVR will treat a motion trigger as an Alarm Trigger.

- From the LOG, it will be listed as Motion
- The unit will not send E-mail

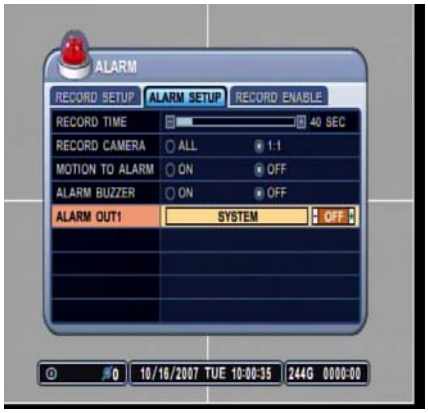
5.2.4 ALARM BUZZER

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 TIME. The default setting is off.

5.2.5 ALARM OUT

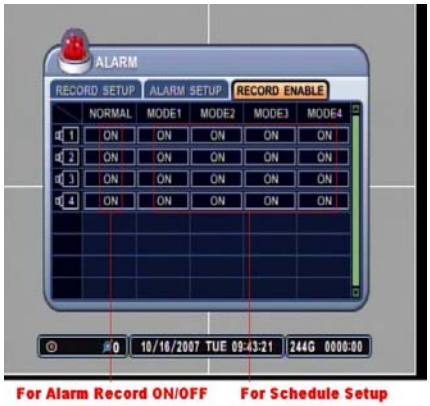
Configure relay to trigger in conjunction with any of the alarm inputs. If SYSTEM is selected, the relays will be triggered in case of system abnormalities, such as HDD FAIL, FAN LOCK and so on.

5.2.6 ALARM OUT ON/OFF



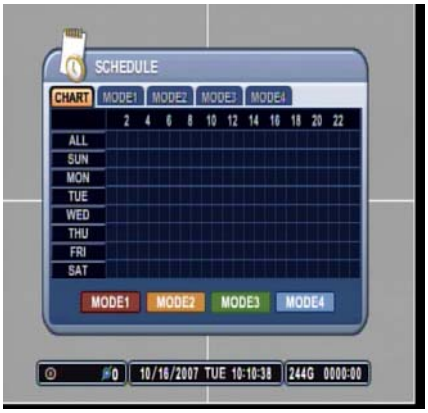
Enable or disable the alarm relays. The default value is OFF.

5.3 RECORD ENABLE



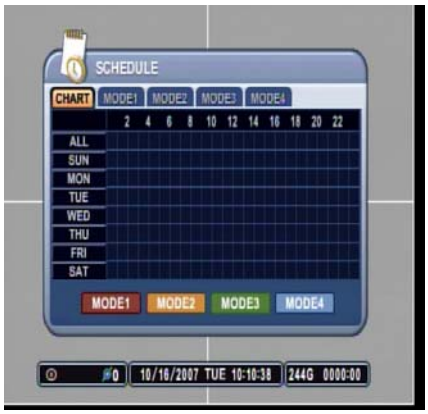
Normal: Turn Alarm Recording On/OFF.
Mode 1~4: Enable or disable the Mode 1~4 at the Schedule Setup.

6. SCHEDULE



Schedule setup configures a variety of timed recording settings to provide a fully automated recording option. Four additional recording groups are available in addition to NORMAL and ALARM recording. ***Remember to activate the schedule by pressing the Schedule button on the front panel after all the values have been entered. If no schedule is entered, the unit will prompt the user to set the schedule function.***

6.1 CHART



The CHART displays the recording schedules configured on the DVR. It breaks down the days of the week in eight different categories: ALL, SUN, MON, TUE, WED, THU, FRI and SAT.

Sunday through Saturday is the daily schedule of the schedule whereas ALL is for everyday of the week.

6.2 MODE 1 ~ 4

Schedule recording allows up to four different recording settings to be configured and be used in combination. The options are the same as RECORD menu.

In order to facilitate the concept of the SCHEDULE recording, the following example is provided as references to schedule recording in real-life situations.

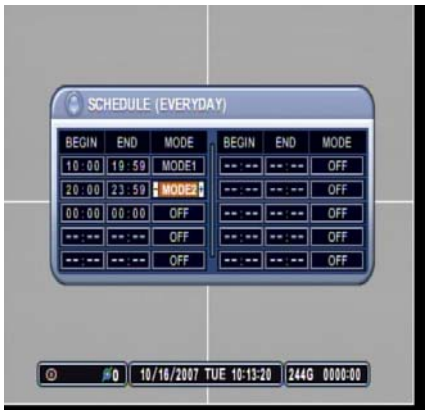
6.3 EXAMPLE

A store owner needs to record from 10am through 8pm every day of the week using continuous recording. Additionally, the owner needs to record during his non-business hours using motion detection to conserve the space on his hard disk drive. The owner wants to record at 30 pictures per second during his business hours and 10 pictures per second during his non-business hours.

Select ALL from the chart, then press the ENTER button to access ALL time entry menu.

Enter the time for the regular business hours, 10am through 8pm, and then select MODE 1.

Please note that the END time is entered as 19:59. The time must be entered in 24 hour format and must end one minute before the actual end time as the DVR will record for one full minute starting at 19:59.



Enter the first part of the non-business hours, 8pm through 11:59pm, and then select MODE 2.

The DVR does not recognize beyond the actual 24 hour (00:00 ~ 23:59) cycle. Hence the overnight schedule must be divided into two parts.

Enter the second part of the non-business hours, midnight through 9:59am, and then select the same mode. Press the ENTER button to save and exit to the CHART screen.

Please note that pressing numerical button 16 deletes the entries from BEGIN, END and MODE section.

The CHART will display the schedule for all days of the week, MODE 1 recording from 10am through 8pm and MODE 2 recording from 8pm through 10am.

Select MODE 1 and adjust the settings accordingly.

Select MODE 2 and adjust the settings accordingly. Press ENTER button to save and exit to main menu.

7. NETWORK

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.

7.1 IP SETUP

7.1.1 CONFIG

Select from the two types of available IP address types:

- STATIC IP: an IP address that remains constant for the duration of the contract of the Internet service.
- DHCP: Dynamic Host Configuration Protocol, a service where the IP address is issued automatically.

7.1.2 IP SETUP

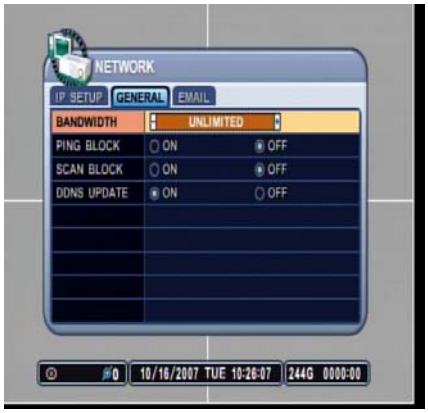
If STATIC IP is selected, this is where the IP address, Gateway, Netmask and DNS information is entered, as provided by the Internet Service Provider or the in-house network administrator.

7.1.3 PORT

Enter the connection port for the client program, the Central Management Software (CMS). The default value is 7000.

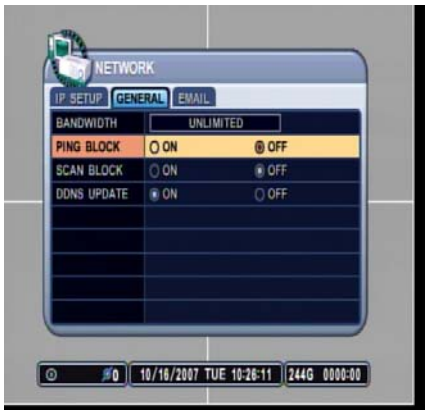
7.2 GENERAL

7.2.1 BANDWIDTH



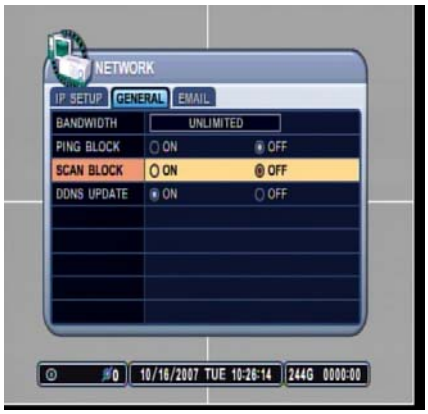
Select the amount of network bandwidth that the DVR can utilize.

7.2.2 PING BLOCK



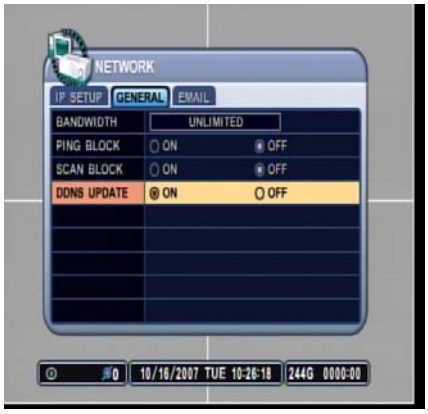
Select On or Off to have the DVR block the ping request.

7.2.3 SCAN BLOCK



Select On or Off to have the DVR block the Auto Scan request from the CMS Software.

7.2.4 DDNS UPDATE



Select On or Off to use the DDNS Feature.

7.3 E-MAIL

7.3.1 USE

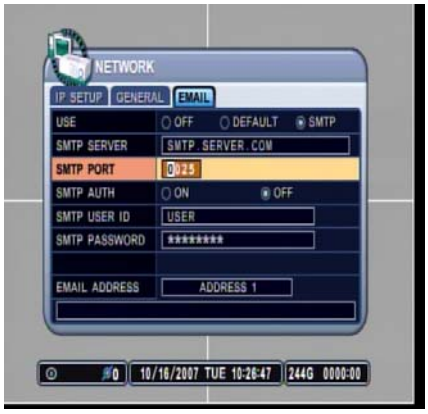
Select between Off, Default or SMTP for your e-mail notification option.

- Off: DVR does not send e-mail notification.
- Default: DVR sends e-mail notification through dvrhost.com.
- SMTP: DVR sends e-mail notification through private or user's e-mail server.

7.3.2 SMTP SERVER

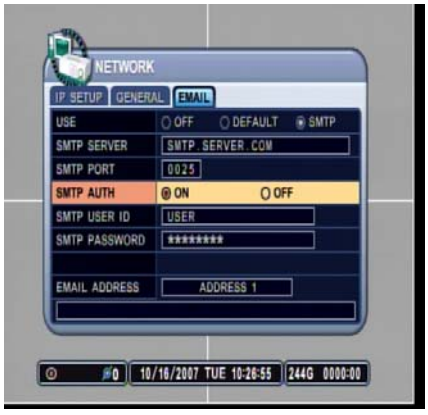
Enter the SMTP address.

7.3.3 SMTP PORT



Enter the SMTP Port.

7.3.4 SMTP AUTH



Turn the SMTP Authorization On or Off.

7.3.5 SMTP USER ID

Enter the SMTP User ID information.

7.3.6 SMTP PASSWORD

Enter the SMTP Password information.

7.3.7 E-MAIL ADDRESS

The DVR can send e-mail notification to 5 different e-mail addresses.

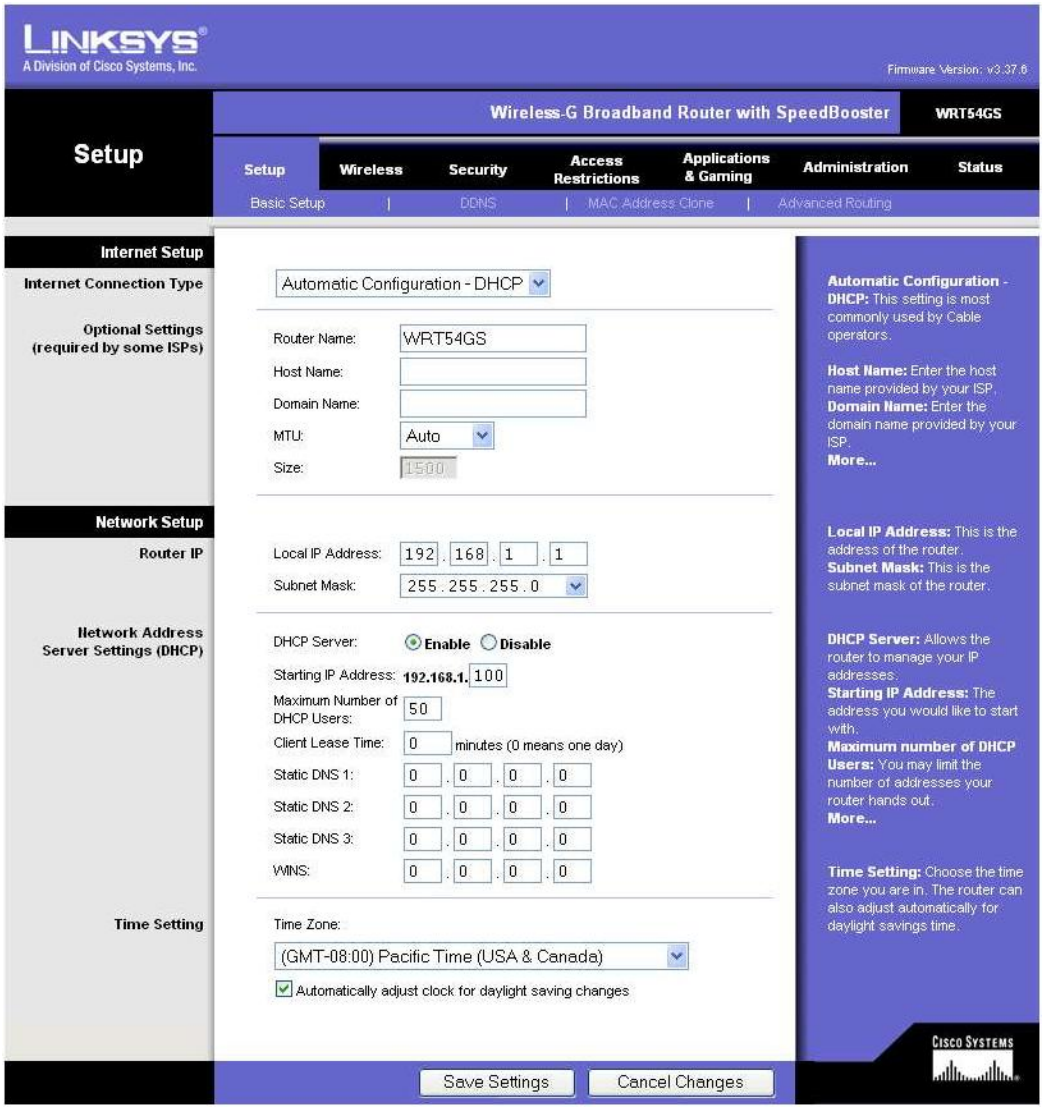
7.3 CONFIGURING THE DVR WITH A ROUTER INTO A LAN

The majority of any network will often consist of a single IP address which shares the internet access through a router. This IP address may be any external (public) static IP address or any dynamic IP address issued by the Internet Service Provider.

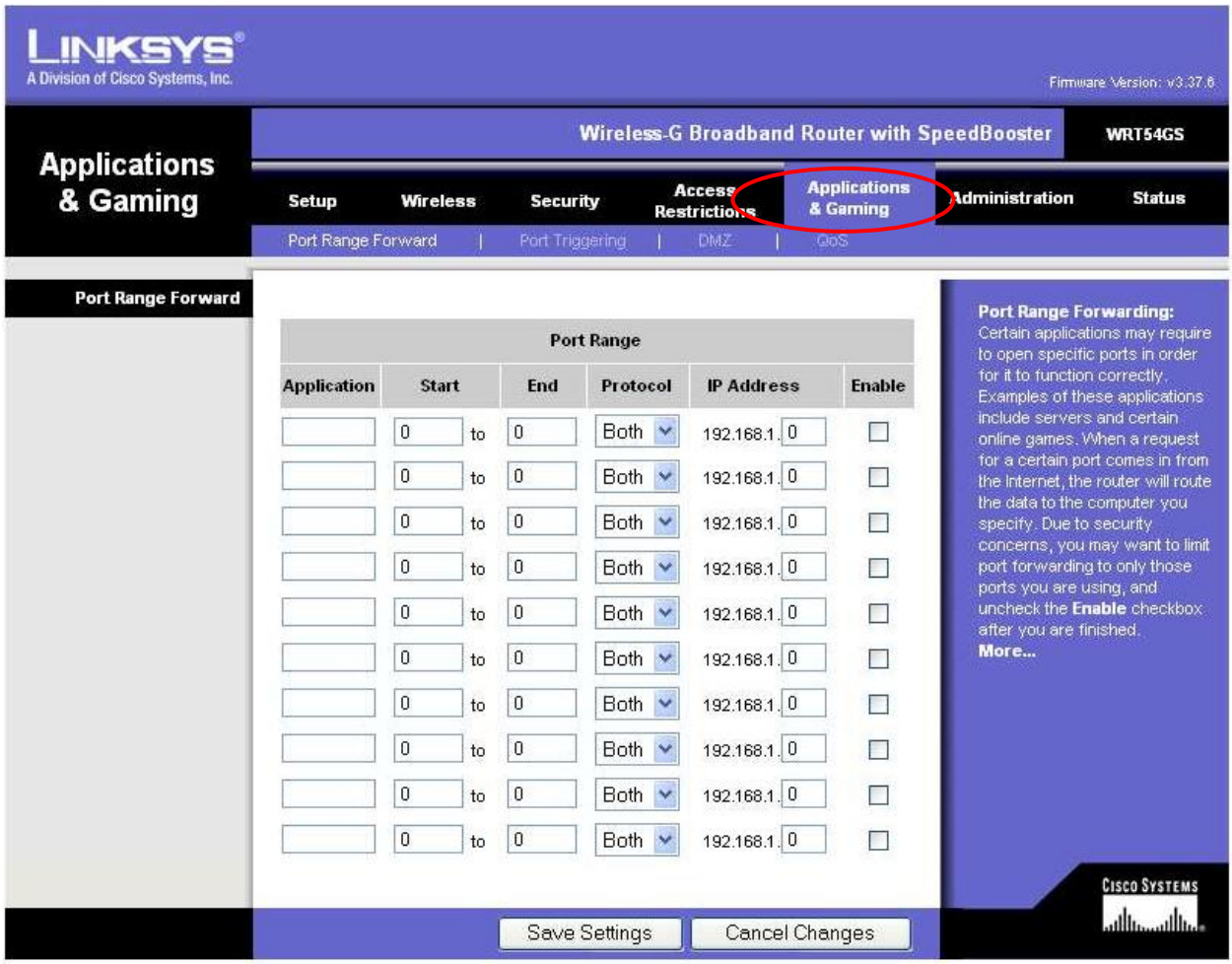
The purpose of a router is to enable multiple personal computers and any other devices that require internet connection to access the internet simultaneously. Most routers by default enable (open) commonly used ports so that mainstream applications such as Hypertext Transfer Protocol (HTTP, Port 80), File Transfer Protocol (FTP, Port 21), Telnet (Port 23) and Post Office Protocol 3 (POP3, Port 110) are used.

Over the next pages, Linksys WRT54G was used to illustrate a sample procedure.

Open Internet Explorer then type in http://192.168.1.1 to access the router. Enter the User Name and Password to access the router. You will then be taken to the main menu. The factory user name is **blank** and password is **admin**.

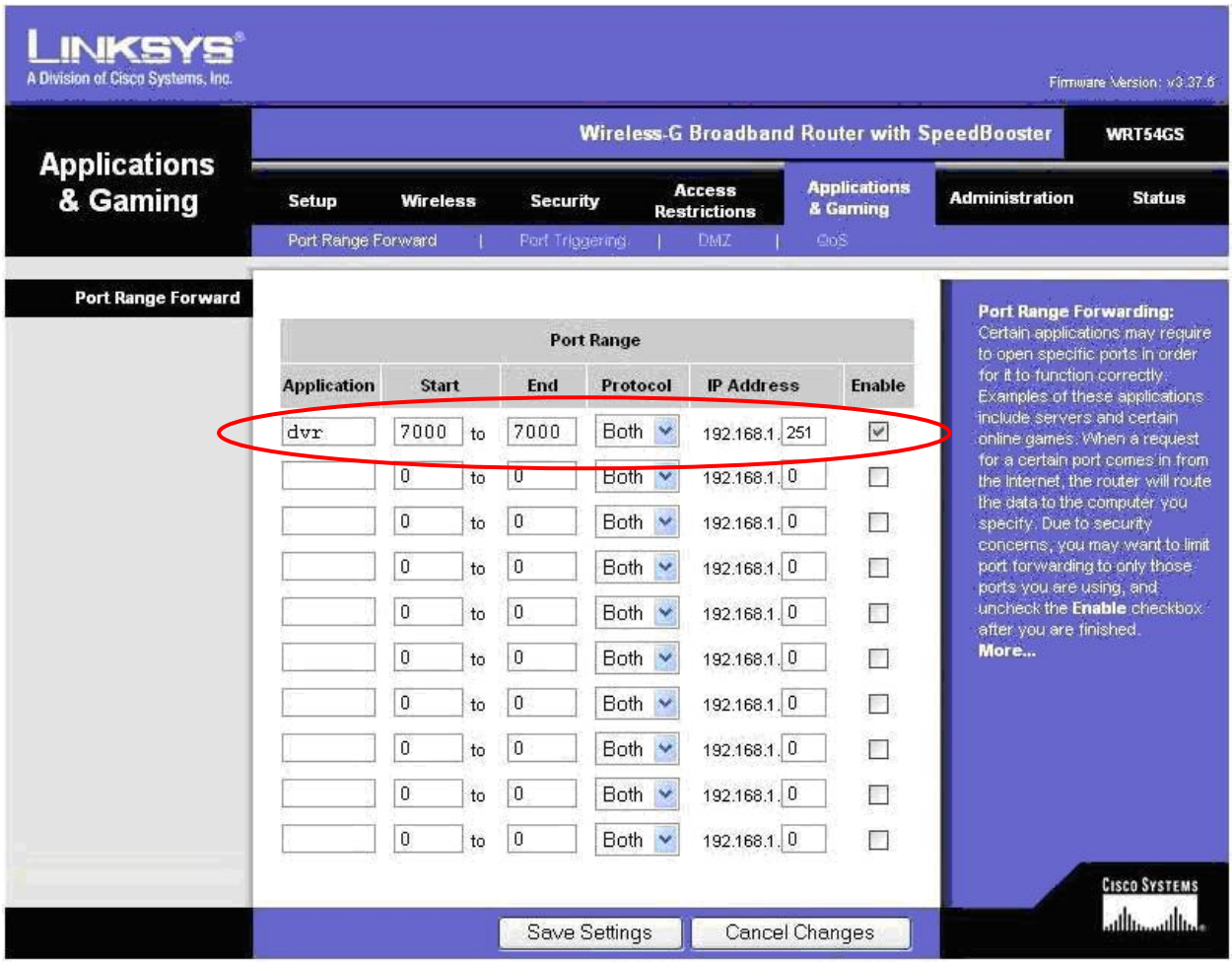


Click on Application & Gaming tab to access port forwarding configuration page.



Enter the three designated port: 7000 for the DVR. Point each port to the DVR. Illustration shows that the DVR's IP address being 192.168.1.251.

In the following examples, DVR7000 was used. Make sure you enable the port forwarding.



Port 7000 is added as shown.

7.4 CONFIGURING THE DVR TO COMMUNICATE WITH A LINKSYS ROUTER

Go to Network in Main Menu.

Set the CONFIG as STATIC IP.

Make sure to change the information to:

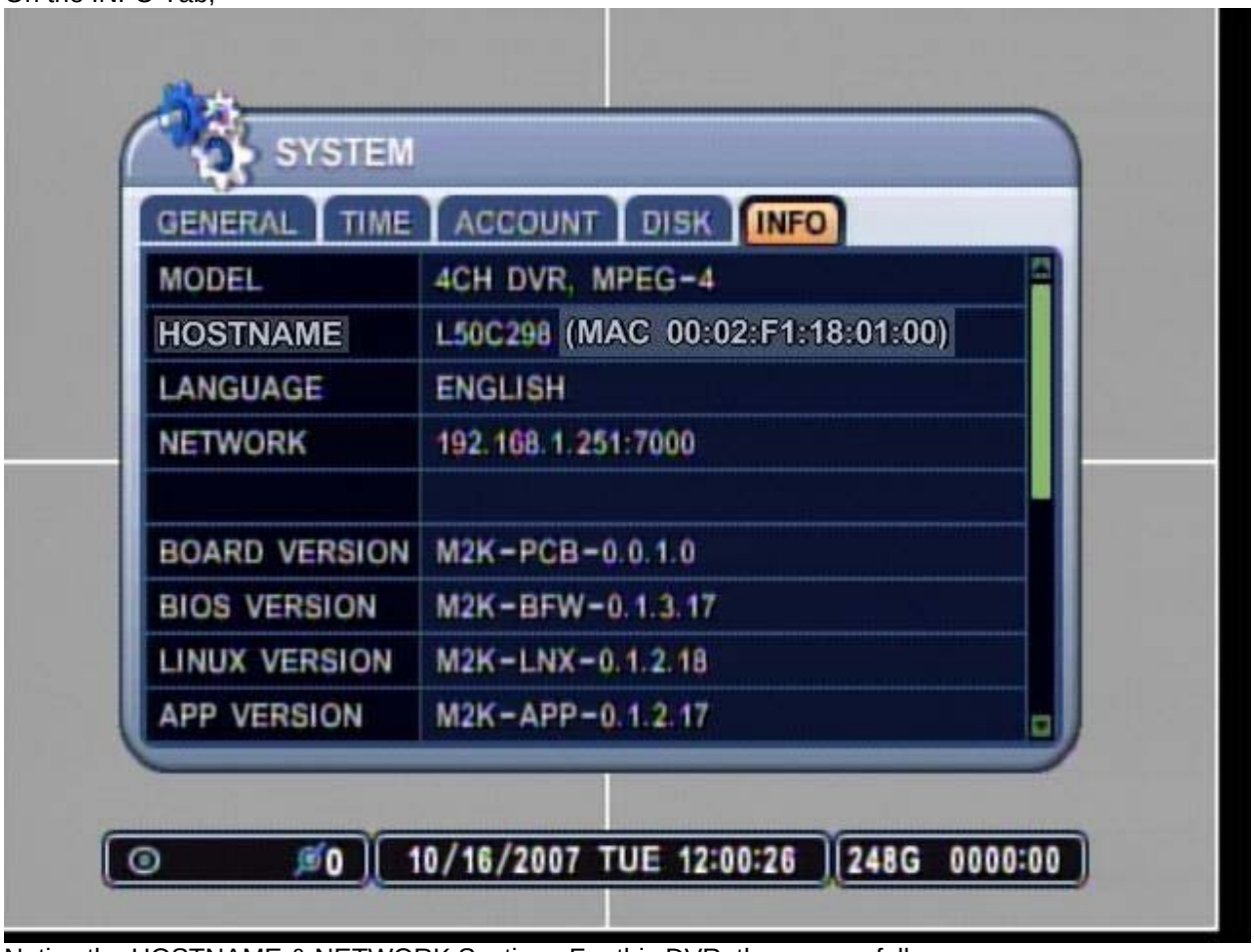
IP ADDRESS: **192.168.001.251**
NETMASK: **255.255.255.000**
GATEWAY: **192.168.001.001**
PORT: **7000**

7.5 IDENTIFYING THE NETWORK ADDRESS OF THE DVR

Go into,

1. SETUP
2. SYSTEM

On the INFO Tab,



Notice the HOSTNAME & NETWORK Section. For this DVR, they are as follows:

HOSTNAME.: **L50C298**

Therefore, the Network Address of this DVR is as follows:

L50C298.DVRHOST.COM:7000

:7000 << this number is a reflection of the Network Port of this DVR. You can also find the port information from the NETWORK above.

You can use the L50C298.DVRHOST.COM:7000 Network Address in two ways:

1. Internet Explorer: Please refer to Page 116.

2. CMS Light Software: Please refer to Page 96.

8. SYSTEM

System Setup allows modification of various system features such as System ID, Automatic Key Lock, Key Tone, HDD rewrite policy, overall system record resolution, Time and date related settings, Password for different levels of users, formatting various hard disk drives and the system information.

8.1 GENERAL

8.1.1 SYSTEM ID

Select the DVR's SYSTEM ID. 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. The default value is 0.

8.1.2 AUTO KEY LOOCK

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

8.1.3 KEY TONE

The DVR emits a beep every time a button is pressed. The default is ON.

8.1.4 KEYPAD MODEL

Select the type of keypad to be used for the DVR.

8.1.5 RECORD SIZE

Select the global record resolution. Values are 360 x 240, 720 x 480 and 720 x 480. The default is 360 x 240.

8.2 TIME

8.2.1 TIME SYNC

If the DVR is connected to the network, and if there are more than one DVR connected, then a DVR can be configured as the master DVR from which all other DVRs synchronize their time and date. The default is OFF.

- ON: The DVR is set to Slave DVR and synchronizes with the master DVR.
- OFF: The DVR is set to Master DVR and does not synchronize with any DVRs.

8.2.2 TIME SERVER

Enter the IP address of the Master DVR. This is applicable only to Slave DVRs.

8.2.3 DATE

Enter the current date in MM/DD/YYYY format.

8.2.4 TIME

Enter the time in 24 hour format.

8.3 ACCOUNT

8.3.1 USER

The DVR can differentiate and recognize different rights to different users. Highlight the appropriate user and configure their privilege.

8.3.2 ACTIVATE

Activate the User 1~5.

8.3.3 PRIVILEGE

Check or uncheck the privilege for the user.

8.3.4 PASSWORD

Set the password for the users.

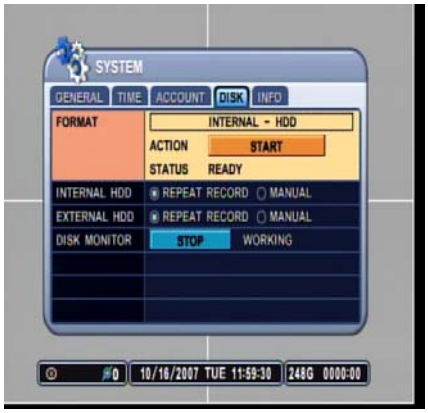
8.4 DISK

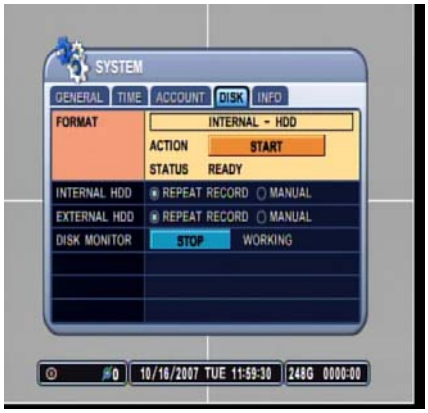
8.4.1 FORMAT

Select Internal HDD to Format.

8.4.2 START

After selecting which device to format, highlight START and then press + to begin formatting.





Formatting will begin, and the progress will be displayed at the bottom of the window.

When formatting is finished, it will display COMPLETE, and also SUCCESS at the bottom of the window.

8.4.3 INTERNAL HDD

Select the record policy of the internal hard disk drive. By default, the hard disk drive will overwrite from the beginning when it becomes full.

8.4.4 EXTERNAL HDD

Select the record policy of the external hard disk drive. By default, the hard disk drive will overwrite from the beginning when it becomes full.

8.4.5 DISK MONITOR

By factory default, the DVR is consistently monitoring the HDD for any malfunction and failures. You can manually turn this function off.

8.5 INFO

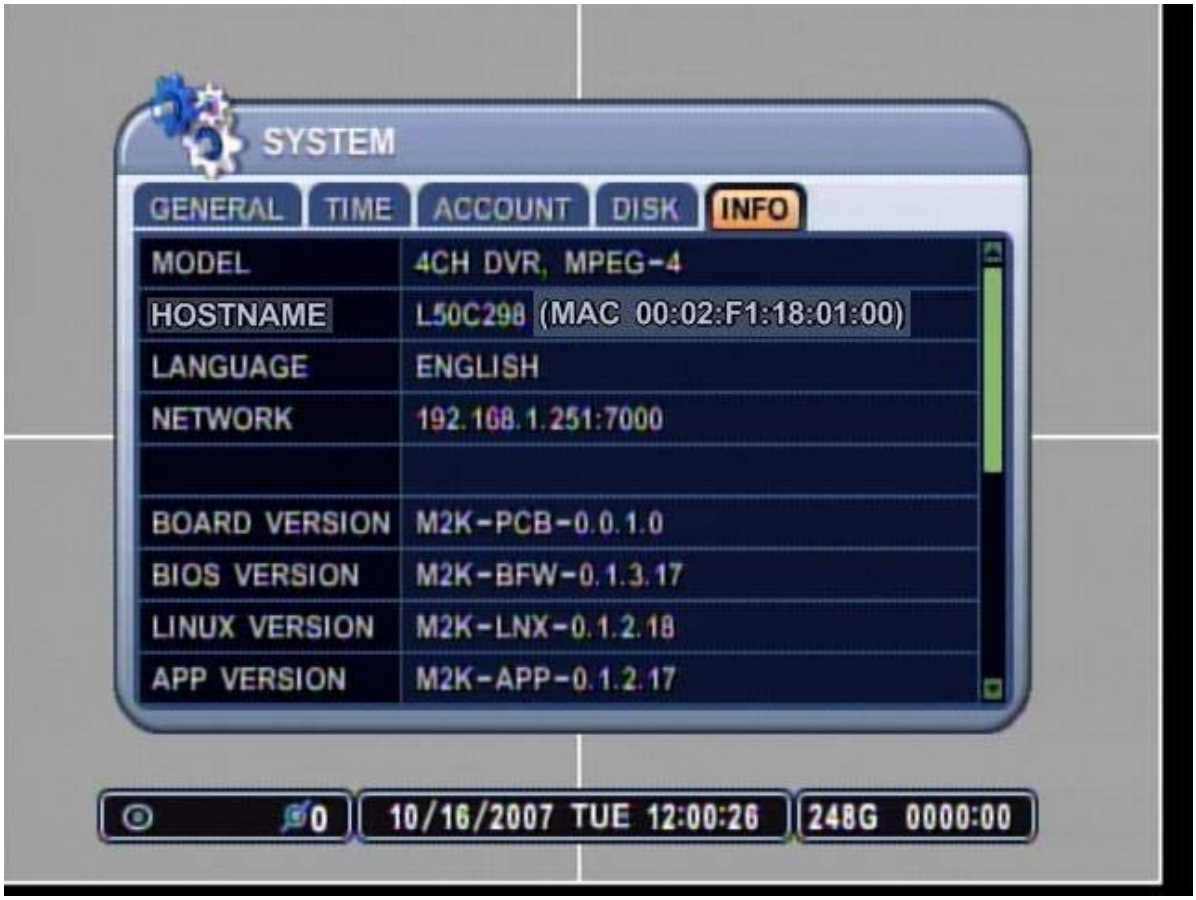
8.5.1 INFORMATION

The information screen displays the basic information about the DVR.

Press MENU to access the main setup window, and then select SYSTEM to access system setup. When the MENU button is pressed, a prompt for the password will appear. You can also access the INFO by pressing INFO button form the Remote Control.

Select the INFO tab, where the DVR setup summary is displayed along with the description of the peripherals.

Information Screen 1 of 2



- MODEL
  Displays the number of channels and the compression engine the DVR utilizes.

- HOSTNAME NO.
  Displays the hostname of the unit, and the DVR's MAC Address.

- LANGUAGE
  Displays the current user interface language.

- NETWORK
  Displays the current IP address and the port of the DVR.

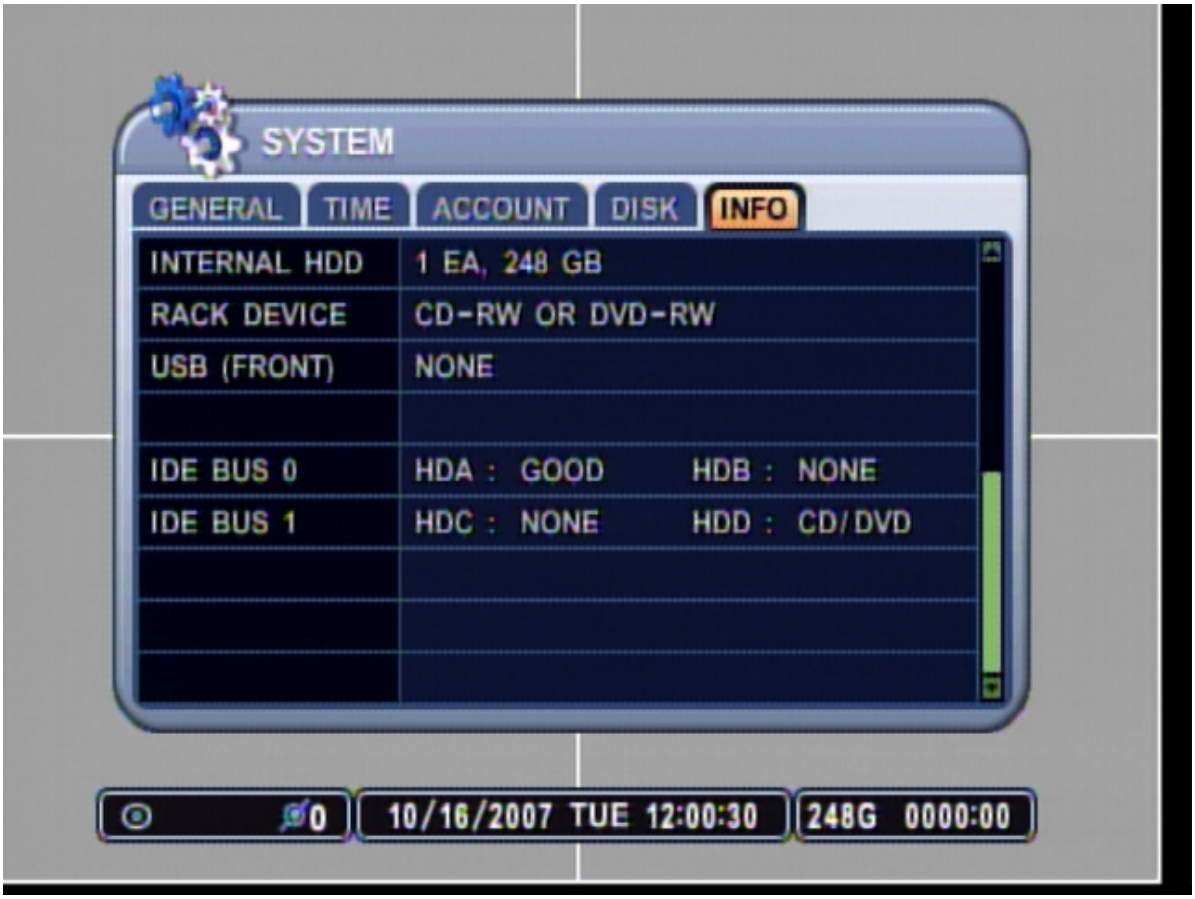
- BOARD VERSION
  Displays the board version.

- BIOS VERSION
  Displays the Bios version of the DVR.

- LINUX VERSION
  Displays version of the DVR.

- APP VERSION
  Displays the application version of the DVR.

Information Screen 2 of 2



- INTERNAL HDD
  Displays the number of internal hard disk drives and their sizes.

- RACK DEVICE
  Displays the removable device installed in the removable bay.

- USB (FRONT)
  Displays information about the USB device that is attached.

- IDE BUS 0
  Displays the status of the devices that are connected to Primary HDD Cable.

- IDE BUS 1
  Displays the status of the devices that are connected to Secondary HDD Cable.

V. CMS LIGHT

The CMS Light is a dedicated client program that connects and manages in real time.

1. SYSTEM REQUIREMENT

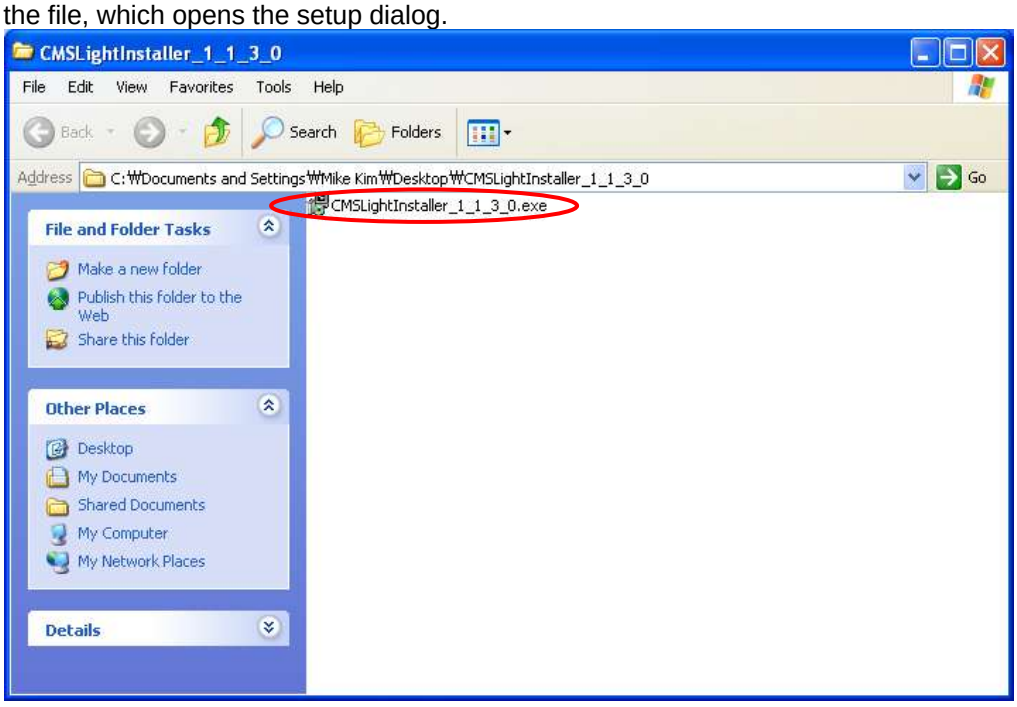
The CMS Light utilizes much resource from the computer as it draws video data from the DVR. Therefore, the PC must be equipped with a higher minimum requirement for its components and operating system.

The following chart displays the minimum and the recommended system specification to operate the CMS properly.

	Recommended
OS	Windows XP
CPU	Pentium IV 2.8 GHz
RAM	512MB RAM
Video Card	16MB
Free Space	2 GB
Resolution	1024x768
DirectX	DirectX 9.0 or higher
Video Overlay	Overlay YUY2 Surface
Network	Ethernet 10/100B-TX
Port Forwarding	Port 7000 TCP

2. INSTALLING CMS LIGHT

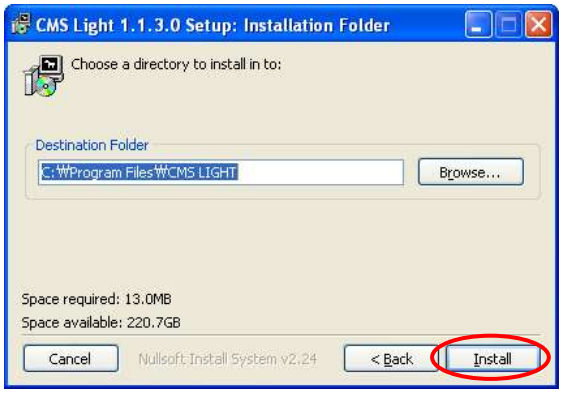
Insert the program CD into the CD-ROM or DVD-ROM drive of the computer and locate the CMSLightInstaller_X_X_X_XX.exe. The Xs represent the version number of the program. Double-click on the file, which opens the setup dialog.



The setup dialog displays the installation options: the CMS Light, Start Menu Shortcuts and Desktop Shortcuts.

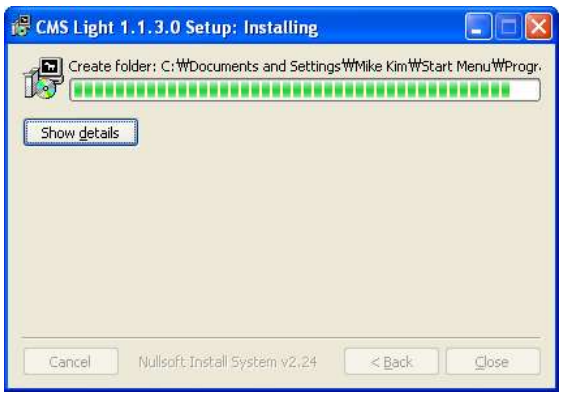
The Start Menu Shortcuts and Desktop Shortcuts may be unchecked if desired.

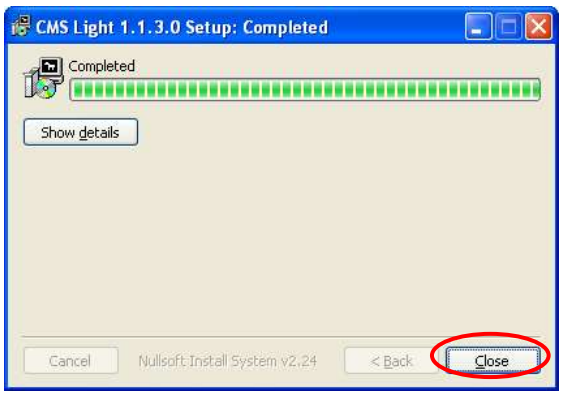
Click on **Next** to continue.



Select the folder in which the program will be installed. By default, it is installed in "C:\Program Files\CMS LIGHT."

Click on **Install** and the installation will begin.

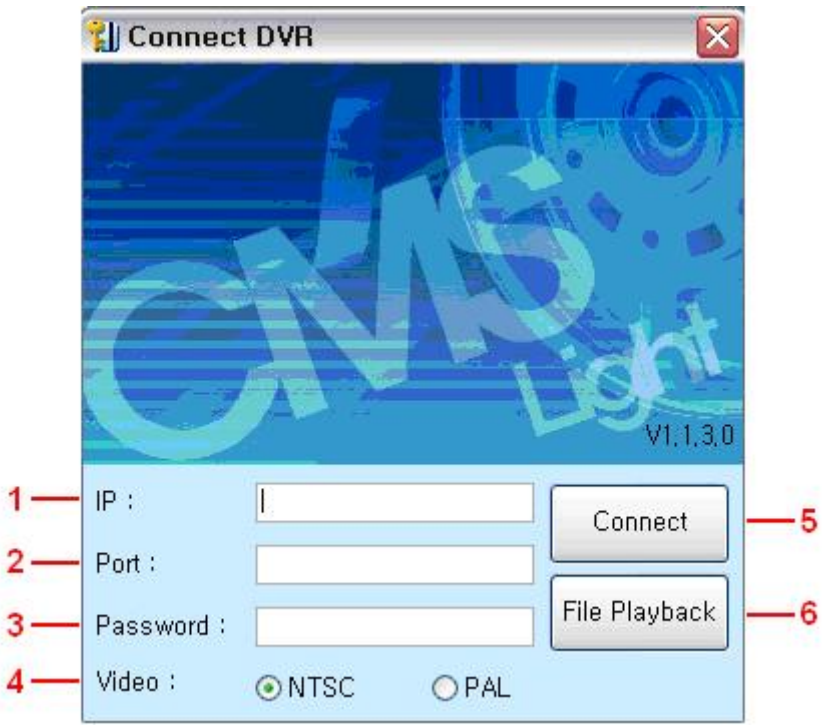




Click on **Close** to finish the installation.

3. EXECUTING CMS LIGHT

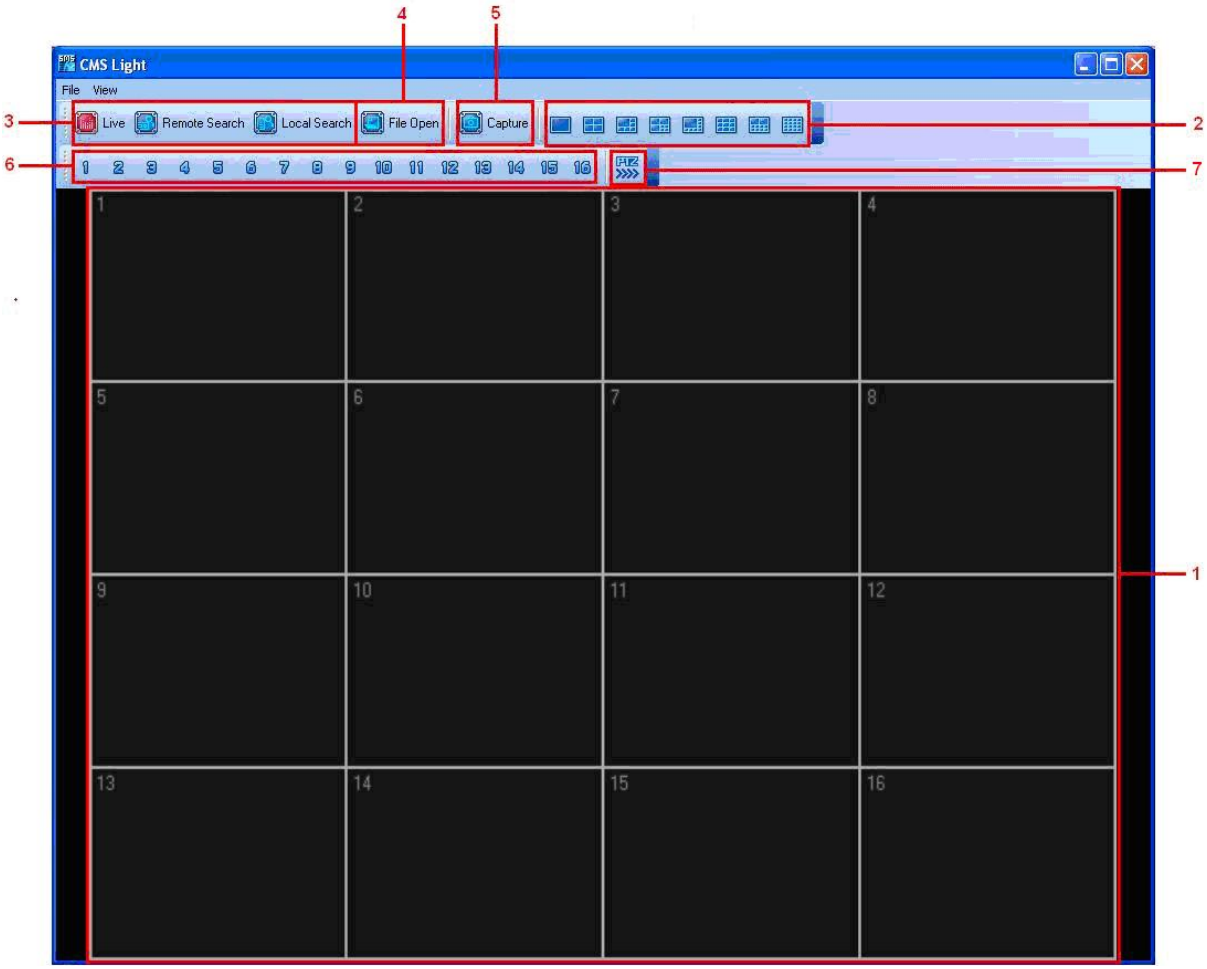
Double-click on the CMS Light icon and the initial log-in screen will appear illustrated in below.



1. Enter the IP Address of the DVR or the hostname.
2. Enter the Port Number of the DVR. Port 7000 is the Default.
3. Enter either the Admin or User Password of the DVR.
4. Select the Video mode either NTSC or PAL. NTSC is the Default.
5. Click on the Connect button after all the information has been entered
6. Click on the File Playback button to go directly into file playback.

4. DVRPLAYER

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



1. MAIN CAMERA DISPLAY WINDOW

Live or playback video is displayed up to 16 cameras in the main window. When the actual video is displayed, it will display the channel number and title as well as the frame rate.

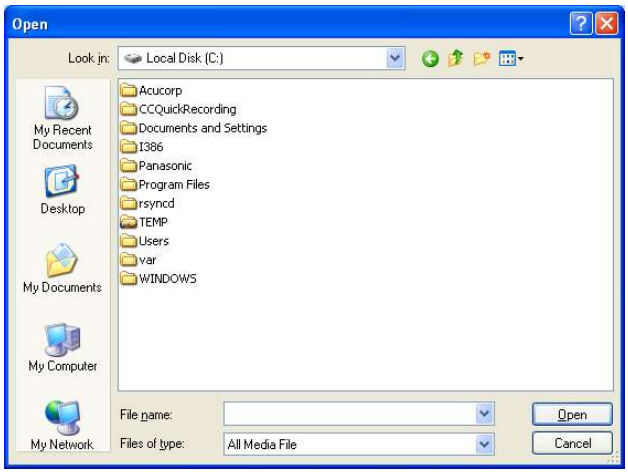
2. CAMERA DISPLAY SELECTION

From the top: single, 4 channel, 6 channel, 7 channel, 8 channel, 9 channel, 10 channel, 16 channel, 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

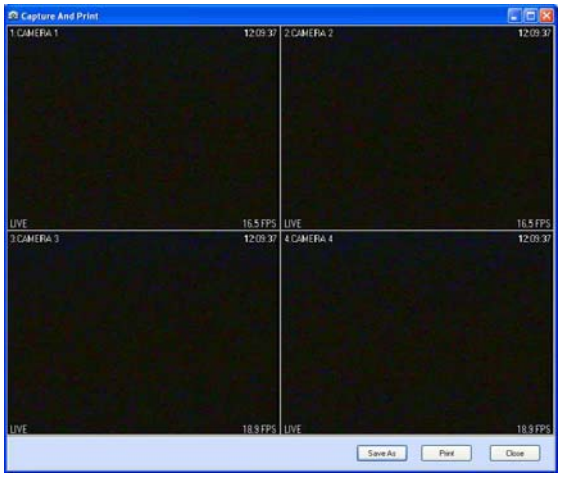
Displays whether the program is in live or playback mode.

4. FILE OPEN



Open any downloaded or saved images from CD/DVD for playback.

5. CAPTURE AND PRINT



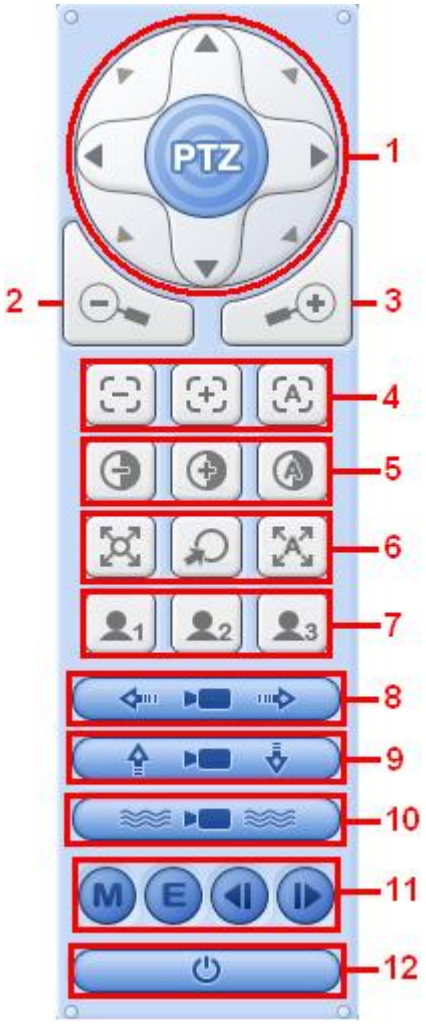
Takes a snapshot of the live or playback video. These images can be saved in JPEG or BMP file format. In addition, you can print the image from your local printer.

6. CAMERA SELECTOR

Select specific camera to go into full screen.

7. PAN / TILT / ZOOM CONTROL

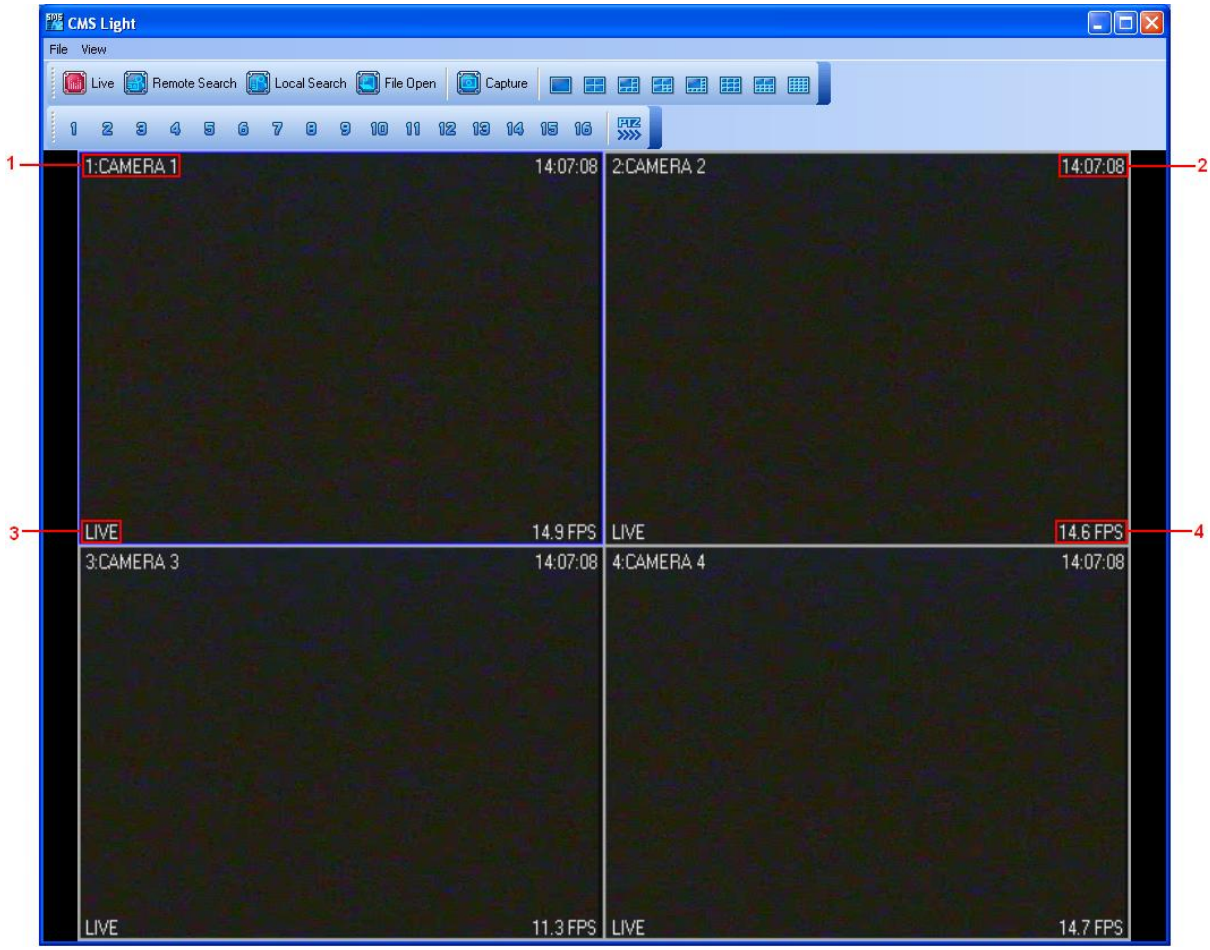
If one or more Pan / Tilt / Zoom cameras are installed on the DVR, they can be individually selected and controlled using the PTZ control box. To control a channel-specific PTZ camera, simply click on the channel where the PTZ camera is connected.



1	Pan & Tilt Directional Pad	
		Pan & Tilt
2.	Zoom In	
		Zoom In
3.	Zoom Out	
		Zoom Out
4.	Focus	
		Focus Near
		Focus Far.
		Auto Focus.
5.	Iris	
		Iris Close
		Iris Open
		Auto Iris.
6.	Preset & Tour	
		Save Preset
		Go to Preset
		Run Presets Sequentially.
7.	Special Functions	
		Custom Fuctions depending on the PTZ Camera.
		Custom Fuctions depending on the PTZ Camera.
		Custom Fuctions depending on the PTZ Camera.
8.	Auto Pan	
		Run Auto Pan.
9.	Auto Tilt	
		Run Auto Tilt.
10.	Pattern	
		Run Pattern.
11.	Menu, Escape, and Pan Speed	
		Go into Menu.
		Escape Menu.
		Set Pan Speed.
		Set Pan Speed.
12.	Power	
		Power.

5. CMS LIGHT – LIVE MODE

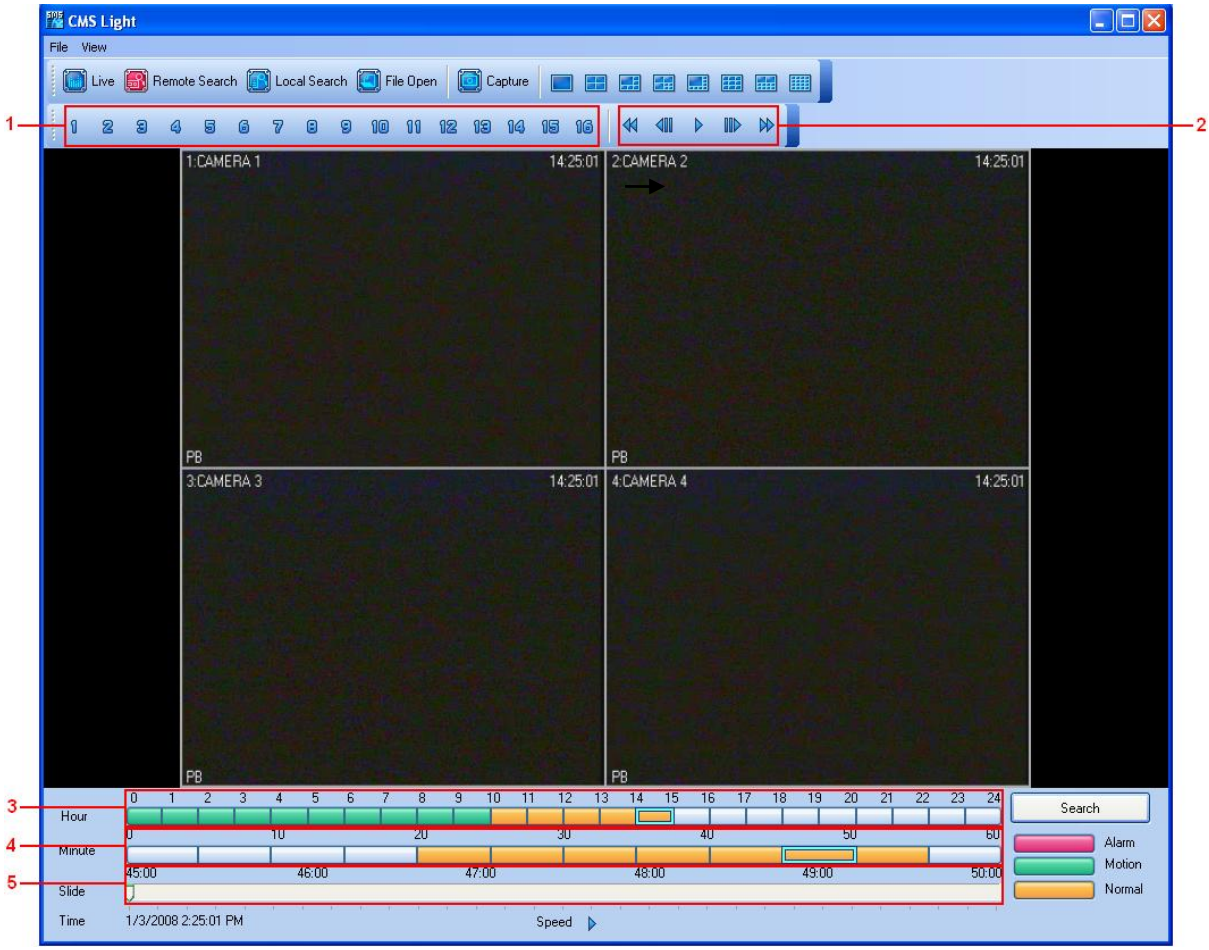
5.1 LIVE DVR MONITORING



1. Displays the Camera Title
2. Displays the Local Time of the DVR.
3. Displays DVR Status:
   - REC: Normal Recording
   - Wait: Initial Connection
   - Loss: Video Loss
   - Close: Disconnected from the DVR.
   - Alarm: Alarm Recording
   - Motion: Motion Recording
   - PB: Playback for selected channel.
   - Live: Live Viewing
   - Limit: Max Network Connection is limited to 3 users.
4. Displays Frames Per Second

6. CMS LIGHT – PLAYBACK MODE

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.

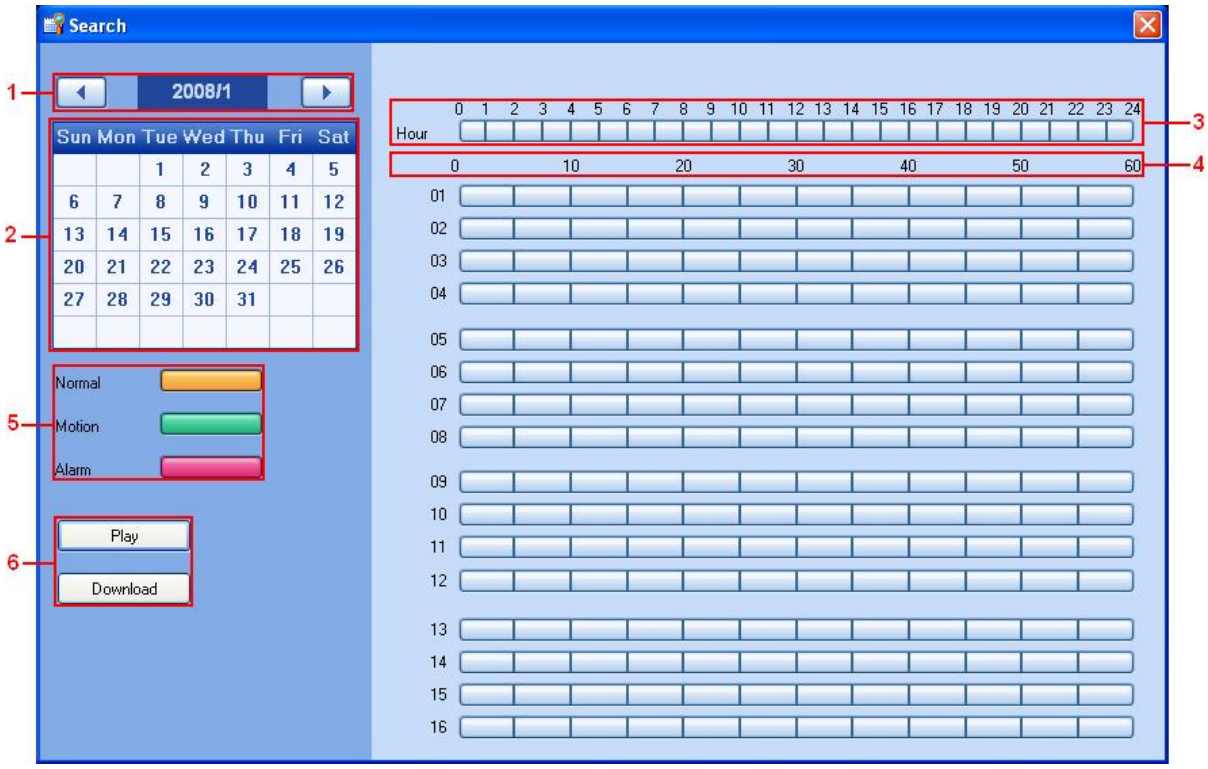
2. Playback Speed
During playback, the images can be paused, fast forward, fast reverse. It can also be in a frame by framed mode.

3. Hour Slot
Click on the desired hour slot.

4. Minute Slot
Click on the desired minute slot

5. Slide
Slide can be dragged left or right so that the user can pin-point to exact time within the 5 minute slot.

6.1 SEARCH



1. Year and Month

2. Days

3. Hour

4. Minute

5. Recorded Video Category.
Displays different types of recording for each hour and minute slot:

- Yellow: Normal Recording
- Green: Motion Recording
- Red: Alarm Recording.

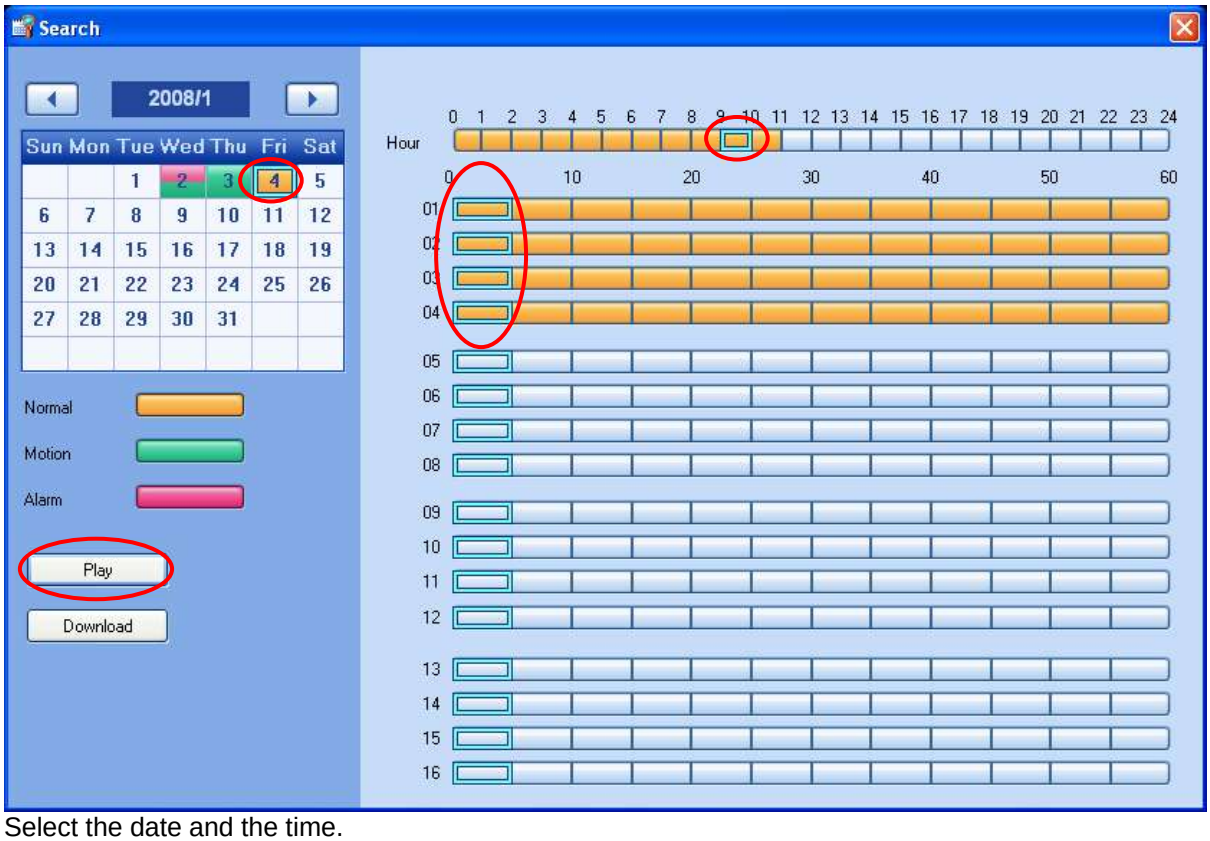
6. Play and Download

- Play: Start live playback.
- Download the videos into the HardDrive. By default, the files are saved in “C:\Program Files\CMS Light\Download”.

6.2 REMOTE SEARCH

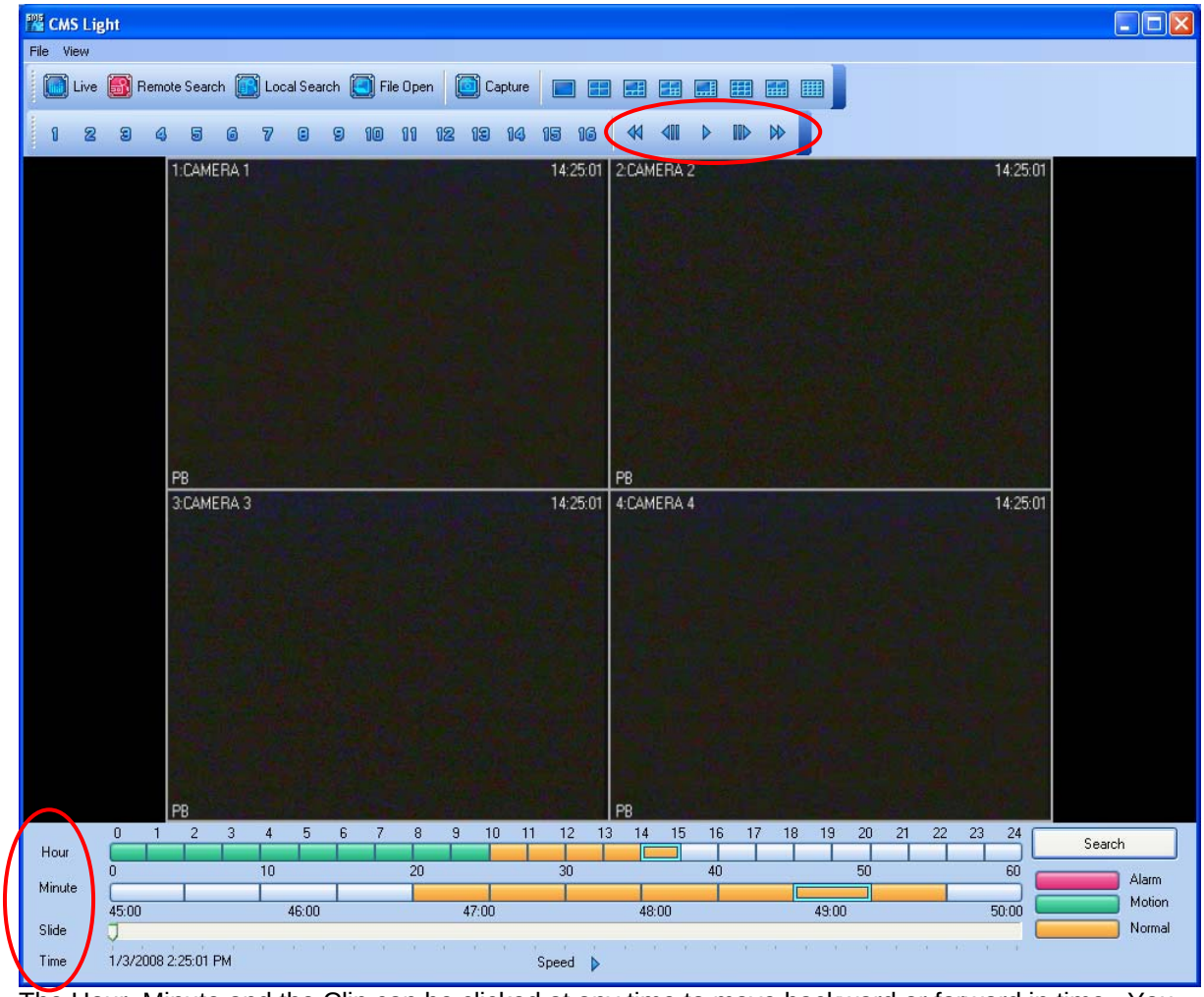
Click on the Remote Search Icon.

6.3 REMOTE PLAYBACK



Select the date and the time.

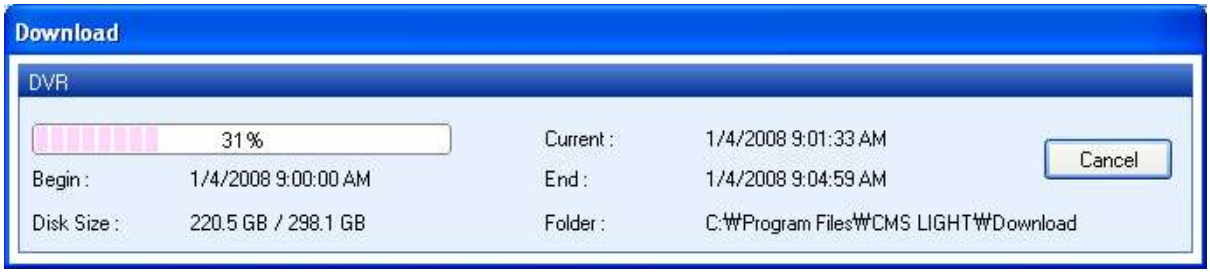
Click on **PLAY** to begin the remote playback.



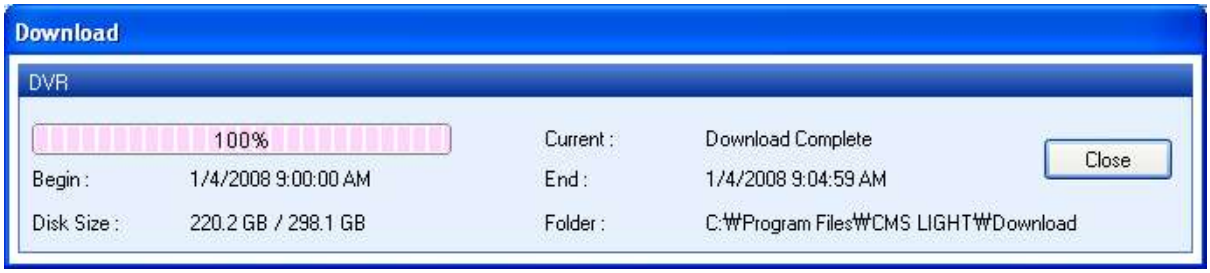
The Hour, Minute and the Clip can be clicked at any time to move backward or forward in time. You can also change the speed of the playback.

6.4 DOWNLOAD

The file selection process is just as selecting a slot 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.

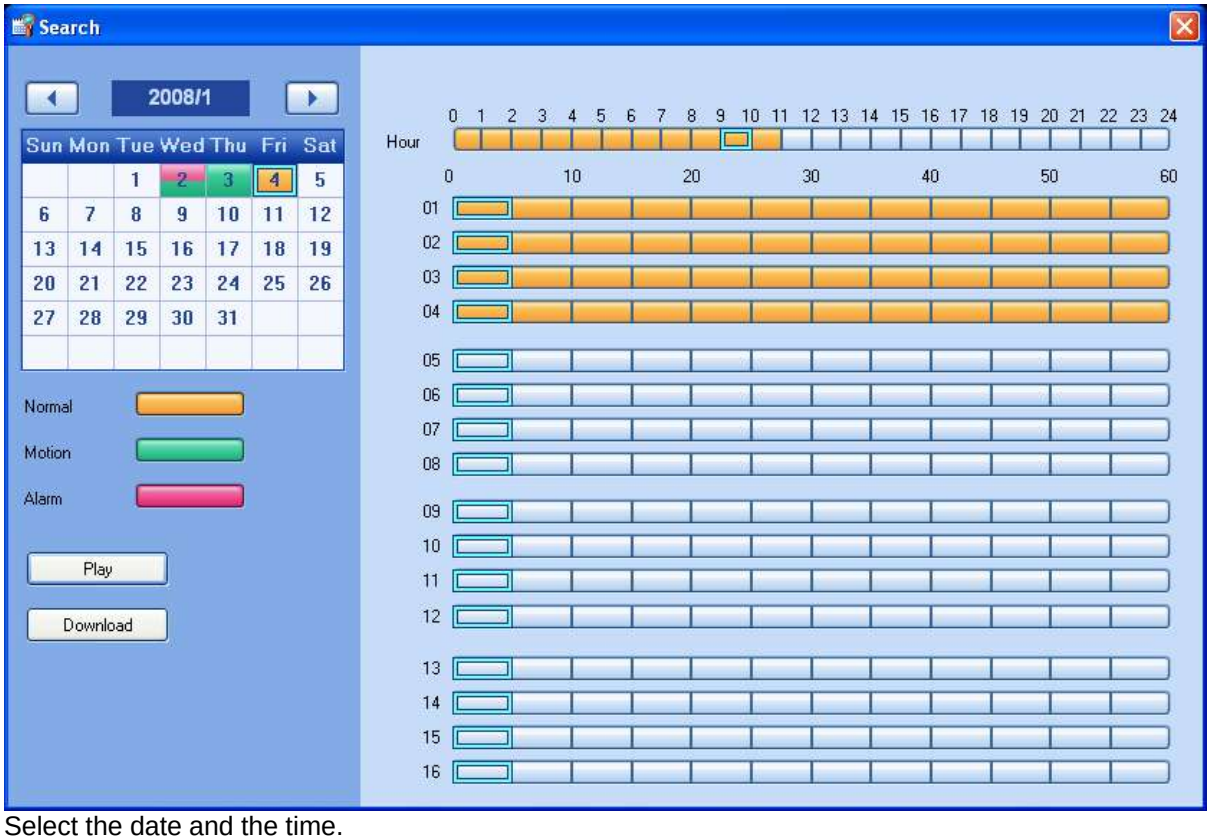


Once the download is complete, “Download Complete” will be displayed.

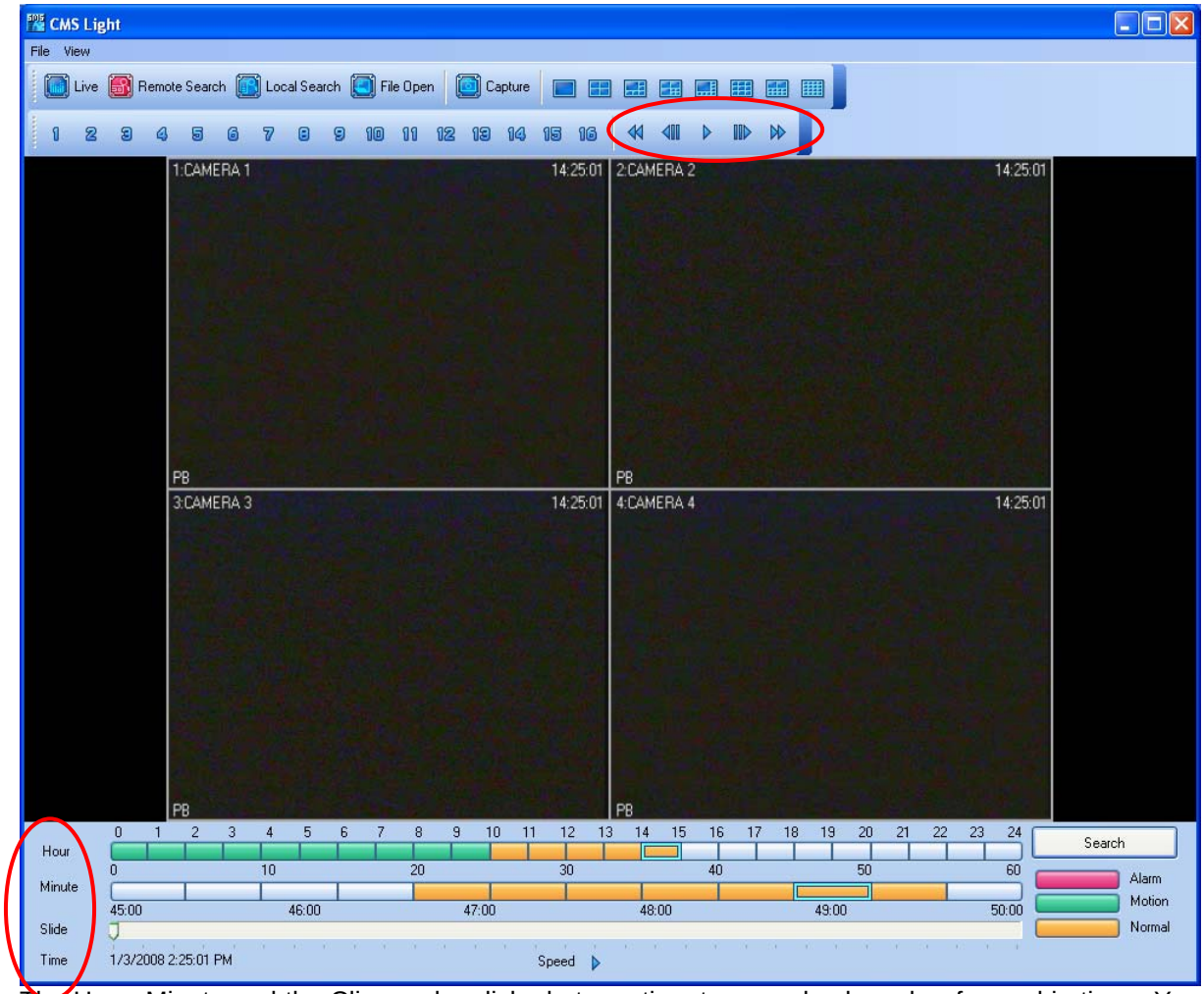
6.5 LOCAL SEARCH

Click on Local Search Icon.

6.6 LOCAL PLAYBACK



Select the date and the time.



The Hour, Minute and the Clip can be clicked at any time to move backward or forward in time. You can also change the speed of the playback.

7. DVR SETUP

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

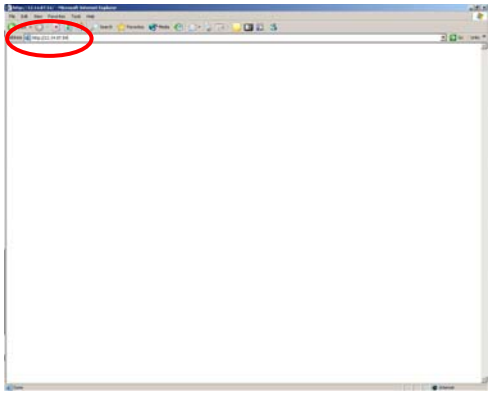
Please refer to Page 43 for explanation of the Setup.

VI. INTERNET EXPLORER LIVE VIEW

Web CMS is a CMS software that run 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

1.1 ENTER THE ADDRESS



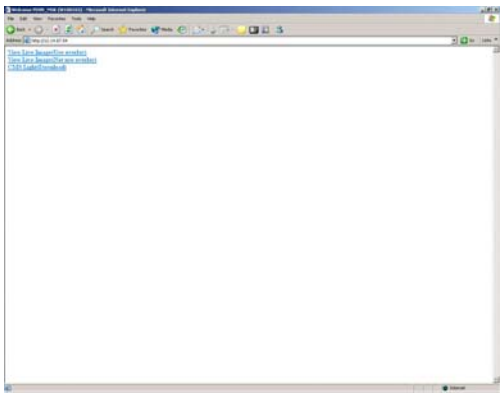
Enter the IP address of the unit in the address pane of the Internet Explorer.

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

Above illustrates example of a unit when it is utilizing port 7000.

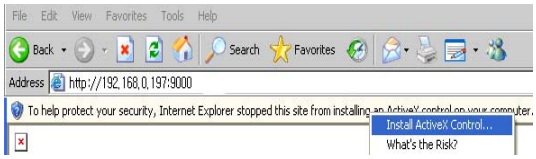
1.2 LOG-IN PROCEDURE

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



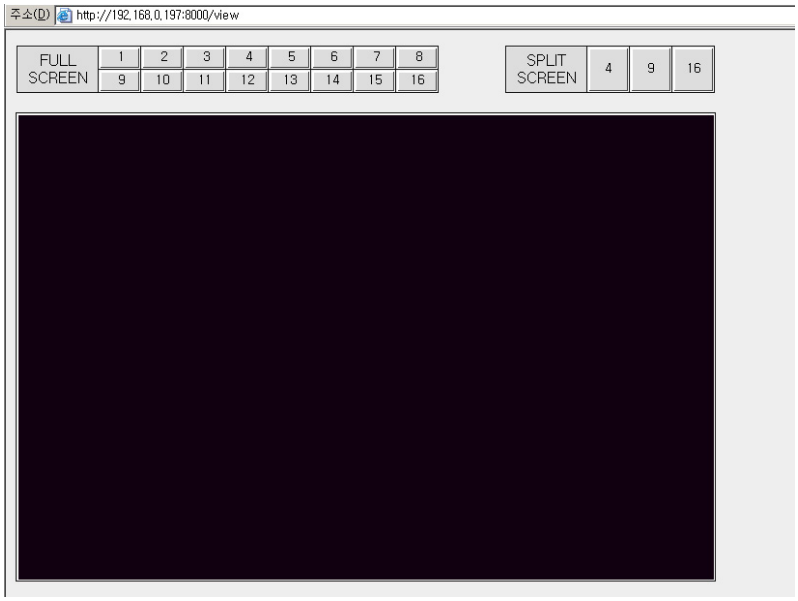
Click on View Live Image(Use overlay) to connect to the DVR.

- Use Overlay: Uses Video Hardware Acceleration for better picture quality.
- Not use Overlay: Does not use Video Hardware Acceleration for older PCs.



If connecting to the unit for the first time, click on Install ActiveX Control so that the plug-in are loaded.

Click on Install.



When the Image Loading is done, the images should appear.

Notes

Notes

Notes

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