1, 4 CHANNEL (CF/SD) DIGITAL VIDEO RECORDER USER GUIDE

VER 2.1.0
3rd Edition

- *Thank you for purchasing this Digital Video Recorder.*
- *Before using the Digital Video Recorder, please ensure that you read and understand this USER GUIDE.*
- *Please store the USER GUIDE in an easily accessible location.*
- *Before connecting and installing any third party cameras, monitors, alarms and computers, please refer to the appropriate instruction manual for proper operation.*

SAFETY PRECAUTIONS

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Power disconnection. Unit with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TABLE OF CONTENTS

■ PRODUCT CONTENTS
■ INTRODUCTION
1. FRONT PANEL 9
2. REAR PANEL 10
■ POWER ON/OFF
1. TURNING ON THE POWER 12
2. TURNING OFF THE POWER 12
■ MAIN MENU
1. MENU SYSTEM 13
1.1. SELECTING THE MENU 13
1.2. POSITIONING THE YELLOW COLOR HIGHLIGHT 13
1.3. SETTING AN OPTION 13
1.4. SPECIAL BUTTON FUNCTION 13
2. ENTERING AND EXIT FROM MAIN MENU 14
2.1. ENTERING THE MAIN MENU 14
2.2. EXIT FROM THE MAIN MENU 14
3. SETUP MENU 15
3.1. DEVICE 15
3.1.1. CAMERA 15
3.1.2. ALARM 16
3.2. RECORD 17
3.2.1. GROUP 17
3.2.2. MANUAL 17
3.2.3. EVENT(MOTION, ALARM) 18
3.2.4. OVERWRITE 21
3.2.5. STORAGE 21
3.2.6. AUTO BACKUP 21
3.2.7. SCHEDULE 22
3.3 NETWORK 24
3.3.1 MULTICAST 25
3.4. SYSTEM 25
3.4.1. TITLE 25
3.4.2. PASSWORD 25
3.4.3. DATE/TIME 26
3.4.4. CLEAR DATA 27

3.4.5. RESET CONFIG 27
3.4.6. SYSTEM UPGRADE 27
3.5. LOG LIST 28
3.6. INFORMATION 28
3.7 SHUTDOWN 28
■ **SYSTEM OPERATION**
1. LIVE MODE 29
2. RECORD MODE 30
2.1. MANUAL RECORD MODE 30
2.2. EVENT RECORD MODE 31
2.3. SCHEDULE RECORD MODE 32
3. SEARCH & PLAYBACK MODE 33
3.1. SEARCH MODE 33
3.2. PLAYBACK MODE 35
4. INSTANT BACKUP 35
■ **PC CLIENT SOFTWARE**
1. INSTALLING PROCEDURES 37
2. USB BACKUP 41
3. LIVE MONITORING 44
4. NETWORK UPGRADE 45
■ **SPECIFICATION**

PRODUCT CONTENTS

● SYSTEM UNIT

1 CHANNEL, 4 CHANNEL DIGITAL VIDEO RECORDER

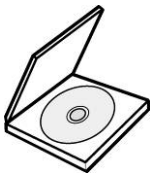
● ACCESSORIES

Make sure that the following accessories are included.

① AC/DC Adapter

② CF/SD Sticker

③ Software CD



④ User guide

⑤ USB Cable

⑥ Signal Ground Cable

In case that the product is defective or damaged, please contact your dealer.

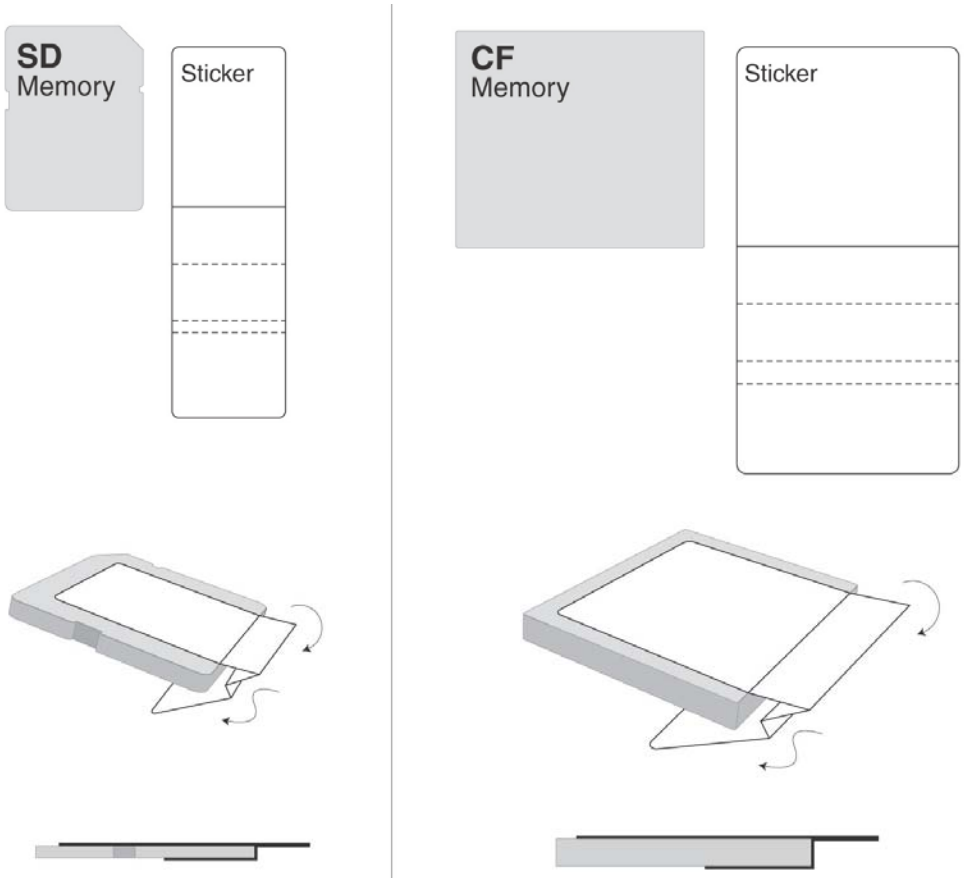
Please keep the packaging materials for transport purposes.

⚠ WARNING

• Don't turn off the power or unplug the power cord while hard disk drive is in operation.

• Don't apply vibration or shock when HDD drive is in operation. It might cause data loss or failure.

● CF/SD STICKER



Use CF/SD Sticker provided for easy take out from the DVR.

INTRODUCTION

This Digital Video Recorder is powerful and cost-effective.

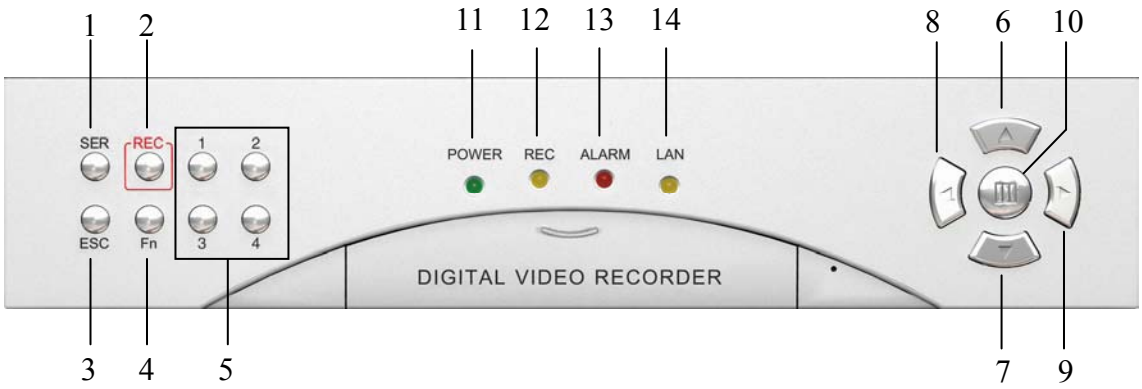
- User Friendly Interface
  - Easy on-screen system setup and operation.
  - Detailed on-screen display record status, storage usage, date, time, power loss, video loss, alarm status and camera title.

- High Performance
  - Highly stable embedded Linux operating system.
  - Highly stable database management
  - Superior picture quality : more than 450 TV line recording
  - Instant backup to CF/SD card
  - Fast backup through USB 2.0 with PC client S/W.

- Multi functional network based system
  - Can be used as a DVR, IP Encoder, IP Decoder, or IP Recorder.
  - Real time live view across the network

- Environmental Stability & Reliability
  - Compact size and light weight
    - Dimension: 210x145x43mm
    - Weight: under 1Kg
  - Low Power Consumption: Avg. 6 Watts
  - Ventilation
  - Anti-Vibration
  - Anti-Shock
  - Wide Temperature range.

1. FRONT PANEL



● Buttons (1~9)

1. SEARCH Button (SER)

   Press it to search the recorded image data.

2. RECORD Button (REC)

   Press it to start recording, and once again to stop. A password is required to stop recording. The orange LED is on when the recording is in progress.

3. ESCAPE Button (ESC)

   Press it to cancel or exit from selected modes and menus.

4. FUNCTION Button (Fn)

   Used in combination with other buttons, it allows you to access the special functions. Refer to page 13 for detail.

5. NUMERIC Buttons (1~4)

   Used to select the camera number

6~9. ARROW Buttons (▲ ▼ ▶ ◀)

   These are used to move the highlight or to change the option in menu.

10. MENU/ENTER Button (▥)

   This button brings up the menu, and then functions as “ENTER”.

● LEDs (11~14)

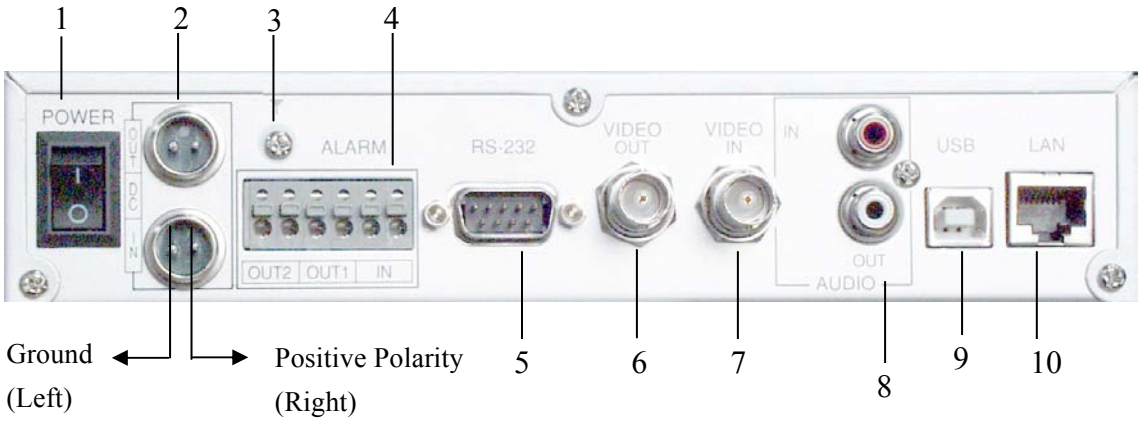
11. POWER: The green LED indicates power.

12. REC (RECORD): The orange LED indicates that the record is on going.

13. ALARM: The red LED indicates that the ALARM is detected or the system failed.

14. LAN: The orange LED indicates that the system is connected to the network.

2. REAR PANEL (1 CHANNEL)



1. POWER

   Main Power ON/OFF switch

2. DC POWER IN/OUT

   - IN: This 12 mm circular type jack accepts the DVR power module plug or other right positive source of 12V DC at 2.5 amperes.

   - OUT: This can supply the power of 12V DC at 1.0 amperes for a Camera module.

3. Signal Ground Terminal (SIGNAL GND)

4. ALARM IN/OUT

   - 2 pair ALARM OUTs: OUT1 is reserved for the system warning or errors.

   - 1 pair ALARM IN

5. RS-232 connector (PTZ control)

6. VIDEO OUT

   This BNC connector provides a composite video signal to the main monitor

7. VIDEO IN

   This BNC connector accepts a composite video signal from a camera.

8. AUDIO INPUT/OUTPUT

9. USB

   This USB 2.0 device connector is used for high speed back up of the recorded image data to external HOST PC.

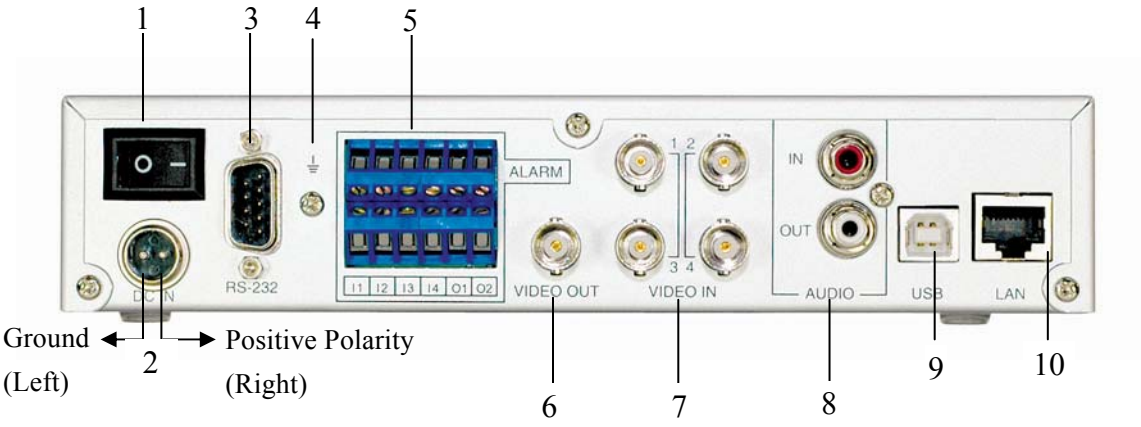
10. LAN

    10/100 Base-T RJ-45 Ethernet connector for network interface and remote control

⚠ WARNING

• Check the proper connection of DC power IN polarity, before turning on the main power.

3. REAR PANEL (4 CHANNEL)



1. POWER

   Main Power ON/OFF switch

2. DC POWER IN

   This 12 mm circular type jack accepts the DVR power module plug or other right positive source of 12V/24V DC at 2.5 amperes.

3. RS-232 Connector (PTZ control)

4. Signal Ground Terminal (SIGNAL GND)

5. ALARM IN/OUT

   - 2 pair ALARM OUTs: OUT1 is reserved for the system warning or errors.

   - 4 pair ALARM IN

6. VIDEO OUTPUT

   Connect monitors to this BNC connector.

7. VIDEO INPUT (CAMERA IN 1~4)

   Connect system cameras to these BNC connectors.

8. AUDIO INPUT/OUTPUT

   AUDIO IN connector, for RCA pin jacks, accepts an audio signal supplied from an external device. AUDIO OUT connector supplies audio signal to an external device.

9. USB

   This USB 2.0 device connector is used for high speed back up of the recorded image data to external HOST PC.

10. LAN

    10/100 Base-T RJ-45 Ethernet connector for network interface and remote control

⚠ WARNING

• Check the proper connection of DC power IN polarity, before turning on the main power.

POWER ON/OFF

1. TURNING ON THE POWER

① Make sure that peripherals are properly connected.

② Switch「ON」on the rear panel. The front POWER LED will light up in green. Please wait approximately 30 seconds until it start up.

> ⚠ NOTE
> If the covert is set to「ON」in the camera settings, no camera image is displayed.

< LIVE DISPLAY SCREEN >

2. TURNING OFF THE POWER

① In the LIVE mode, press the MENU/ENTER button, and then it goes to MAIN MENU.

① Select SHUTDOWN and press the MENU/ENTER button, and then the password pop-up window is displayed as below. Enter administrator's password and press MENU/ENTER button. It allows you to turn off the system safely.

< SYSTEM SHUTDOWN POP-UP WINDOW >

④ Switch「OFF」on the rear panel.

> ⚠ NOTE
> There is no default password at factory default. Press MENU/ENTER button again when password pop-up window is displayed.

MAIN MENU

1. MENU SYSTEM

The on-screen menus allow you to set up all the features.

All setup data is safe from power loss and stored in the hard disk.

1.1. SELECTING THE MENU

Press the MENU/ENTER (▥) Button to select a menu item.

If you press the ESC button, it returns to the previous menu.

1.2. POSITIONING THE YELLOW COLOR HIGHLIGHT

Use up and down buttons to position the menu highlight.

Press left and right buttons to move to the next value in the selected menu.

1.3. SETTING AN OPTION

Press left and right buttons to change the option if it is between < and > marks.

Press up and down buttons if there are no marks.

1.4. SPECIAL BUTTON FUNCTION

- Fn+ESC button: Returns to Live screen mode immediately from anywhere in the menu.
- Fn+Right button: Turns ON/OFF the status bar when in the Live screen mode.
- Fn+Left button at single channel display: Start camera sequence and display the cameras in quad mode from single camera view in the LIVE screen mode. (Toggle)
- Fn+Up button: Upload configuration file in the LIVE screen mode.
- Fn+Down button: Download configuration file in the LIVE screen mode.
- Fn+Up/Down button in numeric setting menus: Increase/Decrease the number by 10.
- Fn+Enter button at live display: Event data backup without Monitor.

2. ENTERING AND EXIT FROM MAIN MENU

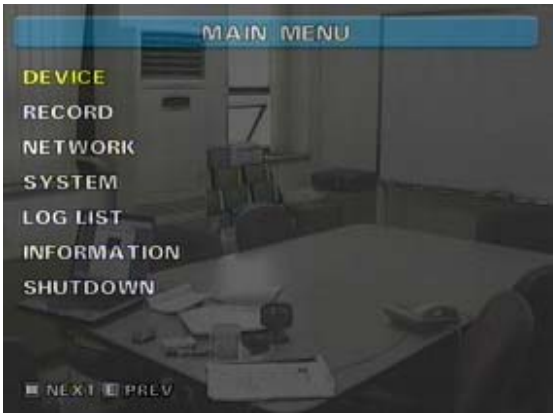
2.1. ENTERING THE MAIN MENU

< PASSWORD POP-UP WINDOW FOR ENTERING THE MAIN MENU >

① Press MENU/ENTER button. Password pop-up window is displayed.

② Press MENU/ENTER button after entering administrator's password. Then the MAIN MENU screen is displayed.

> ⚠ NOTE
> There is no default password at factory default. Press MENU/ENTER button again when password pop-up window is displayed.



< MAIN MENU SCREEN >

2.2. EXIT FROM THE MAIN MENU

Press ESC button for returning to the previous mode.

Or press Fn+ESC button together to return to LIVE screen mode immediately from anywhere in the menu.

3. SETUP MENU

3.1. DEVICE

CAMERA and ALARM can be configured in this menu.

< DEVICE MENU SCREEN >

3.1.1. CAMERA

< CAMERA MENU SCREEN >

Firstly, press the NUMERIC Button (1~4) to select a desired camera.

① TITLE: The camera title can be up to 9 characters.

- Press MENU/ENTER button and press the UP/DOWN button to select the character.

② BRIGHTNESS / CONTRAST: Adjusts brightness and contrast.

- When positioned to BRIGHTNESS/CONTRAST, press MENU/ENTER button, pop-up window is displayed. Press the left button to reduce, and right button to increase.

< BRIGHTNESS POP-UP WINDOW >

< CONTRAST POP-UP WINDOW >

③ PTZ: This is used to select the protocol of connected PTZ cameras.

④ COVERT: Hidden camera function. If the COVERT is ON, then the camera will not be shown in the live display mode or playback mode while it's recording.

⑤ SEQUENCE: Select camera switch interval from 1sec to 10sec.

Press Fn+Right button at single channel display to start the camera sequence.

Press the NUMERIC Button (1~4) to stop the sequence function

3.1.2. ALARM

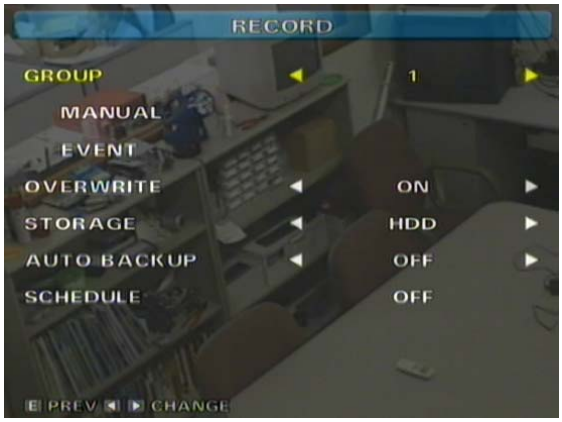
Firstly, press the NUMERIC Button (1~4) to select a desired alarm.

Select whether the alarm contact on the alarm in is normally open or normally close.

< ALARM MENU SCREEN >

3.2. RECORD

Record GROUP, Manual record setup, Event record setup, HDD Overwrite, Storage, Auto Backup and Recording Schedule can be configured in the menu.



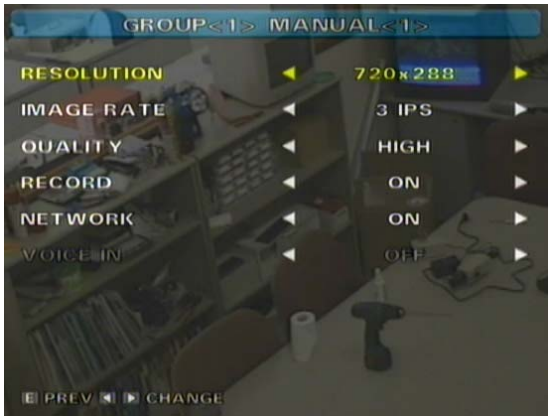
< RECORD MENU SCREEN >

3.2.1. GROUP

This menu allows you to set 5 groups of different record configurations. Use the left and right arrow button for selecting the GROUP.

3.2.2. MANUAL

This menu sets the configurations for the normal and schedule recording mode.



< MANUAL MENU SCREEN >

Firstly, press the NUMERIC Button (1~4) to select a desired camera. And set the image rate, quality of each camera.

① RESOLUTION: Use the left and right arrow button for setting the option.

- NTSC: 720x240 or 320x240
- PAL: 720x288 or 320x288

② IMAGE RATE: This sets the image rate per second. Use the left and right arrow button for setting the option. The total maximum image rate for all cameras is 30ips

(NTSC) or 25IPS (PAL). If you want to set the camera 1 as 30ips, firstly set other cameras as 0ips at Manual and Event record setting.

③ QUALITY: This sets the image quality in four steps such as SUPER, HIGH, MEDIUM and LOW. Use the left and right arrow button for setting the option.

④ RECORD: Do not record the images, set it as OFF.

⑤ NETWORK: Do not transmit the video data over the network, set is as OFF.

⑥ VOICE IN: To record with voice, set it as ON. Only 1 channel voice record is available.

3.2.3. EVENT

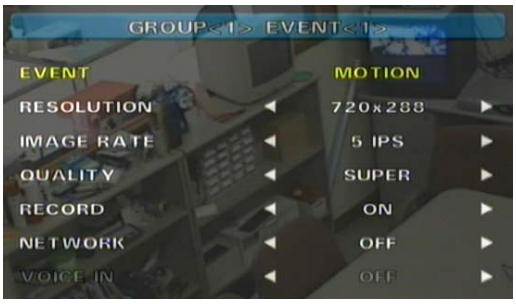
This menu sets the configurations for the event and schedule recording. To enable the event recording, you must turn on the event sources.

Press MENU/ENTER button at EVENT OFF to go in to event TYPE menu.

< EVENT MENU SCREEN >

Then, press the NUMERIC Button (1~4) to select a desired camera.
(TYPE<1> means the event type of camera No.1).

After set event TYPE, press ESC button to return the RESOLUTION, IMAGE RATE, QUALITY, RECORD and NETWORK menu.

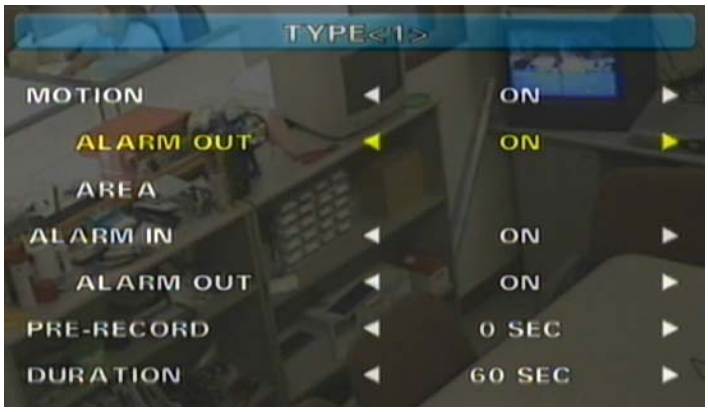


The process of setting is same as the MANUAL recording.

3.2.3.1 MOTION (MRX 1004A only)

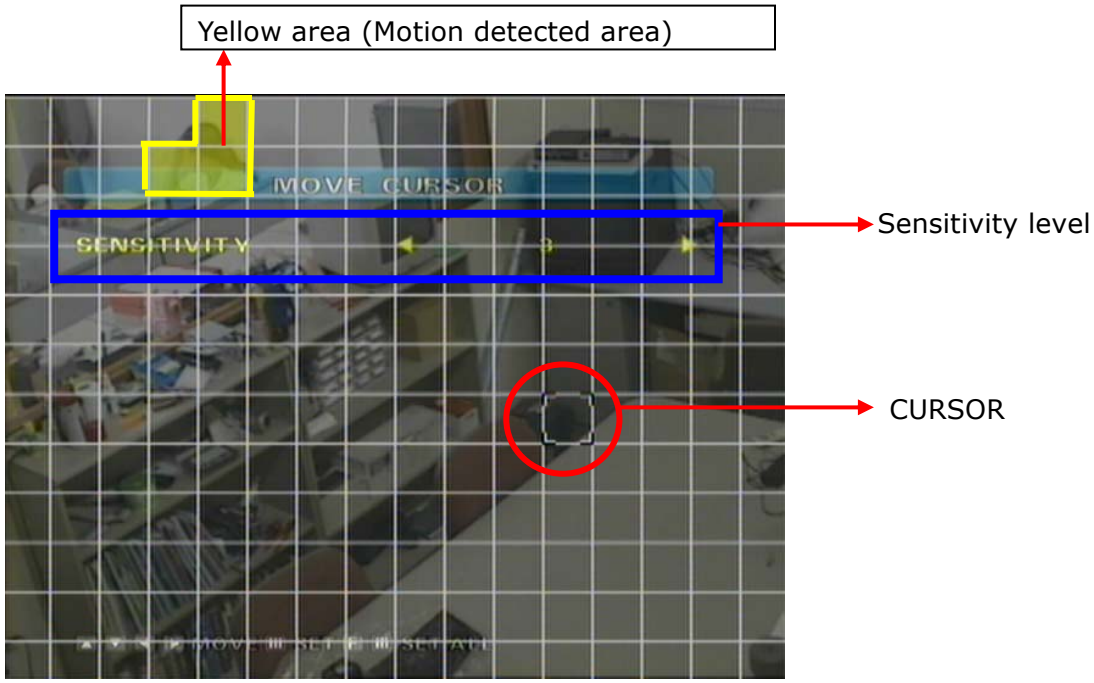
Set the MOTION ON/OFF, press the LEFT/RIGHT button.

Set the ALARM OUT ON/OFF, press the LEFT/RIGHT button.



< EVENT TYPE SCREEN >

To set the AREA, press the MENU/ENTER button then it will go to AREA menu as below.



<AREA setup>

① Yellow area: Motion detected area

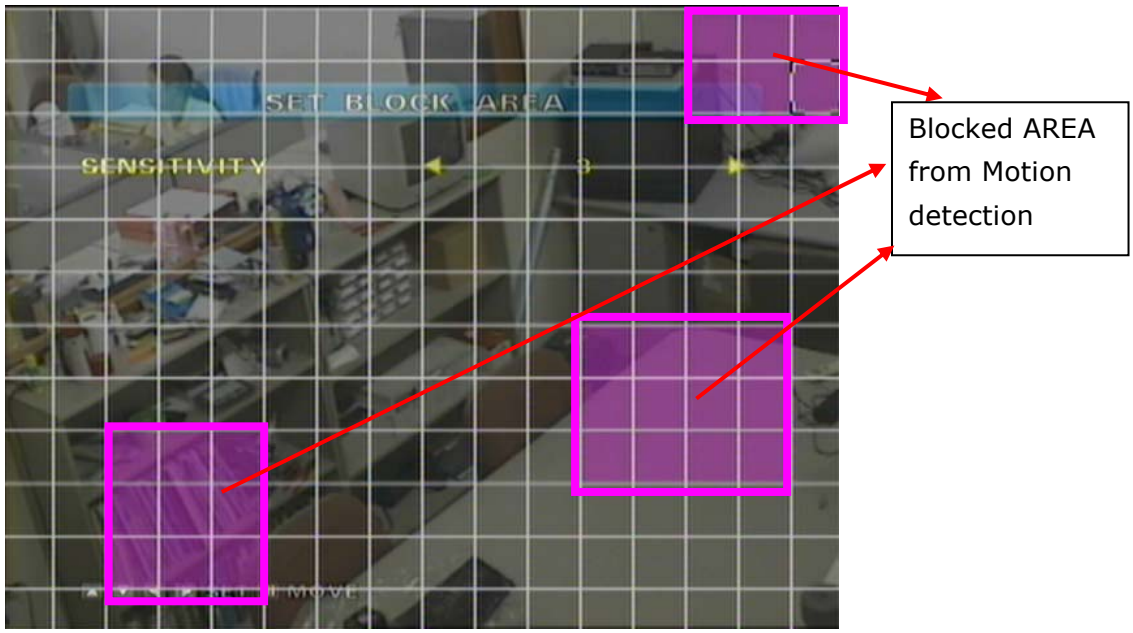
② To change the SENSITIVITY, press Fn + Left/Right button.

SENSITIVITY level 10 means the most sensitive

③ To disable the motion detect area, press the MENU/ENTER button.

Then partial block color change into pink color.

Press Left/Right button to change the cursor position.

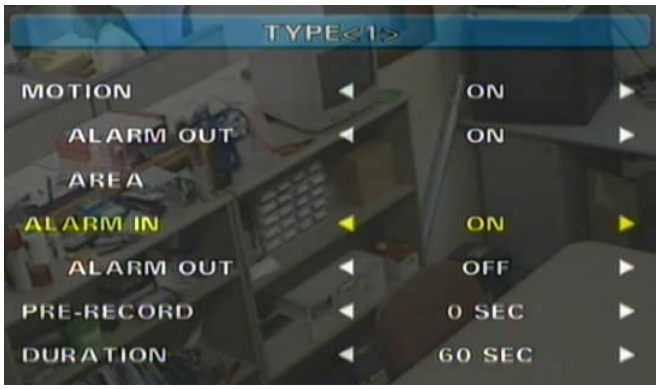


④ To enable the motion detect area or move the cursor only, press the MENU/ENTER button again. To finish the area setting, press the MENU/ENTER button.

3.2.3.2 ALARM

Set the ALARM IN ON/OFF.

To set the ALARM OUT, PRE-RECORD and DURATION, press the Left/Right button.



< ALARM MENU SCREEN >

① ALARM IN: To use ALARM IN as an event, set it as ON.

② ALARM OUT: To use ALARM OUT when an alarm is occurred, set it as ON.

3.2.3.3 PRE-RECORD

Sets the recording time before the event(Motion, Alarm) occurred. Use the left and right arrow button for setting the seconds.

3.2.3.4 DURATION

Sets the recording time after the event released. Use the left and right arrow button for setting the option. The options are 10, 20, 30, 60, 120,180, and 240 seconds.

3.2.4. OVERWRITE

This menu allows you to set the overwrite policy of the image data when the hard disk is full. Press the left and right arrow button for setting the option.

- OFF: The recording stops automatically when the hard disk is full.
- ON: The image data is overwritten from the oldest when the hard disk is full.

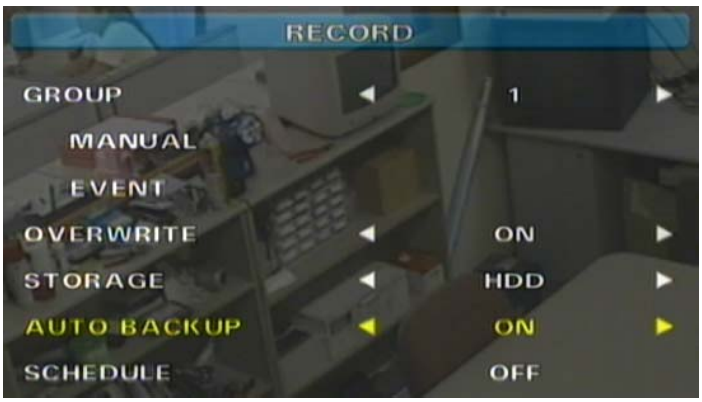
3.2.5. STORAGE

This menu allows you to set the storage of the image data recording.

Press the left and right arrow button for setting the option.

- HDD: Record on to internal HDD.
- CF: Record on to CF card.
- SD: Record on to SD card.

3.2.6. AUTO BACKUP



This menu allows you to record on the CF card as well as HDD.

The CF card should be inserted before you set it as ON.

Once you set AUTO BACKUP ON, 4 images per second(4 Channel DVR) or 1 image per second(1 Channel DVR) will be record on the CF card regardless of record setting condition when DVR start record. (each 1 image from 4 cameras) The image data's of the CF card is automatically overwritten from the oldest when the CF card is full.

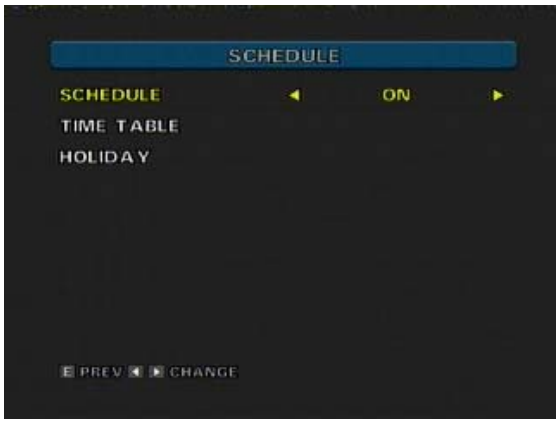
⚠ WARNING

• Stop recording or power off the DVR before take out the CF card from DVR.

3.2.7. SCHEDULE

This menu sets the SCHEDULE RECORD, TIME TABLE, and HOLIDAY.

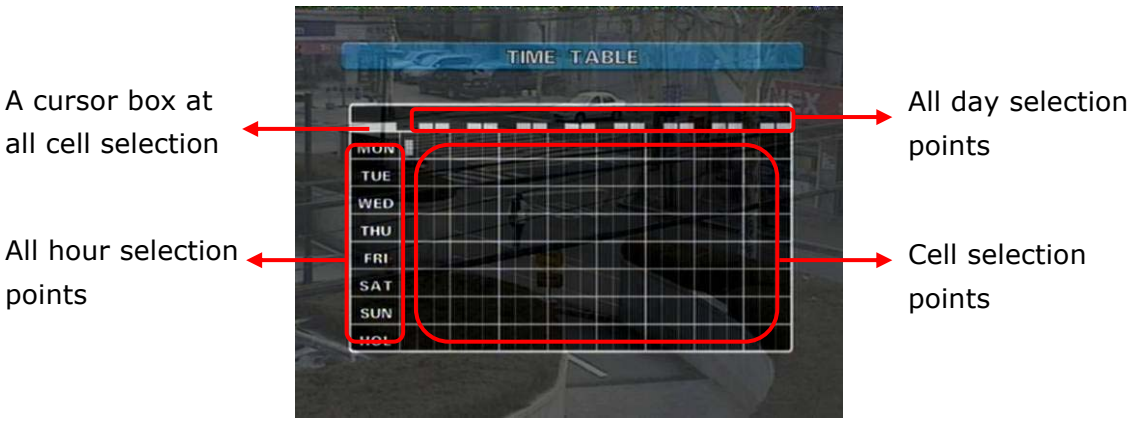
To enter SCHEDULE menu, press the MENU/ENTER button. It will display the SCHEDULE menu screen.



< SCHEDULE MENU SCREEN >

3.2.7.1. SCHEDULE: Sets ON/OFF using the left and right arrow buttons.

3.2.7.2. TIME TABLE: The table consists of (day of a week) row by (time) column. To enter TIME TABLE menu, press the MENU/ENTER button.



< THE DEFAULT TIME TABLE MENU SCREEN >

- Selecting all days and time:

① Move a cursor box using the arrow buttons at all cell selection point.

② Press the MENU/ENTER button repeatedly until the desired GROUP number is displayed.

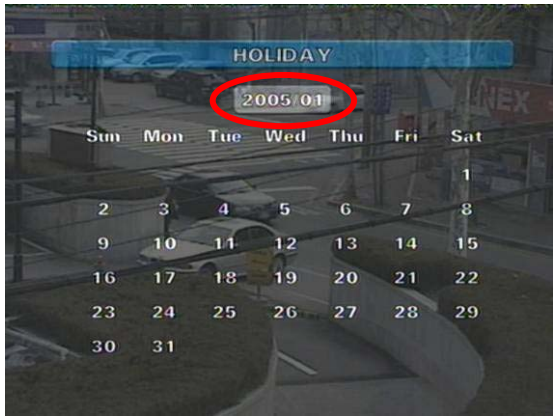
3.2.7.3 HOLIDAY SETTING

To set holidays, press the MENU/ENTER button. Then HOLIDAY menu is displayed.

① Select a year/month using the left and right arrow buttons and press the MENU/ENTER button. The cursor box will be displayed on a day.

② To select a date, press the MENU/ENTER button once the cursor box is on the desired date using the arrow buttons. Then the date is changed to red for holiday.

③ Repeat the step ② for more holidays.

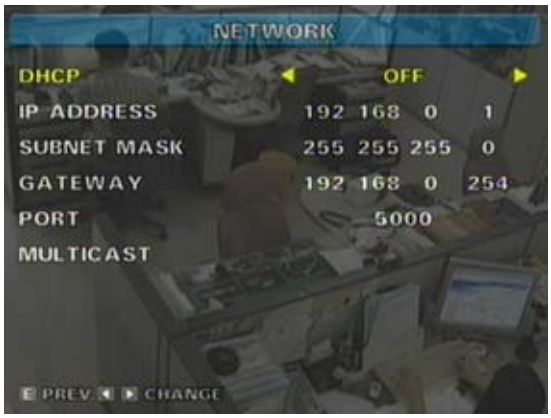


< SELECTING A YEAR/MONTH SCREEN >

< SELECTING A DATE SCREEN >

3.3 NETWORK

This menu sets the network configurations as either static IP or DHCP.



< NETWORK MENU SCREEN WHEN DHCP IS OFF >

To set a network address:

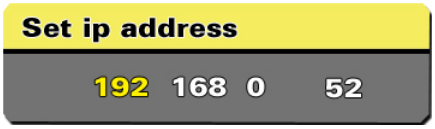
① Select a row using the up and down buttons.

② Press the MENU/ENTER button, and the address pop-up window will be displayed.

③ In the pop-up window, press the up and down arrow buttons to change the value.

④ Use the left and right arrow buttons to go to the next numeric character.

⑤ To finish setting the address, press the MENU/ENTER button.

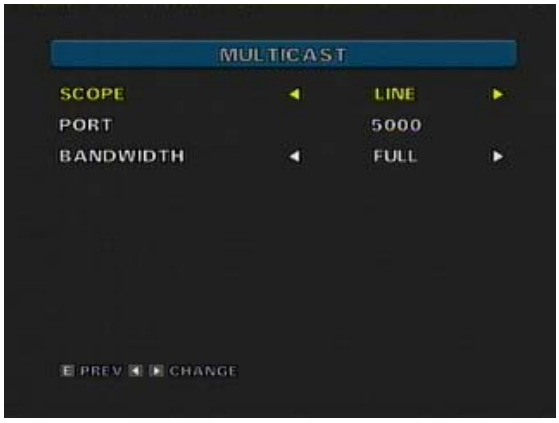


< SET IP ADDRESS POP-UP WINDOW >

⚠ NOTE

• To speed up setting, you may use Fn+Up/Down button.

3.3.1 MULTICAST

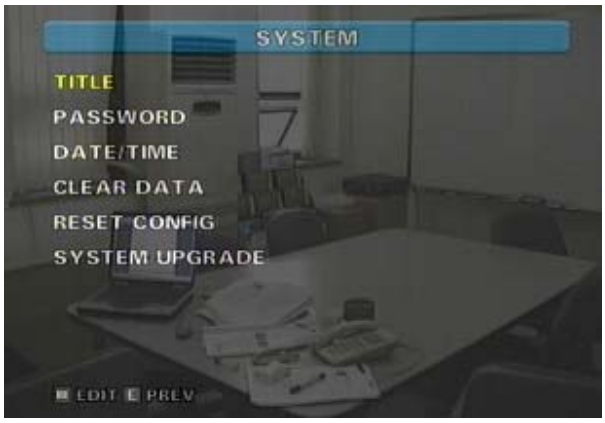


< MULTICAST SETUP MENU >

In the MULTICAST MENU, you can configure the following:

- SCOPE: You can specify how far the multicast packets (video stream) will travel. The options are LINE, SITE, ORGANIZATION and GLOBAL.
- BANDWIDTH: The options are 384Kbps, 768Kbps, 1.5Mbps and FULL.

3.4. SYSTEM



< SYSTEM MENU SCREEN >

3.4.1. TITLE

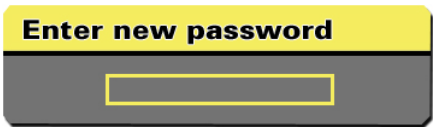
This is for identifying the unit when managing several DVR systems by network. Press the MENU/ENTER button to set the TITLE. Use only arrow buttons for the TITLE. TITLE can be up to 9 characters.

3.4.2. PASSWORD

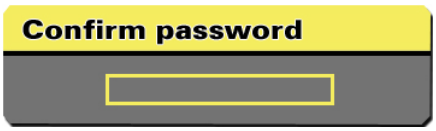
This menu sets passwords for ADMINISTRATOR and USER.

Press the MENU/ENTER button to set the each password.

Use only arrow buttons for the password.



< ENTER NEW PASSWORD WINDOW >



< CONFIRM PASSWORD WINDOW >

① ADMINISTRATOR: This password allows authorized users to enter and view all the menu pages. To set the password, press MENU/ENTER button and follow pop-up window instructions. Enter the password with the combination of the arrow buttons. The ADMINISTRATOR password can be up to eight digits long.

② USER: This password allows authorized users to search, CF/SD backup and playback the recorded data. To set the password, press MENU/ENTER button and follow pop-up window instructions. Enter the password with the combination of the arrow buttons. The USER password can be up to eight digits long.

⚠ NOTE

• When connecting to the DVR from PC Client, the arrow combination password should be entered as numbers. Arrow buttons corresponds to numeric buttons on a computer keyboard as below.

Up (8)

Left (4) Right (6)

Down (2)

3.4.3. DATE/TIME

This menu sets the system date and time.

To set the date and time,

① Press MENU/ENTER button and then the pop-up window is displayed.

② A highlighted character can be moved using the left and right buttons, and changed using the up and down buttons.

< SET DATE/TIME POP-UP WINDOW >

⚠ NOTE

• To accelerate setting, use Fn+Up/Down button.

3.4.4. CLEAR DATA

It performs to delete all or some image data stored in the hard disk, CF or SD.

< CLEAR HDD SCREEN >

① ALL

Delete all image data stored in the internal hard disk (or a storage device).

< CLEAR ALL POP-UP WINDOW >

② EXCEPT EVENT

Delete all image data except event image data stored in the internal hard disk (or a storage device).

< CLEAR EXCEPT EVENT POP-UP WINDOW >

⚠ NOTE
• Configuration and setting are not deleted.

3.4.5. RESET CONFIG

Set the configuration of system to the factory default.

3.4.6. SYSTEM UPGRADE

S/W upgrade using CF or SD can be done using this menu.

3.5. LOG LIST

Following is the list of events that are logged in the LOG LIST.

"POWER ON" "VIDEO LOSS" "VIDEO IN"

"RECORD START" "ALARM IN" "RECORD STOP" "SEARCH STOP"

"SAVE CONFIGURATION" "INFORMATION"

"INCORRECT PASSWORD" "MENU ON" "ADMIN PASSWORD CHANGED"

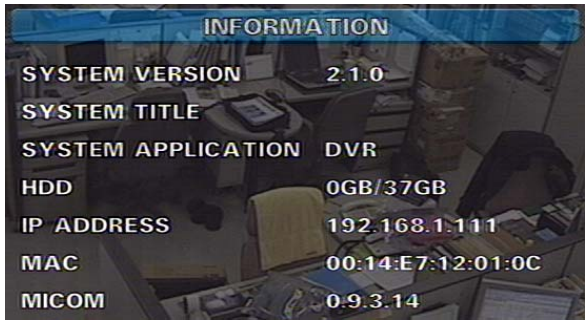
"USER PASSWORD CHANGED"

"SEARCH YYYY/MM/DD HH:MM"

< LOG LIST SCREEN >

3.6. INFORMATION

This informs the SYSTEM VERSION, SYSTEM TITLE, SYSTEM APPLICATION, HDD remain/capacity, and IP address.



< INFORMATION SCREEN >

3.7. SHUTDOWN

① Press the MENU/ENTER button, and then the pop-up window is displayed. It allows you to turn off the system safely.

② Press the switch OFF button on the rear panel.

SYSTEM OPERATION

1. LIVE MODE

< 4 Channel IN LIVE MODE >

< 1Channel IN LIVE MODE >

1) Camera Title

2) Alarm Display

P: Power Loss **V**: Video Loss

M: Motion Detection **A**: Alarm

3) Recording Status Display

REC(red color): Manual Recording

REC(green color): Schedule Recording.

REC(Yellow color): Event(Alarm or Motion Detection) Recording

4) Schedule Mode

5) Storage Usage

6) Current date & time

1.1. SPECIAL BUTTON IN LIVE MODE

- Fn+Right button: Turns ON/OFF the status bar when in the Live screen mode.
- Fn+Left button at single channel display: Start camera sequence and display the cameras in quad mode from single camera view in the LIVE screen mode. (Toggle)
- Fn+Up button: Upload configuration file in the LIVE screen mode.
- Fn+Down button: Download configuration file in the LIVE screen mode.

> ⚠ NOTE
> • CF or SD card must be inserted, before do upload/download the configuration.
> • Insert only one CF or SD card for the upload/download configuration.
> • The upload/download configuration takes 3 seconds, in the mean time do not take out the CF or SD.

- Fn+Enter button at live display: Event data backup without Monitor.

> ⚠ NOTE (EVENT DATA BACKUP WITHOUT MONITOR)
> • Automatically copies latest event data to CF card.
> • If your DVR has MICOM version 0.9.2.14 or higher, REC LED and ALARM LED will start blinking during backup.

2. RECORD MODE

The recording priority is EVENT (Highest) > MANUAL > SCHEDULE (Lowest).

2.1. MANUAL RECORD MODE

This mode performs to record according to the record GROUP configuration that you set the last. If you exit from the menu after set the record GROUP3, the manual record will be done according to the record GROUP3 setting.

To start record, press the REC button. Then the orange REC LED turned on.

- The color of REC character in status bar is white to red and the progressive mark "〉〉" will be on the screen.

To stop this mode, press the REC button again and enter the password.

> ⚠ NOTE
> • When the Manual mode is active, the SCHEDULE recording will not start even if "SCHEDULE ON" is set, because recording priority of MANUAL is greater than SCHEDULE.

2.2. EVENT RECORD MODE

The orange REC LED turned on.

The color of REC in status bar is changed to yellow and the progressive mark "〉〉" will be on the screen.

- The alarm icon "A" or motion icon "M" is displayed and red ALARM LED turned on.
- Press ESC button to delete the alarm or motion icon and to turn off red ALARM LED.

< EVENT RECORD MODE SCREENS >

⚠ NOTE

• The following describes how the record configuration is applied.

※ In the LIVE mode, the EVENT record will use the record GROUP configuration, that you set the last with pre-recording.

※ In the MANUAL record mode, the EVENT record will use the record GROUP configuration that you set the last without pre-recording.

※ In the SCHEDULE record mode, the EVENT record mode will use the record GROUP configuration defined in the TIME TABLE of SCHEDULE menu, with pre-recording.

2.3. SCHEDULE RECORD MODE

The schedule recording will start if any record GROUP was defined at the specified time and when the system is in LIVE mode. This mode performs recording according to the SCHEDULE record configuration table.

- The orange REC LED turned on.
- The color of REC in the status bar is changed to green from white. and the progressive mark "〉〉" will be on the screen.

< "SCHEDULE ON" IN LIVE MODE SCREEN >

< SCHEDULE RECORD MODE >

< "SCHEDULE ON" IN MANUAL RECORD >

⚠NOTE

• When DVR is performing MANUAL recording, the SCHEDULE record configuration is ignored even if SCHEDULE recording is ON because of the recording priority.

3. SEARCH & PLAYBACK MODE

You can quickly search and playback the video image data recorded to a hard disk.

Press SER button at LIVE mode and select drive. (HDD, CF, SD)

3.1. SEARCH MODE

- ALL: Select to search from all recorded image data in a HDD or CF/SD.
- EVENT: Select to search from only the event image data in a HDD or CF/SD.

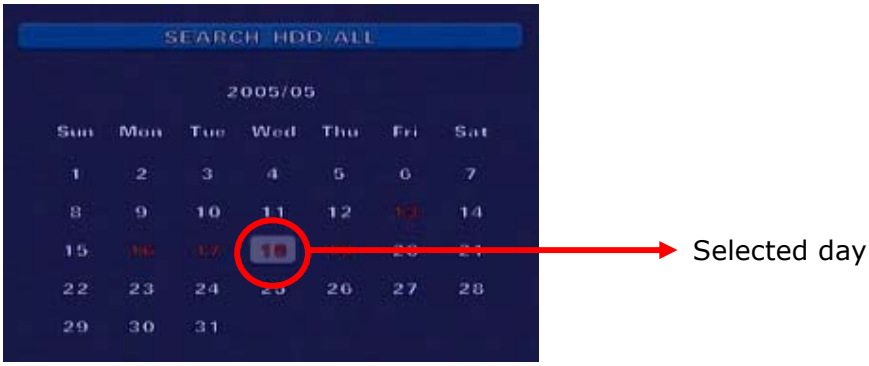
The search sequence is:

① Select ALL or EVENT, using the up and down arrow button, and then pressing the MENU/ENTER button. The Search calendar is displayed.

② Select a year and month, using the left and right arrow buttons, and then pressing the MENU/ENTER button.

※ A date in red indicates that there is recorded data on the date.

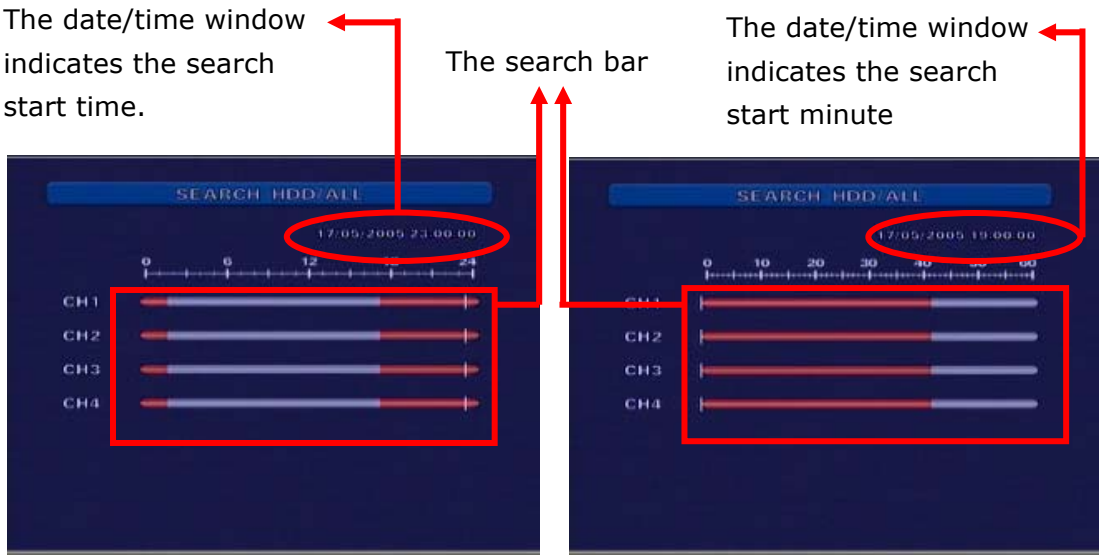
③ To select a date in red, use the left and right arrow buttons to move the yellow box, and then press MENU/ENTER. The time-hour search screen will be displayed.



< SEARCH CALENDAR SCREEN >

④ To select an hour, use the left and right buttons to move the search bar, and then press MENU/ENTER.

⑤ To select a minute, use the left and right button to move the search bar, and then press MENU/ENTER.



< TIME-HOUR SEARCH SCREEN > < MINUTE SEARCH SCREEN >

Now, you can playback the recorded image data. Please see the next section of Playback mode for more details.

⚠NOTE

- To jump to the LIVE mode immediately from anywhere in the menu, press Fn+ESC.
- To go back to the previous step, press the ESC button.

3.2. PLAYBACK MODE

You can playback the recorded image for the forward and reverse directions. Fast forward and fast reverse is also available. The status is displayed at the top of left corner.

Playback control

Playback, Fast Forward	Press (right) button (toggle)
Reverse, Fast REV	Press (left) button (toggle)
PAUSE	Press (enter/menu) button
STEP ⏮ or ⏭	Once paused, press (left), (right) button
To cancel PAUSE	Press (enter/menu) button

4. INSTANT BACKUP

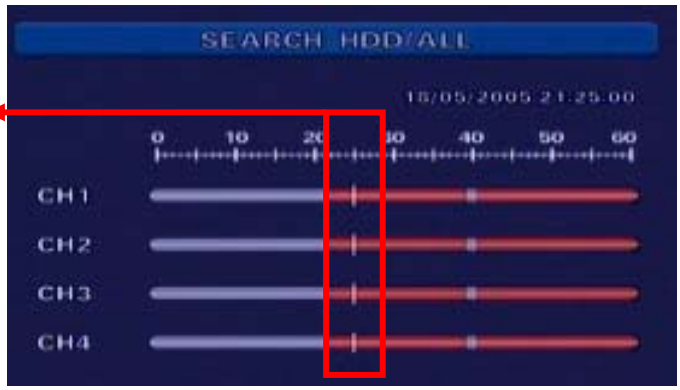
It is available to backup manually the recorded images in the backup area of the built-in hard disk to the external recording device (CF, SD) connected to the DVR.

< INSTANT BACKUP TO CF/SD >

The instant backup sequence is:

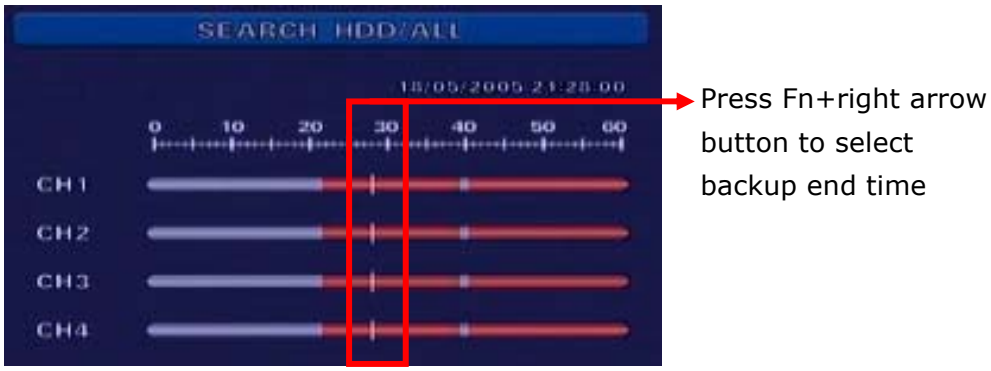
① Select backup start time at “MINUTE SEARCH SCREEN” by pressing Fn+left arrow button.

Press Fn+left arrow button to select backup start time



< MINUTE SEARCH SCREEN_SELECT BACKUP START TIME >

② Select backup end time at “MINUTE SEARCH SCREEN” by pressing Fn+right arrow button.



< MINUTE SEARCH SCREEN_SELECT BACKUP END TIME >

③ Then press Fn+MENU/ENTER button to enter backup menu.

< BACKUP MENU SCREEN >

- START TIME: Check backup start time
- END TIME: Check backup end time
- TYPE: Select ALL or EVENT, using the up and down arrow button.
- STORAGE: Select CF or SD, using the up and down arrow button.

④ Select BACKUP START, and then press MENU/ENTER.

PC CLIENT SOFTWARE

- Recommended PC specifications for Client SW

  1) CPU: PentiumⅢ 800 MHz or higher

  2) Memory (RAM): 128 MB or higher

  3) Video RAM: 32 MB or higher

  4) Internet Explorer 5.5 or higher

  5) OS: Windows 2000 / XP

  6) Monitor Resolution: XGA or higher

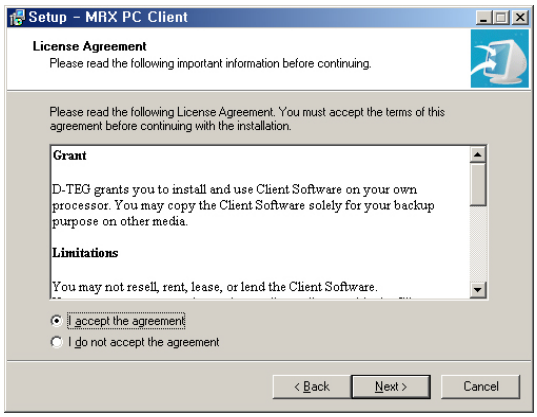
1. INSTALLING PROCEDURES

1.1. Insert the installation CD.

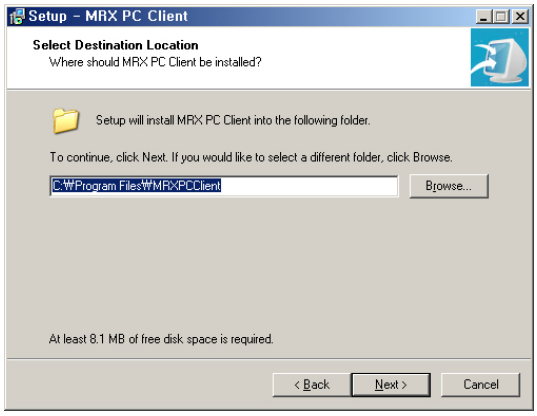
1.2. Run the **setup.exe** file.

1.3. When the following dialog box appears, click **Next**.

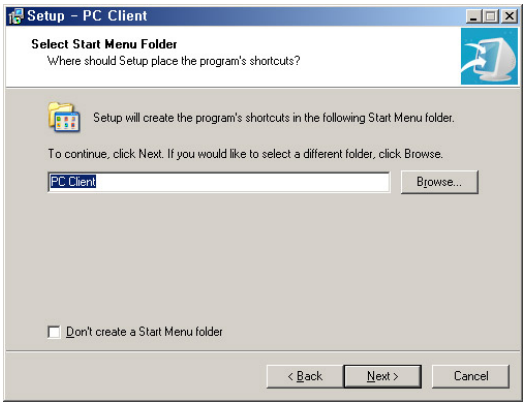
1.4. Check **I accept the agreement**, and then click **Next**.



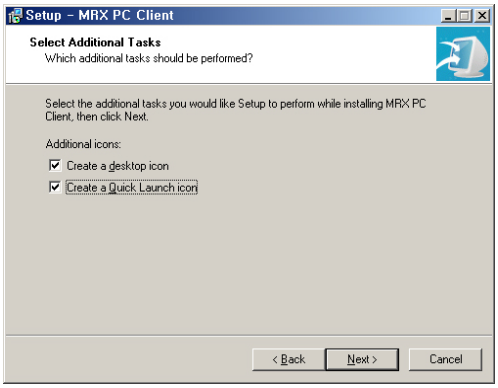
1.5. Click **Next**, if you would like to select a different folder, click Browse.



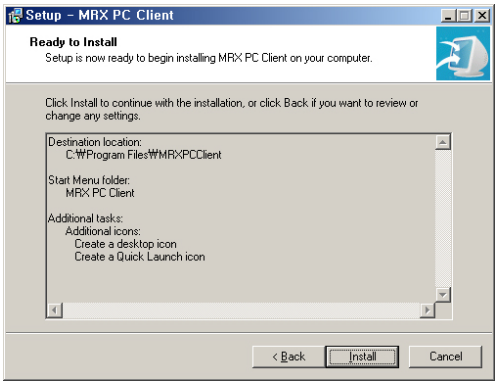
1.6. Click **Next**, if you would like to select a start menu folder, click Browse.



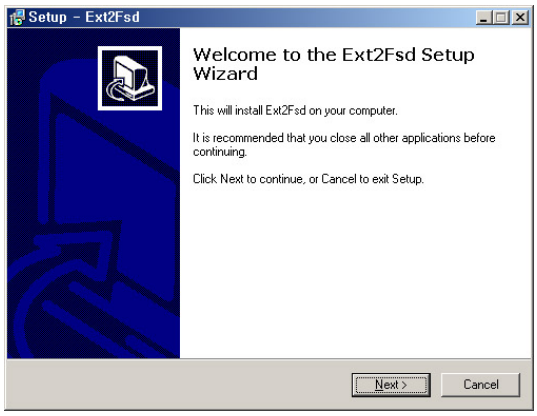
1.7. Select the additional tasks, and them click **Next**.



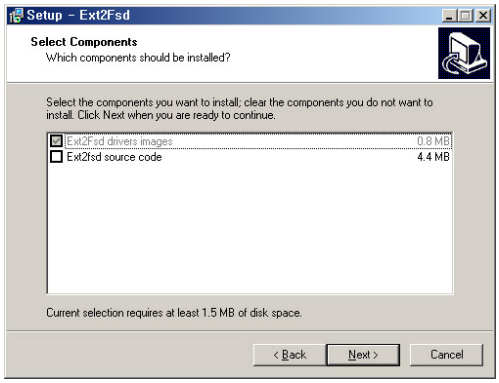
1.8. Click **Install** to continue.



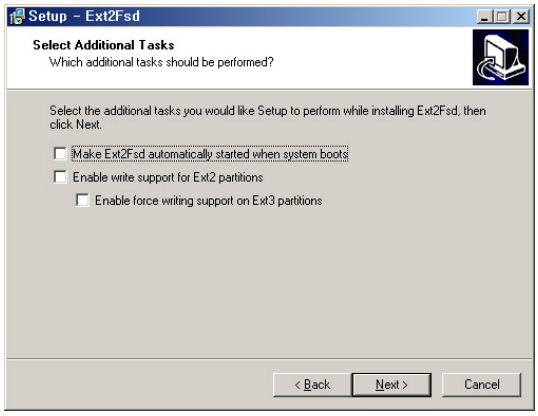
1.9. Click **Next** to install “Ext2 file system driver”. It’s necessary to use USB2.0 data download function.



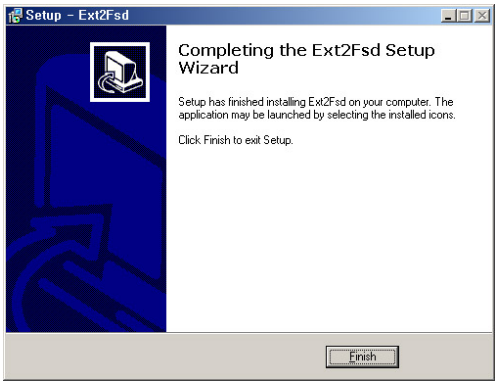
1.10. Click **Next** to continue. No need to check “Ext2fsd source code”, if you don’t want.



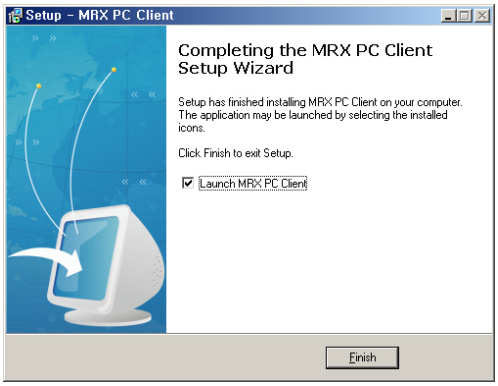
1.11. Click **Next** to continue. No need to check at here, if you don’t want.



1.12. Click **Finish**. This completes the Ext2Fsd installation.



1.13. Click **Finish** to allow the system to reboot. This completes the installation.



2. USB BACKUP

2.1. PREPARING THE DVR FOR USB BACKUP

(1) In the LIVE mode, Press the MENU/ENTER button, and then it goes to MAIN MENU mode.

(2) Press the down button to position the highlight to SHUTDOWN menu.

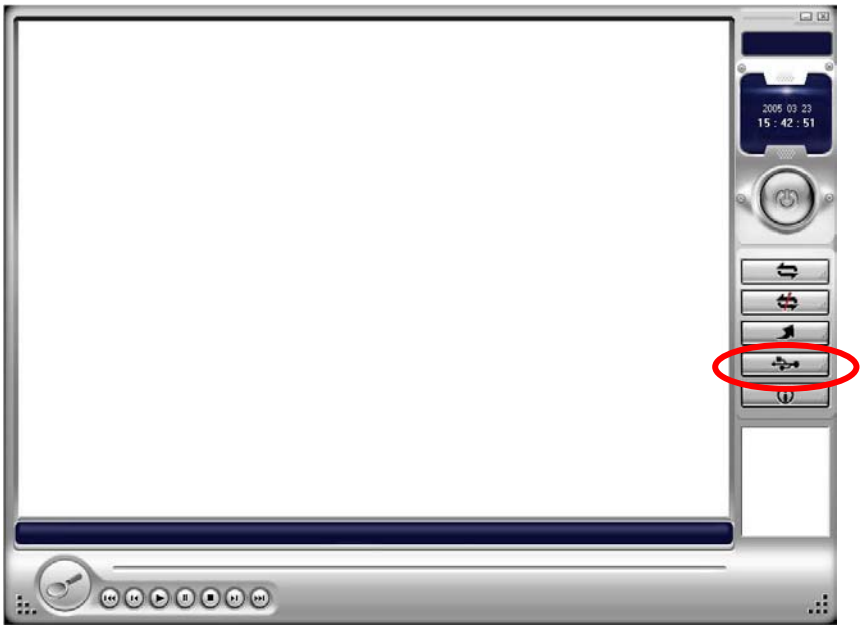
(3) Press the MENU/ENTER button, and then the pop-up window is displayed.

(4) Do not switch OFF the DVR.

< SYSTEM SHUTDOWN POP-UP WINDOW >

2.2. CONNECT THE DVR TO THE PC WITH USB CABLE.

2.3. Run the PC CLIENT at PC.

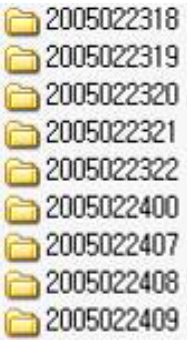


< PC CLIENT SOFTWARE >

2.4. CLICK "Detect" BUTTON

(1) Click "Detect" button to detect and mount the DVR as a USB drive.

(2) Then you can see the file folders as below,



2.5. BACKUP DESIRED FILES.

(1) Video files names indicate the recorded date information.

(2) You can use Windows file explorer to copy the file of desired date from the DVR system to PC.

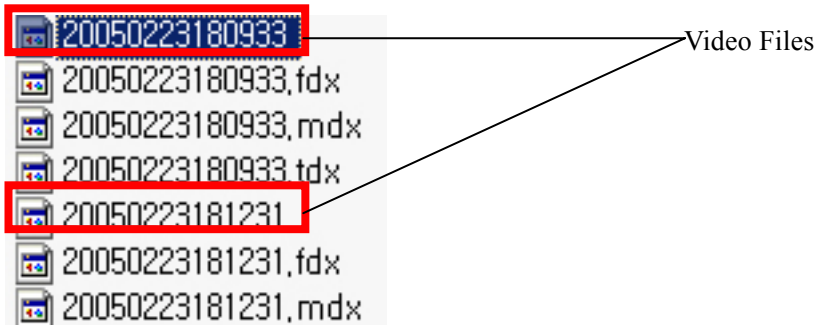
(3) Please always include ".fdx", "mdx", "tdx" files along with the video files when backing up video files.

E.g. "20041111001003", "20041111001003.fdx", "20041111001003.mdx"
"20041111001003.tdx"

2.6. SEARCH FILES

(1) Click "Search" button and select the video file from your PC.

(2) The video file name will be as below,



(3) Click "Play" button for playback.

You can playback the recorded image for the forward and reverse directions. Forward step and reverse step is also available.

(4) Click mouse right button at screen to call channel switching screen.

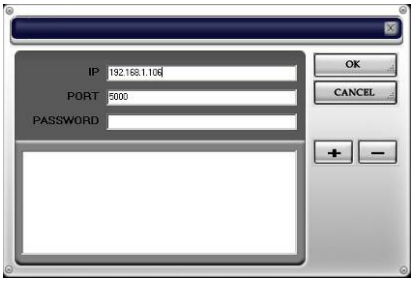
(5) Select Quad to see multi-screen playback.

< 4CH PLAYBACK SCREEN >

3. LIVE MONITORING

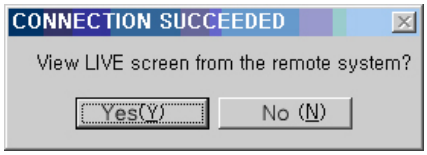
3.1. Click "CONNECT" button.

3.2. Input IP address, port & password and press "OK" button.



> ⚠ Note
> There is no default password at factory default.

3.3. Click "Yes" button to view Live screen.



> ⚠ Note
> To view LIVE screen, network "ON" is required at DVR manual and event record setup menu.

3.4. SCREEN LAYOUT

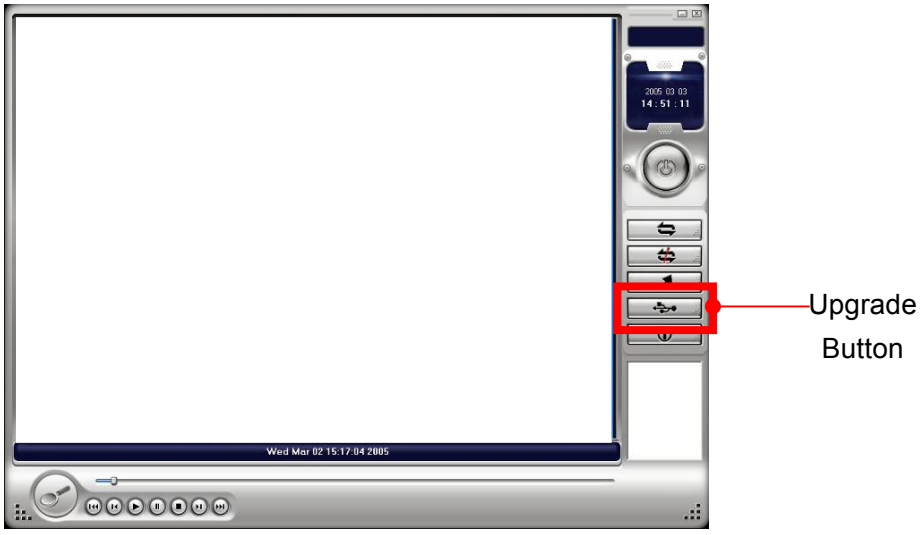
① Current Time Indicator
② On/Off Switch
③ Connect button
④ Disconnect button
⑤ Upgrade button
⑥ USB detect button
⑦ Information button

4. NETWORK UPGRADE

4.1. Click "CONNECT" button.

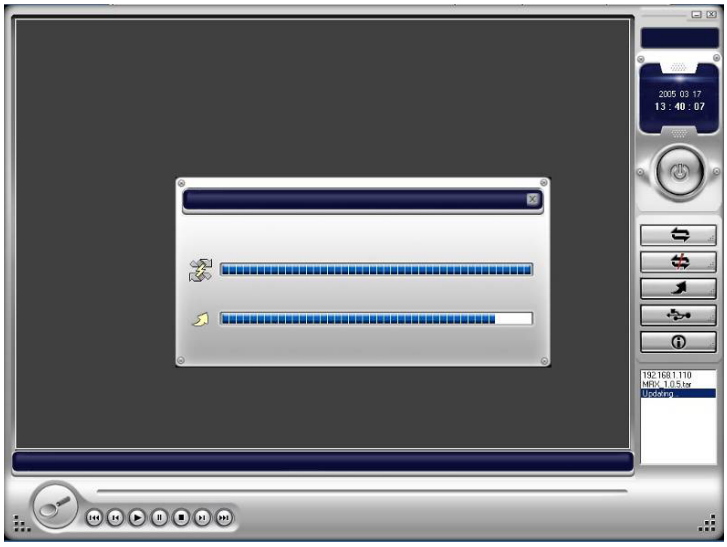
4.2. Input IP address, port & password and press "OK" button.

4.3. Then Click "Upgrade" button as below.



4.4. Open the first system upgrade image file **"MRX_2.1.0.default.bin"**.

4.5. Wait while the system is being upgraded.



a. "File Transfer" bar shows you the status of file transfer.

b. "System Upgrade" progress bar shows you the status of system upgrade.

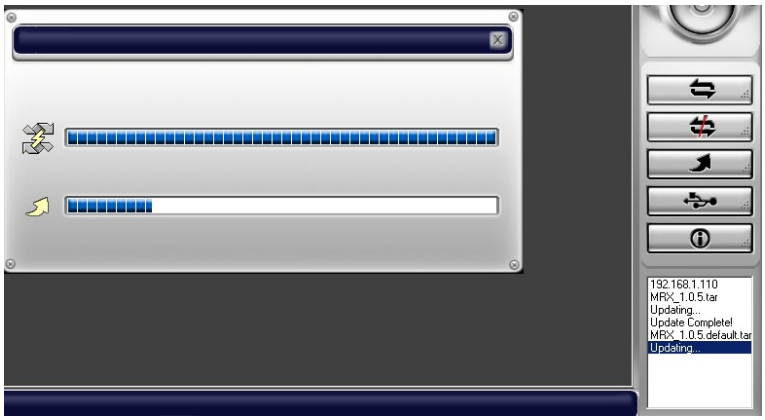
Please be patient while the system is being upgraded.

c. Click OK, Then the DVR will restart automatically.

4.6. Connect the DVR and click “Upgrade” button again.

4.7. Open the second system upgrade image file **“MRX_2.1.0.bin”**.

4.8. Wait while the system is being upgraded.



4.9. After upgrade files, the DVR will restart automatically.

SPECIFICATION

Item	Type	Description	Remark
In/Out Port	Video In/Out	1 or 4 BNC In (Composite), 1 BNC Out (Composite)	
	USB	1 USB connector, USB2.0 Slave	Data Backup
	Network	1 RJ45, Ethernet 100base-T	
	Serial	1 9-DSUB, RS-232C	
	Alarm In/Out	2, 4 Terminal Block In 1, 2 Terminal Block Out	
Record	Frame Size	720x240, 320x240 pixels	NTSC
		720x288, 320x288 pixels	PAL
	Speed	1 ~ 30 fps (NTSC), 1~25 fps (PAL)	
	Compression	JPEG Standard, 4 step Quality Level (Super, High, Medium, Low)	
	Mode	Normal, Event, Pre-Record	
Search	Mode	Time, Event	
Key Input	Button	13 Buttons	Front
Status	Status LED	4 LED (POWER, REC, ALM, LAN)	Front
S/W	OS	Embedded Linux	
	UI	OSD	
	Manager	Record, Playback, Menu, System Manager(Log Information, Video data Down Load, Self Test, Upgrade), etc.	
	Recovery	Power failure Auto Restart, Watch-Dog	
Storage	HDD	IDE interface, 1HDD (2.5”)	
	CF/SD	Instant backup to CF/SD card	
Power	In	DC 12~24V	
	Turn On/Off	1 S/W	
	Consumption	Avg. 6 Watts	
Mechanical	Dimensions	210x145x43mm	(WxDxH)
	Weight	1 Kg	
	Ventilation	Fan less, Natural Convection, Dustproof Filter	